

ARCHITECT AND ENGINEER

OCTOBER 1942

**Oakland Builds Three Low Rent Housing Projects
Post-War Planning for the Construction Industry
War Time Housing in Defense Areas
State Housing Conference Adopts Post-War Program**

Pacific Paint and Varnish Products

USED ON THESE OAKLAND HOUSING PROJECTS



ABOVE — TWO OF THE 372 UNITS OF LOCKWOOD GARDENS. Claude Yelton Paint Co., Oakland, painting contractors.

RIGHT — CAMPBELL VILLAGE, 155 UNITS. M. Cohn Company, San Francisco, painting contractors.



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NEXT MONTH

Two buildings, widely different in style, but equally important to the University of California, have recently been completed in Berkeley. One is the University Administration Building which Arthur Brown has designed and which reflects the same fine feeling for the classic that has characterized his other works.

Very different in design and character is Mr. Wurster's girls' dormitory back of the campus, dedicated a few weeks ago and likely to provoke expressions for and against its rather extreme modern tendencies. Because the landscaping is incomplete Mr. Wurster has asked us to delay publication for awhile (probably until December) so our plans to present both buildings in the same issue have been altered and only Mr. Brown's building will be illustrated next month.

Added interest in this number will be an excellent selection of the recent work of Messrs. Lawrence, Holford & Allyn, architects of Portland, Oregon, which includes the University of Oregon Medical School, Library and Hospital and the Victory Housing Project of 1,000 dwelling units at St. Johns.

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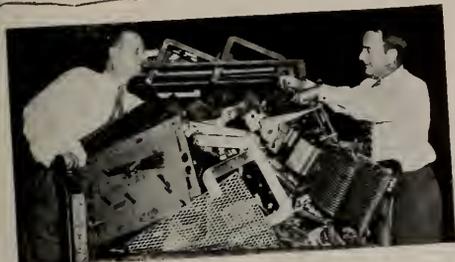
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NEWS from the Scrap Front

TIPS FROM OTHER "WASTE WARDENS"
THAT MAY HELP YOU DO A BETTER JOB
OF "GETTING IN THE SCRAP"



WRECKS ASPHALT PLANT TO GET WAR SCRAP - Demolition of this 26-year-old asphalt plant by an eastern refining company is yielding over a thousand tons of precious scrap, enough to make the steel for 70 "General Lee" tanks. . . . Do you have any steel structures, idle now and of doubtful future value, which should be wrecked to release the scrap metal they contain?



NO HOARDING HERE A Midwest novelty manufacturer (now engaged in war work) recently turned in over two million pounds of metal parts, tools and machinery at scrap metal prices. . . . Are you holding idle stocks of obsolete and useless metal parts and equipment for some uncertain future need? In most cases, they're worth more now to your country as scrap than they'll ever be to you.



SEGREGATION MINIMIZES SCRAP LOSS - A western aircraft plant has more than doubled its scrap collections through a systematic salvage program, directed from a central office. All metal scrap is segregated into solids and machining, and also by alloy content, right at the machines. Scrap containers are color-banded and labeled to clearly identify what goes into each. . . . Have you organized an efficient scrap collection system at your plant? Does it provide for careful segregation?

THE SCRAP IS COMING IN . . . BUT NOT FAST ENOUGH!

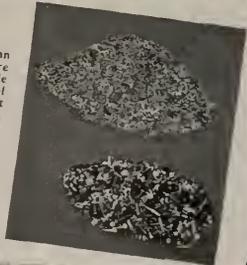
WE have proof that industry is cooperating in the drive for scrap metals . . . proof measured in thousands of tons. But mills must get *more* iron and steel scrap if they are to meet the gigantic needs of war industry.

Don't forget . . . steel gets to work on the battlefield more quickly when plenty of scrap is available. Scrap is already metallic; therefore, less ore needs to be converted into pig iron per ton of steel produced. By remelting scrap to make new steel, more tons of high-quality products can be turned out in a hurry for war purposes. So make it your personal war assignment to see that your organization does a thorough, continuous job of "getting in the scrap." Cooperate closely with your local Industrial Salvage Committee.



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Every day sweepings at an eastern war plant yield more than 1000 pounds of usable scrap metal and a big pile of sweepings through wire mesh. Then magnetic separators and mechanical sorting devices finish the job. Usable parts then go back to stock, and scrap is shipped for salvage. . . . Are you cleaning every pound of metal from your floor sweepings?



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RUNNING FIRE — By MARK DANIELS, A. I. A.

• CIVILIZATION

Sometimes if you can't define a thing because you can't tell what it is, you can clarify the picture by telling what it is not. Civilization is one of those "things." Contentions that civilization is this or that, according to the date of the dictionary used to define the word, leaves most of us still wondering what it is all about. Arguments that civilization reached its zenith at one period or another all have weight if they are predicated upon the assumption that the conditions obtaining at the time chosen were essentials of civilization. On such an hypothesis one might, and should, select the days of the Tang dynasty in China, or skip a thousand years and stop at the sign of the Aztecs in Mexico, or at medieval times when so many great artists and architects were bunched into a period of half a century. But this still leaves us asking what civilization is and why we are continually harping about it if we don't know what it is.

Well, there really is no definition of civilization that will meet everyone's approval. It is not a thing empirical to be defined like a pint or a pound, a stick or a stone. It is made up of many elements and its composition is in a constant state of flux, aided and abetted therein by that greater flux in what we so boastfully call the human mind. We all believe that happiness is the prime desideratum but when we are told that what is happiness for one may be misery for another we're right back where we started. So there is nothing to do but tell some of the things that civilization is not.

Now I don't presume to know all of these things but here are some of the old features that long experience has taught me can be eliminated:

The degree of civilization is not proportional to the number of complications, speed and gadgets that can be crammed into life no matter what the advertisers say;

Nor is it proportional to the amount of noise that the human animal can make in groups;

Nor to the number of politicians extant at the time;

Nor to strikes;

Nor radio crooners;

Nor—what's the use; we never have had any civilization and probably never will.

• RHYMING

I may have told you this before. Try to stop me if I did.

Some years ago I won a bottle of wine in Puerto Barrios for finding a rhyme for Guatemala. Here it is.

Black or white I will not have 'er;

To me she's just one more cadaver

If she can't shake her bottom a la

Dancing girls of Guatemala.

• THE ARCHITECT

It is not so much that the architect is passing, but that the architect AS WE KNEW HIM is passing. If this war should result in the utter abandonment of hats and head coverings no doubt the hat makers would be forced out of business, in which case they might become hair dressers and bend their artistic talents to designing tonsures and other ornamental, though natural, methods of scalp protection. They might even cling to the old name of "hat makers" for a while, all of which would probably be a blessing. Time was when all barbers were doctors. They

did all the blood letting as well as midwifery. Now it is almost impossible to find a doctor that is even a good barber.

The same seems to be holding true of the architects. The old school architects who gloried in pure design, in schools of ornament, in the history and traditions of architecture, who knew every element and order from the Amphithalmus to the Zothea are bowing gracefully and giving place to a new type of architect who doesn't know a triglyph from a fig leaf and doesn't care. He is going to build a building that he thinks will do the physical job and let people look at it until they like it. He is going to throw away the hats and use what nature provided. He's going to quit barbering and start doctoring.

Well, that's what a long war does to us sometimes.

• STANDARDIZING

While the bureaus in Washington are at it standardizing everything from ornament to temperament, from flying ships to April showers, it is a pity they cannot take a little time to standardize sizes, shapes and methods of construction, such as screw threads, locks, and bolts and nuts, even if Mr. Hoover did start it over ten years ago!

• HOUSING

Quite some years ago the housing movement started. Like all worthy movements it had to be sort of promoted. Finally it took form and began to command notice and attention. Housing associations sprang up, were organized and officers elected, frequently by the good old American method of letting every member of the association cast a vote for officers, there being but one name for each office on the general ballot. Anyhow, the housing associations got going.

Next, Housing Authorities were appointed, or elected, or just established. Some of them were forward looking with an ambition to build up their city, some were bent on slum clearance and some soon broke the chrysalis and emerged as out and out real estate operators. At the same time the government was forced to fall in line and a lot of money was appropriated and the housing associations and some appointed Authorities settled back to see their dreams or schemes carried out. Then the real wire pulling began. But, suddenly a war burst "right in their face and hands," and a real problem arose, like a genie in the desert.

The housing movement has developed until it represents huge sums, or possible sums, of money. Without going into a lengthy presentation of the merits or otherwise, of the need of this money to house workers the main problem boils down to whether it is better to spend this money to better the living conditions of the workers or to spend it for guns and ammunition for the soldiers. Some say that if we don't keep the workers contented they won't make guns. Others reply that if we don't have guns we can't win the war. It is like the race around a block by two men, and their decision as to how to determine the winner. Finally one proposed that he would run around one way and the other in the opposite direction. If he were to get there first he would make a chalk mark on the sidewalk. If the other got there first he would rub it out. Perhaps it would be better to win the war first.

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NEWS AND COMMENT ON ART

THEATRE AND DANCE SHOW EXTENDED AT DE YOUNG

The "Theatre and Dance" show which has been an outstanding event at de Young's Museum, has been held over until the middle of November. The exhibition is proving a hit with the many stage-struck visitors who wander through its seven full galleries of display. The entrance hall is gay with colored posters (from the Library of Congress collection) depicting those time-honored melodramas "Uncle Tom's Cabin" and "The Great Train Robbery," to say nothing of the old minstrel shows and Hurly Burly Extravaganzas—or as they said in the good old days, "refined vaudeville." Between these are posted playbills and programs and rare old lithos of yesterday's favorites.

From then on the show begins in earnest—taking us first back to the earliest theatres, the Greek and Roman colosseums, through the Middle Ages and the Renaissance where a model of the Globe Theatre shows the striking difference between the playhouses of Shakespeare's time and our own. Next we step into the Baroque and Rococo stages, well illustrated in a single room by original theatre designs and scenes and figures from the Commedia del Arte which, incidentally, are a loan from Max Reinhardt. We enter the theatre of Naturalism, the stage "ism" of the 19th century. Here the great names of Coquelin, Duse and Mansfield are recalled—the first two by portrait sketches from the George Altman collection, the last by costumes worn by the late matinee idol and his actress-wife in many roles.

We're now ready for the theatre of today, well illustrated by Norman Bel Geddes (whose "Miracle" sketches are shown), Mordecai Gorelik, Eugene Berman and Moholy-Nagy; a complete show, including models, "The Development of Stage Design;" costumes worn in productions at the Pasadena Playhouse and Stanford University; costumes worn also by Rudolph Valentino as "The Shiek" and "Monsieur Beaucaire;" a John Barrymore Memorial Corner (the newest addition to the show); a display showing the set-up of this city's French Theatre of Andre Ferrier; designs for the San Francisco Opera; costumes and stage sketches by the local artist, Jane Berlandina; the Moscow Art Theatre and theatres of the U.S.S.R. today in picture form; and the half-size model by Waldemar Johansen for the Saroyan play, "The Beautiful People."

The "Dance" end of the show is not neglected and contains such excellent material as original costume and scene designs by American and European artists. The names of Berard, Lurcat, de Chirico, Soudekine, Berman, Lee, Watkins and Colt are "among those present," with designs for ballets performed by the Ballet Russe and Ballet Caravan. "The Dance in Movement" from the Museum of Modern Art shows in split-second photos the Markovas, Grahams and Drapers in action.

On the exotic side—the theatres and dances of



PLAY: Shakespeare's Twelfth Night

SCENE: A Street in Illyria

SETTING: Designed by Eugene Berman

One of a group of original stage and ballet designs shown during the current exhibition, "Theatre and Dance" at de Young Museum.

the Orient: the shadow puppets and magnificent costumes of China, the make-up and masks of the Noh and Kabuki dramas of Japan; the masks and regalia of the dancers of Java and Bali (thanks to the author, Vicki Baum)—of the Eskimo and the American Indian—these are all to be seen.

EARLY AMERICAN PAINTINGS NOW AT DE YOUNG MUSEUM

The de Young Museum has delved into the pages of our country's past to present its new addition to the galleries during the current month. From the Newhouse Galleries, New York, comes an exhibition of Twenty-five Paintings from the Revolution to the Civil War.

These paintings were chosen from among many—not because of their masters' fame, but for the spirit within the works themselves, with little heed paid to the "John Henrys" attached thereto. And so the exhibition is a conglomeration of "names," unknowns and little-known artists who may have heretofore received little mention in the American scene. The reason for such a choice was to present, through this comparatively small group, an insight into native American art of the first half of the 19th century, an art that caught the capacity of a budding nation for feeling directly, honestly—and youthfully, qualities which the real America has always possessed.

N AN EVER CHANGING WORLD

All twenty-five paintings are oils, but the range in subject matter is wide: the inevitable still lifes, with an abundance here of colorful bowls of nuts and fruit and a particularly luscious "Slice of Watermelon" by Sarah Peale; rural outdoor scenes catching the spirit of our ancestors as they went about their social life, such as Jeremiah Hardy's fanciful "Picnic in the Woods of New England"; a group of children's portraits, one by the artist, Thomas Sully; early landscapes and seascapes of eastern farm and coastal scenes; and a few historical paintings such as Edward Savage's report of General Washington reviewing his troops at Fort Cumberland, Maryland. (See cut.)

All in all this new exhibition is a delightful glimpse into the life of the new America—from its first struggle to become a free nation to the second great conflict to unite within itself—as told in its native and folk art of those periods.

HEAD OF S. F. ART SCHOOL WINS NATION-WIDE CONTEST

A San Francisco architect, Eldridge T. Spencer, was one of the 408 prize winners in the nation-wide 2½ year \$200,000 scientific welding study program sponsored by The James F. Lincoln Arc Welding Foundation, Cleveland, Ohio. Mr. Spencer's subject matter which earned him a \$1500 award, was an office chair which was functional and modern in appearance, adjustable in height and back support, movable, compact and economical in maintenance. The chair was designed by Mr. Spencer and the framework was made of arc welded steel pipe. An estimate of 15 per cent saving by using arc welding is made by the author.

Late October programs scheduled for the de Young Museum includes "The Mystery of the Mask" by Edward Counter, October 25 at 3 p.m., and every afternoon from 3 to 5 recorded music for the theater, all these special programs to coordinate with the Theater and Dance Show which has been held over by popular demand from last month.



METAL MASK FROM SIAM,
loaned for the Theatre and Dance Exhibition
at de Young Museum by Dr. George Altman.
Mask symbolizes human face.

The exhibition has proved so popular it has been extended
till November 15.

ARCHITECT ON ART SCHOOL FACULTY

Samuel Paul, New York architect, has been appointed to the Art School faculty of Cooper Union, it is announced by Dr. Edwin S. Burdell, director of the Union. Mr. Paul, who is twenty-nine, and a specialist in the design of pre-fabricated housing, will give courses in architecture and architectural design.

He is a graduate of Massachusetts Institute of Technology, which awarded him a scholarship for study at the Fontainebleau School of Fine Arts in France in 1934. He took graduate work at Harvard University in 1935-36, and later was employed as an architectural draftsman.

Mr. Paul has designed several airfield buildings for the U. S. Army, and recently completed a pre-fabricated housing project for the Government. He also contributed to the design of the British Pavilion and Brazilian building at the New York World's Fair.



THE CUMBERLAND REVIEW
Painting by Edward Savage (1761-1817)
George Washington reviewing his army.

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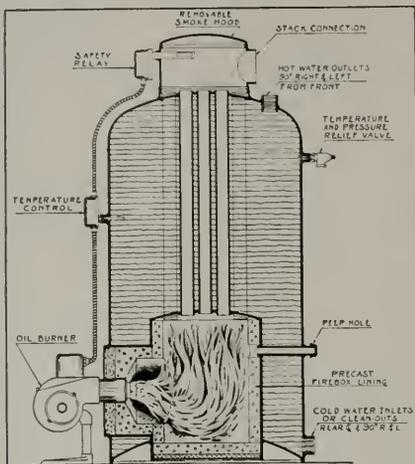


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Peralta Low Rent Housing Project, Oakland. (Note ice plant in foreground, also attractive lawns and generous assortment of trees and shrubs.)

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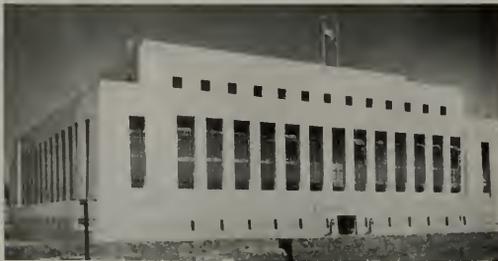
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*A Parker Job
for war workers*



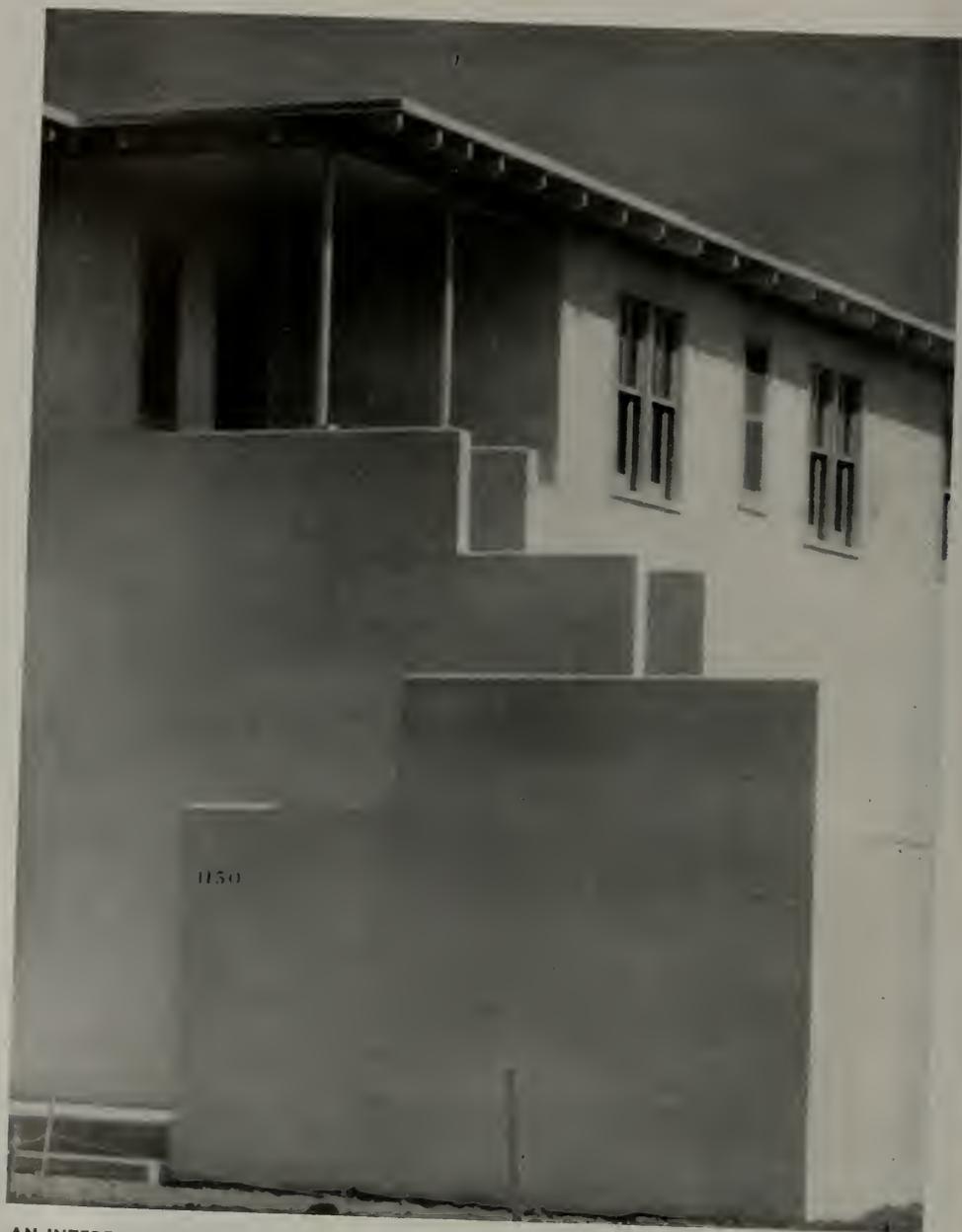
**CAMPBELL VILLAGE — — LOW RENT
HOUSING PROJECT, OAKLAND, CALIFORNIA**

We consider it a great privilege to have had the opportunity of working with the Board of Architects consisting of Carl I. Warnecke, chairman; Hugh C. White, John J. Donovan, Henry A. Minton and Frederick H. Reimers on this project.

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SAN FRANCISCO**



AN INTERESTING DETAIL, LOCKWOOD GARDENS LOW RENT HOUSING PROJECT, OAKLAND, CALIFORNIA

Photo Gene Hainfin Studios

OAKLAND'S LOW RENT HOUSING PROJECTS

By FRED JONES *

Oakland, like San Francisco, has completed or nearly so, three low income housing projects, marking realization of a \$4,500,000 construction program started in 1939.

Operating as the Housing Authority of the City of Oakland, the present administration has seen the successful fulfillment of a real housing need. Two of the projects have been developed in the heart of the city's most blighted section. Slums have been cleared and replaced with neat, attractive homes. Ultimately 922 new dwelling units will have been provided by the three projects designated as:

Campbell Village. Constructed on the site bounded by 8th, 9th, Campbell and Willow Streets and consisting of 154 units.

Peralta Villa. Located at 8th, 12th, Cypress and Union Streets and containing 396 dwelling units.

Lockwood Gardens. Located on the south side of East 14th Street at 66th Avenue, with 372 units.

In planning these three projects a number of unusual obstacles faced the authorities. To compel demolition of all unsafe and unsanitary structures at one time would be to drive families into even worse living con-

ditions. So the work was carried on slowly in order to prevent serious hardships to low income families. Litigation over some of the property likewise slowed up at least one of the projects.

All three undertakings reflect study and careful planning on the part of the architects, despite the fact that there have been complaints by both tenants and outsiders that Campbell and Peralta both lack adequate recreational facilities. The small spaces allotted to children of kindergarten age, consisting of cemented areas and spray pools, do not take care of the needs of youngsters of grammar school age, nor are there any provisions for the parents, who, by the way, have petitioned for tennis and hand ball courts and other outdoor interests.

At least part of the space used for individual automobile parking might still be utilized for needed recreational areas. This lack of playground space, however, is not an oversight attributable alone to the Oakland planners. The same conditions are noticeable in many

Architects for More Housing

That Oakland's three low rent housing projects have helped to relieve a serious housing congestion in the East Bay area is admitted, but the situation still is far from encouraging and steps have already been taken to build more houses and more houses. These structures must of necessity be of a temporary nature, many of them prefabricated to insure speedy erection, for time is an important element with winter close at hand and weekly arrivals of war workers from the east in 500-at-a-time trainloads.

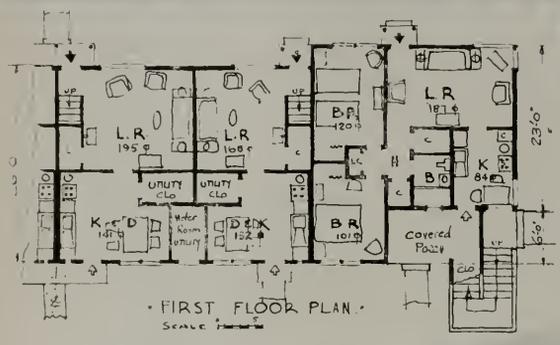
To cope with the situation the Richmond Housing Authority has named Albert F. Roller of San Francisco and Keith O. Nabett of Richmond, architects to design Section 1 of 2000 war apartment and defense dwelling units, and Carl I. Warnecke, Oakland, E. Geoffrey Bangs and Vincent G. Raney of San Francisco, architects of Section 2, another 2000 units.

Meanwhile, Will G. Corlett of Oakland is designing 1500 dormitory units and 600 war apartment units to be built on the Middle Harbor Road, near the Moore Drydocks, for the U. S. Maritime Commission and to be occupied by employees of the Moore Shipyards. Mr. Corlett will also design 6,000 war apartment units for the Richmond Shipyards.

To further relieve the situation in the East Bay area, the Oakland Housing Authority will shortly choose a site for its fourth low rent housing project to provide 1000 war apartment and defense dwelling units. The architect will be John J. Donovan, who was identified with the three completed projects illustrated in this issue.

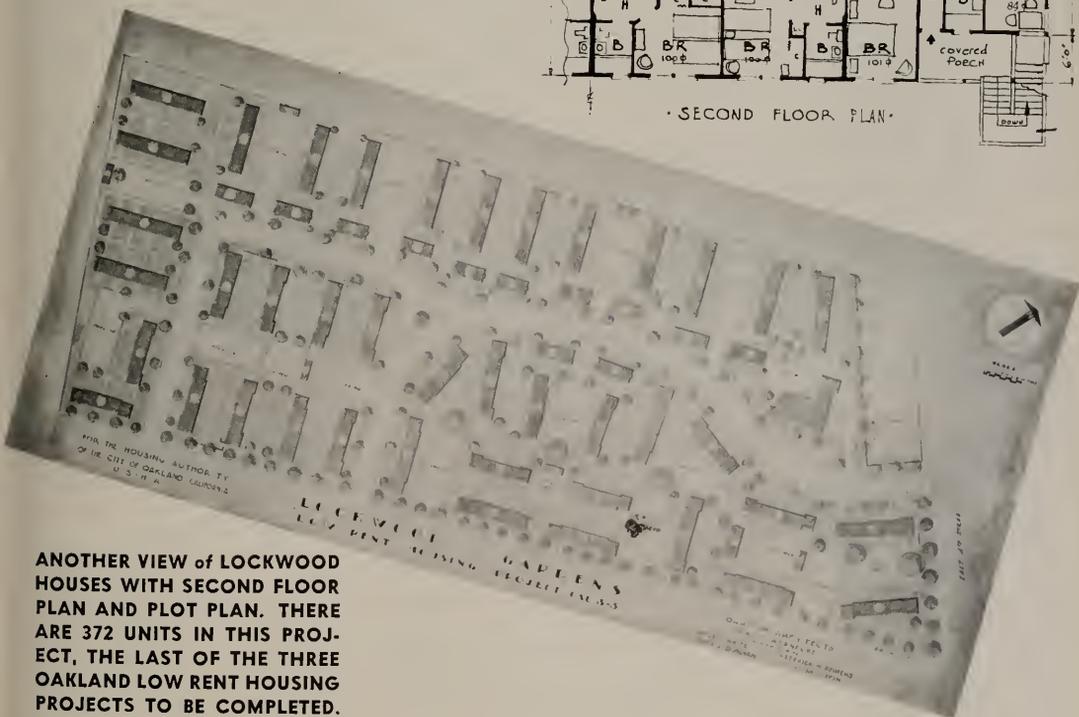
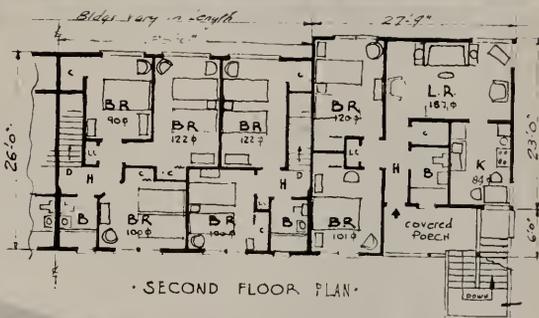
Last but not least the Alameda Housing Authority has appointed architects to design 2,000 war apartment and defense dwelling units for that city. The architects named are Andrew T. Hass and Carl I. Warnecke.

* These notes are not intended to be a criticism of the Oakland Housing Authority's record to date. They are listed as one person's observations as a possible guide for future projects of this type. The Oakland Housing Authority has been guided to a very considerable extent by its Board of Architects whose work as a whole has been meritorious.

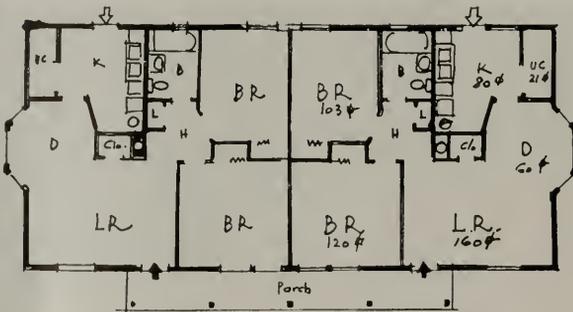


Upper Picture—ROW OF COMBINATION HOUSES AND FLAT BUILDINGS IN LOCKWOOD GARDENS. FLATS ARE ON ENDS OF BUILDINGS.

Below—FIRST FLOOR PLANS and BIRD'S-EYE VIEW OF PROJECT.



ANOTHER VIEW of LOCKWOOD HOUSES WITH SECOND FLOOR PLAN AND PLOT PLAN. THERE ARE 372 UNITS IN THIS PROJECT, THE LAST OF THE THREE OAKLAND LOW RENT HOUSING PROJECTS TO BE COMPLETED.



Upper Picture—LOCKWOOD ADMINISTRATION BUILDING. Below—ONE STORY DUPLEX BUILDINGS, 4½ rooms and 6½ rooms.

PLAN OF ONE STORY DUPLEX

LOCKWOOD GARDENS LOW RENT HOUSING PROJECT

for Housing Authority of the City of Oakland, California

Board of Architects

Carl I. Warnecke, Chairman
 John J. Donovan
 Hugh C. White, Secretary
 Henry A. Minton
 Frederick H. Reimers

Structural Engineers Hall & Pregnoff
 Mechanical Engineer George E. Atkins
 Landscape Architect Floyd H. Mick

Number of Dwelling Units 372

Site—Rounded on the northeast by East 14th Street and on the southeast by 66th Avenue; by privately owned property on the other two sides. Topography flat with about 13 feet fall toward the south. Area purchased—21.9 acres. Area to be dedicated to the City for public streets—2.9 acres. Area for development, exclusive of new internal streets and setback along 66th Avenue—1.9 acres (827,900 sq. ft.). Ground area occupied by buildings—145,300 sq. ft. Ground coverage by buildings—20% of total. Number of dwelling units per acre—19.6.

Buildings—Project consists of 53 dwelling buildings, 1 Administration and Community Building, and 6 laundry and storage buildings.

Dwelling Units

80 — 3½ room units, area 594 sq. ft. (flats).
 24 — 4½ room units, area 800 sq. ft. (flats).
 204 — 4½ room units, area 780 sq. ft. for typical unit; 797 sq. ft. where combined with 5½ room unit.
 59 — 5½ room units, area 997 sq. ft.
 5 — 6½ room units, area 1,020 sq. ft.

372 Dwelling Units — 1,663 Rooms.

Areas and Cubage	Areas sq. ft.	Cubage sq. ft.
Dwelling Buildings	293,330	2,970,000
Non-Dwelling Buildings	9,310	122,700
Total	302,640	3,092,700

Construction

Site Conditions: Silty clay or adobe about 3 feet deep on the average. Utilities: Principal utilities were available at or near the site, except that water main must be extended along 66th Avenue for fire hydrants, with cost borne by Utility District.

Contracts

General Construction—James I. Barnes Const. Co., Santa Monica, California, July 12, 1941.
 Plumbing and Heating—J. A. Fazio, Oakland, California, July 3, 1941.
 Electrical Work—Clifford Electrical Co., Oakland, July 3, 1941.

Contract Costs

General Construction	Amount
Plumbing & Heating	\$ 167,525
Electrical Work	45,000
	\$1,125,525

Other utilities were extended or amplified without cost to the Local Authority. Site Engineering: Grading for surface runoff of storm water to street gutters. Additional storm sewer in contract to connect to new City storm sewer. Street and Other Paving: Asphaltic surface course on crusher run base. Walks: Oil macadam replacing concrete by change order. Landscaping: Lawns and shrubs.

Buildings:

Foundations: Concrete. Superstructures: Wood frame plastered on exterior. Interior Walls: Painted plaster on gypsum lath. Floors: Oak except kitchen floors which are linoleum. Bath room floors ceramic tile. Roofs: Sloping hipped roofs with built up gravelled roofing. Exterior: Cement wash on plaster. Plumbing: Standard equipment. Individual hot water storage heaters in kitchens. Heating: Gas fired circulating heaters in living rooms of dwelling units. Electric: Overhead distribution. Interior wiring in knob and tube.

Per D. U.	Per Sq. Ft.	Per Cu. Ft.
\$2,454.30	\$3.02	\$.293
450.30	.56	.055
121.00	.14	.015
\$3,025.60	\$3.72	\$.363

Note: * Contract price \$963,000 required by USHA to be reduced to not over \$913,000 by change order before notice to proceed.
 ** Includes kitchen ranges.

other housing projects.

In Campbell Village about 56 per cent of the tenants are Negroes, 41 per cent are whites and 3 per cent are Orientals. The Negro tenants are all local and were residents of the neighborhood before the improvements were started. The average income of these families is less than \$90 a month, with rents varying from \$14 to \$25.50, including all utilities. The white families came because desperately in need of housing.

Private owners of housing of this type could not afford to rent at these prices, nor could the Authority offer such low rentals were it not for a yearly subsidy, not to exceed three per cent per year, from the government. The tenants have disproved the assertions of some critics of low rent housing for persons of small income, that "people who live in slums are naturally dirty," and that "they like to be that way . . . put them in new clean houses and they'll store coal in the bathtubs."

The experience of the Oakland Authority to date is that if you give these people decent, clean surroundings, they keep them clean and decent; in fact, take pride in the care of their homes. That most of the tenants are happy is evident from the fact that in a year's time only 24 replacements out of a total of 154 units have been made, a better than average showing, the authorities say. The records also indicate a considerable drop in moral delinquencies.

Applications filed for accommodations at Campbell Village between April and July, 1941 averaged 14 persons every working day. At present there are 539 people living in the Village and of this number 232 are children. When the two projects were started there was a 2 per cent vacancy in Oakland. At this writing there is a waiting list of several thousand.

One recreational feature of the three Oakland projects is spray pools installed in the community playgrounds. Spray pools are

PERALTA VILLA LOW RENT HOUSING PROJECT

for Housing Authority of the City of Oakland, California

Board of Architects

Carl I. Warnecke, Chairman Hugh C. White, Secretary
 John J. Donovan Henry A. Minton
 Frederick H. Reimers

Structural Engineers Hall & Pregnoff
 Mechanical Engineer George E. Atkins
 Landscape Architect Floyd H. Mick

Number of Dwelling Units 396

Site—Bounded by Eighth, Cypress, Twelfth, Poplar, Tenth, and Union Streets.
 Site occupied by substandard dwellings, demolished under separate contracts. Topography relatively level. Area purchased—15.22 acres. Street area vacated by City—3.09 acres. Total area acquired—18.31 acres (798,878 sq. ft.). Ground area occupied by buildings—168,430 sq. ft. Ground coverage by buildings—21.2% of total. Number of dwelling units per acre—21.6.

Buildings—19 row house buildings, 16 flat buildings, 1 Administration Building.

Dwelling Units

152 — 3 1/2 room units, area 615 sq. ft.
 64 — 4 room units, area 690 sq. ft.
 142 — 4 1/2 room units, area typical 800 sq. ft., when combined with 5/2 room units 845 sq. ft.
 38 — 5/2 room units, area 980 sq. ft.

396 Dwelling Units — 1,636 Rooms.

Areas and Cubage

	Areas sq. ft.	Cubage cu. ft.
Dwelling Buildings	298,610	2,843,000
Non-Dwelling Buildings and Spaces	14,650	169,900
Total	313,260	3,012,900

Construction

Site Conditions: Sandy loam about 5 feet deep to hardpan.
 Utilities: All available without extensions.
 Site Engineering: Grading for surface runoff of storm water to street gutters.
 Walls: Concrete.
 Paving: Asphaltic.
 Landscaping: Lawns and shrubs.

Buildings:

Foundations: Concrete.
 Superstructures: Concrete exterior, fire division walls and first floor slab; wood framed partitions, second floor and roof.
 Interior Walls: Painted plaster on gypsum lath.
 Interior Finish: Wood.
 Floors: Asphalt tile in first story; oak in second story; linoleum in kitchens; ceramic tile in baths.
 Roofs: Built up felt and gravel, flat.
 Exterior: Cement wash on concrete.
 Plumbing: Standard equipment. Hot water supplied by group heaters and storage tanks, one in each building.
 Heating: Gas fired circulating heaters in living rooms of dwelling units. Electric: Underground distribution, lead sheathed in conduit for primary circuits; Parkway cable for secondary; interior wiring in rigid conduit.
 Kitchen Ranges: Supplied by the Local Authority under separate contract and installed by the Plumbing Contractor on change order.
 Refrigerators: Not furnished.

Contracts:

Contracts let on November 15, 1940, as follows:
 General Construction—Monson Bros., San Francisco
 Plumbing Work—L. J. Kruse Co., Oakland
 Electrical Work—Clifford Electric Co., Oakland
 Heating Work—L. J. Kruse Co., Oakland

Contract Costs

	Amount	Per D. U.	Per Sq. Ft.	Per Cu. Ft.
General Construction	\$938,831	\$2,370.70	\$3.00	\$.312
Inter. & Exter. Plumbing	133,970	338.30	.43	.044
Inter. & Exter. Wiring	37,300	94.30	.119	.012
Heating Work	6,377	21.15	.027	.002
	\$1,118,478	\$2,824.45	\$3.58	\$.37

desirable but they need supervision. Without supervision they become a menace. Most youngsters are not satisfied with just a spray of water falling over them. They want to wade and, as a means to that end, they flood the pool by diverting the spray into a solid stream. This is done by throwing a paper or piece of cloth over the nozzle.

White and Negro children play together with no apparent thought of racial difference. According to the authorities it is not until the junior college age has been reached that any color line is drawn. Recreational facilities, in addition to the spray pools already referred to, include sand bins for the little tots and cemented areas for the slightly older boys and girls. There are no out-door recreational facilities for parents, an omission which has resulted

in repeated petitions for tennis and handball courts.

Community facilities include storage space, sitting areas, laundry and garbage disposals. The latter comprise a battery of galvanized iron cans which could well be hidden by an inexpensive covering of some sort. Both Campbell and Peralta have their public laundries which are equipped with electric washing machines that operate when ten cents is deposited in the slot.

While not over-popular in California, tenants in the Northwest housing projects insist that public laundries be provided.

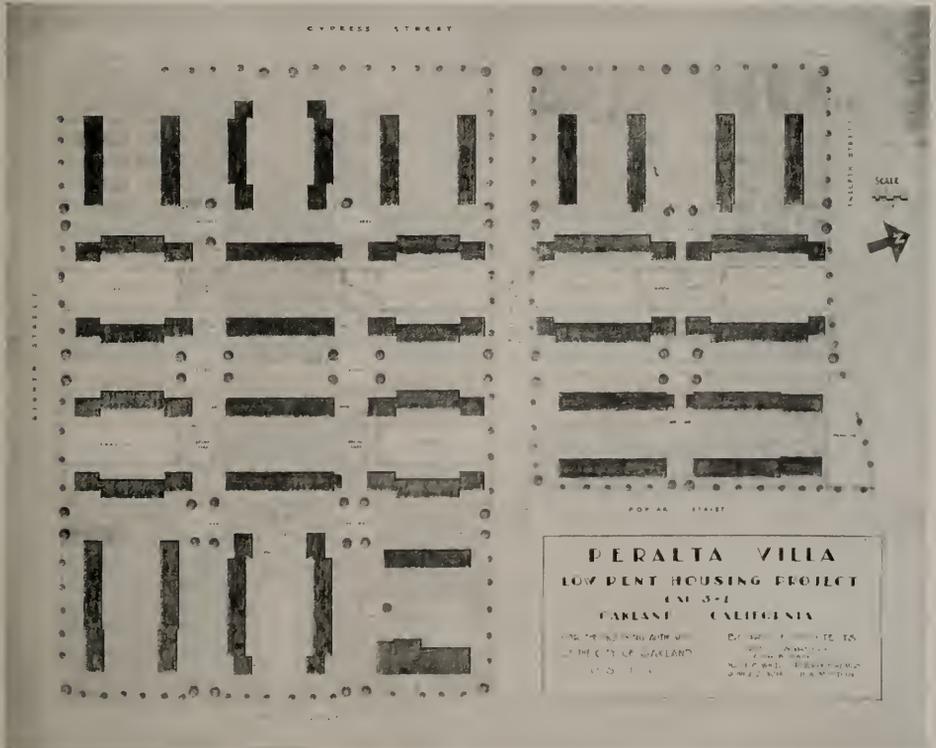
The housing units at Campbell run from three and one-half rooms to five and one-half rooms, with a rent schedule ranging from \$14 to \$25.50 per month. The living rooms seemed to



These views show sub-standard housing conditions before the Peralta and Campbell projects were started. Congestion, insanitation and fire menace are apparent in all four pictures.



ARCHITECT'S DRAWING OF PERALTA VILLA PROJECT



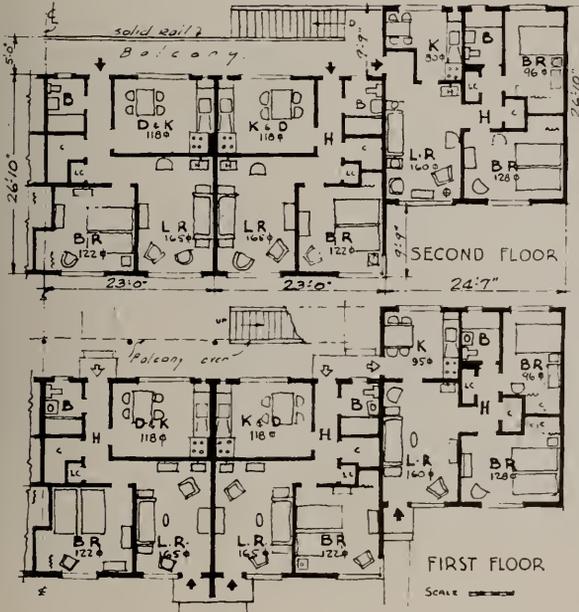
PLOT PLAN

DELINQUENCIES of TENANTS in PERALTA DISTRICT SHOW



THREE VIEWS OF PERALTA PROJECT SHOWING FLAT BUILDINGS
IN LOWER PICTURE NOTE OUTSIDE BALCONY FOR ENTRANCE TO SECOND STORY FLATS

ARP DECLINE FOLLOWING OCCUPANCY OF PROJECT



Center Axis of 2-Flat type Buildings in Peralta Project. View is from Eighth Street. There are 396 dwelling units with a total of 1,636 rooms in this project.

CAMPBELL VILLAGE FIRST OF THE OAKLAND LOW RE



There are four rows, four buildings to a row, as pictured above, in the Campbell Village project. There is also a project office and community building.



Left — Bird's-eye view of Campbell project.

Right — Plot Plan. Campbell Village replaced several acres of substandard houses, unsanitary and a breeding place for crime and a constant fire hazard.

USING PROJECTS, HAS 154 DWELLING UNITS



CAMPBELL VILLAGE LOW RENT HOUSING PROJECT

for Housing Authority of the City of Oakland, California

Board of Architects

Carl I. Warnecke, Chairman Hugh C. White, Secretary
John J. Donovan Henry A. Minton

Frederick H. Reimers

Structural Engineers Hall & Pregnoff
Mechanical Engineer George E. Atkins
Landscape Architect Floyd H. Mick

Number of Dwelling Units 154

Site—Bounded by Eighth, Willow, Tenth, and Campbell Streets. Site occupied by substandard dwellings, demolished under the General Construction Contract. Topography relatively level. Area purchased—5.26 acres. Street area vacated by City—1.05 acres. Total area acquired—6.31 acres (274,900 sq. ft.). Ground area occupied by buildings—63,680 sq. ft. Ground coverage by buildings—23% of total. Number of dwelling units per acre—24.4.

Buildings—12 row house buildings, 6 flat buildings, one Project Office and Community Building.

Dwelling Units

- 48 — 3½ room units, area 615 sq. ft. each.
- 24 — 4 room units, area 690 sq. ft. each.
- 62 — 4½ room units, typical 800 sq. ft. each; where combined with 5½ room units 820 sq. ft.
- 20 — 5½ room units, area 925 sq. ft.
- 154 Dwelling Units — 653 Rooms.

Areas and Cubage

	Areas sq. ft.	Cubage cu. ft.
Dwelling Buildings	116,900	1,137,000
Non-Dwelling Buildings and Spaces	3,880	38,000
Total	120,780	1,175,000

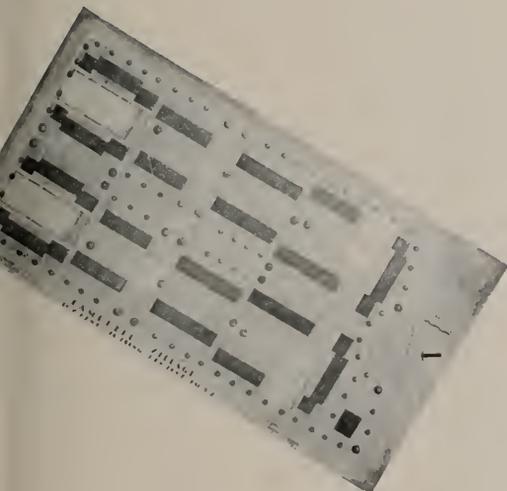
Construction

- Site Conditions:** Sandy loam about 5 deep to hardpan.
- Utilities:** All available without extensions.
- Site Engineering:** Grading for surface runoff of storm water to street gutters.
- Walks:** Concrete.
- Paving:** Asphaltic.
- Landscaping:** Lawns and shrubs.
- Foundations:** Concrete.
- Superstructures:** Concrete exterior, fire division walls and first floor slab; wood framed partitions, second floor and roof.
- Interior Walls:** Painted plaster on gypsum lath.
- Interior Finish:** Wood.
- Floors:** Asphalt tile in first story; oak in second story; linoleum in kitchens; ceramic tile in baths.
- Roofs:** Built up felt and gravel, flat.
- Exterior:** Cement wash on concrete.
- Plumbing:** Standard equipment. Hot water supplied by group heaters and storage tanks, one in each building.
- Heating:** Gas fired circulating heaters in living rooms of dwelling units.
- Electric:** Overhead distribution from street poles. Interior wiring in rigid conduit.
- Kitchen Ranges:** Supplied by the Local Authority under separate contract and installed by the Plumbing Contractor on change order.
- Refrigerators:** Not furnished.

Contracts:

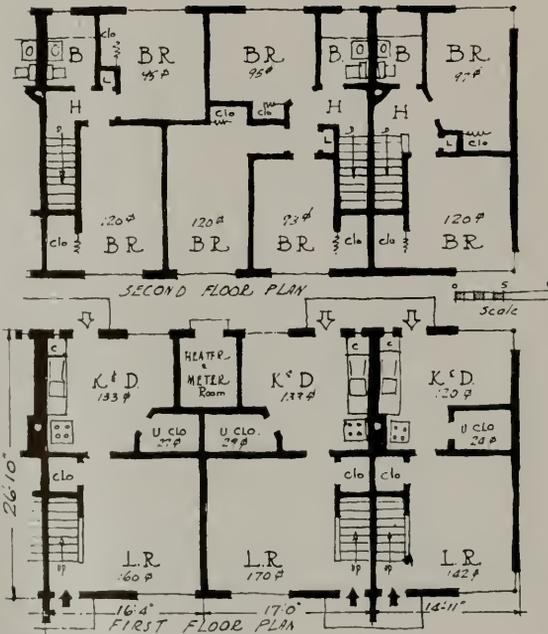
- Contracts let on January 23, 1940, as follows:
- General Construction—K. E. Parker Co.—San Francisco
- Plumbing Work—L. J. Kruse Co.—Oakland
- Electrical Work—Clifford Electrical Co.—Oakland
- Heating Work—L. J. Kruse Co.—Oakland

Contract Costs	Amount	Per D. U.	Per Sq. Ft.	Per Cu. Ft.
General Construction	\$378,200	\$2,455.85	\$3.13	\$.322
Plumbing	51,090	331.75	.42	.043
Electrical	16,700	108.50	.14	.014
Heating	3,895	25.20	.03	.003
	\$449,885	\$2,921.30	\$3.72	\$.38





View of Campbell Project from the street.
 Note excellent landscaping with less than a year's growth.



Typical plan of two story houses containing three flats of four rooms each. There are 24 four-room units, 48 three and one-half room units, 62 four and one-half room and 20 five and one-half room units.

us rather small for average family needs and much too small for the bulky furniture crowded into them. The story goes that when the tenants were preparing to move they visited the Oakland furniture stores and were erroneously advised that the Housing Authority required the installation of all new furniture. As a result many tenants purchased as much as \$400 worth of furniture and rugs, obligating themselves for installment payments over a long period. Some of these families have incomes of less than \$60 a month. Their actual furniture needs could have been met by an initial outlay of as little as \$38.

Peralta Villa is the largest of the three Oakland projects. It consists of 152 three and one-half room units; 64 four room units; 142 four and one-half room units; and 38 five and one-half room units. Altogether there are 1636 rooms.

The units are located in 16 flat buildings and 19 row houses. The flat buildings are two stories high and contain three and one-half and four room units. The row houses, also two stories high, contain four and one-half and five and one-half room units.

All structures are of reinforced concrete with fireproof composition graveled flat roofs. The exterior concrete surface and all openings are painted brown, tan and cream colors. Specifications for interiors called for concrete first floor covered with asphalt tile, with wood frame second story and oak flooring. All interior walls are plastered. Metal sash, outside French doors and interior wood doors are provided.

The Peralta project has an imposing administration building with one floor devoted to community and social facilities, project management office and maintenance supply office, and the second floor given over to general executive offices for the Oakland Housing Authority. The community and social facilities in the administration building include a social room (32' by 47'); craft room (23' by 23'); nursery-library (23' by 23'); and community kitchen and toilets. These rooms can be combined as a large hall when necessary.

Peralta's three and one-half room units contain a living room, combined dining room and kitchen and a bedroom, while the four room units have two bedrooms.

Complete dwelling units are on either the first or second floors. Second floor units are reached by an outside balcony with egress at each end of the balcony. First floor units have both front and back yards.

Furnishings for each unit include a bathtub, toilet, washbowl, sink, kitchen stove and individual circulating gas air heater. A common hot water heater in each building serves the individual dwelling units. Other facilities include closets, pantry and cabinets. Linoleum covers the kitchen floors.

Four and one-half room units have a living room, combined dining room and kitchen and two bedrooms. The five and one-half room units have three bedrooms. Dwelling units are located on both the first and second floors with an individual private stairway to the second floor rooms. Each unit has an individual front and back yard. Living rooms, dining rooms and kitchens are on the first floor, with other rooms on the second. Furnishings are the same as in the smaller units.

Absence of closet doors in all the apartments was explained as a space saving experiment. It is being done in the East quite generally. A swinging door takes up a lot of space. Curtains are frequently used to cover the door space although, in some instances, nothing is done by the tenant to fill the opening.

Landscaping of the grounds was included in the general construction contracts, but the mechanical work was let separately which, according to the Authority, resulted in a considerable saving and permitted local firms to participate. Gardens, trees, plants and shrubs were included in the landscaping. The rye grass that was planted does well and looks well when plentifully watered, but where the sprinkling has been neglected the grass has reached hay stage.

Tenants are supposed to care for their own yards. Most of them do. Those who do not should be cautioned. One or two neglected yards, front or back, will just about ruin an otherwise attractive landscaping.

The Housing Authority of Oakland is composed of Commissioners Thomas M. Robinson, Jr., chairman; Hugh S. Rutledge, John P. Brennan, C. M. Walter and Stanley A. Burggraff. Bernard J. Abrott is the Executive Director.



Courtesy California Highways and Public Works

**BARRACKS AND SCHOOL BUILDINGS, CALIFORNIA STATE MARITIME ACADEMY
MORROW COVE, NEAR VALLEJO**

SHORE BASE FOR STATE MERCHANT MARINE TRAINING SCHOOL AT VALLEJO

Now being built along the beach at Morrow Cove, two miles east of Vallejo, is the pictured temporary shore base for cadet companies of the State Merchant Marine Training School. The wood frame barracks-type dormitories and instructional building will cost the State of California \$160,000, a sum allocated from the Governor's Emergency Fund.

Included in this project are temporary barracks containing toilet and shower rooms in which the cadets, assigned four men to a squad room, will live during the concentrated 16-month period of their training except during the two protracted cruises on the ship "Golden State."

To be constructed also is a T-head timber wharf, 200 feet in length along each leg, which is the home berth of this training-ship assigned to the State of California by the United States

Maritime Commission, and which also provides for the ship's overhauling. Adjoining the dormitories and arranged around a small quadrangle facing the cove are a classroom and administration building, kitchen and mess hall seating 200 cadets and an engineering shop and instructional building, all of which are of minimum critical material, "duration" construction to house an urgently needed facility.

The program proposes the installation of water, gas, and electric power services which are scheduled, with the building structures, for completion this fall, and for which a high preferential priority was granted by the War Production Board, upon the request of the State Department of Public Works.

Plans for the shore base were prepared by the State Department of Architecture in Sacramento.

POST-WAR PLANNING FOR THE CONSTRUCTION INDUSTRY

By RUSSELL G. CREVISTON

Chairman, Producers' Council, Post-War Planning Committee

What is being done—and what can be done to assure a brighter future for the building industry when the war clouds roll away? Here is a comprehensive analysis of the background of this big problem. It sounds a note of cheer and progress in these troubled times and lays down the general procedure for carrying on an integrated program of industry-planning, a program that will have the solid backing of the nationally prominent Producers' Council, the American Institute of Architects and others.

The three questions uppermost in the minds of every adult American today are:

1. How can I help to win the war?
2. How can I survive the vicissitudes of the war?
3. What is going to happen to me when the war is over, and what after victory?

Interest in this after victory question is growing and will continue to grow as management recognizes its stake and as the general public becomes more aware of the changes which our war economy is forcing upon us. There are some conflicting views as to what is going to happen after victory and what if anything can be done about it. These views vary all the way from abject despair to beliefs in an unlimited Utopia. Fortunately, the majority view is rational, realistic and conservatively optimistic. There is a minority element in government and business whose views are extreme. On the business front there are those who believe that chaos and ruin or business as usual will follow the war. In the field of government there are those who proceed on the theory that there must be an International New Deal—a people's revolution. Such views are a constant threat to sound planning and make it all the more important that as individuals and as a responsible group we proceed without delay and that we enlist the cooperation and advice of all branches of the construction industry.

The nature and the scope of post war planning to date is not only interesting but very encouraging. On the business front we find the National Association of Manufacturers recom-

mending to each of its members the formation of a committee or department to devise and suggest plans to meet postwar problems and plans in due time to call an open national conference on this subject; the United States Chamber of Commerce is studying developments and trends growing out of the war; The Association of American Railroads problems of transportation; the Food Research Institute international agreements on foodstuffs and raw materials; the Machinery and Allied Products Institute post-war problems affecting machinery; the National Lumber Manufacturers Association technical advances, processes, methods, and inventions for improved lumber products both here and abroad. In the financial field the U. S. Savings & Loan League, Mortgage Bankers' Association of America, and the large insurance companies are concerned with the future of mortgage financing.

Trade and professional groups are busy. The National Association of Real Estate Boards and the American Institute of Architects are directing their efforts toward the replanning and rebuilding of cities, the elimination of blighted areas and slum areas, and the effect of war-born design and materials on the future of construction. War designs, materials and methods of construction constitute one of the major questions directly affecting the manufacturers of building materials and equipment and constitute a real challenge to our subcommittee on technical questions. The American Bar Association, through its committee on "International Legal Problems" is carrying on an edu-

cational campaign to establish among lawyers and laymen a more quickened consciousness of the permanence and the indestructible nature of international law. The Federal Council of Churches is studying the bases of peace.

Some of the most constructive work on the part of industry is being done by individual companies. The work of the General Electric Company is outstanding. Johns-Manville's plan is a program of formal education for the building industry. The Carnegie-Illinois Steel Corporation has organized separate departments to study postwar production, engineering and marketing. Their setup is a model for large industrial corporations.

The postwar planning efforts of the various agencies and departments of the Federal Government are being co-ordinated by the National Resources Planning Board. For the past eight years this Board has been engaged in studies of our national resources—natural, human, scientific and economic. Since November 1940 the Board has been developing its "postwar agenda," having been instructed by the President to collect, analyze, and collate all constructive plans for public and private action in the postwar period. To this end the Board is serving as a clearing house to assemble ideas and plans, to stimulate action by public and private agencies, to harmonize divergent views and to furnish information to the President and to the Congress. Reports of the Board are public documents and should be carefully studied by those interested in postwar planning.

The Economics Unit and the Construction Unit of the Department of Commerce are concentrating on ways and means of measuring the postwar market, assisting individual corporations and branches of industry with postwar plans, and serving as a clearing house for industry and commerce.

OBJECTIVES AND SCOPE

Someone has said, "It is human to resist change and to discount predictions of major social and economic changes." It is equally human to limit the horizons of our own imagination and yet economic history is full of achievements which become realities despite the sincere convictions of many people that

they could not happen. Therefore, while we may differ in our appraisal of the impact of the war on our social and economic life, and while we may differ as to the exact scope and nature of things to come, certainly we can agree that we are fighting this war to win the peace. We will glory in our final military victory as we glory in successful engagements from day to day, but mastery of arms is not our goal. Our goal is the realization here and abroad of the aspirations we and all free peoples have cherished but never attained, the aspirations toward freedom, democracy and the supremacy of human rights. Because this is our goal we must not limit the horizons of our own imagination, we must get rid of our pre-war mental machinery and dedicate ourselves to the winning of the peace, which requires careful study and analysis of present trends and the projecting of a sound course of action.

Postwar planning covers many subjects: finance, politics, social problems, economics, taxation, but the balance wheel most commonly agreed upon to stabilize our postwar economy is construction. This has its disadvantages as well as its advantages. On the negative side the Construction Industry stands to become a whipping post for the ills of many segments of our economy and a testing laboratory for premature and ill advised activities. This possibility calls for understanding and co-ordinated effort on the part of the leaders of the various branches, trades and professions which comprise our industry. On the affirmative side we can benefit from this public acceptance of our industry's social and economic importance by developing a sound program of industry and public relations. This will be the job of our subcommittee on Industry and Public Relations.

NEW TRENDS

The psychological effects of the war are beginning to be felt in two major directions. First, we are slowly but surely accepting a greater degree of individual responsibility. We are acquiring more of a will to be self-sustaining, to depend less and less on the paternalism of the state. We are developing once again a spiritual stake in our community and our nation. It was the decline of this self-reliance, this

spiritual stake which made possible many of the nostrums of the Thirties. Secondly, we are beginning to think and act as one of a family of nations and this broader view makes future planning on a large scale possible and effective.

We are still too much engaged with our war economy to project the future of our social life but there are a few trends that cannot be overlooked. The great increase in the number of women employed in industry is bringing the home and industrial fronts closer and closer together, and while many of these women will be replaced, their interest in and views on industrial management questions will be felt for many, many years.

The need for greater regulatory powers and collective efforts in time of war are bound to leave their imprints on the future and must be considered in all our plans. The status of labor has been more or less frozen for the duration and no one can foretell the character of our postwar labor policy but it is safe to assume that labor will play an important part in the postwar period. The bigotry of race, creed and color is being definitely reduced.

The impact of the war on our economic life can be measured in very concrete terms. Industrial facilities have been greatly expanded and the rate of production increased by greater mechanization and increased productivity of men and machines. Never before have we trained so many men so well in such a short period of time. Old products have been simplified; new products, new materials, and complete new industries have been developed; new methods, new designs and new standards have been introduced and will permanently affect our operations. Firms doing subcontracting work have learned new production processes which will tend to decentralize industry and increase the number of producers in many lines. Thousands of scientists and inventors have been diligently searching for new products and new processes. Their discoveries are among the most closely guarded of our military secrets, but once hostilities cease the curtains will be thrown back and wonders undreamed of will serve to rekindle the appetites of a war-weary and a product-hungry people.

SHIFTING POPULATION

Gearing our economy to the production of arms on the largest scale ever projected has resulted in dislocations of population and industry. New plants have been constructed in large cities, small towns and even farm areas, often drawing workers from twenty or more states. This migration was superimposed upon a shifting agricultural population, which attracted national attention in the Thirties. The number migrating to defense centers has averaged from two to three for every one employed. This surplus of workers results in overcrowded facilities not only during periods of construction but afterwards as experience shows that a large percentage remain permanently. This permanent increase, particularly in smaller cities and farm areas, presents a real postwar problem as it will serve to force operation of the war plants and draw new industry to such communities.

A good example of this migration is found in San Diego which had a population of about 200,000 in 1940 and has grown to more than 300,000 today. From January 1st to May 1st of this year San Diego's population increased 34,000. However, the flow of our migration has been chiefly into New England, the Middle Western and Great Lakes industrial area, and the Pacific Coast. A total of one million people migrated to California, Oregon and Washington in the first two months of this year. This presages a much greater industrialization of the Coast.

The movement of industry has been on a much smaller scale than that of population but it is reasonable to expect that some types of industry will migrate to those overpopulated centers after the war. Few of the communities experiencing this flow of war workers have the financial resources necessary to expand their transportation, housing, schooling, hospitalization, water supply, sewage disposal, etc. The result has been makeshift facilities, which will have to be replaced with permanent ones if this influx or a major portion of it becomes permanent. This will mean new marketing areas with their attendant effect upon old ones. The character of this semi-permanent migration is

very significant as to future developments. For the most part the age of the male migrants is from 20 to 50 years and they are the lower skilled or inexperienced type of workers. Less permanent displacement among skilled workers can be expected as they do not move their families and will return to their pre-war residences. In brief, we are experiencing the greatest shift of population in our history and its effect upon our social and economic life constitutes one of our major postwar problems.

In discussing our war industrial development the president of one of our great electric companies recently said, "This industrial machine now being built can strike us down as surely as it will our enemies unless we keep it going after the war. We cannot scale it down to a pre-war level just because we have finished the job for which it was built. A nation that has exhibited the production genius and amazing capacity for progress which our nation has, cannot think for a minute of scrapping the machine and dropping back to where we were." In other words, this leader recognizes that full employment is the objective of all the postwar planning and if war can give us the will to use our entire abilities, then we must will to use those abilities for peace.

As manufacturers of building materials and equipment we are in a position to play an important part. We have the satisfaction of having met the needs of war construction, we have simplified our lines, developed new products and are converting our surplus production facilities to war work.

While the plans of the Producers Council will be of primary interest to building product manufacturers, we realize that our welfare is interwoven with that of other interests in the construction industry. I have already communicated with some of these, including the architects, general contractors, building material dealers, real estate interests, trade press, and mortgage and financing groups to apprise them of our activity and to ascertain what thought they are giving to industry planning for the future. It is the intention as time goes on and we have made a start in our planning, to suggest that all of these interests come together to agree upon general principles which the in-

dustry can support, as a common program.

Such a program must deal with overall policies, general principles and broad objectives which will facilitate and sustain sound construction by private industry and by government insofar as that may be necessary.

The problems which lie ahead are so numerous and gigantic that they require the combined thought and action of every major unit and division of the profession, trades, industry, commerce, finance and government. The most perfect plans of a few courageous units will fail without the support of all elements in our social, economic and political life. Therefore, our first duty is to properly organize to do postwar planning. The first step is to set up a committee or department in our company and the next step is to get our particular groups organized. Once these steps are taken the many things to be done will naturally follow. In the course of this statement I have emphasized a few of the problems peculiar to our industry and have tried to present the bases of more of them. So in conclusion, let us take our inspiration from the words of Daniel Webster, spoken a hundred years ago:

"If war should sweep our commerce from the seas, another generation will restore it. If war exhausts our Treasury, future industry will replenish it. If war desiccate and lay waste our fields, under new cultivation they will grow green again, and ripen to future harvest. If the walls of yonder Capitol should fall and its decorations be covered by the dust of battle, all these can be rebuilt; but who shall reconstruct the fabric of a demolished government, who shall dwell in the well proportioned columns of constitutional liberty, who shall frame together the skillful architecture which unites national sovereignty with states rights, individual security with public prosperity."

The answer then as now—people with the will to use their entire abilities in peace as in war.

Therefore let us not have it said of the manufacturers of building materials and equipment in the field of postwar planning—the planning of our part of the peace—too little and too late.

WAR-TIME HOUSING IN DEFENSE AREAS

By CATHERINE BAUER WURSTER

Vice-President, California Housing and Planning Association

No city on the West Coast has developed faster in population in the last twelve months than San Diego. By leaps and bounds the city has doubled its population and is still growing. In answer to the oft repeated question, "Do we need more housing?" Miss Bauer recently broadcast her findings for Town Meeting of the Air, and below is her speech in full.

The subject Mr. Grimm, Director, Citizens Housing Council, and I are scheduled to debate—public versus private construction of housing for war workers—has been a very lively little issue. Suddenly, however, it seems rather academic. It's like asking how many angels can sit on the end of a pin.

The pin in this case is the critical shortage of materials—materials needed for ships, tanks, guns, airplanes and factories, as well as for houses. The pin has two sharp points: How little housing can we do? And, how little essential material and labor can a house use? Sitting on either of these prongs is not a very comfortable position for any breed of angel these days, whether he's a speculative builder or a public houser.

So the first question is: do we need more housing?

Well, here in California there are 800,000 more people than there were two years ago, an increase of 12 per cent—figures which make the once-famous Grapes of Wrath problem look like a picnic. And hundreds of thousands more are still needed.

Most of these people go straight to one of three areas: San Diego, Los Angeles, and (now the hottest spot of all) the great ship-building center stretching along San Francisco Bay from Oakland up to Richmond and Vallejo. Nowhere in the country is this fantastic industrial revolution more dramatic or complete than here in San Diego—with more than a hundred thousand civilians added to its former 250,000, let

alone Army and Navy. In 1939 it was still a Utopian haven for tourists and retired people, with a few sailors for local color. By 1940 airplane workers were already crowding into auto-courts and make-shift trailer parks. In 1941 the Tolan Committee found it a seething boom-town, with housing at the core of every problem and controversy. And today, with vacancies nil and both public and private construction falling behind, at least 25,000 more workers will have to be imported. Most of them will probably have families.

A survey made last January showed that only half of the families who arrived in 1941 had actually been able to find separate dwellings—and heaven knows how many of these were mere furnished rooms, make-shift shacks or outright slums. All the rest are either doubled up with other families or living in hotels or trailers.

All elastic factors are now stretched to the limit. In fact, thousands of families already here will move if conditions aren't improved. The estimate by one public agency that at least 12,000 more dwellings must be provided as soon as possible seems conservative if anything.

Meanwhile, the outlook for future housing is extremely dismal on the Washington end. Lack of top priority ratings is holding up practically all residential building in the region (although ordinary private homes for sale are still getting preferential treatment over public housing in many localities, even though the latter are

rigidly designed, and for rent solely to war workers). No more money is available for public construction until Congress acts. And the general tone of most housing officials is rather apologetic, as if it might seem unpatriotic to do anything but bow their heads.

I wonder. I wonder if we aren't still drifting along under the delusion that decent housing for war workers is just a socially desirable thing, nice if you can get it but not absolutely essential to winning the war.

But just ask Ed Gott, here at Consolidated. Ask the Kaiser people in Richmond and Vancouver and Sausalito if housing is just a social problem. Ask them what is the greatest production obstacle on the coast. They will say, "the supply of labor," and they will say, "turn-over." And they will say with emphatic finality that lack of housing is a major cause.

It is said that turnover at Consolidated is 5 per cent a month—thousands of workers. It is even higher in other plants out here. And over and over in dry statistical reports occur sentences like the following: "The migration of workers into the area has fallen off considerably, while the movement of workers out of the country has continued to increase." Unemotional words, but perhaps we should be a little more emotional about their implications. Americans are the most adaptable people in the world. But if a family cannot find reasonably decent and convenient shelter, at a price they can pay, they naturally move on . . . or they don't come at all.

One thing seems clear. We can't just drift into cutting down the housing program. There are alternatives, but instead of being whispered dolefully they should be presented to Congress in no uncertain terms. If we don't do at least a bare minimum of new housing in critical spots like San Diego, then we must do some other things that may be even harder: (1) compulsory billeting; (2) compulsory evacuation of nonessential citizens; and/or (3) something amounting to an industrial draft, which will bring needed workers in but force their dependents to stay behind. (And I mean "force"; even the Army and Navy have thus

far been unable to prevent families from following their men-folk.) I rather imagine that Congress and the people of this country might want to make sure that every scrap of materials had been rounded up or converted from nonessential use, and every ounce of ingenuity tapped, before embarking on such drastic measures.

If we could still afford to gamble on a short war, the answer might be different. But can we?

So now, if there should be more housing, who ought to build it? First consider the conditions.

From now on, it seems obvious, all new housing should be solely and directly for occupancy by war workers. It should be for rent, because of future uncertainties. (If a worker can save a few dollars, it's certainly sounder for him to put it into war bonds than into a dubious equity.) And most of it must reach workers making 75 to 85 cents an hour, which means around \$25 to \$35 or \$40 rent a month. Transportation and utility difficulties may mean building in areas not sound for permanent housing, even assuming that more permanent homes could be absorbed in these communities. This also means demountability, or outright temporary construction. It will have to be done quickly, in large projects, using every time-saving, labor-saving and material-saving device that progressive designers and fabricators can concoct. Essential community facilities must be included—nursery schools above all, perhaps, if women are to be freed to work in factories as anticipated. Basic furnishings may have to be provided in many cases. The housing must measure up to definite minimum standards of sanitation and privacy to be worth doing at all, but even so it will be pretty far removed from our normal expectation of what a new home should be like. (Some of the new so-called "war apartments" seem to me pretty near that line, incidentally.)

These are the conditions. What private builder or banker wants seriously to invest in much housing? Obviously, if it's useful only for the duration it can't be expected to pay

out. The only choice is between direct public funds—and complete public insurance of private investments, including a guarantee of enough profit to provide an incentive. (In actual practice, FHA's Title VI does this already, of course.) Need I point out which course is likely to cost the tax-payers most in the long run?

Sometimes one hears, however, that it's the experience of the speculative builder we must utilize, at any cost. But just what experience has he had in the field just outlined? Of the 10,000 new homes provided by private enterprise in the San Diego area in the last thirty months, practically all have been of traditional design and construction, built for sale a few at a time, and for the most part too expensive for typical war workers. They have greatly eased the housing situation, true enough, but in an indirect way we can no longer afford.

As for the 10,000 public housing units built or started here, some bad mistakes certainly have been made. But large-scale planning methods have been used. Contractors competent to handle mass fabrication quickly have been employed. And rents are within reach of war workers. These projects are not Utopian and they will be less so in the future, but they do by and large meet the immediate need. And many of the early mistakes could have been avoided if unduly nervous property interests had not prevented the establishment of a local housing authority to take things in hand, as was done in most other cities.

Within this rigid frame, therefore, it seems to me that all common sense lies now on the side of public enterprise. Where their experience and equipment qualifies them, local private builders should be used as contractors much more than they have been. But **don't** let's haggle over a political compromise, dividing the field. Everyone agrees there is a short-

age of materials. Isn't it better to have two families living in frankly temporary minimum rented quarters than to have one buy a fine small home they probably won't be able to hang on to—and the other sleep in their car?

It seems to me that the one vital immediate thing to help San Diego today—and all the other similar communities—is the passage of H. R. 7312, the amendment to the Lanham Act which would provide more funds for public war housing.

One major source of opposition has been the fear that this great monster Public Housing would fatten on the emergency and leave housing authorities strong enough to undertake horrendous enterprise after the war. Well, a superficial answer is the fact that little war housing will be attractive enough, from now on anyway, to bring much prestige to its builders. Quite the contrary. It may prove a boomerang.

But more seriously, the war is giving us one thing that's been almost universally demanded for years. It's giving us vast laboratory experience with experimental building methods and prefabrication, with large scale community planning, with rental management and upkeep, and with stream-lined production processes. The present results may be reduced to barest bones, but this experience can revitalize the much-maligned building industry after the war.

Public initiative will still be needed to re-house families from outright slums. But in between that special field and the traditional private building market lies a vast no-man's land. It belongs to those progressive builders and investors who are prepared to use modern planning and construction methods to the limit, to design stable communities, and to give up quick speculative profits in exchange for sound long-term investment.

REPORT OF ANNUAL CONVENTION, S. A. C. A.

By **J. FRANCIS WARD, Chairman**
Public Relations Committee

The 15th Annual Convention of the State Association of California Architects was held on October 9 and 10 at the Mark Hopkins Hotel, San Francisco. The Convention was streamlined to meet the present conditions under which so many architects are working and into the morning and afternoon sessions, which were held on Saturday, the 10th, was crowded the whole business of the Convention. The morning session was devoted to a Speakers' Forum consisting of the following speakers and their subjects.

Adrien Falk of the San Francisco Chamber of Commerce welcomed the delegates and after the opening address by Norman K. Blanchard, President of the Association, the meeting was turned over to J. Francis Ward, who acted as Chairman of the Speakers' Forum.

Eugene Weston of the National Housing Administration was the first speaker. He pointed out that a comprehensive program is being drawn up to provide for conversion of existing buildings to the needs of the vast influx of migrant workers who have been called to various strategic areas.

Langdon W. Post, Director Region X, Federal Public Housing Administration, spoke on War Housing. Mr. Post dealt with the structure of the F.P.H.A. and the local housing authorities. He emphasized the necessity of an amendment to the Lanham Act whereby most war housing should, of necessity, be torn down at the end of the war. He complimented the architectural profession on the manner in which architects had achieved the impossible in the speed and ingenuity shown in producing plans and specifications for the vast war housing schemes.

Pierce Williams, Director of the Federal Works Agency, chose the subject "Looking Forward" and expressed the thought that there would be an even greater degree of Government control than we have had in the past and it was up to us to express ourselves more fully through our Government. He visualized the Pacific Area as the center of the world's future development in which the Pacific Coast would naturally take a leading share.

L. Deming Tilton, Consultant for the City Planning Commission of San Francisco, spoke on "The Role of the Architect in Post War Planning" and drew attention to the fact that the architects' clients will continue to be Government agencies and large groups rather than the individual clients of the pre-war era. He stated that

this should be a challenge to architects to equip themselves with the understanding and requirements to meet and solve the problems ahead.

Anson Boyd, Chief of the State Division of Architecture, gave a brief outline of the work of the division.

An interesting analysis of the mechanics of developing a War Housing project was given by Maurice J. Wilese, recently appointed consultant on War Housing to the Governor of California. He stressed the necessity of having the architect "sit in" on the project from the point of site selection to the completion.

The afternoon session was presided over by Walter Hagedohm, President of the Southern Section, and the following committee reports were presented:

Vincent G. Raney, Committee Chairman, gave a report of the activities of the Legislative Committee. Has had several conferences with Mr. White, the Examining Board's representative. He recommended written notice be given to the owner by anyone preparing plans if he is not an architect for all except buildings of wood, not more than two stories and for two families.

J. Francis Ward, Northern Section Committee Chairman of the Public Relations, and Director of Air Raid Protection Advisory Board, reported that most of the activities had been directed towards Air Raid Protection work. He reported that 250 architects contributed \$5.00 apiece and that \$250.00 had been given by the Producer's Council, Women's Auxiliary and others. Philip Soljak did a fine job as Public Relations Counsel. A brief account of the radio and publicity work in the past year was given in the report.

The reports of the Southern Section Committees on Public Relations and Air Raid Protection were also given. It was stated that over 300 members were either in the armed services or engaged in war work.

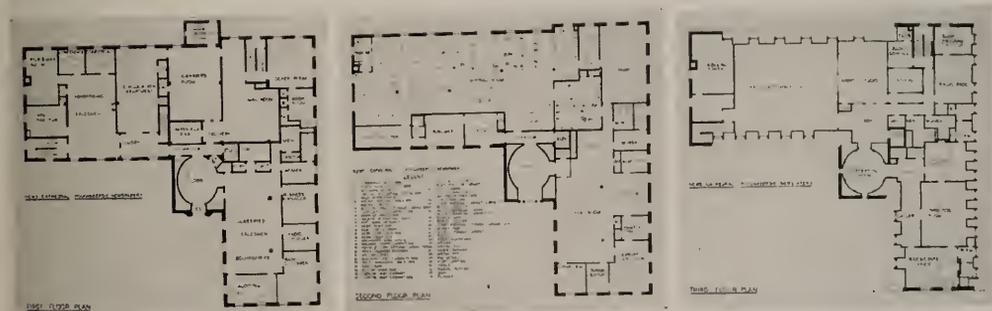
Mr. Hagedohm presented a comprehensive report of the work of the Southern Section in Camouflage. He stated that the Southern Section has been very active and has actually executed a number of large projects in collaboration with the Army engineers. He showed samples of camouflage materials such as chicken feathers, spun glass, and other unusual materials.

The afternoon session closed with a report of the Northern and Southern Section elections which resulted as follows:

Northern Section

President—Norman K. Blanchard.
Vice President—Russell C. deLappe.
Secretary—Hervey P. Clark.
Treasurer—David Horn.

(Turn to Page 38)



Perspective and Plans for new home of the Speidel Newspapers, Inc., Poughkeepsie, N. Y.

UNUSUAL DESIGN FOR NEWSPAPER PLANT

A radical departure from the customary design of a newspaper plant is found in the recently accepted plans for the new home of the Speidel Newspapers, Inc., publishers of three merged dailies in Poughkeepsie, N.Y.

Healthful working conditions for employees,

comfort and convenience for both the public and the employees, as well as beauty, utility and efficiency, are motives that have influenced plans for the new building, styled by its owners, the "News Cathedral."

Hudson Valley traditions will be faithfully

preserved in the construction of the building. The architectural motif will suggest that era of Colonial America for which Dutchess County is famed among historians, and the exterior of the building will be done in native Dutchess County field stone.

Atop the third story of the building is the "Captain's Walk."

A great tower in the center of the ell extends to a height of 80 feet, or equivalent to an eight-story building. The tower is 23 feet square up to the third story. Here it steps back two feet to an observation tower, 19 feet square, with a cut stone railing. Above this is a Colonial clock tower, 12 feet square, and enclosing four illuminated clocks whose dials are each five feet in diameter.

Surmounting the spire, which is 130 feet above the New Market Street sidewalk, is a large weathervane replica of the "Half Moon," the famous sailing vessel in which Henry Hudson discovered the Hudson River.

The building will be fire-proof throughout. The walls will be faced on the outside with stone and on the inside with structural brick. All floors and columns will be reinforced concrete. The slate roof of the building will be insulated throughout against heat and cold.

The style of architecture of the building originated in the Hudson Valley. It was evolved by the early Dutch settlers who came to the

United States from the Palatine section of what is now Central Europe. The Dutch immigrants used the native stone which they gathered from the fields for the construction of their homes and grist mills. They built them of heavy stone walls for protection against Indian attacks and from severe weather.

Later, retired sea captains along the Atlantic seaboard incorporated into their homes fundamental construction principles given to them by the early Dutch immigrants, and built walks along the roofs of their homes to watch for ships. Thus was begun the heritage of the "Captain's Walk" which has been incorporated in the design of the building.

From the third floor hallway of the "News Cathedral" a steel stairway will afford access to the "Captain's Walk" on the roof of the building.

Recessed lamps in each flight of steps leading to the terrace will illuminate them at night. Flood lights behind parapets on each gable will be trained on each clock dial in the tower. The clock dials will be five feet in diameter, and will be made of ground glass so that they may be illuminated also from within. Five big lamps concealed by the terrace ballustrade will flood-light the entire building at night.

Benham & Richards of Columbus, Ohio, and Charles J. Cooke, of Poughkeepsie, are the architects.

ANNUAL STATE CONVENTION

(Continued from Page 36)

New Directors—John Bolles, Vincent Raney, Malcolm Reynolds, Alfred C. Williams.

Previous Directors carried over—J. Francis Ward, Andrew Haas, Frederick Reimers.

Southern Section

President—Walter Hagedohm.

Vice President—Robert H. Orr.

Secretary—Adrien Wilson.

Treasurer—George E. Gable.

New Directors—E. Kieth Lockard, Winsor Soule, Wm. Johnson.

The Resolutions Committee was "snowed under" by the number of resolutions submitted and their report will be forwarded to the members of the respective sections in the near future, accompanied by ballot forms.

Many important resolutions were under consideration, mostly directed towards the war effort in which architects are so fully occupied.

Reference was made at the convention from time to

time to the many members of the profession now serving in the armed services. These include Mr. Wayne Hertzka, President of the State Association of California Architects up to the time of his departure some months ago.

Considering the conditions, the Convention was well attended not only by the Northern Section but by a good representation from the South. As usual the Producer's Council participated actively and under the able leadership of their President, Gano Baker, not only attended the sessions but, in addition, sponsored a very successful cocktail party prior to the dinner, which was attended by 150 people. The guests were introduced by Clark Weyland, Toastmaster, and included Henry Powers, President of the Structural Engineer, and Mr. and Mrs. Deming Tilton.

The Chairman of the Convention Committee, Vincent Raney, worked hard to produce a smooth running and interesting program and his efforts were well rewarded in the number who attended and the precision with which the activities were run off.

CALIFORNIA HOUSING ASSOCIATION ADOPTS WAR-TIME PROGRAM

On September 26, 1942, at Los Angeles, the Second Annual State-wide Conference of the California Housing & Planning Association adjourned after deliberating and acting on problems of housing California's war workers, and on questions of long term significance to California's total economy. Approximately 200 registrants came from 33 communities. The states of Illinois, Virginia, Washington, and Arizona were represented in addition to California. The Conference attempted on the one hand to meet the immediate problems of rent control, establishment of nursery and day care for children of war workers, and above all the delays in securing adequate housing for war workers. The following resolutions covering these subjects were adopted unanimously:

I.

Resolution Adopted by Unanimous Vote
by the

Second Annual Statewide Conference of the California
Housing & Planning Association
September 25, 1942

WHEREAS, the urgency of providing housing for war workers is becoming increasingly acute in many areas, and

WHEREAS, divers war agencies are being forced to enter the war housing field contrary to the evident intent of the President's executive order establishing the National Housing Agency, and

WHEREAS, the California Housing & Planning Association is of the opinion that this situation results from certain defects in procedure and organization, and

WHEREAS, the present trend will undoubtedly lead to the confusion and overlapping of functions which existed prior to February, 1942, therefore,

BE IT RESOLVED that the California Housing and Planning Association in conference in Los Angeles on September 25, 1942 petitions the earnest consideration of Federal officials to the following suggestions:

1. That the process of determining need and certification be speeded up by all possible means and that Local Housing Authorities be given definite participation in establishing the need for housing.

2. That the War Production Board decentralize its functions for approval of war housing matters and provide for autonomous decisions in its regional offices to the end that contingencies which arise with regard to Limitation Orders and appeals may be determined locally.

3. At the time that a priority application is approved by the War Production Board for a project, that they either grant an adequate priority rating, equal to that of other agencies, or make an allotment of materials necessary to complete the project.

4. Where Local Housing Authorities are, or will be established that they be confirmed as the sole agencies to plan, build and manage all public war housing with the exceptions as stated in the President's executive order.

AND BE IT RESOLVED, that in making the above suggestions this Association reiterates and reaffirms the necessity of stripping all war housing, private as well as public, of critical materials.

AND FURTHER BE IT RESOLVED that copies of this resolution be sent to all appropriate Federal officials, and to all members of the California delegation in the House of Representatives and the United States Senate.

II.

Resolution Adopted by Unanimous Vote
by the

Second Annual Statewide Conference of the California
Housing & Planning Association
September 25, 1942

RESOLVED that the Conference of the California Housing & Planning Association in Conference at Los Angeles, September 25, 1942 urge the appropriate Federal officials to make provision for nursery schools, day care, and adequate recreational facilities in all public housing projects, and in dense population areas where there has been an influx of war workers.

III.

Resolution Adopted by Unanimous Vote
by the

Second Annual Statewide Conference of the California
Housing & Planning Association
September 25, 1942

RESOLVED that the Conference of the California Housing & Planning Association memorialize Administrator Henderson of the Office of Price Administration to establish without delay an area rent control office for the Los Angeles Region, in order that the purposes of the Federal government in maintaining fair rent conditions may be fulfilled.

The formulation of these resolutions was greatly influenced by the executives and chairmen of housing authorities who attended the Conference in considerable numbers. Sixteen housing authorities from California, two from Arizona, and one from the state of Washington were represented. Concurrently with the

CHPA Conference, the Western States Housing Authorities Association held independent meetings, and in addition to discussion of technical problems of immediate concern to Housing Authorities, the Association endorsed Resolution No. 1.

Audience discussion of standards and amenities resulted in authorization to Howard Moise, CHPA President, to appoint a committee to study and to report on this question at a later date. The following architects comprise the committee: Robert E. Alexander, Chairman; Richard Neutra, W. F. Ruck, George J. Adams, William W. Wurster.

In an effort to meet the Conference challenge — that CALIFORNIA MUST PLAN NOW — the Conference laid down the planks of a post-war program. It was generally agreed that while the precise nature of all post-war problems cannot be foretold at this time, there are nevertheless specific measures which can and should be fostered as a means of working out orderly patterns of life in the critical post-war period. These views are crystalized and summarized in the following resolution, and statement of program for the California Housing & Planning Association:

RESOLUTION FOR POST WAR RECONSTRUCTION

We believe that democracy can and must solve the problem of making an international mass production economy work, by maintaining high level production and full employment, by achieving high level standards of consumption for all people, and by using the earth's resources to produce an efficient, high-quality environment. This is the absolute condition, not only of world peace, but also of civilized survival. And we believe that planning and action must begin now if these problems are to be solved in time when peace comes. To achieve these ends we urge:

The High Command of the United Nations

To affirm and publicly to adopt a similar positive statement of war aims in amplification of the "Four Freedoms," as an essential and belated war measure; and

To take immediate and comprehensive joint action, in order to plan for reorganization and reconstruction of the world on these principles.

The Congress of the United States and the President

To assign the responsibility for stimulating, coordinating and aiding post-war planning in the United States to one agency; and

To develop adequate facilities for national planning out of the nucleus provided by the National Resources Planning Board.

Each State and Locality

To create effective planning instruments **now**, with authority coordinated on a regional basis; and

To make master plans and prepare programs **now** for post-war conversion and development of each region and locality, again within the framework of the national and international purposes and plans.

CHPA Program of Action

Adequate plans and programs for post-war reconstruction will at all levels include many different concrete aspects, each of which will require separate expert analysis **and** the closest possible integration with and adjustment to overall economic, social, and land-use policy. Specific problems include: transformation of war industries and the stimulation of new enterprise in suitable localities; modernization of the transportation and communication system; the development of power, water, and other resources to open up sound opportunities for farm resettlement and new industry; a housing program for all income groups; renovation of the building industry; neighborhood redevelopment to eliminate both urban blight and suburban shacks; standards for health, recreation and education facilities.

The California Housing and Planning Association proposes to keep its members informed of major developments and possibilities in the whole field, international as well as local, and to take positive action whenever this may seem necessary. At the present time, however, we feel that there are four specific activities in which informed citizens of California can participate most fruitfully:

1. Strengthen local planning commissions by increasing their funds, improving their staff, and extending their powers and jurisdiction, to enable them to develop intelligent and realistic regional master plans and to establish effective land-use controls;
2. Devise and promote an effective mechanism for redevelopment of blighted urban and rural neighborhoods on a large-scale basis;
3. Prepare for a comprehensive housing program to meet the needs of all income groups in urban and rural areas, by publicizing the basic facts, strengthening local housing authorities, and facilitating new types of non-speculative private building enterprise suitable for the development of large-scale projects on a neighborhood basis;
4. Participate actively in the Central Valley Planning studies and encourage direct interest and enlightened support in the Valley, to the end that cheap power and new irrigation water may result in a more stable agricultural pattern, sound opportunity for farm settlement and new industry, and improved social and civic welfare throughout the region.

The test for planning in a democracy is the degree of understanding and responsible participation by its citizens.

ARCHITECTS' BULLETIN

Issued For

THE STATE ASSOCIATION OF CALIFORNIA ARCHITECTS

Northern Section

STATE ASSOCIATION MEMBER
OF THE
AMERICAN INSTITUTE OF ARCHITECTS

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ARCHITECTS IN SERVICE

From the Bethlehem, Alameda Shipyard came a letter which arrived too late to find place in the Bulletin but appeared on Page 11 of the August ARCHITECT & ENGINEER. It listed the various architects rendering "splendid service" such as Irving Morrow, Albert Larsen, Wallace Hubbert, George Ellinger, E. R. Comstock, Mario Ciampi, Ralph Berger, Earle Bertz, Gwynn Officer—and ends with a fine tribute: "The way in which the above architects have worked into our program and assisted in the development of our Alameda shipbuilding facilities has been encouraging. They are to be commended for their efforts in this war emergency program."

It is encouraging to architects, too, to receive such frank appreciation from a great engineering industry.

City Planner

Engaged as full-time consultant to the San Francisco Planning Commission, Mr. L. Deming Tilton will succeed Mr. Ernest Goodrich, who was unable to devote all of his time to the western city. Mr. George Melville, planning engineer and representative of Mr. Goodrich, will be retained to assist Mr. Tilton.

To develop such a long-range, flexible program, the continuous services of a competent, experienced planning expert are essential. Added to the normal problems are now the provisions that should be made for post-war adjustments. The Commission expresses its belief that in Mr. Tilton they have found the right man.

After graduating as landscape engineer from the University of Illinois, he was for 15 years with the well-known firm of Harland Bartholomew and Associates, of St. Louis. He has been with the California State Planning Board since 1934 (recently administrative officer) and for several years director and consultant of planning for Santa Barbara, San Diego and Orange counties. He is acting regional director of the National Resources Planning Board, and site planning consultant for the Ninth Zone Construction Quartermaster, U.S.A., and he is a member of the American Society of Landscape Architects, the American Society of Planners, and the California Planners' Institute.

Second Conference

The Second Annual Conference of the California Housing and Planning Association was scheduled for September 24-26 in Los Angeles, too late for a factual report at this writing. However, an interesting program was announced, dealing with such varied subjects as War Housing, Post-War Development, the California Shack-town, Housing and Planning in Latin America, and the postwar outlook from the viewpoints of labor, business and industry, and agriculture. The program stated a hope "that the major issues may be pinned down and clarified for effective action." The hope is notable and commendable. A more detailed report of the Conference appears elsewhere in this issue.

In this effort toward sound planning it would be encouraging to observe the participation of more architects, those citizens who are especially qualified

for sound planning by training and experience. The names of Professor Moise and Eugene Weston are featured, but officially rather than professionally. Presumably others of our profession will be found under the omnipresent heading "Discussion."

SACA Convention

Here again the writer is caught between two fires —too late to invite, too early to report. But it can be noted that our Convention was boiled down to one day for those with limited time. All of the talking and voting took place on Saturday, October 10th; with Board meetings Friday afternoon and Sunday morning, and with dining, dancing and other forms of athletic diversion and competition sandwiched in, between and around.

Valedictory

With this issue the Bulletin editor takes his last bow. He has somehow or other gotten out the Bulletin for more years than he can remember, and very likely to many of our members it has seemed like even more years than that. At any rate, it has been more of a labor of love than of duty, and since the Association has passed its adolescence and grown to vigorous maturity during these years of stress and storm, he may be pardoned for a natural pride in his associations with the Association, from its very inception to its present status as recognized leader in the great movement for national unification of the architectural profession.

And so, to bed; and to dreams of a future when California will again call on the Brotherhood of Architects to direct its development, along the ways of strength and safety and beauty.

Camouflage vs. Protective Construction

At a recent meeting of the Southern Section State Association of California Architects, Otto N. Rugen of the U. S. District Engineer's Office, Los Angeles, declared that war work demanded the full co-operation of everyone working on a project. Architects, to successfully perform their function, must serve as members of a team, he said, rather than as individuals.

Without naming specific plants, the speaker discussed various phases of the work already done for protection of equipment and personnel in war industries, pointing to the differences between camouflage and protective construction. Recalling that camouflage, designed to blend a target with the surrounding area, offered no protection to plant or workers in the event of an attack, Mr. Rugen said his section dealt with the physical protection of equipment and personnel. At one large airplane manufacturing center bomb shelters were erected outside the plant. This, while affording maximum protection to the workers, is not particularly satisfactory, he said, citing the difficulty of evacuating large numbers of persons under emergency conditions.

Methods of coping with shattered glass and providing adequate ventilation in blacked-out factories were two of the major problems confronted by protective construction engineers, Mr. Rugen told the group. Another major problem was the co-ordination of protective construction work without slowing up production. Mr. Rugen said a survey had been made to determine what plants were most vital to the war effort.

TALK ON FIRE PREVENTION

At the regular monthly dinner meeting of the Structural Engineers Association of Northern California, held at the Engineers' Club, San Francisco, Tuesday evening, October 6, Marshall K. Rouse, Superintendent of the Schedule Department, Board of Fire Underwriters of the Pacific, delivered an interesting address on "Construction and the Spread of Fire." The speaker answered a number of questions of special interest to his listeners, and explained that fire is still the nation's No. 1 menace. Being an authority on the subject his talk was highly informative.

Charles A. Whitton has been busy on defense work; reconstructing the shops of large schools such as the Technical High for special vocational defense training in diesel engine design. He is also completing a new 12-room elementary school for San Francisco.

William C. Tait has a million dollar housing project at Vallejo, plus an \$8,000,000 barrack at Bremerton.

Harold M. Engle has been busy on work for the United States Navy, assisted by Mac D. Perkins.

H. C. Vensano has been appointed new City Director of Public Works of the City and County of San Francisco.

Mark Falk, former president of the Structural Engineers Association of Southern California, is now located at No. 251 Kearny Street, San Francisco.

Jack Oldenburg has received a commission in the United States Naval Reserve and has requested a leave of absence. Edwin S. Banta, who has been with the San Francisco district office of H. H. Robertson Co., will now be in charge.

John J. Gould and Henry J. Degenkolb are both extremely busy completing their report to the San Francisco Section of ASCE on the "Exposition Timber Test Program."

William Ellison of San Francisco was structural engineer and designer of the recently completed National Motor Bearing Company's huge plant at Redwood City. Barrett and Hilp were the general contractors.

DESIGNED LIKE AN EIGHT POINTED STAR



Construction photograph of Canadian Lake Louise Hotel

UNIQUE WELDED STEEL HOTEL

The most unique and interesting of all welded steel buildings ever built, according to leading architects, is the Canadian Lake Louise Hotel, designed like an eight-pointed star—with one ray cut away for the front entrance. Walls, roof and dome were made from 12 gage mild steel plate pre-fabricated on the site into panel sections. Over 250 tons of steel were used for the panels and 60 tons of insulation were put into the walls and ceilings.

Each ray section of the hotel is 125 feet long, 32 feet wide, and 9 feet 4 inches in height. The center dome is 100 feet in diameter with no central supports. It consists of regular panel sections staggered in welded rows. A special jig, consisting of a center pole with swinging boom, was used to place the dome panels and to support a platform for overhead welding on inside of dome.

A crew of 20 welders and 20 set-up men constructed the building in six weeks. Some 12.7 miles of weld was necessary to finish the hotel. Thirty thousand pounds of mild steel welding electrodes were used on the job.

The hotel has 70 rooms in four of its wings; dormitory in each of two other wings; dining hall and kitchen in the seventh wing. The hotel's huge dome will seat 1600 people.

All of the water pipes, steam pipes, and sewer pipes

were brazed together. Main feed lines were put around the lobby section with four feeder lines running down each side of the wing on the outside. These feeder



Aerial photograph of completed building By Hobart Bros.

lines were put into a box and insulated. Since these lines supplied hot and cold water, steam heat and sewerage, they had to be separated by insulation.

The floor is reinforced concrete six inches thick. Junior six inch "I" beams were used on the outside of the concrete and also across the concrete for welding the wall panels to and for expansion joints.

ENGINEERS AND ARCHITECTS ASSOCIATION

The Engineers and Architects Association of Los Angeles hope to have a building of their own after the war and to this end preliminary plans have already been prepared by Julius Boehmer, 16 West Cherry Avenue, Flagstaff, Arizona. The need of such a building has long been felt.

Thursday evening, September 24, the Association members banqueted at the Cabrillo Hotel and listened to a talk by Roy Huggins on the War Manpower Com-

mission, the Office of Emergency Management and the U. S. Employment Service. Other speakers included J. F. Moroney, L. A. County Clerk, and C. J. Reid of the Douglas Aircraft Corporation.

HIGH SCHOOL AUDITORIUM

The Live Oak Union High School District has been given priorities to complete the school auditorium at Morgan Hill from plans by William H. Rowe of San Mateo. The cost will approximate \$30,000.

FOR VICTORY TODAY AND SOUND BUSINESS TOMORROW



Get This Flag Flying Now!

This War Savings Flag which flies today over companies, large and small, all across the land means *business*. It means, first, that 10% of the company's gross pay roll is being invested in War Bonds by the workers voluntarily.

It also means that the employees of all these companies are doing their part for Victory . . . by helping to buy the guns, tanks, and planes that America and her allies *must* have to win.

It means that billions of dollars are being diverted from "bidding" for the constantly shrinking stock of goods available, thus putting a brake on inflation. And it means that billions of dollars will be held in readiness for post-war readjustment.

Think what 10% of the national income, saved in War Bonds now, month after month, can buy when the war ends!

For Victory today . . . and prosperity *tomorrow*, keep the War Bond Pay-roll Savings Plan rolling in *your* firm. Get that flag flying now! Your State War Savings Staff Administrator will gladly explain how you may do so.

If your firm has not already installed the Pay-roll Savings Plan, *now is the time to do so*. For full details, plus samples of result-getting literature and promotional helps, write or wire: War Savings Staff, Section F, Treasury Department, 709 Twelfth Street NW., Washington, D. C.



Save With

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This Space Is a Contribution to America's All-Out War Program by

ARCHITECT AND ENGINEER

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts given are figuring prices and are made up from average quotations furnished by material houses to San Francisco contractors. 3% Sales Tax on all materials but not labor.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Bond—1 1/2% amount of contract.
Government work 3/4%.

Brickwork—
Common, \$40 to \$45 per 1000 laid, (according to class of work).
Face, \$90 to \$100 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, \$1.00 lin. ft.
Brick Veneer on frame buildings, \$1.00 sq. ft.
Common f.o.b. cars, \$15.00 at yard. Cartage extra.
Face, f.o.b. cars, \$40.00 to \$60.00 per 1000, carload lots.

Building Paper—
1 ply per 1000 ft. roll.....\$3.50
2 ply per 1000 ft. roll..... 5.00
3 ply per 1000 ft. roll..... 6.25
Brownstn. Standard, 500 ft. roll..... 5.00
Sisalcraft, 500 ft. roll..... 5.00
Sash cord com. No. 7.....\$1.20 per 100 ft.
Sash cord com. No. 8..... 1.50 per 100 ft.
Sash cord spot No. 7..... 1.90 per 100 ft.
Sash cord spot No. 8..... 2.25 per 100 ft.
Sash weights, cast iron, \$50.00 ton.
Nails, \$3.50 base.
Sash weights, \$45.00 per ton.

Concrete Aggregates—
GRAVEL (all sizes) \$1.45 per ton at bunkers; delivered to any point in S. F. County \$1.85.

	Bunker	Delivered
Top sand	\$1.45	\$1.85
Concrete mix	1.45	1.85
Crushed rock, 1/4 to 3/4	1.60	2.00
Crushed rock, 3/4 to 1 1/2	1.60	2.00
Roofing gravel	1.60	2.00
City gravel	1.45	1.85
River sand	1.50	1.90
Bank sand—\$1.00 per cubic yard at bunker or delivered.		50c per sack

SAND—

	Bunker	Delivered
River sand	\$1.50	\$1.85
Lapis (Nos. 2 & 4)	2.00	2.40
Olympia Nos. 1 & 2	1.80	2.20
Healdsburg plaster sand	\$1.80 and \$2.20	
Del Monte white		50c per sack
Common cement (all brands, paper sacks) carload lots \$2.52 per bbl. f.o.b. car; delivered, \$2.80; less than carloads delivered, 70c per sack.		
Cash discount on carload lots, 10c a barrel, 10th Pros.; cash discount less than carload lots, 2%.		

Atlas White }
Calaveras White } I to 100 sacks, \$2.00 sack,
Medusa White } warehouse or delivery.

Forms. Labors average \$40.00 per M.
Average cost of concrete in place, exclusive of forms, 35c per cu. ft.; with forms, 60c.
4-inch concrete basement floor.....12 1/2c to 14c per sq. ft.
Ret-proofing.....7 1/2c
Concrete Steps.....\$1.25 per lin. ft.

Dampproofing and Waterproofing—
Two-coat work, 20c to 30c per yard.
Membrane waterproofing—4 layers of saturated felt, \$4.50 per square.
Hot coating work, \$2.00 per square.
Medusa Waterproofing, 15c per lb., San Francisco Warehouse.
Tricoel waterproofing.
(See representative.)

Electric Wiring—\$12.00 to \$15.00 per outlet for conduit work (including switches).
Knob and tube average \$3.00 per outlet.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies.
Average cost of installing an automatic elevator in four-story building, \$2800; direct automatic, about \$2700.

Excavation—
Sand, 60 cents; clay or shale \$1 per yard.
Teams, \$12.00 per day.
Trucks, \$22 to \$27.50 per day.

Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot galvanized iron balcony, with stairs, \$150 installed on new buildings; \$160 on old buildings.

Floors—
Composition Floors—22c to 40c per sq. ft.
In large quantities, 18c per sq. ft. laid.
Mosaic Floors—80c per sq. ft.
Duraflex Floor—23c to 30c sq. ft.
Rubber Tile—50c to 75c per sq. ft.
Terazzo Floors—45c to 60c per sq. ft.
Terazzo Steps—\$1.60 lin. ft.

Hardwood Flooring (delivered to building)—

	3 1/2" x 2 1/4" T & G	3/4" x 2" T & G	3/4" x 2" Sq. Ed.
Cir. Otd. Oak	\$144.00 M	\$122.00 M	\$141.00 M
Sel. Otd. Oak	118.00 M	101.00 M	114.00 M
Cir. Pla. Oak	120.00 M	102.00 M	115.00 M
Sel. Pla. Oak	113.00 M	92.00 M	107.00 M
Cir. Maple	125.00 M	113.00 M	
Wage—Floor layers, \$12.00.			

Note—Above quotations are all board measure except last column which is sq. ft.

Glass (consult with manufacturers)—
Double strength window glass, 20c per square foot.
Plate 80c per square foot (ungleazed) in place, \$1.00.
Art, \$1.00 up per square foot.
Wire (for skylights), 40c per sq. foot.
Obscure glass, 30c to 50c square foot.
Glass bricks, \$2.50 per sq. ft. in place.
Note—if not stipulated add extra for setting.

Heating—
Average, \$1.90 per sq. ft. of radiation, according to conditions.
Warm air (gravity) average \$48 per register.
Forced air, average \$68 per register.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)—

No. 1 common	\$43.00 per M
No. 2 common	41.00 per M
Select O, P, common	46.00 per M
2x4 No. 3 form lumber	32.00 per M
1x4 No. 2 flooring VG	90.00 per M
1x4 No. 3 flooring VG	85.00 per M
1x6 No. 2 flooring VG	96.00 per M
1 1/4x4 and 6, No. 2 flooring	95.00 per M

Slash grain—
1x4 No. 2 flooring.....\$65.00 per M
1x4 No. 3 flooring..... 62.00 per M
No. 1 common run T. & G..... 48.00 per M
Lath..... 7.50 per M

Shingles (add cartage to price quoted)—
Redwood, No. 1.....\$1.20 per bdle.
Redwood, No. 2..... 1.00 per bdle.
Red Cedar..... 1.45 per bdle.
Plywood—Douglas Fir (add cartage)—
"Plycord" sheathing (unsanded)
3/4" 3 ply and 48"x96"
"Hirwell" (wellboard grade)— \$39.75 per M
1/4" 3 ply 48"x96"..... \$43.70 per M
"Plivorm" (concrete form grade)—
3/8" 5-ply 48"x96"..... \$117.30 per M
Exterior Plywood Siding—
3/4" 5-ply Fir.....\$132.00 per M
Redwood (Rustic) 1"x8" clear heart \$ 95.00 per M \$5 less per M for A grade.

Millwork—Standard.
O. P. \$100 per 1000. R. W. rustic \$120.00 per 1000 (delivered).
Double hung box window frames, average with trim, \$6.50 and up, each.
Complete door unit, \$10.00.
Screen doors, \$3.50 each.
Patent screen windows, 25c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., \$8.00 each.
Dining room cases, \$8.00 per lineal foot.
Rough and finish about 75c per sq. ft.
Labor—Rough carpentry, warehouse heavy framing (average), \$17.50 per M.
For smaller work average, \$35.00 to \$45.00 per 1000.

Marble—(See Dealers)

Painting—
Two-coat work.....per yard 50c
Three-coat work.....per yard 70c
Cold water painting.....per yard 10c
Whitewashing.....per yard 4c

Turpentine, 65c per gal., in 5 gal. cans, and 55c per gal. in drums.
 Raw Linseed Oil—95c gal. in light drums, Boiled Linseed Oil—98c gal. in drums and \$1.08 in 5 gal. cans.

White Lead in oil Per Lb.
 1 ton lots, 100 lbs. net weight.....113/4c
 500 lbs. and less than 1 ton.....12c
 Less than 500 lb. lots.....12/2c

Red Lead and litharge
 1 ton lots, 100 lbs. net weight.....113/4c
 500 lbs. and less than 1 ton.....12c
 Less than 500 lb. lots.....12/2c

Red Lead in oil
 1 ton lots, 100 lbs. net weight.....123/4c
 500 lbs. and less than 1 ton.....13c
 Less than 500 lb. lots.....13/2c
 Note—Accessibility and conditions cause some variance in costs.

Patent Chimneys—
 6-inch\$1.25 lineal foot
 8-inch1.50 lineal foot
 10-inch2.25 lineal foot
 12-inch3.00 lineal foot

Plaster
 Neat wall, per ton delivered in S. F. in paper bags, \$17.60.

Plastering—Interior— Yard
 1 coat, brown mortar only, wood lath.....\$0.50
 2 coats, lime mortar hard finish, wood lath .85
 2 coats, hard wall plaster, wood lath......72
 3 coats, metal lath and plaster.....1.25
 Keene cement on metal lath.....1.30
 Ceilings with 3/4 hot roll channels metal lath (lathed only)......90
 Ceilings with 3/4 hot roll channels metal lath plastered.....1.80
 Single partition 3/4 channel lath 1 side (lath only)......85
 Single partition 3/4 channel lath 2 inches thick plastered.....\$2.90
 4-inch double partition 3/4 channel lath 2 sides (lath only).....1.70
 4-inch double partition 3/4 channel lath 2 sides plastered.....3.30
 Thermax single partition; 1" channels; 2 1/4" overall partition width. Plastered both sides.....2.50
 Thermax double partition; 1" channels; 4 3/4" overall partition width. Plastered both sides.....3.40

3 coats over 1" Thermax nailed to one side wood studs or joists.....1.25
 3 coats over 1" Thermax suspended to one side wood studs with spring sound isolation clip.....1.45

Plastering—Exterior— Yard
 2 coats cement finish, brick or concrete wall.....\$1.00
 3 coats cement finish, No. 18 gauge wire mesh.....1.75
 Wood lath, \$5.50 to \$6.50 per 1000.....1.19
 2.5-lb. metal lath (dipped)......21
 2.5-lb. metal lath (galvanized)......21
 3.4-lb. metal lath (dipped)......22
 3.4-lb. metal lath (galvanized)......24
 3/4-inch hot roll channels, \$72 per sack.
 Finish plaster, \$18.90 ton; in paper sacks.
 Dealer's commission, \$1.00 off above quotations.
 \$13.85 (retake 10c sack)
 Lime, l.o.b. warehouse, \$2.25 bbl.; cars, \$2.15
 Lime, bulk (ton 2000 lbs.), \$16.00 ton.
 Wall board 5 ply, \$50.00 per M.
 Hydrate Lime, \$9.50 ton.
 Plasterers Wage Scale.....\$1.67 per hour
 Lathers' Wage Scale.....1.60 per hour
 Hod Carriers' Wage Scale.....1.40 per hour
Composition Stucco—\$1.80 to \$2.00 sq. yard (applied).

Plumbing—
 From \$100.00 per fixture up, according to grade, quantity and runs.

Roofing—
 "Standard" tar and gravel, \$7.00 per sq. for 30 sqs. or over.
 Less than 30 sqs, \$7.50 per sq.
 Tile, \$20.00 to \$35.00 per square.
 Redwood Shingles, \$7.50 per square in place.
 Copper, \$16.50 to \$18.00 per sq. in place.
 5/2 # 1-16" Cedar Shingles,
 4 1/2" Exposure.....8.00 Square
 5/8 x 16" — # 1 Cedar Shingles, 5" Exposure.....9.00 Square
 4/2 # 1-24" Royal Shingles,
 7 1/2" Exposure.....9.50 Square
 Re-coat with Gravel, \$3 per sq.
 Asbestos Shingles, \$15 to \$25 per sq. laid.
 Slate, from \$25.00 per sq., according to color and thickness.
 1/2 x 25" Resawn Cedar Shakes,
 10" Exposure.....10.50
 3/4 x 25" Resawn Cedar Shakes,
 10" Exposure.....11.50

1 x 25" Resawn Cedar Shakes,
 10" Exposure.....12.50
 Above prices are for shakes in place.

Sheet Metal—
 Windows—Metal, \$1.75 a sq. ft.
 Fire doors (average), including hardware, \$1.75 per sq. ft.

Skylights—(not glazed)
 Copper, 90c sq. ft. (flat).
 Galvanized iron, 40c sq. ft. (flat).
 Vented hip skylights 60c sq. ft.

Steel—Structural (None available except for defense work)
 \$150 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities \$140 per ton.
Steel Reinforcing (None available except for defense work).
 \$150 to \$200 per ton, set.

Stone—
 Granite, average, \$6.50 cu. foot in place.
 Sandstone, average Blue, \$4.00. Boise, \$3.00 sq. ft. in place.
 Indiana Limestone, \$2.80 per sq. ft. in place.

Store Fronts—
 Copper sash bars for store fronts, corner center and around sides, will average \$1.00 per lineal foot.
 Note—Consult with agents.

Tile—Floor, Wainscot, etc. — (See Dealers)
 Asphalt Tile—18c to 28c per sq. ft. installed.

Wall Tile—
 Glazed Terra Cotta Wall Units (single faced) laid in place—approximate prices:
 2 x 6 x 12.....\$1.00 sq. ft.
 4 x 6 x 12.....1.15 sq. ft.
 2 x 8 x 16.....1.10 sq. ft.
 4 x 8 x 16.....1.30 sq. ft.

Venetian Blinds—
 40c per square foot and up. Installation extra.

Windows—Steel
 Factory type sash 30c ft.
 Ventilators for steel sash \$5.00 each.

1942 BUILDING TRADES WAGE SCALES FOR NORTHERN CALIFORNIA

CRAFT	*6-hour day		**7-hour day	
	San Francisco	Alameda	Fresno	Marin
ASBESTOS WORKERS	\$1.50	\$1.25	\$1.25	\$1.37 1/2
BRICKLAYERS	*1.75	*1.75	*1.50	*1.75
BRICKLAYERS' HODCARRIERS	*1.35	*1.25	*1.05	*1.25
CARPENTERS	1.37 1/2	1.37 1/2	1.25	1.37 1/2
CEMENT FINISHERS	1.37 1/2	1.37 1/2	1.25	1.25
ELECTRICIANS	1.50	1.50	1.50	1.37 1/2
ELEVATOR CONSTRUCTORS	1.41	1.54	1.50	1.61
ENGINEERS: Material Hoist	1.50	1.37 1/2	1.25	1.37 1/2
Piledriver	1.75	1.60	1.60	1.75
Structural Steel	1.75	1.60	1.60	1.75
GLASS WORKERS	1.25	1.25	1.12 1/2	1.12 1/2
IRONWORKERS: Ornamental	1.50	1.31 1/4	1.37 1/2	1.31 1/4
Reinf. Rodmen	1.50	1.31 1/4	1.31 1/4	1.31 1/4
Structural	1.75	1.60	1.60	1.60
LABORERS: Building	.85	.87 1/2	.82 1/2	.81 1/4
Concrete	.87 1/2	.93 3/4	.90	.81 1/4
LATHERS	*1.75	*1.75	*1.50	*1.75
MARBLE SETTERS	1.43 3/4	1.25	1.25	1.31 1/4
MOSAIC & TERRAZZO	1.00	*1.25	1.12 1/2	1.15-5/8
PAINTERS	**1.37 1/2	**1.50	**1.28-4/7	**1.37 1/2
PILEDRIVERS	1.47	1.40	1.40	1.50
PLASTERERS	*1.66-2/3	*1.66-2/3	*1.75	*1.66-2/3
PLASTERERS' HODCARRIERS	*1.53	*1.45	*1.40	*1.18 3/4
PLUMBERS	1.52 1/2	1.50	1.53-1/8	1.50
ROOFERS	1.37 1/2	1.37 1/2	1.25	1.25
SHEET METAL WORKERS	1.37 1/2	1.37 1/2	1.43 3/4	1.37 1/2
SPRINKLER FITTERS	1.50	1.37 1/2	1.25	1.25
STEAMFITTERS	1.50	1.50	1.53-1/8	1.50
STONESETTERS (Masons)	*1.50	*1.75	*1.50	*1.75
TILESETTERS	1.50	1.37 1/2	1.37 1/2	1.37 1/2

Prepared and compiled by
 CENTRAL CALIFORNIA CHAPTER, ASSOCIATED GENERAL CONTRACTORS OF AMERICA
 with the assistance and cooperation of secretaries of General Contractors Associations and Builders Exchanges of Northern California.

WHAT THE ARCHITECTS ARE DOING

UNPROFESSIONAL CONDUCT CHARGED

The California State Board of Architectural Examiners has dismissed the charges of unprofessional conduct filed against Geo. C. Sellon, architect of Sacramento. The complaint charged the defendant with receiving fees in part from the contractor and permitting administration of the building operation to be conducted in a confusing manner. The board was not disposed to impose a penalty in view of the fact that all parties concerned, including owner and contractor, were jointly aware from the start of irregularities in their contractual relations.

GORDON B. KAUFMANN AND ASSOCIATES

Gordon B. Kaufmann and Associates is the name of the new organization which will carry on the architectural business of Mr. Kaufman at 627 South Carondelet Street, Los Angeles. The group consists of Gordon B. Kaufmann, F.A.I.A.; R. E. Backus, Architect; H. L. Eggers, A.I.A.; J. H. Hall, chief of production, and H. A. Hilliard, auditor. Mr. Kaufmann, now a lieutenant Colonel in the Chemical Warfare of the Army, will be in the service for the duration.

ARCHITECTS' AUXILIARY

Members of the Architects' Auxiliary met October 7 to continue their program of war work, as planned by Mrs. A. Appleton, Chairman of the War Work Committee.

The meeting was held at the Women's City Club, following luncheon served at 12:30.

Mrs. Martin A. Rist, Chairman of work for the day, programmed work on "chuckle books" to cheer the hospitalized.

CHARLES E. BUTNER BUSY

Charles E. Butner, architect of Salinas, reports a Federal grant of \$110,000 for constructing a community hospital of 84 beds at Salinas. Construction will be one story frame and stucco.

The same architect has completed plans for several buildings needed in connection with the Guayule Rubber Project. All are frame buildings with an estimated cost of \$125,000.

GRAMMAR SCHOOL ADDITION

Harold H. Weeks, architect, Balboa Building, San Francisco, has completed plans and taken bids for a five class room addition to the Benicia school. Construction has been authorized by the Emergency Operations Unit, Public Buildings Administration, Washington, D. C.

ARCHITECTS STILL ON THE MOVE

Floyd B. Comstock has moved from 5827 Patton Street, Oakland, to R. F. D. No. 1, Walnut Creek.

John N. Douglas from 408 Ninita Parkway, Pasadena, to 888 Victoria Drive, same city.

Lawrence W. Gentry, former address Post Office Box 713, Carmel, now Box 352, Los Altos.

D. L. Harden has moved from 1415 Jefferson Street, Salem, Oregon, to 1005 Jessup Street, Portland, Ore.

Gilbert Hodgeson from 1212 Cherry Street, San Carlos, to 288 Hillview Ave., Redwood City.

Walter E. Mooney from 925 El Camino Real, Burlingame, to 1229 Ulloa Street, San Francisco.

Smith, Carroll & Johanson from Central Insurance Building, Seattle, to 2800 Smith Tower, Seattle.

Frederick L. Swartz, from 518 Brix Building, Fresno, to 1022 Cambridge Avenue.

James D. Wickenden from 585 Santa Rosa Road, Berkeley, to 762 Vincente Avenue, same city.

William Bain from 1002 Textile Tower, Seattle, Washington, to 1157 Harvard North, same city.

Elizabeth Boyter from 1720 Leavenworth Street, San Francisco, to 316 Kipling Street, Palo Alto.

Robert L. Durham from 9310 California Avenue, Seattle, Washington, to 4th and Cherry Building, same city.

Michael Goodman from 2121 Allston Way, Berkeley, to 1400 Hawthorne Terrace, same city.

Hertzka & Knowles from care of W. A. Bechtel Company, 127 Broad Street, Globe, Arizona, to care of W. A. Bechtel Company, Morenci, Arizona.

George B. Reid, from Roosevelt Apartments, 201 East Ninth Street, Aberdeen, Washington, to care of Morck Hotel, Box 920, same city.

Butler Sturtevant, landscape architect, from 210 Post Street, San Francisco, to Major Butler S. Sturtevant, The Blackstone, Forth Worth, Texas.

William H. Toepke, from 74 New Montgomery Street, San Francisco, to 230 Chesterton Place, San Mateo.

Van Pelt & Lind, from 16 South Oakland Avenue, Pasadena, to 1212 South El Molino Avenue, same city.

George H. Wardner, Jr., from 911 Lewis Building, Portland, Oregon, to 3004 N. E. 21st Avenue, same city.

Irvin William Goldstine has moved back to his residence at 2030 Twelfth Avenue, San Francisco, from 1182 Market Street.

Paul Robinson Hunter has moved from 706 Architects' building, Los Angeles, to 836 South Masselin Avenue, same city.

Charles S. Pope from 424 Thirty-fifth Avenue, Seattle, Washington, to 308 Laurel Street, San Francisco.

The Month's Digest of New Building Products

All of the literature described here is available to architects, engineers, contractors, draftsmen and specification writers upon request direct to the manufacturers.

FIRE PREVENTION—"One of the pressing needs of the moment is to try to define what the fire problem is which is now facing us. It is clear that the most immediate problem is fire safety in industrial properties." This statement by the National Fire Protection Association is answered by Firepel, a timely chemical achievement for the treatment of unfinished wood, affording a practical method of successful fire retardation. What Firepel is and what it does is best described in a well printed and illustrated brochure issued by Albi Chemical Corporation, 9 Park Place, New York City.

FUEL OIL SAVING—A timely booklet illustrates the many ways in which heat escape can be checked in buildings. Its descriptive matter pertains largely to homes. More than fifty illustrations show the multitude of heat leaks in an ordinary home and the manner of correcting them is described. Write to Petroleum Industry Committee District 2, 624 South Michigan Ave., Chicago, and ask for "How to Save Fuel Oil."

HOME MODERNIZATION—In teeming war production areas, homes today have been called upon to open their doors and provide quarters for men and women toiling in factories. Here is a book offering practical ideas for improvements and changes in the home during these times. "A War-time Guide to Better Homes" gives a comprehensive description of the construction work that can be done under present WPB regulations. Issued by The Celotex Corp., 120 South La Salle Street, Chicago.

HEATING DUCTS—Sal-Mo Sup-

ply Duct is a new, non-metallic asbestos-covered conduit, embodying built-in insulation, constructed of strong, light girder board and sealed against air loss. It is sized for painting, is fire retardant. Apparently it has everything metal has and more and a complete description of Sal-Mo can be obtained by writing Sall Mountain Co., 176 West Adams Street, Chicago, and asking for their booklet.

HEAT CONTROL—The manufacturers of Draft-O-Stat draft control tell us that their new "B" and "BM" controls can reduce fuel oil consumption by as much as 25 per cent by increasing the "cut-out" period. A four-page booklet is available, describing these new units. Write to The Hotstream Heater Co., 8007 Grand Ave., Cleveland, Ohio.

PLYWOOD—Yes, plywood is being used in new duties and is doing new jobs. Plant operators, engineers and architects are urgently seeking vital information about this product. That is why two new looseleaf handbooks have been published: "Technical Data on Plywood" and "Industrial Uses of Plywood." They are free. Write to Douglas Fir Plywood Association, Tacoma, Washington.

STEAM GENERATORS—A new catalog of steam generators and necessities has been issued by the Vapor Car Heating Co., Inc., 80 East Jackson Blvd., Chicago. The Vapor "packaged steam" generator is useful wherever there is a demand for a steady source of steam or an indicated need for an emergency unit, the manufacturers

state. The catalog also includes a spread of typical layouts, showing uses.

INSULATION—Here is another presentation on home insulation. "Facts You Should Know About Home Insulation" is issued by Armstrong Cork Co., Lancaster, Pa. It contains many construction suggestions as to how the home can be protected from heat loss, all incorporating the use of this company's line of building materials.

GLASS PRODUCTS—The Jubilee Issue of "Pittsburgh Plate Products" commemorating the 50th year of publication of this journal affords us a great deal of pleasure. Fifty years is a long time for continuous publication of a company magazine of this kind and this is one of the oldest in the country. A copy can be had from Pittsburgh Plate Glass Co., Pittsburgh, Pa.

STEEL STANDARDS—A complete combined list of standard steels of the American Iron and Steel Institute and the Society of Automotive Engineers, Inc., has been issued by the Babcock and Wilcox Tube Co., as a new technical data card. For a copy, write the Babcock and Wilcox Tube Co., Beaver Falls, Pa., and ask for TDC-119.

CARE OF WOODWORK—A total of forty-eight important rules for the proper care of doors, windows, etc., are presented in a handy, pocket-sized folder entitled, "Pointers on Care of Woodwork." A copy of the folder can be obtained by writing Ponderosa Pine Woodwork, 111 W. Washington St., Chicago, Ill.

CAMOUFLAGE

By Edwin R. Crick, Jr.

The camofleur who uses nets, chicken wire, paints and assorted materials must not fail; if he errs the loss in human life and vital property may be very great. He must succeed in mystifying and confusing the trained eyes of enemy observers. Camouflage then is the technique of concealing the identity and location of given objects for the purpose of befuddling the enemy.

In modern warfare the problems confronting the camouflage expert are somewhat different than those encountered in the last war. When recalling the impressions left by the camouflage techniques in the last war, most people immediately remember the zigzag or dazzle paint system of concealment. This method was used to paint ship transports and to camouflage gun emplacements. Sniper posts were hidden in dummy trees, and dummy animal carcasses were made of papier mache, and placed about the battle fields. This type of concealment was used primarily to hide and shield from observation all objects that could otherwise be seen by the enemy stationed in observation balloons, or in low-flying planes, and by military observers on the ground.

Today, the technique has changed. The swift bombing and observation planes flying at 10,000 to 30,000 feet are not particularly concerned with how small groups of soldiers conceal themselves. Their main mission and purpose is to cripple and destroy bigger game, large munition depots, steel plants and water works. The average precision bombing raid is carried out at 10,000 feet at amazing speeds—up to 350 miles per hour. The bombardier must be able to sight his objective or some known close reference point, and quickly set his sights in a time limit of about 40 to 50 seconds. If he fails to do this he must return over the target for another attempt. He knows his return trip will give the anti-aircraft guns below additional time to get him in their sights, and make it extremely unpleasant for himself and his crew members.

Camouflage, therefore, does not necessarily mean complete concealment in all cases. A delay in the adjustment of sights by the enemy bombardier means that the first step toward protective concealment has been accomplished. Successful camouflage of any target involves consideration of form, shadow, texture, and color.

Form. There are no straight lines or right angles in nature, and for effective camouflage any man-made angles or lines on the landscape must be eliminated by some method of concealment. Straight roads may be painted out in certain sections leading to a vital spot by the use of colored bituminous emulsion, used to simulate the appearance of grass when seen from the air. A fake road taking a false course can be installed by the use of cold protein paint, paste or powder form, in colors to match the main road. Such paint can usually be applied with a spray gun.

Large factories and plants with their many straight roof lines and rows of windows can best be hidden by nets interwoven with shredded canvas or cloth painted to blend with the surroundings, temporary wooden superstructure projected beyond the edges of the roof, or by real and painted bushes installed on the roof tops. These garnished nets are dyed or painted to simulate foliage texture. Old branches and trees are sometimes used to cover the nets.

Nature's colors, however, change with the season, so that any colors used to imitate nature must be changed also. Autumn leaves covering any object in the Spring would be an ineffective deception, easily recognized. Temporary installations must always conform to their natural colors, that is, colors of the surrounding areas. It is sometimes more advisable to plant natural bushes, trees, or shrubs, and thus eliminate the necessity of closely following nature's many changes.

Shadows. The second, and equally important problem, is one of camouflaging shadows cast by the objects themselves. Sometimes these straight shadows are even more visible from the air than the target.

Shadows may be broken up at their source by the same methods used in concealing form, that is by nets, paint, and bushes or trees. To absorb the tell-tale shadows on the ground it is often necessary to stain the surrounding grass areas in a dark color to break up or confuse the real shape of the shadow.

Texture. Proper texture of the target surface is also important. Painting a fake roadway or grass plot across a flat roof by the use of paint alone is ineffective. Although the colors may exactly match the road or the grass, the imitation will be easily recognized from the air because of the texture of the flat surface. Different surfaces give off varying amount of reflection.

To offset this condition, artificial textures are used by the simple method of mixing paint with dyed wood shavings, sawdust, or ground rock, to break up the naturally smooth surface of the objects being concealed. This necessity for texture explains one reason why present-day camouflage paints are in flat colors. The obvious reason for the use of flat paints is the absence of any gloss reflection which would be easily detected by the eyes of the trained observer. To gain additional texture other flat paints are sometimes mixed with sand and roofing granules.

Color. Color in camouflage work is probably not as important as form, shadow, and texture; but any color used, not directly related to the color in the natural surroundings, would be easily recognized. Colors are hard to identify when observed from high altitudes. Fog, smoke, and distance tend to make all colors appear gray.

Models. The many intricate patterns and colors of nature must therefore be closely followed when an attempt is made to carry these patterns over an object being camouflaged. As camouflage problems

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become more complex and the objects to be concealed become larger and more unrelated to their surroundings, it is sometimes very helpful to construct scale models. They are usually made of wood, clay, sponges and cloth, and then painted in the proper plan decided upon. The model will, in most instances, illustrate on a small scale what to expect in the finished camouflage job.

MORE CUTS IN CIVILIAN CONSTRUCTION

Drastic cuts have been authorized by the War Production Board in the amount of civilian construction to be allowed without specific authorization under the provisions of a revision of conservation order L-41.

Types of construction have been reclassified, making necessary distinctions within residential and non-residential categories and reducing in most instances the amount of construction for which no authorization is necessary.

At the same time prospective builders are cautioned against making commitments for materials until permission to build actually has been granted. The fact that a builder has all necessary materials on hand and needs no priorities assistance will not, in itself, govern whether he should be permitted to use them in construction.

The new classes of construction established by the revision of L-41, with their former and present cost limits, follow:

Type of Construction	Former Limit	Present Limit
Residential	\$ 500	\$ 200
Multiple Residential.....	500	1,000
Agricultural	1,000	1,000
Industrial	5,000	5,000
Certain Types of Commercial	5,000	200
Other Types of Commercial, including Highway, Sub- surface and utilities Con- struction	5,000	1,000

Included among the types of commercial construction reduced from \$5,000 to \$200 are buildings designed for use as clubs, lodges, associations, fraternity or sorority houses, auditoriums or assembly halls.

Also included are buildings designed for occupancy by not more than five establishments selling or dispensing goods, merchandise, food or drink, or providing services. In the latter group are small stores, restaurants, soda fountains, bars, and tailor, barber and cobbler shops. Large quantities of materials have been going into their construction under the provisions of the original order allowing up to \$5,000 to be spent during any continuous twelve-month period.

Multiple residential construction includes buildings designed to provide living space for more than five families or divided into more than five suites. Industrial construction includes buildings designed for use in the manufacture, processing or assembling of goods or materials.

In every instance where estimated costs are under the established limits, the owner, before he may begin construction, must be able to acquire enough material to complete the project without priorities assistance. Furthermore the project must not require the use of any material, on the site or off the site, to supply electricity, gas, water, steam, telephone or sewage disposal service.

It was explained in the revised order that repair work, on which there is no limit, does not include reconstruction or restoration of construction damaged or destroyed by fire, flood, tornado, earthquake, act of God or the public enemy.

RALPH ADAMS CRAM, ARCHITECT

Ralph Adams Cram, 79, Fellow of the American Institute of Architects, died in a Boston Hospital September 22, after an illness of two weeks.

Mr. Cram was born at Hampton Falls, N. H., December 16, 1863. An authority on Gothic architecture, he was noted for buildings he designed for Princeton University and the United States Military Academy at West Point. He became world famous for his churches throughout the Nation, including New York's great Cathedral of St. John the Divine. He participated in the evacuation of the ruins of England's medieval Glastonbury Abbey.

He began his architectural practice in 1889, was registered in Michigan in 1919, and an active member of the Michigan Society of Architects. He had maintained offices in Boston and New York, as Cram, Goodhue and Ferguson; Cram and Ferguson and as Ralph Adams Cram. His fine churches were legion and he was author of a score of books, mostly on church architecture.

Ralph Adams Cram was supervising architect for Princeton University, 1907 to 1920; consulting architect for Bryn Mawr, Mt. Holyoke and Wellsley colleges.

STEEL BRIDGE COMPETITION

The American Institute of Steel Construction will sponsor another bridge design competition, open to bona fide registered students of structural engineering and architecture in recognized technical schools of the United States and possessions, and offers three cash prizes of \$200, \$100 and \$50 respectively, for the designs placed first, second and third. Certificates, signed by the Jury of Award and Officers of the Institute, will be awarded to the prize winners and to those whose designs are given honorable mention. The premiated designs will become the property of the Institute.

A jury of nationally-known engineers and architects will judge the competition on February 17, 1943. Drawings must be received at the Executive Offices of the American Institute of Steel Construction, 101 Park Avenue, New York City, not later than February 8, 1943.

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U. S. STEEL'S FINE SHOWING

The stirring patriotic appeal of a steel mill worker, likening the American flag to "a flame springing up to consume injustice and wither the hopes of wrong," is a feature of the September "Victory" edition of U. S. Steel News. Fred Markus, a roller helper, accepting a Treasury minute man flag awarded to the Wood Works of Carnegie-Illinois Steel Corporation, U. S. Steel subsidiary at McKeesport, Pa., declared: "Our country's flag is not a mere piece of silk or wool; it is a living thing pulsing with the throbbing ardors of humanity, glowing with fervor of immortal hopes. It is an altar fragrant with sacrifice. It is a garden, wherefrom a nation grew, watered by the pure blood of heroes. It is a battlefield whereon it strikes its blow for the cause of freedom. If ever our flag needed loyal men and women, it is today. For such a flag true men and women will gladly die; for such a flag true men and women will always nobly live."

The employee magazine, supporting U. S. Steel's current drive for 100% participation by employees and subscriptions of not less than 10% of the gross pay roll for the purchase of war bonds, points out that if 10% of U. S. Steel's \$700,000,000 annual pay roll were to be subscribed to the purchase of war bonds, the government would be able to buy one aircraft carrier, or 11 submarines, or 1400 pursuit planes, or 1750 light tanks, or 823,529 Garand rifles, or 280 four-engine bombers, or 466,666 parachutes, or 358 mosquito boats, or 3500 anti-aircraft guns, or 77,777 jeeps.

AMERICA'S MOST IMPORTANT MAGAZINE

Recently Carsen Associates of New York (publication research) invited the editors of America's leading trade papers, including Architect and Engineer, to tell what in their opinion is the most important magazine published in America today. Here is the result of the nation-wide research:

Magazine	% of Mentions
1. Time	26.8%
2. Reader's Digest	20.5
3. Satevepost	10.9
4. Life	7.1
5. Business Week	3.3
6. Newsweek	3.0
7. U. S. News	2.8
8. Fortune	2.3

K. E. PARKER COMPANY BUSY

Besides war work under construction at Mare Island and in Alameda, and a \$500,000 water and sewage plant in San Joaquin County, the K. E. Parker Company of San Francisco has recently completed the new women's dormitory at the University of California, Berkeley, W. W. Wurster, architect; the University Administration Building, Berkeley, Arthur Brown, Jr., architect, and the Campbell low rent housing project in Oakland, the latter one of the projects illustrated in this issue of Architect and Engineer.

WAR HOUSING

It is now expected that the \$600 millions addition for government built housing for war workers will be available within a month. The President has signed the bill of authorization. These funds will supplement the more than a billion dollars already made available.

During the first half of 1942, government built housing for war workers amounted to \$235 millions. During the same period, however, the volume of private residential building for war workers totalled \$950 millions. This was equal to the 1939 volume of private residential building and compares with a peak of \$1,200 millions for the first half of 1941. Obviously, the major part of the war housing program is being carried on by private builders. They must be relied upon to do a large part of the job that remains to be done, although as the government resorts more to temporary types of building for war workers the proportion of government building will increase.

BRICK TO REPLACE LUMBER

Producers of brick and other clay products are urged by the War Production Board to gauge production to meet an anticipated increased demand for these materials for use in the place of lumber in both temporary and permanent structures.

Ben Alexander, Lumber Co-Ordinator for WPB, called upon all manufacturers of brick, tile, and gypsum board, and on the membership of unions within the industry to aid in averting "a serious temporary shortage of lumber."

"Because of Lend-Lease requirements, and heavy construction programs of the Army, Navy and National Housing Agency," Alexander said, "it is estimated that the available supply of lumber will fall 6,000,000,000 board feet short of meeting this year's estimated 38,000,000,000 board feet requirements."

It is believed that at least 2,000,000,000 board feet of lumber could be saved by increased utilization of brick and tile, and an additional 100,000,000 to 150,000,000 feet saved by the use of gypsum board. Adequate brick, tile, and gypsum board for such

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uses can be produced by expanding the present output of the industry, which is now working at only 30 per cent of capacity. Annual capacity production of the brick and tile industry is estimated at the equivalent of approximately 13,000,000,000 bricks.

IDEAL BLACKOUT FACTORY

George H. A. Parkman, Westinghouse construction expert, has written a recipe for the ideal war factory—a blackout, bomb-resistant, windowless building from which vital military machines and armaments would flow 24 hours a day, uninterrupted by air raids or sabotage.

Drawing on ingenious American technical achievements of the past decade, Mr. Parkman advocates use of artificial daylight and precisely regulated temperature and humidity inside the arch-roofed super-factory to raise to a maximum the efficiency of men and machines.

A modern "failure-proof" system of factory power supply designed to localize damage from bombing, sabotage and other causes, would assure an unbroken flow of electricity to lathes, drills, welding sets and other equipment used to shape machines of war.

Two recent inventions would supply the cleanest air modern science can produce, protecting the health of workmen and guarding delicate machine parts against scratching. One of these, an electric air cleaner called the Precipitron, would bar the entrance of air-borne dirt, dust and smoke. The other, the Sterilamp, would stand guard in air ducts, killing bacteria with its invisible ultra-violet rays.

"Although this blackout super-factory would be adequate for the manufacture of almost any type of war equipment, its advantages are so great they would carry over into peacetime factory construction, inaugurating a new era in improved industrial working conditions," says Mr. Parkman.

"Many of these engineering advances have already been incorporated in factories constructed since the war began, but as far as I know, no

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factory has yet been built to take full advantage of all these recent developments," he added. "Increased com- fort of workmen and protection of health in such a factory would im- prove morale, and speed production by reducing lost time due to illness.

"The building would be built of re- inforced concrete, with an arched 'egg-shell' type roof, to save time and steel and to provide a structure that would suffer least from bombing, sabotage and fire.

"Although parts of the arched roof might be no thicker than three or four inches, the structure would not lack strength, because it would have the same general shape as an egg shell.

"This concrete construction costs about the same as steel frame con- struction, but requires only about forty per cent as much steel, a vital war material. Explosions from bomb- ing or sabotage would cause only local damage, easily repaired.

"To maintain an uninterrupted flow of power to the machines of the blackout war factory, use of a new 'failure-proof' factory power network is recommended. This power system, which has been installed by the West- ingtonhouse in numerous defense plants in the United States in the past year, has many supply lines running through- out a factory in a loop or a criss-cross pattern. It is known as an alternating current, secondary - network system.

"Damage to one section of the fac- tory will not interrupt the flow of electricity to other parts. Also, this type of electric supply system is easier to repair and enlarge for factory ex- pansions, because a small section of the system can be switched off while the remainder continues to supply power to machines.

"In a windowless and hence per- manently blacked-out plant, lighting will be important because no daylight will enter and all work, 24 hours a day, must be done under artificial light.

"Fluorescent lamps are favorites for such factory lighting because they produce more than twice as much light as incandescent lamps from the same amount of electricity. Also, they give off less heat, and can produce light of a color that nearly duplicates daylight. Proper use of fluorescent

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lighting can increase production, because people can work better and feel more like working if given sufficient light.

"During the last war, it was general practice to supply between eight and ten foot-candles of light for factory work. Today, we realize that much more light is needed. A machine shop should have at least 50 foot-candles of light; assembly plants for automobiles, tanks and airplanes require about 100, and such extra-fine work as grinding of machine parts should be done under 200 foot-candles.

"Air conditioning is essential in a windowless plant to provide fresh air for workers to breathe, remove factory fumes and regulate temperature and humidity," Mr. Parkman said, adding:

"Proper temperature control, through air conditioning, permits employees to work faster in comfort. To eliminate stale air and prevent a feeling of laziness and loss of appetite, it is necessary to supply new outdoor air at the rate of 15 to 30 cubic feet a minute for each occupant of the factory.

"In summer, air conditioning must be stepped up to remove heat from the inside air. Otherwise, the interior of a windowless factory would reach an unbearable temperature. In an average factory manufacturing shells or tanks, an air conditioning system should supply each occupant with refrigeration equivalent to the melting of about a ton of ice every day, assuming that about 125 square feet of floor space is allowed for each worker.

"Experiments in blackout plants built this year have demonstrated that the best way to air condition such a factory is by a number of small cooling units located in various sections of the building. Damage to one unit would not affect the operation of all others."

PRIORITIES VIOLATION

Ignorance will not be accepted as an excuse for priorities violations. WPB advises all business men in doubt as to what regulations affect them to visit local WPB offices and discuss the question with a priorities department man.

Officials say that many cases brought before regional officers disclose that ignorance is the chief cause of violations. The compliance division is attempting to explain priorities orders to entire industries so as to keep unintentional violations at a minimum.

WANTED—30,000 TYPEWRITERS

The staccato beat of typewriter keys—thousands of them to join the shrill chatter of radio, machine guns and riveting machines—in America's war against the Axis—

This is the answer to the desperate call for more and more typewriters—30,000 of these vital communications machines from the West coast alone—wanted to serve in the Army, Navy and Merchant Marine, at once.

With a direct plea from the Army, Navy and Maritime Commission in Washington, D. C., plus an urgent message from Donald M. Nelson, WPB Chairman, the Regional WPB has launched a drive for all available typewriters owned by business firms, trade associations, schools and individuals in the San Francisco bay area.

Machine owners are urged to call their manufacturer's representative or registered dealers, authorized to handle all transfers of equipment to the armed services, who will purchase machines at 1941 trade-in prices. Typewriters should be of 1935 or later standard makes. Portables are not wanted.

All manufacture of typewriters, with few exceptions, has been discontinued, while the plants are now producing machine-guns and other war equipment. Swift expansion of Uncle Sam's fighting forces around the world, matched by depletion of typewriter reserve stocks, calls for this new War Production Board drive.

Inquiries may be addressed to the regional War Production Board, 1355 Market Street, San Francisco, or the nearest WPB state or district office.

NORMAN W. SEXTON, ARCHITECT

Norman W. Sexton, San Francisco architect, died October 15 at his hunting lodge on Grizzly Island near Fairfield, presumably from a heart attack. Mr. Sexton had gone to the

lodge to prepare for a duck hunt.

The San Francisco architect, who was 64, had practiced his profession in the Bay area for 40 years.

He was a member of the American Institute of Architects and the State Association of California Architects.

Mr. Sexton had designed many school houses and other civic buildings in this area. Recently, he was the architect for several fire houses in Vallejo.

WHAT TO READ

MILL AND MANSION, a study of architecture and society in Lowell, Massachusetts, 1820-1865, by John Coolidge; Columbia University Press. Price \$3.75.

A careful, scholarly study of the architecture of a New England cotton-mill town from 1820 to 1865. It illustrates the extent to which buildings depend upon contemporary social conditions. There is an inter-relationship between architectural evolution and social evolution which deserves much more study than it has ever received.

Lowell, Massachusetts, during the period studied, represented one of America's most comprehensive attempts at city planning. It was an extraordinary experiment in low-cost housing. It contained fine industrial buildings, the mansions of parvenu mill owners, as well as a good New England arrangement of churches, schools, public buildings, slums and middle-class homes. Historians and sociologists should investigate this book because it contains a new and useful approach to Puritanism.

PRACTICAL ACOUSTICS AND PLANNING AGAINST NOISE, by Hope Bagenal; Chemical Publishing Co., 234 King Street, Brooklyn, N. Y. Price \$2.50.

This book sums up the major facts of building acoustics as we find them today, and is intended for the use of students and also for builders and architects with practical problems before them. Scientific material has been selected rather than collected. Throughout the book the needs of post-war planning have been kept in mind.



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- T F If I use a new 200-watt lamp in addition to the lighting I already have in my home, the average cost of using it for two hours every night is about 25¢ a month.
- T F I get from 10 to 15 times as much usable light for my money in my rooms that have white or near-white ceiling and walls, as I get in my rooms with dark walls and ceiling.
- T F Dull brown, green, or grey paint reflects only about 5 per cent of the light falling on it, and absorbs about 95 per cent.
- T F An I. E. S. study lamp gives me between 30 and 35 footcandles of light on the reading surface of my desk.
- T F Reading a brightly lighted page when the rest of the room is dark causes eyestrain and fatigue.
- T F I need three times as much light to read a newspaper as I need to read a well-printed book.
- T F A footcandle of light from a flame-tint or other colored bulb costs me many times as much as from an inside frosted bulb. The color holds back most of the light and lets only rays of its own color through. An inside frosted bulb lets virtually all light through.
- T F "Sifting" light through a diffused bowl makes it soft and soothing to the eyes and eliminates shadows and glare.
- T F Paint, dye, and other pigments are NOT color—they merely reflect selected light rays and I see these rays as color. Color exists only in light, and the more clear light I have, the better all colors appear.
- T F Police departments endorse outdoor lighting that can be switched on and off from the house and garage, as a powerful protection against criminals.*

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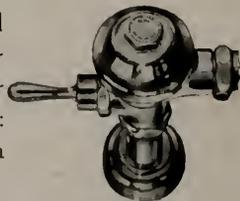
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Heretofore the use of flush valves has largely been restricted to commercial-type buildings—few being found in small homes. But here is our promise to you: there will be Sloan Flush Valves for residences after the present war is over.

So start planning now for Sloan-equipped homes. With Sloan Flush Valves you provide home owners with the ultimate in convenience, health and economy. Remember: there are more Sloan Flush Valves sold than all other makes combined.



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ARCHITECT AND ENGINEER

NOVEMBER, 1942

U. C. Administration Building, Berkeley
Medical School Center, Portland, Oregon
California's Opportunities After the War
The Young Architect Cries for Leadership



★ ★ ★

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Turn in Your Scrap*

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FOR SOUND CONSTRUCTION

ARCHITECT AND ENGINEER



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* War Dept. Postal Censor (Prints and Publications)
* Lieut. U.S.N.R.

NEXT MONTH

William W. Wurster's girls' dormitory at the University of California, Berkeley, has no prototype in the West, if indeed there is anything like it in this country. Completed less than two months, the building has created more stir on the University campus than any structure erected there in recent years. Ninety girls are housed in this Stern Hall, which cost more than \$285,000, Sally Carrighar, new member of the ARCHITECT AND ENGINEER staff, is writing a "woman's impressions of a woman's dormitory." Mr. Wurster says he always welcomes constructive criticism. Sally will see that he gets it in this instance.

The author has taken some splendid photos of the building, outside and in, which will add interest to the article.

Another December feature will be the story of how the British have organized their study of post-war building. Committees of the American Standards Association are working on comparable problems of our own post-war building, and a tentative draft of the probable setup has been drawn.

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Architect's drawing of PERALTA VILLA Project, Oakland, California. Board of Architects: Carl I. Warnecke, Hugh C. White, John J. Donovan, Henry A. Minton and Frederick H. Reimers.

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RUNNING FIRE — By MARK DANIELS, A. I. A.

• A "RAW" DEAL

When the government failed to put a ceiling on farm products because they fell in the same category as iron ore, copper ore, rock and sand, etc., which were products essential to prosecution of the war, they forgot that we sometimes eat our carrots raw, although we do cook the spinach that comes with the sand. The poor, dear, down-trodden farmer **took advantage** of this with a speed that belies his reputation for slow and plodding progress, for it took him about twenty-four hours to hike his prices to the limit.

When a person has a bullet proof vest it is folly to go gunning for him, which makes it doubly hard to pull punches when talking about the poor farmer as we shell out 10c an ear for corn and 5c each for unripe tomatoes. Of course, his alibi is the ever ready cry of 'farm labor costs,' but another hike in his raw farm products could pay off the war debt and leave enough to mow the White House lawn once a week.

For years we have heard the cry of poverty from the farmer until it seems that no price, subsidy or flat gift for not farming their land can quiet that endemic seasonal howl. With grapefruit so long at 25c a dozen and now at 10c each we thought that we might have quiet, but the farmer's son who once was proud to drive to Cow College in a Ford, is now demanding a limousine and soon will be driven to Agricultural College by a chauffeur.

We all expected a rise in almost everything. The government predicted it. But we were hardly prepared for a 500% rise over night. The worst of it is that these poor farmers have got the fish, particularly the shell fish, doing it. The cost of sea water must have gone up or perhaps the submarines keep them awake nights. Anyhow, I don't see that the fishermen are getting much of a raise but oysters have about doubled.

Well, that's what a bloc can do for you—a good, big rich bloc. My, I pity those poor architects!

• REGIMENTATION

"Modern immaculate order precludes picturesque disorder." I don't know who said that, but I think it was Dr. Herbert Evans of the biological laboratories at Berkeley. He always puts things patly. Anyhow, show me a room where everything, down to the smallest ash tray, is in its fixed place and I'll show you the home of a person who doesn't need much military training. The monotony of strict order is the result of regimentation and the loss of freedom is brought about by so-called modernism.

In many plans of "modern" living rooms, particularly the smaller ones, with their built-in fixtures, their especially designed modern furniture set just so in the room, the ensemble often presents an attractive picture. But move this chair a couple of feet from that table, stand a few books, too large for the shelves, in the corner, and immediately you have a feeling of anachronism.

I am not quarreling with modern architecture, but when architecture or any other art takes on a style that cramps individual freedom, it is heading for regimentation. Modern architecture, per se, has always been an advance from the architecture of yesterday so long as it remained ARCHITECTURE. It

is only when a few "muddle"-aged architects begin to sacrifice individuality and freedom to design, that we get in stride with Hitler.

• THE LITTLE MAN

Absent mindedly the Little Man shook his cigar ashes into his empty glass and tossed off my old fashion. "The fish eats the worm," he said as he speared an anchovie from his neighbor's plate of hors d'oeuvres, "the man eats the fish and the worm eats the man. That is one form of the cycle of carbon in nature. We Americans are going nature one better, for we are making it in three without carbon. The women are replacing the young men, the young men are replacing the old, and the old men are replacing the women. That is a good cycle, too, and will work if the army will quit letting young soldiers do the women's work." The Little Man washed down three of Fred Solari's big olives with my fresh old fashion as he went out.

• BIRD DIARY ITEM

This morning I sang my opus 26,379. The cat must have liked it for he watched while I tried to repeat it.

• RADIO

The growing discussion of radio programs has started one program that cannot be tuned out. That one is the argument between the print broadcasters and the radio broadcasters. The publishers start with one strike on them, for there is little doubt that the radio people are taking a lot of advertising from the press to the air, which gives anything the editors can say a bit of the tang of sour grapes. Never-the-less, the magazines have got the radio people trying to answer them in print and the broadcasters have hired "Variety's" Editor Landry to write for them a small brochure entitled, "Magazines and Radio Criticism," which puts Mr. Landry more or less in the position of carrying water on both shoulders. Well, most editors have to do that anyhow.

Mr. Landry's "bete noir" seems to be Mr. Nettels of Wisconsin whom, he alleges, "seeks to establish advertising on the air as a social evil, per se." Now, Mr. Nettels is a big man even for Wisconsin and, if his contention really is what Mr. Landry claims, I think he is covering a territory greater than his reputation, which is some territory. There are many who criticize the radio in and out of print, and many others who would if they dared, but it is doubtful if any of them really want to see radio advertising taken off the air at the cost of losing all programs or having a bureaucratic government take over radio entirely. Most of the criticism is based upon a frantic effort to eliminate the unnecessary superlatives, the exaggerations, the "blinding-white-teeth-from-a-single-applications" dentifrice ad, the tommy rot, and, the time-worn claim that no matter how rotten it is, "it's what the public wants."

Several times in the past this column has stood for POINTING UP. We should no more give the people what they want, every time they want anything, than we should do the same for ourselves. And it is infinitely worse for a broadcaster to be allowed to give the public what HE THINKS it wants. "LIFT UP YOUR HEADS, OH YE GATES."

NEWS AND COMMENT ON ART

"DO YOU WANT TO PAINT?" AN EXHIBITION AT DE YOUNG'S

Sponsored by the Society for the Alleviation of Frustration Among the People, a unique show opened at the de Young Museum, November 1, being an attempt to give would-be artists, "Sunday painters" or simply those who "have to get something off their chest" a chance to exhibit the results of their efforts. The exhibit presents an opportunity for the unschooled artist to see and compare his work with that of other amateurs and to spur him to continue—perhaps to study painting seriously—and to encourage others, who so far may have been too "self-conscious," to use the various art mediums as a means of self-expression.

There are no restrictions as to type of composition, or materials used. No more than three examples from each contributor have been accepted—the mediums ranging from oils, watercolors and various graphic arts to sculpture. The only stipulation made was that each artist be strictly a "non-professional." At the close of the exhibit, prizes will be awarded to the works showing the greatest originality and promise of future talent.



"GIRL READING," water color
by Norma Johnson, de Young
Museum, San Francisco

ARCHITECTURE TODAY AND TOMORROW

Jan Reiner will discuss "Architecture Today and Tomorrow" at the San Francisco Museum of Art on Sunday afternoon, November 29, at 3:00 o'clock. Taking present and post-war planning as his main theme, Reiner will take up the question of prefabrication, will illustrate the uses to which steel, concrete, glass, plywood, and plastics are being put. Before coming to this country five years ago, Reiner had already gained recognition as an architect in Europe. Formerly he was a student of Le Corbusier in Paris, Ove Bang in Oslo, and, more recently, of Gropius at Harvard. He has taught in Chicago at the New Bauhaus, and lately at Mills College. In San Francisco he has been attached to the office of W. W. Wurster. Reiner's Sunday lecture will be illustrated.

WAR THEMES BY WOMEN ARTISTS AT 17TH ANNUAL EXHIBITION

Memorable will be the 17th Annual Exhibition of the San Francisco Society of Women Artists which opened at the San Francisco Museum of Art November 13, for it stands out as the first annual exclusively concerned with war. Meeting the challenge of art's place in war time, the Women Artists base this show on an active plan of three parts: Art Lives, Art Reports, Art Assists. Charts, posters, photographs, paintings, sculpture, and a wide range of crafts are keyed to this program. The exhibition will be on view through December 13.

CHICAGO ARTISTS EXHIBIT SCULPTURE AT S. F. MUSEUM OF ART

Two Chicago artists, Alexander Corazzo and Gretchen Schoeninger, will show experimental types of sculpture at the San Francisco Museum of Art from November 17 through December 20. Their sculpture, more exactly termed constructions and mobiles, makes novel use of the effects of various stuffs like wood, tin, glass and string in colored light, and by means of actual movement in space. All attention is concentrated on these special types of design, without reliance on the effects of familiar subject matter. Corazzo is well known here, being a frequent exhibitor in Annuals of the San Francisco Art Association in which a picture of his won a purchase prize last year.

S. F. ART ASSOCIATION'S ANNUAL EXHIBIT OF PAINTINGS

For sixty-two years now, critics have clustered like hawks about the San Francisco Art Association Annual Exhibition of Paintings and Sculpture. This year they settled on rationed fare, because the effects of war had restricted contributions to one



"FLIGHT INTO EGYPT," by Jean Charlot

The above painting is one of a number of oils which, with sketches and detail drawings, form a representative group in the exhibition of Charlot's work now showing at de Young's.

IN AN EVER CHANGING WORLD

entry per artist. Being smaller than usual and perhaps more selective, there is no doubt that the show was easier to negotiate. More than one critic expressed relief on that score, and then went on to say it was the liveliest Annual in years. Perhaps that is what they always say but, if so, what could be a better testament of the up-to-date character of an institution now aged three score years and two?

UNIVERSITY PROFESSOR PREDICTS FLOURISHING POST-WAR ART

A "golden age" of American art will flourish in the

post-war period, Professor Emerson H. Swift of the Columbia University of Fine Arts Department predicted at the University's summer session.

"History shows that all the great art periods developed immediately after important war," Dr. Swift said. "This factor, as well as the encouragement of native-trained artists and the great improvement in the public's artistic taste within the past twenty-five years, will be responsible for this new era of art in the United States.

"Until recently America lacked the background to produce a great national art. Official govern-



"GIRL WITH DOG," by Felix Ruvolo

Anne Bremer Memorial Prize

62nd Annual Exhibition of the San Francisco Art Association

ment sanction and public backing, always necessary to the growth of a great artistic period, was lacking. Art was a luxury reserved for the well-to-do and mainly the product of European trained men and women.

"Since the war has shifted the center of culture from Europe to America and recent Federal projects have helped to popularize art and bring it to the public's attention, we can now look forward to the emergence of an important art period of our civilization in this country.

"Modern or so-called abstract art, due to the dominance of the scientific point of view, is not as startling an innovation as most people think. It is actually comparable to the great Byzantine art which flourished after the barbarian invasion and the overthrow of Rome in the fifth century A. D. The art produced then was also abstract and totally different from the classical periods of the Greeks and Romans."

MASTER PLAN FOR SAN FRANCISCO APPROVED BY ART COMMISSION

The following principles were embraced in a communication presented by Commissioner Emerson Knight, Landscape Architect, at a regular meeting of the San Francisco Art Commission, October 7, 1942:

"To our Honorable President, Ottorino Ronchi, our Secretary, Joseph H. Dyer, Jr., and all Fellow Members of the Art Commission:

We represent the welfare of Art in San Francisco. This trust we have held for over ten years. In behalf of music, we have aimed to administer City tax funds wisely, toward securing the best music for all. We have exercised architectural design influence over public buildings. We have passed upon works of painting and sculpture for public use. In other arts we have not functioned fully. While our charter limits our initiative powers, we still are free to state our principles as we encourage sound art. We foster, too, the Art of Living, which implies the noblest expression of body, mind, heart and spirit. Environment affects us vitally. San Francisco is endowed with a rare geographic and scenic setting. Its original charm has been marred by man. Streets have been built contrary to the harmony and rhythm of nature. Vacant areas have been neglected.

The restoration period following our present war will surely include development of new housing on a vast scale. Plans for such housing should be soundly related to our city plan and prepared in advance. New building schemes should consider not alone practical needs, but also those insuring health. Beauty in design, form and color should be appreciated, and emphasized. We can strengthen the integrity of our citizens when each family is assured separate living quarters under one roof, with ample space environment. There must be air, light and sun; also trees, shrubs, grass and flowers. Thus, in revising our building and zoning ordinances, we urge and insist upon minimum city lots large enough to meet these requirements, as for example, a minimum lot of 50x100 feet. We would discourage increase in apartment houses.

We resolve further to benefit San Francisco in the following ways:

In the creation of a Master Plan, wide in scope to embrace all inherent problems, including streets and arteries reasonable in grade, consistent in alignment and flow, with adequate width. Curved ways along contours to be used wherever justified. The Master Plan should express our needs far into the future and still be flexible. All sound elements of the Daniel H. Burnham Plan of 1905 deserve realization with sympathetic interpretation.

We would provide ample breathing spaces in major and minor parks, well situated and wisely distributed; also generous play areas with sufficient facilities.

We foster attractive appearance for every aspect of our city; through noble conception in architecture and superior

materials; in universal tree planting for streets and plazas, in fitting use and planting for vacant areas.

We encourage each citizen to maintain his home with order and pride; with free use of color, flowering vines, window boxes and sidewalk planting.

We resolve to keep streets and vacant areas clean. Refuse boxes of appropriate design will aid in suggesting efficient results.

We are stimulated by flower vendors' stands at strategic intersections. Bright vistas toward focal points, lend gaiety.

We urge the creation of gardens in all streets too steep for motor traffic.

We favor design control over all minor structures such as news stands or Kiosks, so that they can function as neat colorful accents.

We aim for the preservation of all our historic and traditional landmarks, also in recording their significance upon fitting and enduring markers.

As inherent in city plans, we aim to suppress and eliminate noise and noxious odors. Signs should be used only to direct and inform; we urge that huge ones insistent upon blatant advertising, be abolished.

We go on record now as endorsing these principles in spirit and we feel moved to fight for their realization with our best powers."

Upon motion duly made and seconded, this report met with the unanimous approval of the Art Commission, and the secretary was instructed to spread the resolution on the official minutes of the meeting.

LETTERS TO THE EDITOR

THINKS OAKLAND HOUSING PROJECTS HAVE BEEN WELL HANDLED

Editor, Architect and Engineer:

Receiving the October Architect and Engineer seemed like old times. Excellent article on the Oakland Housing Project, which looks well handled and of better design than many of the eastern ones I have seen.

My son, Warren, has gone into the Air Corps of the Army (2nd Lieut.) and has been in Australia since June.

Please remember me to all the old crowd.

Cordially,

Chas. H. Cheney, City Planner (retired)

Palos Verdes Estates,
October 22-'42.

NO EVACUATION OF NON-WAR WORKERS IN L. A. HOUSING PROJECTS

Editor, Architect and Engineer:

May I correct the misinformation regarding our tenant selection policy (Architect and Engineer, September, 1942).

In no instance have non-war workers occupying houses built by the City Housing Authority of Los Angeles been obliged to move out of their homes to make way for those engaged in essential war work. The period of preference granted war workers insures them housing accommodations before developments are thrown open to non-war workers. There is no evidence that the areas in which non-war workers are now being housed are essential to meet the needs of war workers. Therefore, no evacuation has been necessary, nor is it contemplated.

Fay M. Jackson

Los Angeles, October 28, '42.

COMPETITION FOR MURAL DECORATION OF THE
LIBRARY OF THE MUSEUM OF FINE ARTS
SPRINGFIELD, MASSACHUSETTS, U. S. A.

Open to All Artists Resident in Canada, Mexico and the United States.

The Museum of Fine Arts, Springfield, Massachusetts, invites competition for one mural in an oil medium for the Library of the Museum which is situated on the southwest end of the Museum building.

AMOUNT OF AWARD

The sum of \$4,500 is to be paid for this work which amount must cover the complete cost of execution and installation of the decorations.

COMPETITION JURY

The competition designs will be judged in Springfield, Massachusetts, by the Museum's Trustee Committee on the advice of a jury composed of the following:

Mr. Edward Rowan, Assistant Chief, Federal Works Agency,
Public Buildings Administration, Section of Fine Arts
Miss Margit Varga, Artist and Writer
Mr. Henry Varnum Poor, Artist
Mr. William Gropper, Artist
Mr. Forbes Watson, Art Critic

COMPETITION REQUIREMENTS

Designs must be submitted with carrying charges prepaid or they may be delivered in person to the office of the Museum of Fine Arts, 49 Chestnut Street, Springfield, Massachusetts, U. S. A. The closing date of the competition is May 24, 1943. All designs must be post-marked or in the hands of a carrier not later than that date.

The designs must not be signed. Each design submitted must be accompanied by a plain sealed envelope enclosing a 3"x5" card bearing the artist's name and address, typewritten or printed clearly. These envelopes will be numbered when received with the same numbers as the designs they accompany and will remain unopened until after selection of the design chosen for award.

All participants will be advised after the award has been made and envelopes are opened. All designs will be returned to participants C.O.D., unless the Museum of Fine Arts is otherwise advised in writing by the artists.

Should the winning design prove to be by an individual serving in the Armed Forces, arrangements will be made for the execution of the mural after his release from such duties.

All inquiries for further information should be addressed to: **Frederick B. Robinson, Director, Museum of Fine Arts, Springfield, Massachusetts.**

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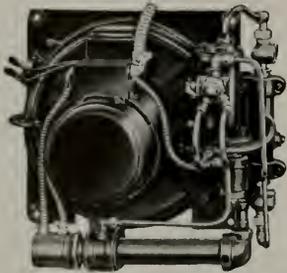
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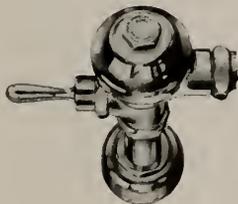
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DETAIL OF FACADE, U. C. ADMINISTRATION BUILDING, BERKELEY
ARTHUR BROWN, JR., ARCHITECT

Carrighar, Photo



U. C. ADMINISTRATION BUILDING, BERKELEY

By MARK DANIELS, A.I.A.

At the very close of the last century the prizes were awarded for the "Phoebe A. Hearst Architectural Plan for the University of California." Three years before that Mrs. Hearst had made it possible to enlist the services of some of the greatest architects of the world in this contest and in December of 1899 Mr. Benard, of France, was awarded the first prize. Forty-three years later we are still working and building to a plan for the University of California,

but whether Mr. Benard could recognize it or not is doubtful, which is no reflection on either Mr. Benard or the University, for such is the history of plans. Man proposes - - - .

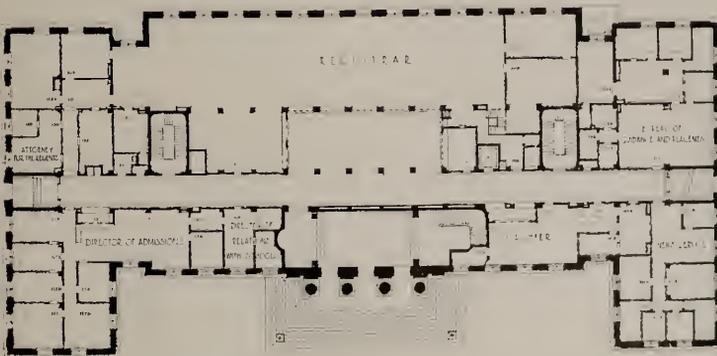
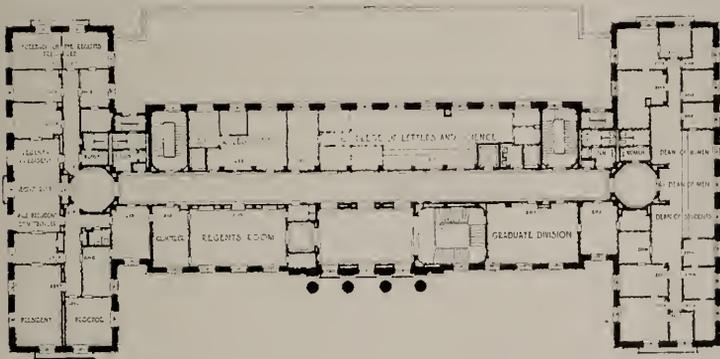
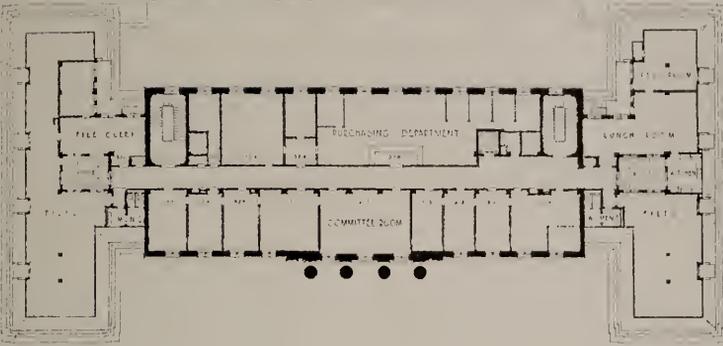
The scheme of those plans grows dimmer as the years pass. They have been altered and revised, re-vamped and re-interpreted by Bernard Maybeck, John Galen Howard, George W. Kelham and now they are in charge of Arthur Brown, Jr., who, of all the architects



PLOT PLAN, TELEGRAPH AVENUE FRONT, U. C. ADMINISTRATION BUILDING



Upper—BARROWS STREET FRONT. Lower—BANCROFT AVENUE



PLANS—FIRST, SECOND AND THIRD FLOORS



STAIRWAY FROM ENTRANCE LOBBY.

Carrigher, Staff Photographer

who have worked on what once was the Benard plans, is probably more "en rapport" with them than any other. Some of these changes were in style, some in plan, some in organization. Some were at the request of, or in conference with, the Board of Regents and some were just the result of time, as happens with all man-made plans. Existing conditions for this development of the general plan were carefully reviewed and the Administration Building placed accordingly.

Personally, I like the New Administration Building. Every time I see it I like it more, and I expect to like it still more the next time I see it. It seems to have the elusive quality of "growing on you." In a way it is like first acquaintance with a Sequoia Gigantea, except as to size. When you first see a Sequoia you

say, "That's a big tree, all right." The next day you say, "Boy, what a big tree that is." Finally you say, "Lord Almighty, what a giant that tree is!" I don't mean that you will be impressed by the size of Mr. Brown's building. Far from it. It is a comparatively small building with a three story facade. But it takes its place in a simple, dignified way, with no flamboyant "come hither" about it. When you first see it you say, "That is a nice building, all right." You go back the next day for another look and you say, "What a nice, simple building that really is," and finally when it has "grown on you" you say, "Lord, that little building certainly is a beauty!"

Arthur Brown has always been an individualist—each of his buildings bears the stamp of his personality. In spite of classical training,



Upper—Corner of President's Room

Light—Registration facilities. Windows look into Registrar's Room



intellectual honesty dominates his work. An innate conviction of the beauty of symmetry and balance has caused the radicals to label him a "classicist"—an epithet which persists in spite of such structures attributed to his genius as the Temple E'Manuel and the Coit Tower. In residential work he instinctively works in traditional styles. He does not express himself in that phase of modern which ignores the orders, balanced mass, and established taste in fenestration. He would be foolish to try, even if he wanted to. Frankly, he does not want to.

In his U. C. Administration Building Mr. Brown has gone far along the road by simplification and the elimination of detail. The windows are plain openings with no sills or ornament of any kind. This meant that the fenestration was studied as mere openings balancing with the mass of the solids of the wall which they pierced. Sills or mouldings around the window would have made them count more and would have changed the entire scheme of balance.

To my taste the back of the building, or east

facade as I prefer to call it, is the more pleasing. It has a one story break-back that gives depth while increasing the interest. It also offers more substance for the play of light and shadow. There is something about this side of the building that I seem to recall yet cannot place. Probably something I dreamed of, for, while some of Arthur Brown's admirers cannot execute work like his, we can dream about it.

Contrary to general opinion, architectural work for a university is not all peaches and cream. I have been told, and NOT by Mr. Brown, that satisfying a group of college professors is entirely outside the realm of architecture, whether it be designing a building for them or splitting an occasional infinitive. One might think that if there is one place where the Old Man of the Sea, "Dual Purpose," might get off the architect's back it is in college work. But not so—and especially not so in Mr. Brown's Administration Building. Here executive, administrative, economic and educational work had to be provided for under one roof. That's not a dual purpose that's a quadruple purpose building.



TELEGRAPH AVENUE FRONT, U. C. ADMINISTRATION BUILDING, FROM ROOF OF STORE BUILDING OPPOSITE

THE YOUNG ARCHITECT CRIES FOR LEADERSHIP

Edgar I. Williams, President of the New York Chapter, A. I. A., in a recent report to the Institute, presented some timely views on architectural education of which the following paragraphs are representative:

No generation of architects ever forgot they were builders. There were times not so long ago when architectural education became lopsided, stimulating the imaginative faculties and veering toward the conception of monumental forms and the continuation of a classic heredity almost to the complete exclusion of the fundamental needs of a builder's training. In those purple and gold times the lust of proud youth to seek his own architectural destiny was too often suppressed by olympian condescension but firm guidance in the good and tried old formulas. One had to be strong to survive the impact of such imponderables. But lest some of our smarties both young and old seek to pour ridicule upon the architecture of those times, let them stand on Fifth Avenue and 36th Street in New York and contemplate the old and the new buildings about them. The old are at least harmonious and elegant. In the new, one senses a vain effort to be clever. One senses that the death knell is ringing over this part of one of the finest streets in the world.

"What is wrong and what must we do?" asks the young man. "Give us leadership!" says he. He wants an answer. We can take him aside and whisper in his ear, "The day of the centre line is over. It produces static compositions. Mark you this: always strive for balance, never symmetry. There is the secret." This at least is clear. It abolishes the old credo once and for all. Time is saved for the student. It is the law.

We can tell the young man that all his work should have social consciousness. His conceptions should strive to integrate the technological aspects of our civilization and the human aspirations of our life today. This, of course, is not as clear as the preceding formula. Such statements lead to, in fact are, abstractions which, though they have widely recognized

implications, have little meaning for those who strive for the realities of putting one stone upon another, or to be more modern, putting one lally column where it works twenty-four hours a day.

Some teachers who have espoused revolutionary attitudes and some practicing architects who have seen a new light are inclined to look upon other contemporaries as remaining in the status quo of their own youth. They fail to see that in a changing world others besides themselves change. In the normal movement of a people each individual sees a slightly different view. It is by looking back that one sees if forward progress has been made. In architecture the test of progress is in the uniformity of expression which develops in a given area, be it a whole country or a part thereof. The uniformity need not be in detail, but on broad lines.

What many of us think of as a new California architecture is an identifiable aspect of newer houses there that, with a certain uniformity, expresses the spirit of a buoyant people and their locality. It is a definite attribute, not an abstract "international" one.

Can this aim be taught? Perhaps—indirectly; not specifically.

Does the young man want to be taught a kind of architecture so that he may have a ready-made vocabulary of detail? It seems to me rather that he should be made aware of his responsibilities in this rapidly changing world. The best a school can do for a student is to indicate the way, provide an orderly means of study, give encouragement, stimulate an awareness of the life he lives, help him to use the tools of his profession, and guide him toward the search for a beauty in the world of today.

It is trite to say that the aim of education is to make people think, but it is nevertheless basic. There are subjects in which teaching strives to impart factual data. In other subjects training strives to develop qualities rather than to impart facts. The architect's training

should be of the latter sort. He must have factual training too, of course, but basically his training to conceive three-dimensional space, to acquire flexibility of mind as well as to use the tools of his profession, is paramount. School training can hardly do more than that.

There is need for improvement in our schools. How to find a better balance between broad basic aims and the equipment that fits a young man for an immediate job is always a real problem. It is especially so today when vast building problems of national scope are paraded before us. A flood of statistics, for example on housing, becomes so absorbing that the scale of the human family with its desires and affections is lost in the maze. Statisticians who have never had the responsibility for one job formulate standards. Men who have not faced the problems inherent in the democratic process of dealing with fellow men find formulas for other peoples' behavior, even to how they should apportion their incomes, for example. Town planning becomes a slide rule and statistical affair instead of an understanding that it is natural democratic growth based upon cooperative action of the citizens, the government, the bankers, the architects, the engineers, the poet of a community. Rules and patterns become abstractions. When such teaching is the case, the school needs improvement.

It is my contention that today many schools—not all—are turning out men who are better trained to practice their infinitely more complicated professions than heretofore. They are aware in attacking their problems that there is a North, East, South, and West, that there is sunlight, earth, wind, and rain. They know that buildings are complicated mechanisms of concrete, stone, steel, glass, wires, pipes, transformers, and many other items. I have seen young men with no apparent ability to think or draw, with no special qualities of versatility at the start, develop in four years to the point where they could turn out very creditable architectural works.

Some have gone out obviously bemoaning the lack of having acquired an easy formula for success, but aware of the responsibilities they must assume. If they fail of courage it is woeful

but it is good to know it soon—for there is no easy road to creative excellence except through energy, pride, and faith. In my opinion too many people have assumed that the architect, to fit into our world today, should be an engineer, a site planner, a furniture designer, a promoter, and a business man all in one—a sort of super jack-of-all-trades. That our woes at this very hour are real is, of course, true. In a war of survival the basic attributes of an architect's abilities have comparatively little use. Architecture suffers in time of war. Is it any wonder that the young architect faces the world with insecure feelings?

We must realize that we are but part of a cooperative world. This is especially true in our American way of life. The architect is but one of a group of statesman, engineer, economist, promoter, etc., who will plan what we hope will be a better world after World War II.

It is quite possible that our contribution toward a richer life in which architects must and will play a significant part may, for the moment, have to be in dreams only. In total war a nation girded for harsh action may have to by-pass all other functions of the architect except that part which only a few can contribute toward winning a victory of arms. Until that time comes, and it will not be of our choosing but will be the result of military decision, I see no reason why the schools should commit the sort of scholastic hara-kiri suggested by one member of our profession who proposed that all architectural schools voluntarily shut down. There is no reason why the young men and women now studying should not continue training for a better day except the possible dictates of a total war effort.

The young man wants leadership! I do not recall having heard that such as Christopher Wren, Louis Sullivan, Charles McKim, Paul Cret, Ragnar Osberg, nor any of the other really creative men asked for it. It is to be hoped that the leadership the young man of today will appreciate is the inculcation of an idea that the new world as well as its architecture is his responsibility, and that to find the spirit of his own people and to translate it into a living reality by means of his own inventive genius is his hard but stimulating task.

A TWENTY-FOUR YEAR BUILDING PROJECT



MEDICAL SCHOOL CENTER PORTLAND, OREGON

Architectural style or quality, as distinguished from Historic Style, moves strangely and inevitably, fluctuating even in the lifetime of one designer. Society often rapidly changes its collective taste, which is bound to be reflected in the designer's work. The architect's own philosophy of design never sets if he is alert to trends, to ideals and to growth.

More than one designer, like Bertram Goodhue for example, has outgrown the



Upper picture—left to right—AUDITORIUM . . . WEEKS MEMORIAL MEDICAL LIBRARY . . . UNIVERSITY OF OREGON MEDICAL SCHOOL . . . CLINIC BUILDING AND CHILDREN'S HOSPITAL.

Lower picture—WEEKS MEMORIAL MEDICAL LIBRARY AND UNIVERSITY OF OREGON MEDICAL SCHOOL.

U. OF O. MEDICAL SCHOOL CENTER, PORTLAND, OREGON
Lawrence, Holford & Allyn, Architects

historic vocabulary and, answering some call within, has turned to the creative approach in conception and in detailing.

Therefore, a job that takes twenty-four years to do, should reveal an interesting story. It should show if the designer is ahead of the trends when he solves his first conception of his problem and if he has caught up with current trends as he completes the work. The evolution along the way might be taken as a demonstration to which a kind of laboratory test might be applied, to ascertain if unity and harmony have been secured while maintaining an up-to-date freshness in each new unit.

* * *

The University of Oregon Medical School Center at Portland, Oregon, was started in 1917, when the east wing of the Medical School was built. At that time a plot plan was made and the design of the Medical School itself laid down. The site was a very irregular one, on the heights back of Portland. From it is an unexcelled panoramic view of an extended horizon, five snow-capped mountains, two great rivers, and the city. On the construction of this first wing, Lawrence, Holford & Allyn had as associate architects, the firm of Whitehouse & Fouilhoux.

In 1921 the central wing of the Medical School was completed.



AIR PLANE VIEW OF JACKSON PARK, PORTLAND, OREGON, SHOWING PRESENT AND FUTURE DEVELOPMENT OF UNIVERSITY OF OREGON MEDICAL SCHOOL AND HOSPITALS

DOERNBECHER MEMORIAL HOSPITAL FOR CHILDREN, WEEKS MEMORIAL MEDICAL LIBRARY AND RESEARCH LABORATORY WING





WEEKS MEMORIAL MEDICAL LIBRARY (left) DELIVERY ROOM (center) LOBBY (upper) FACULTY READING ROOM



Auditorium, University of Oregon Medical School, Portland, Oregon



Victory Housing Project of 1,000 dwelling units, Portland, Oregon (see text)

In 1925 the Doernbecher Memorial Hospital for Children was designed and built. Being on a lower contour and removed sufficiently from the Medical School, a smaller scale was adopted, suitable for this and the large Clinic Building which was designed and built in 1930.

In 1940 the front portion of the west wing of the Medical School, the Weeks Memorial Medical Library and the Auditorium, were completed. The same year the University of Oregon State Tuberculosis Hospital was designed and built. Removed from the Medical School by a deep gulch, it is the first unit of a large General Hospital to be erected in the future. Because of its location, the designer had more freedom in handling details and masses.

All the buildings of the Medical School and Health Center have been unified by the use of a buff tapestry brick trimmed with terracotta or cast stone of a slightly lighter tone of buff. Window spandrels and certain isolated decorative features are gray green.

The total cost of the buildings of the group represent an outlay of \$1,500,000. They are all of fireproof construction. The cubage costs vary from 45c to 75c per cubic foot, the average for the group being 55c.

The plot plan was determined by the irregularity of the site, with its benches, hog-backs and gulches. The highest portion of the property was used for the Medical School proper. All agencies in the Center are directly or indirectly under the control of the School. The group as seen from the city or from the hill itself on which it is built, is dominated by the Medical School.

The last building program in 1940 included the Weeks Memorial Medical Library, the Auditorium, the front portion of the west wing of the Medical School, and the first unit of the University-State Tuberculosis Hospital.

The first three, being intimately composed with the Medical School, were designed to do no violence to its scale, and to accentuate composition. When the Medical School was designed in 1917, it appeared to the designers to be restrained far beyond the taste of that period. Rhythm and functionalism were the key notes, relieved by color and the rich cor-

nice terminating the strong masses.

The Medical Library was designed to amplify the importance of the Medical School and not in any way to compete with it. The cornice was a necessity, it appeared to the designers, but it recalled but the simplest members of the earlier ornate cornice of the School Building. A fenestration was adopted to frankly state the relative importance of the three reading rooms on the east and the main facade. Because of site limitations, the Auditorium was merged with the Library, being reached by adjustment of levels without passing through the Library proper.

These limitations not being imposed on the T. B. Hospital across the gulch from the Medical School, the elimination of ornament could be justified. The cornice motive was discarded and the building grew from the steep hillside on which it was built in forms containing specific functions. The public entrance being to the north, on the lowest level, made possible the separation of functions so often difficult to secure in hospital planning. On this level, entered from the front, are the T. B. Clinic, the admission and administrative offices, and the amphitheatre used by medical students.

A service road following the contours passes through the building back of the first floor of the north wing used for the above functions. From this service road, deliveries, ambulances, laundry trucks and hearse do their work—unseen and unheard by public or patients.

The elevator tower is reached both from this service exit and the entrance lobby. On the upper levels are the important operating rooms and the ward floors with all beds in sunny, quiet rooms. Below the operating unit in the upper floor of the north wing are the rooms overlooking the city and living quarters for internes. The kitchen is on the dining room floor, supplied from freight elevator, and from contour paths on the hillside. The X-Ray Ward is on the same floor as the operating rooms and the first of two floors for hospitalization which opens onto a secluded, quiet and sunny south garden.

The plan, so utilizing five levels, gives absolute control of the various functions of the

(Turn to Page 36)

OPPORTUNITIES FOR CALIFORNIA

Since we are only part way up our climb toward victory, we cannot now foresee just what lies over the hill. Any forecast of conditions in California after the war must therefore be based on certain assumptions. The first assumption is that the United Nations will win the war, completely and irrevocably, within three or four years. The next assumption is that in winning the war this State and the Nation will not have suffered great military disaster, such as invasion or damage to our cities that would cause a mass movement of people out of the State. The third assumption is that we do not have an extreme or disastrous inflation during the war or immediately thereafter.

With these three assumptions, here are some ideas about what the picture may be like in California when hostilities cease. Whatever I say in this article is merely my personal opinion and must not be construed as representing that of the National Resources Planning Board or the regional office in which I am employed.

First, what are the effects of the war on population and employment? We all know that California's population has grown rapidly since the 1940 Census. I estimate that the present civilian population of the State, not counting former residents who have gone into military services, soldiers from other parts of the country stationed in California, or the 90,000 Japanese who have moved into reception centers, is now larger by 400,000 or more than the total population of April, 1940.

Along with this increase in people, employment has been greatly expanded and the pattern of employment in the State, as represented by the distribution of workers among agriculture, manufacturing, construction, transportation, trade and services, has been suddenly distorted from what it was in April, 1940. According to the California Department of Labor Statistics, the number of persons employed in manufacturing in California has increased from 417,000 in April, 1940 to somewhere around 950,000 now, and the end is not yet

in sight. The State is approaching a minimum residue of unemployed people, most of whom can find jobs only in certain lines of work suitable to their personal capabilities.

Furthermore, although inward migration is slowing down, I believe that by next summer another 100,000 persons will claim California as their residence. However, the State's civilian population then may not be any larger than now, because of the continued induction of men into military services.

On the other hand, unemployment will be further reduced, more workers will come into the labor force, particularly women, and total employment next summer will be 200,000 to 250,000 larger than this year, despite the anticipated loss of workers to the military forces.

The pattern of employment next year will be even more distorted than it is now. The number of workers in manufacturing will be increased to more than a million, while employment in construction, trade and services will shrink as government projects are completed, stores and shops close their doors, and more professional, clerical and sales people go into war industries and the military services.

In May, 1942, California led all states in value of allotments for war expenditures, having received at that time about one-tenth of the value of all contracts for war supplies and facilities projects. However, other parts of the country are gradually catching up and Michigan and New York have already exceeded the California figure.

MAIN EFFECTS OF THE WAR ON STATE AND NATION FORESEEN

Now, briefly, what does this expansion of population and employment mean for the post-war period?

As I see it, some of the major effects of the war on California, and for that matter on the Nation, will be:

- [1] The imperceptible, but widespread, change in people's thinking and ideas.

AFTER WE WIN THE WAR

By V. B. STANBERY
Regional Counselor, N.R.P.B.

- [2] The acceleration of technological progress during the war period—the rapid development and introduction of new forms of economic and industrial organizations, new methods, processes, machines, and new types of products.
- [3] The large increase in money in circulation and in savings of the people as a whole, resulting from the huge war expenditures. We know that as a Nation we will have a greatly enlarged public debt after the war, but we forget that we will also have piled up more individual savings and credit.
- [4] The tremendous movement of people, formerly living in small towns and rural areas, into the larger industrial centers.
- [5] The widespread destruction of small business enterprises, not only in manufacturing but particularly in trade and service establishments.

Sixth, and last, the large increase in electric power capacity and manufacturing facilities.

Taking up first the change in people's thinking, I believe we all recognize that the American people are tremendously impressed by the wartime productive capacity of the country. Never before in the Nation's history have we produced in such a short time so much metal, so many houses and cantonments, so many ships, airplanes, guns, tanks, and equipment of all kinds. The demonstration we are making in production is greater than anything the world has ever seen. There are jobs for almost everyone, and incomes are higher than ever. The lesson of this war effort is sinking in. When we approach the post-war period, the American people may ask if it is necessary for anyone to be unemployed who wants to work.

NEW INVENTIONS AND METHODS OF PRODUCTION FOR POST-WAR ERA

Popular resistance to unemployment and a lower standard of living after the war will be all the greater because the American people know that the technological advances of a decade or two

are being telescoped in time. Shortages of critical materials are forcing the manufacturers of the Nation to create substitutes that might not have appeared for many years.

Work in our industrial research laboratories has been intensified. Not only are new inventions and new methods of production being utilized in the war effort, but leading industrialists daily are announcing new products that will be put on the market when the war ends. Only recently a national meeting of the American Chemical Society brought revelations of wonders to come: stainless steel roofs, non-breakable windows, automobiles weighing half as much as present-day cars, automatic lighting devices, air conditioning systems that filter out all pollens, and other causes of hay fever, and many other things. Wartime sacrifices and hardships are building up a huge demand for these new goods after the war.

The war is giving Californians more money with which to purchase a great volume of consumer goods when the war ends. Billions of dollars are going into war bonds, into savings accounts, into payments on insurance policies. Old debts are being cleared up. The longer the war lasts, the greater the amount of savings that will accumulate. This huge reservoir of purchasing power should ensure immediate revival of peacetime manufacturing.

Since April, 1940, California's urban-suburban areas have received a heavy influx of newcomers from other states and from rural areas and smaller cities and towns. On the whole, these newcomers are earning more today than they previously earned. Most of them will be converted to urban living by the time the war ends, and only a fraction will probably want to return to the farms. Some of us think that shipyard workers who have to live in dormitories endure considerable hardship. But many of these workers have come from farm homes where there was no running water, no toilets and no showers. They have had a taste of city life that they will not want to abandon. They will become

urbanites. They will spend their incomes somewhat differently than when they lived in a small town or on a farm. They will spend more for amusements and luxuries, for automatic devices, for some of the new products now being developed in industrial laboratories.

The market for luxuries, apparatus of all kinds, appliances that make life more convenient and less arduous should be larger after the war than it was before, partly because of the greater concentration of people in urban areas.

Increasing urbanization of the population will bring about other changes in the post-war period. The average family size may shrink still further, since city dwellers tend to have smaller families than rural families. The birth rate, which has been soaring during the past three years, may resume the downward trend that worried sociologists before the war. But for the next two decades we shall have larger enrollments in California schools, more demands for manufactured goods required for children, and more attention to health and recreation. The concentration of population in cities, plus a new wave of wartime children, should stimulate movements to redevelop our cities so that they will provide better environments for living. Certainly the present massing of people in the vicinity of war industries in our major urban-suburban areas under conditions often detrimental to health and welfare should create a post-war demand for well-designed, low-cost housing.

Technological progress and wartime reorganization of business for the production primarily of armaments and military supplies is squeezing out many small enterprises. Numerous small manufacturing plants have closed their doors because they could not convert to war production. Others have folded up because of shortages of materials and inability to obtain enough skilled workers. The curtailment of production of consumers' goods and loss of employees to the armed forces have created insurmountable difficulties for hundreds of small stores, shops, and service establishments.

On the other hand, during the war the larger firms that employ big industrial research staffs

are perfecting new materials and new machine tools for the production of improved lines of consumer goods. The market for these goods is being carefully explored and new sales organizations to distribute them are being outlined. Many of the little companies, hopelessly outdistanced by the concerns with huge resources, may be forced out of manufacturing and distribution.

POOLING OF INDUSTRIES MAY COME WITH READJUSTMENT OF BUSINESS

The problems caused by the elimination of many small businesses, probably will be among the most critical in the post-war period. A large part of the American people regard these small enterprises as the backbone of the Nation. There may be a concerted resistance to an inevitable reorganization of our business structure.

Just what form this reorganization might take is difficult to say. If you will permit me to speculate, I think we may expect more integrated industries in which several large plants, fabricating related goods, are coordinated under one leader in the interest of more efficient operation and more effective organization of the market. For example, we may see a pool of industries emerge from the war effort to produce not only prefabricated houses but also the furniture and electric appliances needed to furnish these houses. There may be a wide variety of these pools, each operating in a different field.

The war production program has given California and the Pacific Southwest a new and broader industrial base, offering prospects for larger and more diversified manufacturing after the war than before. This has been created by the opening of new mines, by the construction of great basic metal plants, such as the iron and steel plant at Provo, Utah, and Fontana, California; the basic magnesium plants at Las Vegas and Permanente; the aluminum plant being built in the Central Valley and hundreds of small factories built or converted during the war for manufacturing of articles made from metal. The basic metal plants will make possible peacetime enlargement of the West Coast iron and steel fabricating industry and machinery and equipment industries which

heretofore have been relatively underdeveloped. California may become a large fabricator of light metals using magnesium and aluminum produced by power from Boulder, Shasta and Bonneville dams.

With the tapering off of war production, a reservoir of low-cost power will be available for industrial use. Actually this power will cost us just about the same whether we use it or not. The dams will have been built, the generators installed, and the water will flow through the power houses day after day without ceasing.

This electric energy may become an important stimulus for further industrial development on the Pacific Coast.

While the long-range outlook for California is highly favorable, the post-war years will present serious and difficult problems of readjustment. The major problem, of course, will be that of providing new employment for the thousands of workers in the aircraft plants, shipyards and for the returning soldiers and sailors. While some of these war plants will doubtless continue in production, many will either have to shut down or be converted to peacetime operations.

To date California has received a far greater share of war expenditures in proportion to its population than the average for the country as a whole. Its population and labor force have grown more rapidly and its income has been correspondingly increased. But when hostilities cease, the State's position may be reversed. Although backed-up demands for consumers' goods may create an immediate post-war boom in manufacturing, California may not participate in this civilian production in proportion to its larger population because its pre-war manufacturing was chiefly in industries producing goods for local markets and its wartime expansion has been concentrated in aircraft plants and shipyards.

LARGE INCREASE IN TRADE AND SERVICE EMPLOYMENT FORESEEN

We should be unrealistic if we think that the huge number of persons employed in manufacturing in California during the war would continue to earn a living by this means after the war. The largest opportunities for creating

post-war employment appear to lie in the development of new trade and service activities. So many trade and service establishments have been eliminated by the shift to a war economy that when peace returns there will be a need for replacement of thousands that perished. Moreover, there should be opportunities to expand these activities beyond the 1940 level.

The pre-war trend of employment in California and the Nation was toward an ever larger proportion of workers in the distribution of goods and in the performance of various professional and specialized services that make life more convenient and enjoyable. After the war this trend will probably be even more pronounced than before. All the displaced war workers can't go back to the mines, the forests, and the farms. In California the proportion of workers in agriculture, mining, lumbering and fishing decreased from 20 per cent in 1920 to 16 per cent in 1930 to 12.6 per cent in 1940, yet production of basic commodities increased. Likewise the proportion of workers in manufacturing was moving steadily downward between 1920 and 1940 under the impact of new labor-saving devices.

Manufacturing employment in California after the war will doubtless be numerically greater than it was in 1940 because there will be a bigger regional population for which to produce goods. But ultimately it cannot be proportionately much greater, because post-war manufacturing processes undoubtedly will still further reduce the percentage of workers needed in factories.

In the post-war search for new employment, displaced war workers probably will set up numerous cross currents of population movement. We may see workers who left smaller cities and rural areas to work in shipyards and aircraft factories returning to their former homes. This would somewhat compensate for the economic losses that these places have sustained through the wartime drain of population to the major industrial areas.

The upswing in business might come sooner in the small cities than in the large.

The Los Angeles and San Francisco Bay areas undoubtedly will experience an internal

reshuffling of population. There may be a movement from the outlying war industrial centers like Vallejo, Pittsburg, Sausalito, and Richmond back to the heart of the metropolitan region, while people in the central districts may want to move out to the suburbs. For some time these conflicting streams of population may make it difficult to ascertain the post-war direction of growth.

Community planning may be made difficult, though eventually it should become evident that both the internal area and the surrounding areas will have to be rehabilitated and brought into a more harmonious relationship. Between the larger areas, such as Los Angeles and San Francisco and the cities of the Pacific Northwest, there may be exchanges of restless, unemployed workers.

San Diego probably will lose workers to both Los Angeles and San Francisco. Some of the families who were attracted to California by war jobs probably will leave, but I doubt if the emigration will include more than 25 per cent of those who arrived after 1940. There is also the possibility that on top of all the milling about to be expected within the State, there will be a new influx of opportunity seekers from the East, as happened after the first World War. Eastern workers with some savings and a pent-up desire to escape from a wartime environment of toil and sacrifice may decide to see America while the seeing is good. California inevitably would act as a magnet for a large number in this group.

Needless to say, a reshuffling of population would present serious problems to the State. We hope, however, that the return to peacetime conditions can be sufficiently gradual to avoid aimless movements and the distress and friction that always accompany them.

What can we do to take advantage of post-war opportunities?

First, we can endeavor to keep informed about further changes in our population and economy and to appraise the effects of the wartime expansion in creating opportunities for new kinds of business after the war.

Second, business groups and Chambers of Commerce can urge leaders of private industry to study possibilities for post-war opera-

tions of their industries or conversion to peacetime production. This is a particularly important segment of post-war planning. The manager of a factory is in a far better position to solve problems of post-war operations for his plant than any Government agency.

But individual industries alone cannot do all the necessary planning. Neither can governmental agencies acting independently solve the economic problems involved. The combined and cooperative effort of individual industries, trade associations, and governmental agencies will be required for successful solution.

We have never adequately explored the possibilities for achieving economic advancement through programs of cooperative research by public and private agencies. Some industries spend millions of dollars annually investigating new uses for their products and improvements in industrial processes. This research more than pays for itself. It brings forth new products and enables manufacturers to expand markets.

But community-wide investigations of potential uses for economic resources, of feasible types of industrial development in an area, and of ways and means of increasing incomes and stabilizing employment in a particular locality have not been made. Industrial progress depends on continuation of physical research. The economic advancement of specific areas depends more and more on studies of potentialities for development. If our cities are to develop not only quantitatively but qualitatively, banks, industrial corporations, public utilities, civic and trade associations, colleges, universities, and Federal, state and local agencies should pool their efforts.

FINANCIAL RESERVE RECOMMENDED TO MEET POST-WAR READJUSTMENT

Third, Californians can urge their State legislators and city councils to build up a financial reserve during the war prosperity that will be an important aid in taking advantage of post-war opportunities in their communities and easing the problems of readjustment. California is one of the few states that has already enacted enabling legislation permitting municipalities and other local bodies to build up such reserves during periods of high income.

Fourth, the people can stimulate public officials to plan ahead for replacement of public equipment and structures that will have become deteriorated or obsolete during the war and to prepare post-war programs of public works that will enable them to be ready to meet their needs for physical improvements when the war ends. They can encourage their elected representatives to support cooperative planning—not only for post-war public works, but also for better use of natural resources, for urban redevelopment and for improvement of public services.

Some of us can remember that during the "Gay Nineties," which actually were not so very gay when measured by present-day standards, hotel rooms in the smaller cities throughout the country had signs on the wall reading: "Don't Blow Out the Light." In earlier days everyone had used candles and kerosene lamps for light. The way to turn off the light in a kerosene lamp was to blow out the flame, not to turn down the wick as doing this created a smudge and occasionally resulted in an explosion. But with the introduction of illuminating gas, the reverse became true; it was highly dangerous to blow out the light.

We are now living in an electrified and mechanized age. The war has intensified this mechanization. And one of the results of this technological progress is that it has reversed some of our previous rules for living. For centuries we have been learning what we must do to survive and live amicably as individuals with our neighbors. Gradually we have learned that

certain things can be done and certain things cannot be done. And we have been trying to apply the rules we learned to live by as individuals to people in the mass and to nations as a whole, while actually in many things the people as a whole must do the opposite of what each of us can do as an individual. For example, any individual can properly draw his money on deposit in a bank at any time he pleases. But if all individuals try to draw out all their money at the same time, the institution becomes bankrupt. As an individual a farmer may plant a certain crop, say wheat, and expect a reasonable return from its sale. But if all farmers plant wheat, there is a surplus and the price goes down below cost of production. A single automobile can cross a bridge any time the driver pleases but if all drivers of automobiles attempt to cross the bridge at the same time there is a traffic jam.

The central problem of our generation is to make difficult readjustments quickly and satisfactorily. We cannot bring back the world of 1910 or 1925 or 1940. We have to deal with the world of 1942, 1945 and 1950. If our understanding keeps pace with the rapid march of events, we should be able to grasp our opportunities and work out our problems.

We will have to accept the fact that after the war, conditions will have changed again as they did between the kerosene and gas light periods. The greatest danger is that we will ignore new conditions and keep on trying to do as we have done before and **blow out the light**.

Copies of this paper, originally prepared for the California Housing and Planning Conference, are available in pamphlet form at 25c each. Address Pacific Southwest Academy, 2324 So. Figueroa Street, Los Angeles.

BRITISH WRITER LAUDS MODERN ARCHITECTURE

Excerpts from a new book, "Britain Rebuilt," by Eric S. de Mare

"**Britain Rebuilt**" is a new book, published in England and likely to have a good sale in the United States first, because it is ably written and second, because it offers a line of thought that may be applied to future architectural practice here as well as in Britain. Written by one of the keenest minds in England—Eric S. de Mare, "Britain Rebuilt" is far more than yet another book on "planning."

As John Hargrave, F.R.S.A., indicates in the Foreword: "This book is properly based on a vision—a mental projection—that answers the initial and the logical question that must always be asked: 'Planning for what?' 'Planning for free individuals in a State that is definitely aiming to become a Leisure State in a Power Age.' Clearly, the man believes what he is saying," concludes Mr. Hargrave, "and means to make his 'dream' come true. Other young architects are working with him along the same line—to build a new Architecture in the new materials."

THE "NEW ARCHITECTURE" ANALYZED

"Modern architecture—by which I mean those few isolated examples throughout the world by such men as Walter Gropius, Mies van de Rohe, Erich Mendelsohn in Germany, Le Corbusier in France, J. J. P. Oud in Holland, Richard Neutra, Howe and Lescaze and Frank Lloyd Wright in America, Sven Markelius and Gunnar Asplund in Sweden, Alvar Aalto in Finland and Maxwell Fry, Serge Chermayeff and the firm of Tecton in England—is often considered by the general public to be stark, inhuman, and the very negation of beauty,—the visible symbols of the horrors to come of Aldous Huxley's 'Brave New World.' This is largely the result of prejudice, conservatism and misunderstanding. The snobbish cult of the curio and the antique and the regrettable relic of Beckfordian romanticism have also tended to fog the understanding of the New

Architecture. It is still commonly held that flat roofs, large areas of glass and tubular furniture are the whole of modern architecture. Actually modern architecture is much more than that. It is the expression of a new way of life that is trying to be born—of a new philosophy and a new attitude of mind—of the desire and the possibility of affording to every human being the advantages of health, cleanliness, comfort, freedom and happiness.

"The lack of ornament in the New Architecture has a particularly startling effect on the uninitiated. The discarding of the older forms of superficial and meaningless decoration with which we still clothe our buildings is certainly one of its distinguishing features. Ornament applied to building was formerly the result of handicraft, of the direct human touch. Immediately ornament is turned out by the yard by machinery, as a copy of the old hand-made decoration, it ceases to have any real meaning. The Machine cannot of itself create anything. It is a tool which can repeat 'ad infinitum' certain functions which it was made to perform. Purely mechanical repetition is the very negation of good decoration. Applied ornament is therefore not the Machine's method of beautification.

"Intrinsically, there is no reason why ornament should not be used provided that it is the result of handicraft and is an integral part of the design, in other words, that it is **of** the surface and not merely **on** it, as an articulation of its structural form. But applied excessively in modern building, decoration is out of harmony with this mechanical age of rationalization and rapid transport, and tends to mar rather than to adorn the clean and simple perfection of surface and proportion of truly contemporary design, whose chief emphasis is on three-dimensional massing and beauty of texture.

"Decoration applied carefully at the most telling points especially in the form of sculpture

Editor's Note: "Britain Rebuilt" is published by Sidgwick & Jackson, Ltd., 44 Museum Street, London, W. C. 1. Price, 2 shillings and sixpence.

can, however, have a most vitalizing effect on the geometrical lines of a modern building. A good use of sculpture can be seen in Epstein's figures on the offices of the London Passenger Transport Board.

ARCHITECT VS. THE ENGINEER

"The New Architecture is not the mechanistic and soulless product of engineers and technicians. The new materials and methods of building are the agencies which properly used and controlled can release instead of destroy vital and creative architectural design. There should be no conflict between engineering and architecture, for engineering is merely a new and highly technical method of building. Today the engineer and the architect have different functions, but these will tend to merge. At present the engineer is a purely technical expert whose services the architect uses for his far wider and more humanistic activities. It is now the architect's job to civilize technology, to become a co-ordinator, and to plan and design buildings, towns and whole countryside for the sake of beautifying and enhancing human life in this mechanized age.

"Honesty of structure simply means that building materials are treated and used in the manner for which they are most suited, and do not try to imitate any other material. A common and typical example of dishonest expression is the covering up of a steel framework in stone to give the appearance of solid masonry. Compare the Ritz Hotel in Piccadilly built in 1906 (which was incidentally the first steel-framed building to be erected in London), with the new Peter Jones store in Sloane Square, also of steel-frame construction. The first is a meaningless fake, and the latter is a vital and imaginative design using steel as it should be used. The practice of covering steelwork to look like masonry may not at first glance appear to be a sham but the sub-conscious mind will register the deceit and the character of the building will be unsatisfactory.

"Many blatant examples of dishonest design can be seen in most interiors today, such as electric light bulbs imitating candle flames, electric fires pretending to be flickering coals, linoleum like tile flooring, even wireless sets like beer barrels and so on 'ad nauseum.'

STANDARDIZATION AND MASS PRODUCTION

"Mass production has come to stay," the author avers, insisting "there can be no return to the hand-operated tool of the craftsman."

Discussing "Prefabrication," de Mare writes:

"The advantages of prefabrication are several. First of all, it means dry assembly. Moisture is the direct cause of most of the weaknesses of the old methods of building, leading to badly fitting joints, staining, warping and serious loss of time and money through delays in drying. Prefabrication is quicker and also more certain, because the whole building is made of accurate and uniform standard parts whose behavior is known and tested. Also any defective part can immediately be replaced from stock. It eliminates seasonal dislocation of the building industry and makes possible a fixed and definite pricing before building begins.

"The common brick is a very old form of prefabricated unit, and is likely to remain a valuable building material.

"The complete prefabricated house has yet to arrive in this country but it is coming. Experiments have already been made in the U.S.A. in this direction. Especially important at the present time is the development for war purposes of the mass-produced 'stressed skin' type of wall and roof unit, which while making extremely rapid construction possible, gives the strength, rigidity, economy and lightness of aeroplane construction. There is no doubt that shortly it will be possible to order ready-made houses from stock which will arrive on a couple of lorries and be erected complete and ready for occupation with all fittings within twenty-four hours. Before this is possible, however, every part of the house down to the smallest detail would have to be standardized—floor beams, wall slabs, roof units, windows, doors, staircases and fittings. It must be repeated that this would not lead to a dead uniformity, for the possible combinations of only a limited number of units are very large indeed.

* * * * *

"Rationalization is having an enormous effect on building technique and it will eventually be its outstanding feature. The new materials are also revolutionizing architectural design. The

great difference between the new and the old materials, is that the new ones are synthetic, taken less and less direct from natural sources, whereas the older materials are the former 'raw materials' of building, such as stone, timber, slates.

"The most important of the new materials are structural steel, reinforced concrete and glass. Structural steel dates from the last century, its immediate predecessor being the more brittle and weaker cast-iron. It is generally used in lengths having the sectional shape of an 'I,' which are produced in rolling mills. This shape produces great strength with the minimum of material."

MEDICAL SCHOOL CENTER

(Continued from Page 27)

hospital without undue interference—one with another.

Besides the University Medical School Center, the architects show in this issue a photograph of a model of Oregon's Victory Housing Project under construction at St. Johns, Portland. Lawrence & Holford, Jones & Marsh and Rold & Schneider are the architects; John W. Cunningham & Associates is the engineers and Wilbert L. Davies the landscape architect. The project involves some 1,000 dwelling units estimated to cost \$3,200,000.

LATEST TRENDS IN BUILDING CONSTRUCTION AND EQUIPMENT

PLYWOOD BATHTUBS—A bathtub constructed of plywood and coated with a plastic, equipped with an all-plastic drain, has been designed by a Cleveland brass work executive. Three firms are expected to begin production almost immediately. Price: about 25 per cent less than that of enameled iron tubs!

PRECAST CONCRETE JOISTS—A new development in precast reinforced concrete joists is the substitution of wire of higher unit stresses in place of steel bars. Lower cost of the finished joist is claimed, lower even than wood construction.

NEW GLASS PRODUCT—Foamglas is a glass product of a honey-combed or cellular structure with a density less than ordinary glass and with greater volume for the same weight. It is opaque, at present black in color, and weighs 10½ lbs. per cubic foot as compared to 150 lbs. for solid glass. It can be sawed, drilled, or shaped without breaking. It floats! Its insulating qualities are about the same as cork and is resistant to the entrance of moisture.

IDEAL WAR FACTORY—An egg-shaped windowless structure of reinforced concrete gives the greatest strength with the least material and saves 60 per cent of the steel ordinarily used, said George H. A. Parkman, Westinghouse construction expert, in presenting his ideas for the ideal war factory. Such construction would be bomb-resistant and fireproof, he added.

ROBOT FIREMAN—A robot fireman that automatically discovers and puts out fires, has been developed by research engineers of the Westinghouse Electric and Manufacturing Company. It features an "electric eye" (photo-electric tube) installed in a small mobile brass dome with a snout that is connected with a fire extinguisher by means of a tube. Driven by an electric motor, the dome moves back and forth and up and down. When the "eye" catches the light from a fire it actuates a relay that stops the dome, opens the valve of the extinguisher, points the snout at the blaze and sprays it with water.

PORTABLE INTERIOR WALL—A new kind of portable interior wall, which is made up and locked into place like a page of newspaper type, is announced by the Owens-Illinois Glass Company. Neither nails nor fastenings are required. The wall is made of glass blocks, with slotted edges. Fitting these slots are prefabricated boards, laid between the blocks, taking the place of mortar. Erecting the wall is just a matter of laying down glass blocks and board strips alternately.

SUBSTITUTE FOR ALUMINUM—Pressed wood hardboards are replacing aluminum and non-ferrous alloys in the manufacture of fan blades, gears, grilles, and motor housings.

COMPETITIONS

Store Front

An architectural competition, open to all architects, designers, draftsmen, engineers and students, is announced by the Kawneer Company and "Plan" (new name for Pencil Points) for the best design of "A Store Front of Tomorrow." The competition is reported to have the approval of the A.I.A. despite the fact that other than licensed architects are eligible. The competition closes January 4. Complete program may be obtained by addressing the sponsors at 330 W. 42nd Street, New York. Prizes will be as follows: First, \$1,000; second, \$500; third, \$250 and five Honorable Mentions, each to receive \$100.

Red Cross Photo Contest

Camera fans the country over are responding to the call of the American Red Cross for photographs depicting its wartime activities. This was announced by Red Cross officials at the conclusion of the first two weeks of the national photographic competition, which began October 1 and will continue through December 31, and which is sponsored by the Red Cross to provide a pictorial record of its activities at home and abroad.

The competition, which is known as the "Red Cross National Photo Awards" with headquarters at 598 Madison Avenue, New York City, offers a total of 122 awards divided into 14 grand prizes, and for each month of the duration of the contest, 36 monthly prizes. Awards will be in the form of war savings bonds, and the values given below represent maturity values of these bonds.

Monthly awards in the contest will consist of a first prize of \$200, a second prize of \$100, a third prize of \$50, and 33 special merit awards consisting of a \$25 war bond each. First prize in the grand awards consists of war bonds with a maturity value of \$500; second prize, \$300; third prize, \$200; fourth prize, \$100; and 10 honorable mention prizes, each composed of a \$50 war bond.

Post-War Urban Home

Architect and Engineer will soon announce an architectural competition for a post-war urban house to be built of new and substitute materials, such as prefabricated parts, latest standards of illumination, heating, air conditioning, plywood and plastic plumbing fixtures, glass stoves, etc. Substantial prizes will be offered and the drawings will not only be published in the Architect and Engineer but will be exhibited for public view in San Francisco and Los Angeles. Angeles.

Bridge Design

As announced in last month's issue the American Institute of Steel Construction will sponsor another bridge design competition, open to registered students of architecture and structural engineering. Prizes aggregating \$350 will be given. Awards will be made by the jury February 17, 1943. The program may be

obtained by addressing the Institute at its executive office, 101 Park Avenue, New York City.

Chicago's Blighted Areas

Architects of Chicago have been invited by the Chicago Plan Commission to submit sketches and plans for rebuilding the blighted areas in which a seventh of the city's population lives. Many leading architectural firms have already indicated a desire to participate. T. T. McCrosky, executive director, told the commission.

"We want the ideas of every practical builder and planner," Mr. McCrosky said. "We desire the architects to select specific areas with which each is familiar and to give us concrete ideas of how he thinks each area can be rebuilt."

Mural Decoration

Competition for a mural decoration in an oil medium for the library of the Museum of Fine Arts, Springfield, Mass., is announced. An award of \$4,500 will be paid for the work including execution and installation. The competition is open to all artists resident in the United States, Canada and Mexico. Designs must be submitted on or before May 24, 1943, addressed to the Museum of Fine Arts, 49 Chestnut Street, Springfield, Mass. (See announcement in detail, Page 7, this issue.)

ARCHITECTS—WHERE TO FIND THEM

Since our last issue architects have changed their addresses as follows:

Charles H. Holstrum from Fifth Avenue Building, San Diego, to 3316 Gregory, same city.

Donald B. Kirby's mail from 10289 Bannockburn Drive, Los Angeles, to Box 265A, Balboa Island, California.

William Koblick from 3719 30th Street, Sacramento, to 727 Swanston Drive, same city.

Charles S. McKenzie from the Twoby Building, San Jose, to 22 South Seventh Street, same city.

Mildred S. Meyers, from 2024 Central Avenue, Alameda, to 2021 Alameda Avenue, Alameda.

Howard R. Perrin, moved from 206 Underwood Building, Klamath Falls, Oregon, to 154 N. W. Maywood Drive, Portland, Oregon.

Chester O. Root, from 354 Security Building, San Jose, to Route 3, Box 125B, Los Gatos.

W. E. Schirmer from 1106 Broadway, Oakland, to 1419 Broadway, Oakland.

S. E. Sonnichsen from 663 Paramount Building, Los Angeles, to 644 Lucas Avenue, same city.

W. P. Stephenson from 241 Garfield Avenue, Pomona, to 254 Garfield Avenue, same city.

William Symmonds moved from Post Office Building, care of Federal Housing Administration, Sacramento, to 1117 39th Street, same city.

James D. Wickenden from 565 Santa Rosa Road, Berkeley, to 762 Vicente Avenue, same city.

Irving F. Morrow has closed his San Francisco office

in the deYoung Building and for the time being mail will reach him at his home address, 6175 Hillegass, Oakland.

Irvin Goldstine (architect) now a lieutenant, wishes catalogues, literature, and building material mailed to him at Coast Engineer's office, Camp Knight, Oakland.

Ernest F. Tucker from 1938 Irving Street, Portland, Oregon, to Englewood, Oswego, Route 1, Oregon.

Donald B. Kirby, mail from 10289 Bannockburn Drive, Los Angeles, to Post Office Box 265A, Balboa Island, California.

JOBS AFTER THE WAR

Prospects for employment in the construction industry will be exceptionally good after the war, Dan W. Kimball, president of the Associated Contractors of America, said in a recent radio broadcast.

Pointing out that construction employs more men than any other industry, the building authority said:

"Men can be more quickly re-employed by the construction industry than by any other, because of a high degree of mobility, freedom from need of re-tooling, and the opportunity for employment of a large proportion of untrained or semi-skilled workmen."

The construction industry believes that the nation has a great future, Mr. Kimball said, adding that he foresaw the following post-war building needs:

One million new homes a year for many years after the war.

Rebuilding of poorly planned cities and run-down urban areas.

Large scale projects to improve whole sections of the nation by providing irrigation, flood control and development of water power.

Expansion of the entire American transportation system—highways, railways, waterways and airways.

New building for new industries born of wartime technological advancement.

The greatest market for post-war housing will lie in the moderate-cost, urban home, built to sell at \$2,500 to \$3,500, Mr. Kimball predicted. On the basis of a 110-billion dollar national income, homebuilding will represent 7 per cent of America's total economic activity.

"Obsolescence, due to wartime invention and development of new products will greatly stimulate the need for new industrial, commercial and institutional construction," he said.

Forecasting improved "factory production-line methods" in the building industry, he said:

"The industrial pattern of future housing construction will be, first, simplification and standardization of the materials used; second, simplification and mechanization of the processes of assembly, and third, attainment of volume production."

The path for new developments has been opened by the pressure of wartime necessity, said Mr. Kimball, explaining that new materials for all types of construc-

tion are today having their first genuine opportunity.

"Overly stringent building codes are now being revised; realty taxation is being moderated; blighted areas are now available as cheap land to be converted to new social and economic uses," he said.

Calling for more attention to post-war planning problems, Mr. Kimball said:

"Programming of a policy for public works projects, whether in housing, institutional or utility construction should have immediate action in order to meet the shock of post-war readjustments, regardless of how near or far removed may be the date of victory."

VITALLY NEEDED WAR HOUSING

Here are five important changes in policy recommended by the Western States Housing Authorities Association in resolutions passed at its recent conferences:

1. An immediate speed-up of processes of determining need and certification with definite participation of local authorities in establishing need for local housing.

2. That immediate priority ratings be given at time of allocation of projects and that such priority ratings be adequate to provide materials and that such materials be segregated so that there is a certainty that projects once started will be completed in a minimum of time.

3. That the War Production Board decentralize its functions for approval of war housing matters and provide for autonomous decisions in its regional offices to the end that contingencies which arise with regard to limitation orders and appeals may be determined locally.

4. That Housing Authorities duly established and in operation or may be established be designated as local agents for Army, Navy and Maritime civilian housing construction through the regional agencies with adequate critical material priority allocations with such work to be performed by negotiated bid, competitive bid, or other approved methods, conforming to the time elements requested by these agencies.

5. That unplanned civilian emergency construction now using large quantities of critical materials, that should properly be used in war emergency housing, should be abandoned in favor of more efficient, less expensive, public war emergency housing.

Local housing authorities already have competent staff and personnel to efficiency handle problems of this nature and should be named as sole agents for such construction and management.

OPENS SAN FRANCISCO OFFICE

Keith O. Narbett, architect of Richmond, has opened a San Francisco office at 564 Market Street (telephone DOuglas 8248). His Richmond office at 468 31st Street, will be continued.

ARCHITECTS' BULLETIN

Issued For

THE STATE ASSOCIATION OF CALIFORNIA ARCHITECTS Northern Section

STATE ASSOCIATION MEMBER
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CONVENTION

The State Association convention for this year is now a matter of history. New committees have been appointed for the current year and are beginning to function. The attendance and business-like attitude of the convention program were very gratifying to those concerned about the vigor of the profession in these critical times. Certain of the individualists, we are happy to note, were not in sympathy with the predictions of some convention speakers to the effect that the post-war world is to be more than ever a process of using a bureau for a dining table. The united efforts of the professions and business are required to stop the smothering tendencies of governmental agencies. For the duration, only, the war effort counts—but, fortunately, war organization is not the ideal of millions of Americans for peace time living.

Camouflage School

Between sixty and seventy aspirants for certificates of competence in camouflage have enrolled in each of the classes now being conducted at the three largest of our Pacific Coast universities: Washington, California and Southern California. The course comprises two sessions a week for fifteen weeks. The membership of the classes was restricted to architects, engineers and others whose background gave promise of ability to direct a competent job of enemy deception at the completion of the course.

It is the intention of Ninth Civilian Defense Region Camouflage Section to confine the approval of the Civilian Defense authorities to those men who have successfully completed the camouflage school when naming persons competent to take charge of camouflage projects. Several works of major importance have already been carried out in the Pacific Coast area.

The lecturers for the course include: Wm. Pereira, Asst. Director in Charge of Division of Property, Ninth Civilian Defense Region; Capt. Delman and Lt. Rosencrantz of the U. S. Army; R. C. Wilson, Forst and Range Experiment Station; Michael Goodman, H. L. Vaughan, Harry W. Shepherd, H. L. Mason, of the University of California and Howe Barnes of the Office of Civilian Defense, Division of Property Protection.

Harris Allen

For lo, these many years the Architects' Bulletin has been coming to the readers of Architect and Engineer from the anonymous pen of friend Harris Allen. But at long last he has decided that too much has finally become enough and this month, if he is reading this column, it is for other reasons than to see whether there are any typographical errors. Few men have equalled his unselfish effort toward the advancement of the architectural profession on the West Coast. We are sorry to have him relinquish any part of a work to which he has brought so much enthusiasm.

Gas Rationing

Several conferences have been held in recent weeks with rationing officials regarding the inclusion of architects and engineers in the preferred categories when gasoline rationing goes into effect. Fourteen classifications are in effect in the eastern states now enjoying gas rationing. The latest word on the subject is that architects and engineers engaged in the design and supervision of war work will be entitled to apply for additional gasoline under classification #12 of the list, which includes construction, repair or maintenance service, and specialized services to agricultural, extra active and industrial establishments.

Man Power

Manpower and the war effort was the subject of a straight-forward account by Colonel Harshman of the War Manpower Board to the Building Industries Conference Board in October. The return to industry of men in the upper draft age levels who have been inducted into the army but who are more useful in civilian pursuits, has already been begun, according to Colonel Harshman. The use of women in heavier types of work, with men members of the same crew to do the heavy lifting proved satisfactory for work in which women were not considered in normal times.

OPPORTUNITY FOR CAMOUFLAGE WORK

While the following letter from Captain Walter C. Fain, office of the engineer, headquarters of the Second Air Force, Fort George Wright, Washington, addressed to Harris Allen of San Francisco, may not appeal to many architects, there may be some draughtsmen interested, and in that event they should send to Captain Fain for application blank and other information:

"Undoubtedly, through your professional publications and through the daily press you have heard of the tremendous importance of camouflage in the present war. Up to the present time, war has been largely confined to guns, tanks, and troop movements. Now, with camouflage, the artist and architect becomes an important member of the team. It is in regard to this that I am taking the liberty of writing you.

The Second Air Force is now enlisting men for instructors and technicians in camouflage. The work will require an appreciation of color, an understanding of nature and a good sense of design. One should be handy with small tools and have at least a carpenter's knowledge of construction. Scene designers, architects, draftsmen, artists, commercial artists, contractor-designers, architectural and engineering students are admirably equipped for this branch of the service. They will be enlisted as privates but can attain the rank of technical sergeant. Officers candidate schools are always open to men of proven ability.

"To enlist in this branch of the service, they should write directly to this office and they will be informed of the proper procedure. As we are enlisting only a limited quota for this work, it is imperative that the enlistee act at once, before the quota is filled.

"It is our desire to place men in those positions where they are best qualified to serve and it is in line with this policy that you can be of help to us by giving this information all the publicity you can among men whose talents are indicated above."

U. S. REPORT ON CONSTRUCTION

Total private and public construction activity for the first half of 1942 in the Continental United States amounted to more than 6 billion dollars.

Under the expanded war program public construction rose from approximately 2.4 billion dollars in the first six months of 1941 to 4 billion during the first half of 1942.

Military and Naval construction increased 84 percent over the first half of 1941 and the construction of federally financed industrial facilities increased three-fold over the same period.

Total private construction during the first half of 1942 amounted to 2 billion dollars, a decrease of about 400 million dollars from the same period in 1941. First quarter activity was almost as great in 1942 as in 1941, with the decrease of 400 million dollars occurring in the second quarter.

Private non-residential expenditures, including privately financed war plants, declined 41 percent in the first half of 1942 as compared with the same period in 1941. Non-farm residential construction activity was 24 percent under the 1941 level; expanding farm income during the first half of 1942 resulted in greater expenditures for farm residential and service buildings. In order to meet war and essential civilian requirements public utility construction was increased 17 percent over the level for the first half of 1941.

Federally financed war housing expenditures in the first six months of the year amounted to 226 million dollars. Public non-residential activity declined to about 75 percent of the total for the first half of 1941. Highway construction was curtailed about 14 percent. Other federal construction, largely conservation and development work, increased slightly as compared with the first six months of 1941 while state and local construction dropped from 105 million to 85 million dollars.

MASTERBUILDERS AND ARCHITECT ENGINEERS

The Architectural Forum issued under date of May 29, a circular letter addressed to "Dear Mr. Engineer" which states among other things, the following:

"A minimum of 400,000 additional housing units will be designed and built by December 31, 1942. Like other government work this huge commission will go to professionals who seek it and who understand the procedures and complex problems involved. In this and all

phases of the program the experience of engineers, who are already active in war housing, can be invaluable."

In justice to the Forum it should be stated that a similar letter was addressed to architects.

Here is another indication of a trend which the writer has so often warned will inevitably occur as a result of that cleavage between architects and engineers for which the architects themselves are so largely responsible, and which tends to place the larger and more worth while work in the hands of what the public and the government seem to consider the less visionary, more practical, better equipped and better trained executive, the engineer.

Now that architects have so little else to do, perhaps they should devote themselves toward overcoming this handicap. One method might be to tackle the technical schools, abolish the separate registration laws, and frankly admit that an engineer is an architect and vice versa. Both are masterbuilders, and aesthetics are an important but secondary consideration in this machine-age.—Victor A. Matteson, I.S.A., F.A.I.A., Chicago, in Illinois Architects' Bulletin.

A BANG-UP JOB

Editor, Architect and Engineer:

"When I returned from the A.I.A. convention on July 2nd, my office was a madhouse. We were commissioned to do the Administration Facilities of the big Vancouver Housing Project on June 8th, to go out for bids on July 15th (I really had no business going to Detroit). We actually finished on Friday, July 31st!

"This is the first breathing spell I've had in two months, and the arrival of my returned photos today reminded me that I never wrote to thank you for that splendid June number. I think you did a bang-up job and it has been causing a lot of comment in this locality.

"Kindest regards,

Roi L. Morin."

Portland, Oregon.

NAVY SEEKS ENGINEERS

The United States Navy has announced a need for civil, architectural and sanitary engineers **experienced in construction work** for service as reserve officers. Qualified men will be assigned to important duties in connection with the expansion of all types of naval activities.

Actual experience in the construction of bridges, dams, power plants, piers, quaywalls, storehouses, air fields, railroads, cantonments, water and sewage disposal facilities is required of prospective engineer officers. The Navy does not need design engineers or architects at this time.

Reserve officers serving with the engineer corps wear the same uniforms and receive the same pay as officers in the Regular Navy.

NEW PRODUCT FOR WARM AIR HEATING

Sall Mountain Company, 176 West Adams Street, Chicago, Illinois, has developed, and is now marketing a new, non-metallic supply duct for use in warm air heating and air conditioning systems.



The duct is acceptable in residential installations carrying normal temperatures in either gravity or blower types and can be used up to within six feet of the plenum chamber on the supply line and the entire return line.

Not only does "Sal-Mo Supply Duct" save up to 90 per cent of the usual metal in a typical installation, but it is quicker to install. The small amount of metal necessary is in the form of standard fittings and simple collars.

A most unique feature of this new duct is its compactness for shipping. Because of its special corner design, a complete fabricated section can be packed in a folded position. This permits simple, practical, economical handling and storage.

Complete data may be secured by writing the Sall Mountain Company, 176 West Adams Street, Chicago, Illinois.

POST-WAR HIGHWAY BUILDING PROGRAM

Brigadier General Philip B. Fleming, Federal Works Administrator, has announced that the first actual engineering work on post-war public construction—a projected highway building program to cost nearly \$500,000,000—is well under way.

The engineering work, extending from conception of the improvements through surveys and the preparation of detailed plans and specifications ready for the contractors' bids, is going forward as a joint Federal-State undertaking. It is being financed from a special \$10,000,000 fund which the Congress authorized in the Defense Highway Act of 1941 with the requirement that the States match funds for projects according to the usual Federal-aid plan.

Engineers who have had construction experience in a responsible capacity, and a record of professional progress, are invited to apply for an interview at the Office of Naval Officer Procurement, 703 Market Street, San Francisco. The office is open daily, including Sundays, from 8:00 a.m. to 4:30 p.m.

A. I. A. EXECUTIVE URGES EARLY POST-WAR PLANNING

Formation of a nationwide organization to mobilize public opinion for a vast post-war housing construction drive is urged by Dean Walter R. MacCormack of the Massachusetts Institute of Technology, Vice President of the American Institute of Architects. The work of the organization would be the "backbone" of a program for the rehabilitation of American cities now under consideration by the Institute.

It is further suggested by Dean MacCormack that American architects meet with members of the Royal Institute of British Architects, when possible, to discuss the post-war reconstruction problems of Europe and the Orient. Dean MacCormack envisions the mobilization after the war of thousands of technicians, architects and representatives of finance to bring world-wide order out of chaos.

As another step in creating in the public mind support of city planning and housing programs that will benefit the community, Dean MacCormack proposes that schools adopt educational programs that will emphasize the importance of post-war rehabilitation.

"This educational process cannot begin too soon," according to Dean MacCormack, "and the responsibility lies with the school systems of America to induct into the minds of the youth an appreciation of the worthwhile things of living.

"Too many of our educational institutions, especially those having to do with architecture and engineering, have felt the questions of aesthetics are subservient to archaeology and some of the detailed formula of engineering practice and have neglected to include in their curricula any courses which deal with the obligation of professional men to engage in the crusade against those social and economic conditions which are bringing about a decay in the morale of the people.

"There is little or no relationship between the various kinds of educational institutions; no uniting of their programs for the common purpose of creating better living conditions and higher economic standards and therefore better men and better cities."

A long-range program of reconstruction to be successful must be based upon enlightened legislation, Dean MacCormack holds.

"Those of us who have observed legislation in the Congress have been struck by the fact that various organizations appearing before legislative committees on housing and other bills having to do with the construction industry are not organized in their approach and too often appear for what may often be described as selfish interests.

"This problem is so great and so far-reaching, so all-

inclusive that it is suggested that a nationwide organization be formed which would create a public opinion regarding important matters in the reconstruction program. All elements should be represented."

Dean MacCormack suggests that savings banks, building and loan associations, engineering societies, insurance companies, building owners, women's clubs, taxpayers associations, and community groups be represented in the organization. He also mentions specifically the United States Chamber of Commerce, American Bankers Association, National Association of Real Estate Boards, American Medical Association, American Bar Association, and the National Association of Manufacturers.

"The purpose of this group would not be to make any more plans or any more reports, but to find ways and means for sifting the facts and being responsible for action.

"Already in several cities one or two organizations of a similar nature have been started and these, of course, would be necessary as subsidiary sections of the over-all national group, because their responsibility would be in the matter of state legislation, local legislation, and the actual work of getting the program under way in their own localities.

"There would be complete and sympathetic collaboration between these groups and the governmental agencies, national, state and local. Good legislation would be supported and bad legislation defeated. This suggestion is the backbone of the reconstruction program now being considered by the A.I.A."

Dean MacCormack predicts that the post-war era will provide great opportunities for reconstruction. "Immediately at the end of the war," he says, "there will be in the neighborhood of ten million men in uniform and fifteen to twenty million men in industry released from war activities."

He cites the important part finance will have in the program and urges "that all unnecessary restrictions be removed from institutions which can so ably and constructively" lend assistance.

Dean MacCormack says that the bombing attacks on London will eventually bring about a beautification of that city.

"In London during the great fire of 1666, Sir Christopher Wrenn devised a plan for the rebuilding of the city, which, had it been acted upon, would have made London one of the most beautiful cities in the world and St. Pauls Cathedral, instead of being hemmed in on all sides by shabby property, would have stood in the midst of a fine oval place, approached by a

broad roadway from Ludgate, instead of by narrow Fleet Street. Again, instead of the miscellaneous collection of riverside warehouses a broad embankment would have bordered the river from the Black Friars Bridge to the Tower.

"Today, however, the bombing of some of this area gives London once again the opportunity to replan large areas of its city on a more perfect basis and there seems to be a good chance that long-range planning in England will have its day and out of the chaos and destruction of the war will come better cities."

In America, Dean MacCormack points out, opportunities to beautify cities were lost after the great Chicago fire, the San Francisco earthquake and fire, and the Chelsea fire, near Boston.

"We must face, and face it now, the question of what we are going to do with American cities which are fast approaching bankruptcy and which cannot long continue to be the important centers of a sound civilization unless steps are taken to cure the evils existing in them.

"Our housing has been based on the type of housing built in Middle Europe and in some cities has taken the form of ten and twelve story elevator buildings. Our housing does not furnish homes, but storage warehouses for families. The fundamental and ideal requirement of happy family life is an individual house, and why we should continue to house people in New York City on land that costs from eighty thousand to two hundred thousand dollars an acre is a mystery. Until we consider housing for the indigent on cheap land and in houses that can be built for \$250 a room, instead of \$1,000, we will still be in the 'Dark Ages' of housing."

As an example of how proper planning can benefit a city, Dean MacCormack cites the opening up of playgrounds in the slum areas of New York City. These playgrounds, he says, have resulted in a decrease of 50 per cent in juvenile delinquency. "This is a real point of attack on our twelve billion dollar crime problem," he concludes.

ARCHITECT'S RESPONSIBILITY TODAY

The following is part of a letter recently mailed to architects in California by the W. S. Dickey Clay Mfg. Co., which formerly maintained an office in San Francisco, with a branch plant at Niles. Reason for printing this letter is our belief that it is a timely expression of the architect's place in the present scheme of things.

Never, in the history of architecture, has so great a responsibility been placed on the shoulders of the architect. From your drawing board will come the America of tomorrow.

Right now most of us are too busy to think much about anything but winning the war. Americans in uniforms, overalls, or "white collars" are sacrificing personal pleasures and gains to smash the tyranny that threatens us.

But, Mr. Architect, these men and women have their dreams . . . visions of a better and happier world for all after the war is over. New homes . . . the elimination of slum areas . . . more gracious living conditions for the city, the suburbs and the farm.

Americans have heard and read much about new materials, new methods of construction, new kinds of homes and offices. They are looking forward to a new world that will be fresh and different and which will not remind them of the agonies through which they are passing.

This is your task. On your drawing boards the dreams of countless Americans must take shape and become real . . . not tomorrow, but now!

There are three reasons for immediate action! In the first place you must whet the appetite of your fellow men for better homes and offices so that they will want to build when peace comes. This can be done by showing them glimpses of post war houses now. In the second place, a great volume of construction must be ready for almost immediate work upon the declaration of peace. This will be necessary to absorb the unemployment that will be the natural result of a shift from a wartime to peacetime economy. And thirdly, Americans are impatient people. They like action! After waiting years for their new homes, offices, schools, churches, hospitals and other private and public buildings, they will not be content to stand around and wait again.

EASY AS PEELING SUNBURN

Concrete cast against the new Hydron form linings, developed by United States Rubber Company, is several times as resistant to weather and abrasion as ordinary concrete. Here the fabric facing is peeled



from the concrete, after the forms have been removed, leaving a surface which is smooth and attractive in appearance without refinishing.

LATIN-AMERICAN WINS SCHOLARSHIP

The Delano and Aldrich Scholarship, given to an outstanding young foreign architect for four months or more of study and travel in the United States, has been granted for the first time to a Latin-American rather than to a Frenchman, Leopold Arnaud, Dean of the Faculty of Architecture at Columbia University, and Chairman of the Committee on Pan-American Affairs of the American Institute of Architects, announces.

Carlos Lazo, Jr., of Mexico City, was the winner of a competition organized by the Sociedad de Arquitectos Mexicanos, after the Committee of Pan-American Affairs had selected Mexico as the republic which should receive the award.

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ARCHITECTS
CONTRACTORS**

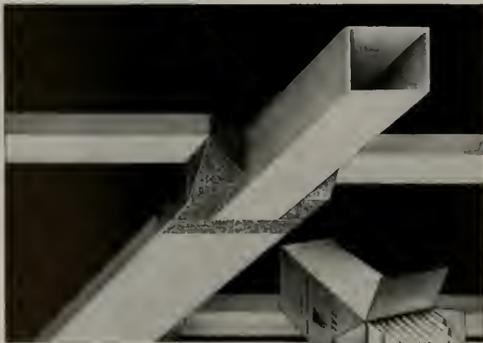
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SALL MOUNTAIN COMPANY
176 W. Adams St., DEPT. A, CHICAGO, ILL.

WAR ON FUEL WASTE

Conservation of fuel is expected to be nation-wide this fall and winter. To that end, the American Society of Heating and Ventilating Engineers suggests ten ways to save fuel, as follows:

1. INSTALL STORM WINDOWS AND DOORS

a. Application of storm windows and doors will save from 20 to 25 per cent.

Tightly-fitting storm sash enables the maintenance of higher indoor relative humidities without window condensation. Reduces down-draft of cold air at windows and together with increased glass surface temperature, improves comfort of the occupant. The addition of humidity permits a reduction in dry-bulb temperature for equivalent comfort conditions, but there is no resulting fuel saving.

2. INSULATE YOUR HOME

a. Ceiling insulation will save from 10 to 15 per cent.
b. Wall insulation will save from 12 to 20 per cent.

Application of insulation will increase inside wall surface temperatures, thus improving the comfort conditions.

3. ADD WINDOW AND DOOR WEATHER STRIPPING

a. Installation of weather stripping will save from 5 to 10 per cent. Savings are greater when applied to loose-fitting windows and doors.

4. AVOID OVERHEATING

a. Install thermostatic control for the maintenance of uniform temperatures between 65 and 70 F.
b. Wear more clothing and avoid necessity of higher temperatures.

5. LOWER TEMPERATURES

a. Reduce temperatures at night to about 60 F and fuel savings will range from 5 to 10 per cent.
b. When away for a weekend or several days set the thermostat at about 50 F which will prevent damage from freezing.

6. DO NOT HEAT UNUSED ROOMS

a. Turn off the heat in the garage for the duration of the war.
b. Sun rooms are generally difficult to heat; so shut off from balance of house if possible.
c. Keep doors tightly closed to attic spaces and unused rooms.
d. When bedroom windows are opened for sleeping, turn off the heat.
e. Fireplace opening should be sealed and damper should be closed tightly to prevent loss of heat up chimney.

7. INSULATE HOT WATER HEATER

a. Apply insulation to the storage hot water tank to conserve heat.
b. A leaky hot water faucet wastes both water and fuel.

8. IMPROVE RADIATOR EFFICIENCY

a. Remove dirt collections in the pockets of radiators and convectors.
b. Keep heavy drapes and curtains away from radiators and the outlet grilles of convectors.
c. Many radiators have been painted with bronze and aluminum finishes. The application of ordinary oil paints to such radiators will improve their efficiency as much as 10 per cent.
d. Place a surface having a high emissivity behind each radiator which reflects the heat to the room which normally is absorbed in the wall.

9. CHECK FURNACE COMBUSTION EFFICIENCY

a. Removal of soot from inside surfaces of furnace or boiler will save about 5 per cent. Soot accumulation clogs the passages and reduces the draft.
b. Check chimney draft, stack temperature, and percentage of carbon dioxide in the flue gas, with available instruments.

10. RECONDITION HEATING PLANT

Every heating plant should be surveyed and tested by a com-

(Turn to Page 50)

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts given are figuring prices and are made up from average quotations furnished by material houses to San Francisco contractors. 3% Sales Tax on all materials but not labor.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and other part of the state. Freight cartage, at least, must be added in figuring country work.

nd—1 1/2% amount of contract.
Government work 3/4%.

ickwork—
Common, \$40 to \$45 per 1000 laid, (according to class of work).
Face, \$90 to \$100 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, \$1.00 lin. ft.
Brick Veneer on frame buildings, \$1.00 sq. ft.
Common f.o.b. cars, \$15.00 at yard. Cartage extra.
Face, f.o.b. cars, \$40.00 to \$60.00 per 1000, carload lots.

ilding Paper—
ply per 1000 ft. roll \$3.50
ply per 1000 ft. roll 5.00
ply per 1000 ft. roll 6.25
3-ply Standard, 500 ft. roll 5.00
alkraft, 500 ft. roll 5.00
ash cord com. No. 7 \$1.20 per 100 ft.
ash cord com. No. 8 1.50 per 100 ft.
ash cord spot No. 7 1.90 per 100 ft.
ash cord spot No. 8 2.25 per 100 ft.
ash weights, cast iron, \$50.00 ton.
Nails, \$3.50 base.
ash weights, \$45.00 per ton.

concrete Aggregates—
GRAVEL (all sizes) \$1.45 per ton at bunker; delivered to any point in S. F. County \$1.85.
Bunker Delivered
op sand \$1.45 \$1.85
concrete mix 1.45 1.85
rushed rock, 1/4 to 3/4 1.60 2.00
rushed rock, 3/4 to 1 1/2 1.60 2.00
roofing gravel 1.60 2.00
City gravel 1.45 1.85
River sand 1.50 1.90
Bank sand—\$1.00 per cubic yard at bunker or delivered.

ND—
River sand Bunker Delivered
..... \$1.50 \$1.85
apis (Nos. 2 & 4) 2.00 2.40
lympia Nos. 1 & 2 1.80 2.20
ealdsburg plaster sand \$1.80 and \$2.20
el Monte white 50c per sack
Common cement (all brands, paper sacks) carload lots \$2.52 per bbl. f.a.b. car; delivered, \$2.80; less than carloads delivered, 70c per sack.
Cash discount on carload lots, 10c a barrel, 10th Prox.; cash discount less than carload lots, 2%.
es White }
lavers White } 1 to 100 sacks, \$2.00 sack,
duse White } warehouse or delivery.

Forms, Labors average \$40.00 per M.
Average cost of concrete in place, exclusive of forms, 35c per cu. ft.; with forms, 60c.
4-inch concrete basement floor 12 1/2 to 14c per sq. ft.
Rat-proofing 7/2c
Concrete Steps \$1.25 per lin. ft.

Dampproofing and Waterproofing—
Two-coat work, 20c to 30c per yard.
Membrane waterproofing—4 layers of saturated felt, \$4.50 per square.
Hot coating work, \$2.00 per square.
Medusa Waterproofing, 15c per lb., San Francisco Warehouse.
Tricocel waterproofing.
(See representative.)

Electric Wiring—\$12.00 to \$15.00 per outlet for conduit work (including switches).
Knob and tube average \$3.00 per outlet.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies.
Average cost of installing an automatic elevator in four-story building, \$2800; direct automatic, about \$2700.

Excavation—
Sand, 60 cents; clay or shale \$1 per yard.
Teams, \$12.00 per day.
Trucks, \$22 to \$27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot galvanized iron balcony, with stairs, \$150 installed on new buildings; \$160 on old buildings.

Floors—
Composition Floors—22c to 40c per sq. ft. In large quantities, 18c per sq. ft. laid.
Mosaic Floors—80c per sq. ft.
Duralex Floors—23c to 30c sq. ft.
Rubber Tile—50c to 75c per sq. ft.
Terazo Floors—45c to 60c per sq. ft.
Terazo Steps—\$1.60 lin. ft.

Hardwood Flooring (delivered to building)—
3/4x2 1/4" T&G 3/4x2" 3/4x2" Sq.Ed.
Clr. Old. Oak \$144.00 M \$122.00 M \$141.00 M
Sel. Old. Oak 118.00 M 101.00 M 114.00 M
Clr. Pla. Oak 120.00 M 102.00 M 115.00 M
Sel. Pla. Oak 113.00 M 92.00 M 107.00 M
Clr. Maple 125.00 M 113.00 M
Wage—Floor layers, \$12.00.
Note—Above quotations are all board measure except last column which is sq. ft.

Glass (consult with manufacturers)—
Double strength window glass, 20c per square foot.
Plate 80c per square foot (unglazed) in place, \$1.00.
Art, \$1.00 up per square foot.
Wire (for skylights), 40c per sq. foot.
Obscure glass, 30c to 50c square foot.
Glass bricks, \$2.50 per sq. ft. in place.
Note—if not stipulated add extra for setting.

Heating—
Average, \$1.90 per sq. ft. of radiation, according to conditions.
Warm air (gravity) average \$48 per register.
Forced air, average \$68 per register.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)—
No. 1 common \$43.00 per M
No. 2 common 41.00 per M
Select O. P. common 46.00 per M
2x4 No. 3 form lumber 32.00 per M
1x4 No. 2 flooring VG 70.00 per M
1x4 No. 3 flooring VG 85.00 per M
1x6 No. 2 flooring VG 96.00 per M
1 1/2x4 and 6, No. 2 flooring 95.00 per M
Slash grain—
1x4 No. 2 flooring \$65.00 per M
1x4 No. 3 flooring 62.00 per M
No. 1 common run T. & G. 48.00 per M
Lath 7.50 per M

Shingles (add cartage to price quoted)—
Redwood, No. 1 \$1.20 per bdle.
Redwood, No. 2 1.00 per bdle.
Red Cedar 1.45 per bdle.
Plywood—Douglas Fir (add cartage)—
"Plyscord" sheathing (unsanded)
3-ply and 4 1/2x9 1/2" \$39.75 per M
"Fiywall" (wallboard grade)—
1/2" 3-ply 48"x96" \$43.70 per M
"Plyform" (concrete form grade)—
5/8" 5-ply 48"x96" \$117.30 per M
Exterior Plywood Siding—
1/2" 5-ply Fir \$132.00 per M
Redwood (Rustic) 1 1/8" clear heart. \$95.00 per M
\$5 less per M for A grade.

Millwork—Standard.
O. P. \$100 per 1000. R. W. rustic \$120.00 per 1000 (delivered).
Double hung box window frames, average with trim, \$6.50 and up, each.
Complete door unit, \$10.00.
Screen doors, \$3.50 each.
Patent screen windows, 25c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., \$8.00 each.
Dining room cases, \$8.00 per lineal foot.
Rough and finish about 75c per sq. ft.
Labor—Rough carpentry, warehouse heavy framing (average), \$17.50 per M.
For smaller work average, \$35.00 to \$45.00 per 1000.

Marble—(See Dealers)

Painting—
Two-coat work per yard 50c
Three-coat work per yard 70c
Cold water painting per yard 10c
Whitewashing per yard 4c

Turpentine, 65c per gal., in 5 gal. cans, and 55c per gal. in drums.
Raw Linseed Oil—95c gal. in light drums.
Boiled Linseed Oil—98c gal. in drums and \$1.08 in 5 gal. cans.

White Lead in oil

	Per Lb.
1 ton lots, 100 lbs. net weight	113/4c
500 lbs. and less than 1 ton	12c
Less than 500 lb. lots	12 1/2c

Red Lead and litharge

1 ton lots, 100 lbs. net weight	113/4c
500 lbs. and less than 1 ton	12c
Less than 500 lb. lots	12 1/2c

Red Lead in oil

1 ton lots, 100 lbs. net weight	123/4c
500 lbs. and less than 1 ton	13c
Less than 500 lb. lots	13 1/2c

Note—Accessibility and conditions cause some variance in costs.

Patent Chimneys—

6-inch	\$1.25 lineal foot
8-inch	1.50 lineal foot
10-inch	2.25 lineal foot
12-inch	3.00 lineal foot

Plaster
Neat wall, per ton delivered in S. F. in paper bags, \$17.60.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	\$0.50
2 coats, lime mortar hard finish, wood lath	.85
2 coats, hard wall plaster, wood lath	.72
3 coats, metal lath and plaster	1.25
Keene cement or metal lath	1.30
Ceilings with 3/4 hot roll channels metal lath (lethed only)	.90
Ceilings with 3/4 hot roll channels metal lath plastered	1.80
Single partition 3/4 channel lath 1 side (lath only)	.85
Single partition 3/4 channel lath 2 inches thick plastered	\$2.90
4-inch double partition 3/4 channel lath 2 sides (lath only)	1.70
4-inch double partition 3/4 channel lath 2 sides plastered	3.30
Thermax single partition; 1" channels; 2/4" overall partition width. Plastered both sides	2.50
Thermax double partition; 1" channels; 4/4" overall partition width. Plastered both sides	3.40

3 coats over 1" Thermax nailed to one side wood studs or joists	1.25
3 coats over 1" Thermax suspended to one side wood studs with spring sound isolation clip	1.45

Plastering—Exterior—

2 coats cement finish, brick or concrete wall	\$1.00
3 coats cement finish, No. 18 gauge wire mesh	1.75
Wood lath, \$5.50 to \$6.50 per 1000.	
2.5-lb. metal lath (dipped)	.19
2.5-lb. metal lath (galvanized)	.21
3.4-lb. metal lath (dipped)	.22
3.4-lb. metal lath (galvanized)	.24
3/4-inch hot roll channels, \$72 per ton.	
Finish plaster, \$18.90 ton; in paper sacks.	
Dealer's commission, \$1.00 off above quotations.	
\$13.95 (rebebe 10c sack).	
Lime, f.o.b. warehouse, \$2.25 bbl.; cars, \$2.15	
Lime, bulk (ton 2000 lbs.), \$16.00 ton.	
Wall Board 5 ply, \$50.00 per M.	
Hydrate Lime, \$19.50 ton.	
Plasterers Wage Scale	\$1.67 per hour
Lathers Wage Scale	1.60 per hour
Head Carriers Wage Scale	1.40 per hour

Composition Stucco—\$1.80 to \$2.00 sq. yard (applied).

Plumbing—
From \$100.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, \$7.00 per sq. for 30 sqs. or over.
Less than 30 sqs. \$7.50 per sq.
Tile, \$20.00 to \$35.00 per square.
Redwood Shingles, \$7.50 per square in place.
Copper, \$16.50 to \$18.00 per sq. in place.
5/2 #1-16" Cedar Shingles, 4 1/2" Exposure 8.00 Square
5/8 x 16" #1 Cedar Shingles, 5" Exposure 9.00 Square
4/2 #1-24" Royal Shingles, 7 1/2" Exposure 9.50 Square
Re-coat with Gravel, \$3 per sq.
Asbestos Shingles, \$15 to \$25 per sq. laid.
Slate, from \$25.00 per sq., according to color and thickness.
1/2 x 25" Resawn Cedar Shakes, 10" Exposure 10.50
3/4 x 25" Resawn Cedar Shakes, 10" Exposure 11.50

1 x 25" Resawn Cedar Shakes, 10" Exposure 12.5
Above prices are for shakes in place.

Sheet Metal—
Windows—Metal, \$1.75 a sq. ft.
Fire doors (average), including hardware \$1.75 per sq. ft.

Skylights—(not glazed)
Copper, 90c sq. ft. (flat).
Galvanized iron, 40c sq. ft. (flat).
Vented hup skylights 60c sq. ft.

Steel—Structural (None available except for defense work)
\$150 ton (erected), this quotation is a average for comparatively small quantities. Light truss work higher. Pile beams and column work in large quantities \$140 per ton.

Steel Reinforcing (None available except for defense work).
\$150 to \$200 per ton, set.

Stone—
Granite, average, \$6.50 cu. foot in place
Sandstone, average Blue, \$4.00. Boise \$3.00 sq. ft. in place.
Indiana Limestone, \$2.80 per sq. ft. in place.

Store Fronts—
Copper sash bars for store fronts, come center and around sides, will average \$1.00 per lineal foot.
Note—Consult with agents.

Tile—Floor, Wainscot, etc. — (See Dealers)
Asphalt Tile—18c to 28c per sq. ft. if stalled.

Wall Tile—
Glazed Terra Cotta Wall Units (single pieces laid in place—approximate prices):

2 x 6 x 12	\$1.00 sq. ft.
4 x 6 x 12	1.15 sq. ft.
2 x 8 x 16	1.10 sq. ft.
4 x 8 x 16	1.30 sq. ft.

Venetian Blinds—
40c per square foot and up. Installatic extra.

Windows—Steel
Factory type sash 30c ft.
Ventilators for steel sash \$5.00 each.

1942 BUILDING TRADES WAGE SCALES FOR NORTHERN CALIFORNIA

CRAFT	*6-hour day		**7-hour day		San Jose	San Mateo	Vallejo	Stock
	San Francisco	Alameda	Fresno	Marin				
ASBESTOS WORKERS	\$1.50	\$1.25	\$1.75	\$1.37 1/2	\$1.12 1/2	\$1.25	\$1.25	\$1.25
BRICKLAYERS	.75	.75	.75	.75	.75	2.00	*.75	*.75
BRICKLAYERS' HODCARRIERS	1.35	1.25	1.05	.75	.75	.75	*.75	*.75
CARPENTERS	1.37 1/2	1.25	1.25	1.37 1/2	1.25	1.75	1.37 1/2	1.25
CARPENTERS' FINISHERS	1.37 1/2	1.25	1.25	1.37 1/2	1.25	1.75	1.37 1/2	1.25
ELECTRICIANS	1.50	1.60	1.40	1.37 1/2	1.50	1.50	1.50	1.50
ELEVATOR CONSTRUCTORS	1.61	1.56	1.50	1.61	1.61	1.50	1.50	1.56
ENGINEERS: Material Hoist	1.50	1.37 1/2	1.75	1.50	1.37 1/2	1.62 1/2	1.37 1/2	1.37 1/2
Pile Driver	1.75	1.60	1.60	1.75	1.75	1.75	1.62 1/2	1.75
Structural Steel	1.75	1.60	1.60	1.75	1.75	1.75	1.62 1/2	1.75
GLASS WORKERS	1.25	1.25	1.12 1/2	1.25	1.12 1/2	1.21	1.25	1.25
IRONWORKERS: Ornamental	1.50	1.31 1/4	1.37 1/2	1.31 1/4	1.31 1/4	1.31 1/4	1.25	1.31 1/4
Reinf. Rodmen	1.50	1.31 1/4	1.31 1/4	1.31 1/4	1.31 1/4	1.60	1.31 1/4	1.31 1/4
Structural	1.75	1.60	1.60	1.60	1.60	1.75	1.50	1.60
LABORERS: Building	.85	.87 1/2	.87 1/2	.81 1/4	.85	.81 1/4	.81 1/4	.80
Concrete	.87 1/2	.93 3/4	.90	.81 1/4	.92 1/2	.81 1/4	.90	.90
LATHERS	.75	.75	.50	.75	.75	.75	.75	.75
MARBLE SETTERS	1.43 1/4	1.25	1.25	1.31 1/4	1.37 1/2	1.25	1.31 1/4	1.50
MOSAIC & TERRAZZO	1.00	1.25	1.12 1/2	1.12 1/2	1.15 5/8	1.17 1/2	1.17 1/2	1.17 1/2
PAINTERS	1.37 1/2	1.50	1.28-4/7	1.37 1/2	1.25	** 1.35-5/7	** 1.42-4/7	** 1.50
PILEDRIVERS	1.47	1.40	1.40	1.40	1.40	1.40	1.40	1.40
PLASTERERS	1.66-2/3	1.66-2/3	1.75	1.66-2/3	1.75	2.00	2.00	1.75
PLASTERERS' HODCARRIERS	1.00	1.45	1.40	1.40	1.18 3/4	1.35	1.75	1.40
PLUMBERS	1.50	1.50	1.53-1/8	1.50	1.54 1/4	1.67 1/2	1.50	1.50
ROOFERS	1.37 1/2	1.37 1/2	1.12 1/2	1.25	1.25	1.37 1/2	1.25	1.25
SHEET METAL WORKERS	1.37 1/2	1.37 1/2	1.43 3/4	1.37 1/2	1.50	1.50	1.37 1/2	1.25
SPRINKLER FITTERS	1.50	1.37 1/2	1.50	1.50	1.50	1.62 1/2	1.50	1.50
STEAMFITTERS	1.50	1.50	1.53-1/8	1.50	1.54 1/4	1.62 1/2	1.50	1.50
STONESETTERS	1.50	1.75	1.50	1.75	1.75	1.75	1.75	1.75
TILESETTERS	1.50	1.37 1/2	1.37 1/2	1.37 1/2	1.37 1/2	1.50	1.50	1.37 1/2

Prepared and compiled by
CENTRAL CALIFORNIA CHAPTER, ASSOCIATED GENERAL CONTRACTORS OF AMERICA
with the assistance and cooperation of secretaries of General Contractors Associations and Builders Exchanges of Northern California.

WHAT THE ARCHITECTS ARE DOING

ARCHITECTS PLAN ESSENTIAL CONSTRUCTION

J. S. Gould, architect, 251 Kearny Street, San Francisco, has prepared plans for rebuilding a fire damaged church for the Colusa Trinity Methodist denomination.

Two hundred war workers' houses are to be built at San Pablo by J. H. Crawford, 1344 Woodland Avenue, San Carlos.

Will G. Corlett, architect, Bank of America Building, Oakland, is completing plans for a 25 classroom building in Contra Costa County for the U. S. Maritime Commission, to take care of the educational needs of the Richmond Shipbuilding Company's employees and their families.

A contract has been let for a new unit at the Kaiser Foundation Hospital in Oakland, from plans by Birge M. and David Clark of Palo Alto.

The Fred J. Early Company has been awarded a contract to build a \$1,000,000 U. S. Maritime training academy in Alameda.

Additional buildings are to be erected at once at the Government flight school, St. Mary's College, from plans by H. A. Minton, architect, and L. H. Nishkian, structural engineer.

Preliminary drawings are in progress for a trailer camp at San Pablo. There will be 1500, according to the architects, Messrs. Keith O. Narbett and E. G. Bangs, 605 Market Street, San Francisco.

Alterations to some of San Francisco's school buildings to provide de-gassing stations will be made from plans by City Architect Dodge A. Reidy.

Binder and Curtis, architects of San Jose, have let contracts for a large reinforced concrete factory for the Food Machinery Corporation, 217 W. Julian Street, San Jose.

Several Junior High School units are being designed for the Chabot Terraces housing project in Solano County. Some 3,000 houses are being completed from plans by W. W. Wurster and Franklin and Kump, architects, of San Francisco. The units will include class rooms, library, cafeteria, gymnasium, auditorium, etc. Elementary school units will also be built from an appropriation exceeding \$500,000. The same architects have awarded a contract to Barrett and Hilp for a major commercial building and management and maintenance structure in connection with the project.

F. H. Slocombe, 131 Monte Cresta Street, Oakland, is preparing plans for a dormitory and recreation center for Netherlands Merchant Marine crews on the Miller Estate at Orinda.

Carl F. Gromme, architect of San Rafael, has completed drawings for a two story reinforced concrete machine shop at Filbert and Sansome Streets, San Francisco, for the General Engineering and Drydock

Company.

Plans for alterations to the Red Cross Building at 450 Gough Street, San Francisco, have been prepared by Vincent G. Raney, architect, 233 Post Street, San Francisco.

ARCHITECTS AND ENGINEERS

Donald B. Parkinson, architect of Los Angeles, has been commissioned Major in the Engineer Corps, reporting to Colonel Putnam.

Los Angeles Architect: Now it is "Brigadier General Henry C. Newton, Armored Force Training Center, Fort Knox, Kentucky."

Jno. B. Leonard has recently completed a very interesting professional engagement with United Engineering Co. in Alameda on the design of some of their new buildings.

J. B. Wells, vice president of the Structural Engineers Association of Northern California, is instructing a class in "Elements of Timber Design" under Federal war production training.

S. S. Gorman and A. V. Saph, Jr., have been nominated to the post of second vice presidents of San Francisco Section, American Society of Civil Engineers.

Robert J. Fisher is busy working on the Oakland Housing Project with J. J. Donovan.

BUILDERS MUST GEAR CONSTRUCTION

Builders the country over will be required to gear all future housing construction to the war program by meeting standards of design and material consumption.

"It is necessary in the national interest," the announcement reads, "that all future housing construction meet standards of design and material consumption which have been established by the War Production Board in consultation with the National Housing Agency."

The purpose of the directive is to insure that maximum amounts of housing for essential wartime needs are provided from limited visible supplies of critical materials, particularly metals and soft wood lumber.

DEGREE FOR ERNEST J. KUMP, JR.

Ernest J. Kump, Jr., whose father, the late Ernest J. Kump, was one of the most prominent architects in Fresno some years ago, and who is now practicing the profession in San Francisco as senior member of the firm of Kump and Franklin, was recently given a degree by Harvard University in recognition of meritorious work in school house design. Mr. Kump's work, which covers a wide range of subjects, including war housing, schools and commercial structures, will be featured in an early issue of this magazine.

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S. F. SECTION, A. S. C. E.

At the October 20th meeting of San Francisco Section, American Society of Civil Engineers, Professor Wm. B. Herms of the College of Agriculture, University of California, and an internationally recognized authority on medical entomology, gave an interesting talk on "Insect-transmitted Tropical Diseases Which May Affect American Military Operations." Dr. Herms stated that military forces in tropical areas such as the South Seas, the East Indian Archipelago, China, Africa and the Middle East will encounter a number of insect transmitted tropical diseases to which they are non-resistant. If these diseases are not controlled adequately, the personnel losses may be so severe as to defeat the attainment of objectives, Dr. Herms stated. The control of the vectors of these diseases is in part an engineering problem, concerning which engineers should be adequately informed.

SCHOOLS FOR WAR HOUSING

In the interest of insuring the adequate physical facilities for carrying on a program of education in war housing developments, the California School Trustees, at their annual conference in Los Angeles adopted a resolution calling for the designation of Local Housing Authorities as the responsible agency to determine in collaboration with school authorities, the need for school facilities in connection with war housing. The resolution further provides that allocation for school buildings should be made at the same time as allocation for housing.

THE "PENTAGON"

The War Department Office Building, now going up in Arlington, Va., will be known, when completed, as the "Pentagon." A five sided structure nearly a mile around with each exterior wall 921.6 feet long and a pentagon shaped inner court with each side 360.8 feet long will be three and four stories high. Besides its 4,000,000 square feet of office space, there is also 600,000 square feet of storage area provided. A lagoon is being dredged to permit water delivery of aggregates. Concrete mixing is done in transit. The building when completed will have cost about \$50,000,000.

STUDENTS PLAN TRANSPORTATION CENTER

A city planning course in which students will plan a transportation center for the town of Syosset, Long Island, under the guidance of the engineering, architecture, and social science faculties has started at Cooper Union, it is announced by Dr. Edwin S. Burdell, director.

Engineering and architectural students will pool their knowledge in an attempt to solve the problem created by an influx of war workers into Syosset, where rail, bus, and car lines are widely separated.

POWER AND IRRIGATION PROJECTS HIT

Following its policy of curtailing the flow of critical materials to construction projects, the War Production Board has revoked priority ratings previously granted to seven power and irrigation projects in the west.

Six of the projects are sponsored by U. S. Bureau of Reclamation. The seventh involves construction equipment for a section of the Grand Coulee Dam.

Builders are prohibited from continuing construction or installation on the projects. Exceptions are made, however, for construction solely for the purpose of safety or health or to avoid undue damage to or deterioration of materials.

The projects affected follow:

Davis Dam—Located 30 miles west of Kingman, Arizona, and 40 miles south of Boulder Dam on the Colorado River.

Colorado Big Thompson project which includes the Green Mountain and Granby Dams on the western side of the Continental Divide, a 13-mile tunnel to the east and dams and power plants at Colorado Big Thompson, Estes Park and Mary's Lake, Colorado.

Keswick Dam—Located on the Sacramento River, 8 miles below Shasta Dam.

Anderson Ranch project—Located on the Payette River, approximately 30 miles east and 20 miles north of Boise, Idaho.

Shasta Dam—Located on the Sacramento River, California.

Grand Coulee Dam—Located on Columbia River, Washington. Two revocation orders apply to projects associated with Grand Coulee.

WASHINGTON TODAY AND YESTERDAY

If Washington, Jefferson and L'Enfant could rise from their graves and see what has become of their fond dream of the Federal City, Washington, D. C., they would lie down again with open-mouth astonishment in eternal sleep. In their day there were no rapid transportation systems, there was not even a steam railway locomotive!

Today Washington is crowded to suffocation and the Union Railway Station of about 1900 accommodates, according to the Association of American Railroads, a daily flow of from 70,000 to 100,000 people. Within the past 18 months the ticket windows have increased from 15 to 51; trunk telephone lines from 30 to 50; information clerks from 69 to 266.

S. F. ARCHITECTS' AUXILIARY

Members of the San Francisco Auxiliary to the State Association of California Architects met November 4 at Women's City Club, following luncheon.

Layettes to be donated to the Navy Relief Society were assembled under the direction of Mrs. H. J. Leason, war work chairman of the day, and Mrs. A. Appleton, director of war work.

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WAR ON FUEL WASTE

(Continued from Page 44)

patent heating engineer or contractor.

a. If a radiator system:

- (1) Inspect insulation on the boiler.
- (2) Remove all pipe pockets and correct pitch for good circulation.
- (3) Check pipe insulation for defects.
- (4) Clean and repair air valves, and radiator traps and valves.
- (5) Purge the air from radiators.

b. If a warm air furnace system:

- (1) Examine air filter—clean or replace.
- (2) Make sure all air supply and return grilles are open and unobstructed.
- (3) Eliminate the introduction of any outside air and recirculate 100 per cent of the indoor air.

NOTE: Fuel savings are not necessarily cumulative but will often exceed 60 per cent in practice if all precautions outlined are adopted.

CREDIT PROBLEMS IN A WAR ECONOMY

Roy A. Foulke, manager of the Analytical Report Division of Dun & Bradstreet, warns the grantor of credit today of the necessity of frequent analysis of the risks in a period of rapid change. Speaking of the prospects of the concern making non-defense products Mr. Foulke says: "Two situations are affecting those manufacturers that have obtained no defense or war contracts. In the first situation is the typical manufacturer whose operations have been materially reduced because the available supply of his primary raw material has been substantially cut by priorities, such as manufacturers of aluminum cooking utensils, metal furniture and equipment, washing machines, electric irons."

"In the second situation is the manufacturer that is able to obtain sufficient quantities of all raw materials except one vital ingredient, such as a manufacturer of varnish that might have plenty of petroleum solvents but no synthetic resins, plumbers who have difficulty in obtaining one-half inch brass pipe, manufacturers of upholstered furniture that need metal springs, or manufacturers of laundry supplies that are being restricted in their purchases of chlorine. Here is a vital problem of inventory unbalance which has been expanding in recent months and which will become more fundamental as our war economy continues to intensify. To analyze these situations the credit manager of a prospective mercantile creditor must become increasingly familiar with the operating problems of customers, problems which will continue to become more acute as greater proportions of raw materials go into the production of war supplies and equipment."

Referring to the financial affairs of the munition maker, shipbuilder, and the entire category of war manufacture, Mr. Foulke points out: "Financial statements of concerns engaged wholly, or for the most part in the production of war equipment and supplies, and particularly of those in highly specialized lines, usually show heavy liabilities. Such situations cannot

be interpreted strictly in accordance with standards of analysis applicable under normal conditions. In arriving at a conclusion regarding the stability of such risks, favorable operating and performance records over a period of years may offset what in more normal conditions might be considered an unbalanced financial position." Foulke summarizes the elements of the war risk covering five points on which information is essential:

1. A segregation of net sales to Government agencies from other net sales, or in the case of sub-contractors, sub-suppliers, sub-manufacturers, or sub-builders, a segregation of net sales to primary contractors on defense and war orders from other net sales.
2. A segregation of Government receivables from other receivables, or in the case of sub-contractors, sub-suppliers, sub-manufacturers, or sub-builders, a segregation of primary contractor receivables on defense and war orders from other receivables.
3. The amount and the nature of unfilled defense and war contracts on hand on the statement date.
4. A description of all arrangements in effect to finance necessary plant expansion, and increased defense and war production.
5. A clear understanding of the extent of management familiarity with the products to be produced, of the skill and knowledge of the labor, and of the necessary equipment to fulfill specific requirements of Army and Navy contracts."

MUST REGISTER USED MACHINERY

Owners of used construction equipment will be required to register their equipment with the War Production Board so that an inventory, necessary in the war program, can be made.

Under the terms of limitation order L-196, any person who owns construction machinery must file within 30 days on WPB form 1159 a report showing the type and location of the equipment in his possession.

The order also provides that WPB form 1333 must be used to report any change of status of used construction equipment, such as movement from one location to another, change of ownership, or a change from being used to its becoming idle.

In undertaking the inventory, WPB believes that essential users may be able to negotiate for the purchase or lease of used equipment and thus permit almost all new equipment to be delivered for war work.

The order affects all owners of used equipment, but has no bearing on manufacturers of new equipment.

It is estimated that there are approximately 500,000 pieces of used equipment in this country, much of which is idle because of the absence of a co-ordinated market place for buyers, sellers, lessors and lessees. The inventory is intended to clear up this situation.

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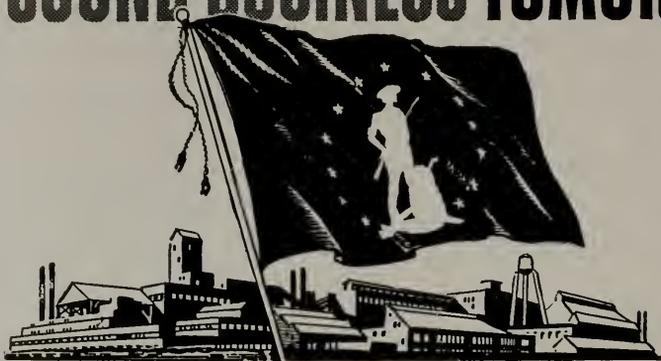


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REMODEL AND REPAIR WORK

Remodeling to house war workers, repairs to maintain property, and installations to conserve heat and fuel are three types of work for which the FHA is insuring loans during wartime under the Title I program, according to Abner H. Ferguson, Federal Housing Commissioner.

"Because these three types of work have an important place in the war effort, they are exempted from some of today's restrictions on materials and credit," Mr. Ferguson said. "Creating suitable housing for war workers, conserving fuel, and maintaining the nation's \$80,000,000,000 property investment, are the present objectives of loans made on the FHA Title I Plan."

FHA has prepared the following questions and answers for the use of property owners who wish to remodel and repair under wartime conditions:

How much money can be borrowed for repairs and maintenance work?

How soon must these loans be paid?

Repair loans are subject to installment credit rules of the Federal Reserve System and those under \$1,500 must be repaid within 12 months. An exception has been made for essential emergency repairs to allow up to three years for repayment.

What sort of repair work is permissible?

Work such as painting, papering, repairs to plumbing and roofing or any similar repairs that are necessary to keep property in good working condition. Luxury repairs or improvements merely to beautify a home are not approved. Repairs also must be of a nature that does not change the structural design of a building.

Can repairs of this type be made anywhere in the country?

Yes.

What about loans for improvements that will reduce fuel consumption, such as conversion of oil burners to coal units, insulation, storm doors and windows and weatherstripping?

FHA loans may be obtained to finance such conversions and installations. Loans for such purposes have been exempted from the Federal Reserve Board's consumer credit regu-

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lations and may run for as long as three years.

Must the owner obtain permission from WPB before undertaking such fuel conservation measures?

No.

What about loans for remodeling to provide additional living quarters?

FHA loans for this purpose are available in amounts up to \$5,000 for as long as seven years. They are to be paid off in monthly installments.

What are the conditions under which a remodeling loan will be granted?

To qualify for a loan, a remodeling project must be located in an area where the housing situation for war workers is critical, and must be made with a view to providing living accommodations for war workers. Applicants for loans must certify to the bank or other private lending institution that for 60 days after his project is completed he will give first call for occupancy to war workers.

Who are considered war workers?

Members of the armed forces, persons employed in plants producing war materials, or employees of agencies of the Government that are engaged in war work.

What is a critical war housing area?

It is an area designated by the President as having insufficient housing accommodations for war workers employed nearby.

What type of construction can be undertaken with a remodeling loan?

Attics, basements and other unfinished spaces may be converted into finished rooms or apartments and additions and alterations may be made to existing buildings. A building not used as a dwelling may be remodeled into a single or multi-family house.

Must an owner obtain permission from the War Production Board for remodeling or repair work?

WPB authorization is necessary in a remodeling project unless the total cost of the improvement is less than \$200. The WPB must also give priority assistance where the purchase of critical materials is required. Maintenance work and essential repairs that do not change structural design are permitted without WPB authori-

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STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912 AND MARCH 3, 1933.

Of the Architect and Engineer, published monthly at San Francisco, Calif., for October 1, 1942.

City and County of San Francisco } SS.
State of California

Before me, a notary public in and for the state and county aforesaid, personally appeared L. B. Penhorwood, who, having been duly sworn according to law, deposes and says that she is the Business Manager of The Architect and Engineer, and that the following is to the best of her knowledge and belief, a true statement of the ownership, management (if daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 337, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher, The Architect and Engineer, Inc., 68 Post St., San Francisco, Calif.

Editor, Fred W. Jones, 68 Post St., San Francisco, Calif.

Managing Editor—None.

Business Manager, L. B. Penhorwood, 68 Post St., San Francisco, Calif.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)

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5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the twelve months preceding the date shown above is: (This information is required from daily publications only.)

L. B. Penhorwood, Business Mgr.

Sworn to and subscribed before me the 28th day of September, 1942.

(Seal) CHAS. F. DUSENBERG

Notary Public in and for the City and County of San Francisco, Calif.

(My commission expires May 22, 1945.)

zation. Applications for WPB preference ratings and authorization to begin construction can be filed with local offices of FHA.

Why does Government encourage remodeling projects for war workers?

Because the President has said that existing structures are being counted upon to absorb a large proportion of the 1,600,000 war workers who need housing. Remodeling requires a much smaller amount of critical materials than new construction.

Where can repair and remodeling loans be obtained?

The credit facilities of more than 5,000 banks and other lending institutions are available under FHA's lending program. Any FHA office and almost any local bank or financial house can provide information about loans.

A SIX-HOUR DEFENSE HOME

"American miracle" is the way Mary Davis Gillies describes the combination of a prefabricated house and demountable furniture that permits a house to be put up in three hours and completely furnished in three more. In "McCall's Magazine" for November she tells how the housing of Norfolk shipyard workers foreshadows the day when home will move with the family.

Although prefabricated houses will be available only to defense workers during war years, the demountable furniture, designed by Dan Cooper, is on sale in stores. Charming, inexpensive, and using no critical materials, it is easy to assemble—and just as easy to take apart, pack flat, and load into the back of the family car on moving day.

CEMENT DISPERSION

A Cleveland, Ohio, company has recently placed on the market a cement dispersing air entraining agent known as HP-7 which, when added to a paving mix, is claimed to improve all the essential qualities of concrete—transverse strength, resistance to wear, freedom from scaling. Furthermore, it appears that this is accomplished with little or no increase in cost, and in some cases with an actual reduction.

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HP-7 is essentially a combination of an air-incorporating agent (sodium lauryl sulphate) with a cement-dispersing agent (a derivative of lignin sulphonic acid).

WOOD SIGNS REPLACE STEEL

For the duration, there will be no more steel signs directing and warning motorists along the highways and byways of California.

Cooperating with the government's request to conserve critical materials, the markers posted by the sign-posting department of the Division of Highways, through the wartime emergency, will be composed of pressed hardwood.

Reflectorized signs will be made of the same material, beaded to reflect headlights. The first beaded placards were posted recently along the Southern California coastline designating authorized dim-out zones, replacing the emergency heavy cardboard markers.

Pre-war signs were made of porcelain enamel fused into steel for indefinite lasting qualities. The substitute pressed wood signs, treated and painted for preservation, are expected to prove durable for a number of years.

PREFABRICATED HOUSING

On the Napa Road about two miles out of Vallejo 3,000 prefabricated houses for war workers are nearing completion.

At Norfolk Navy Yard about 5,000 preassembled and prefabricated homes are being built in five months to relieve a housing shortage. All industry watches such wartime tests as guides to the post-war possibilities of prefabricated home building.

Transplacement of 186 houses at Indianhead, Md., to Suitland, Md., will attract national attention, and will be a publicity break for the industry, as it will settle the question of movability for all time.

Architects and engineers are saying that prefabrication must be a valid innovation or it would have been killed off long ago by unsympathetic government treatment. They add that it should go places under commercial promotion after Federal con-

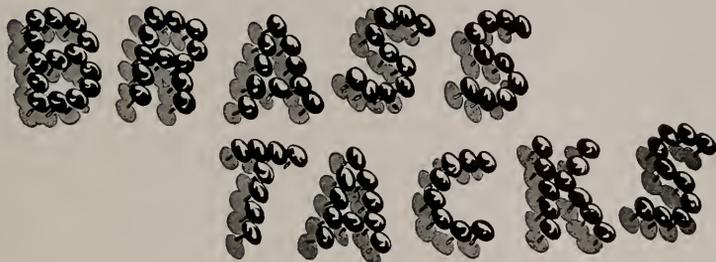
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trols are removed.

Site and factory fabrication are methods still in the making and de-

mands of location, union philosophy, social and political attitudes will have much to do with the industry's future.

GETTING DOWN TO



ABOUT LIGHTING YOUR HOME

 Getting down to brass tacks about lighting your home, don't forget that during the Fall and Winter months you have the greatest need for good light. Your family will spend more time indoors than at any other season. Early twilights, overcast days, and late dawns, increase the demands on electric lighting.

 Take inventory of the lighting of your home now, and let your family enjoy the benefits of good light during these coming months when they will need it most.

 Children of school age have home studying they **MUST** do. Eyes, young and old, need the protection of plenty of good quality light during the long season when they are so constantly under strain.

 After you have taken your lighting inventory, replace old lamps that are not producing the quality and amount of light you should be getting from electricity you are paying for.

 Replace old bulbs with the same size that came with the fixture. Fixtures are designed to operate efficiently with a certain size bulb, and a different size destroys the efficiency of the fixture.

 Our **FREE** booklet gives pictures and suggestions about lighting your home to modern standards. It will help you light your home right. Send for it today.

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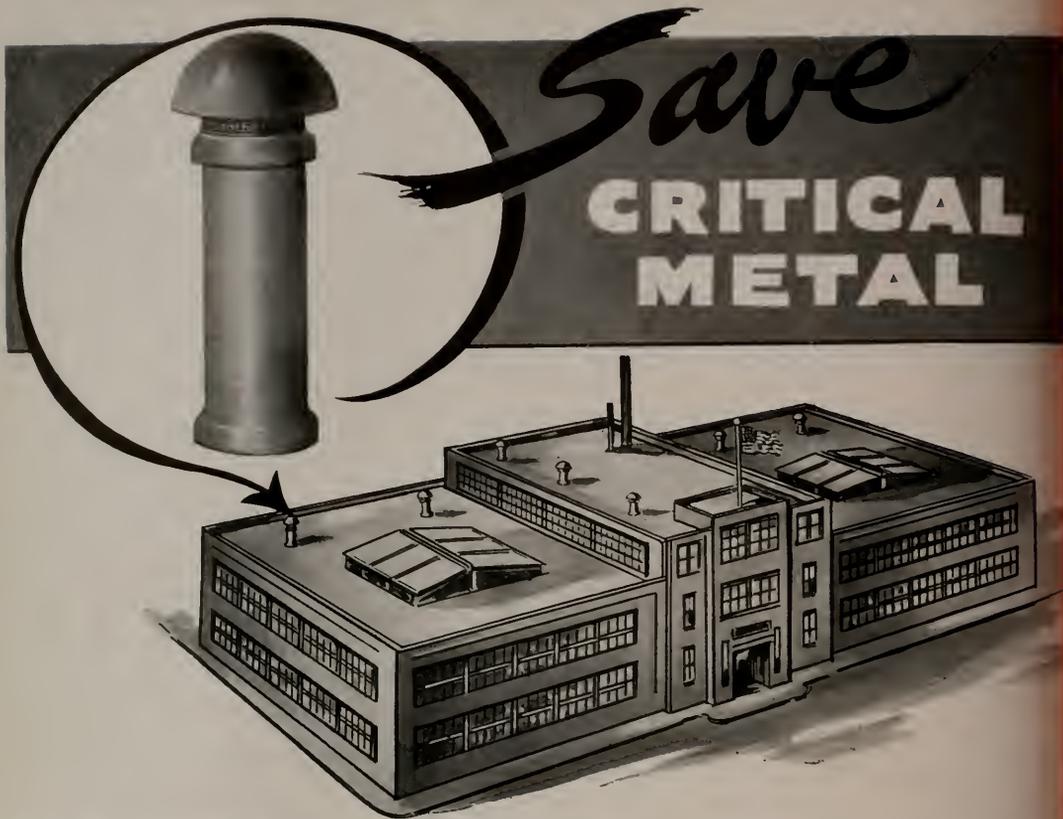
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Address.....

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AND
ENGINEER

DECEMBER, 1942



Empire Gypsum Plaster on the job in Aliso Village. Ralph C. Flewelling, Chief Architect; Eugene Weston, Jr., Lewis Eugene Wilson, Lloyd Wright, George Adams, Architects; R. E. Campbell, General Contractor; Steve Nelson, Plastering Contractor.

PLASTER - on the march

A continuous 8 foot wall 50 miles long... that's the vast amount of Empire Gypsum Plaster required to cover the walls and ceilings of the first section of 802 low rent units in Aliso Village, largest development in the war housing program of Los Angeles City Housing Authority. On plaster jobs, large or small, to make sure of uniform quality in every batch make certain the dependable name "Empire" or "Standard" is on every sack.

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ARCHITECT AND ENGINEER



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* Lieut. U.S.N.R.

DIM-OUT CASUALTY

THE current issue of *Architect and Engineer* was edited from a hospital bed where the editor sought surcease from pain due to the combination of a fog-dimmed morning and a flight of slippery concrete steps.

Mr. Jones' engineer visitors have been fascinated by the contraption that has been pulling out his kinks—*i.e.*, a traction arrangement on one leg, uncomfortable but effective. Fortunate, indeed, for Editor Jones, there were no broken bones.

NEXT MONTH

SOME more housing is in store for *Architect and Engineer* readers next month. Latest project to be completed by the Los Angeles Housing Authority, is Aliso Village, tenth and largest low rent housing development in the Southland city. Eight hundred and two dwelling units are provided besides an Administration building and community hall.

Another January feature will be a contribution by Jan Reiner, architectural designer and lecturer, formerly in the office of W. W. Wurster, on "Building Materials, the Grammar of Architecture," which will be illustrated with drawings by the author, including a proposed Lake Front Development in Chicago. Reiner predicts a prefabricated housing era after the war.

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HOLIDAY GREETINGS



In the one corner of the world, where the guiding light of peace still beckons to mankind, we pause and look back with joy to the many new friendships formed and the old ones growing stronger with each passing year. As we hopefully look forward to the future, we are grateful for your friendly patronage. To folks like you, who have in so many ways made our journey through the past a pleasant one, we pledge anew our sincere efforts to merit your continued patronage.

May you have a happy and prosperous 1943.

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RUNNING FIRE — By MARK DANIELS, A. I. A.

• BE AMBIDEXTROUS

Washington continues to howl that we are not war conscious, that we do not take the war seriously, that we don't realize there is a war going on. Well, why not? Most of us have one track minds, and said track is creaking under the demands that we pay our debts, buy bonds, buy war saving stamps, pay redoubled taxes, double our contributions to the Community Chest, raise scrap, pay a whale of an income tax, turn over our pennies, turn in rubber and turn out our pockets and, in short, do a hundred other things at once that even an ambidextrous juggler couldn't do.

The trouble is that the government is asking us to do too many things at once. We all have been trying to pat our heads and rub our stomachs at the same time. Now most of us can only rub our stomachs. War? That's nothing. Look what we gotta do!

• NEW ARCHITECTS' MAGAZINE

The third issue of the "TASK MAGAZINE" is out. The publishers, (Robinson Hall, Cambridge, Mass.) state that they take no advertising and depend solely on subscriptions for support—and possible donations. There must be a Daddy somewhere because some of our largest architectural journals, with large advertising sections, are deep in the red. Whether the magazine is published as paid propaganda or not is difficult to determine from one issue. This one is all Russian. It drips "SOVIET" from every page. Next month's copy may be quite different.

Mr. Hans Blumenfeld contributes a good article entitled "Regional and City Planning in the Soviet Union," but the leading article is "The Soviet Architect" by Mr. (or perhaps Herr) Hannes Meyer. In it Mr. Meyer gives an enlightening outline of the freedom from financial problems involved in the planning of the architect; how such costs are not pyramided on the project; how the architect, the artist and the artisan are just one big happy family, in the Soviet. In fact, I felt that he could have stuck closer to his title and said more about the Architect and less about the Soviet. However, the article is excellent and very informative. I have seen no publication recently which gives anything like TASK'S picture of architecture in the Soviet Union. For those who dote on the Modern it is a find.

• MAGIC LETTERS

The following is not a code cipher but the letters are magic never-the-less. They are the initials of some, but by no means all, of the bureaus and offices of the Federal Government in Washington.

A.D.B., W.P.B., C.A.A., M.E.W., F.S.A., C.I.A.A., B.E.W., I.M.M., C.O.M., B.R., B.P., B.F., J.S.M., O.P.A., T., C.P.C., O.N.I., P.O., S.C., S.P., M.I.D., C.A.N., C.C.C., F.B.I., M.C., C.O.I., D.L., E.D., I.N.T., F.C.C., F.R., L.C., F.T.C., O.P.M.

Do you know what they mean? Neither do I, but to the chief of each they are more important than U.S.A.

• ADVANCING CIVILIZATION

Predicated upon the American, and perhaps other conceptions of civilization, this war has advanced us about a hundred years. Products that might not have

been produced in a century of the ordinary run of development are now turned out in production. Others that are on the borderland of discovery have been put into practical work and use. Medicine, remedies and cures have been brought to uses undreamed of a couple of years ago. Even poor, neglected malaria, which has been the curse of millions for many years, is at least receiving close study of the great medical scientists. The sulfa drugs alone bid fair to revolutionize one branch of medicine. The treatment of aviators has developed an entirely new department in the medical profession. Dr. Herbert Evans, head of the biological research laboratories at the University of California, is working for the isolation of a substance that will enable aviators to remain for some time at great altitudes without relying on the oxygen tank.

New uses for old metals, new metals for old uses and new uses for new metals are being discovered by the score by the metallurgical chemists. Magnesium, tungsten, chromium and tellurium are now being put to unheard of uses. The field of plastics, according to the authorities, has only been scratched, yet the material is now being used in almost every engine of war the government produces. It is being used structurally in buildings and ships; for screws, nuts, bolts and rivets; in gadgets and guns; in ash trays and aeroplanes.

We were lolling along, paying tribute to others for the use of rubber which we wouldn't bother to produce. Now we are beginning to produce a synthetic rubber from our own resources that will set us free of this penalty on our extravagance. We are mastering the air to an extent far beyond the knowledge of most people who even go so far as to call themselves authorities on aeronautics. Hundreds of other discoveries have been brought out by this last two years of the sudden rush of the American creative and inventive genius and it was all caused by war. All of these things would, in all probability, have been developed eventually, in a hundred years or so. It took a war to do it in a decade.

• ONE GOOD PLACE

Our boys are fighting in at least one place where it is good to be in winter. That place is northern Algeria and Tunisia. I once fought hard to get there and harder to stay.

From the few remains of old Carthage in Tunisia through Bone in eastern Algeria to Oran at the western end, the south shore of the Mediterranean is a succession of historic places, picturesque spots and weird stretches abandoned to Berbers and nomadic Arabs. Before this war Algeria was becoming the mecca of winter resort seekers. Many of them crossed the Atlas Mountains to play roulette and baccarat in Biskra, the home of Hitchens' "Garden of Allah." In Algiers, about the center of the north shore of Algeria, there are climate, life, gardens and historical background enough to keep one interested for a period of two puny wars. The botanic gardens there are extensive and famous. The same old stone piers where the Barbarossa Brothers once anchored are still there and still used.

(Turn to Page 6)

NATIVITY

(Homage to Filippo Lippi)

by Jean Charlot

This painting by the Paris-born artist is one of many oils whose themes range from the religious to portrait studies and the depiction of Mexican rural life. Exhibition at de Young's is one of the largest and most comprehensive ever assembled of the work of Jean Charlot, one of the leading exponents of the modern Mexican movement.



JEAN CHARLOT'S ART NOW AT DE YOUNG MUSEUM

The De Young Museum, Golden Gate Park, is now offering its outstanding one-man exhibition, oils and drawings by the Paris-born artist and present American citizen, Jean Charlot, who for the past two decades has been an active member of the Mexican art scene.

Mr. Charlot, recognized as one of the world's finest muralists, will be remembered by local museumgoers for his brilliant talk on Pre-Columbian Art during that large exhibition held this summer. Charlot's fame does not lie alone in his murals now adorning the walls of the National Preparatory School and the Ministry of Education in Mexico, or the recently completed fresco for the University of Georgia. As an artist, he is adept at wood-carving and wood engraving, color lithography, gouache, oil and the various drawing mediums. As an archaeologist, he participated in the Carnegie excavations in Yucatan; as writer, he was at one time art editor of Mexican Folkways, has collaborated on numerous publications on Mexican art and is author of the book, "Art from the Mayans to Disney;" as teacher and lecturer, he has appeared on the faculties of the Students' Art League, New York, Chouinard School, Los Angeles, and the University of Georgia. This past summer he acted as guest instructor at the University of California.

Charlot's works are included in the Rockefeller Collection, the Phillips Memorial Gallery, the Museum of Modern Art and in galleries in Italy, France and Mexico. He has had one-man exhibits in New York, Canada, Los Angeles and is now

excellently represented in San Francisco's park museum by a large showing which contains some of his latest oil paintings, along with detail sketches and studies for his most recent mural.

In these days when the trend is toward our friendly neighbors to the south, no better way of "getting acquainted" could be found than by examining and enjoying the art of Jean Charlot, one of the most vital contributors to the modern Mexican movement.

INTERIOR DESIGNS EXHIBITED AT THE DE YOUNG THIS MONTH

Continuing in its efforts to "keep them creating," even though temporarily thwarted by the war, the De Young Museum has been showing the latest interior designs by an artist in the service, in this case, Private Bob Brown, U.C.L.A. graduate and practicing decorator in the southern city for the past six years.

These interiors were recorded by one of the nation's finest interior photographers, Maynard Parker, and represent varied examples of Brown's work, including "budget jobs" in which it was necessary to achieve a comfortable and gracious effect with a very small bankroll; "re-modeled" rooms where old furniture and furnishings have been used again, and color, texture and good tailoring were "called upon" to completely re-style a house; and among the many Southern California homes, two which were designed and furnished by and for the decorator himself.

All in all, Private Bob Brown continues to uphold the standards set at the De Young by the earlier shows of his "buddies," Privates Corrado Cagli, Yeisley and Hammer.

IN AN EVER CHANGING WORLD

Another new exhibition is the collection of water-colors and gouaches by Ralph Cornell Siegle who is well known on this coast for his unique talent in the field of marionette theatre.

From the American Federation of Arts comes a selection of color prints of paintings by famous masters on the theme, Madonnas, which, with the many oils by Charlot on religious themes, will help create the "holiday spirit" at the De Young this year.

THE "EXPANDED" AMATEUR ART SHOW REMAINS UP

The very popular amateur art show, Do You Pant to Paint? remains on view at the De Young, and new paintings and drawings have been added to the first group which went on exhibit during November. War Bond prizes have now been awarded to John Sweet for his small Still Life in oil, to Celia Insley for her watercolor, From the Hill, to Wilder Bentley for his color monotype, Lady of the Restoration, and to Jane Muir for her humorous terra cotta figure, Obese. Honorable mentions went to

Maya Natziger, Sgt. William O'Connor, Robert Muir, Fenner Fuller and Ralph Bertucelli.

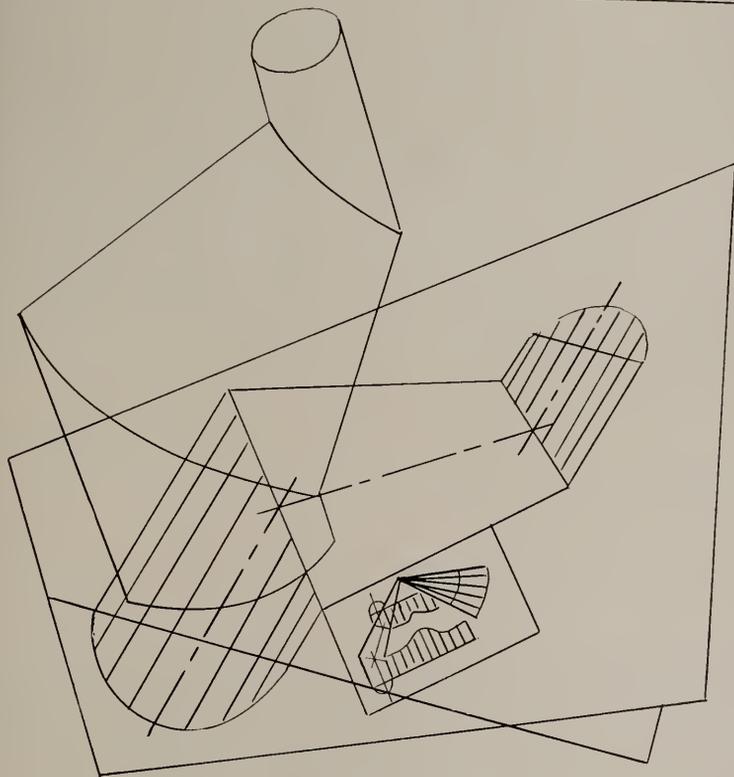
Considering that each contributor to the show is strictly a "non-professional," the exhibit has brought forth some excellent works showing a great deal of imagination and ingenuity, and it is hoped that, due to the success of this first exhibition of its kind, other like shows will follow in the future.

"WARTIME HOUSING" EXHIBIT AT S. F. MUSEUM OF ART

Rarely does a museum exhibition meet so directly a crisis in community life as in the show "Wartime Housing," which is on view at the San Francisco Museum of Art through December 27. Since Bay Region plants have attracted populations which demand facilities far in excess of present accommodations, plans must be rushed to meet the needs of the new workers and their families.

Failure of these plans would be nothing short of catastrophic. One recalls Ben Franklin's verse:

For want of a nail the shoe was lost.
For want of a shoe the horse was lost.



GRAM OF PIPE SECTION

CLAIRE FALKENSTEIN

FIRST PRIZE: EXHIBITION OF THE SAN FRANCISCO SOCIETY OF WOMEN ARTISTS

Awarded to Claire Falkenstein for a three-dimensional model of this diagram, entered in the division: "Art to Assist the War Program" at the San Francisco Museum of Art.

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☆ ☆ ☆

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You may be changing the whole course of a child's life when you give him a lamp. His young eyes need the best of light.

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If you want to be sure your gift won't be "tucked away" and forgotten, if you want to give a really friendly gift—give a lamp.

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For want of a horse the rider was lost.
For want of a rider the battle was lost.
For want of a battle the kingdom was lost.
And all for want of a horseshoe nail.
And tries again:

For want of housing the worker was lost.
For want of the worker production was lost, etc.

Furthermore, there is the post-war period to consider. To avert disasters of bad housing, to prevent the conversion of new communities into post-war slums and ghost towns, plans must be made to the last detail before being put into operation.

This exhibition presents tangible evidence of houses and plans which have already been executed under the supervision of the country's best architects and designers. Models and enlarged photographs show the effects of bad plans alongside of well solved schemes. Step by step the necessary cooperation of many specialists in a single enterprise is visually demonstrated. Finally, a section of the show points the way for individuals to take part in effecting good housing and decent living for workers.

Ernest J. Kump, architect, of San Francisco, discussed the exhibition in the galleries on Sunday afternoon, December 20, at 3:00 o'clock. Since the show, which was organized by the Museum of Modern Art in New York, confines itself to points of a general nature, Mr. Kump applied these points to local conditions in particular.

RUNNING FIRE

(Continued from Page 3)

A short run over the northern range takes you through the high plateaus, the land of plenty, dotted with ruins of old Roman cities where forums, amphitheatres, temples and commemorative arches in stone and marble still stand. If you haven't time to see Tingad and Djemila run a few miles west from Algiers to Tepaza and the museum at Cherchell where are statues of the gods that were sculptured when the Roman Empire was at its height. Yes, there are food, wines, beauty and climate in plenty where these boys are fighting and if we must fight here is one good place to do it.

• RESULTS OF WAR

Pawn brokers are thriving.

Gambling is tolerated in S. F. as in the old gold rush days.

The invisible menders are swamped with work.

The tax collectors have driven the pickpockets out of business.

Belts are returning. You can't take a hitch in suspenders.

• PEGS AND HOLES

A year ago a high ranking officer of the army told me that this time the war department was going to put the square pegs in the square holes and the round pegs in the round holes. From my observation of what they have accomplished along this line I am convinced that if one of the scientific bureaus should enroll Mr. Einstein on their staff they would put him at translating foreign languages.

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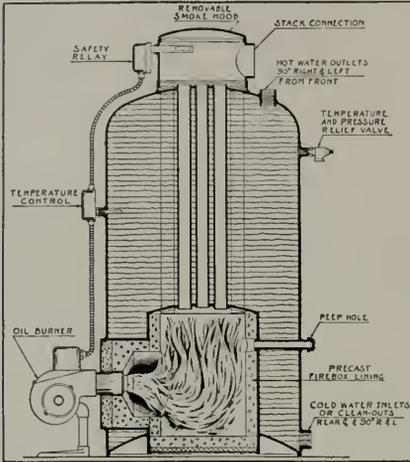
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Steel construction saved time — Long panels were quickly bolted into place so that the whole structure was enclosed in a fraction of the time required for masonry walls.

Flame-resistance—Steel construction has proved much better under bombings than conventional construction. It *does not shatter*. If a section is blown loose by a near miss, it can be quickly replaced. The main framework of the building is more likely to remain intact unless it suffers a direct hit.

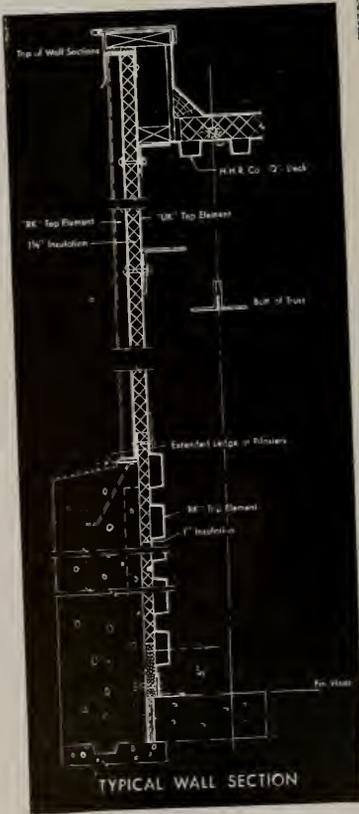
Portability — Sectional steel structures can be easily dismantled and moved to other locations—with little loss of ma-

terials or time.
Blackout or window type construction—can be used at will. Walls are designed with insulation against heat and cold. These units may be easily erected.

Types of steel used—For many applications, U-S-S uncoated plain steel or iron is satisfactory. Where corrosion is severe, U-S-S Copper Steel or U-S-S Galvanized Sheets are most commonly used and offer long service life.

Where immediate painting is desired, U-S-S Dul-Kote offers a surface which holds paint tighter, prevents chipping and flaking.

Availability — Your government in its war effort has first call upon every pound of steel we make. Other than war construction must necessarily wait upon this need. In foregoing the use of this steel you can take pride in knowing you are making a definite contribution toward victory.



U-S-S ROOFING AND SIDING SHEETS

COLUMBIA STEEL COMPANY, San Francisco
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**GLASS-ENCLOSED STAIRWAY, STERN HALL, NEW GIRLS' DORMITORY,
UNIVERSITY OF CALIFORNIA, BERKELEY**
CORBETT & MacMURRAY AND W. W. WURSTER, ARCHITECTS, ASSOCIATED

Staff Photos by Sally Carrighan



**WINGS OF STUDENTS'
ROOMS WITH BALCONIES
FOR SUN-BATHING**

A WOMAN'S IMPRESSION OF THE NEW GIRLS' DORMITORY AT BERKELEY

By **SALLY CARRIGHAR**

"Don't refer to the social hall as the living-room," said the resident director, leading the way in the new girls' dormitory at the University of California, Berkeley. "It is the drawing-room." And a moment later:

"One reporter spoke of these black and white fur rugs as being cow-hide. We wish you would call them giant pandas."

But the grand terminology wasn't necessary to make the dormitory impressive. Already the visitor was trying to imagine a college ex-

perience lived in a world's-fair setting. Understatement in the naming of things might be an advantage. It might help to restore a balance between the stimulation of the site, the structure, and the furnishings, and the quiet reality of trying to learn some thousands of new facts every week.

Perhaps the dramatic quality of the dormitory reflects the architects' pleasure in the creative possibilities of the project. One can guess that it was a job in which material re-

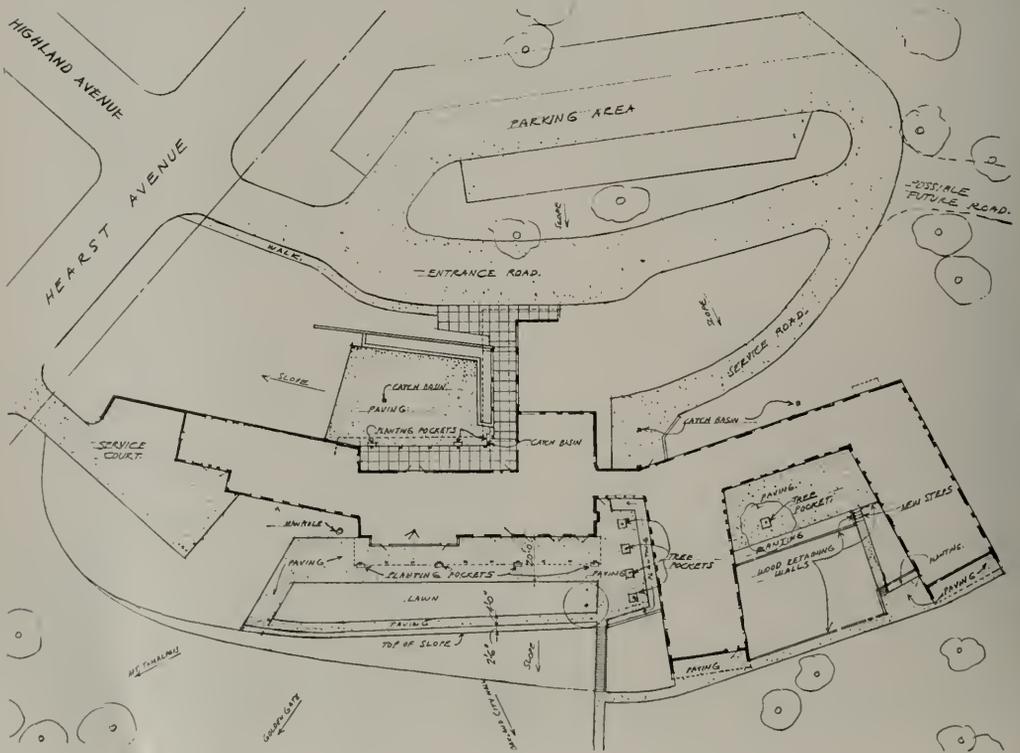
wards seemed relatively unimportant — such fun it would be to design the first girls' dormitory in the world's largest university, the home for attractive young people during one of the happiest periods of their lives. The site was one of almost unsurpassable beauty, and even the practical aspects were benign. For the grant was generous—more than \$285,000, and that donated by a single individual, Mrs. Sigmund Stern, whose tastes are far from rigid. No doubt plenty of difficulties arose as the plans were carried out, but the first impression as one enters Stern Hall is that somebody had a glorious time producing this.

Because the building is a first in several respects, it is being discussed from every angle and the architects may come in for some criticism that doesn't belong to them. They, for instance, may not be responsible for the fact that only 90 girls have been given exclusive use of more than four campus acres—and such acres!—tree-shaded, with a view of untouched hillsides in one direction and the Golden Gate

in the other. Not many such perfect sites remain around the campus.

The dormitory cost a little more than \$3,000 per occupant. Although that is not high compared with dormitory-costs in private universities, the University of California is largely tax-supported, and its housing problem is acute. Girls who do not live in sorority houses must distribute themselves in boarding houses off the campus. To remove 90 of these girls and place them in a giant panda atmosphere seems undemocratic. The girls were not even chosen by lot or by order of application, a fact which isn't architecture but shows an attitude that may have influenced the architecture.

Given the superb site and comparatively large appropriation, the architects made a commendably practical start. They sent a questionnaire to every woman's college in the United States, asking about dormitory room-sizes, study halls, bathroom and laundry facilities, kitchen and dining-room equipment, and many other things. If already they visualized





CENTRAL SECTION OF DORMITORY, CONTAINING SOCIAL ROOMS



SERVICE WING AT HEARST STREET END OF DORMITORY



MAIN ENTRANCE IS ALONG ONE SIDE OF PATIO



PATIO FACES NORTH BUT DETAILS CAPTURE SUNLIGHT



THE DORMITORY HAS A BACKDROP OF HILLSIDE AND TREES

their black floors, tin lighting fixtures and tub-sized ash trays, they also were determined to make the building function well.

DORMITORY HAS PRACTICAL FEATURES

The most casual visit shows that the finished dormitory does have strikingly practical arrangements. For example, the cold rooms for food storage are so large and efficient that supplies can be bought in very economical quantities. Whole slaughtered animals can be hung. Looking towards the changes that a war might bring, the kitchen was designed for quick conversion to self-help.

Bathrooms are models of convenience. In addition to an abundance of plumbing installations, there is a ventilated locker for every girl. A laundry on each corridor is something the girls will appreciate, as are also the balconies with solid metal balustrades, for sunbathing. Even such details as a full-length

mirror on each corridor have not been overlooked.

The maids complain that they have to do too much walking, on floors that are too slippery, and a housekeeper wonders how some of the windows could be reached for washing. But there can't be many dormitories where the mechanics of life would be less bothersome.

Thoroughly practical, too, are the basic architectural features. So closely have the architects adapted the building to the natural setting, that anyone can look at the plot plan and visualize the site. The site, one sees, must be a rounded hillside. (It is the one northwest of the Greek Theatre, beyond the little canyon.) The long, one-room-wide axis of the building doesn't **curve** around the hill but it bends in two places. At the Hearst Street end, where the bulge of the hill is greatest, the dormitory is only one story high. At the canyon end, where the slope falls away, the



DRAWING-ROOM; WINDOWS OVERLOOK THE GOLDEN GATE



DRAWING-ROOM FIREPLACE. SCREEN IS HAND-WROUGHT TIN



ENTRANCE HALL; STAIRWAY, LEFT, TO DINING ROOM



DINING-ROOM, GROUND FLOOR CENTRAL SECTION

height is four stories (shallower stories, however).

The harmony between hill and house is very pleasing, especially from the exterior. To some methodical people it may be vaguely disturbing to walk along a corridor that takes a new direction suddenly, for no reason apparent **inside** the building—or to turn a corner and find it almost, but not quite, a right-angle corner. We are "going along with the hillside," but the hillside isn't seen as a whole from anywhere within. One remembers that caves were the perfect adaptation of shelters to sites and that right angles, squares and circles may have represented an advance in organized thought. There have even been **symmetrical** buildings that didn't fight their settings.

The functions of the dormitory are cleverly and economically segregated into three parts, each of which is structurally a unit.

At the Hearst Street side is the compact section of service rooms. Where these come to an end, the building takes a new direction and acquires new proportions. The social rooms are in this next part: drawing-room, "beau parlor," library and office on the top floor; dining-room and utility rooms on the floor below. Ceilings are very high and wide here. Through a door and around another bend, and the section of students' rooms is reached. Here the ceilings are low and rooms are small; everything is packed in tight.

Economy is evident too in the way that the basic materials were used—decoratively, but frankly. That the building is reinforced concrete is obvious everywhere, inside and out. This makes for a degree of starkness which is all the more noticeable on the elegant Berkeley campus. But the dormitory isn't cold. Light, air and color have seldom been used with greater appeal.

COLOR TREATMENT IS DARING

The unconventional use of color is apparent almost as far as the building can be seen, for various parts of it are colored differently, with brush coats in blue, linen, and terra cotta. Other colors in the trim, and tiles, and metal trellises for eventual vines add their sparkle to

the exterior. But it is on the inside that the profusion of colors is most striking.

The floors in the social rooms are black, an effective background for the giant panda rugs and for the scarlet carpet on the stairs. In the girls' wings, the floors are red. Chartreuse is conspicuous, also yellow, a glowing blue, and a subtle red. At right angles to the north bank of windows in the drawing-room hang a series of drapes, like vertical fabric louvres, each in a different brilliant color. The dining-room is red and blue.

It is difficult to separate the architecture and furnishings, for they seem to have been planned together. The decorator was Mrs. Frances Elkins of Monterey who worked with Mr. Wurstler on the Yerba Buena Club at Treasure Island. The dormitory shows the same kind of imaginative collaboration.

Most of the furniture is in the light shades between blonde and cinnamon, with black accents, as in the grand piano. There is much shiny tin, hand-wrought in Mexico, in screens and in the giant—truly giant—lighting fixtures. Bright tile tubs for plants are also huge. Other tile receptacles for cigarettes would be measured in feet rather than inches. In the "beau parlor" the windows are covered with black voile curtains, and black and white chintz drapes. The floor, too, is black, the furniture red and white.

A mere list of these brilliant elements sounds as if the dormitory were staggering. But the color is so skillfully balanced with an abundance of space and light that the effect is stimulating, certainly, but in most ways lovely.

The social rooms are particularly spacious. For instance, the drawing-room is 25' x 48' and seems even larger because of the way the windows and furniture are grouped. On the patio side the bank of windows are high for a full view of the rising hills; on the Bay side they compose the lower half of the wall so that the great distances outside are visible, but without a glaring area of sky.

The two stairways in this part of the building are glass-enclosed from foundations to roof, providing one of the airiest and most pleasing effects in the dormitory. Mounting them, in all the light, seems more like soaring than the

heavy business of lifting one's weight. One staircase is spiral with a simple iron balustrade. The other rises among the lacey leaves of bamboo growing permanently inside the glass as in a conservatory.

ABODE FOR PICK-UP IN MORALE

As a place to go for a pick-up in morale, a better building than Stern Hall could scarcely be imagined. Particularly for picking up from disillusionment or cynicism . . . for the dormitory's freshness is not naive. In fact, some things about it suggest the kind of sophistica-

years ahead more and more multiple-unit dwellings will be built. The dormitory raises the question of how far beyond the occupants' tastes such dwellings should be.

Of the six or eight girls' rooms that I saw at Stern Hall, none was extreme. What their occupants had attempted might be described as femininity with a light touch. These were not rooms the girls' mothers would have furnished; there were more maps than flower prints on the walls, and several showed a modern respect for simplicity. But apparently all the girls like delicate effects: gauzy curtains,



STUDENTS FURNISH ALL BUT BEDS, CHAIRS, DESKS

tion that is nostalgic for freshness. Is that kind of stimulation truly suitable in a home for girls?

And is any home justified in being so provocative? Home is a place to be tired in, as well as serving other purposes. The designers may not know it, but college girls can be very, very tired. The dormitory might actually be annoying if one were cramming for exams.

And considering the average background of students at a state university, is it certain the girls feel easy in this new home? In the

pastel colors, miniature figurines. Though some of the rooms didn't show much imagination, all were places where one could relax.

One thing the dormitory needs, I should say, is an undramatic lounge where a girl could go when her mind got cramped with theorems and the narrow walls of her own room, where she could go and vegetate. Better would be a series of small lounges that could become beau parlors between 8 and 10 p.m., so that

(Turn to Page 31)

HOW THE BRITISH HAVE ORGANIZED THEIR STUDY OF POST WAR BUILDING

The British organization to make plans for post-war building heads up in the Directorate of Post-War Building of the Ministry of Works and Planning. A secretary has been appointed to take care of the actual work. An Installations Policy Committee, a Structure Policy Committee, and a Design Policy Committee will report to the secretary.

The study committees carrying on research and development in the building field report to the three policy committees as shown in the list below.

The British set-up includes a committee on Codes and Practices whose functions seem to be similar to the ASA Building Code Correlating Committee, which plans, supervises, and correlates the work of the various ASA committees dealing with building code matters. Materials, specifications, dimensional speci-

cations, and methods of test, in the British set-up, will be prepared by a Standards Committee. The work of these committees will be cleared through the British Standards Institution.

Committees of the American Standards Association which are working on comparable building problems, and which will be kept in touch with the British work through the new liaison arrangement, just completed, are also listed below. To make the American picture a little more concrete, a partial list of standards in the fields of these committees has been added in parentheses and in smaller type. No attempt has been made to include a large number of American Standard materials specifications and methods of test developed through the American Society for Testing Materials and other organizations.

British Committees Reporting to the Design Policy Committee	ASA Committee Nearest In Scope
Design of Houses and Flats	
Design of Houses and Flats for Scotland	
Committee on House Construction	
School Planning Group	
Business Buildings Committee	
Farm Buildings Committee	
Committee for the Architectural Use of Materials	
Acoustics Committee	{ Acoustical Measurements and Terminology—Z24 (Acoustical Terminology—Z24.1-1942 Noise Measurement—Z24.2-1942)
British Committees Reporting to the Structures Policy Committee	ASA Committee Nearest In Scope
Steel Structures Committee	{ Building Code Requirements for Iron and Steel—A57
Reinforced Concrete Structures Committee	{ Building Code Requirements for Wood—A61
Timber Structures Committee	{ Specifications for Plastering—A42 (Specifications for Gypsum Plastering, Including Requirements for Lathing and Furring—A42.1-1942)
Walls, Floors, and Roofs Committee	{ Floor and Wall Openings—A12 (Safety Code for Floor and Wall Openings, Railings, and Toe Boards—A12-1932)
	{ Walkway Surfaces, Safety—A22
Committee for Fire-Grading of Buildings	{ Building Code Requirements for Fire Protection and Fire Resistance—A51
	{ Fire Tests for Building Construction and Materials—A2 (Methods of Fire Tests of Building Construction and Materials —A2.1-1942 Methods of Fire Tests of Door Assemblies—A2.2-1942)

**British Committees Reporting to
Installations Policy Committee**

**ASA Committee Nearest
In Scope**

Lighting Committee	School Lighting—A23 (Standards of School Lighting—A23-1938) Industrial Lighting—A11 (Industrial Lighting—A11-1942) Building Code Requirements for Light and Ventilation—A53
Heating and Ventilation Committee	Chimneys and Heating Appliances—A52 Building Code Committee for Light and Ventilation—A53 Dimensioning of Furnaces—B50
Mechanical Installations Committee	Elevators—A17 (Safety Code for Elevators, Dumbwaiters, and Escalators—A17.3-1942) Mechanical Refrigeration—B9 (Safety Code for Mechanical Refrigeration—B9-1939) Refrigerator Standards—B38 (Code for Testing Domestic Refrigerators—B38c1-1931)
Electrical Installations Committee	National Electrical Code—C1 (National Electrical Code—C1-1940) Electric Ranges—C71 Electric Water Heaters—C72 Refrigerators—B38
Gas Installations Committee	Gas Safety Code—K2 (Gas Safety Code—K2-1927) Requirements for City Gas—Z27 (Recommended Practice for the Installation, Maintenance, and Use of Piping and Fittings for City Gas—Z27-1933) Gas-Burning Appliances—Z21 (Hotel and Restaurant Ranges and Unit Broilers—Z21.3-1940) Domestic Gas Ranges—Z21.1-1940 Private Garage Heaters—Z21.4-1932 Gas Clothes Dryers—Z21.5-1940 Incinerators—Z21.6-1932 Installation of Conversion Burners in House Heating and Water Heating Appliances—Z21.8-1940 Hot Plates and Laundry Stoves—Z21.9-1940 Gas Water Heaters—Z21.10-1941; Z21.10WS-1942 Gas Space Heaters—Z21.11-1940 Draft Hoods—Z21.12-1937 Central Heating Gas Appliances—Z21.13-1940 Gas Conversion Burners—Z21.17-1940 Refrigerators Using Gas Fuel—Z21.19-1942 Automatic Pilots—Z21-20-1940 Portable Gas Baking and Roasting Ovens—Z21.28-1941
Plumbing Committee	Plumbing—A40 (Cast Iron Soil Pipe and Fittings—A40.1-1935 Air Gaps in Plumbing Systems—A40.4-1942)

American Committees for Which British Set-up Has No Committee of Similar Title

- Coordination of Dimensions of Building Materials and Equipment—A62
 (This Committee is interested in design problems common to most of the British committees listed above.)
 Building Code Requirements for Fire Extinguishing Equipment—A54
 Administrative Requirements for Building Codes—Z55
 Building Code Requirements for Minimum Design Loads in Buildings—A58
 Building Code Requirements for Reinforced Gypsum Concrete—A59
 (Building Code Requirements for Reinforced Gypsum Concrete—A59.1-1941)
 Building Code Requirements for Signs and Outdoor Display Structures—A60
 Safety Code for Portable Steel and Wood Grandstands—Z20
 (Specifications for Portable Steel and Wood Grandstands—Z20.1-1941)

A CARMEL, CALIFORNIA HOUSE UNFOLDS

This house in Carmel, being mostly for summer use, is closely knit and intimate, and yet can unfold itself into something quite spacious. The entrance via the side terrace leaves an unbroken expanse for the living room and front balcony to extend across the lot. It also affords an opportunity for the lounging and sleeping balcony in the upper part of the living room.

Through this small house runs a rose red pole holding in place a floor, a balcony, a roof. On the outside are painted panels in tones blending with a screen of trees found on either side of the narrow lot. Both post and applied design are so handled that they develop the character and individuality and interest of the house.

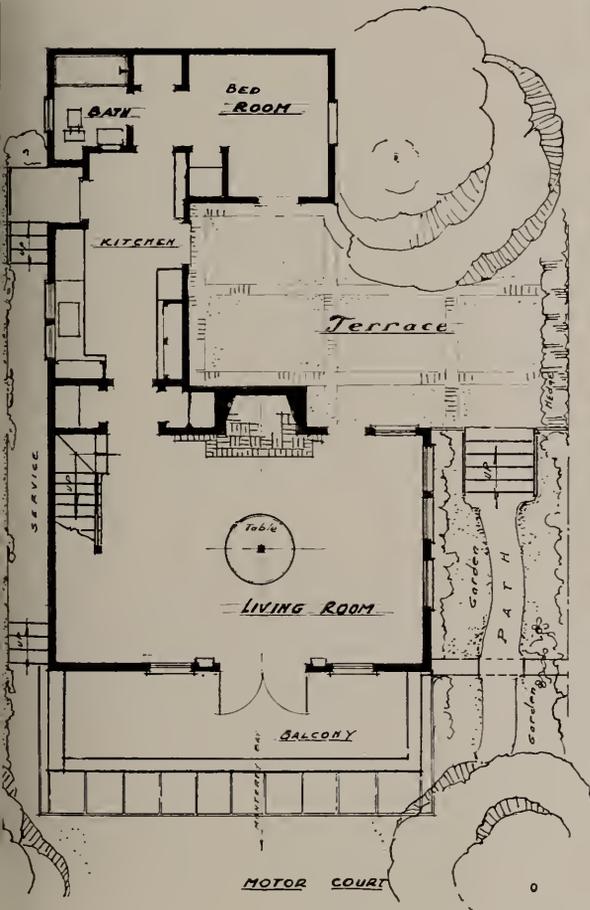
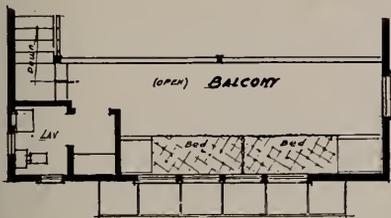
All these areas and spaces have possibilities of coming together as a common area, or separating into somewhat individual units. All are so oriented as to catch the maximum of Carmel sun and afford glimpses of Monterey Bay.

Interior finish is of plywood and pine. The walls are a soft putty color, with a red ceiling picking up the color of the post. This post, as seen with its round table in the living room, has proved a hub or rallying space for family life.

A lean-to kitchen and bedroom are at the rear and have easy access to the terrace.

In a plan such as shown the imagination needs little stimulation as to the possibilities for expanding and varying the social and home life.





PLANS
 HOUSE FOR MR. AND MRS.
 GUS OLSON, CARMEL, CALIFORNIA

WAR WILL CREATE A NEW PHYSICAL WORLD

A new physical world, utilizing the methods and materials developed in wartime, will arise in the post-war era, Dean Leopold Arnaud of the Columbia School of Architecture predicts in his annual report to Dr. Nicholas Murray Butler, president of the University. Dean Arnaud foresees a period of "great creative fecundity," with an unprecedented need for buildings.

"The ever changing processes, methods, and materials which are being developed daily during the war construction period," Dean Arnaud declares "will have a profound influence upon the physical aspect of the post-war world.

"New forms that were in their earliest embryonic phase only a few years ago are developing rapidly, and are already quite generally accepted. Although applied at present to machines of war, it is inevitable that, eventually, they will be applied to the requirements of peace.

"Industrialists, economists, and designers are aware of these elements of change, and are actively preparing by study and experiment for the period of activity which lies ahead. It is conceded, therefore, that building activity in the near future will be tremendous in scope; and because the changes in methods and forms will be drastic and general it should be a period of great creative fecundity. New methods, new materials, new problems, new social and economic requirements will produce not only a new era, but also a new physical world."

"Planning" for the whole social structure in its every phase is a word heard on all sides, and most of this "planning" will involve building of some kind, Dean Arnaud points out.

"The problems include the replanning of townships; the rearrangement of urban areas; the erection of countless buildings of every kind; the renovation, alteration, and re-equipment of outmoded or overaged structures; the conversion of industrial plants from production for war to production for peace; and the housing of a large percentage of the population which will change its mode and place of residence. In this nation-wide plan for building and rebuilding, the architect must have a defi-

nite place."

For Columbia architectural students the problem of finding employment does not exist at present, Dean Arnaud reports. "On the contrary," he explains, "we cannot fill any part of the urgent demands that come to us, as the need for draftsmen, superintendents, and designers continues to be acute. This is a condition which exists throughout the country and is of real concern to all the schools of architecture.

"Many students, especially the women students, accepted positions of this nature for the summer, because of the experience offered, because of the salaries obtainable, and chiefly because they have felt that they were contributing their knowledge to the war effort. Now they must make the difficult choice of giving up these jobs to return to school, or of continuing and thereby seriously interrupting their professional studies.

"Apart from patriotism it is difficult for these young people to resign from positions which pay extremely well, fifty to a hundred dollars per week, especially when they know how great is the demand for draftsmen and when the employers often offer them raises in salary to induce them to start."

The Association of Collegiate Schools of Architecture, Dean Arnaud says, has continued its efforts to have the student of architecture recognized by the selective service boards on the same basis as the student of engineering.

"Although we have not met with complete official success, we have bettered the architect's position, and have obtained favorable action from many local boards," he adds. We still believe that the various governmental agencies will soon modify their judgment, and give equal recognition to engineer and architect in all cases.

"Although the title 'architect' is not used by the armed forces, many architects are now occupied in designing and building for these services, either as commissioned officers or as 'engineers,' and are given assignments of great responsibility, which proves beyond question their practical value."

INDUSTRIAL CAMOUFLAGE

By LEROY E. KIEFER, with General Motors Co.

When I was asked to talk to you* on the subject of Industrial Camouflage, I felt rather hesitant because I felt that most of you are familiar with its problems and are probably familiar with its technique. I cannot set myself up as an expert in the field. Experts aren't made in the few months which have elapsed since Pearl Harbor, but I can say that my department has spent most of its time since then working on camouflage in all its ramifications. Previous to Pearl Harbor we were the Industrial Design Department of General Motors Styling Section, and as such had designers with a wide experience at our disposal. At times we have had more than fifty men engaged in camouflage study. These men are all trained to attack new problems and they stepped into this one with enthusiasm. In a short time they combed over most of the published information and combined it with their own ingenuity to develop a catalogue of ideas and methods, with the materials to carry them out.

I shall attempt to give you an outline of our experiences with the study of Industrial Camouflage. In the last war camouflage was employed on a constantly increasing scale. Ships were covered with dazzle patterns, aimed to confuse the enemy more than to hide the ship. Roads were screened and gun emplacements carefully hidden. I presume all of you are familiar with the thorough job the Germans did on the great gun which shelled Paris.

Aerial reconnaissance was developed in the last war and the war soon became a three-dimensional one. Camouflage was then necessary above as well as in front of military installations. Airplanes, however, had a relatively short range and, with the exception of Zeppelin bombing, there were few attacks on civilian installations. Even the Zeppelin attacks were ineffectual and had value chiefly as a nuisance.

There are many differences between the last war and this one, but one of the greatest is the

tremendous development of Aviation as an attack weapon. Our planes, and those of our enemies, are capable of bombing almost any objective and one of the most important objectives is the reduction of production and transportation facilities, and its by-product—the destruction of civilian morale. It has been said recently that the German air blitz against England was on the verge of success when it was broken off.

Because all aerial activity, other than actual air combat between opposing planes, depends upon observation at some distance of fixed or relatively slow-moving objects, camouflage has come to be much more important than ever before. One of the best ways to avoid enemy interruption of an important objective, be it military or civilian, is to make it difficult for the enemy to see or find it. This is the job of camouflage.

MILITARY AND CIVILIAN CAMOUFLAGE

Camouflage breaks down into two major divisions — military and civilian. The chief difference is that the military camouflage is usually in an active theatre of operations and generally is concerned with relatively small installations and often must be mobile. Civilian camouflage — or more specifically, industrial camouflage — is almost always a long way from the active front, is definitely static and covers large areas. Industrial camouflage is not simply dealt with. The problems are many and varied. Almost always the camoufler is called in after the site has been selected and the building built. It is then up to him to do something with it.

I grant that this is not good planning, but the reasoning seems to be this: Let's get under way as soon as possible and plan our building for maximum production efficiency, if we have to camouflage we can do it later. This reasoning accounts for the construction of the tremendous plants under one roof. Planning an

* Detroit Chapter, A.I.A.

operation under one roof permits the inevitable production changes, which may eliminate one department and double or treble another without any basic changes in building structure. So far, paying no attention to camouflage has been good judgment for we have had no bombing. If we ever get regular bombing there may be good reason to develop de-centralization within a plant, but that time is not yet here.

I shall digress for a moment to outline the detection of camouflage. This depends for the most part on aerial reconnaissance. An observer is dispatched to the area for the purpose of taking pictures of the target from all angles and with all methods of photography. The important methods are:

1. Ordinary black and white photography
2. Color photography
3. Stereophotographic views—black and white, and color
4. Infra-red photography

The first two are self-explanatory; the third — stereophotography — makes it possible to measure the relative heights of objects and by this method a low decoy, which in plan view might match or imitate a plant completely, can be detected.

Infra-red photography merits a more detailed description, not only because of its recent development, but because of its value in camouflage detection. In order to obtain an elementary knowledge of the practice of infra-red photography, it is perhaps best to begin with a brief outline of what infra-red rays are.

To render visible the different colors of light which make up white light, a glass prism may be used to spread it out into the familiar spectrum. The colors range from violet through the blues, greens, yellows, oranges and reds, to the deep red. Each color is of a different wave length, which increases as the spectrum is traversed from violet to red. One measurement of wave length is the millimicron, which is one-millionth of a millimeter long. The visible spectrum covers a range of wave lengths from about 400 millicrons at the violet end to about 700 millicrons at the deep red.

There exist beyond each end of the visible spectrum radiations which are invisible but

similar in nature; ultra-violet of short wave length and infra-red of longer wave length. The latter extends indefinitely beyond the visible, and as the wave length increases, finally merges into heat waves and then radio waves. It is, however, only the infra-red rays near the visible red which are of photographic value and wave lengths between 700 millicrons and 860 millimicrons are used, a band which is almost as wide as the visible green and red regions.

The military value of infra-red photography is based on the fact that common objects reflect visible light and infra-red rays in quite a different manner. For instance, the chlorophyll in green vegetation absorbs visible light so that it photographs dark in any ordinary photograph, but it reflects infra-red radiation so that it photographs light in an infra-red photograph. The opposite is true of a blue sky, which is light in ordinary photographs but dark in infra-red, since there is little infra-red radiation in a blue sky.

More important still is the fact that infra-red rays freely pierce atmospheric haze, so that it is possible to take photographs through the haze of the ground below or of distant horizons which the eye cannot see.

To the camoufler the importance of infra-red photography lies in the fact that it can generally detect artificial foliage, distinguish certain types of evergreens from deciduous trees since the former photograph dark.

The foregoing statements would make it appear impossible for camouflage to evade intense photographic reconnaissance. In actual practice this is generally so. However, even though the bombardier may have detailed instructions as to the exact position of his target, he still must see it and recognize it before he can bomb it. Therefore, any camouflage steps which decrease the visibility of the target lessen his chances of recognition, and hence are a step in the right direction.

METHODS OF CAMOUFLAGE DESCRIBED

The four major methods of camouflage are: 1. Imitation; 2. Deception; 3. Decoy; 4. Confusion.

1. Imitation is of course the most used and is exactly what the name implies. It is the

blending in with the surrounding territory of the subject in question so that, whether it be in the country or the city, the desert or the mountains, summer or winter, the subject appears to be part and parcel of its own landscape, with no jarring note to distinguish it from its setting. Camouflage by imitation is the most widely used, it is at once the easiest to plan and the most difficult to accomplish; easy, because its scheme is dictated by the surroundings themselves; difficult, because to imitate many of nature's formations by artificial means is no simple task.

2. Deception camouflage is a method which does not attempt to completely hide the subject but to change its appearance enough so that it resembles something of a different and innocuous nature. The principle is employed to deceive the bombardier who is looking for a power house and finds only an "apartment house" resplendent with awnings and shrubs.

3. Decoy camouflage is the construction of dummy objectives in conjunction with the concealment of real ones so that the enemy bombs will be attracted to a non-strategic place. Lighting of decoy fires comes under this heading.

4. Confusion—this least used camouflage procedure consists of concealing the objective from the bomber by impairing his clear vision of the area, either through the use of abundant smoke-screening day or night, glaring searchlights, or presenting to his eye such a multiplicity of targets that he cannot decide which to choose (as in the case, for instance, of four or five false oil depots, and one real one; three false airports, one concealed).

[The speaker here presented a series of slides of model studies of the various degrees of camouflage from the simplest toning to the most complicated imitation of surroundings. The studies are described under the following sub titles:]

1. A small plant having many of the characteristics of actual plants, such as: a. Sawtooth roofs; b. Water tank; c. Power-house with stacks; d. Parking lots; e. Railroad spur and driveways.

Here is the plant—note the dark roofs and prominent lines and shadows.

2. The initial stage of Industrial Camouflage, which is merely a toning down process. All contrasts are eliminated and the general tone of the building is matched to the surrounding areas by means of paint and other material.

3. In this job the trees of a nearby area were extended up to the building and the pattern of the trees was extended over the building. This is, as you can see, not very successful in depth of color and we have left it this way to show the importance of matching surrounding tones. One thing particularly successful here, is the killing of shadows from the stacks and water tower.

4. The experiment shows the possibilities of deception; breaking the large factory up into two rather small unimportant units. In this case a dummy might be constructed a half mile away.

Note on this model the start of actual camouflage construction. Flats and frames have been used to break up the long lines of the roof into a series of small irregular shadows, and a dummy road has been carried up over the building. At this point Industrial Camouflage becomes an engineering problem for none of our plants is designed with the idea of supporting additional loads of this type. Then, too, the additional construction itself must be structurally strong enough to support wind and snow loads.

5. Here is one which shows about the ultimate in camouflage. Earth has been banked up around the building to eliminate sharp shadows; netting and osnaberg garlands have been used to flatten the roof and give texture; the parking area has been netted to eliminate the tell-tale of parked car reflections and shadows and even the stacks have been eliminated by means of blowers, etc. (admittedly a costly procedure).

6. Here is the plant in a city area, as many of our plants are. Just to relieve the monotony we made this a winter scene. Houses made from cheap framing and wall board could be constructed on the roof and cut-outs of flat panels could serve to eliminate the regular outline of the building.

These models serve to illustrate in a simple way the various lengths to which camouflage may be extended.

SCALE MODELS ASSURE BEST RESULTS

The first actual step in Industrial Camouflage is, of course, a thorough study of the area to be camouflaged. The Army Engineer Board recommends a mosaic of shots—4 taken from 3000 ft. and one mile, 4 taken from 10,000 ft. and 3 miles and two vertical stereophotographic from 3000 ft.—one in color. From these the scheme can be planned, a model of the structure can be built and the proposed measures tried out to scale. At times the scale model step has been eliminated but it has been found that a model often prevents costly revisions in the field. Finally the drawings are prepared for the scheme and it is executed full size. After the first studies have been made it is advisable to make a field check to be sure that the general scheme is correct and that the scale is right. By field check I mean the actual construction of a portion of the design as it will be finally installed. The more carefully the scheme is executed, on the drawing board, the more likely it is to succeed and with the minimum of field change.

This part of the country has as yet seen no actual camouflage installation but a great many companies are making studies now for possible future installation. On the Eastern and Western seaboard, however, tens of millions of square feet have been and are being treated.

Most of the work now being done is in the more simplified brackets. By that I mean that so far it is being done chiefly with various types of paint. Some netting is being used over parking lots and at some plants where the management objected to camouflage treatments on the permanent walls of the buildings, temporary ones about two feet outside of the original ones have been erected and used for the camouflaged surfaces. Some jobs have just recently been started where construction, in the form of netting is being erected to get rid of the long straight shadows caused by monitors.

Materials employed in camouflage are limited only by the designer's ingenuity. Paint, in all its forms, is of course, the number one material in camouflage work in spite of all the criticisms leveled at it. Every paint salesman

has had the set of nine color chips approved by the U. S. Army for the last six months or more. It is always dead flat and is made in infra-red reflection and not infra-red reflective—the latter being somewhat cheaper. Most of the infra-red reflective paints are made so by the addition of special chromium salts. These are difficult to obtain today, as you may well imagine.

The paints used in camouflage are generally short lived—most of them being set for a 4 to 6 months of life. This is long enough, for in most climates camouflage changes somewhat with the seasons and must be constantly serviced in order to keep its original effect. A great variety of paints have been used and all have their place. Oil vehicle paints are used chiefly for wall surfaces. Bituminous emulsions, with water vehicle, are used for roof surfaces, particularly where tar and gravel has been used. The tar does not burn through this type of paint. Bituminous emulsions are also used where earth and asphalt surfaces are painted.

Special traffic paints are used on runways and other wearing surfaces. There has been a lot of trouble with this phase of painting, for almost all paints tend to make the surface slippery, especially when wet.

Chicken wire netting with steel wool, spun glass or osnaberg garlands, is being used largely for netting over parking lots. And, of course, all types of waterproof boards are being used for the small amount of dummy construction needed. In some cases where dummy roads are employed, they are made of sand or slag.

A great deal of work has been done on airports and, as most of these are in at least a semi-rural area, the technique generally has been to imitate farm land for the major part of the job. In order to carry out the texture of the runways when they have been painted, a great deal of asphalt has been laid adjacent to the runways. This enables the designer to make an otherwise straight roadway into a meandering stream with clumps of trees and shrubs. At times, when farmland is being simulated, an entire field area within an airfield has been paved, just to be sure that the proper texture will carry across the runways.

Sawdust, chips, shavings and many other grits have been used to create texture. At

some airports now camouflaged, runway markers of various types are now being used day and night to enable incoming pilots to find the runway. Landscaping is used in a large way and landscape architects are playing a large roll in present work because of their knowledge of plant forms and the types of planting that grow in the smoky atmosphere of most factories.

It is our distinct opinion that natural landscaping should play a large part in camouflage because of the fact that it continues from season to season without too much change and maintenance.

CAMOUFLAGE BY SMOKE

There is one type of industrial camouflage upon which I have touched most lightly and this purposely. That is camouflage by means of

smoke. This is in the highly experimental stage as yet and it is not assured that it can be successfully employed. If it is so employed it will have to be on a tremendous scale. Where smudge or smoke pots are used the minimum installation is about 2500 units and these will need to be experimented with at great length to insure satisfactory results. The wind velocity; the temperature; the time in which the smoke can be generated; the personnel available to start and maintain the smoke, all must be considered. Off hand, I should say that it is the most difficult to execute and will be used only as a last resort.

I have purposely kept the discussion general because my work takes me behind many closed doors. I feel that, in justice to the companies we have served, it is essential to refrain from discussing their projects.

GIRLS' DORMITORY, BERKELEY

(Continued from Page 21)

several girls could entertain their friends in moderate privacy, and not in an exotic atmosphere enclosed by black voile.

A larger library, with some books on the shelves, might be suitable since a university is a place where one goes to learn things.

But one hates to criticize a building that expresses so much joy as Stern Hall. It is not this writer's opinion that the dormitory has basic faults—but only that the designers have

seemed a little theoretical, as if they kept too closely in mind that they were creating a background for "exuberant youth" rather than that nice average youngster from a middle-class home in Bakersfield.

The architects were Corbett & MacMurray of New York and William W. Wurster of San Francisco. The landscaping is being done by the University with Miss Isabella Worn as consultant. The K. E. Parker Company were the general contractors.

The annual meeting of the Structural Engineers Association of Northern California was held on December 1 at the Engineers Club, 206 Sansome Street, San Francisco. Feature of the evening program was a technical sound motion picture, presented by J. E. Mackie, entitled "Trees and Homes." Filmed in the Northwest, the picture showed all the steps by which timber is transformed from the mountains' scenic covering into the material for structures. The Association's annual business meeting followed the entertainment.

Structural engineers spent the morning of December 1 at a meeting in the auditorium of the San Francisco High School of Commerce hearing about, and discussing, the Controlled Materials Plan, or CMP, said to be the most important development in the priorities system. The meeting was sponsored by Mr. Harry W. Fair, Regional Director of WPB in San Francisco. CMP, it was explained, is designed to adjust production programs to supplies of steel, copper and aluminum. The plan will gradually replace the present system.

John J. Gould of San Francisco was appointed by the Board of Directors of the A.S.C.E. as a member of the new committee on Timber Structures of the Structural Division.

The University of California has announced two new evening courses on "Photo-elasticity in Engineering Practice" and "Framed Structures," being given by Jaro J. Polivka. Mr. Polivka has completed his work with Bethlehem's Alameda shipyard and is now with the Kaiser Company on timber structures.

Trygve Ronneberg, a former structural engineer in San Francisco, died in Fresno on November 3. Mr. Ronneberg designed many of San Francisco's steel frame structures. At one time he was associated with Willis Polk and Company.

FOR READING AND REFERENCE

STATE HOUSING AGENCIES, By Dorothy Schaffter. New York, Columbia Univ. Press (2960 Broadway), 1942. 808 pp., 6 x 8 $\frac{1}{8}$ in., tables, charts, \$7.50.

Eight hundred pages of detailed facts about state housing agencies sounds like a valuable source of reference material, but heavy going as literature.

Actually the book will create a reading public from the very ones who take it down to find minute and obscure facts, for its vast mass of information has been so well assimilated, appraised with such a good perspective, that it soon prompts the nibbling researcher to read beyond his immediate needs. The book stimulates thought on the question of postwar housing and the agencies that will produce it.

The author is professor of political science at Vassar. She has done a scholarly job of collecting and examining the records of housing agencies in 21 states, presenting here the history of their struggles and achievements, and their influence on national housing trends. There are nearly a hundred pages of bibliography.

Ralph Adams Cram, foremost ecclesiastical architect in this country during his later life, died in a hospital in Boston, Mass., after two weeks' illness, on September 22, age 79. Mr. Cram was born in Hampton Falls, N. H. December 16, 1863, the son of a Unitarian minister. His early schooling was at Augusta, Me., Westford, Mass., Exeter, N. H. He was honored with degrees by Princeton, Williams, Yale and Notre Dame universities.

In 1889 Cram and Charles Francis Wentworth established their architects' office in Boston under the firm name of Cram & Wentworth. A few years later Bertram Grosvenor Goodhue after having served that firm as draftsman for a short time, became a partner under the firm name of Cram, Wentworth & Goodhue. Mr. Wentworth died after a few years when the firm changed to Cram, Goodhue & Ferguson. This firm continued till 1914 when Mr. Cram continued the Boston office as Cram & Ferguson and Mr. Goodhue continued the New York office as Bertram Grosvenor Goodhue.

In the early years in Boston with Wentworth and Goodhue, their architecture, while not exclusively, was largely ecclesiastical work and their reputation for beautiful churches grew rapidly. Cram, himself a very religious man, lectured in all parts of the country on religious art and architecture and received architectural commissions in proportion to the favorable impressions he made.

The Cathedral of St. John the Divine had been awarded to Heins & LaFarge in competition about 1900. That firm had carried out its premeditated design through the choir end and the great crossing piers of the cathedral when Mr. Heins died. Soon after this the cathedral trustees elected Ralph Adams Cram architect for the cathedral. Mr. Cram changed from Heins & LaFarge's North Italian Romanesque to English Gothic which the cathedral, now erected, portrays from the choir end forward to Amsterdam Avenue. Cram's contribution to church architecture in Chicago is the Fourth Presbyterian church on North Michigan Avenue and Delaware Place. The late Howard Shaw, besides planning and designing the parish buildings adjoining the Fourth church, superintended the erection of the church proper for Mr. Cram. Space prevents mention of many other outstanding churches designed by Cram and his office.

He was a prolific writer. Not alone are there twenty bound volumes on art and architecture standing to his credit, he was also a frequent contributor to the architectural journals.

For a number of years Mr. Cram was head of the Architectural Department of M.I.T. He was a Fellow of the American Institute of Architects, Fellow Am. Acad. Arts and Sciences, Nat. Inst. Arts and Letters, Boston Society of Architects, Am. Federation Arts, honorary corr. member R.I.B.A.

WORLD'S LARGEST PAINT SPRAY ENCLOSURES FOR PAINTING ASSEMBLED PLANES

One of the many unusual features of two recently completed mammoth bomber assembly plants in the Southwest is the provision made at each plant for a paint spray structure large enough to permit the painting—after complete assembly—of the huge bombing planes turned out by the plants.

No paint spray buildings of equal size have ever before been constructed. At each plant the enclosure in which the assembled planes are painted is 150 feet wide, 200 feet long and 35 feet high. A partition which can be lowered from the ceiling to the floor makes it possible to divide the enclosure into two sections, each large enough to handle an entire plane.

The size of the enclosure at each plant, however, is less remarkable than the ventilating system which was designed to provide a means of exhausting the paint laden air, and replacing it with washed and filtered air. Such a system was required both to protect those handling the spray nozzles from spray and fumes, and to eliminate the fire and explosion hazard.

The ventilating problem was solved by designing a system which draws 700,000 cubic feet of air per minute from the outside atmosphere, washes it, warms it, filters it, draws it across the enclosure in an even flow, washes out the pigment, and exhausts the air into the outside atmosphere again. There are eight air supply units and eight exhaust units.

For every pound of paint sprayed, there is supplied 5250 pounds of air and 6466 pounds of water. This is about five times the paint-air-water ratio of comparable commercial installations. It takes a crew of six men about two hours to paint a plane. Twenty-five gallons of paint are required.

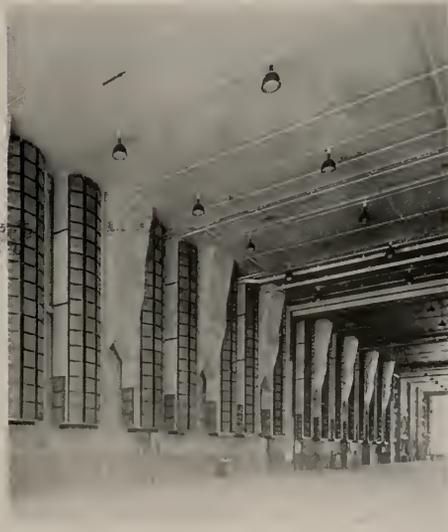
All equipment for the air supply units is mounted in the roof trusses, taking fresh air from near the roof line. Fans draw the air in through automatic inlet louvres. After being tempered by steam coils, washed, and re-heated to a constantly controlled temperature of 80 degrees, Fahrenheit, the air is evenly distributed over the entry wall through a system of dampered ductwork.

Admission of the air into the spray enclosure is then made through replaceable glass fiber air filters. These filters consist of mats of fine, interlaced glass fibers coated with a dust-catching adhesive. Their function is to strain out any particles of dust or pollen that may remain in the air stream. They are arranged in 16 vertical bay panels, each containing 57 filter cells. Each cell provides room for 4 filters. Thus 3,648 filters are employed to strain the air entering the enclosure.

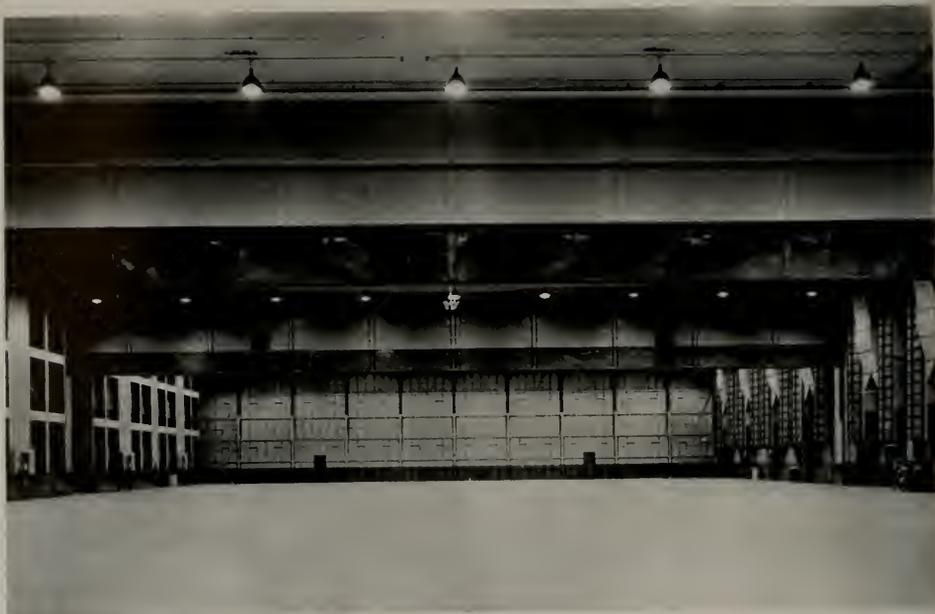
The ductwork and filters are so arranged that the clean air enters the enclosure in such a way as to



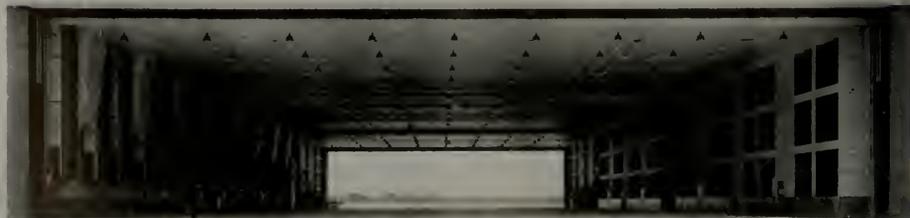
One of the exhaust units in the fabricating shop, prior to installation



Glass fiber air filters arranged in 912 cells, each cell containing four filters, line the wall through which the washed, warmed and filtered air enters the enclosure



The filter panels through which the washed, warmed and filtered air enters are at the right. The exhaust units are at the left.



View through the enclosure, with end doors rolled up to permit entrance of bombers. The air filters through which the air passes the enclosure are at the left; the exhaust units at the right.

provide an evenly distributed flow from side to side, from floor to ceiling. The overspray from the paint spray guns is carried horizontally by the flow of air from the point where it is produced, across the width of the enclosure, to the nearest exhaust opening at the opposite side. The lighter overspray has no opportunity to settle in traversing the enclosure.

The eight exhaust units are arranged to draw the air out at three levels, thus helping to maintain even distribution. Each unit section has a constant flow of water over its flood sheet, the surface exposed to the room.

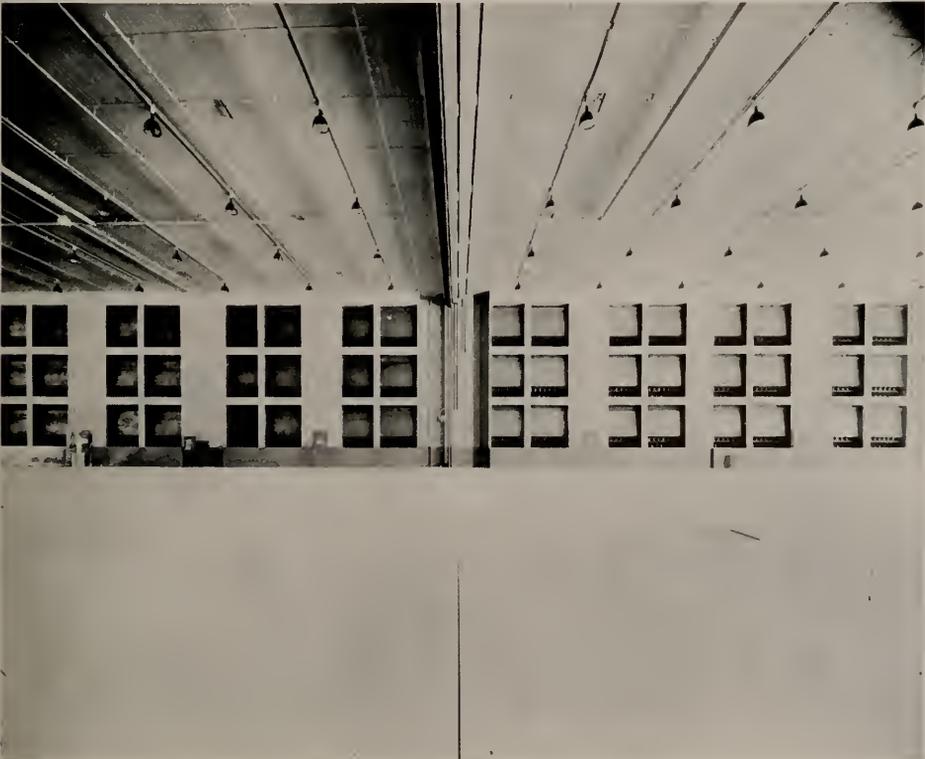
A suction-draft exhaust fan, located outside of each unit, draws the paint-laden air through a series of conical, high-pressure water sprays, confined in circular orifices. Centrifuge tubes completely separate the water and sludge from the air and deposit them in a sludge tank below. Only clean air passes through the exhaust ducts and fan.

The sludge tank for each unit holds 2000 gallons of water. The water in these tanks is continuously recirculated through the units by pumps mounted on the floor in the spaces between them. The only loss of water is from evaporation. Water spray nozzles are

plain sight and readily accessible. There are no concealed eliminators that require removal for cleaning.

Should a fire be generated within the enclosure it would be impossible for it to pass through the water sprays and spread through the exhaust system. The glass fiber filters through which the clean air enters at the opposite side of the enclosure do not support combustion, and would tend to act as a barrier to fire spreading into the supply system. Further, the dust-catching adhesive with which the glass fibers are coated, carries underwriters' approval as a material without smoke or fire hazard.

The entire system is controlled by electric push buttons within reach of the paint floor level. Each of the supply and exhaust units is independently controlled. Any combination of the units can be operated together. Automatically controlled dampers on both the supply and exhaust units close when a unit is shut down and open when it is started up again. When no painting operations are in progress, but the outside temperature requires heat in the structure, about 10 per cent of the capacity of the supply air is drawn in through one unit to maintain a working temperature.



The exhaust units which clean the paint-laden air and discharge it into the outside atmosphere.

LOOKING AHEAD—AMERICA'S POTENTIAL NEEDS

A vast, immediate post-war consumer demand ranging from 2,100,000 automobiles to 900,000 electric irons—and a personal savings program to help finance it—was disclosed by a nation-wide survey of family needs within the first six months after the end of hostilities.

These and scores of other definite indications came from a scientific sampling of estimated needs of thousands of families throughout the United States, obtained by personal interviews for the Chamber of Commerce of the United States.

The Chamber consumer survey, now completed, shows that there will be a demand for 1,500,000 mechanical refrigerators, 1,200,000 washing machines, 1,200,000 radios and 600,000 sewing machines. More than 1,200,000 families will want to buy living room furniture, bedroom furniture or rugs, carpets and linoleum.

About 3.4 out of every ten home owners would make repairs and improvements in their homes within six months after the war, with 17 per cent planning to paint the outside; 7 per cent expecting to put on a new roof, and 6 per cent hoping to redecorate the interior. Six out of every 10 farmers who own their own farms would do these things in the first six months; build or repair new outbuildings, barns, fences, tenant houses.

Eric A. Johnston, Chamber president, said that while the first job of business is to win the war as quickly as possible, "we must not overlook the fact that when peace comes we shall have to turn to the every-day task of supplying the nation's accumulated wants and in doing so furnish jobs for the millions who will be released from the armed services and from war production."

"The nation-wide survey," Johnston said, "will be kept up to date currently, to furnish government and industry with facts on post-war consumer needs and potential purchasing power, together with the time and requirements for reconversion of industry to meet the demands of a renewal of peace-time production."

"The survey is divided into two phases—consumer research and specific industrial research. The post-war consumer market analysis will be translated into terms of raw materials, plant capacity, machine tools, and labor required to meet the demands of consumers."

To finance consumer-planned purchases, 56 per cent of the families said they were able to save at the present time—29 per cent are laying away 8 per cent or more of their monthly income and 35 per cent are planning to have an accumulated annual saving of 10 per cent or more. Fifty-nine per cent of the families are putting money into war bonds and stamps; 50 per cent are using life insurance; 16 per cent savings accounts; 16 per cent are paying off mortgages and 10 per cent are channeling their funds into other savings

or investments. Nineteen per cent are saving for a specific post-war purchase.

"Despite the evidence that many people intend to make extensive major purchases immediately after the war, most people are not—on the basis of present saving—counting on buying these things for cash," the Chamber said it has found. "The American habit of installment buying will continue to be a major factor in large consumer purchases."

About half of the present consumers think there will be plenty of jobs, while 38 per cent believe there will be serious unemployment. Seventeen per cent believe that the country's factories will be able to supply people with all the things they want to buy within six months after the war, but the rest believe it will take more time.

The careful sampling of the nation's families, and families alone, indicates that nine hundred thousand families intend to build or buy a new house within six months after the war is over:

33 per cent would pay \$3,000 for the house

26 per cent would pay \$3,000 to \$5,000 for the house

24 per cent would pay \$5,000 to \$10,000 for the house

7 per cent would pay more than \$10,000

10 per cent are uncertain what they would pay.

In all, an expenditure of about \$5,000,000,000 is indicated.

On the question of consumer post-war purchasing power, 30 per cent of the families interviewed said they were better off than before the war; 27 per cent said they were worse off than before the war; and, 43 per cent saw no change.

But 37 per cent of the families said they had more money to spend for things other than food, shelter, and clothes than they had 2 to 3 years ago; 34 per cent said they had less money to spend; and, 29 per cent said they had about the same.

MASTER PLAN FOR LONDON

The Urban Land Institute reports that London's Modern Architectural Research Group have made a master plan for the post war rebuilding of London. For years the late Sir Raymond Unwin preached decentralization of cities, and this research group apparently is following his advice in their proposed master plan.

Many plans to rebuild London have been proposed before and since the great fire of 1666; but after that fire the city was rebuilt practically on the old lines. The new plan proposes a decrease in density population within a fifteen mile radius of London's center. In this area 900,000 houses were built in the twenty years preceding 1939. A new feature of the proposed plan, not considered in its predecessors, is provision for a great central airport.

WHAT THE ARCHITECTS ARE DOING

HOUSING THE WAR

Activities of western architects and engineers furnish a picture of the Coast at war. Plants for the Army and Navy start the chain of construction, which ends with schools for defense workers' children and—trailer camps, which are something new in many architects' orbits.

Most of the men designing military structures have accepted anonymity, of course, but they must be busy because there has been an upturn in this type of construction after an apparent lull. Included have been series of hangars and laundries.

* * *

The Navy is getting started on its \$4,000,000 Replacement and Recuperation Center near Pleasanton, California, and has announced W. D. Peugh as architect of the many types of buildings included in the project.

Another hospital project is the \$1,735,000 hospital and nurses' home at Vallejo, designed by Douglas D. Stone of San Francisco.

The Emergency Guayule Rubber Project is keeping Charles E. Butner busy. He is doing plans for three camps near Patterson, one near Arbutuckle, and several in Southern California. Mr. Butner has completed the drawings for the \$200,000 Community Hospital at Salinas, and has found time to design a ranch house for Mr. James Anderson.

Engineer L. H. Nishkian of San Francisco has drawn the plans for three factory building additions for the Joshua Hedy Iron Works at Sunnyvale.

* * *

But housing continues to be the most conspicuous defense building activity. Recent news is the unfreezing of San Francisco's Hunters' Point project, on which bids have been retaken with awards reported as going to Barrett & Hilp and MacDonald & Kahn. Architects Timothy L. Pflueger and Lewis P. Hobart have had to revise their earlier drawings, as the buildings are now of temporary construction. They consist of 500 dormitory units to cost approximately \$400,000, on which Mr. Hobart is concentrating; and 500 family dwelling units at \$1,000,000 being designed by Mr. Pflueger.

Another Vallejo housing project is under way with David H. Horn of Fresno doing the plans. The Vallejo Housing Authority is sponsor of these 1,000 apartment units and 500 dormitory units. Mr. Horn has moved his office to San Francisco, 564 Market Street.

The Housing Authority of the City of Oakland is making progress on its 1,000 apartment and dwelling units designed by John J. Donovan.

* * *

The Richmond Housing Authority awarded the general contract for their 800 apartment and dwelling units

to the G. W. Williams Company of Burlingame for \$1,310,475. Albert F. Roller and Keith O. Narbett have been associated as the architects.

Mr. Narbett is now working with Eldridge T. Spencer and E. Geoffrey Bangs in designing 250 dwelling units, 275 apartment units and a dormitory building at Pittsburg, and the same group is preparing the working drawings for the San Pablo trailer camp.

Mr. Bangs, meanwhile, is also associated with Carl I. Warnecke and Vincent G. Raney on another Richmond project—1200 apartment units. And Mr. Warnecke is associated with Andrew T. Hass in designing the 2,000 apartment and dwelling units for the Housing Authority of Alameda.

Russell G. DeLappe of San Francisco has completed the working drawings for 400 apartment units at Benicia and is now at work on plans for 150 family dwellings at Riverbank.

The Housing Authority of the County of San Joaquin has commissioned Peter M. Sala to design 200 war apartment units to be built at Tracy and cost \$400,000.

* * *

Marin County Housing Authority has undertaken to relieve the housing situation at Hamilton Field with apartment buildings (125 units), a dormitory, cafeteria, community building and store. The plans are being drawn by Frederick H. Meyer and Roland I. Stingham of San Francisco.

Moore & Roberts of San Francisco bid successfully for the general contract (\$2,499,777) on the Kirkland, Washington, housing project, which is to consist of 500 dwelling units, 500 apartment units and dormitory buildings to house 200 men. Architects are Earl W. Morrison and John T. Jacobsen of Seattle.

New temporary school buildings include 16 additional classrooms for the high school at Napa, for which Will G. Corlett of Oakland is now making preliminary drawings. They will cost \$100,000. And Federal funds amounting to \$128,000 have been allotted to Richmond for temporary grammar school buildings. Dragon & Schmidts of Berkeley have been appointed the architects.

THADDEUS JOY, ARCHITECT

Thaddeus Joy, 59, veteran California architect, died at his Berkeley home, 2816 Derby Street, December 3, following a long illness.

A native of Minneapolis, Minn., and a graduate of the University of California, Joy began his architectural career in San Francisco in 1910.

He designed many of the buildings on the William Randolph Hearts ranches at San Simeon and Wynton as a member of Miss Julia Morgan's staff.

LOS ANGELES CHAPTER NOTES

In spite of the chaotic condition of the profession today, the membership of the Southern California Chapter, A.I.A., in the short span of one year has gained 29 new members. The total of all classes has reached the highest point in fifty years of Chapter history. The action of the Institute in opening its membership to every reputable practicing architect in the country, implemented by the hard work of the membership committee, has in a great measure been responsible for the splendid increase.

"Russia and the World Today" was the subject, and Mr. Richard Atkinson guest speaker at the Chapter's annual social meeting, December 15. Mr. Atkinson, world traveler and writer on international affairs, especially pertaining to Russia, China and Japan, is past president of the Los Angeles Adventurers' Club and former member of the American Press Commission to Europe. He has traveled 25,000 miles to all corners of Russia and Siberia. Special guests at the social meeting included Colonel and Mrs. Rufus W. Putnam. Colonel Putnam is the District Engineer in charge of the United States Engineers' Office, Los Angeles.

Chapter officers nominated for 1943 are as follows: President, Samuel E. Lunden (and Member Delegate to 1943 A.I.A. Convention); Vice President, Herbert J. Powell; Secretary, William H. Harrison; Treasurer, Walter C. Wurdeman; Director, 3 years, Kenneth S. Wing.

The following is a list of Southern California Chapter members who are now in the military service:

Brigadier General Henry C. Newton, Assistant Director Armored Force Training Center, Fort Knox, Ky.

Lieut. Colonel Gordon B. Kaufmann, Chemical Warfare Division, Washington, D. C.

Major Donald B. Parkinson, Assistant to Area Engineer, Phoenix, Arizona.

Captain Burnett C. Turner, United States Engineering Dept., Los Angeles, California.

Captain Harold G. Spielman, Engineer Corps, Arlington (near Riverside), California.

Captain Charles Fry, Air Corps U. S. Army, Ogden, Utah.

Lieutenant William S. McCay, U.S.N.R., Boston, Mass.

First Lieutenant Ben H. O'Conner, Marine Corps, Quantico, Virginia.

First Lieutenant Richard Cook (missing in action), Philippine Islands.

First Lieutenant Savo M. Stoshitch, U. S. Army (present address not know).

Le Roy Harris, Specialist Corps, Washington, D. C.

PRIORITIES FOR SACRAMENTO Y.W.C.A.

Classed perhaps with churches, the Y.W.C.A. at Sacramento has been granted priorities for the \$18,000 addition designed by Charles F. Dean of Sacramento.

ASPHALT ROOFING HAS BIG YEAR

Production of asphalt roofing, the most widely used roofing material in this country by far, reached the highest mark in history during the nine month period, January through September, 1942, according to J. S. Bryant, managing director of the Asphalt Roofing Industry Bureau.

In the first three-quarters of this year, Bureau of Census figures show that 38,006,928 squares of asphalt roofing were shipped. (A square is the amount of roofing required to cover 100 square feet of roof area.) This was an increase of 23.4 per cent over the same period last year when 30,788,604 squares were shipped. Shipments for September were 5,439,967 squares, an increase of 5.6 per cent when compared with August, 1942, and an increase of 30 per cent when compared with September, 1941.

"The bulk of this considerable increase," according to Mr. Bryant, "was due to the use of asphalt roofing on military structures and war plants. Because of its high fire-resistance, availability and use largely of non-critical materials, asphalt shingles, asphalt roll roofing or asphalt built-up roofing have been used on most army barracks, warehouses, sheds and administrative buildings. Thousands of newly built war factories have also been protected against fire with asphalt roofs.

"In the residential field, mineral surfaced asphalt shingles are the chief roofing material used on defense houses of all types, including the new demountable houses recently erected on the Eastern seaboard," Mr. Bryant states. "Asphalt shingles and mineral surfaced roll roofing both lend themselves to pitched roofing because of their fire-resistance, their ease of application, and their variety of built-in colors.

"Unfortunately, the weather makes no concessions for war. For, in addition to this intensive war construction, the asphalt roofing industry has also had to maintain many of the roofs on the country's 30,000,000 civilian structures. A leaking roof too often leads to more serious impairment of health and property. In order to protect our homes, offices and factories against invasion by the elements, it is imperative that their roofs be maintained."

CINCINNATI WILL BE HOST

The 49th annual meeting of the American Society of Heating and Ventilating Engineers will provide a forum for the exchange of vital engineering information, according to the statement of President E. O. Eastwood, Seattle, who announced the time and place of the meeting—January 25-27, at Hotel Gibson, Cincinnati, Ohio.

The meetings committee has prepared a streamlined program which includes subjects of wartime interest, such as fuel conservation, food dehydration, manpower problems, warship ventilation and physiological studies affecting efficiency and health. A special panel discussion of the subject, "How to Keep Fit in Cold Homes," will be a feature of one session.

ARCHITECTS' BULLETIN

Issued For

THE STATE ASSOCIATION OF CALIFORNIA ARCHITECTS

Northern Section

STATE ASSOCIATION MEMBER
OF THE
AMERICAN INSTITUTE OF ARCHITECTS

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C H A N G E

The first to feel the changing business cycles in peace times are the architects. Months before the statistical reports of acceleration or decline in business activity are published, every wide-awake architect has felt the public pulse throb more violently, or noted its decline in vigor. That experience holds true in wartime.

Indications are now unmistakable that the nation is entering upon a lesser phase of building activity. This is not to say that construction is coming to a dead stop. But it seems plain that the era of enormous creation of army camps, supply bases, and great manufacturing plants is coming to a close. From now on new camps will be established over-seas while the fresh recruits will take over the spots vacated by the first five million men in arms. The ammunition depots and rubber factories are not yet complete but the tremendous rush to provide shelter for men and war materials in the first few months of conflict has given way to a more routine expansion period. And the Willow Runs of the aviation industry are down to their business of turning out Fortresses and Liberators.

Even the housing situation, a headache still for many a family, has entered its second stage, in which the efficiency experts have switched from the prefabricated house to stock plans for row-houses or dormitories. If the plans do not fit the sites, there are always the tractors and bull dozers to make the sites fit the plans. And if the stock building does not fit the climate, then that is just too bad for those who must live in the buildings.

To be strictly realistic, there is one field of architectural activity which is, unhappily, but in its beginning. The first streams of casualties are arriving home from overseas, and if ever an architect's talents are necessary, it is when he is preparing places for the men to regain some of the strength they have given for their country. Experience tells us that the hospitals will be in use long after the last shot of battle has been fired. They had better be good.

Sir Ernest Simon

An encouraging picture of what may be done in the rebuilding of our blighted areas was described by Sir Ernest D. Simon, Kt., in his discussion at the San Francisco Museum of Art on November 16th. Sir Ernest is a man of ready wit and good nature, who violates one of the traditional principles of a man far from his home: he refuses to pose as an expert. His statement that one-fourth of the dwellings in his country had been destroyed or damaged in the decade following the war that possibly a third of the substandard English dwellings would be replaced by decent habitations. A thirty year plan to clear the whole of England from slum conditions is now well started. The bombs have toppled more in England than its walls of stone.

Sea Bees

Recent public disclosure of Navy plans are of particular interest to the younger men in the construction industry who are not yet in the service and to architects and engineers who are worrying about their personnel problems. Commander Macrae, at the Producer's Council dinner, and Lt. Commander Godwin, at the Building Industry Conference Board luncheon, outlined the plans of the Navy Engineering Corps to expand its activities and staff.

The Navy is particularly on the alert to interest men who have had active field responsibility in construction. As our over-seas activities expand a tremendous need will arise for men with the energy and know-how to build and replace landing facilities, docks, shore establishments and depots, bridges, and a hundred other kinds of structures.

Opportunities for commissions are open to those who can convince the Navy that they have the training and energy to deliver. The Navy holds out the promise of a hard life—but an interesting one.

Personals

Harry Michelson, architect, has returned to San Francisco after nine months in Utah where he was engaged in the design and construction of a large Army base.

Alton B. Lee, architect, and Steve Allen, lately in the office of Blanchard, Maher and Ward, San Francisco, have been commissioned recently as Lieutenants, Junior Grade, in the Navy. Allen is in a specialist training school in Arizona, while Lee is reporting at present to Treasure Island in San Francisco Bay.

William W. Wurster, architect, plans to spend the next four or six months in post graduate work at Harvard University, Cambridge, Mass.

NEW HOUSING AND WPB STANDARDS

All new war housing to be constructed must comply with War Production Board standards recently established in Washington, D. C., Eugene Weston, Jr., Regional Representative of the National Housing Agency, has announced after receiving advices from John B. Blandford, Jr., NHA Administrator.

Mr. Weston said that the new standards provide for a minimum use of lumber and other critical materials, at the same time assuring adequate shelter, sanitary heating and utility facilities.

Since no housing can today be constructed except for war workers and their families, the standards provide a basis for private enterprise to continue to provide a large part of the essential war housing.

While Mr. Weston pointed out that any builder not conforming with the building construction standards will be denied further priority assistance, he said that certain adjustment considerations will be given to fit local labor and material supplies of the communities.

"Through close supervision of local war housing building," Weston declared, "the Government can assure the maximum utilization of materials and man power available.

"We may expect to see a limitation in the selection of building sites in order to fully utilize all electric, water and gas services with the minimum construction of connecting facilities."

Mr. Weston also said to expect a reduction in the size of the average dwelling unit to conserve materials required for construction and heating.

"E" AWARD FOR COLUMBIA STEEL

At the Pittsburg plant of Columbia Steel Company, Saturday, December 19th, Rear Admiral W. L. Friedell, commandant of the Mare Island Navy Yard, presented the Army-Navy "E" award to employees of Columbia Steel Company.

The coveted award, which signifies excellence in production, was the highlight of an afternoon of special ceremonies held publicly in the sheet and tin mill parking area, an open-air site adjacent to the company's Pittsburg works.

Participating in the presentation ceremonies were high ranking Army and Navy officers, the Camp Stone-man Band, a U. S. Marine Corps color guard, civic leaders, and Columbia Steel Company employees.

W. A. Ross, president of Columbia Steel Company, accepted the award in behalf of employees.

Prior to the presentation ceremonies, military and naval officers and civic leaders attended a luncheon at the Los Medanos Hotel in Pittsburg.

Following the luncheon, a tour of the Pittsburg works, conducted by J. A. White, superintendent, was made by the visiting guests.

BRITAIN PLANS 30-YEAR BUILDING PROGRAM

Great Britain will launch a 30-year program of building and rebuilding to counteract an expected boom-and-depression cycle following the war, Sir Ernest Simon, British government official, has revealed.

"Our plans call for something never done in a democracy before—the rebuilding of our nation in one generation," Sir Ernest declared.

He said that 10,000,000 persons will be employed in the project, which will include the building of low rental units, construction of public buildings, roads and docks, and the rebuilding of bombed areas.

The slum areas of London will disappear when the program gets under way, he promised. Sir Ernest, former lord mayor of Manchester, is chairman of the committee on postwar planning of the ministry of works and planning.

The Month's Digest of New Building Products

All of the literature described here is available to architects, engineers, contractors, draftsmen and specification writers upon request direct to the manufacturers.

PLYWOOD—With the first edition of "Technique of Plywood" completely exhausted by demands of plywood engineers and specifiers, a second edition has now appeared. It contains in its addenda a chapter on "Strength and Deflection of Douglas Fir Plywood Under Loads at Right Angles to Face." The handbook with tables and charts is 250 pages, plastic bound and costs \$2.50 per copy. Obtainable through I. F. Laucks, Inc., Dept. AE, Seattle, Wash.

WALL PANELS—Scores of government projects, thousands of housing units are being built faster, stronger and better than ever, this booklet states and goes on to prove the general utility and time saving qualities of interior wall and ceiling lining made by the Upson Company of Lockport, N. Y. Copies are free by writing to the company.

LIGHTING EQUIPMENT—The War Production Board has issued an order eliminating steel reflectors from fluorescent lighting equipment. Non-metallic reflector units are available from a number of manufacturers already. The Edwin P. Guth Company, 2603 Washington Ave., St. Louis, Mo., can supply literature on their new units.

FLOOR PATCH—Described in this folder is a new product, a ready-mixed floor patch that enables repairs to be quickly made to ruts and holes, and the floor used immediately without any time whatever being required for setting or hardening. No special skill is required, according to the manufacturers. Write the Flexrock Company, 23rd and Manning Streets, Philadelphia, Pa.

SIDING MATERIAL—Rags and resin have been combined into a war emergency building material substitute for corrugated steel sheets. Called corrugated asphalt siding, the product was recently placed on the market by the Celotex Corporation, Chicago, Ill., from whom literature is available. The sheets are hard, rigid and moisture-proof.

ALLOY STEEL DATA—A compact chart showing analyses, physical characteristics and applications of nineteen stainless steel, monel and nickel alloys has just been made available to engineers and architects. Furnished free by Cooper Alloy and Foundry Co., 210 Bloy Street, Hillside, N. J.

STEAM GENERATOR—A simple, compact efficient steam generator which needs only fuel and water for automatic operation and whose jet control furnishes feed water in direct proportion to the amount drawn off as steam, has been announced in new literature received from Super Mold Corporation, 407 N. Sacramento Street, Lodi, Calif. Made in models from 10 to 70 h.p.

METAL CLAD SWITCHGEAR—Horizontal drawout metal clad switchgear in 100,000, 150,000 and 250,000 KVA capacities at 5000 and 15,000 volts is described and illustrated in a new 12-page publication, Catalog 1110, recently released by Roller-Smith Co., Bethlehem, Pa. Copies obtainable without charge by writing the company.

VENTILATING SYSTEMS—"ILG Fights its Second War" headlines a colorful new brochure now being

distributed by Ilg Electric Ventilating Co., 2850 Crawford Ave., Chicago, Ill. Comprising a comprehensive picture of the nation's war efforts in 1917-18 and 1941-42, the booklet ties in the part the company is doing in the manufacture of its heating and ventilating equipment.

INDUSTRIAL DOORS—This folder gives information on recent designs of upward acting doors, rolling and sliding grilles and shows applications which substitute wood for metal. Those having difficulty finding substitutes for the protection of large openings will find this folder interesting. Write to Cornell Iron Works, Inc., 36th Ave. and 13th St., Long Island City, N. Y.

CORROSIRON—A trademarked name of Pacific Foundry Co., 3100 Nineteenth Street, San Francisco, Corrosiron is a high silicon corrosion-resistant cast iron containing in excess of 14.25 silicon. The valuable properties of fittings and equipment made from this material are described in a booklet which the company has made available to engineers. Another alloy, "Pyrocast," with high heat-resisting qualities is also described.

FUEL SAVING—"Do's and Don'ts of Fuel Saving" has been published as a contribution to fuel conservation by the Minneapolis-Honeywell Regulator Co. of Minneapolis, Min., from whom copies can be obtained. The company's engineers have accumulated valuable data on the use of fuel and heating plants under conditions which duplicate those in the average American home.

COMPETITION FOR MURAL DECORATION OF THE
LIBRARY OF THE MUSEUM OF FINE ARTS

SPRINGFIELD, MASSACHUSETTS, U. S. A.

Open to All Artists Resident in Canada, Mexico and the United States.

The Museum of Fine Arts, Springfield, Massachusetts, invites competition for one mural in an oil medium for the Library of the Museum which is situated on the southwest end of the Museum building.

AMOUNT OF AWARD

The sum of \$4,500 is to be paid for this work which amount must cover the complete cost of execution and installation of the decorations.

COMPETITION JURY

The competition designs will be judged in Springfield, Massachusetts, by the Museum's Trustee Committee on the advice of a jury composed of the following:

Mr. Edward Rowan, Assistant Chief, Federal Works Agency,
Public Buildings Administration, Section of Fine Arts
Miss Margit Varga, Artist and Writer
Mr. Henry Varnum Poor, Artist
Mr. William Gropper, Artist
Mr. Forbes Watson, Art Critic

COMPETITION REQUIREMENTS

Designs must be submitted with carrying charges prepaid or they may be delivered in person to the office of the Museum of Fine Arts, 49 Chestnut Street, Springfield, Massachusetts, U. S. A. The closing date of the competition is May 24, 1943. All designs must be post-marked or in the hands of a carrier not later than that date.

The designs must not be signed. Each design submitted must be accompanied by a plain sealed envelope enclosing a 3"x5" card bearing the artist's name and address, typewritten or printed clearly. These envelopes will be numbered when received with the same numbers as the designs they accompany and will remain unopened until after selection of the design chosen for award.

All participants will be advised after the award has been made and envelopes are opened. All designs will be returned to participants C.O.D., unless the Museum of Fine Arts is otherwise advised in writing by the artists.

Should the winning design prove to be by an individual serving in the Armed Forces, arrangements will be made for the execution of the mural after his release from such duties.

All inquiries for further information should be addressed to: **Frederick B. Robinson, Director, Museum of Fine Arts, Springfield, Massachusetts.**

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts given are figuring prices and are made up from average quotations furnished by material houses to San Francisco contractors. 3% Sales Tax on all materials but not labor.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and other part of the state. Freight cartage, at least, must be added in figuring country work.

and—1 1/2% amount of contract.

Government work 3/4%.

rickwork—

Common, \$40 to \$45 per 1000 laid, (according to class of work).

Face, \$90 to \$100 per 1000 laid, (according to class of work).

Brick Steps, using pressed brick, \$1.00 lin. ft.

Brick Veneer on frame buildings, \$1.00 sq. ft.

Common f.o.b. cars, \$15.00 at yard. Cartage extra.

Face, f.o.b. cars, \$40.00 to \$60.00 per 1000, carload lots.

ilding Paper—

1 ply per 1000 ft. roll	\$3.50
2 ply per 1000 ft. roll	5.00
3 ply per 1000 ft. roll	6.25
Brownish, Standard, 500 ft. roll	5.00
Sisalraft, 500 ft. roll	5.00
Sash cord com. No. 7	\$1.20 per 100 ft.
Sash cord com. No. 8	1.50 per 100 ft.
Sash cord spot No. 7	1.90 per 100 ft.
Sash cord spot No. 8	2.25 per 100 ft.
Sash weights, cast iron, \$50.00 ton.	
Nails, \$3.50 base.	
Sash weights, \$45.00 per ton.	

oncrete Aggregates—

GRAVEL (all sizes) \$1.45 per ton at bunker; delivered to any point in S. F. County \$1.65.

	Bunker	Delivered
Top sand	\$1.45	\$1.85
Concrete mix	1.45	1.85
Crushed rock, 1/4 to 3/4	1.60	2.00
Crushed rock, 3/4 to 1 1/2	1.60	2.00
Roofing gravel	1.60	2.00
City gravel	1.45	1.85
River sand	1.50	1.90
Bank sand—\$1.00 per cubic yard at bunker or delivered.		

WD—	Bunker	Delivered
River sand	\$1.50	\$1.85
Lapis (Nos. 2 & 4)	2.00	2.40
Olympic Nes, 1 & 2	1.80	2.20
Healdsburg plaster sand	\$1.80 and \$2.20	
Del Monte white	50c per sack	

Common cement (all brands, paper sacks) carload lots \$2.52 per lbl. f.o.b. car; delivered, \$2.80; less than carloads delivered, 70c per sack.

Cash discount on carload lots, 10c a barrel, 10th Prox.; cash discount less than carload lots, 2%.

As White
Alvares White
edusa White } 1 to 100 sacks, \$2.00 sack, warehouse or delivery.

Forms, Labors average \$40.00 per M.
Average cost of concrete in place, exclusive of forms, 35c per cu. ft.; with forms, 60c.
4-inch concrete basement floor12 1/2c to 14c per sq. ft.
Rat-proofing7/2c
Concrete Steps.....\$1.25 per lin. ft.

Dampproofing and Waterproofing—

Two-coat work, 20c to 30c per yard.
Membrane waterproofing—4 layers of saturated felt, \$4.50 per square.
Hot coating work, \$2.00 per square.
Medusa Waterproofing, 15c per lb., San Francisco Warehouse.
Tricocel waterproofing.
(See representative.)

Electric Wiring—\$12.00 to \$15.00 per outlet for conduit work (including switches).

Knob and tube average \$3.00 per outlet.

Elevators—

Prices vary according to capacity, speed and type. Consult elevator companies.
Average cost of installing an automatic elevator in four-story building, \$2800; direct automatic, about \$2700.

Excavation—

Sand, 60 cents; clay or shale \$1 per yard.
Teams, \$12.00 per day.
Trucks, \$22 to \$27.50 per day.

Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—

Ten-foot galvanized iron balcony, with stairs, \$150 installed on new buildings; \$160 on old buildings.

Floors—

Composition Floors—22c to 40c per sq. ft.
In large quantities, 18c per sq. ft. laid.
Mosaic Floors—80c per sq. ft.
Duraflex Floor—23c to 30c sq. ft.
Rubber Tile—50c to 75c per sq. ft.
Terazzo Floors—45c to 60c per sq. ft.
Terazzo Steps—\$1.60 lin. ft.

Hardwood Flooring (delivered to building)—

Clr. Otd. Oak	\$144.00 M	\$122.00 M	\$141.00 M
Sel. Otd. Oak	118.00 M	101.00 M	114.00 M
Clr. Pla. Oak	120.00 M	102.00 M	115.00 M
Sel. Pla. Oak	113.00 M	92.00 M	107.00 M
Clr. Maple	125.00 M	113.00 M	

Wage—Floor layers, \$12.00.
Note—Above quotations are all board measure except last column which is sq. ft.

Glass (consult with manufacturers)—

Double strength window glass, 20c per square foot.
Plate 80c per square foot (unglazed) in place, \$1.00.
Art, \$1.00 up per square foot.
Wire (for skylights), 40c per sq. foot.
Obscure glass, 30c to 50c square foot.
Glass bricks, \$2.50 per sq. ft. in place.
Note—if not stipulated add extra for setting.

Heating—

Average, \$1.90 per sq. ft. of radiation, according to conditions.
Warm air (gravity) average \$48 per register.
Forced air, average \$68 per register.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)—

No. 1 common	\$43.00 per M
No. 2 common	41.00 per M
Select O. P. common	46.00 per M
2x4 No. 3 form lumber	32.00 per M
1x4 No. 2 flooring VG	90.00 per M
1x4 No. 3 flooring VG	85.00 per M
1x6 No. 2 flooring VG	96.00 per M
1 1/2x4 and 6, No. 2 flooring	95.00 per M

Slash grain—

1x4 No. 2 flooring	\$65.00 per M
1x4 No. 3 flooring	62.00 per M
No. 1 common run T. & G.	48.00 per M
Lath	7.50 per M

Shingles (add cartage to price quoted)—

Redwood, No. 1	\$1.20 per bdle.
Redwood, No. 2	1.00 per bdle.
Red Cedar	1.45 per bdle.

Plywood—Douglas Fir (add cartage)—

"Plywood" sheathing (unsanded)	
5/8" 3-ply and 48"x96"	\$39.75 per M
"Fivwall" (wellboard grade)—	
1/4" 3-ply 48"x96"	\$43.70 per M
"Plyform" (concrete form grade)—	
5/8" 5-ply 48"x96"	\$117.30 per M

Exterior Plywood Siding—

5/8" 5-ply Fir	\$132.00 per M
Redwood (Rustic) 1"x8" clear heart	\$ 95.00 per M
\$5 less per M for A grade.	

Millwork—Standard.

O. P. \$100 per 1000. R. W. rustic \$120.00 per 1000 (delivered).
Double hung box window frames, average with trim, \$6.50 and up, each.
Complete door unit, \$10.00.
Screen doors, \$3.50 each.
Patent screen windows, 25c a sq. ft.
Cases for kitchen pantries seven ft. high per lineal ft., \$8.00 each.
Dining room cases, \$8.00 per lineal foot.
Rough and finish about 75c per sq. ft.
Labor—Rough carpentry, warehouse heavy framing (average), \$17.50 per M.
For smaller work average, \$35.00 to \$45.00 per 1000.

Marble—(See Dealers)

Painting—

Two-coat workper yard 50c
Three-coat workper yard 70c
Cold water paintingper yard 10c
Whitewashingper yard 4c

Turpentine, 6bc per gal., in 5 gal. cans, and 55c per gal. in drums.
Raw Linseed Oil—95c gal. in light drums, Boiled Linseed Oil—98c gal. in drums and \$1.08 in 5 gal. cans.

White Lead in oil
1 ton lots, 100 lbs. net weight.....113/4c
500 lbs. and less than 1 ton.....12c
Less than 500 lb. lots.....127/2c

Red Lead and litharge
1 ton lots, 100 lbs. net weight.....113/4c
500 lbs. and less than 1 ton.....12c
Less than 500 lb. lots.....127/2c

Red Lead in oil
1 ton lots, 100 lbs. net weight.....123/4c
500 lbs. and less than 1 ton.....13c
Less than 500 lb. lots.....137/2c
Note—Accessibility and conditions cause some variance in costs.

Patent Chimneys—
6-inch\$1.25 lineal foot
8-inch1.50 lineal foot
10-inch2.25 lineal foot
12-inch3.00 lineal foot

Plaster
Neat wall, per ton delivered in S. F. in paper bags, \$17.60.

Plastering—Interior— Yard
1 coat, brown mortar only, wood lath.....\$0.50
2 coats, lime mortar hard finish, wood lath .85
2 coats, hard wall plaster, wood lath......72
3 coats, metal lath and plaster.....1.25
Keene cement on metal lath.....1.30
Ceilings with 3/4 hot roll channels metal lath (lathed only)......90
Ceilings with 3/4 hot roll channels metal lath plastered.....1.80
Single partition 3/4 channel lath 1 side (lath only)......85
Single partition 3/4 channel lath 2 inches thick plastered.....\$2.90
4-inch double partition 3/4 channel lath 2 sides (lath only).....1.70
4-inch double partition 3/4 channel lath 2 sides plastered.....3.30
Thermax single partition; 1" channels; 2 1/4" overall partition width. Plastered both sides.....2.50
Thermax double partition; 1 1/2" channels; 2 1/4" overall partition width. Plastered both sides.....3.40

3 coats over 1" Thermax nailed to one side wood studs or joists.....1.25
3 coats over 1" Thermax suspended to one side wood studs with spring sound isolation clip.....1.45

Plastering—Exterior— Yard
2 coats cement finish, brick or concrete wall.....\$1.00
3 coats cement finish, No. 18 gauge wire mesh.....1.75
Wood lath, \$5.50 to \$6.50 per 1000......19
2.5-lb. metal lath (dipped)......21
2.5-lb. metal lath (galvanized)......22
3.4-lb. metal lath (dipped)......24
3.4-lb. metal lath (galvanized)......24
3/4-inch hot roll channel, \$72 per ton.
Finish plaster, \$18.90 ton; in paper sacks.
Dealer's commission, 1% off above quotations.
\$13.85 (rebate 10c sack)
Lime, f.o.b. warehouse, \$2.25 bbl.; cars, \$2.15
Lime, bulk (ton 2000 lbs.), \$16.00 ton.
Wall Board 5 ply, \$50.00 per M.
Hydrate Lime, \$19.50 ton.
Plasterers' Wage Scale.....\$1.67 per hour
Lathers' Wage Scale.....1.60 per hour
Hod Carriers Wage Scale.....1.40 per hour
Composition Stucco—\$1.80 to \$2.00 sq. yard (applied).

Plumbing—
From \$100.00 per fixture up, according to grade, quantity and runs.

Roofing—
"Standard" tar and gravel, \$7.00 per sq. for 30 sqs. or over.
Less than 30 sqs. \$7.50 per sq.
Tile, \$20.00 to \$35.00 per square.
Redwood Shingles, \$7.50 per square in place.
Copper, \$16.50 to \$18.00 per sq. in place.
5/2 #1-16" Cedar Shingles,
4 1/2" Exposure.....8.00 Square
5/8 x 16" #1 Cedar Shingles, 5" Exposure.....9.00 Square
4/2 #1-24" Royal Shingles,
7 1/2" Exposure.....9.50 Square
Re-coat with Gravel, \$5 per sq.
Asbestos Shingles, \$15 to \$25 per sq. laid.
Slate, from \$25.00 per sq., according to color and thickness.
1/2 x 25" Resawn Cedar Shakes,
10" Exposure.....10.50
3/4 x 25" Resawn Cedar Shakes,
10" Exposure.....11.50

1 x 25" Resawn Cedar Shakes,
10" Exposure.....12.
Above prices are for shakes in place.

Sheet Metal—
Windows—Metal, \$1.75 a sq. ft.
Fire doors (average), including hardware \$1.75 per sq. ft.

Skylights—(not glazed)
Copper, 90c sq. ft. (flat).
Galvanized iron, 40c sq. ft. (flat).
Vented hip skylights 60c sq. ft.

Steel—Structural (None available except defense work)
\$150 ton (erected), this quotation is average for comparatively small quantities. Light truss work higher. Plate beams and column work in large quantities \$140 per ton.

Steel Reinforcing (None available except defense work).
\$150 to \$200 per ton, set.

Stone—
Granite, average, \$6.50 cu. foot in place
Sandstone, average Blue, \$4.00. Boilers \$3.00 sq. ft. in place.
Indiana Limestone, \$2.80 per sq. ft. in place.

Store Fronts—
Copper sash bars for store fronts, corner center and around sides, will average \$1.00 per lineal foot.
Note—Consult with agents.

Tile—Floor, Wainscot, etc. — (See Dealer)
Asphalt Tile—18c to 28c per sq. ft. installed.

Wall Tile—
Glazed Terra Cotta Wall Units (single face laid in place—approximate prices:
2 x 6 x 12.....\$1.00 sq.
4 x 6 x 12.....1.15 sq.
2 x 8 x 16.....1.15 sq.
4 x 8 x 16.....1.30 sq.

Venetian Blinds—
40c per square foot and up. Installation extra.

Windows—Steel
Factory type sash 30c ft.
Ventilators for steel sash \$5.00 each.

1942 BUILDING TRADES WAGE SCALES FOR NORTHERN CALIFORNIA

CRAFT	*6-hour day		**7-hour day							
	San Francisco	Alameda	Fresno	Marin	Sacramento	San Jose	San Mateo	Vallejo	Stock	
ASBESTOS WORKERS	\$1.50	\$1.25	\$1.25	\$1.37 1/2	\$1.12 1/2	\$1.25	\$1.25	\$1.25	\$1.25	\$1.25
BRICKLAYERS	* 1.75	* 1.75	* 1.50	* 1.75	* 1.75	* 2.00	* 1.75-1/6	* 1.75	* 1.75	* 1.75
BRICKLAYERS' HODCARRIERS	* 1.35	* 1.25	* 1.05	* 1.25	* 1.05	* 1.35	* 1.35	* 1.40	* 1.14	* 1.14
CARPENTERS	1.37 1/2	1.37 1/4	1.25	1.37 1/2	1.25	1.25	1.37 1/2	1.25	1.25	1.25
CEMENT FINISHERS	1.37 1/2	1.37 1/4	1.25	1.25	1.25	1.50	1.25	1.25	1.25	1.25
ELECTRICIANS	1.50	1.50	1.50	1.37 1/2	1.50	1.50	1.50	1.50	1.50	1.37 1/2
ELEVATOR CONSTRUCTORS	1.61	1.56	1.50	1.61	1.61	1.50	1.50	1.50	1.56	1.56
ENGINEERS' Material Hoist	1.50	1.37 1/2	1.25	1.50	1.37 1/2	1.62 1/2	1.37 1/2	1.37 1/2	1.75	1.75
Piledriver	1.75	1.60	1.60	1.75	1.75	1.75	1.62 1/2	1.75	1.75	1.75
Structural Steel	1.75	1.60	1.60	1.75	1.75	1.75	1.60	1.60	1.60	1.60
GLASS WORKERS	1.25	1.25	1.12 1/2	1.25	1.12 1/2	1.21	1.25	1.25	1.25	1.25
IRONWORKERS: Ornamental	1.50	1.37 1/2	1.37 1/2	1.37 1/2	1.37 1/2	1.21	1.37 1/2	1.37 1/2	1.31 1/4	1.31 1/4
Reinf. Rodmen	1.50	1.31 1/4	1.31 1/4	1.31 1/4	1.31 1/4	1.21	1.31 1/4	1.31 1/4	1.31 1/4	1.25
Structural	1.75	1.60	1.60	1.60	1.60	1.75	1.60	1.60	1.37 1/2	1.37 1/2
LABORERS: Building	.85	.87 1/2	.87 1/2	.81 1/4	.85	.81 1/4	.81 1/4	.81 1/4	.81 1/4	.80
Concrete	.87 1/2	.93 3/4	.90	.81 1/4	.92 1/2	.85	.85	.90	.90	.90
LATHERS	* 1.75	* 1.75	* 1.50	* 1.75	* 1.40	* 1.75	* 1.75	* 1.50	* 1.50	* 1.50
MARBLE SETTERS	1.43 3/4	1.25	1.25	1.37 1/2	1.25	1.25	1.25	1.25	1.25	1.25
MOSAIC & TERRAZZO	1.00	1.25	1.12 1/2	1.12 1/2	1.15-5/8	1.12 1/2	1.12 1/2	1.12 1/2	1.12 1/2	1.12 1/2
PAINTERS	** 1.37 1/2	** 1.50	** 1.28-4/7	** 1.37 1/2	1.25	** 1.35-5/7	** 1.42-4/7	** 1.50	** 1.50	1.25
PILEDRIVERS	1.47	1.40	1.40	1.50	1.40	1.40	1.40	1.40	1.40	1.40
PLASTERERS	1.66-2/3	* 1.66-2/3	* 1.75	* 1.66-2/3	1.75	2.00	2.00	* 1.75	* 1.75	* 1.83
PLASTERERS' HODCARRIERS	* 1.50	* 1.45	* 1.40	* 1.40	* 1.18 3/4	* 1.35	* 1.75	* 1.40	* 1.40	* 1.50
PLUMBERS	1.52 1/2	1.50	1.53-1/8	1.50	1.56 1/4	1.62 1/2	1.50	1.50	1.50	1.37 1/2
ROOFERS	1.37 1/2	1.37 1/2	1.12 1/2	1.25	1.25	1.37 1/2	1.25	1.25	1.25	1.25
SHEET METAL WORKERS	1.37 1/2	1.37 1/2	1.43 3/4	1.37 1/2	1.50	1.50	1.37 1/2	1.37 1/2	1.25	1.37 1/2
SPRINKLER FITTERS	1.50	1.37 1/2	1.25	1.25	1.25	1.62 1/2	1.50	1.50	1.50	1.50
STEAMFITTERS	1.50	1.50	1.53-1/8	1.50	1.56 1/4	1.62 1/2	1.50	1.50	1.50	1.50
STONESETTERS (Masons)	* 1.50	* 1.75	1.50	* 1.75	* 1.75	* 1.50	* 1.75	* 1.75	* 1.75	* 1.50
TILESETTERS	1.50	1.37 1/2	1.37 1/2	1.37 1/2	1.37 1/2	1.50	1.50	1.50	1.50	1.50

Prepared and compiled by
CENTRAL CALIFORNIA CHAPTER, ASSOCIATED GENERAL CONTRACTORS OF AMERICA
with the assistance and cooperation of secretaries of General Contractors Associations and Builders Exchanges of Northern California.

ARCHITECTS—THEIR LATEST ADDRESSES

Henry E. Bean from 1065 Queen Anne Place, Los Angeles, to 1136½ Menlo Avenue, same city.

Mario F. Corbett from 222 South Amalfi Drive, Santa Monica to 576 Erskine, Pacific Palisades, California.

Roland H. Crawford from 9397 Wilshire Blvd., Beverly Hills to 821 Highview Ave., Manhattan Beach, California.

Clarence C. Dakin from General Delivery, Culver City, to 10823 Braddock Drive, same city.

Russell Guerne DeLappe moved from 5460 Carlton Street, Oakland to 564 Market Street, San Francisco.

Hiram J. Hamer from 8373 Beverly Boulevard, Los Angeles, to 4250 Rodeo Road, same city.

W. Herbert from 1033 Austin Way, Medford, Oregon, to 2 Norby Apts., 702 Water Street, Port Townsend, Washington.

Pierce Horrocks from 805 Lowman Bldg., Seattle, Washington to Empire Building, same city.

Paul W. Jones from 1628 Ninth Street, South, Fargo, North Dakota, to 718 Colorado Avenue, La Junta, Colorado.

Donald B. Kirby from Balboa Island, California, to 130 Sycamore, San Mateo.

Washington J. Miller from 926 Howard Street, San Francisco to 715 Leavenworth Street.

William Arthur Newman from 1108 Latham Square Building, Oakland, to 155 Alvarado Road, Berkeley.

Donald P. Smith from 627 Rowell Building, Fresno, to Route 2, Box 670EE, same city.

Edwin L. Snyder from Carmel to 618 Ruker, Salinas.

Frederick L. Swartz from 518 Brix Building, Fresno, to 1022 Cambridge Avenue, same city.

Paul R. Williams from 3839 Wilshire Boulevard, Los Angeles, to studio 1271 West 35th Street, same city.

MORE PRODUCTION RECORDS FOR COLUMBIA

Five new production records were established by the Columbia Steel Company, subsidiary of the United States Steel Corporation, during the month of October in the company's Pittsburg, California, works.

In the plant foundry, which is working almost entirely on ship castings, shipments were 12.6% above those of any previous month, while actual production in this department was up 8%.

Production of hot metal for ingots and castings increased 7.4% during the month of October. Drawn wire was up 3.6% and the production of welding wire for West Coast shipyards was 6.5% over the previous record.

A slight increase in the production of all types of nails was also recorded by the company.

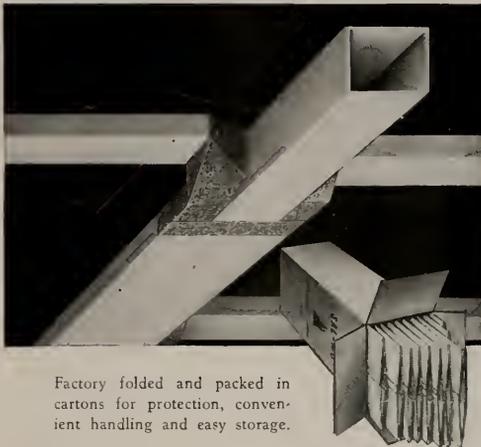
APPOINTED U.S.O. COUNSELOR

Robert S. Hutchins, architect, formerly of Gridley, more recently of New York, has been appointed building counselor for the U.S.O. He is in charge of selecting sites and facilities of all New England and parts of the Atlantic coast as far south as Virginia.

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S. F. ENGINEER, 80, COMES BACK FOR WAR JOB

Hayden H. Tracy, San Francisco engineer, has demonstrated that a new life may begin at two times forty when one's country is at war.

Nicknamed "Little Father Time" by his associates, Tracy is at work in the Marin shipyard at Sausalito after a layoff of 20 years and at the age of 80.

Tracy, head of the Track Engineering Co. in San Francisco for many years, had been retired for two decades when Japan struck at Pearl Harbor. Unwilling to loaf when his talents were needed, he made the rounds of the war industries in the bay area and filled out applications for employment. Personnel directors stared at the age he had listed, gulped, promised to "get in touch with him." They never did.

When the Marin shipyard started operations early last summer Tracy tried a different tack in applying for a job. Asked for his age, he grinned and swore he couldn't remember the date of his birth. His qualifications were so obvious, however, that the company winked at his evasion and put him to work in the blueprint department of the hull engineering division.

Eight hours a day, six days a week "Little Father Time" makes lists of materials required for the construction of liberty ships gliding down the ways of the yard. But that's only the routine part of his duties. Much of his time is spent advising younger engineers on problems that have stumped them. They respect him for his store of practical knowledge and his standing as a graduate of Worcester Polytechnic Institute and Cornell University.

Riding to work in a car-sharing club, Tracy, in contrast to younger men on the job, rarely misses a day. He appears a little astonished himself that he does not tire readily but attributes it to his rugged Vermont ancestry. "I feel as good as new," he says.

"Little Father Time" is a prime favorite among women workers at Marinship and seems to have lifted the morale of the entire plant. He warmly approves of women in war industry and thinks they will make excellent engineers. "Look at 'em," he says. "Cute, aren't they, and smart, too. Is it any wonder I like it here?"

MORE WESTERN HOUSING PROJECTS

Through a streamlining of procedures, war housing projects are decided upon and approved within 25 hours after a National Housing Agency committee arrives in a community.

"Within sixty days after each project is started, the houses should be ready for occupancy," said Eugene Weston, Jr., regional representative of the National Housing Agency.

This direct and immediate approach to a critical housing problem in nonferrous metal mining and smelting communities of California and Arizona has been

made possible, Weston said, through close cooperation of war agencies, and improved methods of fabrications.

Through joint agreement by the War Manpower Commission, the War Production Board and the National Housing Agency, 40 units in Livermore, California, and 1182 units in Arizona located at Globe-Miami, Morenci, Bisbee, and Ajo have been definitely assigned. The first units will be ready for occupancy by Jan. 15.

Weston said that housing programs also are being planned at Luning, Nevada, and Bishop, California, but details are not ready for announcement.

"According to the plan followed in these instances," Weston declared, "the War Production Board granted a blanket priority certificate for materials for the needed housing before the specific projects were programmed.

"The NHA made \$8,000,000 of its funds available to finance construction nationally. The War Manpower Commission and the NHA each sent a representative to the states concerned to visit together the communities where housing was needed. The Federal Public Housing Authority regional representative, who would be in charge of constructing and managing each project, accompanied the other officials and generally took along his architect and a surveyor."

The houses are temporary, row-type construction containing from one to three bedrooms each and will go a long way toward relieving critical housing conditions in these vital nonferrous mining areas.

"PRAISE THE LORD AND PASS THE 'LUMINATION'"*

By Carl W. Maedje

Down went production—a bottleneck its fate.
 Down went production—too little and too late.
 Up jumped the sight-pilot—he made a lighting check
 And manned a turret lathe as he bombed a bottleneck
 . . . shouting:

Praise the Lord, and pass the 'lumination!
 Praise the Lord, and pass the 'lumination!
 Praise the Lord, and pass the 'lumination—So we all can see.

Praise the Lord, and raise the lighting ration.
 Can't afford to grope at each location.
 Praise the Lord, we're all between damnation
 And the deep blue sea.
 The light pilot said it. You gotta give him credit.
 For a son of a gun of bomber is he . . . shouting:
 Praise the Lord. His light's our inspiration.
 All aboard. Let's have no hesitation.
 Praise the Lord. And pass the 'lumination.
 And we'll all be free.

* To be sung to tune of the currently popular war song of nearly the same title and with apologies to composer Frank Loesser.



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ALBERT KAHN, ARCHITECT

Albert Kahn, world famous architect and one of the foremost designers of wartime structures, died in Detroit on December 7 after a week's illness. He was 74 years old.

In a career that reached many peaks, Mr. Kahn's last few years contributed materially to the country's defense preparations, with designs for such structures as the Wright Aeronautical Corporation engine plant near Cincinnati, and the Ford Willow Run bomber plant. These and some of his other achievements were described in the February, 1942 Architect and Engineer. Included was a map showing the 33 foreign cities where Albert Kahn buildings have been constructed.

Mr. Kahn was the eldest of his family, being a brother of Felix Kahn of San Francisco.

PLASTICS FOR WAR AND PEACE

With a special preview for members of the Museum and for leaders in Baltimore's war industries and the nation's plastic industries, the Baltimore Museum of Art and the Plastics Industries Technical Institute will open an exhibition entitled "Plastics for War and Peace," next January 7.

The exhibition is being given in recognition of the fact that plastics have come of age. The aura of glamour and mystery that has surrounded their growth, and the stigma of the word "synthetic," are disappearing as plastics fill a growing and practical role in the manufacture of the equipment for war.

Plastics in war have become as vital as metals. There is hardly a piece of equipment being used by our armed forces that does not utilize plastics in some way. The same can be said of the tools of war workers, from transparent protective masks to self-lubricating gear wheels. The urgency of war has hastened by years the development of plastics, and wartime expansion of the plastics industries will facilitate the spread of the new materials when peace comes.

In the world of peace the use of plastics is certain to become more and more universal. Because they can be made to order, with almost any combination of properties the chemist desires, they should supercede most natural materials, over whose formation man has no control. They can be made as beautiful as metals, stones and woods, and in many cases, stronger, more enduring and less expensive. The years after the war may well usher in the plastic age.

The exhibition at the Museum of Art stresses these two facts: that the war has proved the merits of plastics, not as substitutes, but as independent materials; and that the peace will see the spread of plastics into every phase of our lives, not because they are "modern" and smart, but because they are, or can be made, better than most natural materials.

Plastics for war are typified by the Plexiglas nose of a Martin B-26 bomber (Rohm and Haas Co.), the key exhibit in the show. The Glenn L. Martin Co. has

contributed a complete model B-26, showing the various plastic parts, which are largely thermosetting phenols, as well as an antenna mast, wing and aileron tabs, luminous instrument panel name plates and other parts of the bomber. There is also a Comprog aircraft propeller blade (Engineering & Research Corp.) As the armed forces need every finished product that comes from the factories, few completed tools of war are exhibited. Instead the exhibition shows the raw materials from which war equipment is made. A continuous movie (U.S. Plywood Co.) explains the manufacture of the plastic plywood which goes into training planes, gliders, navy patrol torpedo boats, floating ramps and pontoon bridges. Other exhibits outline the transformation of raw materials into phenols for gun and bayonet grips, into resin-impregnated fabrics for the lining of steel combat helmets, into cellulose acetates for gas masks.

Plastics for peace, symbolized by a photograph of Henry Ford's all-plastic car, include such articles of tomorrow as zippers, transparent oil cans, football helmets, lamp shades, poker chips. The bedroom of tomorrow may be lined with transparent plastic wall files, lighted in any color from behind, with plastic textiles and draperies, rugs and furniture. Summing up the potential usefulness to the civilian of plastics, and their wartime preciousness, is an exhibit from National Plastics Co.: a pair of Nylon stockings and a plastic rubber tire, both secure in a Lucite safe.

GENERAL CONTRACTORS' 1943 OFFICERS

B. F. Modglin of MacDonald & Kahn, Inc., of San Francisco, has been elected president of the Associated General Contractors of America, Northern California Chapter, succeeding Oscar Fredrickson of the Fredrickson & Watson Construction Company of Oakland. Howard G. Huntley of Piazza & Huntley, San Jose, was elected vice-president, and Floyd O. Booe, general manager.

Modglin, Huntley & Fredrickson, together with the following, will also serve as members of the board of directors: M. H. Harkins, Oakland Sewer Construction Company; Charles L. Harney of San Francisco, David A. Hemstreet of Hemstreet & Bell, Marysville, H. C. Maginn of the Calaveras Cement Company, San Francisco, and Fred Q. Teichert of A. Teichert & Sons, Sacramento.

A telegram was sent to Governor-elect Earl Warren, congratulating him on the selection of Charles Purcell as State Director of Works, and to Purcell himself on his appointment.

JOINS THE "SEABEES"

Chris. W. Runge, architect, lately in the office of Austin W. Earl, engineer, in San Francisco, has joined the Navy "Seabees" and reported for duty on December 18, with rating as Chief Machinist Mate. He will receive his preliminary training at Norfolk, Va.

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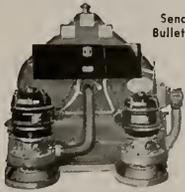
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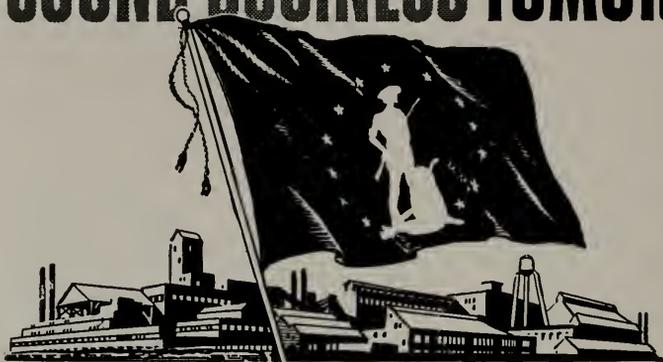
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THE BOSTON FIRE TRAGEDY

According to a statement by Robert S. Moulton, Technical Secretary, National Fire Protection Association; Secretary, N. F. P. A. Committee on Safety to Life, the Coconut Grove Night Club tragedy in Boston, November 28, was clearly due to gross violation of several of the fundamental principles of fire safety which have been demonstrated by years of experience and which should be well known to everybody. Quoting Mr. Morton: "It is too soon as yet to determine the responsibility, to evaluate the part that may have been played by the chaotic condition of Boston's building laws, incompetent enforcement, political influence and careless management, but the main lessons are clear.

"A night club is essentially a place of public assembly in the same life hazard class with a theatre but having greater possibilities of fire. As a result of the Iroquois Theatre fire in Chicago in 1903 when 602 people were burned to death, theatres in the United States are well regulated by fire laws.

"Automatic sprinklers are required over combustible stage scenery, adequate exits are required and regular inspections are made in accordance with the law to make sure that exits are free and unobstructed and that all fire precautions are observed. No such safeguards have been applied to night clubs which are far more dangerous than theatres. Night clubs commonly are located in old buildings made over for the purpose and practically every known rule of fire safety is violated. The Coconut Grove building was certainly no worse than hundreds of other night clubs located throughout the United States. (San Francisco experienced a somewhat similar, but not nearly as disastrous, night club fire a few years ago which resulted in a wholesale clean up of the clubs and a rigid enforcement of local fire prevention regulations.)

"The most glaring feature of this tragedy was the lack of proper exits. The National Fire Protection Association in its Building Exits Code, which is a well recognized standard prepar-



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ed by a representative committee of national experts, contains in its provisions on places of public assembly a number of basic requirements which, if observed, would clearly have prevented this tragedy.

"Revolving doors have long been considered by the N.F.P.A. Committee on Safety to Life as a menace under fire and panic conditions. Even though a revolving door may be of the so-called 'collapsible' type, it can readily serve as a death trap. The N.F.P.A. Building Exits Code prohibits revolving doors as required means of exit in places of public assembly and further specifies that if revolving doors are used there must be a swinging door immediately adjoining or within 20 feet. In our opinion revolving doors should be prohibited in all places of public assembly.

"Reports indicate that there were other doors from this building which might have served as exits but which were locked and one important door was hidden by drapes."

"Combustible decorations used in the club rooms can be flameproofed but effective flameproofing requires careful treatment and at best no chemical treatment of combustible materials actually makes them fire-proof. Some chemicals used for flameproofing may generate noxious smoke when heated and according to reports this may have been an important factor in this fire. The N.F.P.A. has published standards on the flameproofing of combustible materials but advises against placing too much reliance on such treatments."

DWELLINGS FOR NON-FERROUS MINERS

Copper miners and other non-ferrous miners in Arizona and Nevada, are to be provided dwelling units in those mining communities short of housing, Eugene Weston, Jr., architect of Los Angeles and Regional Representative of the National Housing Agency, has announced.

Upon advices from John B. Blandford, Jr., National Administrator of the National Housing Agency, Weston said that Federal funds have been made available for construction of

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2000 dwelling units in the states of Arizona and Nevada, as well as Colorado, Idaho, New Mexico, Utah and Wyoming.

The allocation of units for mining communities in Arizona and Nevada as well as the other states, is now being determined in the field by a committee of Washington representatives from the National Housing Agency, Federal Public Housing Authority, the War Production Board, and the War Manpower Commission.

"This is the first time," Weston said, "that housing programming has been undertaken to provide definite facilities to meet specific needs.

"Actual determination of housing requirements is made in the field and the WPB representative allocates materials for building the units in separate mining communities at the time of the survey."

To cover construction costs, Weston said that John B. Blandford, Jr., Administrator, has allocated \$5,000,000 to the Federal Public Housing authority, a unit of the NHA, which will build the new accommodations.

This emergency program, Weston pointed out, was started to alleviate conditions in certain mining communities where critical housing shortages threaten to interfere with production of essential nonferrous metals.

CAMOUFLAGE PAINTS

New Government standard specifications have been established for the manufacture of blackout, luminous, and camouflage paints. Nine colors have been selected for paints used in general camouflage to conceal and protect factories, arsenals, and other such objectives in this country. The Bureau of Mines is now conducting a survey to determine available sources of minerals essential in the preparation of these paints.—Industrial Standardization.

RECLAMATION PROJECTS

Three Bureau of Reclamation irrigation projects in the Far West, centers for Japanese evacuees from the Pacific Coast, and another for the development of guayule will continue to be constructed under certain limi-

tations, according to advices from Secretary of the Interior Harold L. Ickes.

Permission was also granted by the WPB Facility Review Committee, it was stated, for completion of a housing project of 140 family units at Boulder City, Nev. Work on an additional 71 units was ordered stopped.

Among the projects on which work may proceed within certain limits are: Klamath, California; Minidoka, Idaho; and Shoshone, Wyoming. These embrace irrigation facilities for War Relocation Centers. Additional irrigation facilities are needed for the support of the Japanese evacuees in these centers.

Three of the irrigation projects may continue, it was stated, only to the extent necessary to provide work and sustenance for Japanese evacuees under the supervision of the War Relocation Authority.

The project at Gila is approved only to the extent necessary for the development of guayule. Construction on the project is in progress which will make possible 30,000 acres of irrigated land for guayule rubber in 1943-44. More than 100,000 acres could be made available within a few years, it was declared.

GAS FLOOR FURNACES

Standard minimum specifications for gas floor furnaces of the gravity circulating type have been approved by the American Standards Association (Commercial Standard CS99-42). With the latest American Standard Approval Requirements for Central Heating Gas Appliances (ASA.: Z21.13-1940) as basic prerequisites, this standard covers construction and installation requirements for gravity circulating type gas floor furnaces, including those having single or dual wall register outlets, for use with natural, manufactured, mixed and liquefied petroleum gases. This new standard, which was developed by the National Bureau of Standards, includes the sizing, placement, general installation requirements, venting, gas connections and methods of certifying compliance with the standard.

Note: Review copy of this standard available on request.

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UNIVERSITY EXTENSION

Indicating a busy calendar of opening January and February classes, schedules of the Extension Division of the University of California will list courses in 136 subjects, a majority of them directed toward increasing the war effort.

In addition to large groups of classes on the University of California campus in Berkeley, both downtown San Francisco and Oakland have Extension Centers conveniently located at 540 Powell Street, in San Francisco, and at 1730 Franklin Street in Oakland. Other cities in the Bay Area where extension courses are given include Alameda, San Leandro, Vallejo and Richmond.

Personnel in business and industry, teachers, public speakers, writers, engineers, homemakers, nurses and the many who are preparing for work in some field of war activity are among those who will find courses which have been directly programmed to their advantage.

A number of courses are listed for workers in shipbuilding, aircraft and other industries. Shop mathematics, engineering, blueprint reading and others stress this training.

A large group of courses in arts, letters, philosophy, history and science, with several being given for the first time, rounds out a fully active program. All courses, wherever possible, are stressing practicability and usefulness in national and individual progress toward the ideals of free thinking and free living Americans.

Dr. George F. Haller is instructing a course in fundamental problems of basic trades with particular emphasis on the defense industries and shipbuilding. Mathematical calculations used by machinist electricians, sheet metal workers, cabinet and wood workers, painters, shipfitters, welders, draftsmen, etc., will be studied. The course meets in San Francisco on Monday and Wednesday, January 11, at 540 Powell Street, and in Oakland on Tuesday and Thursday, January 12, at 1730 Franklin Street.

Classes meeting in San Francisco and Oakland beginning January 11 and in Berkeley beginning January 13 will be instructed in a refresher course in mathematics by Ivan C. Barker and Max Yulich. Arithmetic computation, geometry, and fundamentals of algebra will be studied.

Blueprint reading and engineering drawing courses will be given by Joseph S. Blum and Grover C. Polson. Simple geometric problems, construction of mechanical curves, lettering and its technique, projective drawing and rendering of working drawings of machine parts for drafting room and shop make up the course in Engineering Drawing. Mr. Polson gives this course in Oakland beginning Tuesday, January 12, 7-9 p.m., as well as the course in Blueprint Reading, beginning Thursday, January 14, 7-9 p.m.

Blueprint reading contains basic information necessary for interpretation of blueprints, the alphabet of lines, orthographic projection, relationship of views, and an understanding of dimensions. The course is

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planned for those in the fields of mechanics, trades and industries, and is of special interest to shipbuilders.

Mr. Blum instructs a San Francisco class in this course, beginning Wednesday, January 27, 7-9 p.m.

ARCHITECT AND ENGINEER

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WAR BOND PAYROLL SAVINGS ROLL OF HONOR

The eyes of all America are upon the United States Treasury Roll of Honor appearing in the "Payroll Savings News."
For copy write War Savings Staff, Treasury Department, Washington, D. C.

Plan Will See Millions in War Campaign When Workers Are Invited to Save at Least 10 Percent of the Gross Payroll in War Savings Bonds Through the Payroll Savings Plan.

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HOW TO "TOP THAT 10% BY NEW YEAR'S"

Out of the 13 labor-management conferences sponsored by the National Committee for Payroll Savings and conducted by the Treasury Department throughout the Nation has come this formula for reaching the 10% of gross payroll War Bond objective:

1. **Decide to get 10%.**
It has been the Treasury experience wherever management and labor have gotten together and decided the job could be done, the job was done.
2. **Get a committee of labor and management to work out details for solicitation.**
 - a. They, in turn, will appoint captain-leaders or choir-men who will be responsible for actual solicitation of no more than 10 workers.
 - b. A card should be prepared for each and every worker with his name on it.
 - c. An estimate should be made of the possible amount each worker can set aside so that an "over-all" of 10% is achieved. Some may not be able to set aside 10%, others can save more.
3. **Set aside a date to start the drive.**
4. **There should be little or no time between the announcement of the drive and the drive itself.**
The drive should last not over 1 week.
5. The opening of the drive may be through a talk, a rally, or just a plain announcement in each department.
6. Schedule competition between departments; show progress charts daily.
7. Set as a goal the Treasury flag with a "T."

As of today, more than 20,000 firms of all sizes have reached the "Honor Roll" goal of at least 10% of the gross payroll in War Bonds. This is a glorious testimony to the voluntary American way of facing emergencies.

But there is still more to be done. By January 1st, 1943, the Treasury hopes to raise participation from the present total of around 20,000,000 employees investing an average of 8% of earnings to over 30,000,000 investing an average of at least 10% of earnings in War Bonds.

You are urged to set your own sights accordingly and to do all in your power to start the new year on the Roll of Honor, to give War Bonds for bonuses, and to purchase up to the limit, both personally and as a company, of Series F and G Bonds. (Remember that the new limitation of purchases of F and G Bonds in any one calendar year has been increased from \$50,000 to \$100,000.)

TIME IS SHORT. Our country is counting on you to—

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