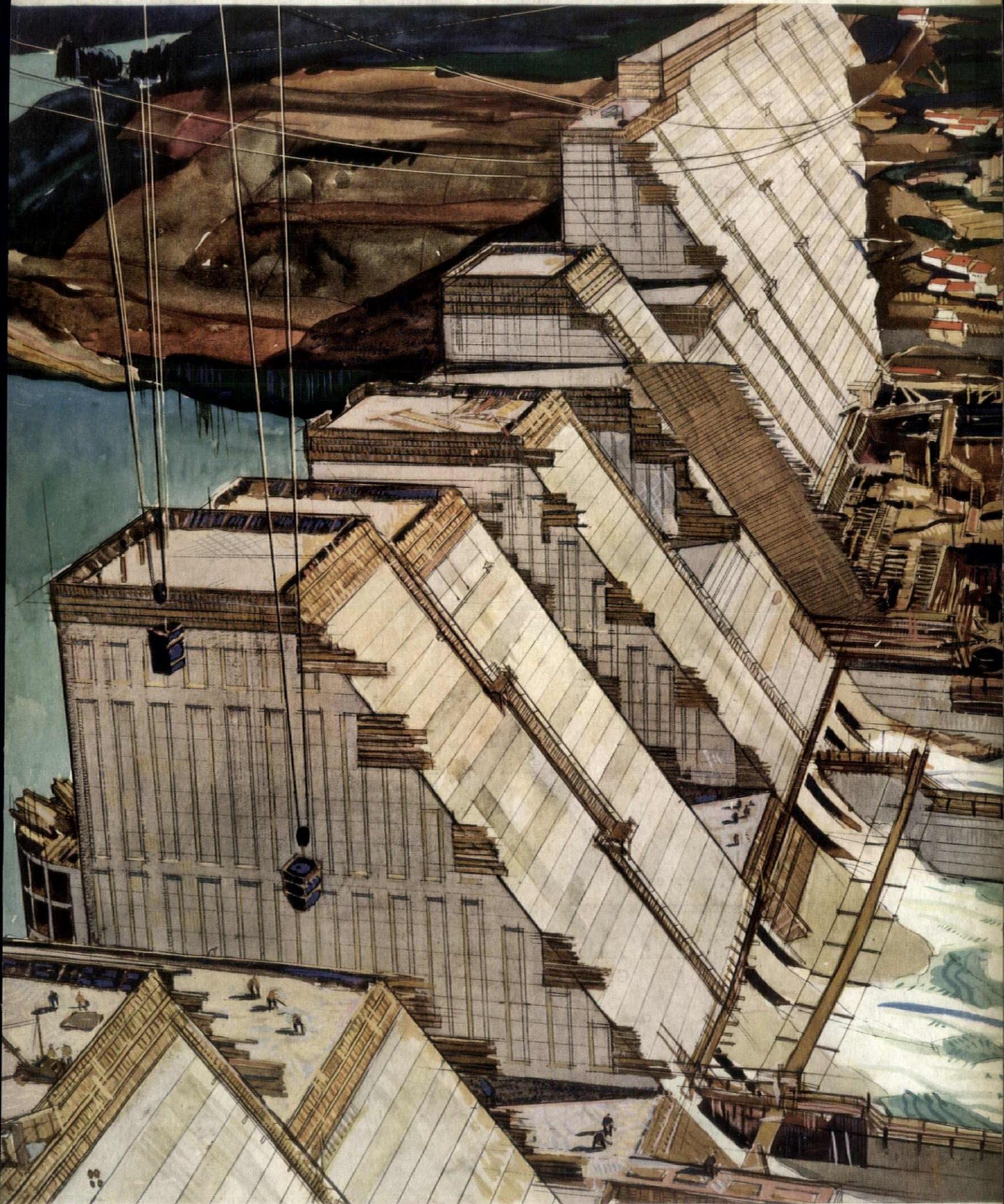


AMERICAN ARCHITECT



APRIL 1936 • TOWN OF NORRIS • UNION CLUB • STOCKHOLM •

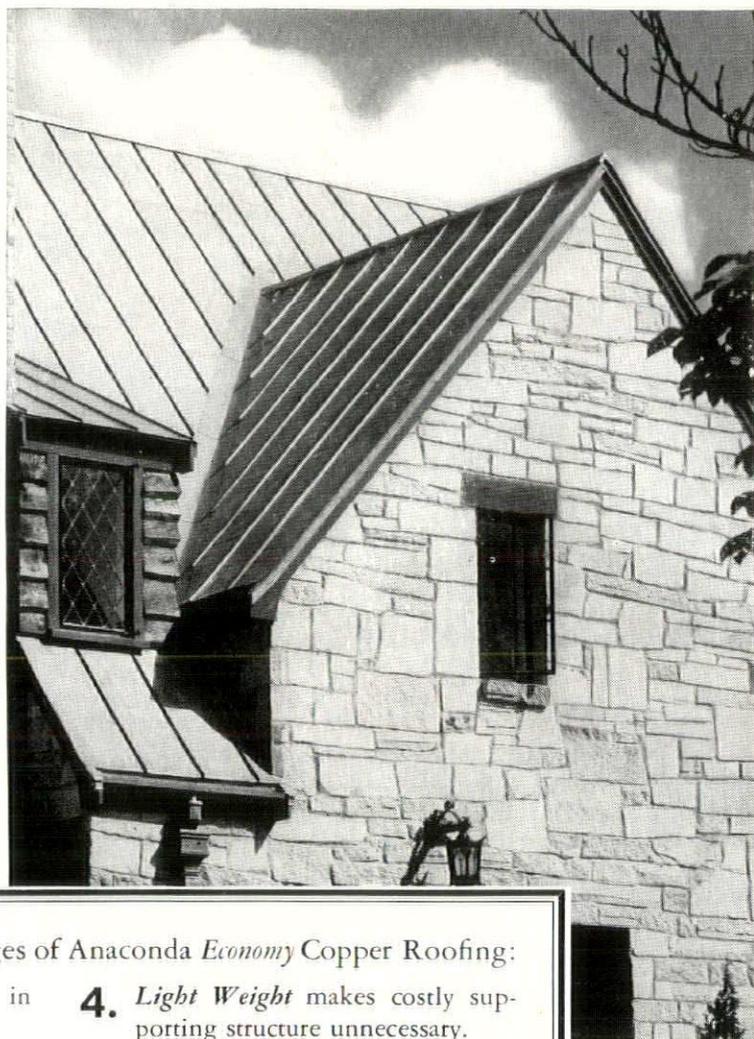
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AMERICAN ARCHITECT

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1936

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WIDE WORLD PHOTOS

Housing experts leave the White House after a conference with President Roosevelt on low-cost housing. Left to right: John F. Fahey, Federal Home Loan Bank Board; Jesse Jones, Reconstruction Finance Corporation; Stewart McDonald, Federal Housing Administrator; Peter Grimm, resigned housing Co-ordinator; J. M. Daiger, member of the Federal Reserve Board; and Marriner S. Eccles, Governor of the Federal Reserve Board

WHAT ABOUT HOUSING?

Last month the President finally admitted that plans for a Federal Housing program are in a sad mess. What the President did not admit was the reason for this unsatisfactory state of affairs. According to his analysis, responsibility for the Government's failure to aid private builders or to subsidize slum clearance rests not on the Government, but on a lack of agreement among contractors, financiers and housing experts as to what should be done.

Despite the President's explanations, most observers believe lack of ready money has played an important part in the decision to postpone housing plans. Had not the bonus bill been "railroaded" through Congress, and were this not an election year when an ever-watchful treasury is even more backward about expenditures, there might be some chance that one of the much publicized, far-reaching housing bills could be enacted. As it is, the Wagner bill, soon to be presented for consideration, must carry all of the burden of the weighty housing problem. Whether or not it is enacted will depend upon its scope, its demands for money, its conflict with private enterprise, and its political relation to Democratic re-election tactics.

There will be talk, plans, and claims, of course, but action in the near future seems doubtful. Perhaps because of the gloomy outlook, possibly because of his desire to return to private business, Housing Co-ordinator Peter Grimm, who only recently went to Washington to co-ordinate the diverse facets of New Deal Housing, resigned his post to return to his Manhattan real estate office.

ACT OF GOD

Not only was there no progress toward solution of the already existing problems, but last month saw the development of another and more stringent housing crisis. Almost overnight rambaging river waters brought destruction to parts of nearly every Eastern State. Pennsylvania and Connecticut were hardest hit. Of the cities, Pittsburgh, Johnstown, and Hartford suffered most. Conservative estimates placed the number of demolished homes

at 200,000, and the flood crest had not yet carried to many sections of the country. Bridges, stores, factories, and civic buildings were similarly damaged.

Consequently, whatever the New Deal's plans are for housing's future, it is almost mandatory that immediate steps be taken to help stricken areas to rebuild. Off for a vacation fishing trip, the President, when he left, had not decided what he would do to meet the flood crisis. Undoubtedly it will mean more WPA relief. But how administered and how planned, no one could guess. The only sure thing seemed to be that with 200,000 more homes added to the already great home shortage, the construction industry might well have to move rapidly to meet the demand.

NEW LIFE FOR FHA

No one has thought for a minute that New Deal officials would conclude the activities of the Federal Housing Administration on April 1—the date when FHA's authority to insure home loans would have expired. There was no surprise at all, therefore, when both the Senate and the House passed bills late in March extending the bureau's operation until April 1, 1937.

But FHA did not get its new lease on life without Congressional fireworks. Representative Carl E. Mapes, Michigan Republican, denounced the Federal housing act and its wide delegation of

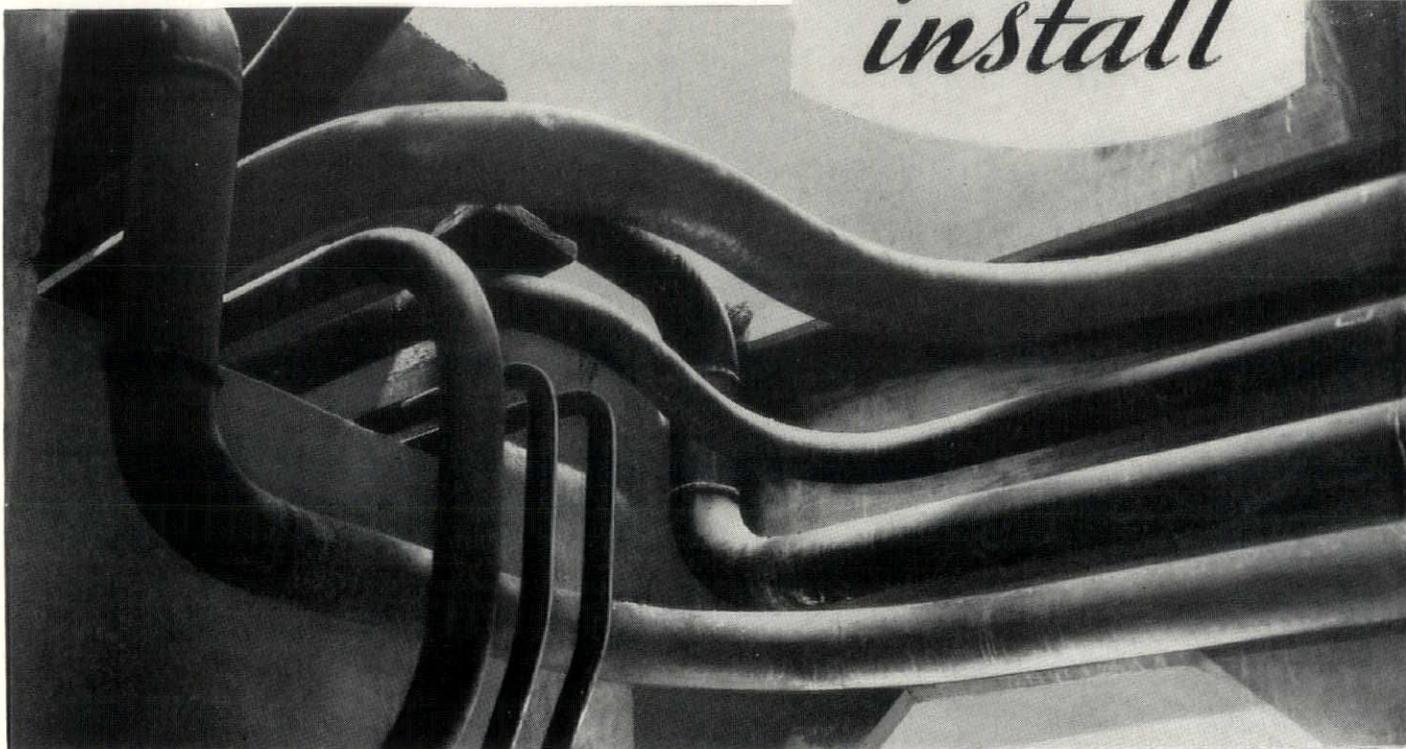
(Continued on page 4)



WIDE WORLD PHOTOS

Prospective home buyers inspect residential models at FHA's Chicago "Insured Mortgage Clinic." With these model homes FHA hopes to prevent costly mistakes in choice of house design

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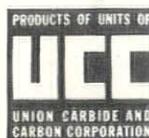
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authority as the "most amazing measure passed by Congress." Particularly bitter about "the patronage machine built up," Representative Mapes offered an amendment to bring FHA under the civil service, a proposal that was promptly ruled out of order. He was joined in his attack by Representative Frank Hancock, North Carolina Democrat, who charged that more than 3,000 WPA workers had been employed to "ring door bells and drum up trade for contractors."

Despite this bi-partisan attack on FHA, the bill, while curtailing the administration's power to make loans on the security of insured notes, still enables FHA to continue its modernization functions. Excerpts from the bill read:

"The Federal Housing Administration, whose authority to insure modernization loans expires on April 1, 1936, is granted further authority which will expire on April 1, 1937, or such earlier date as the President may fix by proclamation. Insured modernization loans can be made only to owners of improved real property or to lessees of such real property under a lease of not less than one year." (Formerly loans made to monthly tenants could be insured.)

"The amount of insurance to be granted is reduced from 20 to 10 per cent of the total amount of loans, advances of credits and purchases of loans and advances of credit made after April 1, 1936."

"The provision of the existing housing act authorizing the administrator to make loans upon the security of insured notes is repealed."

"Authority is granted to the administrator to dispose of property acquired through default of modernization loans."

PEACE PLAN FOR LABOR

Biggest obstacle to a solution of unemployment and labor problems in the construction industry has been the two-year old dispute among the building craft unions of the American Federation of Labor. Ever since 1934, when a split occurred over which union was to decide who should do what work, there have been two building trades departments, each claiming to be the lawful one. The sad part was that contractors' jobs waited while trades employees haggled among themselves.

At least three times during this two-year struggle, William Green, A. F. of L.'s president, has announced that the dispute had been adjudicated. On the surface, this last "peace plan" seems to have the support of 17 of the 19 unions



PHOTO: ACME

Must veterans' bonuses go into houses like this? R. Leigh Gignilliat (right), Deputy Administrator of FHA, explains how FHA will help veterans to buy homes with bonus money. J. E. Van Zandt, National Commander of the Veterans of Foreign Wars, inspects FHA's model as he listens.

involved. Only the plumbers and elevator constructors expressed outright displeasure, although several of the other unions indicated that they were not entirely in accord with the new plan for settling jurisdictional disputes.

This plan provides for the selection of an impartial arbiter to decide which of two unions shall do a piece of work should a controversy arise. J. W. Williams of the carpenters' union will act as president of the new building trades department, and M. J. McDonough, of the plasterers', as secretary-treasurer.

RESETTLEMENT SETTLED

It was more than three months ago that irate citizens of Franklin Township, New Jersey, first protested against Resettlement Administrator Tugwell's attempt to construct the \$6,000,000 Bound Brook project in their midst. Now, after weeks of haggling, after a court battle that carried to the Supreme Court of the District of Columbia, Professor Tugwell has at last explained to the Township Committee the facts of the case, and the Township has withdrawn its suit for an injunction.

From the first the Township's objection to the Bound Brook project has been that, since it would be tax free, this large scale housing development would disrupt the present equitable tax rate, and would place a larger burden on each taxpayer. The Resettlement Ad-

ministration made no attempt to refute this contention.

There was, therefore, considerable surprise in Bound Brook last month when a Tugwell-signed letter calmly announced: "The administration has no intention that its projects should remain in Federal ownership. As soon as the Bound Brook project has been sufficiently completed, it is planned that the Federal government will divest itself of ownership so that the property embraced within the project will be subject to the same burdens of taxation as all other property within the State of New Jersey."

VOORHEES SPEAKS

Just one day after the President's relief message to Congress, Stephen F. Voorhees, President of the American Institute of Architects, gave a speech before the joint meeting of the New York Merchants' Association and the New York Building Congress that might well have been an answer to the President. As Mr. Voorhees told his 600 listeners "The construction industry has suffered from the competition of PWA and its successor WPA. One of the major problems confronting the construction industry today is to bring about the termination of these activities, a sector of the larger effort to get government out of business. But even when this is accomplished, the after-effects will still remain, creating more complexity."

THREE BILLION FOR WPA

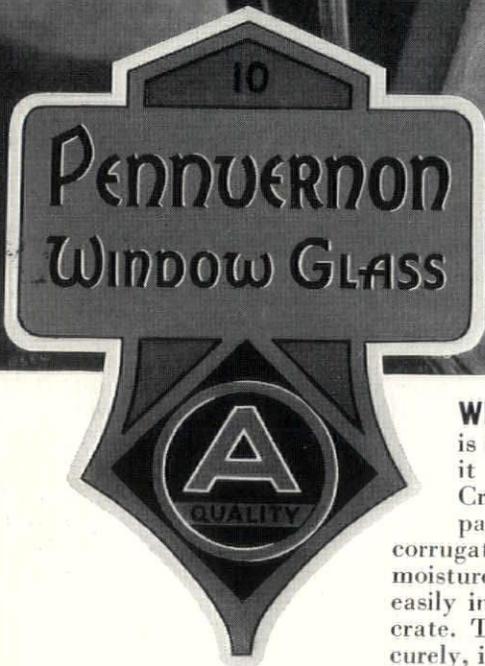
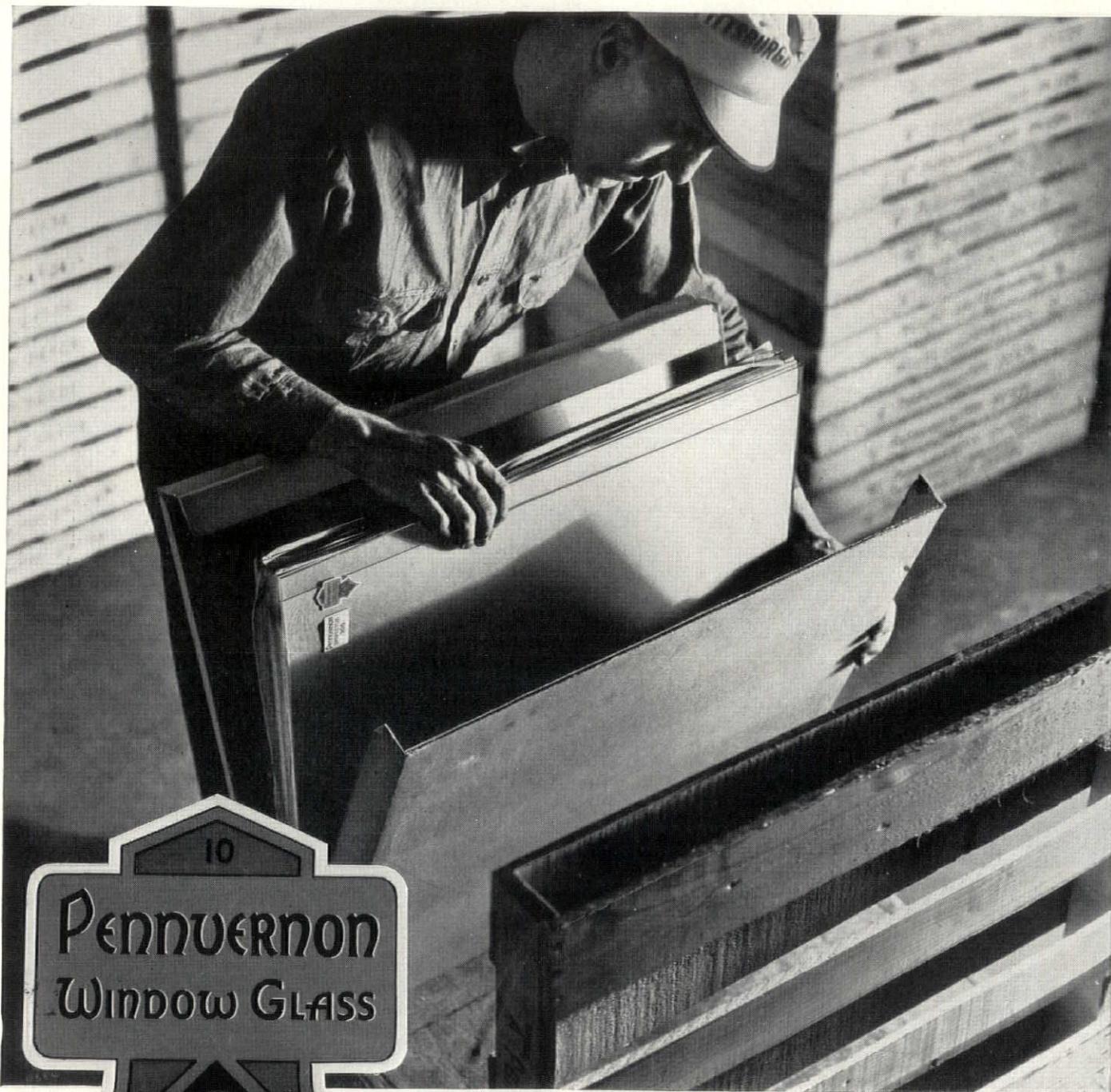
Whatever doubt existed concerning the future of the Works Progress Administration has definitely been dispelled by President Roosevelt's message to Congress in which he asked for one and a half billion dollars for WPA in 1936. With 19,500,000 individuals in need of some form of public assistance, with industry slipping back into its old ways since NRA's demise, the President explained, "there is no alternative but to continue relief measures."

Considering that \$1,000,000 will be left over from the current relief fund, that \$600,000,000 is already in the budget for CCC camps, relief administrators will have the very tidy total of \$3,100,000,000 available for the next fiscal year.

Sentiment over President Roosevelt's relief message varied widely. Most Republicans labelled the message "the last grab before election." Even some good Democrats objected to giving the President carte blanche on how to spend

(Continued on page 6)

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TRENDS

NEWS • EVENTS • FACTS • FACES • IDEAS • OPINIONS • COMMENTS

three billion dollars. Most legislators seemed to think that the sums should be earmarked for use only on specific projects.

President Roosevelt, on the other hand, not only saw nothing to be concerned about in his proposal, but indicated further that "the relief appropriation would be enough only if private employers hired many who are on relief rolls now."

PROMOTING THE PROFESSION

Springtime is house-cleaning time, and once busy housewives turn their thoughts to the interior appearance of their homes it is only a matter of time before they also get ideas for refurbishing. Department store executives have long realized this quirk of feminine nature, and each spring finds the various stores using some sort of promotion to capitalize on seasonal buying. Therefore, while the sun was still five days away from its vernal equinox, two Manhattan department stores, Altman's and McCutcheon's, announced exhibits that featured decoration with architectural tie-ups.

At Altman's Mr. Harold T. Williams, store architect, designed a seven-room house that featured modified Regency exterior and interior treatment. Newspaper advertising and show window cards featured "Progress House." Visitors saw the first story facade of the home on Altman's seventh floor. More than amply decorated with furniture, rugs, draperies, gadgets, this exhibit did little for architecture, probably much for Altman's.

But in the fifteen blocks between Altman's and McCutcheon's, the attitude toward architecture changed considerably. Equally anxious to sell decorative material, McCutcheon's approached the problem much more adroitly. Through a committee of architects including T. Merrill Prentice as chairman, Harvey Stephenson and C. B. Moore, the store selected 32 outstanding examples of residential architecture designed by many of the better known architects and architectural firms. These photographs were accompanied by water color sketches, painted by Francis Macomber, suggesting a decorative scheme for each house, and by five display rooms showing the different wall colors used in the restored buildings in Williamsburg, Virginia.

McCutcheon's exhibition, toned to the upper stratum of buying power, was a real opportunity for architects to show prospective clients what they can do and have been doing.

FEBRUARY CONSTRUCTION

Value of contracts awarded for residential and non-residential building in the 37 eastern states during February 1936 topped February 1935 figures by more than 98 per cent, according to F. W. Dodge Corporation reports. But while the 1936 trend of building continued definitely better, seasonal declines from January to February showed the effect of extreme weather conditions.

Primarily as a result of substantial increases in the construction of stores and warehouses, factories, schools and hospitals, the non-residential total of \$62,610,900 was more than double the corresponding total for February last year. On the other hand, however, this figure was not too favorable a comparison with January's \$90,479,800.

Similar gains in residential construction were recorded in each of the 13 major districts with the exception of the Upstate New York and St. Louis territories. The total for February 1936 was \$31,175,500 as against \$37,439,500 in January 1936 and \$16,616,800 in February 1935.

The contract totals for February, both residential and non-residential, and their valuation, follow:

Class	No. Projects	Valuation
Dwellings	2,808	\$17,184,300
Apartments	258	6,259,300
Housing Developments	220	4,771,000
Dormitories	41	2,612,900
Garages	257	1,565,300
Stores	792	6,369,400
Warehouses	173	2,667,300
Offices	120	1,801,000
Gymnasiums	26	1,102,000
Schools and Colleges	326	18,379,400
Hospitals	46	5,156,400
Libraries	23	1,363,100
City Halls	71	2,683,400
Park Buildings	54	2,307,900
Factories	233	13,436,800

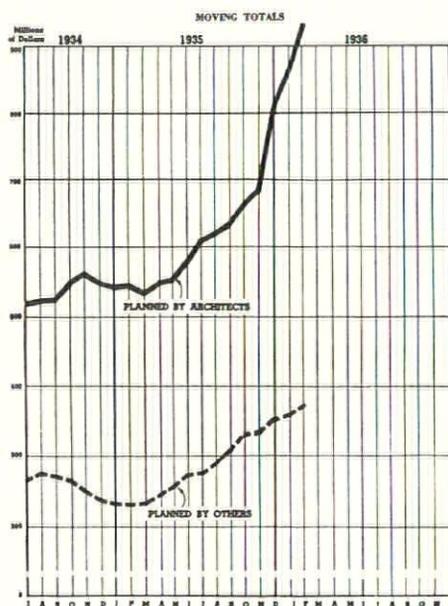
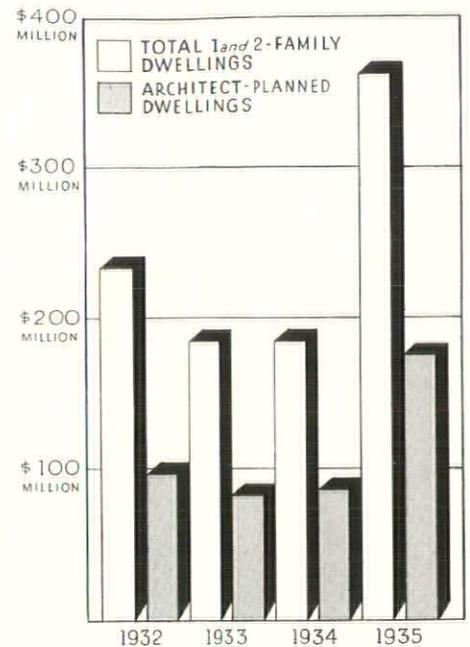


CHART BY F. W. DODGE CORP.



The architect's closer consideration of the small house field is responsible for this more than proportionate increase in architect-planned construction of one and two-family dwellings. Architectural practice seems definitely on the up-grade. Chart by F. W. Dodge Corporation

ARCHITECT - PLANNED

Even more heartening than construction increases is the fact that a more than proportionate share of these new buildings are architect-planned. Statistics gathered by the F. W. Dodge Corporation show that the architect is becoming of increasing importance even in classes of building where architectural services were normally considered a luxury.

Of the total expenditures which were made for new dwellings in 1932, less than 42 per cent were made under the planning and direction of an architect. By 1935 this proportion had risen to almost 49 per cent. Since 1933 the gain in architect-planned dwellings has amounted to 114 per cent, while the total value of expenditures for both privately planned and architect-planned dwellings increased only 95 per cent in the same period.

Taking December, 1935, as a basis, the following table indicates the proportion of total work planned by architects:

Total	Planned by Architects	Per Cent of Dollar Value of Dwellings	
Under \$3,000	\$ 278,700	6.28%	
\$ 3,000—\$ 3,999	708,900	17.39%	
\$ 4,000—\$ 4,999	1,162,200	19.94%	
\$ 5,000—\$ 7,499	3,126,500	37.45%	
\$ 7,500—\$ 9,999	1,827,900	53.28%	
\$10,000—\$12,499	1,683,700	69.53%	
\$12,500—\$14,999	363,800	244,000	67.07%
\$15,000 and over	3,180,500	2,654,500	83.46%
Total	\$12,332,200	\$6,586,400	53.41%

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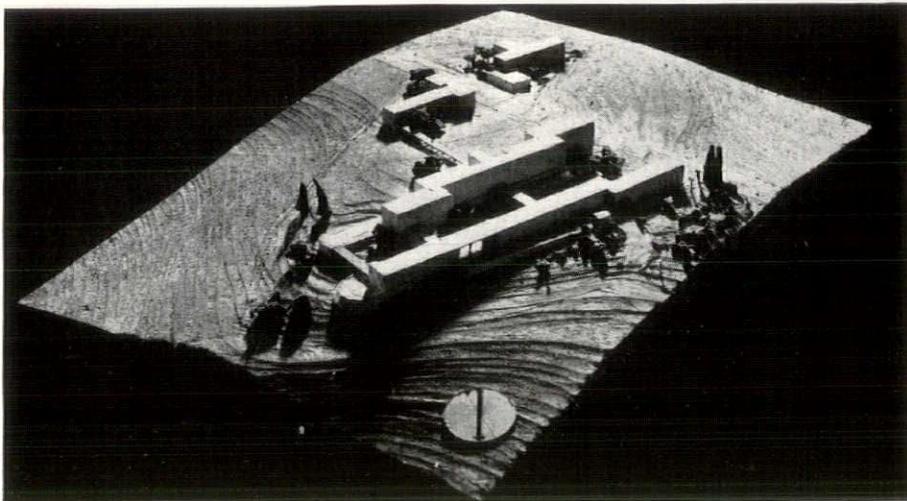
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Mendelsohn's Model for Palestine Hospital

MENDELSONN'S HOSPITAL

When Nazi Germany began to make life difficult for its Jewish citizens, one of the first to leave the country was an outstanding German architect, Erich Mendelsohn. He went first to London. And then, because his architecture finds a fuller expression in the warm, dry, climates, he established an office in Palestine,

Last month this same, much travelled architect figured prominently in the plans of at least one American group. For at the Hospital for Joint Diseases in Manhattan, Dr. J. J. Golub, director of the hospital, spoke enthusiastically of the proposed Rothschild-Hadassah-University Hospital in Palestine, and Mendelsohn is the architect. To be erected at an approximated cost of \$750,000, the hospital of 300 beds will be the first medical center in Palestine. It will feature earthquake and fire-proof construction through the use of native stone.

The group of hospital buildings will include obstetrics service, tuberculosis service, and all other usual specialties of medicine which make up a general hospital; an out patient department for ambulatory patients; a nurses' school and residence; and the Nathan Ratnoff Medical School (named after the chairman of the American Jewish Physicians' Committee.)

The buildings will be arranged (see accompanying photograph) in a group to permit unity, accessibility, flexibility, and facility and economy of operation.

Sizing up the aims and possibilities of the hospital, Dr. Golub said, "The entire medical profession in Palestine is looking to the new medical center as a model for the Near East, a model institution that combines research, teach-

ing and care of the immediate sick." In Palestine Erich Mendelsohn must have been thinking that perhaps his forced change of climate would not turn out so badly after all.

YARDSTICK FOR BUILDING

Three months ago the Federal Home Loan Bank Board started out to investigate the costs of building the same typical house in 100 major cities. The first cycle of this tabulation, which will be made every three months, is now complete. Although only 82 cities reported, of the originally planned 100, the analysis should prove the most effective yardstick yet put to varying construction costs.

Indices published in the January and February issues of AMERICAN ARCHITECT showed that costs tended to be lowest in the Southern states, with the lowest figure, \$4,337 or 18 cents a cubic foot, coming from Columbia, South Carolina. From this bottom price, figures varied widely. Costs in the Mid-Western states were somewhat higher than in the South but generally lower than in the Eastern and New England sections. In all reports, however, the mountain states showed the highest construction costs. Great Falls, Montana, where the "standard house" could be built for \$6,779, 28.2 cents a cubic foot, was the most expensive city. This month's index, ranging from \$4,764 in Ft. Smith, Ark. to \$6,113 in Phoenix, Arizona, closely follows the pattern.

FHLB's "standard house" is a detached home of 24,000 cubic feet volume, of good design, containing a living room, dining room, and kitchen on the first floor, and three bedrooms and bath on the second. There is an open attic that may be used for storage or finished

into one or two usable rooms. There is a basement, without partitions, housing the heating plant and laundry.

The exterior treatment is assumed to be a combination of wideboard siding, with brick and stucco as features of design. With a one car garage included, FHLB estimates that the home might be placed in the \$6,000 class.

Costs of construction for the "standard house" are gathered by the corps of trained investigators that FHLB recruited from the Home Owners' Loan Corporation. Each investigator obtains the current delivered prices on all materials used in the house from leading local dealers. Likewise, the prevailing local hourly labor rate for each of the principal trades involved in the construction is reported. . . . These determine the index of construction costs in any particular city.

The statistical analysis for March of 30 cities follows:

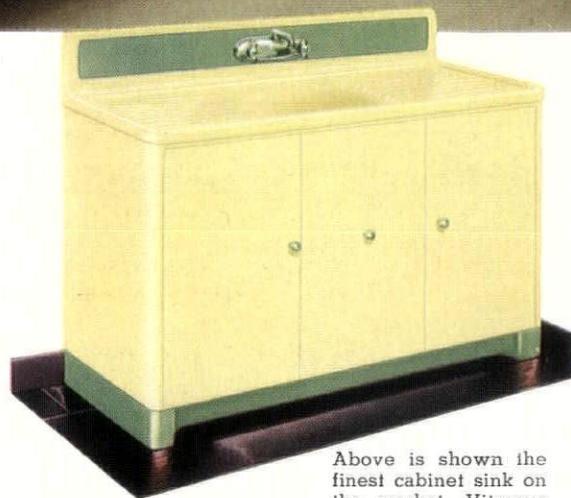
Federal Home Loan Bank Districts, States and Cities	Total Cost	Cost per Cubic Foot
No. 3—Pittsburgh:		
DELAWARE:		
Wilmington	\$5,360	\$0.223
PENNSYLVANIA:		
Harrisburg	5,583	.233
Philadelphia	5,494	.229
WEST VIRGINIA:		
Buckhannon	5,214	.217
Charleston	5,355	.223
Wheeling	5,819	.242
District average	\$5,471	\$.228
No. 5—Cincinnati:		
KENTUCKY:		
Ashland	\$5,439	\$.227
Covington	5,673	.236
Lexington	5,039	.210
Louisville	5,484	.229
Paducah	5,170	.215
OHIO:		
Cleveland	5,888	.245
Columbus	5,559	.232
TENNESSEE:		
Chattanooga	5,217	.217
Knoxville	4,979	.207
Memphis	5,079	.212
Nashville	4,886	.204
District average	\$5,310	\$.221
No. 9—Little Rock:		
ARKANSAS:		
Fort Smith	\$4,764	\$0.199
Little Rock	5,202	.217
Texarkana	4,892	.204
LOUISIANA:		
New Orleans	5,328	.222
MISSISSIPPI:		
Hattiesburg	4,846	.202
Jackson	5,198	.217
Meridian	5,272	.220
NEW MEXICO:		
Albuquerque	6,067	.253
TEXAS:		
San Antonio	5,958	.248
District average	\$5,281	\$.220
No. 12—Los Angeles:		
ARIZONA:		
Phoenix	\$6,113	\$.255
CALIFORNIA:		
Los Angeles	5,177	.216
San Diego	5,520	.230
NEVADA:		
Reno	6,006	.250
District Average	\$5,704	\$.238

102 YEARS OF USE ... and still going strong!



Above is a photograph of a dramatic test—a flexing test that would tear the heart out of a quitter. A 480-pound weight — more than 300 pounds heavier than the average person—was lowered and raised in the tub, flexing the metal 23 times a minute, for 139,000 times! The metal and porcelain flexed in unison and not a defect in the enamel or the metal showed up. It would take a family of four people, each weighing 480 pounds and each taking a bath every day in the year for 102 years, to equal this wear and usage. Yet, the base does not flex at all when any person steps into the tub.

Brigsteel Beautyware formed metal fixtures are twice as strong, but they weigh only one-third as much as cast iron fixtures. This light weight is obviously of prime importance to the architect, to the builder and to the home owner. Brigsteel vitreous porcelain finishes, in 83

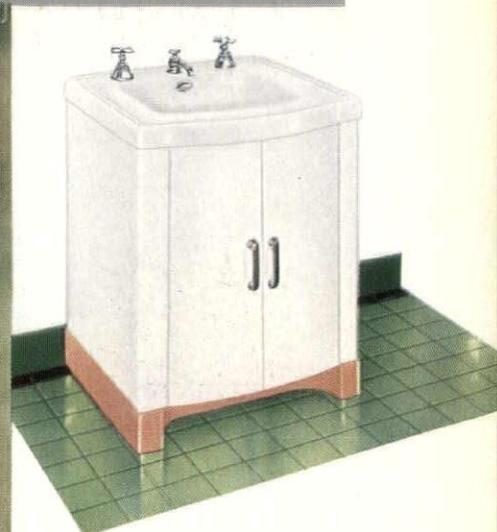


Above is shown the finest cabinet sink on the market. Vitreous porcelain or high-baked enamel finish.



Popular, pedestal type lavatory; beautiful two-tone combination; acid resisting; easily cleaned overflow—an exclusive feature.

Wide Rim Seat Tub; a safety and utility feature; Embossed Serpentine Bottom, with the safety tread; Lip Flange for tiling-in.



Above is shown the first vitreous porcelain cabinet lavatory. Deep, wide basin; convenient, roomy utility ledge; large storage space; two polished plate glass shelves; recessed base for toe room—are features.

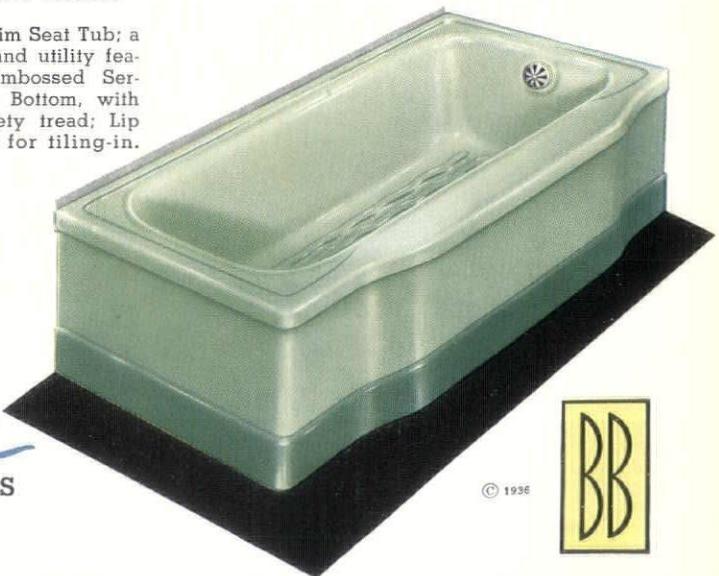
gorgeous color combinations, fused by a special process on pure Armco Ingot Iron, give rare beauty, long life and superb quality to Brigsteel Beautyware.

The Briggs Department of Design and Color will gladly cooperate with you on new, practical color combinations.

Wholesalers all over the country are now provided with specially-designed fittings made for Brigsteel Beautyware by leading brass goods manufacturers.

Ask your Master Plumber for descriptive literature, roughing-in drawings and specification data, or, if you prefer, write Brigsteel, Detroit.

Plumbing Ware Division
BRIGGS MANUFACTURING COMPANY
Detroit, Michigan



BRIGSTEEL
Beautyware
BETTER PLUMBING FIXTURES FOR BETTER HOMES



ARCHITECTURALLY SPEAKING

by

OTIS ELEVATOR COMPANY

An interesting example of architectural foresight has just come to our attention. An architect, in planning a dwelling, indicated a hatchway that was to be used at some later date for an elevator installation. Until the owner was ready for the elevator, the space was used for closets (what woman ever had too many closets?). Recently, we installed a Personal-Service Elevator in that hatchway. We pass this on as an idea — because not many years hence a lot of people who are building today will wish they had made provision for elevators.



One of the most recent (and most important) trends in elevator modernization is the change-over from old-fashioned car-switch control to automatic Signal Control. As an elevator modernization possibility, it outshines all others in the direction of better elevator service. Needless to say, passengers notice the change and are favorably impressed. And the building owner is impressed by a material increase in operating efficiency which, of course, tends to reduce elevator operating expenses.



A tip: Recommend the purchase of *elevator service* rather than just an elevator installation. In other words, an elevator installation *plus* maintenance by the manufacturer. Reason: Four walls, no matter how good from an architectural standpoint, cannot defend the prestige

of a building against interior deterioration. And manufacturer maintenance helps prevent this inside decay where it is most noticeable.



Have you seen the latest Otis Undercounter Dumbwaiter? It's self-contained — and can be installed in a leased building and moved like any other store equipment. It brings the store-room within reach of the clerk's hand — leaves shelves free for *variety of display* rather than quantity of any one product. No unsightly overhead machinery required. Ideal for many types of retail stores — especially where sales-room space is limited.



The Escalator has gone modern. In its new streamlined dress of gleaming metal, it has helped modernize traffic facilities in a wide variety of buildings in the last few years. The Escalator is not fussy about the frills or materials of this dress. By this we mean that the new types of balustrading can be adapted to suit the architectural treatment of any building.



What would you like to see printed in "Architecturally Speaking"? We'll be glad to receive suggestions and answer questions on this page. We want to make this feature both interesting and worth while. Otis Elevator Company, 260 Eleventh Avenue, New York City.

CONSTRUCTION EMPLOYERS LEAGUE

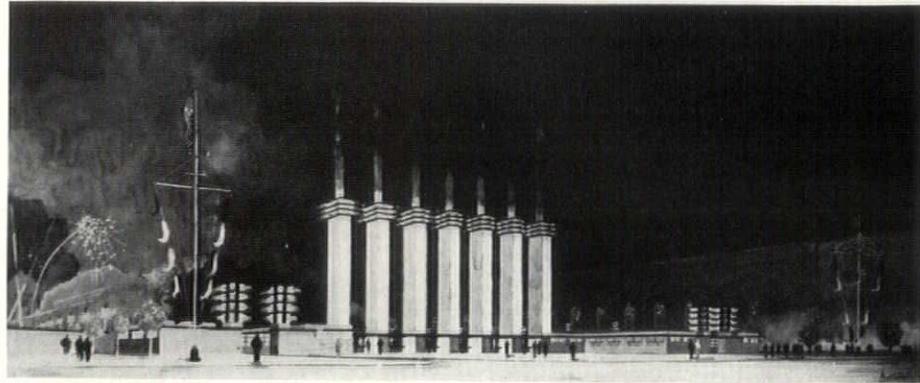
There were widespread hoorays when NRA died at the hands of the Supreme Court. Business men generally believed that NRA's supervision had been a deterrent to the return of better times. Consequently, it was something of a surprise to find recently that contractors in Westchester County, N. Y., home of many a speculative development, have felt a need for some type of trade regulation and have formed an NRA-like organization to assure fair practices.

Apparently, the new Westchester Construction Employers League, already supported by 60 of the County's builders, is primarily interested in the problem of bids. The bid depository rules state that "a building contractor shall not be called upon to submit bids on Mondays, Holidays, or days following Holidays. Further, the awarding authority (possibly the architect) must in advance set a specific time for receipt of bids, and bids received after that time are to be returned to the bidder unopened. No more than seven building contractors will be permitted to bid on any one building project."

In regard to the awarding of contracts, Westchester contractors have adopted additional machinery. "All awards to building contractors," states their announcement, "must be registered at the bid depository and this registration application must be accompanied by a fee in the amount of one-fourth of one per cent of all contracts up to \$100,000, and an additional fee of one-tenth of one per cent on all amounts in excess of the original \$100,000. The minimum fee is \$5.00."

In all of this regulation there was nothing to which the architect could not reconcile himself. One paragraph in the new League's bulletin, however, caused many a reader to blink his eyes in astonishment. It read: "Prospective purchasers of homes especially should for their own protection and the future security of their investment give careful consideration to the thought that the advice and services of a competent architect are as necessary for the planning and building of a home as it is for any other structure. The architect's fee is not an expense, it is a real investment, and based on the total cost of the operation gives the individual owner the opportunity of securing the services of the most competent and skilled professional man he chooses to select for even the modest home."

This from contractors primarily en-



Main Gateway to Cleveland's Great Lakes Exposition

gaged in the speculative building of small houses! On the surface this most obvious shift in sentiment would seem to indicate that Westchester's contractors over night have become the architects' press agents and biggest boosters. Why?

To answer this question many observers linked up the contractors' action with the recent forward surge of the architect into the small house field. Some thought that Westchester's builders could see the handwriting on the wall, could see that if the architect were

to become an increasingly important factor in small house construction, now would be the time to play ball.

CLEVELAND'S FAIR

While legislators and planners continue to haggle over arrangements for New York's 1939 World's Fair, construction work and improvements totalling nearly \$2,000,000 are under way at the Great Lakes Exposition which will open on June 27th in Cleveland. The two million dollar total includes government expenditures amounting to nearly \$1,400,000 for permanent improvements to Cleveland's lake front, and \$550,000 in contracts which have been let by the Exposition management for the first buildings and Fair facilities. Already completed is the main gateway to the Exposition pictured above.



PHOTO: CHARLES PHELPS CUSHING

With its "Chinese pagoda head-dress" removed, this new Federal Courthouse building joins Manhattan's downtown skyscrapers. Part of New York's civic center, it is flanked by the Municipal Building and the present Center Street Courthouse

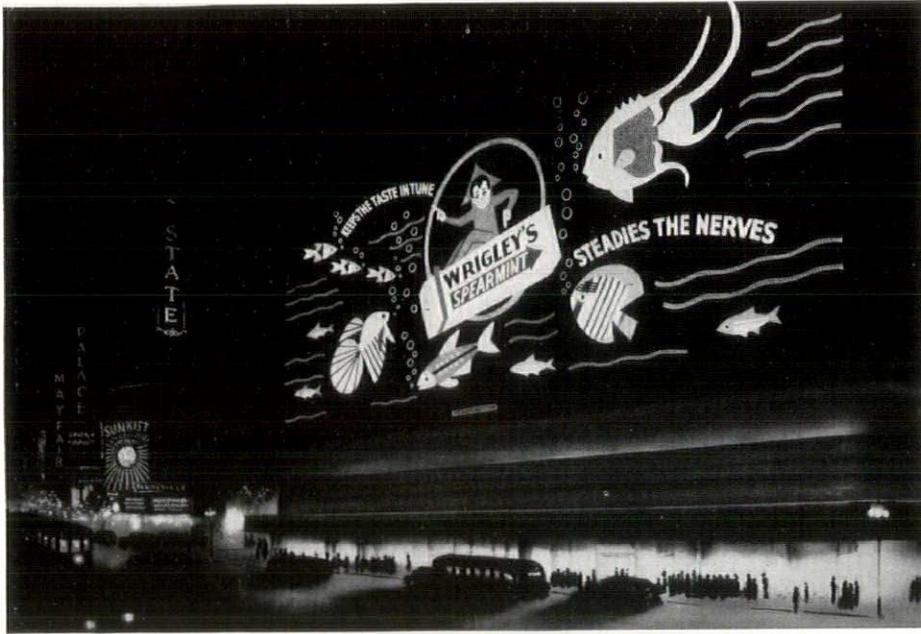
VERSE AND REVERSE

To Dr. Edith Elmer Wood, recognized housing authority, goes a vote for the most illuminating comment on the question of rent subsidies. Writing in the bulletin of the National Public Housing Conference, called "Public Housing Progress," Dr. Wood finds that while the Chamber of Commerce, Harold Riegelman, and Peter Grimm are all advocates of rent subsidy, so much leeway in definition of terms is allowed that the strongest advocates are almost the biggest enemies of public housing and slum clearance. To get this point to readers Dr. Wood quotes:

There was a young lady of Niger
Who smiled as she rode on a tiger.
They returned from the ride
With the lady inside

And the smile on the face of the tiger.

Therefore, Dr. Wood concludes, "this little classic teaches us prudence in the selection of travelling companions."



A million dollars worth of incandescent ichthyological activity, ten stories high and one block long, made even blasé Broadway blink. The largest sign in the world it was recently put into operation with suitable ceremony

WILLIAMSBURG HO!

Less than a month from now architects will be packing suitcases, looking up train schedules, and making sundry other preparations for this year's A. I. A. convention to be held May 5, 6, 7, and 8 in Williamsburg, Virginia. There is abundant evidence that attendance at this year's convention will far exceed that of any of the past three or four years. Architectural practice and business in general is on the uptrend. There is a particular interest in the archaeological aspects of Williamsburg. Lastly, the nearness of the convention site to Washington, which has become almost America's architectural headquarters in recent months, should prove an additional drawing-card.

Ordinarily, medals awarded by the Institute receive no pre-convention publicity. Consequently when the committee on awards notified Mr. Robert Edmond Jones that he would receive a gold medal for his work in the Technicolor moving picture production of Becky Sharp, it assumed that his press department would follow the unwritten law of silence until after the award had been made.

But to the press department Mr. Jones' medal was just another good way of getting space in publications, and, much to the discomfiture of A. I. A. officials, they took full advantage of it.

In this issue of AMERICAN ARCHITECT appear the medal-winning designs, a photograph of Mr. Jones, and a selection of his original sketches.

CONVENTION PROGRAM

The following is a brief summary of the tentative order of events at the 68th Convention:

Meetings of associations and councils at the New Chamberlin Hotel, Old Point Comfort, unless otherwise stated, are as follows: The State Association of Architects, May 4th; the National Council of Architectural Registration Boards, May 4th; The Producers'

Council meetings will be held May 5, 6 and 7.

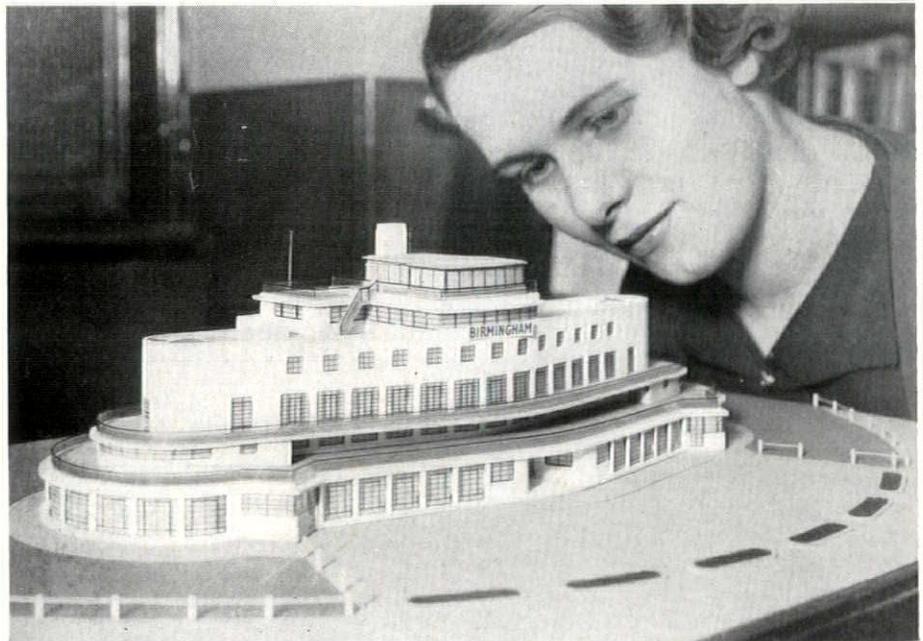
The Association of Collegiate Schools of Architecture will meet at the Jefferson Hotel in Richmond on May 4th.

On Tuesday, May 5th, New Chamberlin Hotel, the morning session will be devoted to the President's address, registration and other routine matters.

On Wednesday, May 6th, a meeting is to be held in Phi Beta Kappa Hall in Williamsburg. This meeting will be given over to talks about the Restoration in Williamsburg, and in the afternoon a tour of the town is scheduled.

On Thursday, May 7th, the meeting again will be held in Phi Beta Kappa Hall. Subjects for discussion will include Housing led by R. H. Shreve, and the Public Works Program led by Francis P. Sullivan. After luncheon there will be a Joint Planning Conference. In the evening of the 7th a discussion of the Educational Program will be led by William Emerson, and one on the Construction Industry Relations by William Stanley Parker.

Friday, May 8th, is to be devoted to Institute affairs. On Saturday, May 9th, through the courtesy of various plantation owners in the neighborhood and through the good offices of Merrill C. Lee, President of the Virginia Chapter, a tour will be made of many of the historic James River plantations. This will give members an opportunity to see at first hand, fine old colonial houses, famous for their historic association and architecture.



GENERAL PICTURE NEWS

Scale model of executive building, which includes a pilots' hotel, for the new airport now being built near Birmingham, England, at the cost of half a million pounds



TAKING THE OCEAN TO KEOKUK

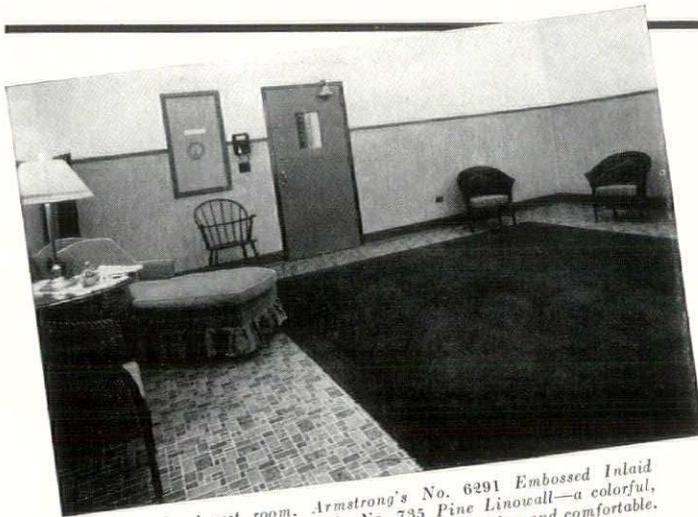
New England produces nearly a third of the two billion pounds of fish consumed annually in this country. Advanced methods of freezing and handling retain delicious freshness—make 'shore dinners' possible a thousand miles inland. Trawlers use a ton of ice to a ton of fish. In port, fish are rushed to freezing room—a mighty busy place all season long. Recently, freezing-room floor of Atlantic Coast Fisheries' Provincetown, Mass., plant was replaced. Concrete has to stand up under hardest wear and exposure—resist constant wetting and drying, freezing and thawing. That meant first-class concrete—'good enough' wouldn't do.

By using 'Incor' 24-Hour Cement, work was completed in 48 hours, saving an 8-day plant tie-up. And concrete is stronger, denser, more watertight—because 'Incor' cures thoroughly in the short time concrete can be kept wet. Hence, speed no longer means sacrificing quality; instead, you get better concrete, in one-fifth the usual time, at substantially lower cost. Suggesting that contractors be encouraged to estimate exposed work under watertight-concrete specifications which take full advantage of 'Incor's' greater curing efficiency. 'Incor'* 24-Hour Cement is made and sold by producers of Lone Star Cement, subsidiaries of International Cement Corporation, New York.

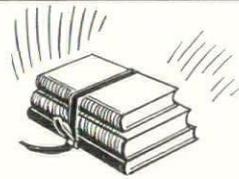
*Reg. U. S. Pat. Off.

'INCOR' 24-HOUR CEMENT

Throughout the new ARMSTRONG FLOORS PROVIDE



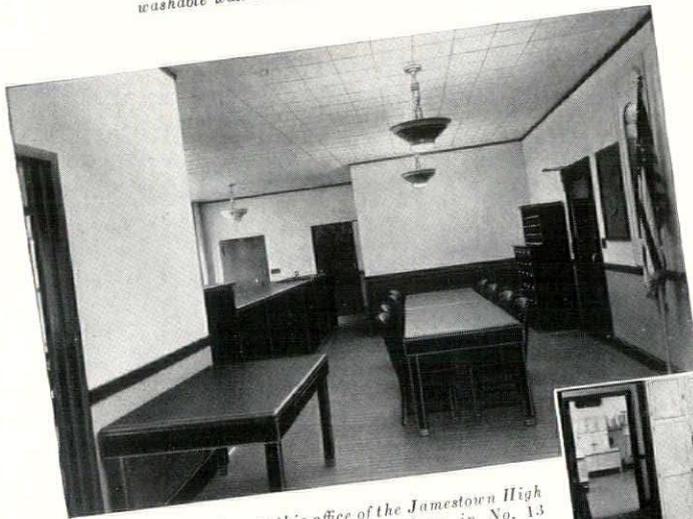
Teachers' rest room. Armstrong's No. 6291 Embossed Inlaid Linoleum and Armstrong's No. 735 Pine Linowall—a colorful, washable wall covering—make this room inviting and comfortable.



Armstrong's Linoleum provides ideal floor for variety of rooms

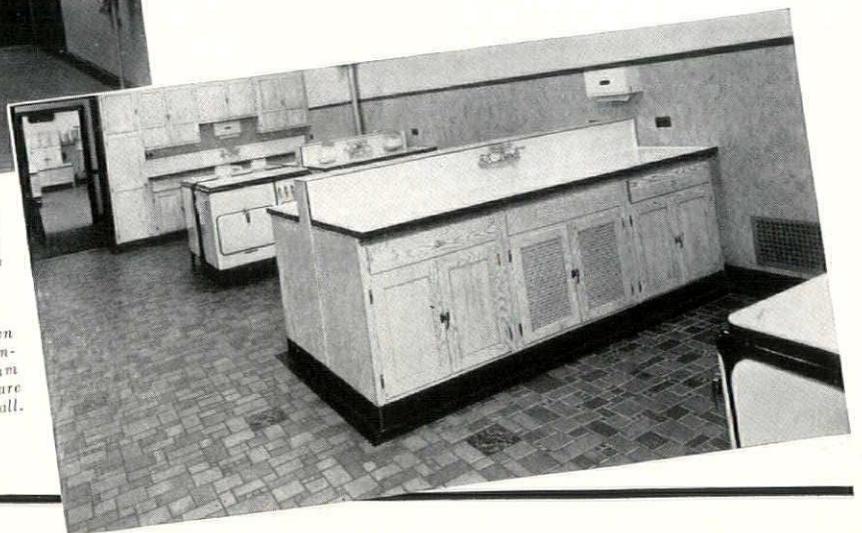
IN any large building—and especially in a school building—floors present not one problem but many. That's why Architects Beck and Tinkham, who designed the new high school at Jamestown, N. Y., came to Armstrong. They found—as architects the country over are finding—that there's a type of Armstrong Floors to exactly meet each aspect of the floor problem. And they found, too, that these attractive, resilient floors offer the additional advantages of long wear, easy installation, and low-cost maintenance.

For the domestic science room, as well as for the teachers' rest room, these architects chose gay patterns of Armstrong's Linoleum. This selection assured not only a warm friendly atmosphere, but also comfort underfoot. For the offices—where dignity of treatment and quiet were essential—Armstrong's Jaspé Linoleum Floors were installed.



The floor in this office of the Jamestown High School is Armstrong's Linoleum in No. 13 Driftwood Gray, a practical pattern for office service. Ceiling is noise-quieting Armstrong's Corkoustic.

Completeness of the Armstrong Line is shown in this domestic science room. Floor is Armstrong's No. 6252 Embossed Inlaid Linoleum with Armstrong's Cove and Base. Walls are Armstrong's No. 702 Travertine Linowall.



ARMSTRONG'S *Linoleum Floors*

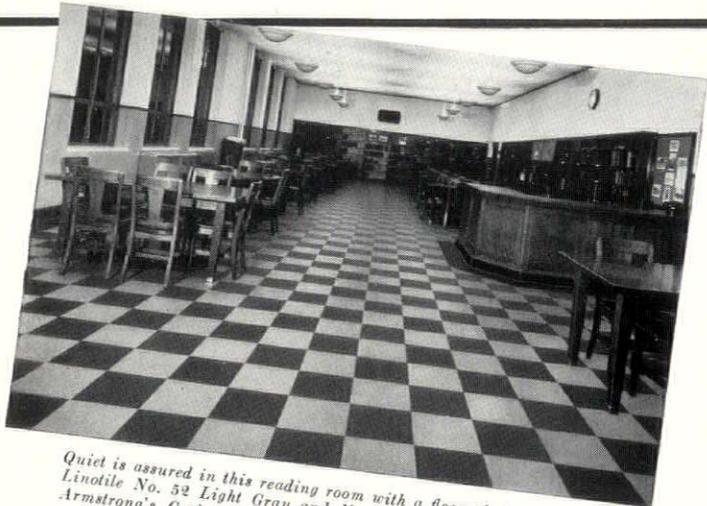
Jamestown High School

LASTING BEAUTY, COMFORT, *and* QUIET

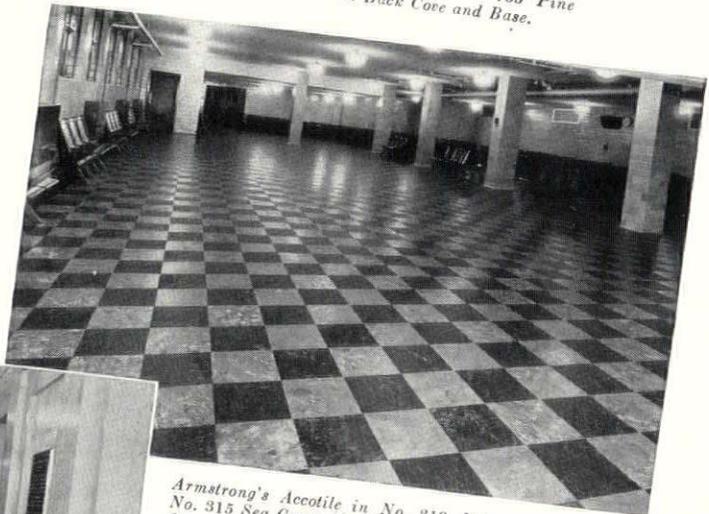
Special problems of heavy duty and moisture are met with Armstrong's Resilient Tiles

WHERE traffic is heaviest—in corridors, reading rooms, and lobby—architects Beck and Tinkham specified floors of Armstrong's Linotile. These distinctive, resilient tiles are built to take the toughest punishment and still keep looking their best. For the basement cafeteria, Armstrong's Accotile was the choice because it is moisture-resistant and may be applied directly over concrete in contact with the ground. Other tiles offered by Armstrong include Cork Tile and Rubber Tile.

Armstrong's Architectural Service Bureau is available to you on any floor problem. Thanks to the completeness of the Armstrong Line, you can be sure of unbiased suggestions on the best type of floor for any specific job. For complete information, see Sweet's Catalog, or write direct to Armstrong Cork Products Co., Building Materials Division, 1201 State St., Lancaster, Pa.



Quiet is assured in this reading room with a floor of Armstrong's Linotile No. 52 Light Gray and No. 54 Dark Gray. Ceiling is Armstrong's Corkoustic. Walls are Armstrong's No. 735 Pine Linowall, with Armstrong's Metal Back Cove and Base.



Armstrong's Accotile in No. 310 Jade and No. 315 Sea Green Marble provides the ideal floor for this basement cafeteria. Moisture-resistant, it is cemented directly over concrete in contact with the ground.

Attractive entrance lobby of the Jamestown High School. Floor is heavy-duty, resilient Armstrong's Linotile in alternating light and dark brown tiles Nos. 62 and 64.



ARMSTRONG'S *Resilient Tiles*

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Details may be of any combination of materials and may show

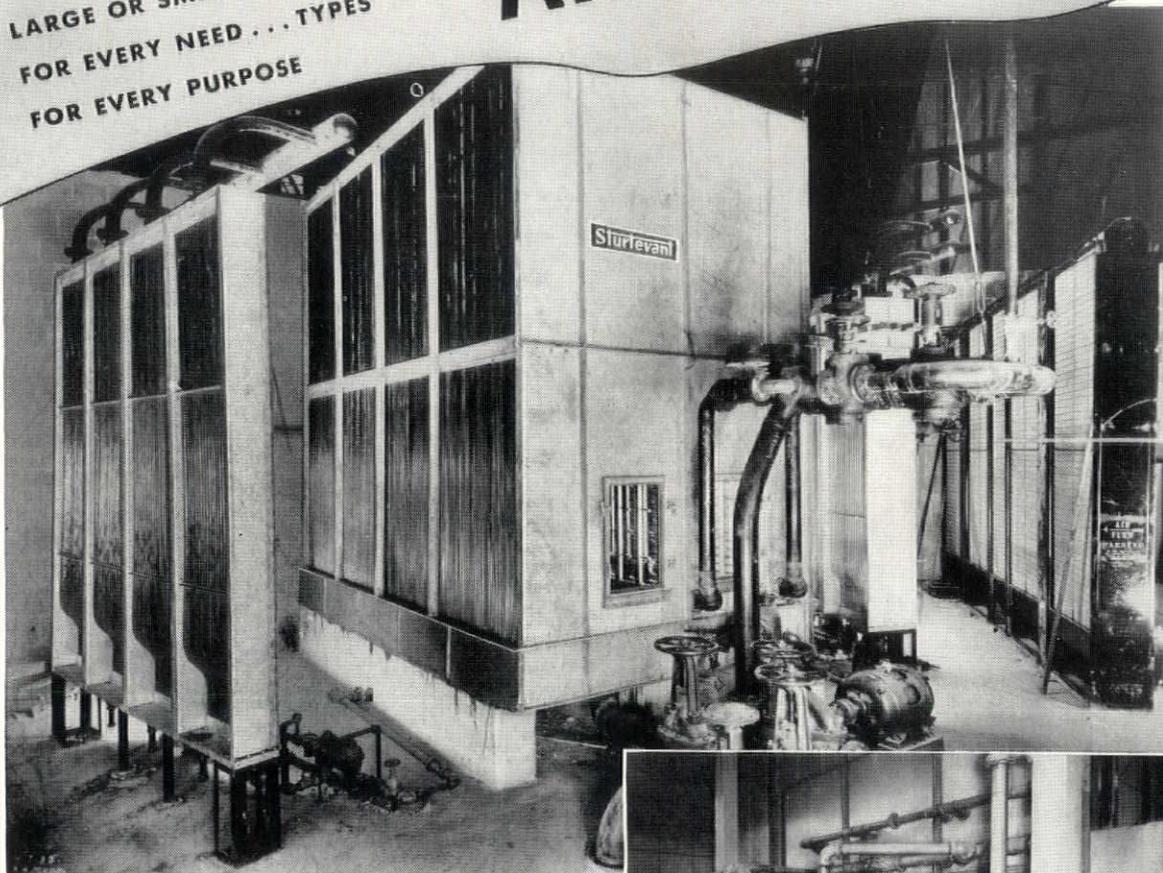
Framing sections	Cornices and gutters	Built-in furniture
Walls or Partitions	Roofs	Bookcases
Floors	Dormers	Porches and Decks
Areas	Doors	Lighting fixtures
Steps	Closets	Dumbwaiters
Stairs	Cabinets	Fences
Windows	Bars	Woodwork paneling
Casement	Fireplaces	or
Double Hung	Chimneys	What Have You?
Special	Bays	

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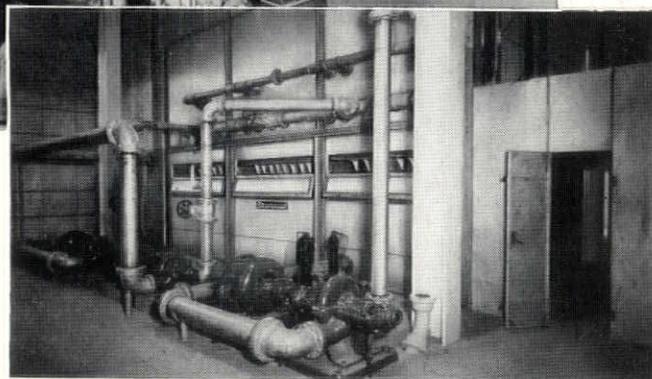
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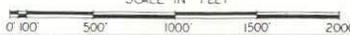
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PLAN OF DEVELOPMENT
TOWN OF NORRIS
 TENNESSEE

PREPARED BY THE
TENNESSEE VALLEY AUTHORITY
 DIVISION OF LAND PLANNING
 AND HOUSING
 FEB 1936



	EXISTING BUILDINGS	LEGEND CONTOUR INTERVAL 25 FT SCALE IN FEET 		COMMUNITY CENTER
	FUTURE BUILDINGS			CONSTRUCTION CAMP
	EXISTING STREETS			INDUSTRIAL BUILDINGS
	FUTURE STREETS			PROTECTIVE AREA



THE PLANNING OF THE TOWN OF NORRIS

BY TRACY B. AUGUR

Assistant Director of Land Planning, T.V.A.

THE TOWN OF NORRIS is a planned community, built new "from the ground up." It was designed—to use Sir Raymond Unwin's apt expression—as a place of pleasant living and convenient work. It represents the town planner's basic thesis that the best foundation for a healthy community life is a community deliberately planned to provide it. This, perhaps, is a lot to claim for a town that is still in its infancy, but our story here deals with the planning of a new town, its planning, designs, expectations, and results (actual and hoped-for).

Visitors and critics like to read into Norris all sorts of strange credos to accompany its newness. It has been called a "Godless town" because its citizens have chosen non-sectarian worship. A Gotham commentator dubbed it a miniature Bronxville in appearance, but found evidence of communism in the fact that the workman who answered his knock at a cottage door was clad in his undershirt. Perhaps this New Yorker found red flannels subversive of American ideals. Enthusiasts have called it the town of the electric

age, and profess to be disturbed by the old-fashioned fireplaces that share honors with electric heaters in its homes. Architects inured to urban vistas charge that the informal placing of houses over hill and dale is restless and uncomposed. Yet another recent visitor expressed himself by exclaiming, with obvious relief, "Thank God, it doesn't look site-planned!"

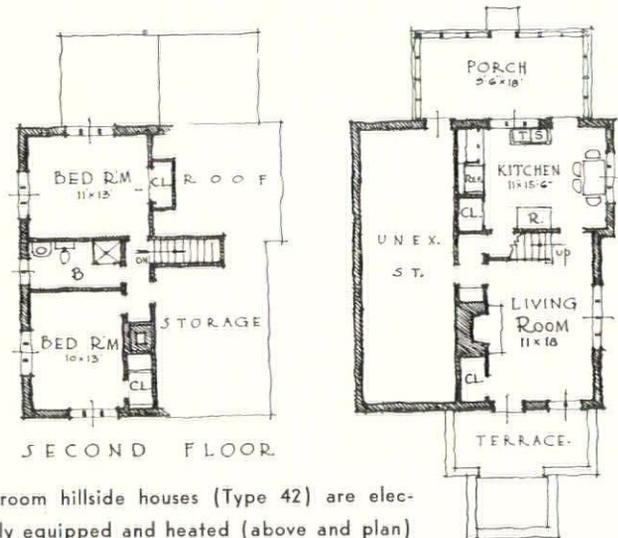
But to the people who have made their homes there, these pros and cons are of scant concern. To them their town is just a good place in which to live, and they want to stay. To them it is not new-fangled, but "homey." For although Norris is new, it is also old. It is founded on old American tradition that antedates the Constitution, the tradition of the early colonies, born of practical necessity and built to live in. In a nation that has come to look upon city building as the special and reserved province of land speculators, it is perhaps a strange and dangerous doctrine that towns should again be built to live in, but the New England ancestry of the idea is old and irreproachable.

THE PURPOSES

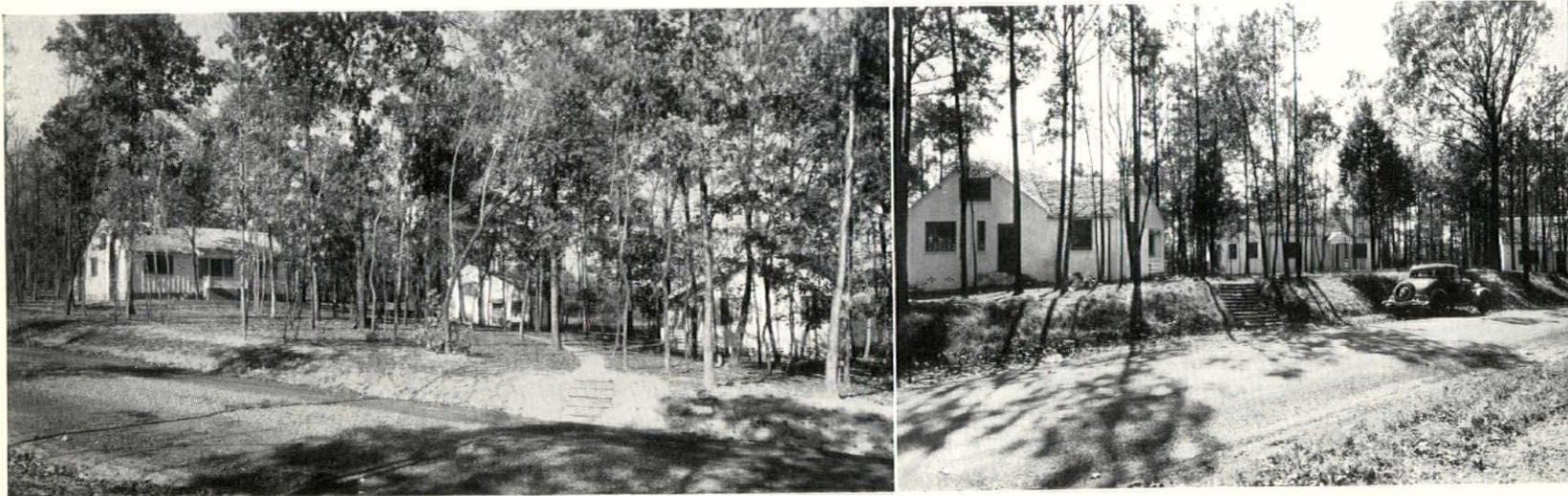
Norris was born of the practical necessity of providing housing for some 1500 men engaged on the building of the Norris Dam, 25 miles northwest of Knoxville on the Clinch River, a major tributary of the Tennessee. The country at the dam site is semi-mountainous, and, on modern standards, inaccessible. A large force of men gathered from all parts of the Tennessee Valley, were to spend two to three years on the job. The nearest villages were from six to ten miles away and offered no housing facilities beyond the needs of their own residents. New housing was vital to the job.

It would have been possible, of course, to erect barracks and temporary houses to serve as makeshift shelter for the duration of the job, then to be scrapped. But there were two good reasons for not doing that. In the first place the men employed at Norris Dam, particularly those in technical and supervisory positions, were not to be just temporarily engaged upon construction work, but rather had a long-time job ahead of them. The control of the Tennessee River is a long-range problem, involving many dams, the re-location of inundated highways, railroads and villages, the control of soil erosion, reforestation, and many other important works. Five mammoth dams are now under construction, and another authorized. The men who started at Norris were in many cases scheduled to go on from there to other jobs of similar character. They were faced not with a short two years of living on the job, but with six, eight or ten. Their housing needs were not those of a construction camp, but of a home. It was too much to ask that they leave their families behind, or subject their wives and children to camp conditions for a span of years that might well represent their prime of life, or cover the formative period of their children's growth. A place for decent living was their due.

In the second place, a little figuring quickly showed that the building of temporary facilities did not represent real economy. By the time a site could be prepared in the hilly



Four-room hillside houses (Type 42) are electrically equipped and heated (above and plan)



Houses on West Norris Road. (Left) A three-room "Dog-trot" adaptation (Type D-2), in board and batten; (center) four-room hillside house (Type 42), and (right) three-room house with large sleeping porch (Type 21)

A group of houses on Pine Road including (left) a five-room house (Type 54) and four-room houses (Type 41). A primary consideration was to take advantage of good sites without felling trees

terrain near the dam, roads built, water and sewer systems and electric lights installed, houses, stores, offices, schools, dormitories, mess halls, recreation buildings, repair shops and all the other facilities erected—the cost would have reached a figure far too large to write off with a shrug. Early estimates placed the cost of a temporary camp at nearly two million dollars, with negligible return in salvage afterwards. There was no economy in that. True economy called for the building of a community which would serve the needs of the construction period, and which in addition made constructive permanent use of the large investment in construction plant and housing.

Concern for the welfare of its working forces plus a resolve to secure a maximum of permanent good from the funds that it expended, led the Authority from the beginning to plan Norris as a complete community, which would provide a home town atmosphere for the men living on the job, and which afterwards could take its place among the progressive small urban centers of the Tennessee Valley. This decision provided the objective around which were built the active plans for the town's construction.

THE KIND OF TOWN

The first question to be settled was the kind of town which might prove most successful and most useful in the Norris region. Within a reasonable radius of the job (the determining factor in location) the country was rugged and good roads and railroads were lacking. There was nothing to indicate the need for a large city or any likelihood of its success. Furthermore, unless one were prepared to repeat a Pittsburgh (which Heaven Forbid!), the topography itself inhibited large-scale building. Small towns, on the other hand, serving as rural trading and manufacturing centers, are characteristic of the area. Improved roads are rapidly knitting the villages within a thirty-mile radius of Knoxville into a metropolitan cluster, with Knoxville as its hub. It, therefore, seemed logical to plan Norris not as the small beginning of a great future city, but a small town content

to remain little, and to take its place with other small towns in that complicated mechanism of modern life, the metropolitan community.

With this in mind a suitable town site was sought convenient to the job, but also located so as to tie in naturally with the metropolitan network about Knoxville. This necessitated study of possible and probable future roads, as well as of general topography, water supply and drainage, climate, and the growth to be anticipated in the Knoxville region,—the last particularly as it might be affected by the developmental program on the Tennessee River and its tributaries. The interplay of these many factors led to the selection of a site between the dam and Knoxville, about 23 miles from the city over the new road projected to bring materials to the job.

With the kind of town and its general location determined, the next questions to be faced were; *first*, the size and extent of the area needed for it; *second*, the general allocation of land to various uses within that area; and *third*, the structural plan of the new community. The answering of these three questions launched the town planning process well on its way.

THE SITE

The site chosen for the Town of Norris started at the Clinch River just below the dam site, and from the crest of the steep hills that formed the east side of that valley, sloped in a rolling plateau eastward until it dropped down wooded slopes into a second valley. The plateau offered high and attractive building land with fine views of nearby mountains, and the slopes to east and west afforded opportunity for natural protective areas. On the north a deep declivity formed another natural barrier and in addition carried a clear stream suitable for the town's water supply. Its watershed and the adjoining area required for the Norris Reservoir, gave a strip of forest land extending from the town through to the shores of the future Norris Lake. To the south, the location of the new access highway to the dam, which circled the town area, afforded a boundary line.



These houses (Types C and D) are built of cinder block with no other finish than paint, both inside and out. Floors are precast concrete slabs on reinforced concrete joists. Heated by coal stoves



Four-room houses of cinder block (Type A) with paint finish. Floors are concrete slabs and roofs of metal. They are vermin and termite proof and also fire-resisting. Thirty such houses, with numerous exterior variations, were built

THE GREENBELT

Thus the selection of a good topographic unit for the town site provided a complete protective belt of rural land about it, in general not good for building, but giving protection for the town water supply, and providing a town forest, a fine recreational area for townspeople and visitors to the dam, and space for garden areas and farms. The inclusion of this "greenbelt" of open land in the town area was an essential part of the town plan. Besides its function of permanently preserving open land within easy reach of all the townspeople, it helped to preserve the unity of the town itself by establishing a recognizable boundary between it and any other urban development that might take place nearby. Its effectiveness as a deterrent to real estate speculation based on the building of the town, is shown by the fact that only two small subdivisions were attempted in the adjacent area, and both in locations so remote that their existence is almost unknown.

The principle of the permanent rural belt was advocated by Ebenezer Howard as early as 1898, and was later adopted and tested in the English Garden Cities of Letchworth and Welwyn, but was not made a part of modern town planning practice in the United States until applied in a somewhat limited form at Radburn. Norris is the first self-contained new town in this country to utilize it completely, although it is now recognized here and abroad as one of the most effective measures for preserving the identity and character of small communities.

SINGLE CONTROL

Another of the basic Garden City principles, which also found expression in some of the early New England colonies, is that of single control of the whole development in the interest of the community. This was adopted automatically at Norris, since the entire community was built by the Tennessee Valley Authority for its own use, and the entire site was acquired in the name of the United States. What disposition will be made of the site in the future has not yet been decided, but it is expected that the principle of single

control and management in the interest of the community as a whole, will be continued.

Turning now to that part of the planning process involving the allocation of town land to its best uses, this was found at Norris to be very largely determined by topography. Character of land and the possibility of sewerage to a single outfall determined the area available for economical town building. Slope and soil, forest cover, and location determined which parts of the protective belt could best serve for vegetable growing, for a dairy farm, for forests and for recreation.

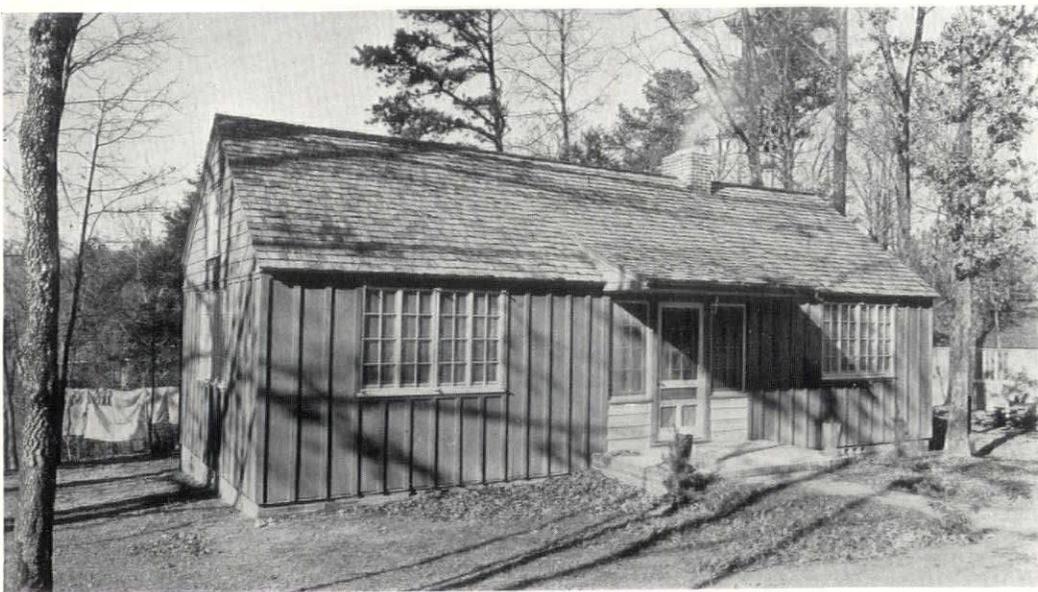
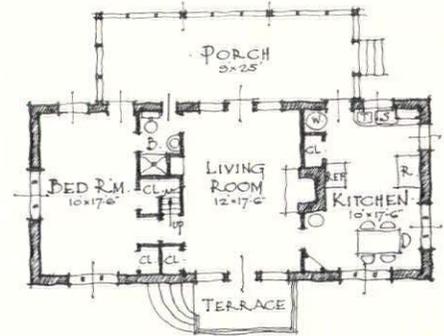
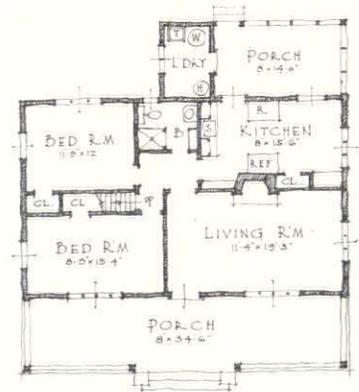
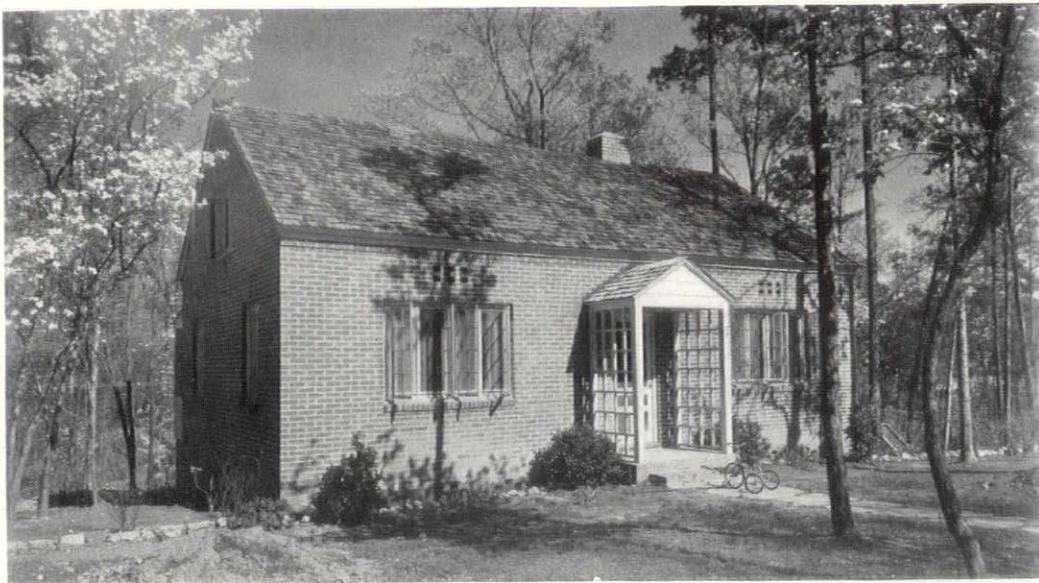
Within the town area itself, it was necessary to choose a site for the commercial center and school, for the buildings of the construction camp, for an area of repair shops designed later to become a small industrial zone, and for the permanent houses.

THREE FOCAL POINTS

Here again, as in the selection of the site, the interplay of many factors, too numerous to recount, led to the final decisions. Preliminary sketches of the physical town plan, to determine what sort of a street network was possible in the hilly terrain, were needed before any land use allocations could be definitely made. The town framework that resulted from these studies contained three focal points: a community center near the middle of the whole buildable area, a construction camp site at the point of approach to the town from the job, and a shop center, chosen with an eye to future industry, below the town and nearer the main highway. Between these three points the network of the first unit of houses was laid out. Although the community center was thus placed toward one edge of the initial residential development, it was so located as to be central to the ultimate town, to occupy a position conveniently accessible to all parts of the community and to be easily approached from outside.

Early studies of the townsite disclosed that it could accommodate not more than a thousand to fifteen hundred families within the area that could be developed economically, and growth beyond that point seemed wholly unlikely





(Above) Four-room house with a large attic. Electrically equipped and heated. (Center and left) Two variations of the "Dog-trot" type (D-2) have screened porches across the rear. They are electrically equipped, including heating. (Opposite page) Recreation building at Construction Camp includes library, commissary and gymnasium-auditorium

at that location. The town plan was developed, therefore, with an ultimate town of that size in mind. Initial building, however, was kept in scale with the needs of the construction forces. In all 281 new single houses, 10 duplex houses and apartments for 30 families were constructed, and these, together with the better of the existing farmhouses, provided for close to 350 families. The area developed for this purpose forms a sector comprising approximately a third of the buildable land.

The street system for this first unit is complete in itself, but can be added to when needed. Water is stored in a 250,000 gallon tank, buried in the top of a high hill that furnishes a commanding overlook across the town, to the Clinch River and the dam, the nearby Cumberlands, and in clear weather to the distant Smokies. Water now used by the construction camp and in construction operations will be available for additional town growth. The sewerage system also has been designed to fill existing need and to be expandible when the need arises.

In addition to its homes the town contains a modern 20-room school serving 400 children in all grades from kindergarten through senior high. The school is built on a hillside overlooking the town center, and has playgrounds and approaches on two levels. An all-purpose auditorium at the center serves for gymnasium, assembly, dances, amateur dramatics, and Sunday worship; while the school library, small assembly room and in fact the entire school plant, serve adult as well as child activities. Near the school is a small commercial building containing the offices of the town management and police, a drug store, a general food store and the telephone exchange. While these buildings serve the principal present needs of the town, they form only part of the community center layout planned for the ultimate town. Sites for churches, for an inn, for additional stores, and for increased school facilities are all provided.

The construction camp, built before the town proper and

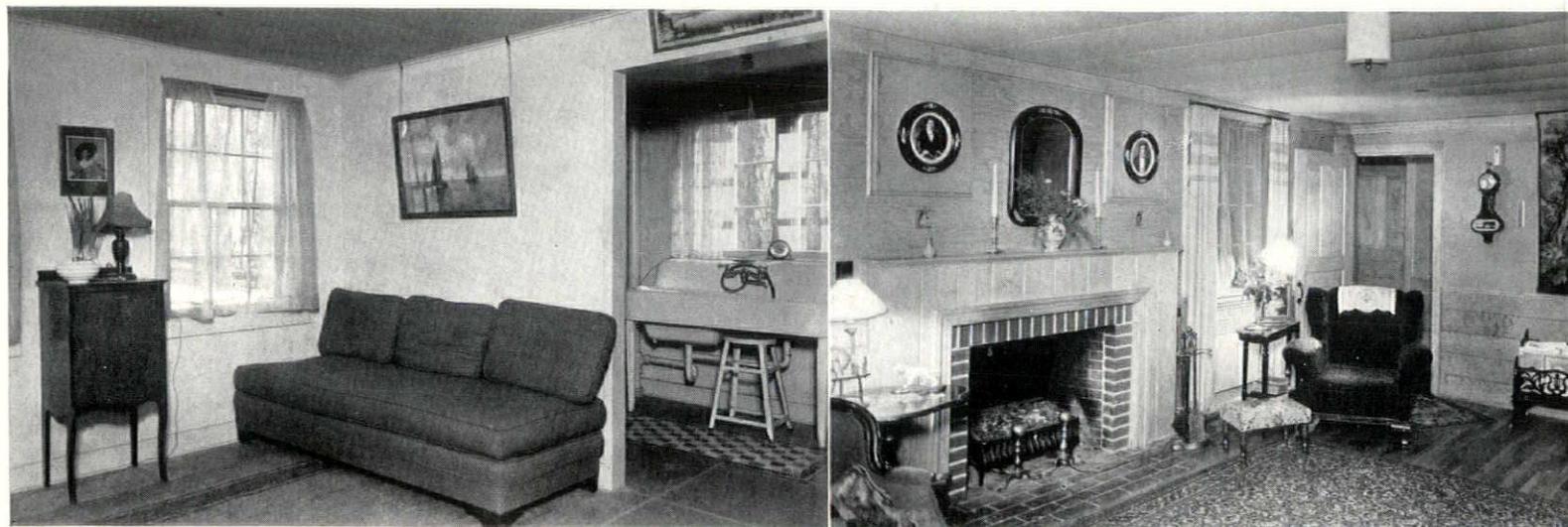
less permanently, was nevertheless designed to furnish an attractive center for the thousand or more single men quartered there. Its buildings form a campus on a ridge between town and dam, and plans are under way for the conversion of the camp structures to other uses as quickly as the demands of dam construction lessen.

IN TERMS OF PERMANENCY

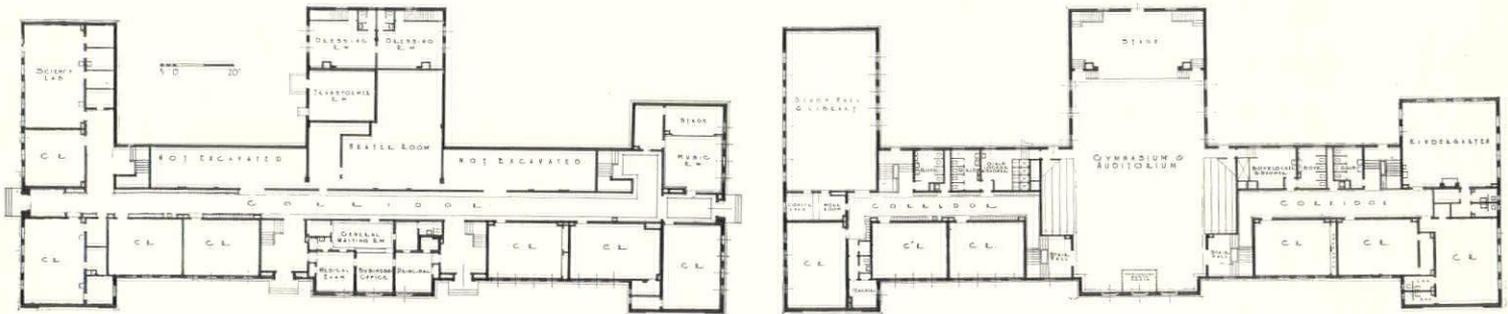
In fact, with the completion of Norris Dam only a few months off, there is little danger of the Town of Norris becoming a ghost settlement. As laborers, foremen and supervisors on the dam have been laid off or been transferred to other jobs, new families have been quick to claim the houses vacated. At this writing ninety families are on the waiting list. The dire white-elephant predictions that were so freely voiced by the doubtful when the town first was planned, have proved again to be just part of that old discredited refrain of "it won't work" and "it can't be done."

The Town of Norris has been done and it does work. When and how rapidly it will grow to fill out the full size planned for it, no one knows. But it has a good start. It is sound in mind and body. It seems destined to live up to that excellent definition adopted for the true Garden City: "A town designed for healthy living and industry; of a size that makes possible a full measure of social life, but not larger; surrounded by a rural belt; the whole of the land being in public ownership or held in trust for the community."

In its planning Norris truly exemplified the collaborative effort needed for success in modern community planning. Architects, landscape architects, engineers and town planners comprising the staff of the TVA Division of Land Planning and Housing, under the guiding hand of Earle S. Draper, Director, pooled their efforts and their skills to produce the blueprints for a living community. As a result roads wind over sunlit hills and wooded valleys, and leave



(Above) Painted cinder block for interior walls and the warm browns and reds of the precast floor have proven both economical and satisfactory. (Right) The walls of living room have horizontal pine ship lap below the dado and plywood above



FIRST FLOOR PLAN

The school building serves all grades, 400 pupils; is electrically heated, has photo-electric cell lighting control.



The Administration Building and Shopping Center in Norris contains a modern drug store, food shop and automatic telephone exchange. Off-street parking, a typical convenience, is provided in the front and rear of both buildings

no scar. Houses nestle amid forest trees and into slopes as though they had grown up together. The beauty of foliage and hills and distant vista finds companionship in buildings attractive inside and out. And yet the town is not just a pretty picture. Its homes are small, but they are convenient and comfortable. Nearly all have ample porches for summertime, and half are heated electrically for winter. Shops are adequate and pleasant. The school is simplicity itself, but serves from morning until late at night as a true center of community life. Blocks of land too steep for building, or especially useful and attractive as open space, are interspersed throughout the town. And hidden from sight, the more prosaic services of water supply and sewerage make it possible for 350 families to live together with safety and convenience.

PROGRESSIVE PLANNING

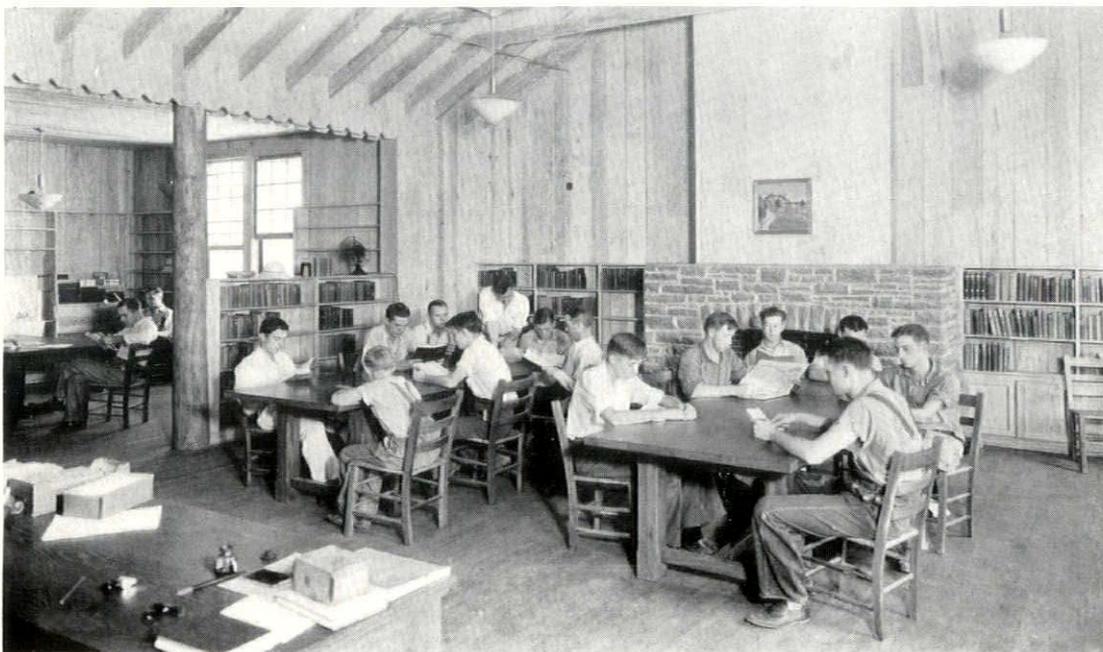
The planning that preceded, or rather accompanied, the building and occupancy of the town was as live as is the community itself. Time was its essence. Steam shovels forever snorted for new fields to conquer. Truck loads of material arrived hourly to be unloaded. There was a never ceasing demand for plans, plans, plans, that construction might go on unhindered, and shelter be provided for men engaged on a still bigger building project on the nearby river. Under this stress the text-book procedure of planning was somewhat strained. The town plan followed the formula neither of an artist's conception nor a student's thesis. The site could not be carefully surveyed and completely planned and studied to perfection before any part was built. In fact, under the pressure to get houses built, whole streets were peopled before full plans were drawn for the community of which they formed a part. While trucks still careened through a sea of mud, and newly-cut trenches criss-crossed everywhere, children began appearing on freshly painted doorsteps and assorted mongrels sniffed the un-

familiar scenes,—strange interlopers in a place that engineers and carpenters and planners looked upon as their own.

Planning and construction and the beginning of the town's new life went on hand in hand. Each day saw plans adjusted to new situations that the day brought forth,—as town plans must ever be if made for living places built for living people.

Did this procedure that perforce ignored the ordered logic of the planning process lead to mistakes? Undoubtedly. But it also avoided the bigger mistake of producing a new town that was studied and artificial and too perfect,—a town out of keeping with the not wholly perfect mortals who make it their home. The fundamentals of the plan were never sacrificed,—a recognition of the underlying purposes of the community,—a sympathetic treatment of the site, abundant open space for children's play and adult recreation, attractiveness in all things big and little, from the iron bracket of the street signpost to the roadway's gentle curve and the school's straightforward architecture, simplicity, economy, a place designed for pleasant living and convenient work.

That this has been a real achievement, and not just a plan, is witnessed by the attitudes of those who have made Norris their home. With a population newly brought together from north, south, east and west, constantly shifting under the impetus of a swiftly moving program, there has nevertheless developed a real community of interest, a unifying of diverse elements into townspeople proud of their town, their homes, their school, their co-operative store, and of a hundred and one social undertakings from Garden Club to Religious Fellowship. The beginnings of popular government are being made in an elective town council, which serves in an advisory capacity to the town management. So while Norris is still a construction town, the groundwork is being laid, in its administration as well as in its plans, for the day when it will become a regular municipality under the laws of its state.



The library in the recreation building of the Construction Camp serves the town and nearby CCC camps

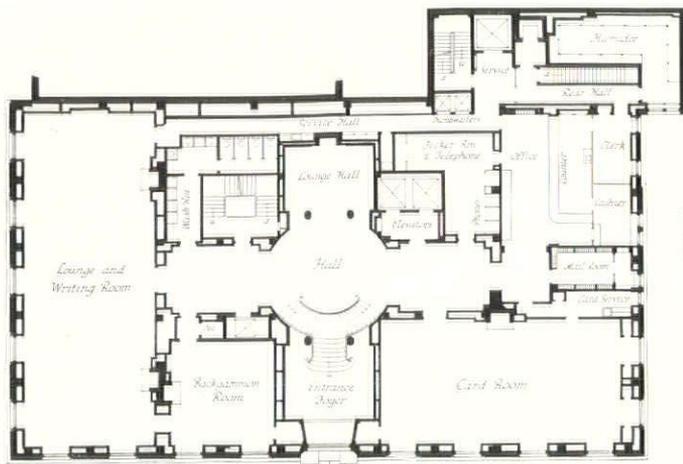


PHOTOS: SAMUEL H. GOTTSCHO

THE UNION CLUB

PARK AVENUE AND 69TH STREET, NEW YORK

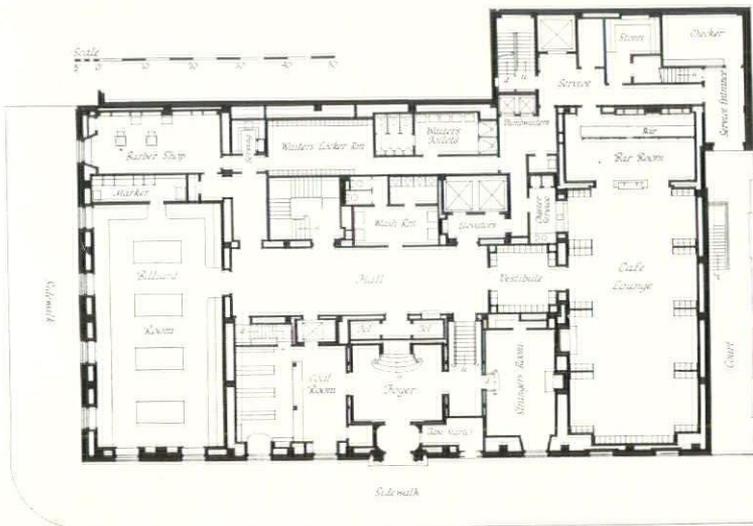
DELANO & ALDRICH, ARCHITECTS



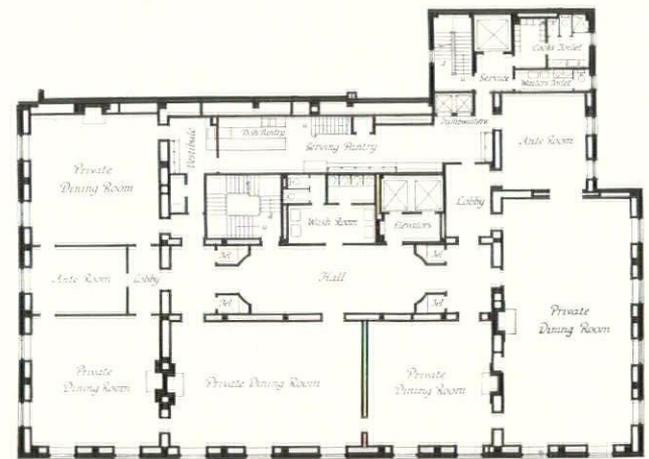
First Floor



First Floor Mezzanine



Basement



Second Floor



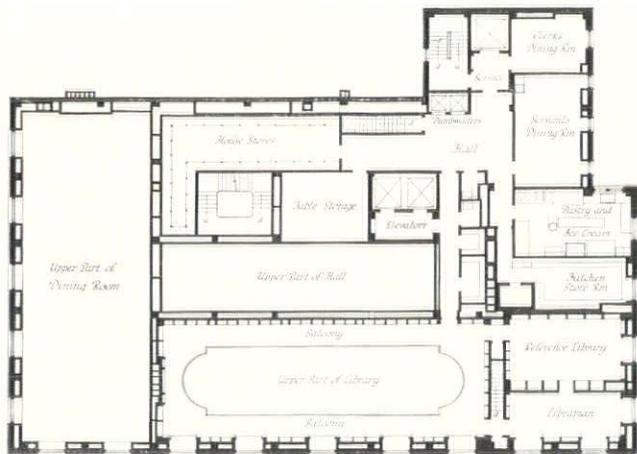
UNION CLUB, NEW YORK

Organized June 17, 1836, the Union Club has had six homes in a hundred years. Three of them, including a former residence of William B. Astor, were on Broadway. In 1855 the club moved to a new building, designed by Thomas and Son, at 21st Street and Fifth Avenue (left). On January 1, 1903, a building designed by Cass Gilbert and John Du Fais was completed farther up Fifth Avenue at 51st Street (page 30). This remained the home of the club until the rapid encroachment of business made it necessary to move to a more convenient and quiet residential district. Upper Park Avenue, therefore, was selected as the most desirable neighborhood for the site of the club's new home.

(Opposite page): Rotunda of the first floor hall looking toward the entrance foyer

DELANO & ALDRICH, ARCHITECTS

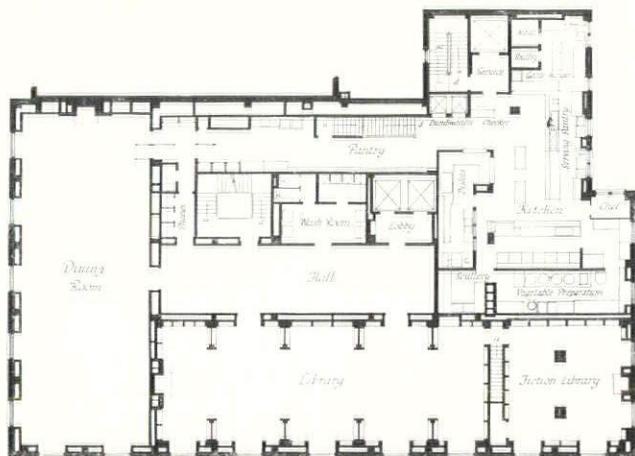




Third Floor Mezzanine



Fifth Floor



Third Floor



Fourth Floor



UNION CLUB, NEW YORK

The quiet dignity of the Georgian style typifies the tradition of the Union Club. Yet behind architecture reminiscent of an older time lies a plant of extraordinary modern efficiency. The air conditioning system, throughout the Club, automatically tempers and humidifies the air. There is also a subsidiary cooling unit for some of the main rooms and all the bedrooms. Many ingenious devices mask the conditioning registers. Other conveniences include facilities for talking pictures, an amplifying public address system in several of the main rooms, Telautograph ticker and pneumatic tube services. The architects supervised all decorations and designed lighting fixtures in all rooms except as otherwise noted.

(Opposite page): Alcove from the Rotunda on the first floor opposite the entrance foyer

DELANO & ALDRICH, ARCHITECTS





The Lounge and Writing Room. Mahogany consoles, designed by the architects, and ornamental ceiling rosettes skillfully conceal efficient air conditioning registers (above and left). Mantelpiece in the Lounge and Writing Room (opposite page)

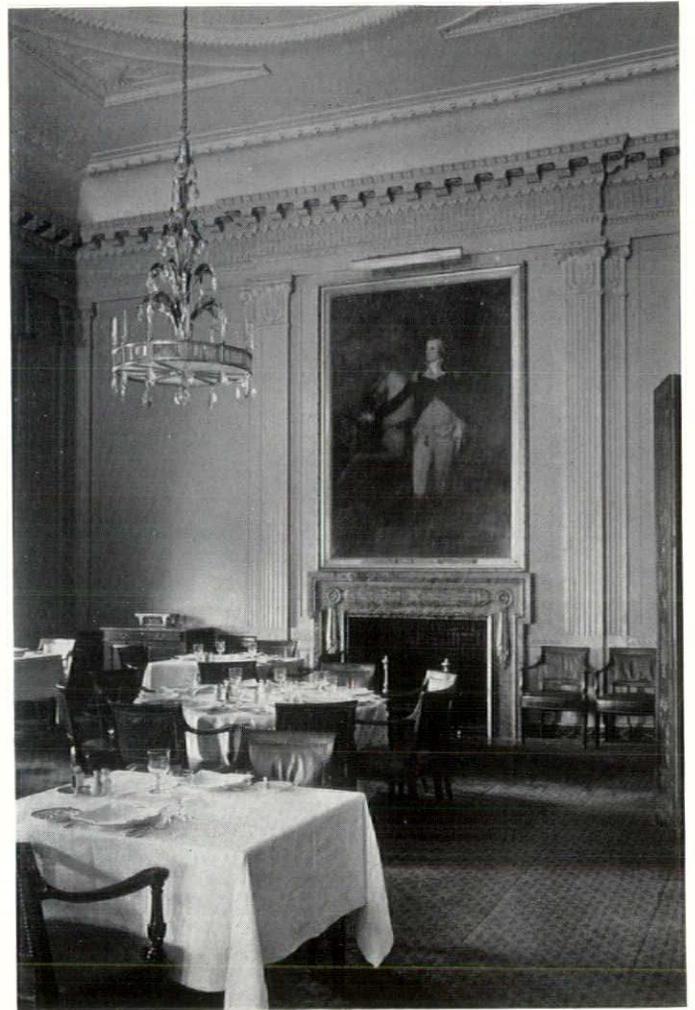
UNION CLUB, NEW YORK



DELANO & ALDRICH, ARCHITECTS

FOR APRIL 1936

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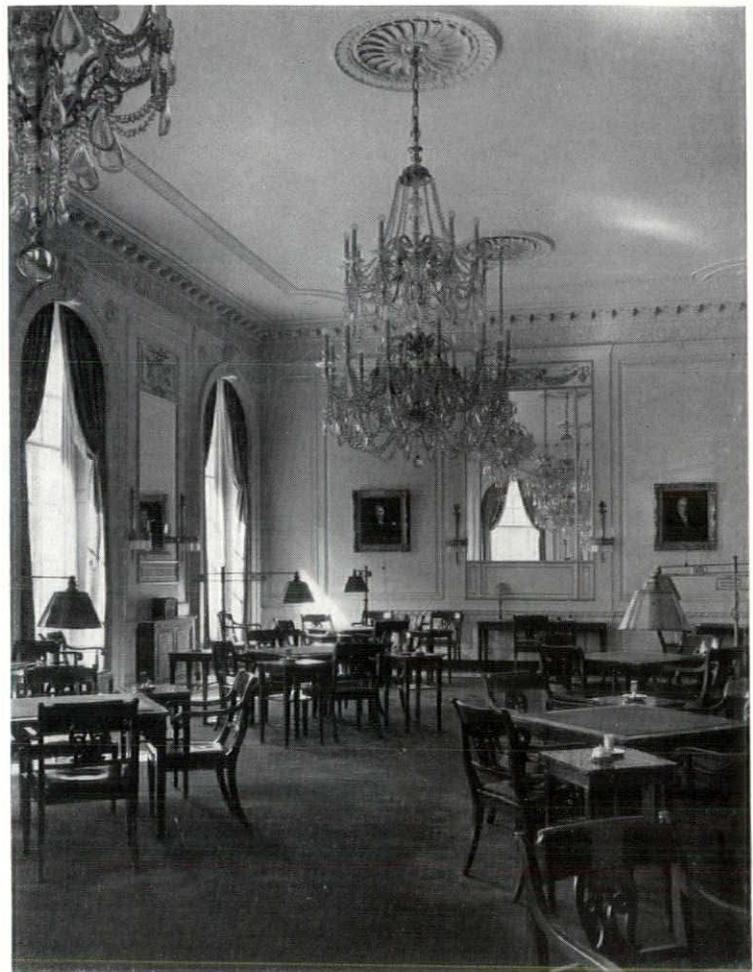
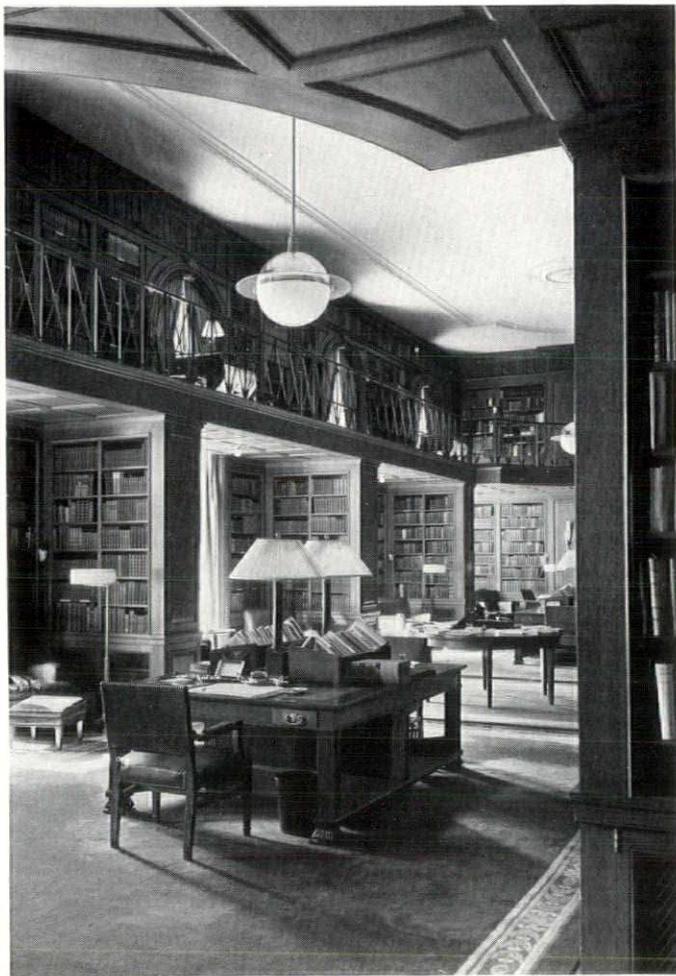


Fireplace in the main dining room (above right) . . . Corner of the same room which has automatic doors to service rooms actuated by photo-electric cells (above left) . . . One of the private dining rooms on the second floor (left) . . . The Backgammon Room is finished in deal with appropriate decorations such as the backgammon board motif used as a grille for the air conditioning outlet (opposite page)

UNION CLUB, NEW YORK

DELANO & ALDRICH, ARCHITECTS



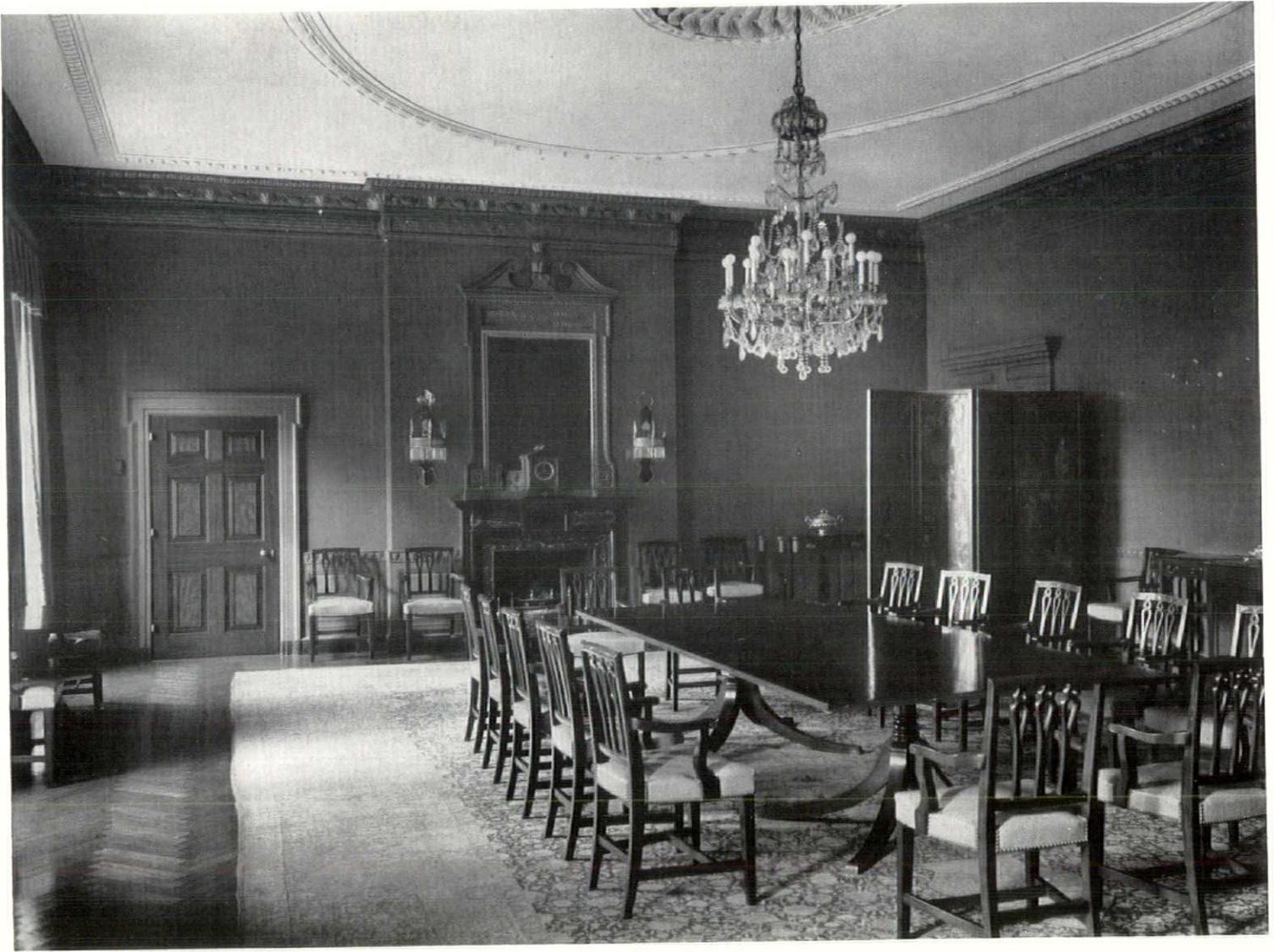


Card Room with chandeliers and mirrors from the old club (above right) . . . The library finished in English oak (above left) . . . The Dressing Room Lounge. Ceiling decorations and lighting fixtures designed and executed by Roman F. Melzer (left) . . . Mantelpiece in main Card Room (opposite page)

UNION CLUB, NEW YORK

DELANO & ALDRICH, ARCHITECTS

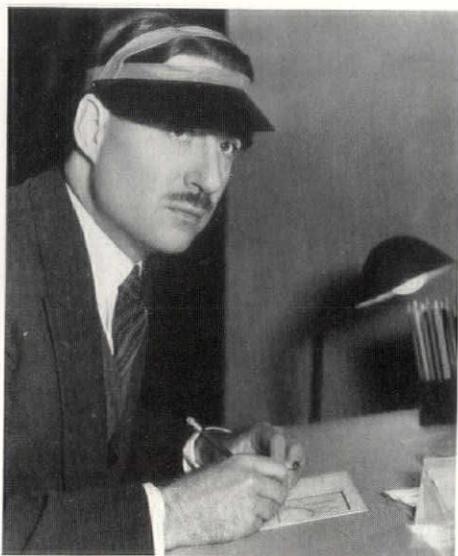




The Governors' Room (above) has green walls and, facing the mantel, Lawrence's portrait of William IV. The homelike bedrooms (left) have the added comfort of a subsidiary cooling unit and wood burning fireplaces

UNION CLUB, NEW YORK
DELANO & ALDRICH,
ARCHITECTS

ROBERT EDMOND JONES

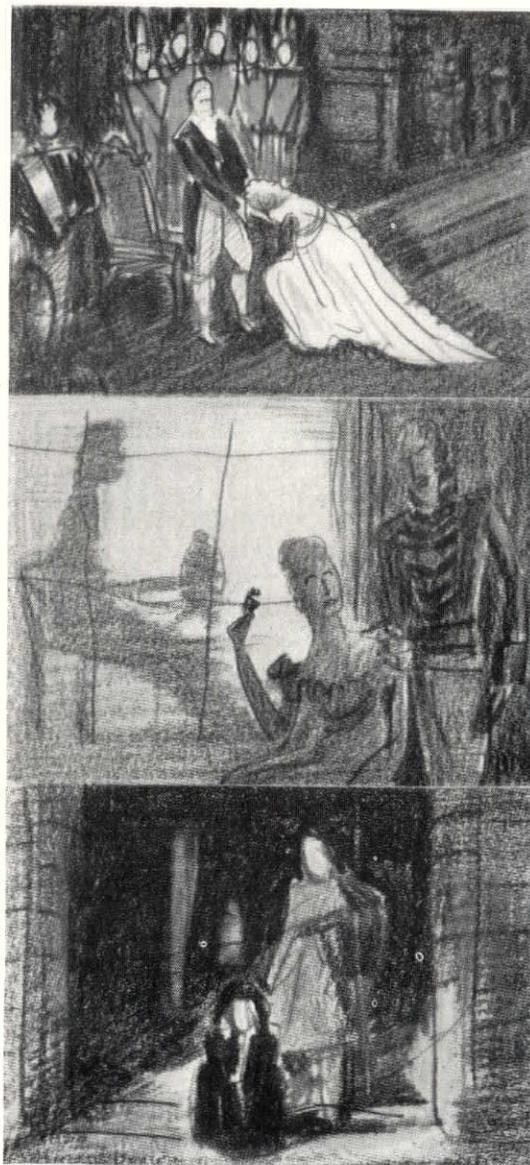


GOLD MEDALIST

The American Institute of Architects at the Williamsburg Convention will present a gold medal in fine arts to an outstanding theatrical designer for his work on the Technicolor picture, "Becky Sharp."

To disprove the rule that prophets are never great in their own country, Robert Edmond Jones seems to be doing a one-man job. In 1914, he made his first mark in the American theatre with scenery and costumes for *The Man Who Married the Dumb Wife*. He continued as scenic designer for the Washington Square Players (Theatre Guild) and later created for the Provincetown Theatre. His settings for Nijinsky's production of *Til Eulenspiegel* were the first American *decor* for the modern ballet. In 1933 John Hay Whitney took over the newly-developed technicolor process and sent for Jones. His first picture *La Cucaracha*, a short, was successful. Then came his first feature picture in the new medium, *Becky Sharp*. The glowing beauty and taste of its setting overshadowed the story. It was not a box office success. However, in awarding a gold medal to Mr. Jones, the Institute will give credit where credit is due to a man who at 48 is still the far-seeing pioneer.

SKETCHES COURTESY OF STAGE



UNITED STATES TOBACCO COMPANY OFFICES

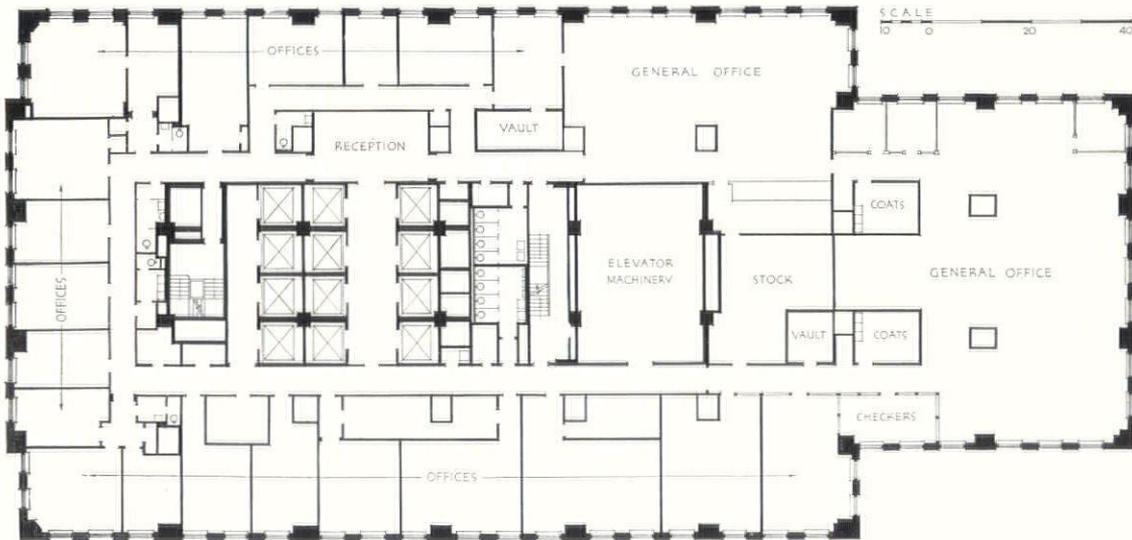
ROCKEFELLER CENTER, NEW YORK

REINHARD AND HOFMEISTER, ARCHITECTS



Business executives realize that the initial cost of creating pleasant office surroundings is soon written off by increased employee esprit de corps and efficiency. Simplicity of detail, pleasant colors and quiet are all contributing factors toward this end. The architects, in designing these offices, have used a fundamental simplicity throughout, avoiding monotony by the use of different motifs, materials, finishes and colors. Teakwood, lacewood and Japanese ash veneers, gray lacquer-finished asbestos panels and a thorough acoustical treatment were used. (Left) a view from the elevator lobby. The reception room, paneled in Japanese ash, has flooring of cork tile and an oyster-white plaster ceiling (below).





(Above) President's office paneled in teak suggests the Georgian style. (Left) The panel construction of the partitions permits future changes in the layout

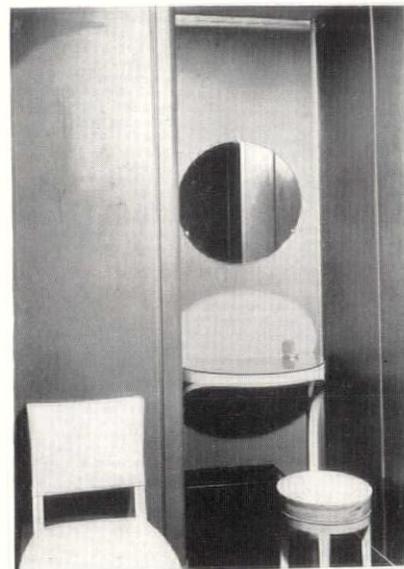
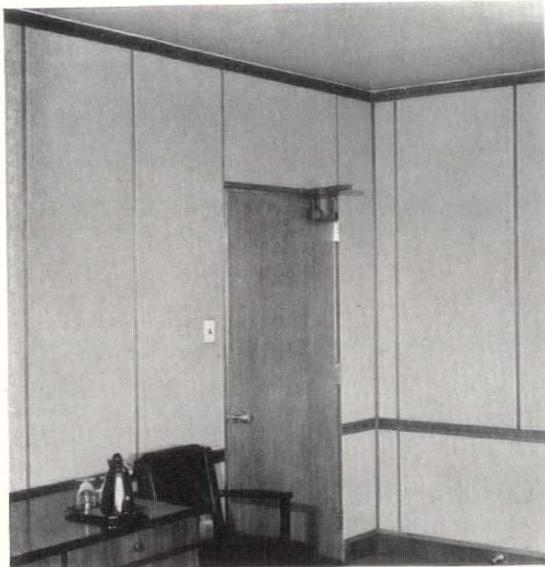


Offices of the Vice
President are simply
treated in Lacewood
over plywod panels

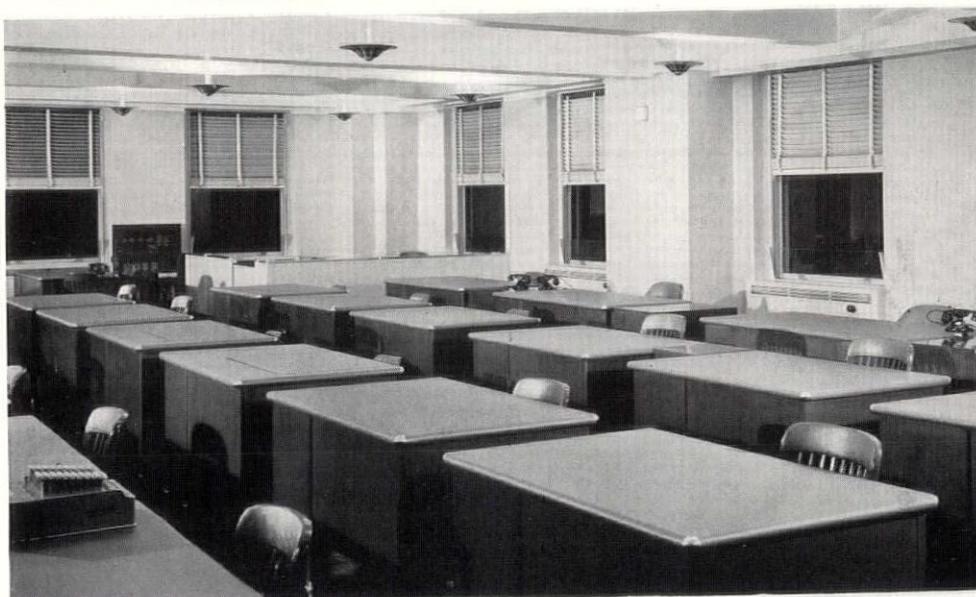


In the Conference
Room pilasters alter-
nate with the hori-
zontal treatment of
the wood paneling

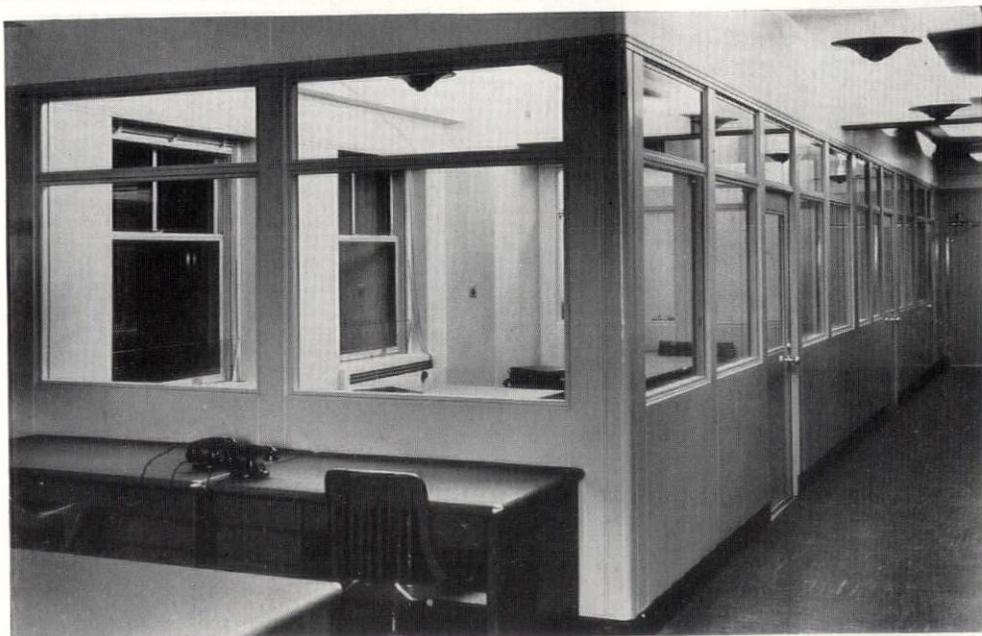
REINHARD AND HOFMEISTER
ARCHITECTS



Both the auditors' office and the women's dressing room have pastel lacquered asbestos panels



The general office walls are light gray . . . flooring green and black linoleum . . . ceiling acoustic tiles



Double-glazed sound-proof partitions with gray lacquered asbestos panels in the general office



HOUSE OF RALPH GIFFORD, LOUISVILLE, KENTUCKY

CARL A. ZIEGLER, ARCHITECT

Two old houses on adjacent lots were made into one without either being moved from its original site. Because they were on two different ground levels there is a pleasant transition from the library to the raised music room. The differences in original clapboard and shingle surface textures is concealed by the rough-cast stucco on metal lath





The new house seen from the garden (opposite page). Little vestige of the design of the former houses remains in the view from the street (above). The steps up from the hall to the music room are interesting in relation to main hall stair (right). Old studs and joists were all salvaged





HOUSE OF RICHARD WINTER, WILTON, CONNECTICUT

**J. J. KLABER
ARCHITECT**



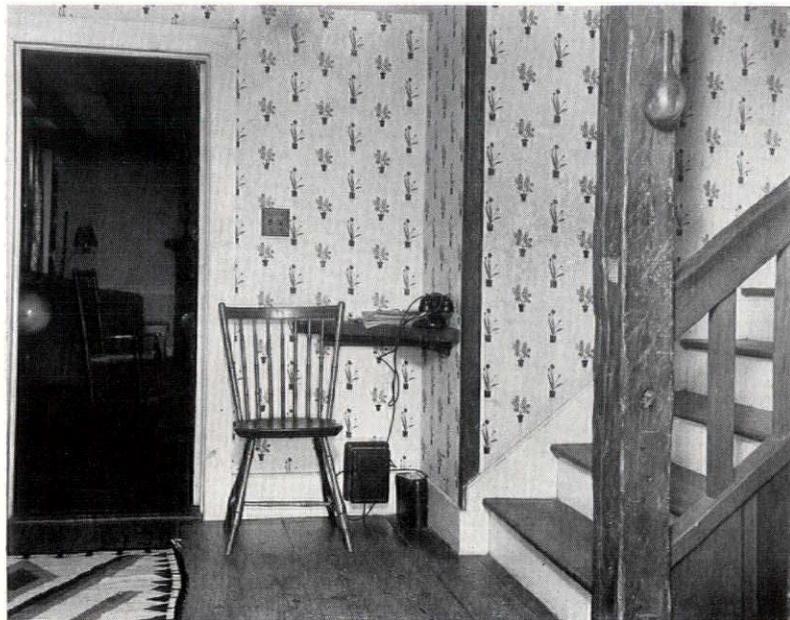
AMERICAN ARCHITECT

A commonplace structure (center) by the removal of the front porch and the addition of a wing (below) becomes a home of considerable architectural merit



The purpose of this alteration was to increase the size of the house and restore some of its original early American character. The oldest part, a one-room cottage, built 150 years ago, is now the north end of the present living room. Additions made at various times on the south and east ends and the raising of the roof to form a rather low two-story cottage had destroyed all of its original charm. The original cottage had all hand-hewn timbers; the earlier additions, hand-hewn main timbers with sawn filling and the later additions were all sawn. The last previous addition, particularly that of the southeast wing and the sleeping porch, was in bad condition when the recent restoration was started. An effort was made to show the old beams wherever possible. The plaster ceiling in the living room, therefore, was removed and wherever replacements of beams were needed, barn timbers from the neighborhood were used. All new doors were of the batten type, built on the job. Old material was, of course, re-used as far as possible, including, for example, the porch columns, reset in new locations. New material is of the simplest possible character, to harmonize with the old. In the new wing, new timbers were combined with old materials from a group of barns that were demolished to open up a view in the rear. The best of these old barns was retained and is now used as a garage and studio. In view of poor fire protection in the neighborhood, it was considered advisable to keep the garage separate from the house. Because of the scant headroom near the eaves and the owner's desire to have cross ventilation in all the main bedrooms, the alteration shows a considerable amount of change in partitions with the resultant peculiarities of plan.



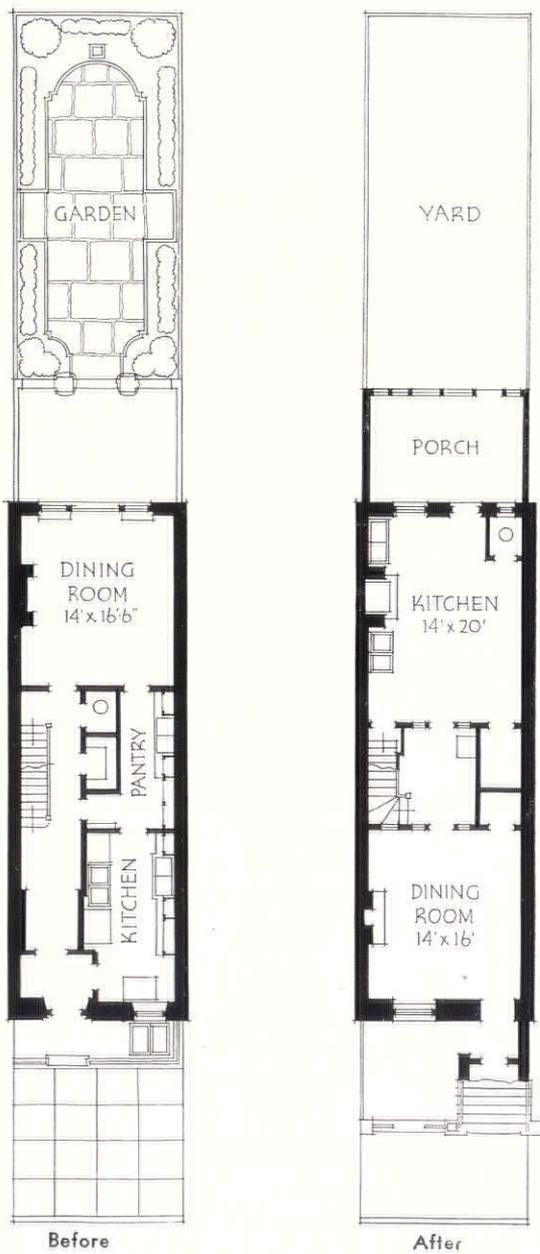


**HOUSE OF RICHARD WINTER
WILTON, CONNECTICUT
J. J. KLABER, ARCHITECT**

Exposed ceiling beams and the north wall of the living room are part of a 150-year-old cottage. The new fireplace of native stone has an oak shelf (above). The entrance hall has a colonial patterned paper

HOUSE OF GEOFFREY PLATT
EAST 84th STREET, NEW YORK
WILLIAM AND GEOFFREY PLATT
ARCHITECTS

New York's brownstone fronts may eventually be just a memory if the present renovation trend continues. This new façade of gray stucco accented by black trim makes use of the device of eliminating the high Victorian stoop for a basement floor main entry



PHOTOS: SAMUEL H. GOTTSCHO



The interiors have the same simple treatment that distinguishes the exterior. The Dining Room (above) is painted a pale gray-white. The handsome white mantel is the focal point of the Music Room (right). The stylized horse's head finial on the newel post was carved in wood by the sculptor Sydney Waugh

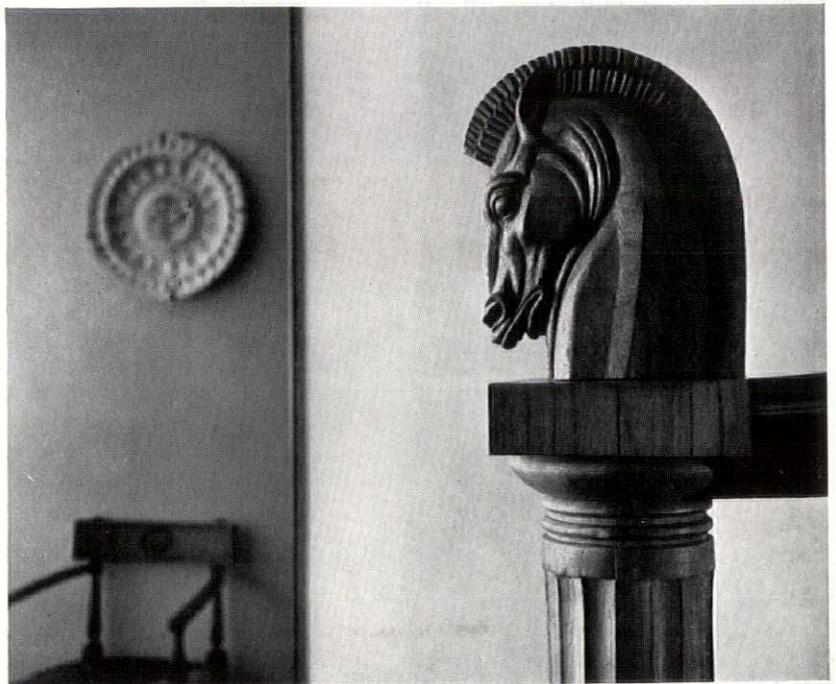
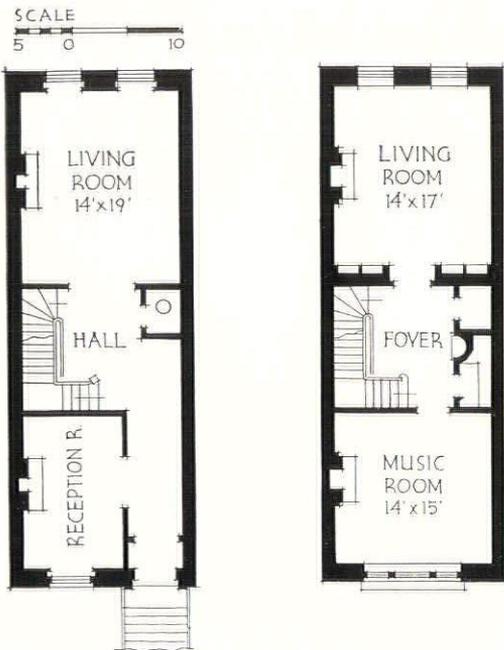
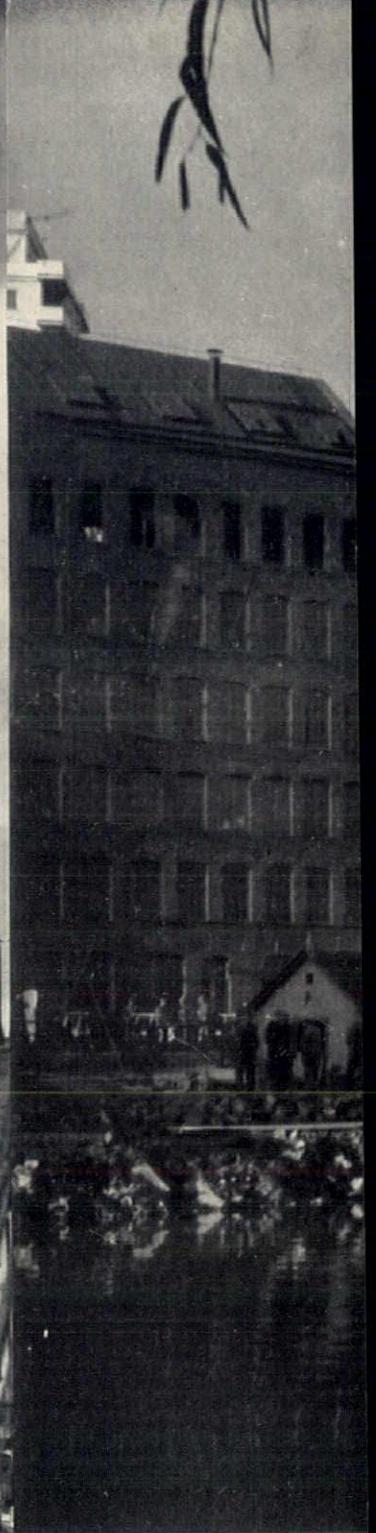




PHOTO: SIGURD FISCHER

STOCKHOLM

When Stockholm is called the "Venice of the North" more is meant than that its vistas are across the water. A love of life and of art and architecture are always evident. Picturesque houses along the narrow streets of the old town, fishing boats, parks, old churches, new apartments and the Campanile of Ostberg's commanding Town Hall result in a unified whole, due partly to native good taste and partly to the seaside city's reflecting waters. (Above) A view of the city behind the Vasa Bridge



PHOTOS LEFT AND PAGES 54 AND 55:
SIGURD FISHER



PHOTO: BURTON ASHFORD BUGBEE

Sail boats cluster along the waterfront of old Stockholm (left). New apartment buildings have balconies overlooking the water (above). Simplicity of design and interesting proportion are evident in both the Eighteenth Century houses (page 54) of the old town and in the modern apartment buildings (page 55). Although frequently pictured, there remain many unpublicized points of interest in the Stockholm Town Hall. Among these are the unusual view of the towers (page 56), the colonnade from a statued walk in the garden (page 57) and the shadowed doorway (page 58)



HAND-
SKOMAKERI

BEGAGNADE KLÄDER
SKODON MÖBLER
M. M. LUNDGREN





PHOTO: SIGURD FISCHER

PHOTO OPPOSITE: BURTON ASHFORD BUGBEE



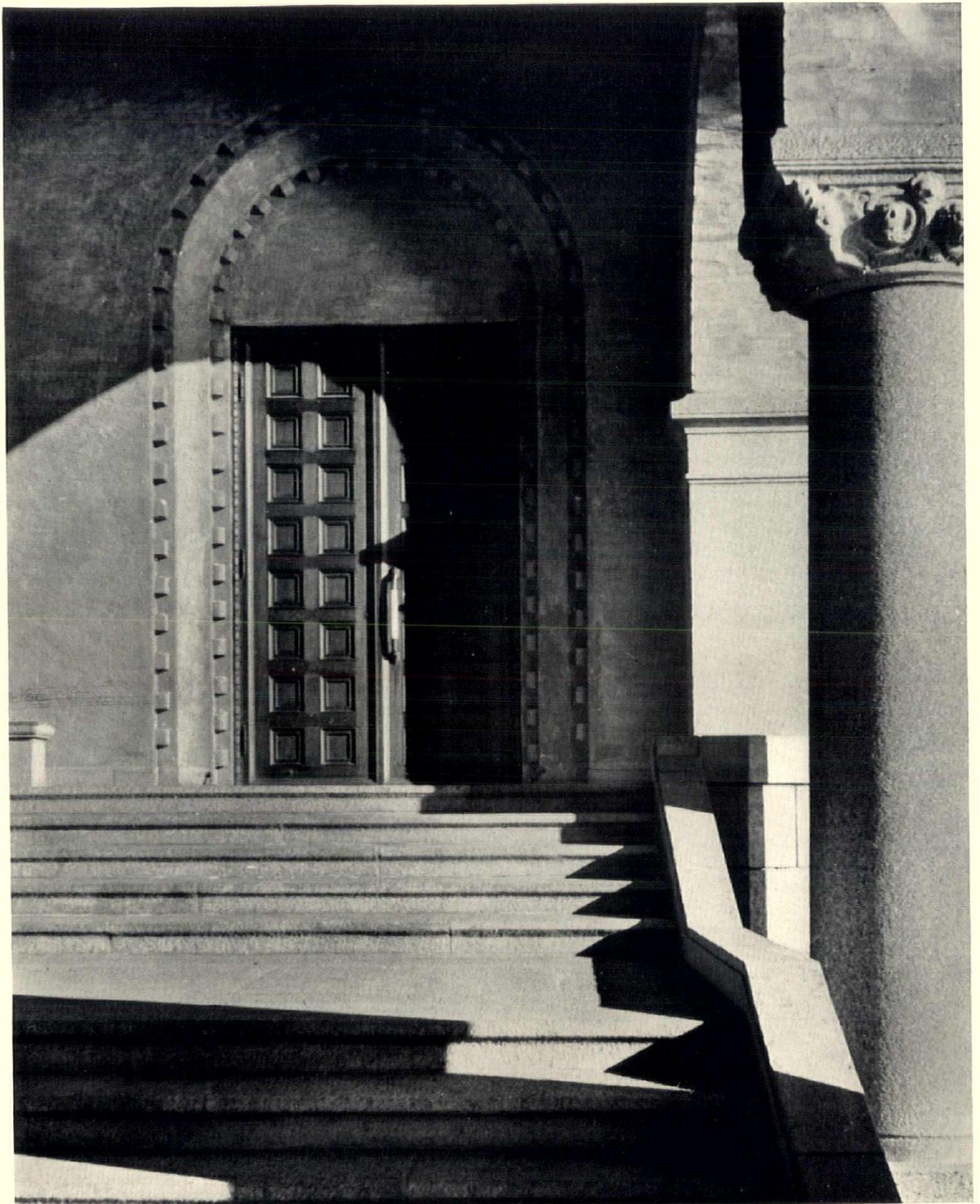


PHOTO: BURTON ASHFORD BUGBEE

WHEN GOOD FELLOWS GET TOGETHER

WILLIAMSBURG is a particularly happy choice as the setting for the annual gathering of the architectural clan—the A.I.A., its members and fellows, guests, and co-workers of the Producers' Council. Few other spots would have so much to offer—an American Colonial town in May—an opportunity to enjoy the beauty and repose of a by-gone time as a respite from the clamor and complexity of the machine age. In such a setting deliberation and debate may be tempered by the atmosphere created by the architecture, the calm and gracious dignity, the unity of design and purpose.

Yet some recall the dramatic scenes in the House of Burgesses, the stirring words of Patrick Henry. Here active leadership was engendered, and perhaps will be again. Debate waxed hot and eloquent despite decorum. Policies were determined, programs adopted, active campaigns launched. In the field of architecture today perhaps history will in some measure repeat itself. The delegates assembled may come to momentous decisions. The problems confronting the profession, threatening the clan, must be faced and a line of action mapped for their solution.

The problems of the clan are many and persistent, some dating from the founding of the Institute, some of recent origin arising from the economic depression and the government's attempts to ameliorate it.

Perhaps foremost among its problems is that of unity within the profession itself, that of adding to its own strength so that it may deal with more telling effect with the forces which stand in the way of its being "of ever increasing service to society." The quality as well as the quantity of its membership is important. New blood with the vision and energy of youth is needed now, as well as the wisdom and experience of age. Recruits, energetic and active, are needed by the clan, and the need is recognized. Without man power and greater resources the competition may be overwhelming.

The problems of competition are growing more numerous. The field of architecture is invaded by government bureaus—national and local, by relief agencies or departments functioning in place of private firms which conceivably could employ the same men. Engineering enterprises, manufacturing agencies, designers from other fields, stock plan services, architectural "bootleggers," and even publications have invaded the field of architecture by supplying wholly or in part the services the clan holds sacred to itself.

Such competition will prevail if it renders a better service or one more widely accepted because of the promotional efforts put forth or the "economy" supposedly involved. The program to meet such competition is obvious—more capable, more efficient architects in the ranks, and an expanded program of education of the public to an appreciation of the necessity and economy of the services rendered by the architect.

To increase the effectiveness of the individual architects, to arm them all with the requisite knowledge in useful form, the architectural publications are doing their part. But they cannot do all. Forgetting for the moment the social, economic, political, and even the esthetic aspects of architecture, just consider the gain in the effectiveness of the architect if an unbiased source of factual scientific data were established dealing with materials and equipment, the tools the profession must choose and use. Our universities might well be the contributors to this "Building Industry Bureau of Standards," and work with existing and new research and testing laboratories. The creation of such a service is a concern of the profession which would profit by it. This is but one need.

Another is to educate the public to appreciate the value of the profession, to correct the public's erroneous impressions (due in part to past experiences). Only a comprehensive program will be successful in this, an integrated program ably directed.

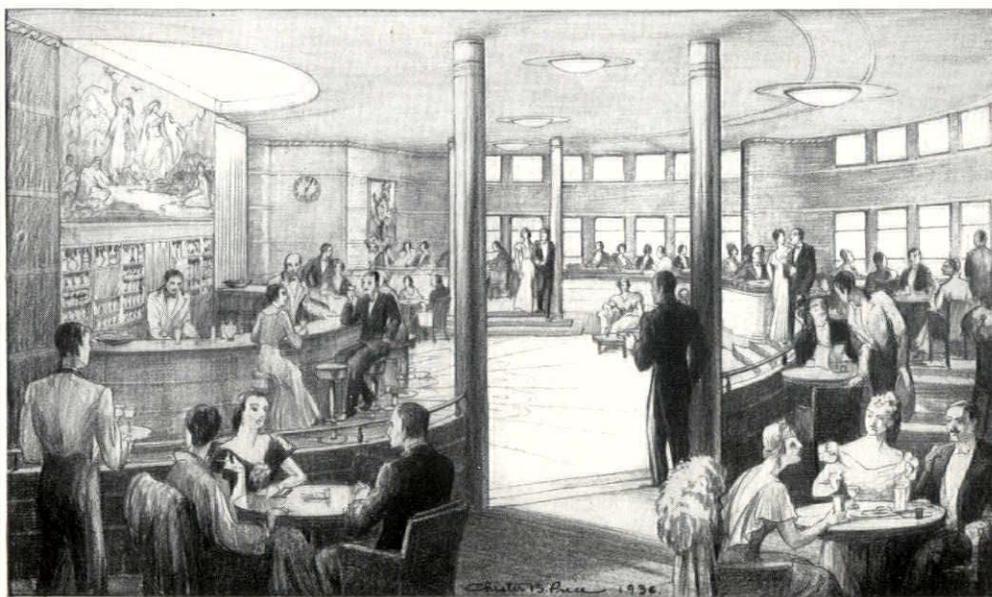
Does not the "problem of the profession" boil down to that of increasing the ability of all of its members, and then of formulating a program for "letting the world know?" The convention in Williamsburg is the place where this problem should be analyzed, its component parts discussed, some progress made toward its solution. Where good fellows get together, much may be accomplished, or little.

ARCHITECTURE AFLOAT THE S. S. QUEEN MARY

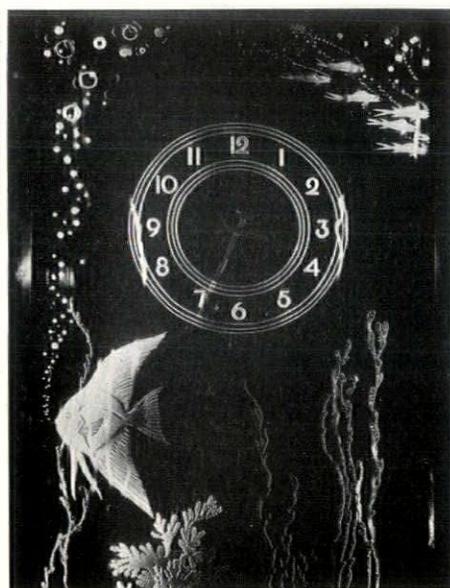
The latest masterpiece of British shipbuilding, the Cunard-White Star liner Queen Mary, is scheduled to arrive in New York next month. Graced



Main Lounge, Cabin Class, paneled in maple burl and makore.



Forward Cocktail Lounge, Cabin Class, in birch and bubinga burl.

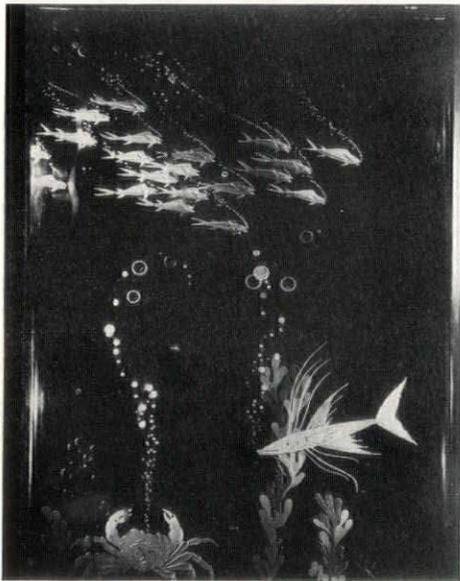


Glass clock in the Pool, Tourist Class.

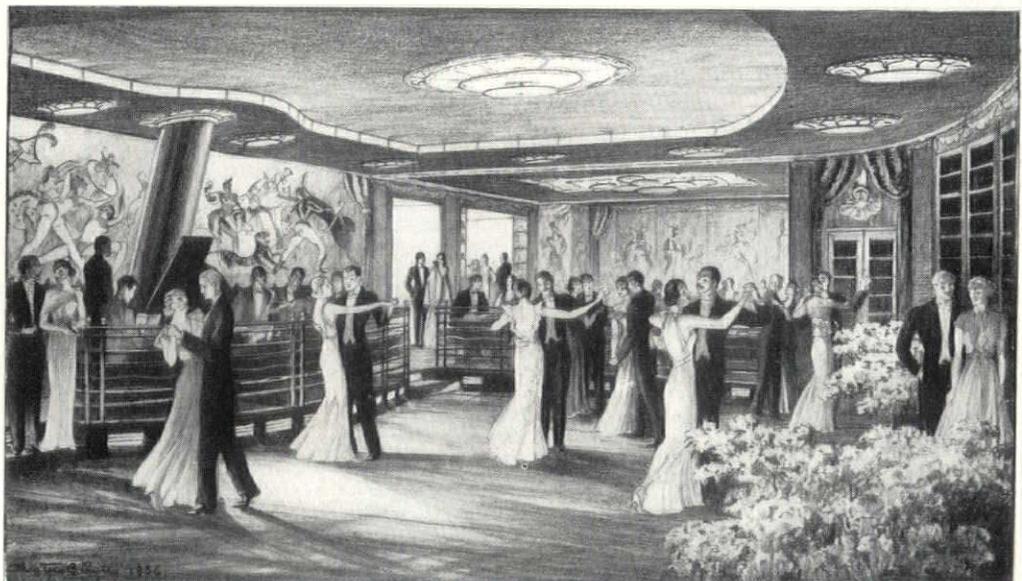
with works by many of the Empire's best-known artists and craftsmen, its richness is that of spaciousness and simplicity of design and materials rather than a striving for the grandiose. Most of the principal public rooms were designed by Arthur J. Davis of Mewes and Davis, London, and Benjamin Wistar Morris of New York, as joint architects. Drawings by Chester B. Price



Main Restaurant, Cabin Class, in peraba wood with silver bronze reliefs.

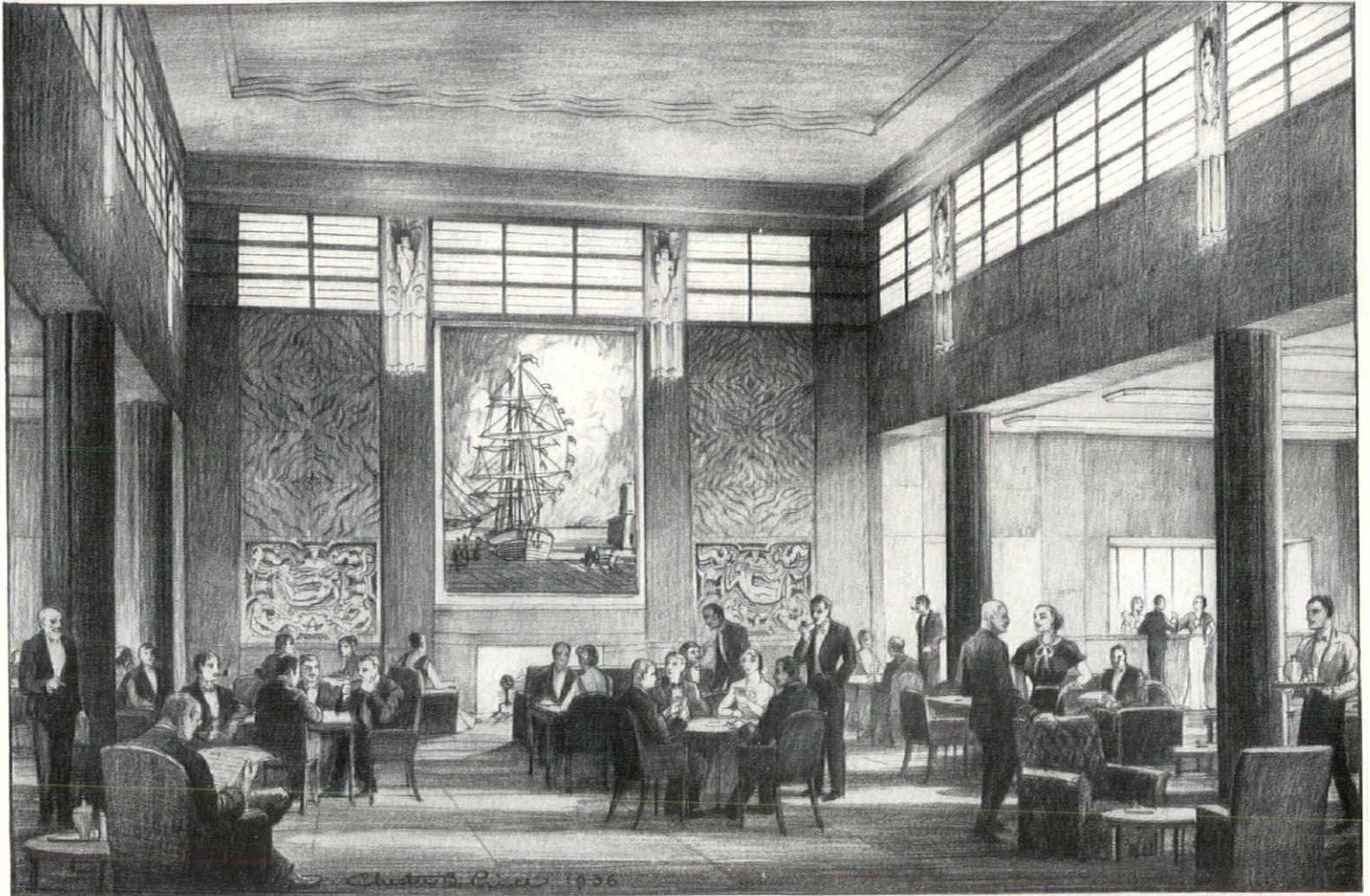


Illuminated glass panel in Pool, Tourist Class.

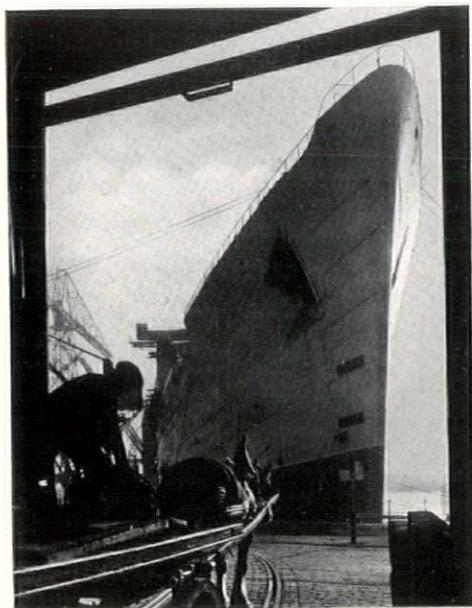


Verandah Grille, Cabin Class, with gay murals by Doris Zinkeisen.

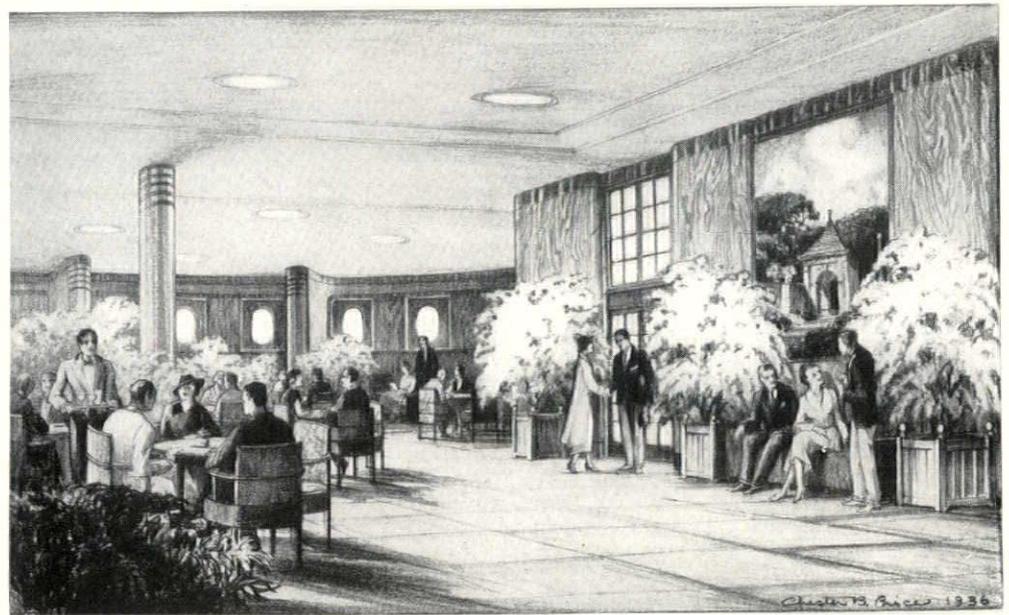
S. S. QUEEN MARY



Smoking Room, Cabin Class, with a real fireplace and paneling in English oak and walnut burl.



Bow of the S.S. Queen Mary.



Garden Lounge, Third Class, paneled in plain and figured ash.

PROPOSED THEATRE BUILDING CODE, NEW YORK

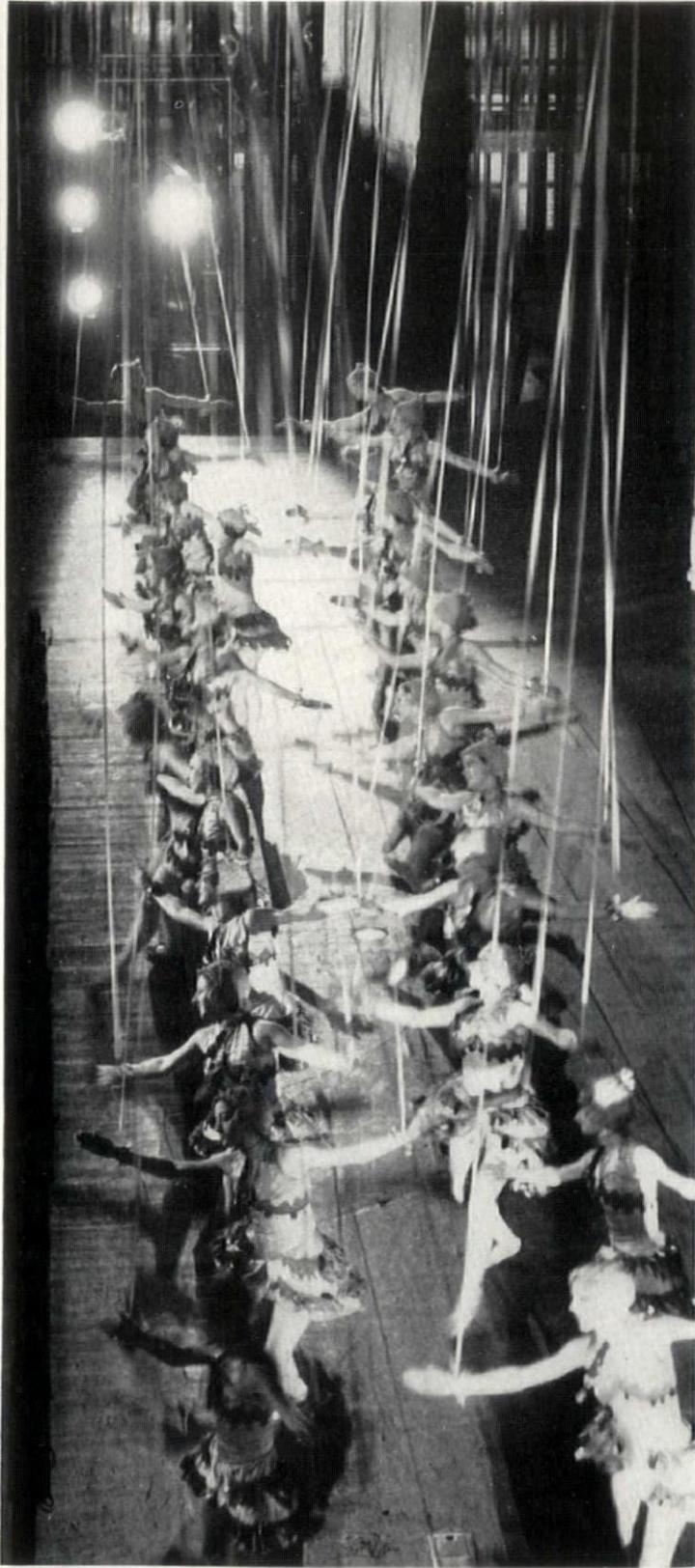


PHOTO: RADIO CITY MUSIC HALL

Back stage, and under, changes may be made

An analytical comparison of old and new

BY FREDERIC ARDEN PAWLEY

PRESENT STATE OF THE THEATRE

For thirty years the business and art of the legitimate theatre in New York City have been subject to unnecessarily drastic restriction by the municipal building code. During the past eight years a thorough rewriting of the entire code has taken place. Several provisions of the theatre article in this proposed code, now pending approval, will influence the future of theatre architecture because they are of great importance to the business and art of the theatre. A number of lesser details have also been clarified, and the whole code modernized.

These up-to-date regulations will remove some of the economic burden not due to the highly speculative nature of theatre business and make possible lower production costs, cheaper seats, and a greater, more regular public attendance. The old code practically prohibits any income from the building other than that gained from the performances during a short season and a short day. The high cost of land in the business district locations made necessary by the habits of crowds seeking entertainment requires an intensive use of that land—which the old code does not permit. Scene storage and shop facilities must be rented elsewhere. Under these conditions only the rare hits, few in any season, can make a profit, or even a normal return on the investment.

Building code regulations are always based on public safety and the restrictions of the old code are no exceptions. The New York City Fire Department is rightly proud of its record of no lives lost by spectators in fifty-eight years. But other building types have been favored while the commercial legitimate theatres as a class have become more and more dilapidated. Under present conditions they cannot be truly commercial. Cabarets, night clubs, hotels and motion picture houses—all places of public assembly—are much less stringently regulated. With modern materials and improved methods of construction there is no reason for this outlawing of an important building type with an ever-modern function.

The functional design of a theatre is made more difficult under the old code. Stage flexibility is nil, seating is cut up and gradients are insufficient for proper three-dimensional sightlines. Repertory, a bright hope in some quarters, is made impractical by lack of the adjacent scene storage and shops



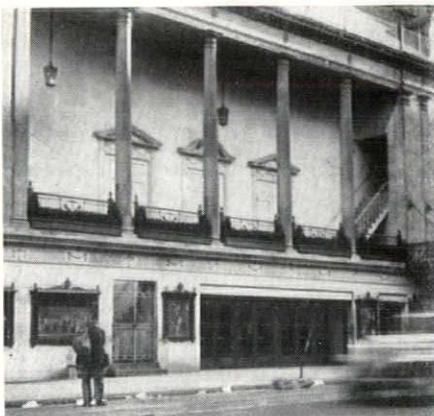
A humanized fire escape but still no place for speed in high heels on an icy night. (Ziegfeld Theatre. Joseph Urban & Thomas W. Lamb, Associated Architects)



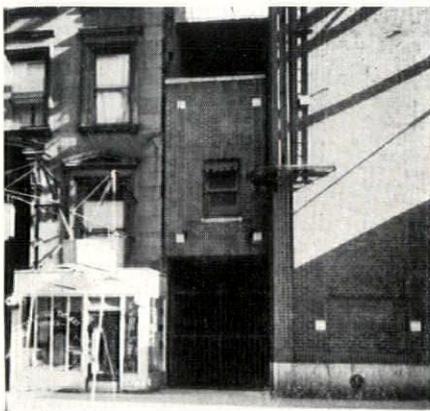
Complex. Requires considerable maintenance and inspection. This type is considered by some unsafe and unnecessarily frightening



The space over the fireproof passage (connecting open side court and street) is here used to good advantage for part of a stair tower. (Not for emergency stairs, these may be seen in the open court behind.) (Ziegfeld Theatre, Joseph Urban & Thomas W. Lamb, Associated Architects)



Yes, it's a legal fire escape and one of the most intelligent. This theatre has the axis of its auditorium parallel with the street. Exit through the light-colored gate reached by an open stair down from the loggia. (Music Box Theatre. C. Howard Crane, Architect)



Typical use of space over the fireproof passage (connecting open side court and street) for small office, toilet or other service area.

(forbidden) necessary for the frequent changes and returns of programs in that delightful practice. The life of the art itself, therefore, is throttled because of the law.

The old code is vague in many of its requirements and completely fails to cover other details. It still requires the dangerous and outmoded open fire escapes.

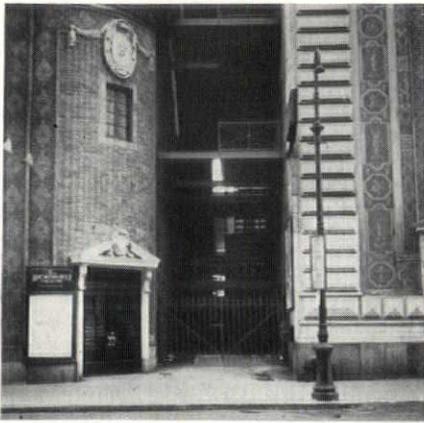
AGENTS FOR CHANGE

In 1928 The Merchants' Association of New York was asked to revise this building code (the theatre article dates back to 1905). To co-operate with Mr. George H. McCaffrey, Director of Research for the Association, and the Committee on Building Laws a sub-committee for Special Occupancy Structures was drawn up. Members of this sub-committee were Theodore Coe, Chairman; Bernard J. Gilroy, of the firm of Voorhees, Gmelin and Walker; Harry Hall, of William A. White and Sons; Arthur L. Harmon, of Shreve, Lamb and Harmon; Ely Jacques Kahn; Herbert J. Krapp (the sub-committee's chief technical expert); John Sloan and Edward Kronish, of Sloan and Robertson; and A. Van Vleck, of Starrett and Van Vleck. In November, 1932, a proposed code was completed and printed.

The theatre section of this code came up for a public hearing before the Board of Aldermen in November, 1935. Through the alert activity of Mrs. E. J. R. Isaacs, Editor of Theatre Arts Monthly, and Mr. Frank Gillmore, President of Actors Equity Association, a special consulting committee was named, consisting of Lee Simonson, Norman Bel Geddes and Marcus Heiman. These theatre experts worked with the willing co-operative sub-committee to mitigate economic and artistic difficulties which the new code might cause. A number of important changes were made and submitted at the public hearing. Other general hearings have been held and it now appears that the proposed code will soon be passed and become law.

THE NEW CODE

Improved regulations permit investors to realize a regular income from office, store or apartment occupancies under reasonable fireproofing conditions. These occupancies may be over the auditorium and to some extent under it. The stage apron may be extended to fifteen feet from the curtain line (the 1932 draft limited this to seven feet) to make the much



An iron jungle shared by two theatres



Even without benefit of gate. An additional burden on the Police and Sanitation Departments

desired "forestage" a possibility. Scenery may be stored below stage in sprinklered and vented vaults automatically closed by a stage elevator, or in a scene dock on stage level. The latter may also be used for painting and carpentry. Fire curtain details are made safer. The auditorium may be raised a maximum of ten feet above or placed slightly below the grade of the street. The new code permits the aisleless "Continental" seating plan in which unbroken seating rows empty from the ends and the best areas of the house need no longer be aisles. This type has many times been proved to evacuate a house more quickly, and is more comfortable. Stadium type seating is defined and regulated. Emergency exits may be modern fire towers and fireproof passageways instead of the dangerous open-slat fire escapes, open to sleet storms, which are now required and which must land in troublesome and non-productive alleyways on each side of the theatre. (Typical example illustrated by photographs.) Ordinary exit, entrance and stairway requirements have been clarified and emergency stairs must be wider. Definite regulations have been provided for landings, crossovers and vomitories.

The motion picture theatre article has also been changed in sections relating to exit and circulation features, and projection booth design.

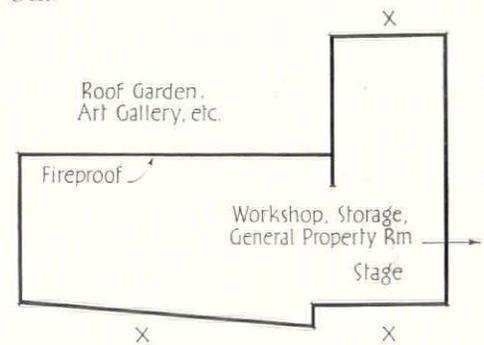


This document, which is important to the future of American theatre architecture, seems best explained by a series of annotated diagrams showing the major changes in the law. Where a pair of diagrams comparing similar parts of the old and new code is not shown a note on the corresponding provision, or lack of it, in the old code will follow, in italics, the notes on the new regulation.

It is hardly necessary to state that these diagrams and notes do not attempt to explain the entire theatre article of the code. Only a few of the more radical changes could be selected for this analysis. In a few cases corresponding requirements of the present Chicago Code (in effect since 1906 and now also being revised) and the Uniform Building Code of the Pacific Coast Building Officials Conference have been indicated for comparison. The latter code has been adopted by more than 150 cities and counties of nineteen states and the Territory of Hawaii. It will be referred to hereafter as the Pacific Coast Code.

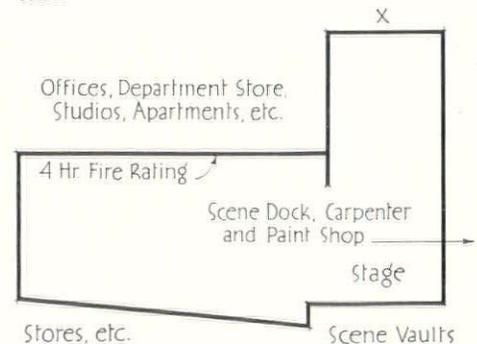
USE AND OCCUPANCY

OLD



No part of building may be used as hotel, boarding or lodging house, factory or for specially hazardous occupancies. Spaces marked "X" may not be used for occupancy or storage.

NEW



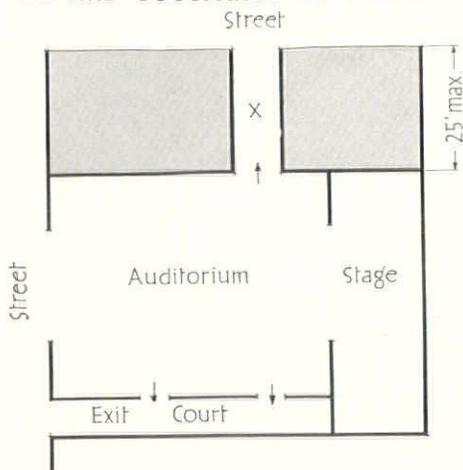
Factory, storage or specially hazardous occupancies forbidden. No use of space "X" over stage roof.

Other occupancies must be of Class I, Fireproof Construction, have separate means of egress and separate standpipe systems if required. Any part used as a multiple dwelling must comply with Multiple Dwelling Law. No service ducts, etc., for rest of structure may pierce auditorium walls.

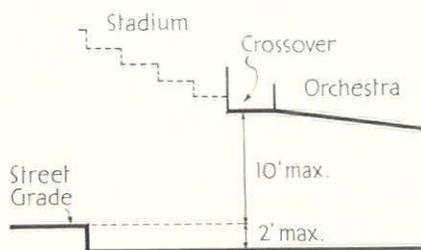
Automatic, self-closing doors and windows in adjacent structure for first 100 feet above stage roof.

Stage skylight at least 6 feet from higher walls of adjacent structures.

USE AND OCCUPANCY (Continued)



Stores, offices or apartments permitted in hatched area on corner lot if "X" is a fireproof exit for each tier and proper fireproof construction separates them from theatre. The Pacific Coast Code and the New Chicago Code do not limit the depth of stores or the non-hazardous use of other parts of the building structure provided proper fire separations are constructed between the theatre and the other occupancies.



Maximum space available for other than special occupancies under auditorium. No use requiring a Fire Department permit.

No such occupancy under auditorium permitted in present code.

Chicago permits a 500-seat theatre, under reasonable exit conditions, on any floor of a fireproof building.

For larger theatres a range of 3 feet above grade for highest bank of seats on main floor to 8 feet below grade for lowest bank. New Chicago Code limits main floor elevation by limit of rise for sloping floor from entrance at street level.

Pacific Coast Code limits main floor access to 1 in 10 ramps.

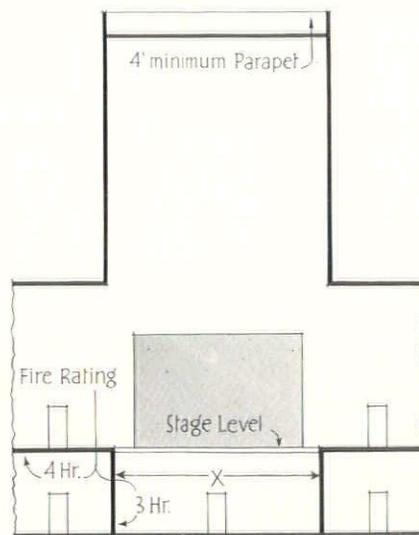
PROSCENIUM WALL OPENINGS

Only these openings permitted by proposed code:

The proscenium.

Four 3-foot maximum width doors each side of wall in locations shown. Must be self-closing, operative from either side and have 3/4 hr. fire resistance rating each.

One 3-foot maximum width single door, self-closing, 1 1/2 hr. fire rating.



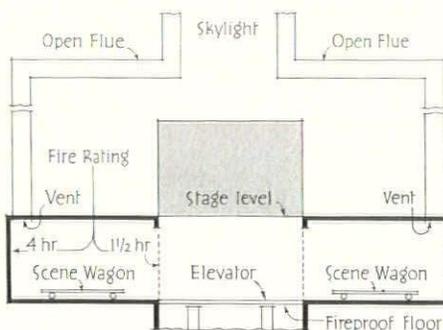
Two ducts through wall are permitted below stage if of 3 hr. fire resistance rating construction for 10 feet each side of wall. (Not shown on diagram).

Distance "X" (separation of fire-walls below stage) is the width of the proscenium plus 6 feet as a maximum.

Solid walls with 3 hr. fire resistance rating. Solid floors with 4 hr. fire resistance rating.

No limit to protected openings in old code, but none permitted above level of first floor. (meaning stage level).

SCENE VAULTS AND STAGES



Elevator minimum area 50% of stage.

Each vault maximum area 150% of elevator area.

1 1/2 hr. fire rating automatic doors open only when elevator is down.

4 hr. fire rating unpierced walls, floors, ceilings for scene vaults (same between adjoining vaults).

Sprinklers required in vaults.

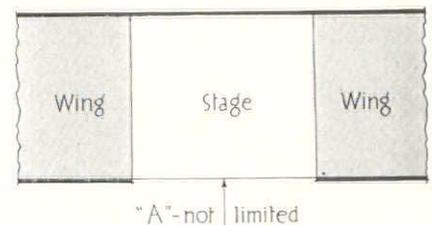
Each vault must be vented. Each vent 1/12th of door area. Fire-detecting device in each to operate stage skylight. Top of each open flue 5 feet or less from stage skylight.

No storage permitted below stage (never scenery) in old code.

It may be of interest to note here that both the old and new Chicago Codes, the Pacific Coast Code and some other far western codes permit the use of automatic sheet-metal vents extending through the stage roof and for some distance above it in lieu of the stage skylight. These are of considerably less area than the 1/8th of stage governing New York. (Chicago and Pacific Coast Codes 1/20th of stage area).

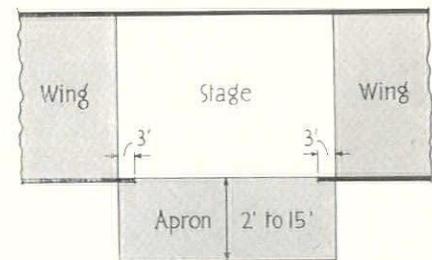
STAGE

OLD



Wings must be of fireproof construction. Stage material not regulated. Dimension "A" of apron not limited. (7' maximum in 1932 draft).

NEW

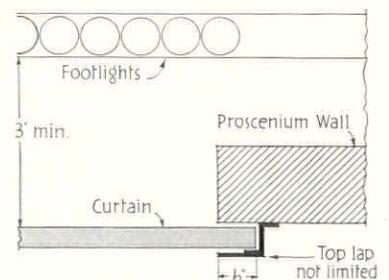


Wings and apron must have 4 hr. fire resistance rating.

Stage area (width = proscenium plus 6 feet) may be untreated wood.

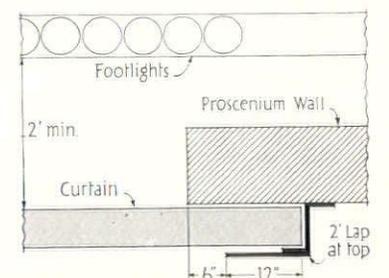
CURTAIN DETAIL

OLD



Curtain: approved fireproof metal or asbestos.

NEW



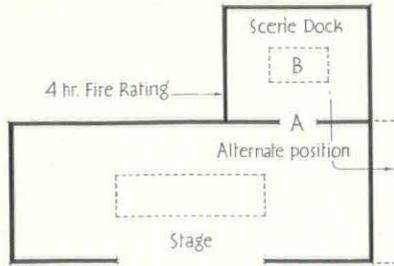
Curtain: incombustible, on approved rigid frame.

Must rest on 12 inches of masonry wall when closed.

Design load of supporting construction specified.

The New Chicago Code requires a rigid frame for curtains for openings exceeding 28 by 22 feet.

SCENE DOCKS



- A. Automatic door 80 square feet maximum area. 1 1/2 hr. fire rating.
 - B. Skylight 1/8th area of dock and similar to stage skylight.
- Automatic sprinklers required in dock. Paint bridges and carpenter shops permitted in such scene docks.

Storage and shops allowed at rear or at sides of stage in the old code. Must be behind brick walls and fireproof doors but may not be used for specially hazardous occupancies including scenery storage and painting.

STREET ENTRANCE AND EXITS

(Not emergency exits)

10 feet minimum aggregate entrance and exit. (600 seats).

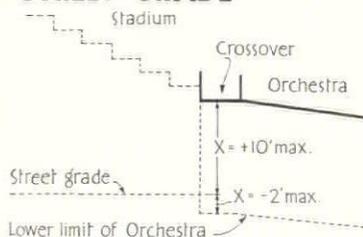
20 inches additional for each 100 of first 1,500.

15 inches for each 100 of next 1,000.

10 inches for each 100 over 2,500.

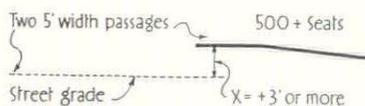
Minimum aggregate entrance and exit under old code is 25 feet, (500 seats). Additional 20 inches for each 100 seats in excess of 500.

RELATION OF AUDITORIUM TO STREET GRADE



$\frac{x}{2}$ may be steps but not more than $\frac{x}{3}$ in one unit.

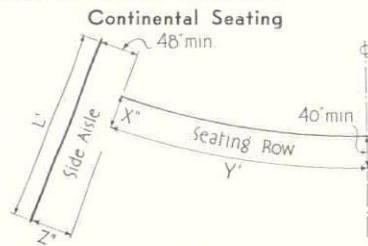
Steps must be either at main entrance or at crossover.



When x is greater than + 3 feet there must be at least two passageways of 5-foot minimum width to serve 500 or more seats.

Old code reads "one step" above street grade at entrance and "one foot maximum unless (more is) approved." This has been stretched to four steps. New Chicago Code permits 1 in 6 ramps in lieu of any stairs.

SEATING AND AISLES



Back-to-back distance of seating rows at aisles in inches:

$$x'' = 40'' + \frac{Y' \text{ (in feet)}}{5}$$

Side aisle width in inches:

$$z'' = 48'' + \frac{3 L' \text{ (in feet)}}{10}$$

Old code makes no provision for continental seating.

Chicago permits only 10 seats between aisles. Pacific Coast Code 14. The New Chicago Code permits 12, and Continental seating adding 1 inch to row width for each additional seat.

BOXES

Maximum 12 seats.

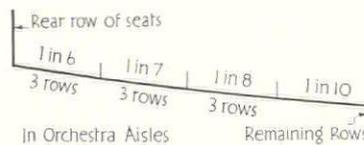
6 square feet box area per seat.

3-foot minimum width entrance.

Balcony boxes must be accessible from aisle or crossover.

Old code does not regulate boxes.

GRADIENTS

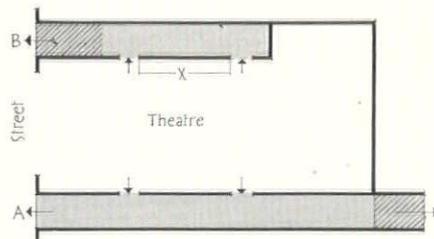


1 in 10 elsewhere.

Old code limits gradients to 1 in 12, with 1 in 8 permitted in aisle runs not over 10 feet long.

EMERGENCY COURTS OR PASSAGeways

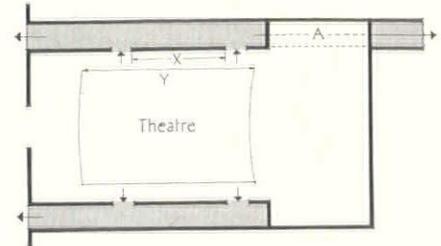
OLD



Open courts 8-foot minimum width on both sides when there are less than 700 seats, (1 foot additional width for each 500 in excess of 700), leading to street, either directly as at "A" or through fireproof passageways as at "B" or "C", (which may not go under auditorium or stage). 10-foot minimum height.

x (= distance between required emergency exits) is not limited.

NEW



Fireproof passageways (open courts not required). 6-foot minimum width on each side (600 seats).

When any tier holds more than 600 add 1 foot to passageway widths for that tier for each additional 500 or less.

Increase lowest passageway by width of lowest run of emergency stairs if combined. Minimum x is 1/2 y (= distance between front and rear row of seats.)

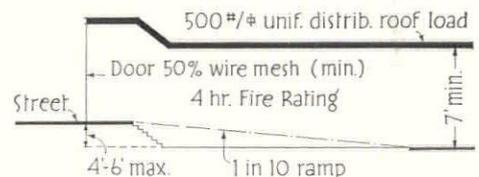
Widths of emergency courts or passageways

Seats	Old Code Widths	New Code Widths	Seats
700	8' min.	6' min.	600
700-1200	9'	7'	600-1100
1200-1700	10'	8'	1100-1600

Thus there is 4 feet additional width of lot for theatre use under the new code.

Chicago requires frontage on at least one street and one 10-foot court (less than 800 seats), or two 10-foot courts (over 800).

New Chicago Code requires 5-foot courts (300); 10-foot courts (800); and 1 foot for each 250 additional. The Pacific Coast Code requires two 10-foot courts (less than 1,000 seats), full length of auditorium, and 1 foot additional for each 500 additional seats. These court widths may be 50% less if there is no balcony or if balcony exits are not combined with courts.



Such passageways may go through or under stage or other structures as at "A" in figure at the top of this column.

EMERGENCY STAIRS

Enclosed stairs on each side of each tier, reached from balconies. Solid risers, treads and platforms required. Metal hood or awning.

4-foot minimum width. If more than 800 seats on an upper level add 1 foot for each 500 or less.

Lower stairs must be increased by 50% of next run above.

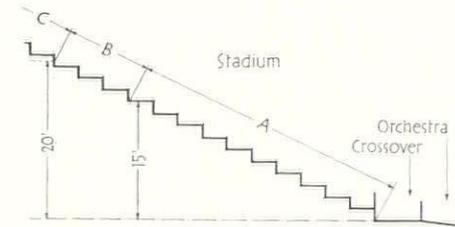
Independent passageway to street equal in width (6-foot minimum) to width of lowest run of stairs.

Effect of change is to increase widths of emergency stairs over requirements of old law.

Width of Emergency Stairs			
Old Code		New Code	
Total seats	Widths		Seats on tier served
1000	4' min.	4' min.	800
1000-1800	4'6"	5'	800-1300
1800-2500	5'	6'	1300-1800
Over 2500	5'6" max.	7'	1800-2300
Fire Escapes		Enclosed Stairs	

Old code requires open type iron fire escapes with metal hood or awning. 6-foot width balcony at each upper level. Chicago permits inside emergency stairs in fire towers. Pacific Coast Code requires smokeproof towers on each side to serve balcony or galleries above the first balcony.

STADIUM TYPE SEATING



If within "A" the stadium is a part of the orchestra seating. If "AB", the stadium is considered a balcony and balcony stairs are required. If "ABC", the stadium is considered a balcony and if the house already has a balcony the stadium section above 15 feet is considered another balcony. Treatment of stadium not clear in old code. The New Chicago Code defines and regulates stadium seating.

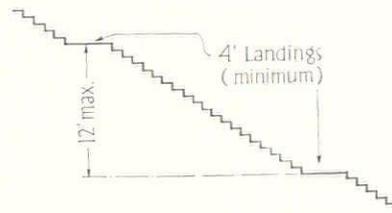
BALCONY STAIRS

4-foot minimum width (200 seats). Each stair must be increased 3 inches for every 100 seats or fraction in excess of 200 (total capacity of tier served). Narrowest stair must be 2/3 widest. Old code requires 4-foot minimum width (50 seats). Increment not clear: "For every additional 50 people accommodated" (in excess of 50) "6 inches must be added to their width." (Does this mean 6 inches on each stair or 6 inches split between the two required?)

Widths of each balcony stair (8' maximum)			
Old code			
Seats	On each stair	Split	New code
200	66"	57"	48"
400	90"	69"	54"
600	# 114"	81"	60"
800	# 138"	93"	66"

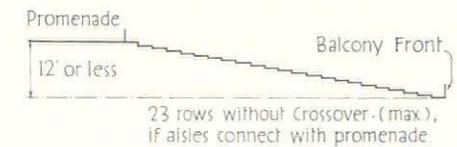
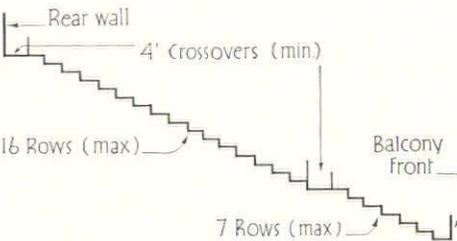
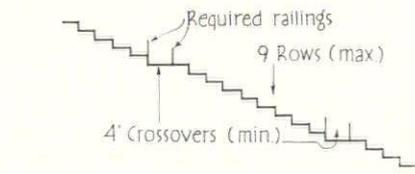
Additional stairs required.

LANDINGS

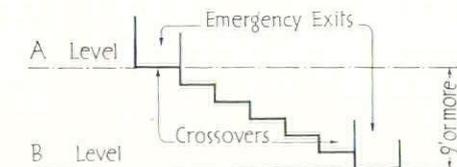


Old code merely requires "proper landings at convenient distances."

CROSSOVERS

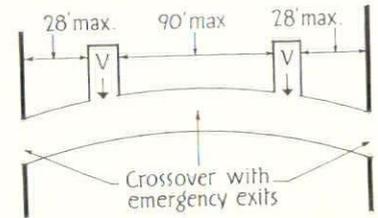


Emergency exits must be at ends of crossovers. Railings are required between crossovers and seating.



Independent 4-foot minimum width passageways from emergency exits as at "A" and "B" must be carried level to emergency stairs when crossovers are more than 9 feet apart vertically. Crossovers not regulated in old code. Chicago permits only 15 rows between main floor crossovers, and 9 in balconies unless there is a direct exit for each aisle. Pacific Coast Code permits 20 rows between crossovers in balconies.

VOMITORIES

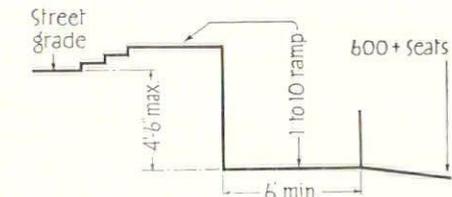


At least two vomitories for first 1000 or less seats in a balcony and one for each additional 500 or less. Vomitories shall be on level of lowest crossover (and on lowest and alternate crossovers when more than two vomitories and two crossovers are required). Single vomitories shall be centrally located. Vomitories ("V") must be 5-foot minimum width, increased 1 foot for each 100 seats in excess of 500. Stairs at rear of balcony may be substituted for equal number of vomitories if crossover connects top stair landings.



Steps are permitted in vomitory passages if "A" is at least 2 feet. Vomitories are not regulated by the old code.

MOTION PICTURE THEATRES WITHOUT STAGE



Not permitted "above or below ground floor" in old code. 6-foot minimum width crossover required behind last row of seats on main floor. Not in old code. 1 1/2 square feet floor area per auditorium seat required in lobbies, foyers and promenades. Required of theatres but not motion picture houses in old code. Two separate exits required for less than 300 seats. One at front, other within 1/10th of depth of theatre from rear wall. More definite than old code. 7 steps (8" max. risers, 10" min. treads) are the maximum number permitted in exit passageways or courts leading to streets. Old code requires 1 in 10 gradient, no risers.

MOTION PICTURE BOOTH

7-foot minimum height. 7 1/2 feet x 10 feet is the minimum area for one machine booth. 24 square feet additional for each additional machine. 78 square inches minimum vent area. 50 cubic feet per minute air velocity. Old code permits 50 square inches minimum vent area and 30 CFM air velocity.



PHOTOGRAPHS BY GEORGE D. HAIGHT

CALIFORNIA FRUIT GROWERS EXCHANGE

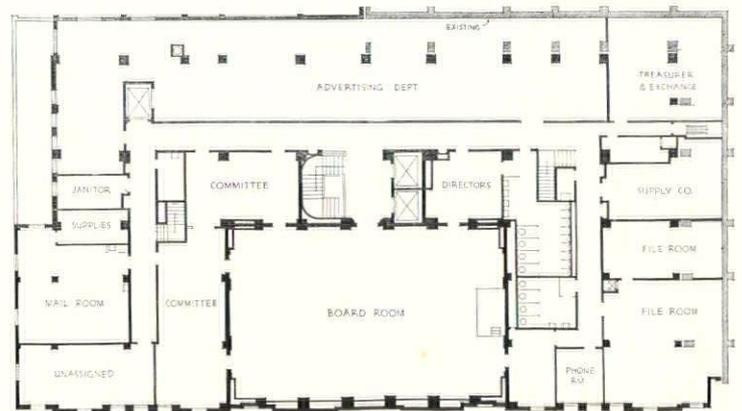
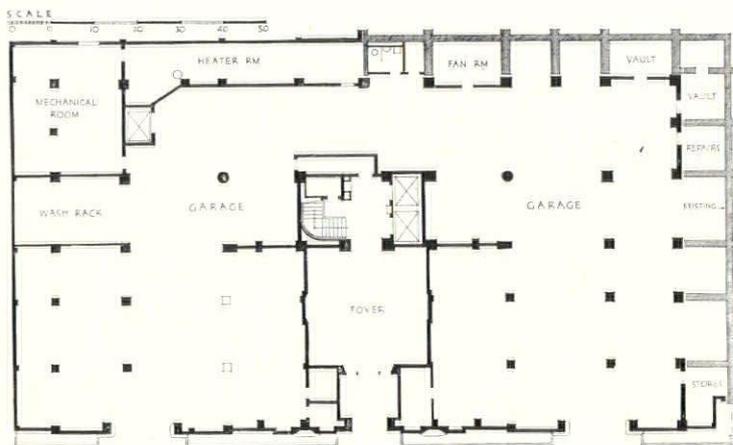
LOS ANGELES, CALIFORNIA

WALKER AND EISEN, ARCHITECTS

New earthquake ordinances requiring radical changes in structural design and in the use of finishing materials were directly responsible for this and other new buildings in the Los Angeles area. The reinforced concrete surfaces are used for both exterior and interior walls. Fenestration was planned to afford broad wall surfaces and grouped windows. Ornamentation is principally a logical recognition of shaped spandrels, concrete grilles, and an easy-flowing termination to coping walls. The only exterior decorative elements are three waste-mould panels, modeled by Harold Wilson, Sculptor.

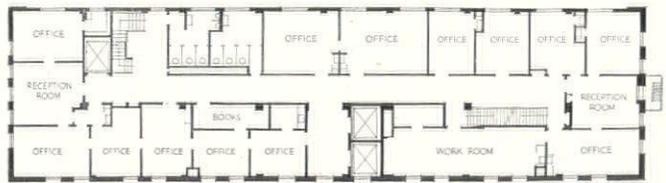
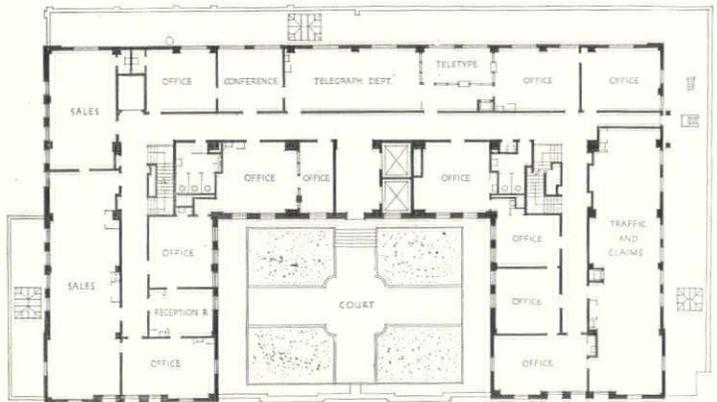


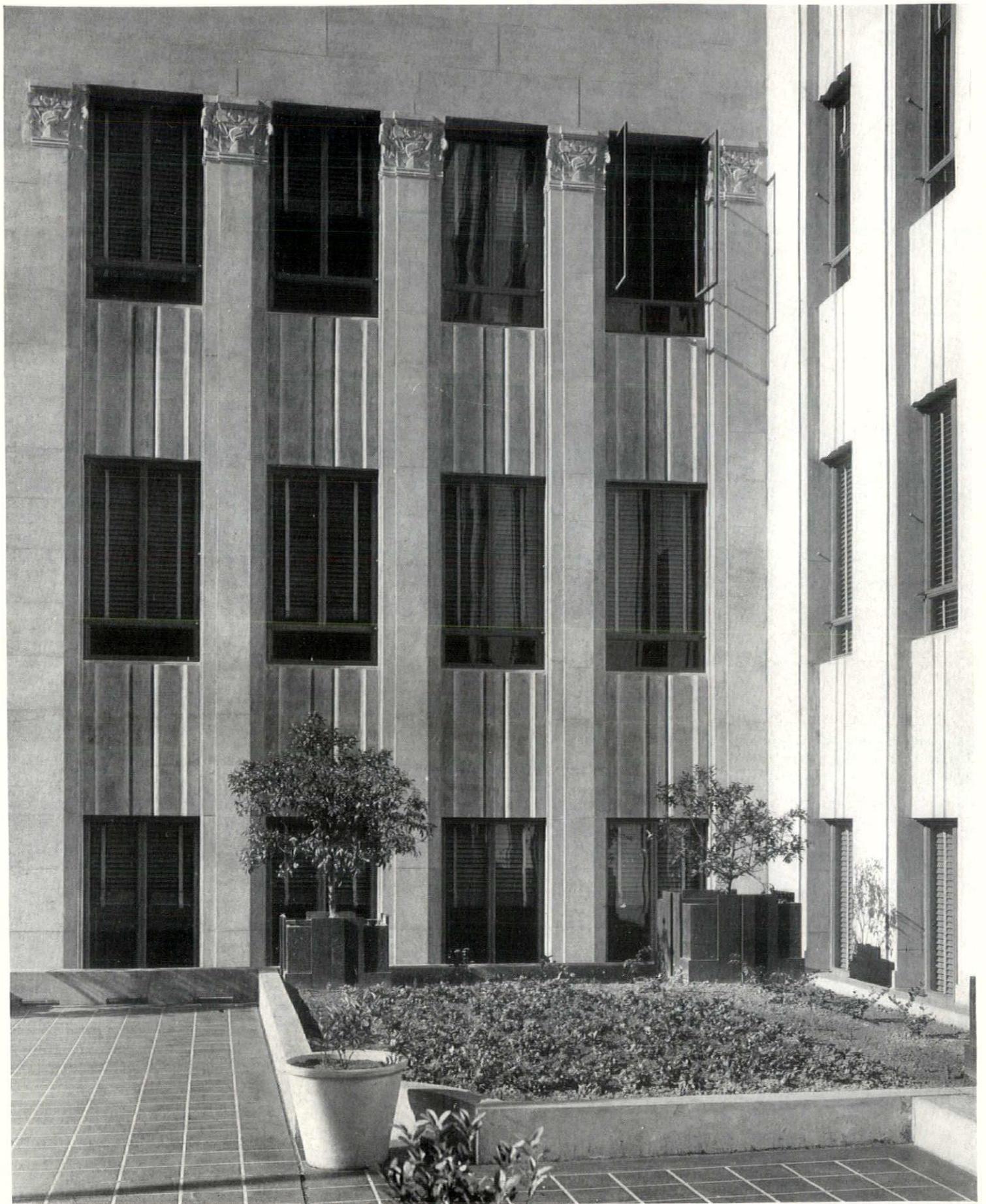
The garage surrounds the main foyer on the ground floor. The large board room without windows on the second story results in a unity of mass at the main entrance. Concrete forms were constructed of plywood in panel sizes. They were rigidly braced to assure exactness of surface in both directions. After stripping the surfaces were stoned and washed down to a uniform color and texture. Spandrels were acid stained



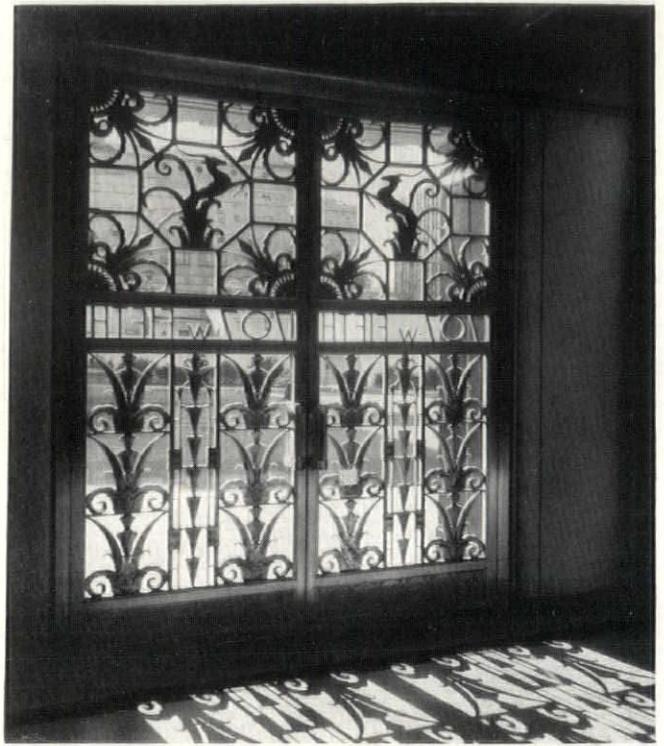


Low reliefs representing "Production," "Distribution" and "Co-operation" were handled in pleasing relationship to the structure. The entrance is to the garage





A typical window grouping (opposite page) indicates the vertical emphasis of the concrete treatment. The planted court, 45 by 65 ft., is on the street front over the main board room. . . . The cast-aluminum gates at the main entrance (right). The entrance foyer is painted green with silver accents. The unusual wall texture is the result of Celotex form linings (below)



CALIFORNIA FRUIT GROWERS EXCHANGE
LOS ANGELES, CALIFORNIA
WALKER AND EISEN, ARCHITECTS





(Above) Doorway in the board room. This room, without windows, is effectively air conditioned. The exposed concrete beams are decorated with color. (Right) Elevator doors and the mail box in the main lobby are of cast aluminum. Doors have a blue-green satin finish enamel treatment

**CALIFORNIA FRUIT GROWERS EXCHANGE
LOS ANGELES, CALIFORNIA
WALKER AND EISEN, ARCHITECTS**





PHOTO: WIDE WORLD

WHAT PREVENTS RESIDENCE BUILDING?

BY JOHN TAYLOR BOYD, JR.

The lack of residence construction for the past five years has been responsible for a tremendous gap in economic recovery. The whole construction industry hopes for a revival of home building. This should now be possible, since at last there is an admitted need for new dwellings in most towns and cities, and existing shortages provide a sound basis for resuming residence building in huge volume. Why then is there so little building?

THE CREDIT BAN

Only one thing prevents the undertaking of home building,—lack of credit. It is not so much that there are no funds,—there are plenty—but that banks are not making loans for building. This is an extraordinary situation, particularly in view of the fact that, where funds are not made available, the government through RFC is empowered to assist the banks, or in effect to act in their stead temporarily. In spite of this and FHA's advantageous terms, the credit machinery fails to work.

FEAR—THE REAL OBSTACLE

What, then, blocks action? *Fear*. It is chiefly fear that we must overcome.

If we examine the fears that hold back building, we find that they spring from a few simple causes. Greatest of all is fear for the safety of past loans—*anxiety to protect the huge uneconomic investment in old (in many cases obsolete or depreciated) properties from the competition of new construction.* A lesser fear is the danger of government policies, acting directly upon the building industry and also affecting the future of general business.

FEAR OF GOVERNMENT

On this last point there is much confusion. The role of government should be defined precisely so as to encourage private enterprise and to allay fear of government encroachment. If responsibility is divided between private enterprise and government, uncertainty and fear are bound to continue. There are doubtless many who wish to exclude the government

completely, but that does not seem to be a practical policy in the emergency which, in building, is still with us. To rehabilitate and to supplement the still partly frozen credit machinery of building, government action seems unavoidable during the next few years. On the other hand, if we could not call upon government for credit control aid, as the commercial banks of the nation were forced to do in 1933, there would be slight chance of active residence building.

LEGITIMATE GOVERNMENT ROLE

Particularly, we must fill the gap left by the disappearance of the second mortgage "system" of ill-repute. Construction loans are not forthcoming. FHA, with its mortgage insurance filling the gap left by discredited outlawed second mortgages, is especially valuable. Its powers should be extended as necessary to make building possible. It is most essential that the FHA be liberal, allowing to a housing operation ample reserves and profits, to be used for a more rapid amortization of mortgages. This principle seems especially necessary in overcoming the lenders' excusable fear of future changes in price levels, of inflation, of high taxes and other dangers to the security of long-term loans that government fiscal policies might cause. Lastly, the RFC should undertake to provide credit in addition to the funds supplied by mortgage institutions while these are getting into liquid condition.

Certain other fears should be allayed. These are (1) alleged high costs of construction, (2) fear of rising taxes, (3) competition of the prefabricated house, (4) government ("public") housing. As to the first point, alleged "high" costs have never yet prevented building revival,—even in 1921 when costs were sky-high. Now, in 1936, costs of labor and materials, of land and money are generally lower than in 1929.

LOW-COST MONEY REQUIRED

The cost of money is the most important factor in a commercial operation in home building. The government insurance of mortgages makes possible low interest rates and the elimination of the excessive costs of second mortgages—both of them needed economic measures. On this point it is important to remember that under the old second mortgage system, money was lent only on usurious terms. These made impossible low-rental homes and slum clearance—the two greatest fields of the promising new market opening up before the building industry today. It is probable that, even if private enterprise could revive the second mortgage, it would not greatly help the situation. Low-cost money is also essential to offset the cost of higher taxes. As noted above, the FHA mortgage insurance also aids this purpose.

Nor should we fear the pre-fabricated house. It remains still an unperfected invention, too many years removed from mass-production to be a threat to the value of new homes, built by usual methods. Government housing, likewise now

ceases to be a bug-a-boo. Extremely little of it actually has been built, and recently the President declared that the subsidy involved is ruinous to the government. The subsidy is the one factor that makes possible government housing for the poorest class.

With such lesser doubts removed, the way is open for a final attack on the chief obstacle to residence construction—the opposition of those interests which, so far, have blocked new construction by attempting to protect the top-heavy investment in old, depreciated and obsolete properties. Whatever might be said for such a policy five years ago, today it has no basis. The credit ban on residence construction is uneconomic, ruinous and reactionary to the last degree. The building industry should insist on having it lifted.

FACTS OF SHORTAGE

We should understand precisely the nature of the shortage of dwellings. The facts of shortage are shown in a report of a committee of the U. S. Chamber of Commerce (among several other authorities) based on a study of government statistics. It states that, if residences were constructed during the next ten years in quantity as great as in the ten years prior to 1930, they would supply only enough space (1) to replace old properties destroyed and (2) to provide homes for new families. There would be no surplus to replace obsolete houses, and we should have a program for the continual replacement of obsolete dwellings, if we are to preserve the economic soundness of real estate. One might add that already the depression has given to existing properties a six years' respite from economic competition. Finally, as business conditions improve the shortage will become acute. It is now certain that economic conditions favor a revival of home building to a much greater degree than for many years past. The building credit machinery of the nation should at last be put to work again. If it is to work effectively, certain essentials must be realized.

PRACTICAL POLICY ESSENTIALS

The five essentials of a practical program are (1) *low interest rates* (as low as 4 per cent on prime properties); (2) the building of *homes for rent* as well as for sale, both apartments and individual dwellings, until people have money and wish to buy homes; (3) *large scale operations* to build low-cost home-communities, not merely houses; (4) the *encouragement of private enterprise* to enter upon slum clearance, from which it is now effectively barred by threat of government entering this field; (5) *high standards* of design and construction, as determined by experienced architects and other building experts.

These requirements are entirely practicable. If met, they will end the credit blockade. Then architects and builders can start upon those long years of work that lie before them if they are to supply the nation's vast demand for new and better dwellings and well-planned neighborhoods.



PHOTOGRAPHS, COURTESY OF THE TILE MANUFACTURERS ASSOCIATION

TIME-SAVER STANDARDS

TILE

- 1 • Nomenclature**
- 2 • Standard Shapes and Sizes**
- 3 • Trimmer Tile Shapes and Sizes**

TILE—Standard Nomenclature

PURPOSE

Represented on this sheet is the nomenclature of the tile industry, crystallized through custom and formal modification and currently employed by manufacturers and tile setters throughout the country. General use of this nomenclature by architects will permit a desirable clarity in specifying types, finishes, distinguishing characteristics and gradings in terms commonly accepted as standard by all major factors of the industry. Color nomenclature is not included, for no adequate basis for color comparison has so far been applied within the wide range of available tile colors.

GENERAL

The term "tile" covers a wide range of glazed and unglazed non-structural units, made exclusively from clay and other ceramic materials, burned in the course of manufacture and used solely as a surfacing material.

Tile is manufactured from natural and refined clays or varying proportions of each by two general processes.

Plastic Process: Clays are mixed with water and when plastic are extruded and cut or pressed, manually or mechanically in moulds. After drying clay forms are burned in a kiln.

Dust-Pressed Process: Clays are ground to dust and mixed with water which is then pressed out. The resulting mixture is pulverized, dried and then formed in metal dies under pressure. It is then burned.

Tile made by either process may be vitreous, semi-vitreous or non-vitreous, depending partly upon its composition and partly upon the extent of burning.

Vitreosity is a measure of density and relative absorption, but not suitability for general use. Vitreous tile is comparatively the hardest and absorbs the least moisture. Thus it is less subject to damage caused by inside or outside moisture conditions and generally withstands abrasive wear. In some instances semi-vitreous is as suitable as a fully vitreous tile and can be used on exterior surfaces or for any interior purpose when a relatively non-porous surface is desirable. Non-vitreous tile absorbs moisture readily and has a relatively soft body. It is subject to relatively greater body variation during manufacture. When glazed, it has an extremely wide range of use on interior surfaces.

A slight variation of shape and color is an inherent characteristic of any kind of tile. However, crazing—hair line cracks, once a common defect of glazed tile—has been practically eliminated by general use of glazes with coefficients of expansion the same as those of the tile bodies.

STANDARD NOMENCLATURE

Attempts to develop a standard, adequately defined nomenclature have been hindered by custom, by a multiplicity of tile shapes and uses. Terms and definitions listed here reflect the usage now current among major factors of the tile

CLASSIFICATION OF TILE

GLAZED TILE

I NON-VITREOUS TYPE

Dust-pressed process. Largely "Interior Wall Tile."

- A. Bright Glazed
- B. Matt Glazed

II SEMI-VITREOUS TYPE

Dust-pressed or plastic process. Interior and exterior "Wall Tile," "Glazed Floor Tile" and "Glazed Ceramic Mosaic."

- A. Bright Glazed
- B. Matt Glazed

III VITREOUS TYPE

Dust-pressed or plastic process. Interior and exterior "Heavy-duty Glazed Tile" and "Glazed Ceramic Mosaic."

- A. Bright Glazed
- B. Matt Glazed

IV FAIENCE TILE

Mostly natural clay body; plastic process. Hand-formed or hand-finished; non-vitreous, semi-vitreous and vitreous. Interior and exterior "Wall Tile," "Floor Tile," "Mosaic" and "Special Shapes."

- A. Glazed in a wide variety of ways having special characteristics.

UNGLAZED TILE

I CERAMIC MOSAIC

Dust-pressed or plastic process. Interior and exterior use.

- A. Semi-vitreous
- B. Vitreous

II FLOOR TILE

Dust-pressed or plastic process. Interior and exterior use.

- A. Semi-vitreous
- B. Vitreous

III HAND-WORKED PLASTIC TYPE

Plastic process. Mostly natural clay body; hand-formed or hand-finished. Interior and exterior "Floor Tile."

- A. Non-vitreous
- B. Semi-vitreous
- C. Vitreous

IV QUARRY TILE

Machine extruded by plastic process only. Interior and exterior "Floor Tile."

- A. Semi-vitreous
- B. Vitreous

industry. The classification of tile has been made generally according to physical characteristics. There exists no other reasonable basis for classification that will be generally inclusive. By use of this classification a desired type of tile can be designated. But relative porosities that characterize main groups are not yet definitely established to the satisfaction of the entire industry. Non-vitreous tile, for example, may absorb from 7 to 15 per cent of its own weight in moisture. Average absorption of semi-vitreous tile ranges from 3 to 10 per cent and of vitreous tile from .5 to 3 per cent.

Simplified Practice Recommendations developed through a division of the United States Bureau of Standards have been accepted by the tile industry so far as they apply to Glazed Tile, (except Faience), and Ceramic Mosaic. These apply to grade nomenclature and minimum grade specifications for these kinds of tile. Similar gradings for all other kinds of tile have not yet been adopted by all manufacturers. But terms, definitions, classifications and gradings used herein are based upon standards developed by the Tile Manufacturers' Association. They can be used safely in architectural specifications, subject to the modifications noted.

TO SPECIFY TILE

Tile sizes, physical characteristics and suitability of purpose are presented in TIME-SAVER STANDARDS Sheet No. 42. These selection factors are specific and designate the particular kind of tile to be used. The type of tile can be prop-

erly designated by consistent use of classification terms.

Example 1. Desired: A dull-glazed tile that will be non-staining and durable under severe conditions of interior wall use. **Specified:** Semi-vitreous, matt-glazed tile; made by either dust-pressed or plastic process.

Example 2. Desired: An unglazed tile with some variation in surface for interior use on a floor which will be waxed. **Specified:** Hand-worked Plastic Type, non-vitreous, hand-formed unglazed tile made by the plastic process.

GRADINGS

Glazed Tile and Ceramic Mosaic (both glazed and unglazed) are graded as "Standard Grade" and "Seconds." These are completely described in Simplified Practice Recommendations R61-30, published by the United States Bureau of Standards, Washington, D. C.

Faience tile, subject to the widest range of body shape and finish characteristics, has a grading of "Standard Grade." Tiles obviously damaged during the course of manufacture are graded as "Seconds." This is true also of unglazed tile of the Hand-worked Plastic Type.

Quarry tile grades are: "Perfected," "Standard Grade" and "Seconds." The last two are substantially similar to corresponding grades of unglazed Ceramic Mosaic. "Perfected" indicates that tiles of the Standard Grade have been processed to produce mechanical regularity of corners and edges.

TILE—Standard Nomenclature

DEFINITION OF TERMS

TYPES OF TILE

Glazed Tile—Any tile the surface characteristics of which result from application of a vitrified coating

Unglazed Tile—Any tile with a natural surface, the color, texture, and density of which are characteristic of the body of the tile itself

Non-Vitreous Tile—Tile, the body of which is relatively porous. These may be glazed or unglazed

Semi-Vitreous Tile—Tile, the body of which is only slightly porous. Tile may be glazed or unglazed

Vitreous Tile—Tile, the body of which is relatively impervious. Tile may be glazed or unglazed

KINDS OF TILE

Ceramic Mosaic—Collective term for small vitreous or semi-vitreous tiles or tesserae made by either the dust-pressed or plastic process. These may be glazed or unglazed, are 1/4" to 3/8" in thickness and are generally limited to 2-3/16" for the longest dimension of their area. They are also available in larger sizes, squares, oblongs, or hexagons, mounted on paper sheets about 1 x 2 ft. in size

Glazed Ceramic Mosaic—Any type of Ceramic Mosaic over the surface of which a glaze has been applied

Faience Mosaic—Hand-formed or hand-finished tesserae of the natural clay type made by the plastic process and variously glazed

Floor Tile—Generally, unglazed tile that will withstand abrasive wear. Bodies may be non-vitreous, semi-vitreous or vitreous with sizes larger than 2-3/16" for the longest dimension of their area

Glazed Floor Tile—Floor tile coated with a type of glaze that withstands abrasive wear better than wall tile glazes

Wall Tile—Glazed tile not generally suitable for use on surfaces subject to abrasive wear

Interior Wall Tile—Non-vitreous glazed tile, made by the dust-pressed process

Faience Tile—Glazed tile, of any size, shape or thickness, made largely from natural clay by the plastic process, hand-formed or hand-finished. They may be non-vitreous, semi-vitreous or vitreous and have nearly unlimited application according to these characteristics

Quarry Tile—Unglazed tile, from 1/2" to 1 1/2" thick, semi-vitreous or vitreous, machine extruded from natural clay by the plastic process

Plastic Tile—Unglazed tile made largely from natural clay by the plastic process. Hand-formed or hand-finished in any size, shape or thickness, non-vitreous, semi-vitreous or vitreous

Non-Slip Tile—Unglazed tiles with a surface possessing a relatively high coefficient of friction, usually produced by incorporating various proportions and types of granular abrasive materials in the body material

TERMS OF MANUFACTURE

Hand-Worked—A general term designating a method of making tile, including hand-forming and hand-finishing

Green Tiles—Clay shapes made by the plastic or dust-pressed process before burning

Burning—Kiln firing of green tile. Differences in temperature and the extent of burning largely determine the vitreous characteristics of tile

Biscuit—Tile after burning but before glazing

Body—The tile itself as distinguished from the glaze

Glaze—An impervious surface membrane on a tile body, produced by coating the biscuit with a liquid which, when fired in a gloss kiln, fuses, adheres to the body and vitrifies as a film

Bright Glaze—White or colored finish of high reflectivity,

smooth brilliant gloss. The term "Enamel" once employed to distinguish this type of glaze is no longer generally used.

Matt Glaze—White or colored finish of low reflectivity. It may be smooth or variously textured. "Dull Glaze" is a term no longer employed except to denote a type of matt glaze in certain localities.

Clear Glaze—A transparent bright or matt glaze that reveals the color of the body over which it is applied

Slip Glaze—An opaque coating applied before glazing to mask body characteristics or as a foundation for other types of glazes

Polychrome Glaze—A glaze containing two or more inherent colors on the same tile

Face—The finished surface of a glazed or unglazed tile

Flashed—Color variation of unglazed tile resulting from uneven temperature in the kiln.

DEFECTS IN GLAZED TILE

Crazing—Glaze failure characterized by fine checks or hair cracks that extend through the glaze to the body. "Inherent crazing" may be caused by improper blending of glaze and body or mechanical changes of glaze or body due to thermal variations. "Installation crazing" results from mechanical strains occurring after setting

Spalling—Chipping or flaking of either or both glaze and body caused by body flaws allowing moisture penetration or mechanical exterior strains

Shivering—Minute glaze fractures that appear as fine silvery threads

Shivered Edge—Minute glaze fractures running along tile edges.

Dunting—Cracking of the body perpendicular to the face. Caused by sudden temperature changes

Biscuit Cracks—Any body fracture visible on both face and back of tiles

Biscuit Chips—A glazed-over indentation on the edge or corner

Pulls—Body scratches noticeable through the glaze at a distance of more than three feet

Specks and Spots—Dark dots on the face of tile

Blots—Any type of face stain

Welts—Heavy accumulation of glaze as a ridge along tile edges

Dry Spots—Areas on the tile face that are not completely glazed

Scum—A lack of gloss or a crystalline or frosted appearance on the tile face

Stickers—Small rough spots in the glaze

DEFECTS IN UNGLAZED TILE

Laminations—Body cracks or cleavage planes caused by improper manufacture

Chips—Surface scaling or broken edges

Sand Holes—Pits in the surface of tiles

Pimples—Small surface bubbles or blow-outs, caused by expulsion of gas during burning

Blisters—Pockets formed by gas during firing, characterized by irregular surface swelling

Cracks—Hair line surface fissures

Scarred face—Surface blemishes caused by abrasion

DEFECTS COMMON TO ALL TILE

Warpage—A concave or convex surface curvature, measured on the tile face along the edges. Degree of warpage is the variation from the plane expressed in percentage of the tile length

Crooked Side—A concave or convex curvature of the sides. Degree of crooking is deviation from a line between two corners expressed in percentage of the tile length

Wedging—A difference in the lengths of two opposite sides expressed in percentage of the tile length

TILE—Standard Sizes

PURPOSE

This sheet develops the classification of tile shown on TIME-SAVER STANDARDS Sheet, Serial No. 41, to include a range of commonly used tile sizes and a broad consideration of tile uses indicated by the physical characteristics of various types. Standard shapes and sizes of trimmer tile appear on TIME-SAVER STANDARDS Sheet, Serial No. 43.

GENERAL

Selection of tile should be based first upon the physical characteristics which make it generally adaptable for the contemplated use. These are broadly indicated on this sheet and prove the contention of manufacturers that for each class of tile the range of use is broad. The architect's choice of tile is further extended by possible variation in color and surface texture and by the range of standard sizes shown. All such factors, however, should be finally referred to the ability of the tile to withstand effects of temperature and humidity changes and the damaging results of abrasive wear in any case wherein these considerations may become important. Finally, the setting of tile should conform to the standards

accepted by the industry. Improper setting may often cause premature and expensive failure to an otherwise good tile surface.

Sizes of most tiles are based upon a geometric retrogression from a six-inch square shown in Figure 1. Tile larger than a six-inch square is normally made in dimensions that are multiples of these sizes to facilitate even-joint setting when several sizes are combined.

Variations from sizes shown will be encountered in some classes of tile, both glazed and unglazed. These result generally from two causes. First, an effort has been made by some manufacturers to simplify sizes within their lines and thus co-ordinate better the processes of tile design, manufacture and setting. For example, a 2 3/16" square tile may be regarded as a 2 1/4" square, to include a 1/16" joint and eliminate possible inaccuracies through the use of small, odd dimensions in designing. This practice is susceptible to adaptation in many classes of tile. Thus far, however, it is not general.

Another cause for size differences occurs when moulds for one class of tile are employed for economy of manufacture in making another class. The two types of tile may react differently to burning and, therefore, size variations may result.

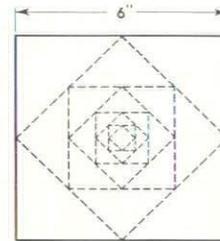


FIGURE 1

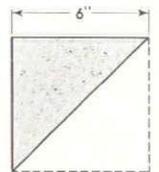


FIGURE 2

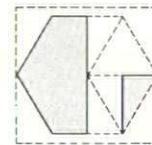


FIGURE 4



FIGURE 3

Basis of "regular" tile sizes is a geometric retrogression from a six-inch square, Figure 1. Dotted lines indicate method of division resulting in the following squares: 4 1/4", 3", 2 1/8", 1 1/2", 1 1/16", 3/4", 1/2". Diagonal halves, Figure 2, are related to these sizes, as are diagonal quarters, bi-sections of a half from the 90° corner. Figure 3 shows the diagonal half and related three-inch triangles of a six-inch (6" x 5 3/16") hexagon. A square half of an hexagon with related triangles (diagonal halves of three-inch triangles) are in Figure 4

	GLAZED TILE						UNGLAZED TILE								
	Non-Vitreous	Semi-Vitreous	Vitreous	Faience			Ceramic Mosaic		Floor Tile		Hand-worked Plastic			Quarry	
				Non-Vit.	Semi-Vit.	Vit.	Semi-Vit.	Vit.	Semi-Vit.	Vit.	Non-Vit.	Semi-Vit.	Vit.	Semi-Vit.	Vit.
INTERIORS															
LIVING SPACES															
Floors															
Light Traffic					✓	✓	✓	✓	✓		✓	✓	✓		
Heavy Traffic							✓	✓	✓	✓				✓	✓
Walls															
Light Duty	✓	✓		✓	✓		✓	✓	✓		✓	✓			
Heavy Duty		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
UTILITY SPACES															
Floors						✓	✓	✓	✓	✓				✓	✓
Walls	✓	✓	✓		✓	✓	✓	✓	✓	✓					
HEAVY DUTY															
Floors								✓		✓				✓	✓
Walls			✓				✓	✓	✓	✓			✓		
EXTERIORS															
Floors							✓	✓	✓	✓		✓	✓	✓	✓
Walls		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓		

TILE—Standard Sizes

KIND OF TILE	SHAPES & SIZES	CHARACTERISTICS & USES																																																																	
GLAZED TILE																																																																			
I. NON-VITREOUS TYPE Dust-pressed process. "Interior Wall Tile" a. Bright glazed b. Matt glazed	<table border="1"> <tr> <td></td> <td>6"</td> <td>5⁵/₁₆"</td> <td>4¹/₄"</td> <td>3"</td> <td>2³/₁₆"</td> <td>2"</td> <td>1¹⁷/₆₄"</td> <td>1¹/₂"</td> <td>1⁵/₃₂"</td> <td>1¹/₁₆"</td> <td>3¹/₄"</td> <td>1¹/₂"</td> </tr> <tr> <td>Square</td> <td>✓</td> <td></td> <td>✓</td> <td>✓</td> <td>✓</td> <td></td> <td></td> <td>✓</td> <td></td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> <tr> <td>Hexagon</td> <td>✓</td> <td></td> <td>✓</td> <td>✓</td> <td></td> <td>✓</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Octagon</td> <td>✓</td> <td></td> <td>✓</td> <td>✓</td> <td></td> <td>✓</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Pentagon</td> <td></td> <td>✓</td> <td></td> <td></td> <td></td> <td>✓</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		6"	5 ⁵ / ₁₆ "	4 ¹ / ₄ "	3"	2 ³ / ₁₆ "	2"	1 ¹⁷ / ₆₄ "	1 ¹ / ₂ "	1 ⁵ / ₃₂ "	1 ¹ / ₁₆ "	3 ¹ / ₄ "	1 ¹ / ₂ "	Square	✓		✓	✓	✓			✓		✓	✓	✓	Hexagon	✓		✓	✓		✓							Octagon	✓		✓	✓		✓							Pentagon		✓				✓							Relatively soft porous body with impervious glaze. Adaptable to interior uses not subject to abrasive wear. Should not be used on floors nor on any exterior surface
		6"	5 ⁵ / ₁₆ "	4 ¹ / ₄ "	3"	2 ³ / ₁₆ "	2"	1 ¹⁷ / ₆₄ "	1 ¹ / ₂ "	1 ⁵ / ₃₂ "	1 ¹ / ₁₆ "	3 ¹ / ₄ "	1 ¹ / ₂ "																																																						
	Square	✓		✓	✓	✓			✓		✓	✓	✓																																																						
	Hexagon	✓		✓	✓		✓																																																												
Octagon	✓		✓	✓		✓																																																													
Pentagon		✓				✓																																																													
II. SEMI-VITREOUS TYPE Dust-pressed or plastic process. "Wall Tile" "Glazed Floor Tile" "Glazed Ceramic Mosaic" a. Bright glazed b. Matt glazed	Triangle	Hard and only slightly porous body with impervious glaze. Adaptable to interior and exterior uses not subject to excessive wear. Use on floors should be confined to interior surfaces subject only to light wear																																																																	
	Oblong: *12 ¹ / ₈ " by 6"; *9" by 6"; 6" by 4", 3", 2", 1 ¹ / ₂ ", 1", 3 ³ / ₄ " or 1 ¹ / ₂ "; 4 ¹ / ₄ " by 2 ¹ / ₈ " or 1 ¹ / ₁₆ "; 3" by 1 ¹ / ₂ ", 1", or 1 ¹ / ₂ "; 2 ³ / ₁₆ " by 1 ¹ / ₁₆ "; 1 ¹ / ₁₆ " by 1 ¹ / ₂ " Elongated Hexagon: 6" by 3"; 4 ¹ / ₄ " by 2 ¹ / ₈ " NOTE: Thickness = 3 ⁸ / ₈ " and 1 ² / ₂ " Sizes of Glazed Ceramic Mosaic are shown under "Un glazed Tile". Octagon and Pentagon shapes are furnished in Semi-Vitreous and Vitreous tile only. Oblongs marked (*) are furnished in Non-Vitreous and Semi-Vitreous Tile only.																																																																		
III. VITREOUS TYPE Dust-pressed or plastic process. "Heavy-Duty Glazed Tile" "Glazed Ceramic Mosaic" a. Bright glazed b. Matt glazed	NOTE: Thickness = 3 ⁸ / ₈ " and 1 ² / ₂ " Sizes of Glazed Ceramic Mosaic are shown under "Un glazed Tile". Octagon and Pentagon shapes are furnished in Semi-Vitreous and Vitreous tile only. Oblongs marked (*) are furnished in Non-Vitreous and Semi-Vitreous Tile only.	Very hard and relatively impervious body with impervious glaze. Adaptable to both interior and exterior uses requiring high degree of general durability and imperviousness to moisture. Used on floors as semi-vitreous																																																																	
IV. FAIENCE TILE Mostly natural clay body; plastic process. a. Non-vitreous b. Semi-vitreous c. Vitreous	Made in wide variety of both standard and special shapes and sizes. Thickness usually 1 ² / ₂ " or more. Consult manufacturer.	Strong rugged body, hand-formed or hand-finished, glazed in a wide variety of special types. Surfaces and lines somewhat irregular. Wide range of color and ornamentation. Adaptable to general interior and exterior uses excepting floors subject to heavy duty																																																																	
UNGLAZED TILE																																																																			
I. CERAMIC MOSAIC Dust-pressed or plastic process. a. Semi-vitreous b. Vitreous	<table border="1"> <tr> <td></td> <td>2³/₁₆"</td> <td>2"</td> <td>1⁹/₁₆"</td> <td>1¹/₄"</td> <td>1¹/₁₆"</td> <td>1"</td> <td>3³/₄"</td> <td>1¹/₂"</td> </tr> <tr> <td>Square</td> <td>✓</td> <td></td> <td>✓</td> <td></td> <td>✓</td> <td></td> <td>✓</td> <td>✓</td> </tr> <tr> <td>Hexagon</td> <td></td> <td>✓</td> <td></td> <td>✓</td> <td></td> <td>✓</td> <td></td> <td></td> </tr> <tr> <td>Pentagon</td> <td>✓</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		2 ³ / ₁₆ "	2"	1 ⁹ / ₁₆ "	1 ¹ / ₄ "	1 ¹ / ₁₆ "	1"	3 ³ / ₄ "	1 ¹ / ₂ "	Square	✓		✓		✓		✓	✓	Hexagon		✓		✓		✓			Pentagon	✓								Bodies are hard, generally durable, dense and only slightly granular in texture. Semi-vitreous and vitreous bodies are generally regular in size and shape, with mechanically regular edges and surfaces. Both will with-stand abrasive wear and are adaptable to a wide range of interior and exterior uses, including floors. Vitreous bodies are better adapted to exterior use or surfaces subject to heavy wear or to conditions of moisture																													
		2 ³ / ₁₆ "	2"	1 ⁹ / ₁₆ "	1 ¹ / ₄ "	1 ¹ / ₁₆ "	1"	3 ³ / ₄ "	1 ¹ / ₂ "																																																										
	Square	✓		✓		✓		✓	✓																																																										
Hexagon		✓		✓		✓																																																													
Pentagon	✓																																																																		
Oblong: 2 ³ / ₁₆ " x 1 ¹ / ₁₆ " 1 ⁹ / ₁₆ " x 3 ³ / ₄ " 1 ¹ / ₁₆ " x 1 ¹ / ₂ " Trapezoid: 2 ³ / ₁₆ " x 1 ¹ / ₁₆ "																																																																			
Thickness: 1 ⁴ / ₄ " and 3 ⁸ / ₈ "																																																																			
II. FLOOR TILE Dust-pressed or plastic process a. Semi-vitreous b. Vitreous	<table border="1"> <tr> <td></td> <td>6"</td> <td>4¹/₄"</td> <td>3"</td> <td>2⁷/₈"</td> <td>2³/₁₆"</td> <td>2"</td> </tr> <tr> <td>Square</td> <td>✓</td> <td>✓</td> <td></td> <td>✓</td> <td>✓</td> <td></td> </tr> <tr> <td>Hexagon</td> <td>✓</td> <td>✓</td> <td>✓</td> <td></td> <td></td> <td>✓</td> </tr> </table>		6"	4 ¹ / ₄ "	3"	2 ⁷ / ₈ "	2 ³ / ₁₆ "	2"	Square	✓	✓		✓	✓		Hexagon	✓	✓	✓			✓	Bodies are hard, generally durable, dense and only slightly granular in texture. Semi-vitreous and vitreous bodies are generally regular in size and shape, with mechanically regular edges and surfaces. Both will with-stand abrasive wear and are adaptable to a wide range of interior and exterior uses, including floors. Vitreous bodies are better adapted to exterior use or surfaces subject to heavy wear or to conditions of moisture																																												
		6"	4 ¹ / ₄ "	3"	2 ⁷ / ₈ "	2 ³ / ₁₆ "	2"																																																												
	Square	✓	✓		✓	✓																																																													
Hexagon	✓	✓	✓			✓																																																													
Oblong: 6" x 2 ⁷ / ₈ "																																																																			
Thickness: 1 ² / ₂ " and 5 ⁸ / ₈ "																																																																			
III. HAND-WORKED PLASTIC TYPE Plastic process, mostly natural clay body. "Floor Tile" a. Non-vitreous b. Semi-vitreous c. Vitreous	Made in wide variety of both standard and special shapes and sizes. Thickness usually 1 ² / ₂ " or more. Consult manufacturer.	Rugged, relatively tough body, granular and slightly variegated in texture, hand-formed or hand-finished. Surfaces are some what irregular, edges usually dull or rounded, not mechanically sharp and true. Colors limited to the range inherent in body materials and developed during burning; mostly reds, browns, buffs, grays. Adaptable to interior and exterior uses, particularly floors																																																																	
IV. QUARRY TYPE Machine extruded by plastic process only. "Floor Tile" a. Semi-vitreous b. Vitreous	Square - 12", 9", 8", 6", 4", 3", 2" Oblong - 12" x 5 ³ / ₄ ", 9" x 6", 8" x 2 ¹ / ₄ ", 8" x 4", 6" x 3" Hexagon - 9", 6" Elongated Hex. - 8" x 4", 9" x 3" Thickness - 3 ⁴ / ₄ ", 1", 1 ¹ / ₂ "	Hard, tough, very durable body, dense and only slightly granular in texture. Surface is usually smooth, regular and true in planes and edges. Colors are limited as with hand-worked plastic type. Widely adapted to both interior and exterior surfaces subject to rugged or abrasive wear, particularly floors																																																																	
NOTE - Grades: Tile is graded as "Standard Grade" and "Seconds". Quarry Tile is graded as "Perfectd" (edges ground to size), "Standards" and "Seconds"																																																																			

TILE-TRIMMER Shapes and Sizes

PURPOSE

This sheet lists shapes and sizes of tile trimmers. Only those most generally used and available from most manufacturers are included. Tile Nomenclature is listed on TIME-SAVER STANDARDS Sheet, Serial No. 41; standard tile sizes on Serial No. 42.

GENERAL

Trimmer tiles are most commonly used on both interior and exterior tile work in the shapes and sizes shown. These do not necessarily impose a limitation of tile design, for special shapes and sizes can be developed to suit any job condition. However, those listed are regarded as standard by the industry. Size-classification differs somewhat among manufacturers in that certain dimensions of certain shapes may or may not include the thickness of the tile itself. For example: an "inside combination" dimensioned as 6" x 6" by one manufacturer may be listed as 6" x 5⁵/₈" by another. Each refers to a tile ³/₈" thick, but the 6" x 6" sizing is overall, including the thickness of the coved butt.

Ceramic Mosaic and Interior Wall Tile Trimmers are available in bright or matt glazes and a wide range of colors. Quarry tile trimmers are unglazed and limited in range to those colors that characterize materials from which they are made.

Additional trimmers including internal and external angles, cap and base stops, returns and up and down angles are complementary to the shapes shown. These are commonly available in dimensions to conform to limits of stock sizes shown.

Any or all of these may occur as part of the tile layout and

would normally be included in any estimate by a competent manufacturer or contractor.

Several units are interchangeable in use. Thus, a bullnose cap, a base of the same shape and an outside combination can each be used in place of one another. Also, a cove base and an inside combination are interchangeable.

Glazed surfaces of trimmer shapes are indicated by heavy lines of the sections.

DEFINITIONS

Bullnose: Outside rounded corner, horizontal or vertical.

Cap: Top finishing member. It can be a bullnose, plain, ogee or moulded shape. May be used as a chair-rail.

Base: Bottom finishing member. It can be plain, with a bullnose, with a cove or with both cove and bullnose.

Up-Angle: Right or left unit with 90° angle for use at bottom of continuous trim around opening.

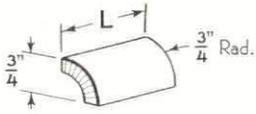
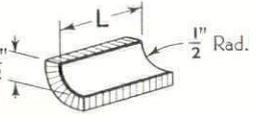
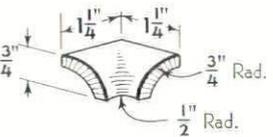
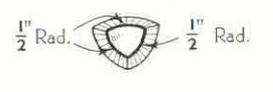
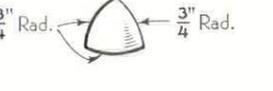
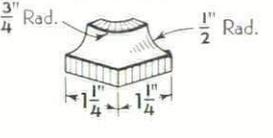
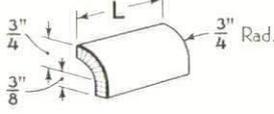
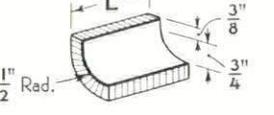
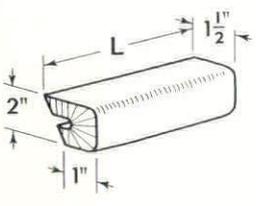
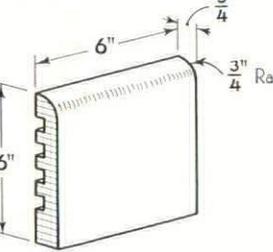
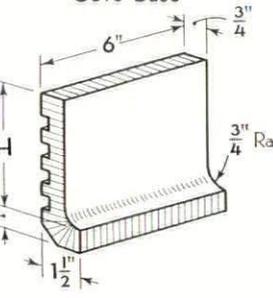
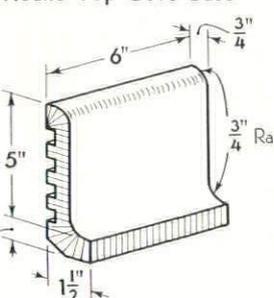
Down-Angle: Right or left unit with 90° angle for use at top of continuous trim around opening. Right down-angles are interchangeable with left up-angles; left down-angles with right up-angles.

Return: Finishing unit for outside corner installation.

Stop: Finishing unit, the contours of which return upon themselves.

Stretcher: Trimmer unit in a running length of wall as distinguished from a finishing unit.

Inserts: Ornamental tiles of any description.

CERAMIC-MOSAIC TRIMMERS -- THICKNESS: Dust-Pressed Type = ¹ / ₄ " ; Plastic Type = ¹ / ₄ " or ³ / ₈ "			
Stretchers	Round In-Angles	Round Out-Angles	Combinations
<p>Quarter Round (Bull Nose Cap)</p>  <p>Cove - At Base</p> 	<p>At Cap</p>  <p>At Base</p> 	<p>At Cap</p>  <p>At Base</p> 	<p>Outside</p>  <p>Inside</p> 
L ³ / ₄ " 1 ¹ / ₁₆ " 1 ⁹ / ₁₆ " 2 ³ / ₁₆ "	NOTE: Angles are made with square corners and with a ³ / ₈ " tangent, to correspond with combinations		L ³ / ₄ " 1 ¹ / ₁₆ " 1 ⁹ / ₁₆ " 2 ³ / ₁₆ "
QUARRY TILE TRIMMERS -- THICKNESS: ³ / ₄ ", 1", or 1 ¹ / ₂ "			
Box Cap	Bull Nose Cap	Cove Base	Round Top Cove Base
	 <p>Also made in 3", 4", 8", 9" & 12" squares</p>		
L 6" 4"		H 5" 4" 2"	

TILE-Trimmer Shapes and Sizes

STANDARD TILE TRIMMERS -- THICKNESS: $\frac{3}{8}$ " to $\frac{1}{2}$ ", corresponding to plain tile.

Caps

										★		■				
W	4 1/4"	6"	12 1/8"	12 1/8"	6"	6"	4"	4"	6"	W	6" or 4 1/4"	4"				
H	5"	2"	6"	3 3/4"	12 1/8"	4 3/8"	4 3/8"	2"	3 3/4"	H	1 1/2"	2"				
P	3/4"	3/4"	7/8"	7/8"	7/8"	3/4"	3/4"	3/4"	3/4"	P	1 9/16"	1 1/2"				
										P		1 1/16"		3/4"		
												Glazed Only		Glazed Only		

Bases

		Obtainable both Glazed and Unglazed			
★		★		★	
H	6"	4"	6"	6"	6"
		W		W	
		6"		4"	
		6"		4 1/4"	
		6"		4 1/4"	
		2"		5"	

Architraves

H		H	
3"		4"	
4"		5"	

Quarter Rounds

H	2 1/2"
P	2 1/2"
R	2 1/2"

Coves

H	2"
P	2"
R	2"

Combinations

L		L	
6"		6"	
6"		4 1/4"	
6"		4 1/4"	
3"		3"	
3"		3 3/4"	
W		W	
6"		6"	
3 3/4"		5"	
2 7/8"		6 3/4"	
3 3/4"		3 3/4"	

Plinths

W	5 1/4"
W	4 1/4"
W	3 1/4"
W	2 1/4"

Curb

W	5 1/4"
W	4 1/4"
W	3 1/4"
W	1 3/8"
W	1"
W	5/8"

Window Sill

W	6"
W	5"
W	4"

Glazed Only

NOTE: Sizes marked ★ are furnished both glazed and unglazed. Sizes marked ▲ are furnished glazed only. Sizes marked ■ are furnished unglazed only.

HELP YOURSELF...

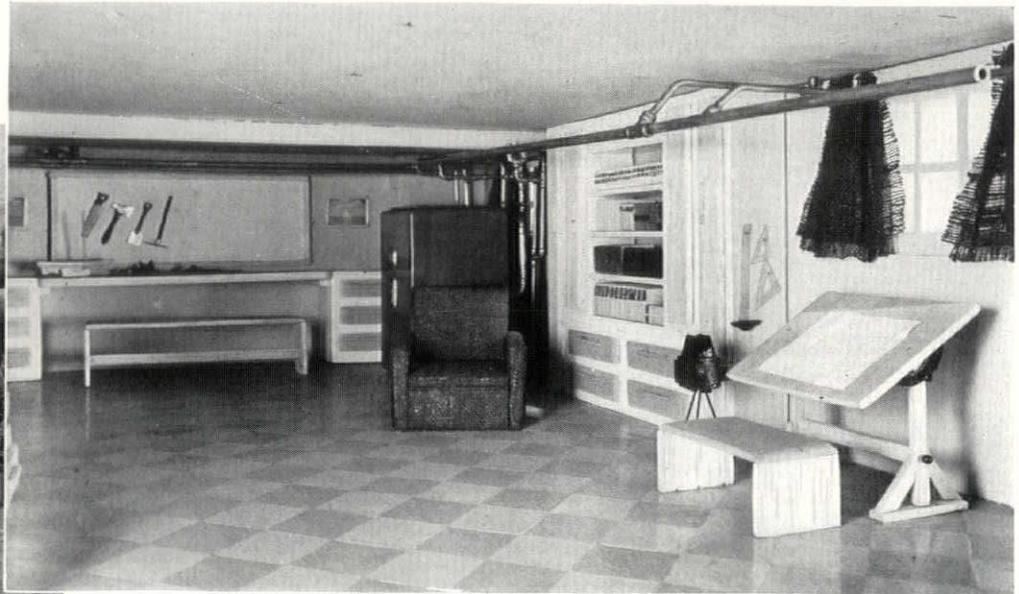
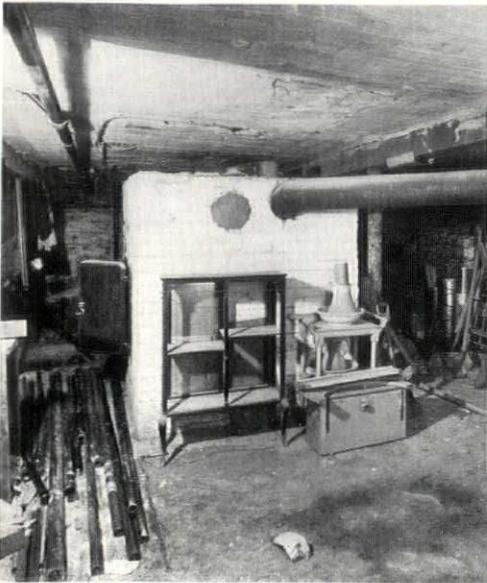
Many minds contribute to the practical values of American Architect Time-Saver Standards. Each time you use one of the sheets you share freely the accumulated practice of long professional experience, the results of careful, time-proved tests, the judgment of authorities.

Reference information in a convenient, useful form is now available because many of your fellow architects have given generously of their time, skill and knowledge. The value of such a contribution to the technical advancement of the profession can hardly be overestimated.

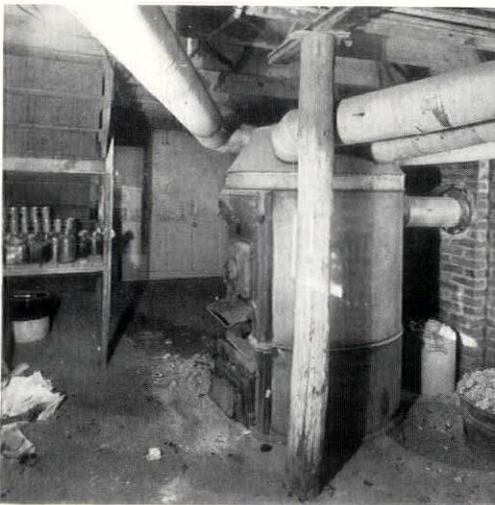
You, too, can help speed the progress of better office standards. Think of the ways in which your own problems have been solved. Search your files. Then send to the Technical Editor of American Architect any chart or data list, specification forms or construction details that have proved practical as time-saving references in the conduct of your own architectural practice. In this way you can help your profession. In doing so, you also help yourself.

TECHNIQUES

METHODS • MATERIALS • RESEARCH • PRACTICES



The first prize room designed by Leah Frost is treated as a workroom. The drafting board, research library shelves and work-bench are decorative elements in the simple scheme.



Arthur Bratton's study is in reality a second living room which every household having grown-up children could surely use. The table around the supporting column is an interesting idea.

CELLARS RE-BORN

Some time ago photographers hired by the American Radiator Company set up their cameras in 36 unsightly cellars in New York's Metropolitan area. Photographs taken were forwarded to the New York School of Fine and Applied Art. American Radiator offered prizes to the students for the best miniature rooms showing basement reconditioning. Last month the results of all this preparation were on display in Manhattan's French Building where American Radiator's salesmen proudly dubbed

their "Cellar Reborn" exhibit "the biggest and best of its kind."

And there were ample reasons for American Radiator's pride. Visitors to the show saw 36 miniatures of furnished basement rooms designed especially for avocational and recreational pursuits. Before and after exhibits, displayed behind lighted glass panels in a darkened room, showed how the average family, for costs ranging from \$170 to \$400, could transform its basement from an antiquated furnace room into a sports room, utility room, or study. Naturally the exhibit was intended to tell the lay public about the possibilities of Ameri-

can Radiator's heating and conditioning processes when interpreted in basement design. As such, the show was one of this season's better merchandising stunts.

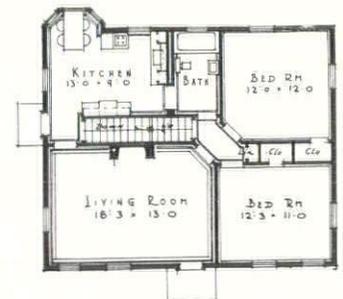
Aymar Embury, 2nd, architect for the New York Park Department, Eleanor S. McMillen, decorator, and Rolland J. Hamilton, American Radiator's president, were the judges who awarded first prize to Miss Leah Frost of Babylon, L. I., and second prizes to Ida Wright, Alister M. Robertson and Alice Pomeroy Lee. Stewart McDonald, Federal Housing Administrator, made the presentation of awards.

TECHNIQUES

METHODS • MATERIALS • RESEARCH • PRACTICES



John J. Whelan, architect, has designed four model copper houses. Besides those illustrated they include both a Modern and a Regency type



COPPER HOUSES

To promote public interest in prefabricated copper houses, one home featuring the use of copper has already been completed in Washington, D. C., and other homes throughout the country are under construction. Since the beginning of construction of the model house in Washington, the manufacturer has gone further into the subject of prefabrication and is now equipped to deliver to the job a panel three feet wide and one story high containing the steel framework, the outside copper sheet attached to the steel, and, in cases of window panels, with the sash installed in the panel. The copper wall may be painted and presents a flat unbroken surface without projecting cover strips, and may be used for Modern, Colonial, Regency, Georgian, or other styles of architecture that can utilize a flat wall surface. In the houses which have already been built, the steel frame and copper sheet have been erected in less than three days by three men.

The entire outside of the house, including outside walls, roof and roofing accessories, are made of copper. Plumbing lines, heating lines, radiation, and hardware on the interior, are also of copper, brass, or bronze. Steel mem-

bers are used for the entire first floor framework, while the floor joists between the basement and first floor and between the first and second floors are also of steel and the bearing is entirely on the outside steel framework. All of the outside walls consist of heavy copper plates backed by a thickness of composition board which lends additional stability to the sheets and minimizes metallic noise when the plates are struck. These plates are fastened to the structural steel uprights by means of a special extruded bronze shape. This

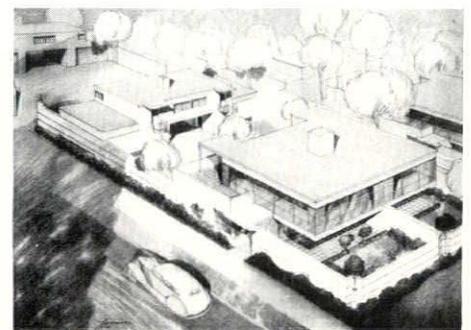
method of attaching provides for both horizontal and vertical expansion and at the same time provides a weather-proof and insect-proof connection at the joints. The outside of the second floor and roof is covered with regular 16 oz. sheet copper over a wood deck with insulation provided by a 4" thickness of spun glass in the walls. Hardwood floors are laid on a fireproof sub-floor supported by the steel joists.

Copper Houses, Inc., New York City, the company, does not itself plan to build nor to finance these houses.

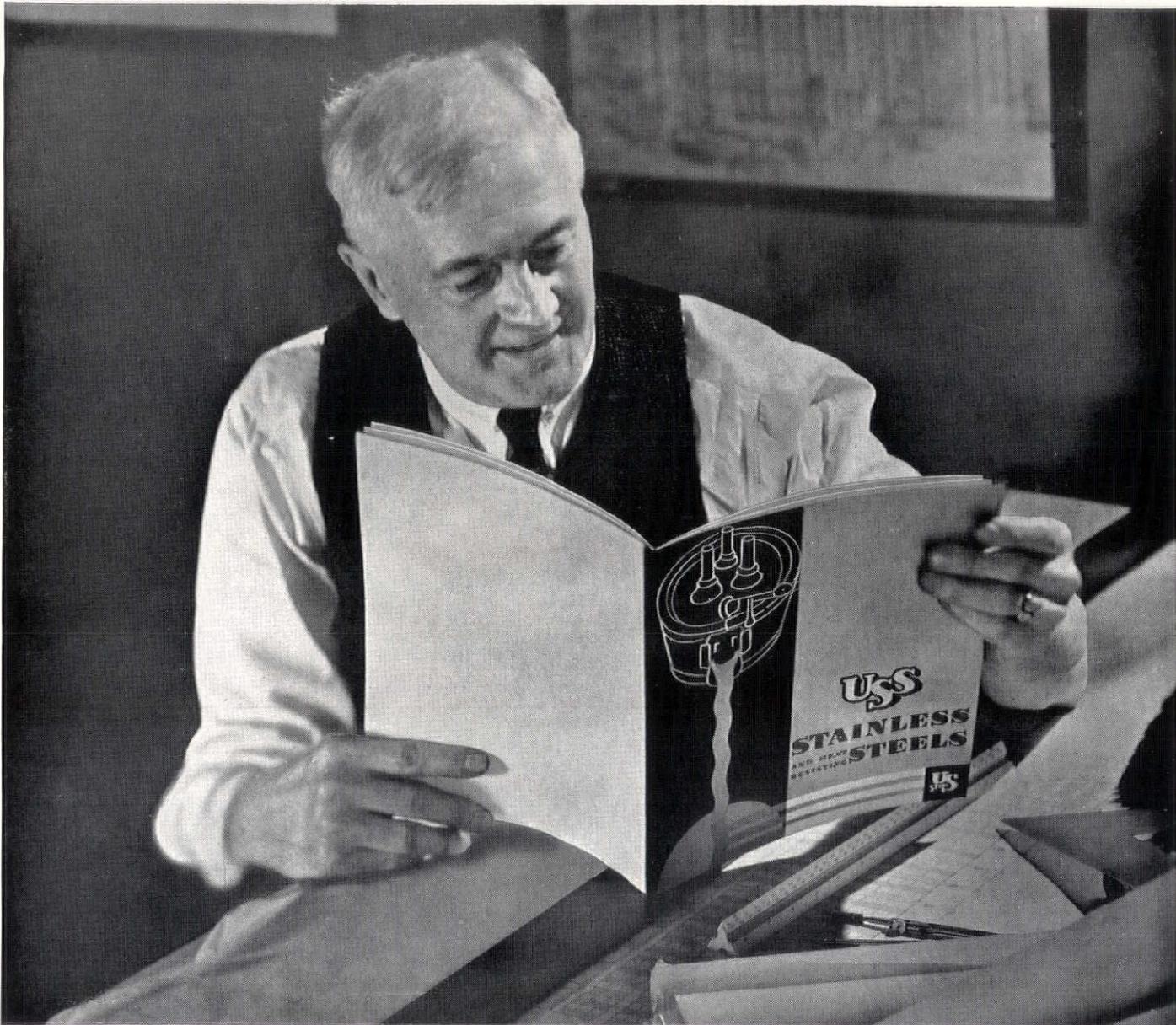
AIR CONDITIONED HOMES

To illustrate recent improvements in air conditioning processes, eighteen duplexes, constructed of aluminum, steel, glass, and concrete, are being built in the income property section of Los Angeles. No wood will be used in the construction. Other features include: garages where death by carbon monoxide poisoning is impossible; underground refuse elimination; a collapsible clothes drier in the yard that disappears, by means of a push button, at the end of a wash day; and patios where open air sun baths can be taken in concealment by means of reflectors. All of the homes will be equipped with the Miller

Conditionair system of air-conditioning manufactured in Los Angeles by Miller Conditionair, Inc.



**WELL NOW! . . .
THAT IS INTERESTING!**



THIS gentleman was pleasantly surprised to learn that there were so many different applications of USS Stainless Steel. He had always thought of it in connection with spandrels, perforated sections for ornamental sections, sheets for re-designed store fronts and similar applications. It had escaped his attention that one of the large uses is

for kick plates and mop strips! He decided, right then and there, to incorporate USS Stainless for this purpose in his present specifications.

The advent of Stainless Steels has thrust an increasing demand upon the architect, the engineer, and the builder for a knowledge of the fabricating characteristics, and the application of these non-corrosive

materials. That's why you'll find our booklet of immense value. Send for your copy.

AMERICAN SHEET & TIN PLATE COMPANY, Pittsburgh · AMERICAN STEEL & WIRE CO., Chicago · CARNEGIE-ILLINOIS STEEL CORPORATION, Pittsburgh and Chicago · NATIONAL TUBE COMPANY, Pittsburgh
Columbia Steel Company, San Francisco, Pacific Coast Distributors · United States Steel Products Company, New York, Export Distributors



UNITED STATES STEEL

TECHNIQUES

METHODS • MATERIALS • RESEARCH • PRACTICES

TALKING TOWERS DRAW

While it has been highly critical of PWA, CWA and WPA, most of the construction industry has at least mildly commended the Federal Housing Administration's application of the National Housing Act. For FHA, while it has aimed at stimulating building and employment, has done so in a not too meddlesome way. Despite FHA's present, on the whole favorable status, this agency was not always so popular. In 1934, when talk of a five per cent rate made bankers gasp, most of the construction industry, because of sad experiences with its predecessors, viewed FHA's advent with some suspicion. To a certain extent, chiefly among banks and loan companies, this same suspicion exists today. But, on the other hand, there is also abundant evidence that FHA is being accepted by construction interests as a boon to building. Stewart McDonald, housing administrator, has been invited to speak at many of the industry's meetings, and industry itself has co-operated in numerous ways to help FHA make the grade with the consumer public.

Starting out as an agency to insure mortgages for modernization, FHA has now extended its scope to include almost the whole field of home financing. And unlike most government agencies, FHA realized early the need for public instruction in the subjects of long-term lower interest financing, jerry building, and home design.

To do this educational job FHA organized a series of National Home Shows. Peter Grimm was drafted from the presidency of William A. White and Sons, New York rental agents, to organize FHA's promotion. Working beside him was chief of exhibits Henry A. Guthrie. Also on the staff were Joseph M. Upchurch, promoter of the "live at home shows" in North Carolina, and Franklin Ware of Philadelphia (who designed the direct by mail promotion pieces). On January 4th the first of these shows appeared in Baltimore. Since then "the talking towers of FHA" have been shipped hither and yon around the country. More than a million persons already have paid their way to the exhibits. FHA deserves congratulations.

Backing up this series of Home Shows FHA has also utilized all of the usual methods of advertising. Car cards in subways, elevateds, and interurbans have advised the public to "modernize." Movie shorts have presented the facts of modernization. Radio talks have carried information to the prospective home owner concerning the advantages



Three views of the National Home Show in Philadelphia prove that many people saw what they came to see—houses and still more houses

RESULTS ACHIEVED AT FIRST NINE NATIONAL HOME SHOWS

City	Date	Attendance	Total Sales Reported by Exhibitors	—FHA Applications for Loans—		
				Title I	Title II	Total
Baltimore	Jan. 4-11	45,800	\$53,076	\$50,250	\$1,238,400	\$1,288,650
Houston	Jan. 11-19	30,000	\$309,377	[Increase of 50% in actual applications submitted through Houston FHA office since close of show.		
Miami	Jan. 25-Feb. 1	15,000	\$8,738	\$36,146 (Estimated)	\$2,206,344 (Estimated)	\$2,242,490 (Estimated)
Fort Worth	Jan. 25-Feb. 2	15,000	\$23,520	\$45,000	\$270,000	\$315,000
Kansas City	Feb. 10-15	90,281	\$183,527	\$118,730	\$2,605,942	\$2,724,672
Detroit	Feb. 14-23	142,171	(Report incomplete)	\$257,391	\$5,309,890	\$5,567,281
San Bernardino	Feb. 20-Mar. 1	162,821	\$50,205	\$70,000 (Estimated)	\$217,400	\$287,400
Philadelphia	Feb. 22-29	214,000	\$363,200	\$260,995	\$6,213,690	\$6,474,685
Louisville	Feb. 28-Mar. 7	91,000	(Report incomplete)	\$71,120	\$1,090,875	\$1,161,995
Cincinnati	March 7-15	65,938	(Report incomplete)	\$25,571 (Estimated)	\$2,018,675 (Estimated)	\$2,044,246 (Estimated)
Minneapolis	March 9-14	24,443	(Report incomplete)	\$28,050	\$1,007,400	\$1,035,450
Columbus	March 21-28	37,637 (5 days)	(Report incomplete)	\$954,460 (6 days)
San Diego	Feb. 12-Sept. 9 (Through 3/12)	201,093	(Report incomplete)	\$53,850	\$2,140,000 (Through March 19, 1936)	\$2,193,850
TOTALS		1,135,204	\$991,643	\$1,017,103	\$24,318,616	\$26,290,179

of long-term financing, the need for proper supervision of construction. All in all, FHA's contribution to building recovery and to better building practice has been significant.

The immediate dollar result of this barrage of propaganda (see chart), while exceedingly encouraging, cannot be compared to future building stimulation directly traceable to these shows.

Already the public consciousness has been aroused to consideration of better building and architecture. Through the medium of such devices as the Home Clinic Plan the architect will be in a position to capitalize on this promotion. Prospective home builders will no longer have to depend solely on the glib high pressure methods of speculative realtors.

for low cost
homes, too

an investment in
Year 'round comfort



Outward appearance or "skin-deep" beauty that masks an inefficient or comfortless "inner home" is false economy. True home comfort in the low cost house is just as essential as it is in a house classed in a higher cost bracket.

True home comfort for the low cost house can be specified without involving additional expense. Home comfort, built into the "inner house" with Gimco House Insulation is actually an investment that pays dividends throughout the life of the house. Dividends represented by reduced heating unit cost and by increased comfort all year 'round. Heating costs have been reduced as much as 50% and top floor temperatures have been reduced 15 degrees by this fluffy, wall-thick, fire-proof insulation.

Gimco products have been recognized as leading insulators in industry for over a quarter of a century. The skill and experience of the men who "fathered" Rock Wool from its inception guided the development of Gimco Rock Wool to its present high efficiency as a home insulator.

Through the provisions of the F.H.A. the Gimco Finance Plan provides money for insulation, to be repaid in small monthly installments.

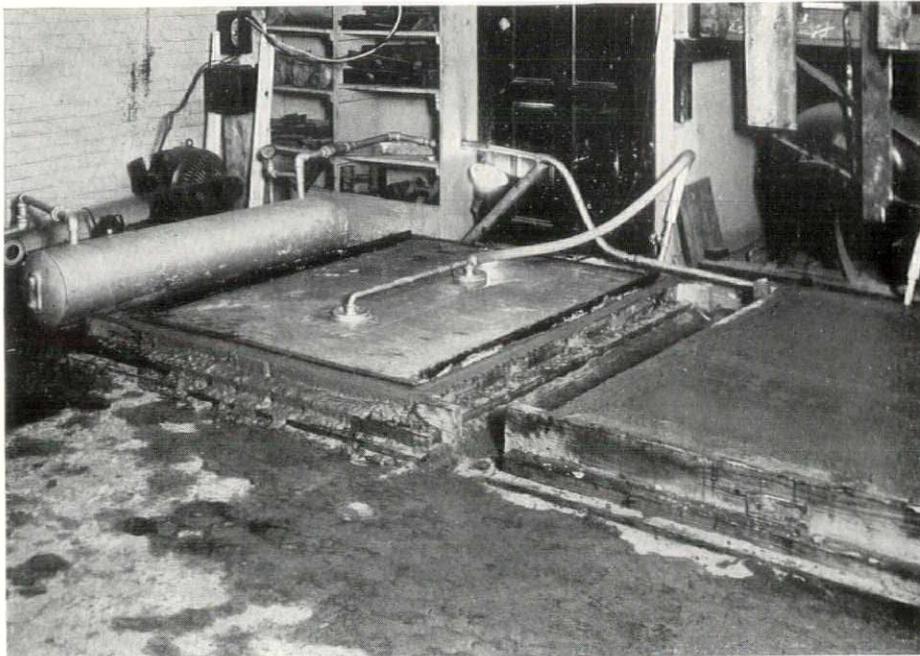
**GENERAL INSULATING
& MFG. CO., Alexandria, Ind.**
**WORLD'S LARGEST EXCLUSIVE MANU-
FACTURERS of ROCK WOOL PRODUCTS**

Write for File No. 37-b for complete details of the insulation that has pioneered home comfort. Our catalog is filed in Sweets.

TECHNIQUES

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STRUCTURE



A vacuum concrete demonstration at Columbia University

VACUUM CONCRETE

In recent tests at Yale and Columbia Universities, Karl Paul Billner has demonstrated that his new vacuum concrete will make a hard, dry concrete slab in fifteen minutes, and, of equal importance, that after one week the test cores will be from 53 per cent to 82 per cent stronger than ordinary concrete. A Swede by birth, and an engineer, inventor, and builder of bridges who has put through contracts in China, Australia, Egypt, England, Canada and the United States, Mr. Billner came to the United States from Sweden in 1916. The scientific discovery that the strength of concrete is in inverse proportion to the amount of water used has interested him ever since.

Many scientists in the past have tackled Billner's problem. Billner, himself, got off on one tangent before his successful solution. But this tangent led to the discovery of aerocrete—a concrete blown up by gas which, while strong enough for many construction jobs, is light enough to float.

Just a year ago Billner hit on the idea of vacuum concrete. Said he, in effect, "We'll take out the water after the slab, wall, column, or whatever it is has been put in place."

To do that he invented various kinds of mats to fit over the concrete. In these mats there were perforations leading to small nipples extending upward. To the nipples he attached hose leading to a suction pump. Action of the pump

sets up a vacuum. The effect of this is to compress the mix evenly and surely in such a way as to bring out all the water, which is then drawn off through the perforations. Hardening takes place while the mass is being compacted. Cracks and air holes are eliminated.

Says Mr. Billner of his vacuum concrete: "At present the laying of a concrete pavement requires several operations—pouring, tamping, leveling, finishing, brooming, and curing. With vacuum concrete it is possible to reduce the number of operations to two—pouring and leveling."

Applications of vacuum concrete are many. Mr. Billner says it will save up to \$5,000 a mile in the laying of concrete roads and will permit highways to be opened for traffic, in one week instead of the three weeks now required. But most of the contractors, architects, engineers, and scientists who saw the demonstrations at Yale and Columbia thought immediately of the possibilities of vacuum concrete in connection with plans to put ten million Americans into new homes. Particularly in regard to large low-cost housing developments, where Federal executives are constantly harassed by the need for speed, vacuum concrete might well revolutionize building processes. Mr. Billner already is scheduled to give demonstrations of his quick drying concrete to the resettlement administration and to various private agencies carrying out large scale Federal projects. 602M

FINISHING MATERIALS

IMPROVED SHEATHING

A new type of sheathing recently introduced is impregnated with a special asphalt emulsion during manufacturing process, which, it is claimed, gives it greater bracing strength and more resistance to moisture absorption and air infiltration. Tests conducted have established, it is said, that 132 sq. ft. of the material can be applied per man per hour; that a saving in fuel cost is effected by its use; and that during a 20-mile per hour wind it was 20 times as resistant to air infiltration. The new sheathing is designated by the name Bildrite and is a product of The Insulite Company, Minneapolis, Minn. 603M

LUMINOUS MARBLE

In co-operation with specialists at the Mellon Institute of Industrial Research, The Vermont Marble Co., Proctor, Vt., has been conducting a broad scientific study of the properties and uses of marble. This study has resulted in the development of a specially processed marble called "Lumar." This new translucent marble may be regarded as a novel luminous element of wide application because it provides beauty and light in an entirely new form. Ordinary electric bulbs are used as the source of light. The translucency of the marble makes high wattages unnecessary; but as the diffusion characteristics of Lumar are said to excel those of the best diffusing glasses, the surface illumination is never spotty or uneven. Artificial light sources are not always required, however, and window panels comparable to stained glass are available. Six types of Lumar have already been developed, varying widely in color tones and light-transmitting capacity. It is also procurable in several thicknesses and translucencies. 604M

ELECTRICAL

THE COMMODORE LUMINAIRE

Use of Plaskon, a moulded plastic, for the bowl and of aluminum for the canopy and husks features a new open bowl type of lighting unit. The bowl measures 18 $\frac{3}{8}$ " in diameter and weighs 14 oz. It is said to transmit an output of 83% of the light from the bulb, to have a brightness of 1.4 cp per square inch and to be itself luminous. Canopies are made from 20 gauge aluminum. (Continued on page 93)



VITROLITE THE *Colorful* STRUCTURAL GLASS

The value of color is recognized by every architect. Vitrolite, the colorful structural glass, furnishes a medium through which the ability of the modern designer is given great opportunity for expression.

For structural work in store fronts, lobbies, interiors, bathrooms, kitchens, etc., it provides opportunities of wide scope. For fixtures such as bars, back bars, soda fountains, counters, and table tops, it offers an enduring brilliant surface that complements the most advanced ideas.

The new era of gracious living centers around glass. Vitrolite, in its variety of colors and shades, plus its surface effects obtained through sandblast and inlay, challenges the imagination. In combination with chromium and stainless steel, it is stunning. Ease and economy of installation make it particularly desirable. Once installed there is no upkeep cost. It will not check, craze, or grow dull with age. The results obtained with colorful Vitrolite will be most gratifying.

Ask any of our distributors about the Libbey-Owens-Ford MODERNIZATION BUDGET PLAN which makes it easy to pay for improvements.

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 *Mail coupon today* **VITROLITE**

Vitrolite Division, Libbey-Owens-Ford Glass Company (G-4)
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Please send New Vitrolite Color Chart of 16 colors—10 solid hues, 6 agate shades, and variety of surface effects—and your new literature for Bathrooms and Kitchens, Store Fronts, Construction Details.

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Again **FITZGIBBONS** sets the pace



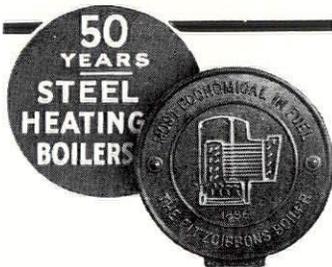
Streamlined Styling

gives new beauty to the
OIL-EIGHTY Automatic

Any type of burner—gun or rotary—fits snugly behind the large, easily removable panels of the Oil-Eighty jacket, out of harm's way, where combustion sounds are minimized. If desired however, the burner can be just as easily placed in front of the boiler.

The new Oil-Eighty Catalog is now on the press. It is a powerful sales help—replete with illustrations, information, specifications. It should be in the brief case of every oil burner representative. Get your copy—write NOW.

See our exhibit at the
Oil Burner Show
April 14-17, Detroit



Another big advance in heating unit design! Another forward step that makes it even more difficult for the home owner and builder to resist the appeal of oil heat, in a modern steel boiler designed to achieve not only outstanding fuel economy, but also a new high standard of beauty. And remember—under the tastefully enameled and streamlined jacket of the Oil-Eighty, are housed all these: *your oil burner... and its controls...* the *steel boiler* that gives the burner its best chance to make good... and the *Fitzgibbons TANKSAVER*, which provides *everything* needed for year-round domestic hot water supply. No need for the unsightly antiquated equipment which with a maze of complicated piping has formerly been necessary for hot water service. The Fitzgibbons Tanksaver takes care of all that—efficiently and invisibly. Here is a boiler that will secure the admiration of every prospect, from every angle—beauty, economy, and the multiplicity of its functions. Here is a boiler that will *sell more oil burners*.

Fitzgibbons Boiler Company, Inc.

GENERAL OFFICES: 570 SEVENTH AVE., NEW YORK, N. Y.

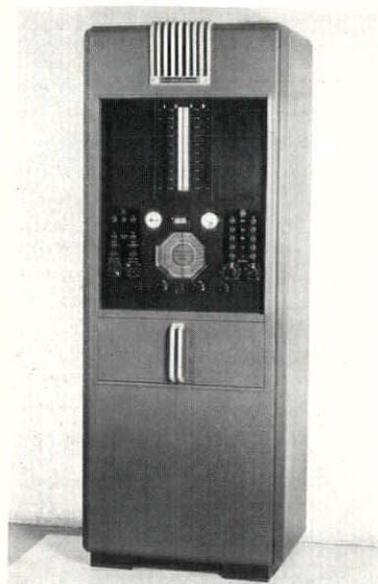
Works: OSWEGO, N. Y.

BRANCHES AND REPRESENTATIVES IN PRINCIPAL CITIES

TECHNIQUES

METHODS • MATERIALS • RESEARCH • PRACTICES

hulls from 18 gauge. All units are wired but can be supplied unwired. Properties claimed for the new unit include high ratio of strength to weight; resistance to sudden shock, corrosion and high heat; lightness, uniformity of structure, decorativeness, high overall efficiency. Designed by Harold Van Doren, the industrial designer, the Commodore Luminaire is manufactured by F. W. Wakefield Brass Co., Vermilion, Ohio. 605M



PROGRAM SOUND SYSTEM

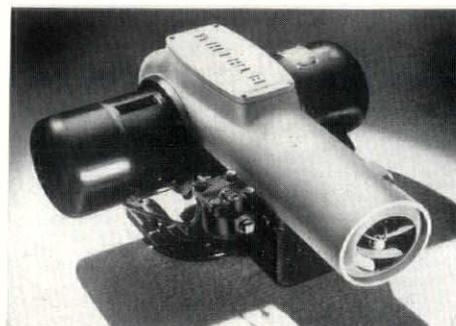
A new program sound system for schools, hotels, department stores, hospitals and other buildings, has recently been developed. The system has been designed for distributing programs from microphones, from radio receivers, or from phonograph records, and is wholly operated from a single cabinet. In the cabinet are centered all controls, the flexible switching arrangements, a radio receiver, an electric phonograph, amplifying equipment and a combination loudspeaker and microphone device. A feature of the system is that sound may not only be sent out for reproduction over distant loudspeakers, but the same loudspeakers may in turn be used as microphones for picking up sound which is transmitted back to the central point. The complete system operates from 105-120 volts, 60-cycle AC Commercial Supply. The cabinet is of metal finished in aluminum gray with a glossy black finish on the front panel. The system has been designed by Bell Tele-

phone Laboratories and is manufactured by Western Electric Co., New York. 606M

CONDUIT GROUNDING DEVICES

Four new conduit grounding items—one box for fixture mounting and three grounding fittings—have been announced by General Electric Co., Bridgeport, Conn. The fixture box, designated as Type SP-5200B, provides a simple and effective method of grounding, and makes possible firm mechanical and electrical connection between the box and the armor. Two of the fittings are equipped with a reversible shackle which fits three sizes of water pipe, a U-bolt with a wide, flat strap being used to make the connection. For solderless connection of the fittings, the wire is hooked into the groove provided and the lug is screwed tight as a bonding washer. For soldered connection, the grounding wire is run into the soldering lug. 607M

equipped with an Everdur Copper tank, uses the geyser principle of heating and has brass and copper fittings for parts exposed to water. Made in three sizes, 20 to 55 gallons capacity. Crane Keystone Automatic Gas Water Heater in lustrous jade green baked enamel finish with palmetto green trim. It is equipped with a double extra heavy steel tank with geyser principle of heating and comes in six sizes, 20 to 99 gallons capacity. All models have 2½" of insulation. 608M

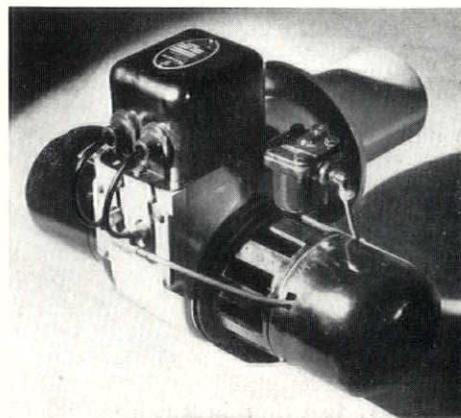


HEATING



GAS WATER HEATERS

The 1936 line of gas water heaters offered by Premier Heater Division, Crane Co., La Porte, Indiana includes: Crane Superior Automatic Gas Water Heater with ivory colored baked enamel finish and apple green trim; made in seven sizes from 16 to 99 gallons capacity. The Premier Automatic Gas Water Heater with ivory baked enamel cabinet body and jet black trim. It is



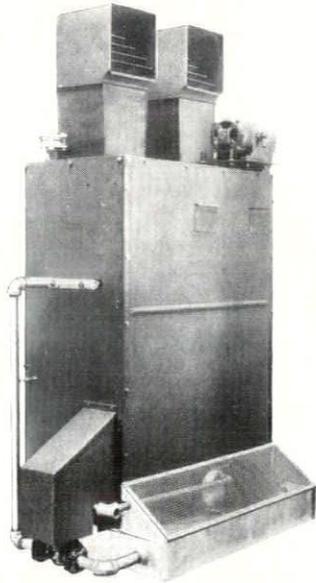
BETHLEHEM-DOE OIL BURNERS

Two new oil burners, a Model CE Conversion Burner, and a Model FE Flangetype Burner for completely enclosed oilburning boilers, have been announced by the Bethlehem Foundry and Machine Co., Bethlehem, Pa. The new models have a "Monitor" motor-fan-pump unit which, it is claimed, applies the "Monitor-top" refrigerator idea to oil burners for the first time. This unit can be removed bodily if servicing is required and a duplicate unit installed. Other features include a patented live rubber cradle mounting which supports the motor-fan-pump unit and hermetically seals it into the burner housing; a patented Rotaire diffuser which is said

(Continued on page 94)

to provide superior suspension and mixture of oil and air for combustion; and a simplified nozzle-electrode assembly. 609M

AIR CONDITIONING



YORK ECONOMIZER

A new type of apparatus designed to reduce water consumption of air conditioning systems by over 90 per cent, depending upon operating conditions, has recently been introduced. Known as the York Economizer, the new unit is a combination forced cooling tower and refrigerant condenser. It is arranged for either indoor or outdoor installation, being used indoors by providing ducts to bring in outside air and exhaust the heated, humidified air. A fan passes the outside air through a bank of bare pipe coils over which water trickles in a direction opposite to the air flow. Refrigerant is condensed inside the coils, and flows by gravity to the liquid receiver built in the base. The cooling water is recirculated from the drain pan by a pump. Capacities range from 3 to 50 tons of refrigeration. This is a new product of York Ice Machinery Corporation, York, Pa. 610M

WEATHER CONTROL UNITS

Affording air-conditioned warm air heating in winter and filtered, circulated room air in summer, the 1936 MW Weather control Unit incorporates nu-



merous refinements both from an appearance and a performance standpoint. All models are completely self-contained and provide facilities for automatically heating, filtering, humidifying and circulating the conditioned warm air. Two styles are offered—a standard round-casing unit with rear mounted blower and filter housing and with a special streamlined burner housing in front, and a de luxe model. The units are fired with the MW Emancipator pressure-type burner which is rubber-mounted on the front of the furnace. Heating capacities range from 85,000 to 175,000 Btu output. Heater Division, Motor Wheel Corp., Lansing, 611M manufacturers of these units.

BLUE-PRINTING MACHINE

The Pease Model "7" Continuous Printer has been introduced to meet the growing demand for continuous printing of moderate requirements and offers a means of reproducing quickly and economically tracings, charts, diagrams, bulletins, etc., in a variety of forms including blueprints, brown-prints, or direct process prints in any dimension up to 42" in width. The new unit is of the horizontal mercury vapor tube type and is styled in upright console design with pedestal type base. The C. F. Pease Co., Chicago, is the 612M manufacturer.

20TH CENTURY HOME

A factory-built, engineered home with six rooms and a bath to sell for less than \$4,000 will soon be available to residents of southern Wisconsin. Known as the "20th Century Home," the framework is fabricated from steel sections bolted and welded together. Exterior

wall assembly consists of weather and fire-resistant building board which serves to insulate against heat, cold, and dampness. Exterior finish is of special weather-resisting color-process coatings. Floors, walls and ceilings of the entire home are completely insulated, while the base of the "20th Century Home" is constructed of five framed sections made with 12-inch electrically welded steel channels, firmly doweled and bolted together. Each frame section is reinforced with five 6-inch cross channels, affording rigidity and strength. Homes without basements are designed to be erected on 14 concrete piers 12 inches x 12 inches x 4 feet 6 inches, poured to a depth of 4 feet below the grade line. The conventional basement type home, slightly higher in cost, is erected on concrete block foundation. There are two bedrooms with cross-ventilation; a living room, a dining room; and an equipped kitchen and heater room. Doors are of the honeycomb core construction with flush veneer sides. Floors are of red oak except in kitchen and bathroom where linoleum is used. Manufactured by the Houses Division of Harnisfefer Corporation of Milwaukee, 20th Century Homes will be erected by local contractors under the supervision of factory employees. 613M

PRESS SUPPORT

A structure of rubber and steel welded by the electric arc was recently completed in a Chicago building to provide a firm, solid foundation for newspaper printing presses, and to eliminate vibration.

The structure is similar to that used for supporting delicate instruments in laboratories. The supporting structure is independent of the main building.

Only difference in the present instance is that instead of carrying the supports directly to the ground, they are welded to the columns of the building as near the base as possible. The structure consists of 54 assemblies made up of two 3/4-inch thicknesses of rubber separated by steel plate. These assemblies were mounted on a structure constructed as follows: Brackets consisting of two angles, were welded to the main columns. At the west end of the building where there was no main column, a piece of steel plate was welded to an overhead girder. A 30-inch I beam was attached to this plate. The 30-inch and some 36-inch I beams were then welded to the brackets with smaller I beams. (Continued on page 96)

INSTALLED 8 YEARS AGO in the Cordova Apartments "OUR ELECTROLUX

have given **CONSTANT**, satisfactory
refrigeration with a **VERY MINIMUM**
of service expense"

... reports **MR. SAMUEL ROTHCHILD**, of the Rothlere
Building Corp., 766 Montgomery St., Brooklyn, N. Y.

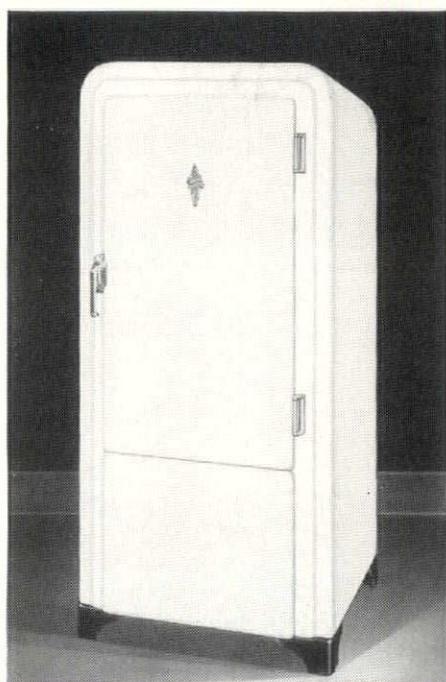
REFRIGERATOR BUYERS no longer need
to wonder what kind of performance they'll
be getting in 1944 from equipment bought today.
Not if they choose Electrolux Refrigerators! For
the experience of builders and operators the coun-
try over has definitely *proved* the long-life advan-
tages of "the flame that freezes." Even the earli-
est gas refrigerators, installed 7 and 8 years ago
in Metropolitan New York apartment buildings,
continue to give the same efficient, low-cost ser-
vice they did when new.

Writes Mr. Samuel Rothchild, of the Rothlere
Building Corp., "We purchased our first Electrolux
on March 14, 1928, for our apartments at 12
Crown Street. For after a thorough test, we con-
cluded that because of its simpler
operating principle Electrolux would
probably give longer service than
refrigerators with moving, wearing
parts.

CLAIMS PROVED

"After eight years' experience it
gives me much pleasure to report
that your claims for the Gas Refrig-
erator have all been realized. Our
Electrolux Refrigerators have given
constant, satisfactory service with
a very minimum of service expense.
The original low operating cost has
not been increased after all these
years. The Gas Refrigerator has
been very popular with tenants,
too, who find Electrolux as silent
and dependable as ever."

For full information about this
modern gas refrigerator, see your
local gas company. Servel, Inc.,
Electrolux Refrigerator Sales Divi-
sion, Evansville, Indiana.



CORDOVA APARTMENTS,
at 12 Crown St., Brooklyn, N. Y.

New Air-Cooled **ELECTROLUX**
THE SERVEL *Gas Refrigerator*

TECHNIQUES

METHODS • MATERIALS • RESEARCH • PRACTICE

placed between the larger ones for stiffness.

Each of the 54 assemblies contains, in addition to the two thicknesses of rubber separated by steel plate, two sets of screws. One set of screws takes the load off the rubber pad and permits renewing when necessary, while the other set transmits the load of the pressroom floor to the rubber pad section of the assembly, thus permitting adjustment.

Following the placing of the structure and the application of the load to the rubber, the main floor beams of the pressroom floor were cut off the columns. This placed the huge pressroom floor on the structure with the rubber supporting the weight. The accuracy with which the structure had been designed and welded is indicated by the fact that when the floor beams were cut off, adjustment was required at only one point, and that only 1/16 inch. With that single exception, calculations had provided a true level of the press. Each weld in the structure bears a maximum load of 229,000 pounds. Welds are free from moment strain since the bracket angles and floor plate are free to bend. A 3/8-inch fillet weld 9 feet 6 inches long

was originally figured for each bracket at an allowable stress of 3,300 pounds per lineal inch. An additional factor of safety was provided, however, by using 1/2-inch to 5/8-inch fillet welds. The architects who designed the structure were L. J. Weissenborn and Albert Smith of Chicago and Stanley Livingston of New York City.

The welding was done with shielded arc equipment supplied by The Lincoln Electric Company, Cleveland, Ohio. 614M

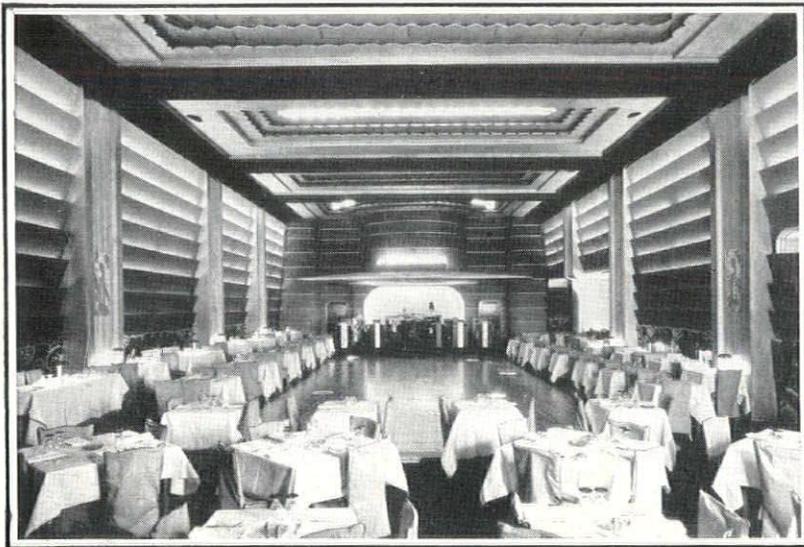
THERMO-SHIELD PSYCHROMETER

Elimination of error due to heat radiation from surrounding objects is said to be achieved by a new electric thermo-shield psychrometer, recommended for use in laboratories, air conditioning refrigeration and industrial work. The air sample is drawn through the top, where it is unaffected by the operator. The initial warmth effect of wet bulb reservoirs is eliminated by individual applications of water to the wet bulb for each reading. This new unit, offered by Julien P. Friez & Sons, Inc., Baltimore, is encased in a highly

polished chromium plated thermo-shield equipped with a glass window for thermometer visibility. 615M

STONETONE BRICK

A prefabricated wall board developed to simulate brick has recently been put on the market. Manufactured for interior use only, it is made in Colonial, Colonial Rustic, Tudor and whitewash brick finishes in sheet sizes from 4'x4' to 4'x12' and in thicknesses of 1/4" and 1/2" for flat surfaces and special flexible thicknesses for curved surface construction. Complementary soldier course strips are available in lengths from 4 to 12 feet and in widths from 4 to 8 inches. In order to eliminate unnecessary joints and minimize waste in installation the brick pattern is available in both vertical and horizontal form. Each sheet reproduces in size and shape and treatment of the filler joints an individually laid brick job. Called Stonetone brick, this material may be applied directly to studs or existing plaster or furred walls. Stonetone is manufactured by the Timbertone-Stonetone Products Corporation of New York. 616M



Night Club, Tap Room and Dining Hall of the Claridge Hotel, at Memphis



All Air Conditioned

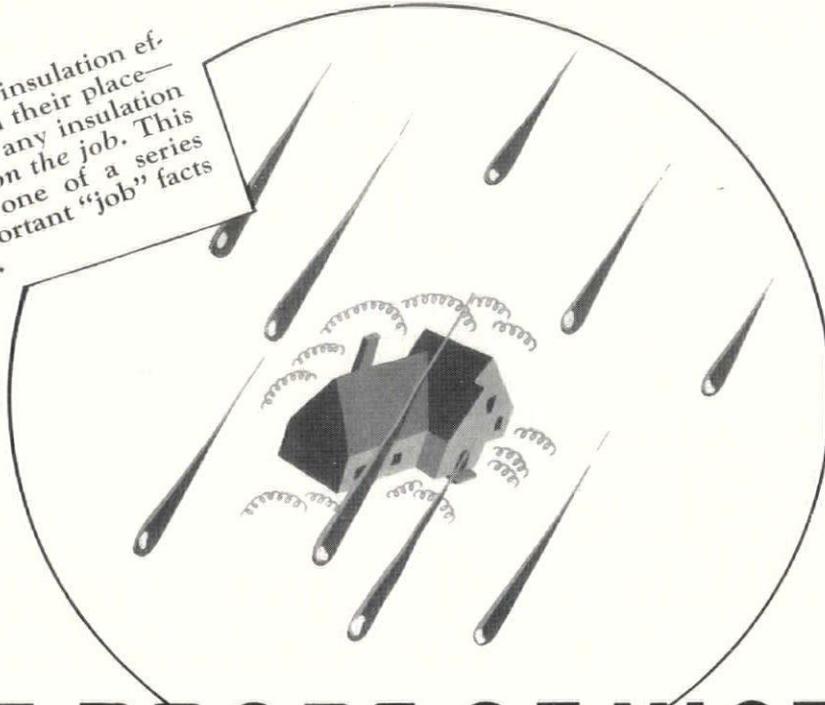
with



Refrigeration

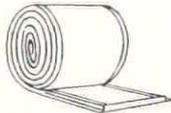
Get your copy of the new Frick Bulletin on Air Conditioning: write Frick Co., Waynesboro, Penna.

● Laboratory tests of insulation efficiency are useful in their place—but the final test of any insulation is what it will do on the job. This advertisement is one of a series dealing with important "job" facts about insulation.



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... don't let them spoil insulation value for YOUR clients!



Certainly you want to give your clients the most insulation value per dollar spent.

Then be sure that the insulation you specify is *fully* protected from moisture! For water and water vapor are deadly enemies of insulation. A good insulation material must be amply and positively protected from condensing moisture in walls, ceilings and roofs.

Balsam-Wool Blanket Insulation is *sealed* in a tough, water-proof covering. Moisture cannot get into this insulation to rob it of efficiency. There can be no condensation within the material to cause decay of framing members. Season after season, year after year, Balsam-Wool retains its high insulating value.

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5 ISSUES ON THE BETTER HOUSE

A Searching Editorial Program Keyed to the Architects' 1936 Opportunity

MAY

The Entire Issue Devoted to the Fundamental Problems of Small House Planning. Photographs, practical articles, plans, space- and cost-saving suggestions, and check lists set the stage for a closer consideration of construction types. Time-Savers on Perspective complete the issue.

JUNE

The Frame House — Best examples classified according to size, location and style. Design, construction, details fully covered. Featured reference article on Plumbing Systems correlated with Time-Saver Standards.

JULY

The Brick House — Details, structural data, plans, pictures, and specifications of the best brick small houses. Completion of the reference article on Plumbing Systems, with Time-Saver Standards.

AUGUST

The Concrete House — More plans, pictures, and structural data showing the advances made in concrete house design. Winter Air Conditioning will be considered in the reference article; Time-Saver Standards.

SEPTEMBER

The House of Prefabricated Units — Reviewing recent developments, working data, plans and pictures; including consideration of asbestos, glass, phenol-resin, gypsum, etc. Technical article on Finishing Materials and an analysis of insulation round out the issues.

THE BETTER HOUSE — not just more houses — is the major theme of five consecutive issues of American Architect starting in May. This editorial program, the most complete in the 60-year history of American Architect, is planned to give architects the most useful and authoritative information on houses in the \$5,000 to \$20,000 range. Today architects, for the first time, are fully realizing their opportunity and are mobilizing for practice in the small house field. To stimulate this interest, to lead this movement, American Architect presents this program — a storehouse of time-saving, practical information.

Purposeful planning — Quality materials — Efficient equipment — Distinguished design — all are part and parcel of American Architect's vision of The Better House. To make this vision a reality, American Architect uses its editorial yardstick to measure residential problems and possibilities in terms of the architects' 1936 opportunity. In photographs, plans, technical articles, sketches, working drawings, and specifications, the next five issues will present a summary of accomplishment, an index to the future, and a guide to the best present practice in small house architecture.

STANDARD N.C.A.R.B. EXAMINATIONS

States rights have been an inhibiting factor in the establishment of standardized laws governing the registration and practice of the various professions including architecture. Although most of the states now have laws for the registration of architects, such registration in one state does not necessarily qualify an architect to practice in another since requirements may differ. Therefore the National Council of Architectural Registration Boards, in co-operation with the American Institute of Architects and the Association of Collegiate Schools of Architecture, was founded for the purpose of establishing unified registration standards. The requirements for a Standard N. C. A. R. B. Examination are intended to include everything required by any and all the states. The standard in every subject is intended to be the highest set by any state.

After an architect has successfully complied with the Council's examination procedure, the Council certifies that he has qualified for practice and on request furnishes its certified data to State Registration authorities, recommending that he be granted registration, without further examination, on the basis of evidence submitted and his examination in accordance with Council standards.

The National Council does not itself conduct any examinations nor does it have legal competence to guarantee registration to an architect who holds its certificate. It does, however, request the State Examining Board to examine the candidate for a National Council certificate and this certificate is usually accepted in any state. Candidates are divided into two categories. The senior, for architects who have been in practice as principals for ten years or more and the junior, for men who have been in practice for a shorter period. The latter category is for the convenience of graduates of accredited colleges of architecture who have served three years in approved architects' offices, graduates of high schools or non-accredited colleges of architecture who can prove employment in architects' offices for a period of nine years or more, and for persons who are not high school graduates who can prove employment of fifteen years or more in architects' offices.

It is also required that candidates for junior examination have a mentor. The mentor must be a member of the architectural profession, qualified by experience and training to guide the candidate during the period of his preparation.

The council also approves and records mentors and maintains advisory contact with them, collates and verifies records

of preparation for and attainment in architectural practice, and serves architects who are not holders of the Council Certificate but who are engaged in interstate practice by assisting them in the proper presentation of their credentials for registration in the various states. It exercises a unifying influence over examination and registration procedure in the several States, acts as a clearing house for matters of interest and importance to State registration authorities, including legal decisions affecting professional registration.

SUMMER SESSION AT MICHIGAN

The College of Architecture, University of Michigan, summer school, will again conduct classes during the coming summer. Instruction will be offered from June 29 to August 21 in architectural drawing, all undergraduate and graduate architectural design, elements of office practice, and in outdoor drawing and painting. The George G. Booth Travelling Fellowship in Architecture has been renewed this year at Michigan and the competition in design will be conducted during the two weeks beginning on June 22. The competition is open to all graduates of the school who have not reached their thirtieth birthday before that date.

(Continued on page 104)



Art Museum of the J. B. Speed Memorial, Louisville, Ky., protected with a Genasco Standard Trinidad Built-up Roof since 1926. Arthur Loomis, Architect; Wm. A. Netherland, Associate.

Specification:

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IN THE HOME EQUIPPED WITH A

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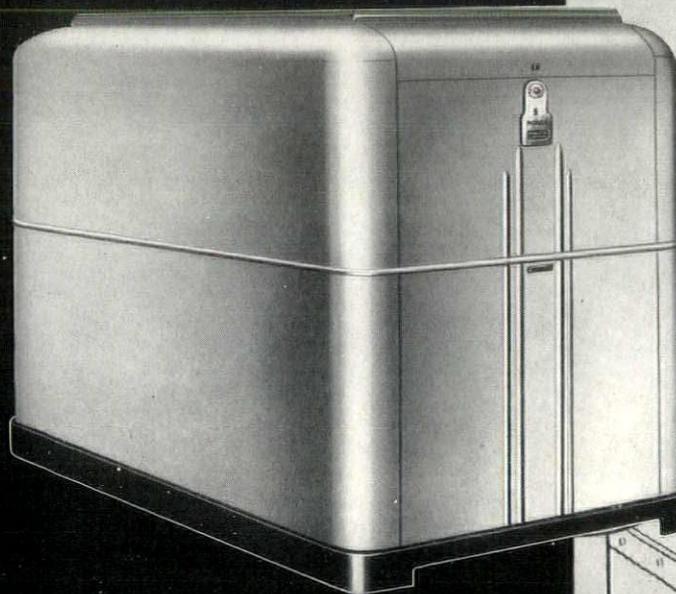
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AMERICAN ARCHITECT

NEW CATALOGS...

Readers of AMERICAN ARCHITECT may secure without cost any or all of the manufacturers' catalogs described on this and the following page by mailing the prepaid post card printed below after writing the numbers of the catalogs wanted. Distribution of catalogs to draftsmen and students is optional with the manufacturers

Woodwork of American Walnut

938 . . . The complete line of residential woodwork in American Walnut for homes of moderate cost recently developed by The Curtis Companies, Clinton, Iowa, is described and illustrated in a new 16-page catalog. Included in the line are several styles and a wide variety of parts including doors, trim, mantels, stair parts, and paneling. All employ solid American Walnut, except the paneling which uses walnut face veneers with a pine core. Filing size; A. I. A. File 19-E.

Lighting Fixtures

939 . . . Illustrations and descriptions of its line of lighting fixtures are contained in a filing-sized portfolio issued by Jaehnig Lighting Fixtures Co., Inc., Newark, N. J. Fixtures described include adjustable safety units, guarded lighting units, exit lights, hospital wall lights, shower-stall lights, flush ceiling fixtures, bank desk fixtures, and similar units. Dimensional data and price lists are included.

Terra Cotta

940 . . . The advantages and uses of Enduro-Ashlar are briefly described and illustrated in a four-page folder issued by Federal Seaboard Terra Cotta Corp., New York. Several typical installations are shown.

Gas Water Heater

941 . . . A four-page filing-sized folder issued by Gas Appliance Division, United American Bosch Corp., Springfield, Mass., gives descriptive data on its newly designed American-Bosch Ball-Tank Water Heater. The physical characteristics and dimensions of the new unit are given.

Air Conditioning Cabinets

942 . . . Buffalo Forge Co., Buffalo, N. Y., has issued a 24-page catalog (Bulletin 501) describing its line of "PC" central conditioning cabinets available in combinations suitable for cooling or complete air conditioning, including cooling, dehumidifying, heating and humidifying and all-year cleaning. Temperature charts for direct expansion cooling and water cooling, with a complete explanation of their use, are featured, together with a number of others of similar nature. Filing size; A. I. A. File 30-F-1.

Plywood

943 . . . An informative 42-page filing-sized manual on plywood and its applications has been prepared by United States Plywood Co., Inc., New York. It describes the physical properties, uses, manufacturing methods and construction of plywood, and gives data on erection methods, the range and figure of wood available, and descriptions of various specific types. A glossary of plywood terms, a table showing available woods for special plywood, and test data are also included.

Drawing Inks

944 . . . A brochure containing suggestions on the technic of brush and pen by Arthur L. Guptill, A. I. A., has been issued by Chas. M. Higgins & Co., Inc., Brooklyn, N. Y. A few of the plates show the employment of Higgins' Black Waterproof Drawing Ink in such technics as dry-brush, split-hair brush, spatulated, "padded" or "swab" work and of Higgins' General Black Drawing Ink for sandpaper, smooch and paste technics, as well as methods of utilizing these inks for color work.

Residence Casements

945 . . . Specifications, sections, types and sizes, hardware, construction details on Campbell Residence Casements are given in a new 20-page filing-sized catalog issued by Campbell Metal Window Corp., Baltimore, Md. Also included are data on Campbell exterior wood frames, interior weather sash, side hinged screens, casement doors. Basement and utility windows are also described.

Movable Partitions

946 . . . Factual data about deluxe, standard and acoustic Masterwalls and other types of movable partitions are given in a 24-page illustrated catalog issued by The E. F. Hauserman Co., Cleveland, Ohio. Information includes description of features, construction, available sizes, specifications, installation details and applications. Filing size; A. I. A. file 28-A-3 and 39-B.

Southern Pine Specification Manual

947 . . . A new 24-page manual, intended to provide practical and authentic data on approved, simplified practice for the specification and use of Southern pine lumber for residence has been issued by Southern Pine Association, New Orleans. Among the subjects covered are: Southern pine specifications for three different classifications of residences; construction specifications; size of floor joists; density of wood; grade-marking; seasoning; termite control; description of grades; standard thicknesses and widths; painting formulae, and wood preservation. Filing size: A. I. A. File 19-A-22.

Cabinet Showers

948 . . . An illustrated and descriptive combination catalog-price list covering seven models of cabinet showers in vitreous porcelain or baked enamel with Foot-Grip-No-Slip vitreous porcelain receptor floor has been issued by Henry Weis Mfg. Co., Inc., Elkhart, Indiana. Specifications, constructions, designs, finishes, equipment, accessories, dimensions, details and suggested applications are included.

NO POSTAGE REQUIRED ON THIS CARD

AMERICAN ARCHITECT, New York

April, 1936

Please have the following catalogs reviewed in this issue sent to me.
Numbers

• I also desire further information about the new products described in this month's "New Materials and Equipment." . . . (See pages immediately following this insert.)
Numbers

• I would like to have catalogs and information concerning the following products advertised in this issue. (Write page number or name.)
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AMERICAN ARCHITECT

Porcelain Enamel

949 . . . Architectural Bulletin No. 13 issued by American Rolling Mill Company, Middletown, Ohio, is a 40-page illustrated booklet showing actual installations of porcelain enamel in stores, offices, filling stations, etc., each of which is accompanied by architects' drawings. The use of porcelain enameled sheets, both for exterior and interior finish, is described. Specifications for porcelain enamel on iron are also included.

Cast Iron Soil Pipe

950 . . . Pertinent facts about cast iron soil pipe are contained in a 16-page catalog issued by Cast Iron Soil Pipe Assn., Birmingham, Alabama. Many prominent buildings in which this pipe has been installed are illustrated. Filing size; A. I. A. File 29-B-1.

Air Conditioning and Product Cooling

951 . . . A 48-page, spiral-bound book entitled "Let's Take a Look at the Record" has just been issued by General Refrigeration Sales Co., Beloit, Wisconsin. This book shows and describes photographs of stores, factories, hotels, restaurants, offices, homes, etc., in which Lipman air conditioning and commercial refrigeration have been installed. Many floor plans are also illustrated.

Termite Damage Prevention

952 . . . "Prevention of Termite Damage to Buildings" is the title of a new 20-page pamphlet issued by The Wood Preserving Corp., Pittsburgh, Pa. It discusses the termite problem, suggests methods of preventing termite attack in new or old buildings, and gives recommendations for the use of pressure-treated lumber for protection against termites.

Store Front Construction

953 . . . Details No. 236 showing a new line of extruded and rolled sash, and coverings have been issued by Detroit Show Case Co., Detroit, Mich. Filing size; A. I. A. File 26-B-1.

Timbrel Tile Ceiling Construction

954 . . . A newly developed application of the system of Timbrel Tile Construction for ceilings of natatoriums and shower rooms in schools, colleges, clubs, etc., is presented in a 4-page filing-sized catalog issued by R. Guastavino Co., New York. Several typical installations are illustrated.

Kitchen Vent Fan

955 . . . Several types of Signal automatic wall box kitchen ventilators are described and illustrated in a 4-page filing-sized catalog published by Signal Electric Mfg. Co., Menominee, Mich. Dimensions, ratings and construction details are included. Automatic shutters for use with two types of ventilators are also described.

Freon Compressors

956 . . . Bulletin 508-A recently published by Frick Company, Waynesboro, Pa., illustrates and describes Frick enclosed-type Freon compressors, which may also be used for methyl chloride work and ammonia booster service. A cross-section drawing showing features of design of these compressors is included together with complete specifications.

Steel Boilers

957 . . . The numerous features and advantages of R-Z-U Junior steel boilers for larger residential and smaller institutional, business and public buildings are outlined in an 8-page catalog issued by Fitzgibbons Boiler Co., Inc., New York. Detail drawings and tables giving ratings for coal burning and for oil, gas or stoker firing are included. Filing size; A. I. A. File 30-C-1.

Lockers

958 . . . All-Steel-Equip Co., Aurora, Ill., offers a new 16-page catalog completely illustrating and describing its new line of lockers. Complete locker information showing all standard styles and sizes of lockers is given.

Plumbing Fixtures

959 . . . A colorful 36-page consumer booklet entitled "Planning Your Plumbing Wisely," has been prepared by Standard Sanitary Mfg. Co., Pittsburgh, Pa. It illustrates in natural reproduction a large variety of bathroom arrangements, and describes and shows Standard lavatories, bathtubs, showers, water closets, kitchen sinks and cabinets. A chart is included showing Standard plumbing fixture colors.

Furblo Air Conditioning

960 . . . "The Furblo Story of Air Conditioning" is the title of a 32-page filing-sized brochure recently published by the Furblo Co., Hermansville, Mich. It gives a brief and non-technical description of air conditioning as applied to homes equipped with warm air furnace systems. The features and advantages of the Furblo Air Conditioning System are fully described and illustrated. Several pages of testimonial letters are also included.

Plastic Marble Flooring

961 . . . The Kompolite Company, Inc., Long Island City, N. Y., has issued an 8-page filing-sized catalog giving details about the advantages and composition of Kompolite plastic marble flooring. Progressive installation pictures are shown together with others showing typical projects in which this type of flooring has been used.

Heater

962 . . . A filing-sized bulletin (D-1) has been issued by the L. J. Wing Mfg. Co., New York, on its new heater for heating the inrush of cold air at large door openings, such as in shipping and receiving departments, docks, bus terminals, freight platforms, garages, etc. It is graphically illustrated with diagrams, installations, etc.

Special Metal Cabinet Hardware

963 . . . In a 16-page filing-sized catalog issued by P. & F. Corbin Division, American Hardware Corp., New Britain, Conn., is presented a technically designed line of locks, handles and butts for use upon metal cabinets in institutions and public buildings. Operation and dimensional data are included.

Toilet Partitions

964 . . . The Mills Company, Cleveland, Ohio, has issued a six-page broadside giving details of Metal Flush compartments for toilets, showers, dressing rooms and similar uses. Complete specifications are given, together with construction details. Also described is a new line of partition hardware. Filing size; A. I. A. File 28-A-3.

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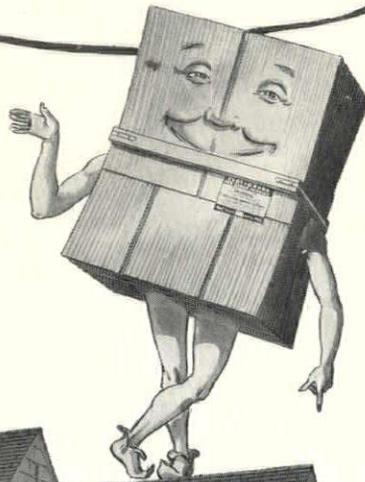
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—George Wellington Stoddard, A. I. A.



** This is the first of a series of illustrations of all-Red-Cedar-Shingle exteriors from various sections of the country. Architects are invited to submit photographs of their work to the Bureau. The home above was designed by George Wellington Stoddard, A. I. A., Seattle, Washington.*

Certigrade Red Cedar Shingles allow architects the widest latitude in distinctive treatment of roof and side walls!

THERE is nothing cold and mechanical about a surface of Red Cedar Shingles. The random widths, varied color tones and deep shadow lines of these shingles will give beauty and natural charm to your creations. Their high insulation value,

due to thousands of tiny air cells in the wood, will assure your client a house cool in summer and snugly warm in winter.

If your problem is one of remodeling, CERTIGRADE Red Cedar Shingles again will assist you in achieving a distinctive result. They can be laid directly over old surfaces—stucco, composition, siding, brick, etc. In both new construction and remodeling the long life of Red Cedar Shingles will make a strong appeal to your client. No wood exceeds Red Cedar for durability and resistance to the elements.

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GRADES: Shingles manufactured by member mills of the Red Cedar Shingle Bureau are standardized in three grades. The No. 1 grade must be 100% edge-grain, 100% clear, and 100% free of sapwood. Slight tolerances are allowed in No. 2 and No. 3 grades. The last two grades are intended primarily for roofs and side walls of buildings of cheaper construction and for under-coursing.

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VALLEYS AND FLASHINGS: Best quality galvanized iron not lighter than 26-gauge or tin 30 per cent coating or better, should be used. On half-pitch and steeper roofs use 14-inch valleys; on flatter roofs use 16-inch.

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DOUBLE-COURSING: In double-coursing—the laying of two shingles, one on the other, in each course—the butts of the top course should over-lap the butt-line directly below by one-half inch. No. 2 and No. 3 grades can be used under the outer covering of No. 1's in double-coursing.

* * *

NAILS: Use hot-dipped zinc-coated or copper nails in the laying of all shingles. Only such nails will endure as long as CERTIGRADE Red Cedar Shingles. Architects should insist on the use of these rust-proof nails. Nails should be placed one inch above the butt line of the following course and one-half to three-quarters of an inch in from the edge of the shingle. Never use more than two nails to a shingle. This is important!

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EXPOSURE: For regular coursing the following exposures are recommended: Roofs, 5" exposure for 16" shingles, 5½" for 18" and 7½" for 24". On side walls; 7½" for 16" shingles, 8½" for 18" and 11" for 24". For double-coursing on side walls the recommended exposures are: 12" for 16" shingles, 14" for 18" and 16" for 24".

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COMPETITION WINNERS

The following is a list of the winners of prizes and honorable mentions in the 1936 Pencil Points—Portland Cement Association's Architectural Competition.

Problem A—A House Suitable for Northern Climates.

First Prize (\$1500) Walter J. Thies, Dayton, Ohio.

Second Prize (\$750) George D. Conner and Robert S. Loney, Washington, D. C.

Third Prize (\$500) Owen Lau Gowman, New York.

Special Mention (\$50) Richard Powers, Chicago.

Mentions (\$50 each) Thomas S. Acuri, Laurelton, N. Y.; Manson Bennett, Portland, Oregon; Malcolm P. Cameron and Howard A. Topp, Los Angeles; Allen R. Congdon, Nantucket, Mass.; Joseph G. Durrant, Boscobel, Wisconsin; Robert V. Goldsborough, Chicago; Harry Jones Harman, Urbana, Illinois; Edward M. Hicks, Clarendon, Virginia; Robert I. Hillier, Brooklyn, N. Y.; Hudson and Hudson, Buffalo, N. Y.; Clarence W. Jahn and Edwin A. Wagner, Milwaukee, Wisconsin; Russel Krob, Jan Ruhtenberg, and Walter Sanders, New York; Elmo K. Lathrop, Detroit; Amedeo Leone, Detroit; A. Martini and J. Pendlebury,

Flushing, N. Y.; E. Manson and C. V. Northrup, Massena, N. Y.; J. P. Morgan, Philadelphia; Joseph A. Parks, Bethesda, Md.; Lester Beach Scheide, Hartford, Conn.

Problem B—A House Suitable for Southern Climates.

First Prize (\$1500) Harris A. Kemp and David G. Connally, Dallas, Texas.

Second Prize (\$750) Don E. Hatch and Carl Landefeld, New York.

Third Prize (\$500) Frederick Hodgson, Chicago.

Special Mention (\$50) Hays and Simpson, Cleveland.

Mentions (\$50 each) H. Hall Van Vleck Bradley, Greenwich, Conn.; George D. Conner and Robert S. Loney, Washington, D. C. (2); Richard E. Collins and Charles Hood Helmer, Tacoma Park, Maryland; Joseph J. De Brita and Herbert A. Magoon, New York; John E. Fortune, Los Angeles; E. W. Genter, Jr., Glendale, Calif.; John Hironimus, New York; Rudolph A. Matern, Bloomfield Hills, Michigan (2); Emil J. Minx, Chicago; Trevor R. Milligan and Kenneth E. Wischmeyer, St. Louis; M. Righton Swicegood, New York; Joseph Shilowitz, Jersey City, New Jersey; F. Talbot Wilson, Houston, Texas; Harry Hugh Boston; Royal Barry Wills and Hugh A. Stubbins, Boston, Massachusetts;

Robert E. West, Tulsa, Oklahoma; J. Floyd Yewell, New York.

The Judges were: Atlee B. Ayres, F. A. I. A., San Antonio, William D. Crowell, A. I. A., St. Louis, Edmund B. Gilchrist, A. I. A., Philadelphia, Carl F. Gould, F. A. I. A., Seattle, C. Herrick Hammond, F. A. I. A., Chicago, Robert D. Kohn, F. A. I. A., New York, Howard Major, A. I. A., Palm Beach.

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COGGINS and HEDLANDER, architects, announce that they have moved their office to the Chateau Lafayette, Boston Post Road, Greenwich, Connecticut.

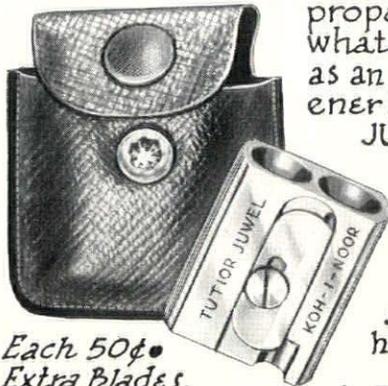
PAUL SCHWEIKER, INC and THEODORE WARREN LAMB, architects, announce that they have opened an office at 161 East (Continued on page 106)

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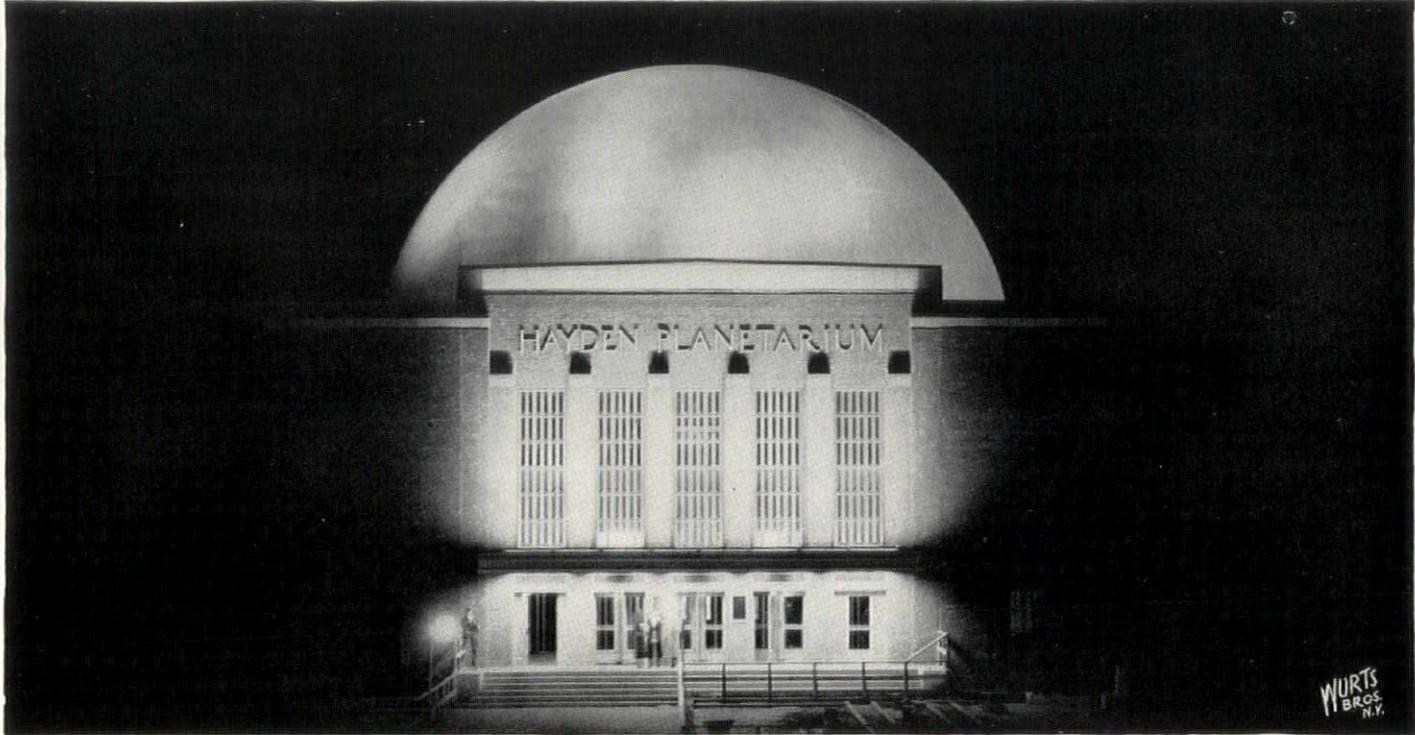
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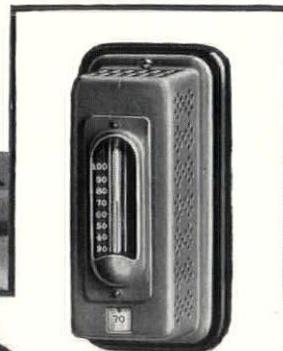


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PETER COPELAND has been appointed consulting architect for the Marizon-Rosenberg, Buying Office. His duties with this company will consist mainly of remodeling shop fronts. Mr. Copeland has recently completed stores in Richmond, Va., Johnstown and Altoona, Pa., and Niagara Falls, N. Y.

OBITUARIES

CHARLES ALLERTON COOLIDGE, a member of the Boston architectural firm of Coolidge, Shepley, Bullfinch and Abbott died recently of a stroke in his 77th year. Born in Boston, Mr. Coolidge attended Hopkins Grammar School and Harvard College, from which he graduated with the degree of Bachelor of Arts. Later he took a special course in architecture at Massachusetts Institute of Technology. Soon after leaving school he entered the office of Henry Hobson Richardson where he remained until Richardson's death. Mr. Coolidge then became a partner in the firm of Shepley, Rutan and Coolidge. In 1914 he entered the firm of Coolidge and Shattuck and in 1924 he became a partner in Coolidge, Shepley, Bullfinch and Abbott. Among the buildings Mr.

Coolidge designed are New York Hospital-Cornell Medical School, the medical schools and hospital groups at Vanderbilt University in Nashville, Western Reserve University in Cleveland and the University of Chicago. Other college buildings include those for Stanford University, the Sprague Music Building at Yale, the John Nicholas Brown Library at Brown, and the Harper Memorial, the gymnasium, the commons and Assembly Hall at the University of Chicago. For Harvard he designed the law and medical schools, the Collis P. Huntington Memorial Hospital, various units of the house plan and the Fogg Art Museum. He also designed the Art Museum and Public Library in Chicago, was architect for the University of Kentucky and consulting architect for the buildings of Constantinople College. Mr. Coolidge was a Chevalier of the Legion of Honor, a member of the Commission of Fine Arts and a member of the Advisory Board for Johns Hopkins Hospital. He was an overseer of Harvard College from which he had been honored with the specially devised degree of Doctor of Arts. He was President of the Massachusetts Society of the Cincinnati and a former Governor of the Massachusetts Society of Mayflower descendants. Other honors held by Mr. Coolidge were President and Fellow of the Boston So-

ciety of Architects, President of the Society of Technology Architects, Director and Chairman on Education of the American Institute of Architects, a trustee of the American Academy in Rome and of the Art Institute of Chicago. Commissioner of the Park and Recreation Department of Boston, Member of Visiting Committee on Architecture and Botany at Harvard College, Chairman of the Mayor's Committee on a memorial to soldiers, sailors and marines at Boston, a trustee of the Marine Biological Laboratory at Woods Hole, a fellow of the American Geographical Society and a director of the American Federation of Arts.

TEUNIS J. VAN DER BENT, a member of the architectural firm of McKim, Mead & White, died recently in New York. Born in Holland seventy-four years ago, Mr. van der Bent came to America in 1886. A year later he entered the office of McKim, Mead & White as a draftsman and in 1906 became a partner in that firm. Specializing in the design of hospitals and similar institutions he was responsible for the Burke Foundation, Gouverneur Hospital, Sea Breeze Hospital and others. He was a member of the Engineers' Club, the Netherland Club, the American Institute of Architects and the Architectural League.



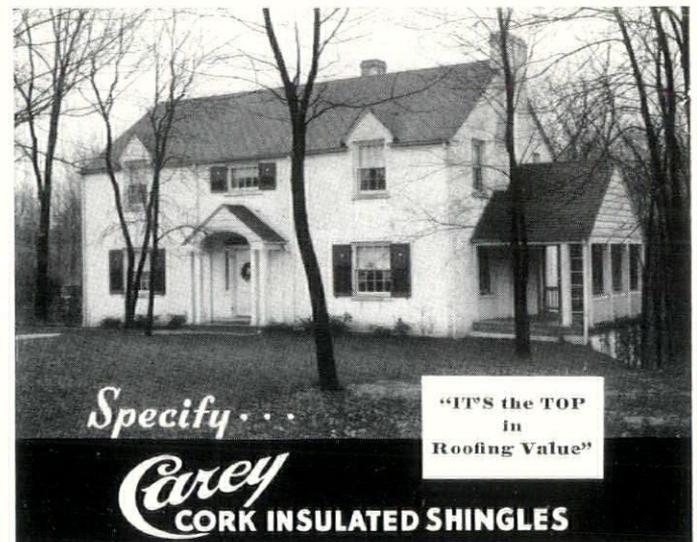
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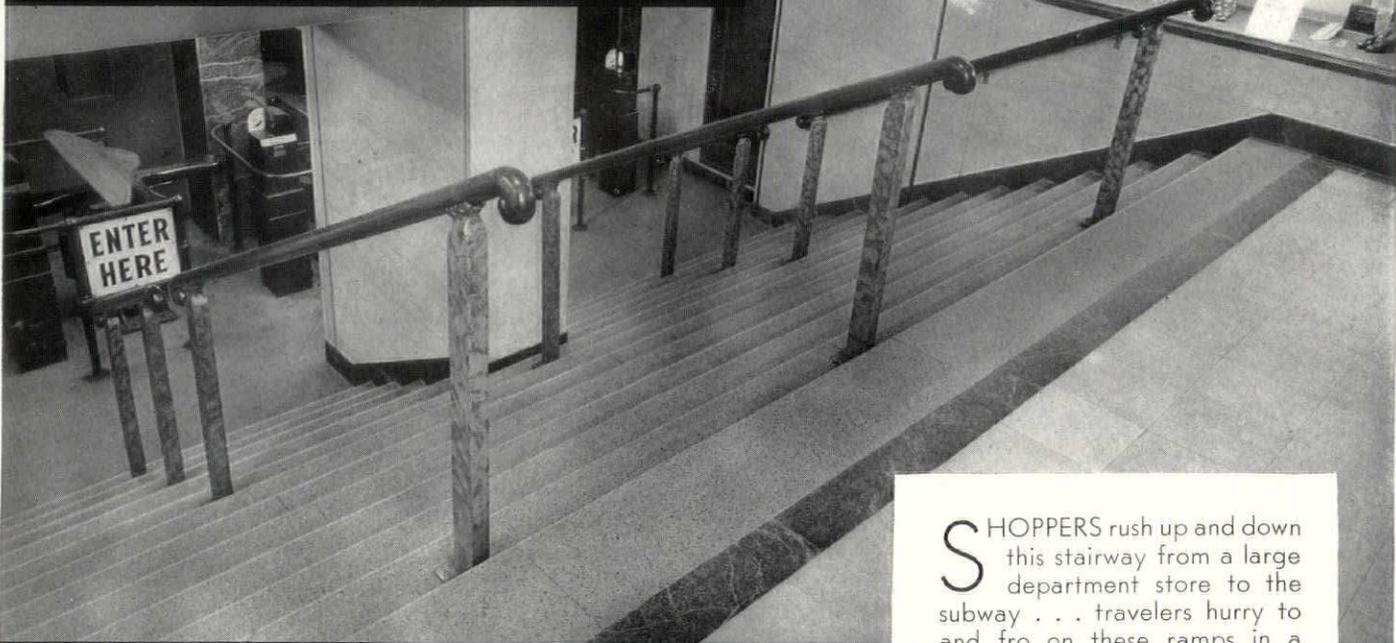
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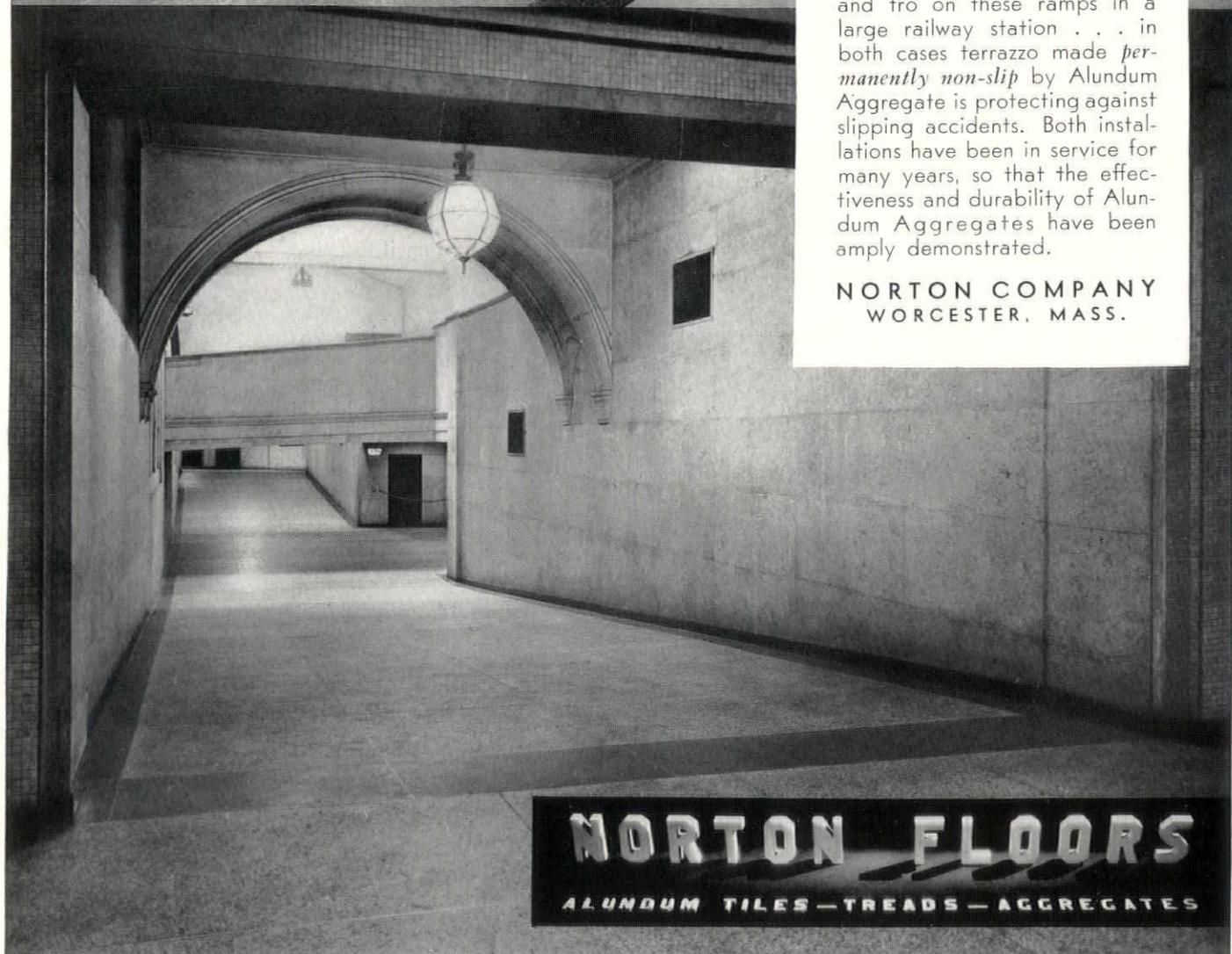
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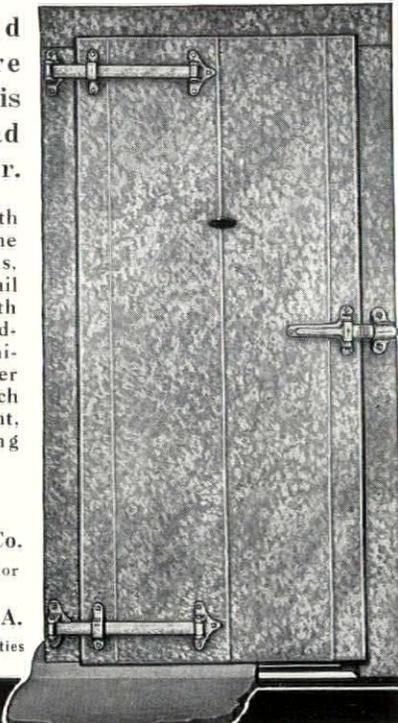
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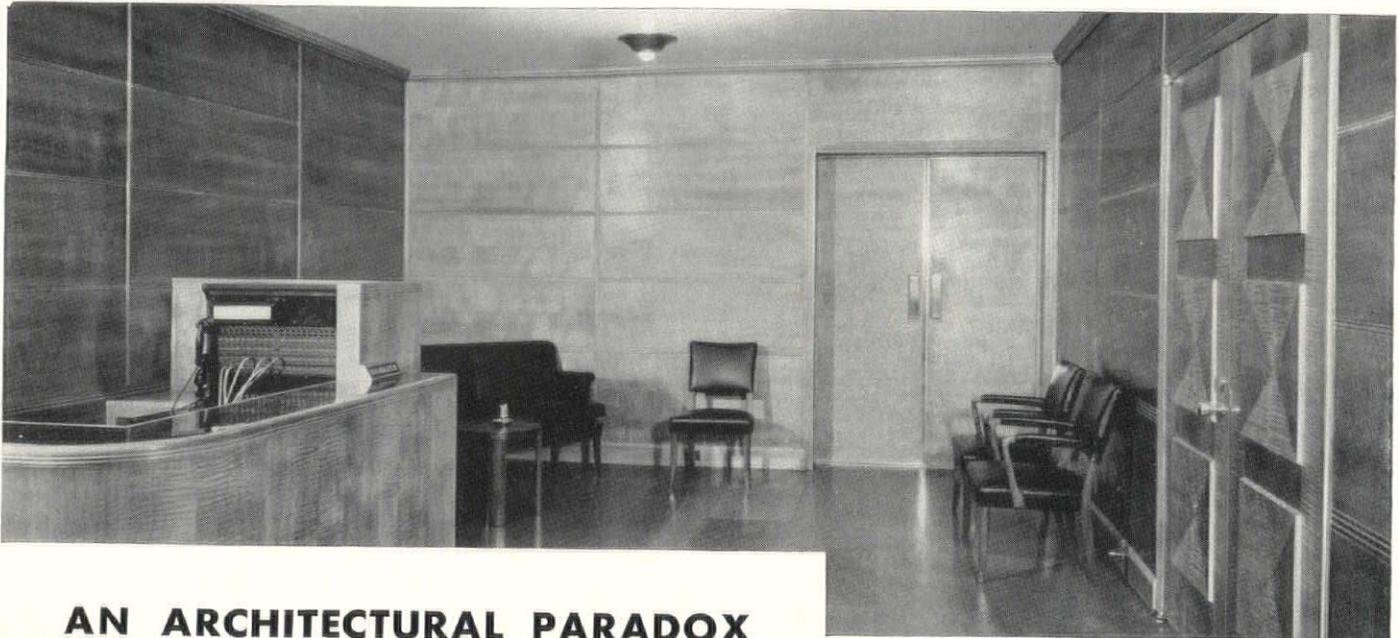


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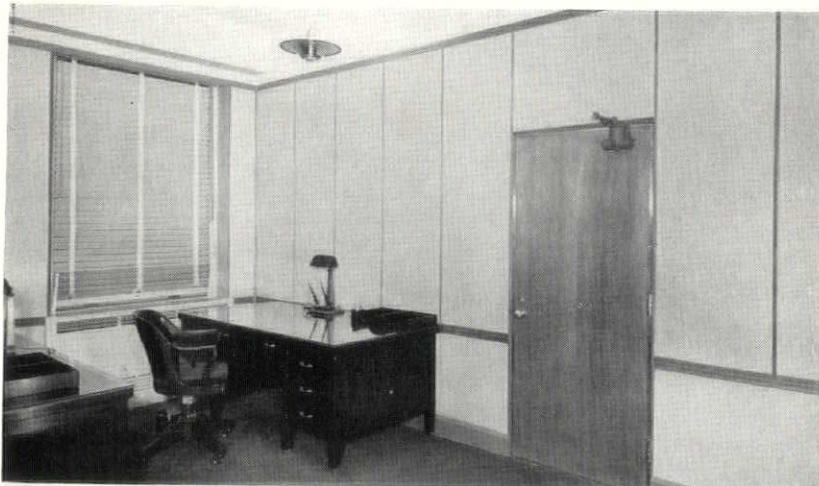
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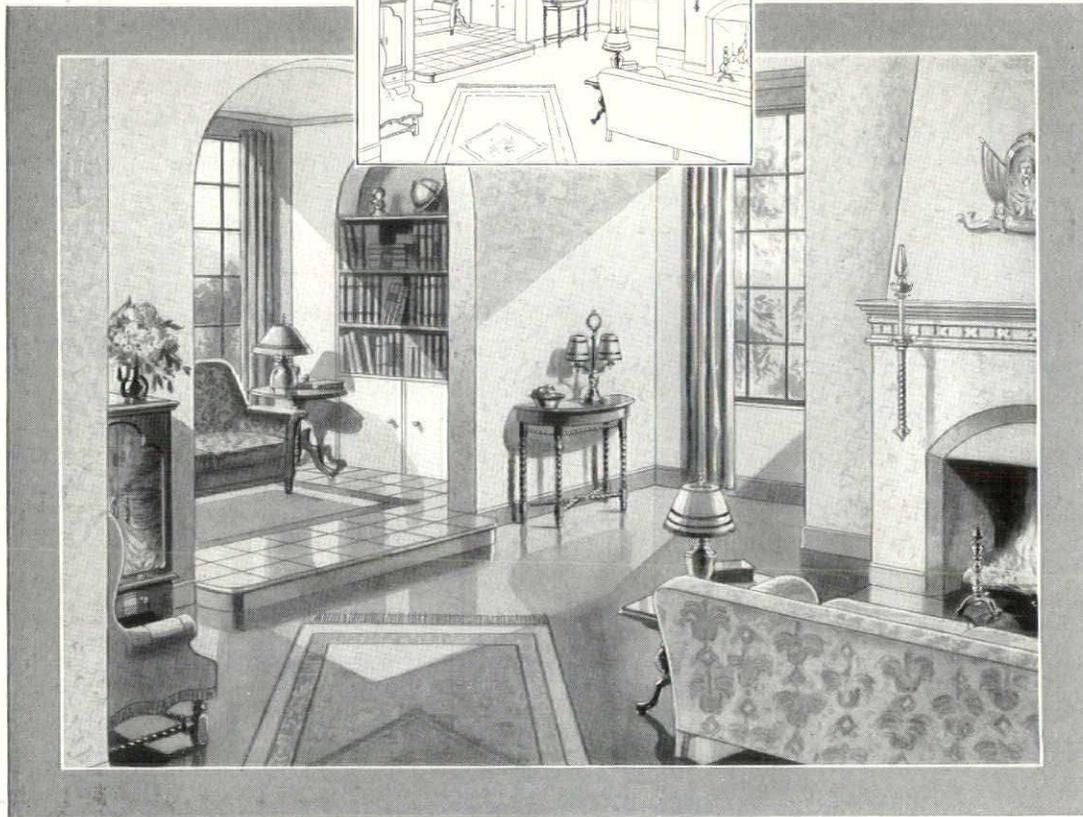
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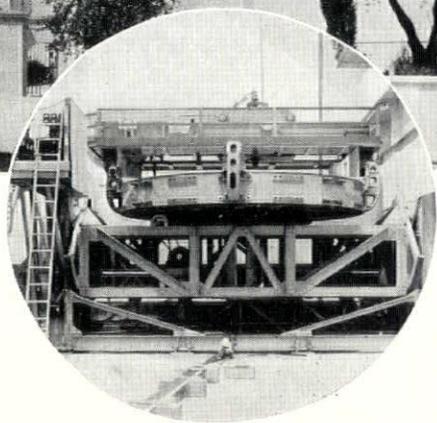
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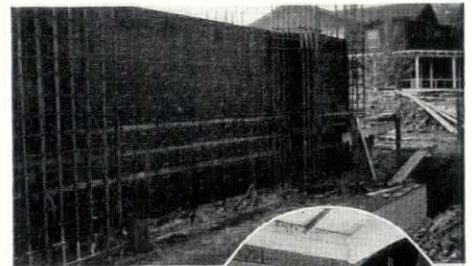
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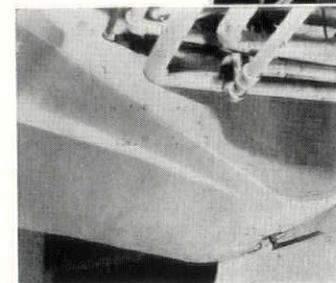
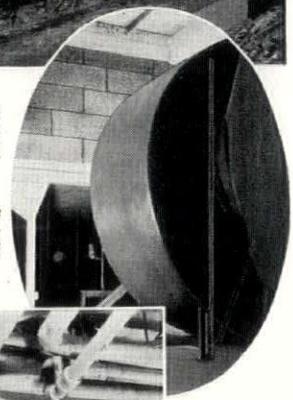
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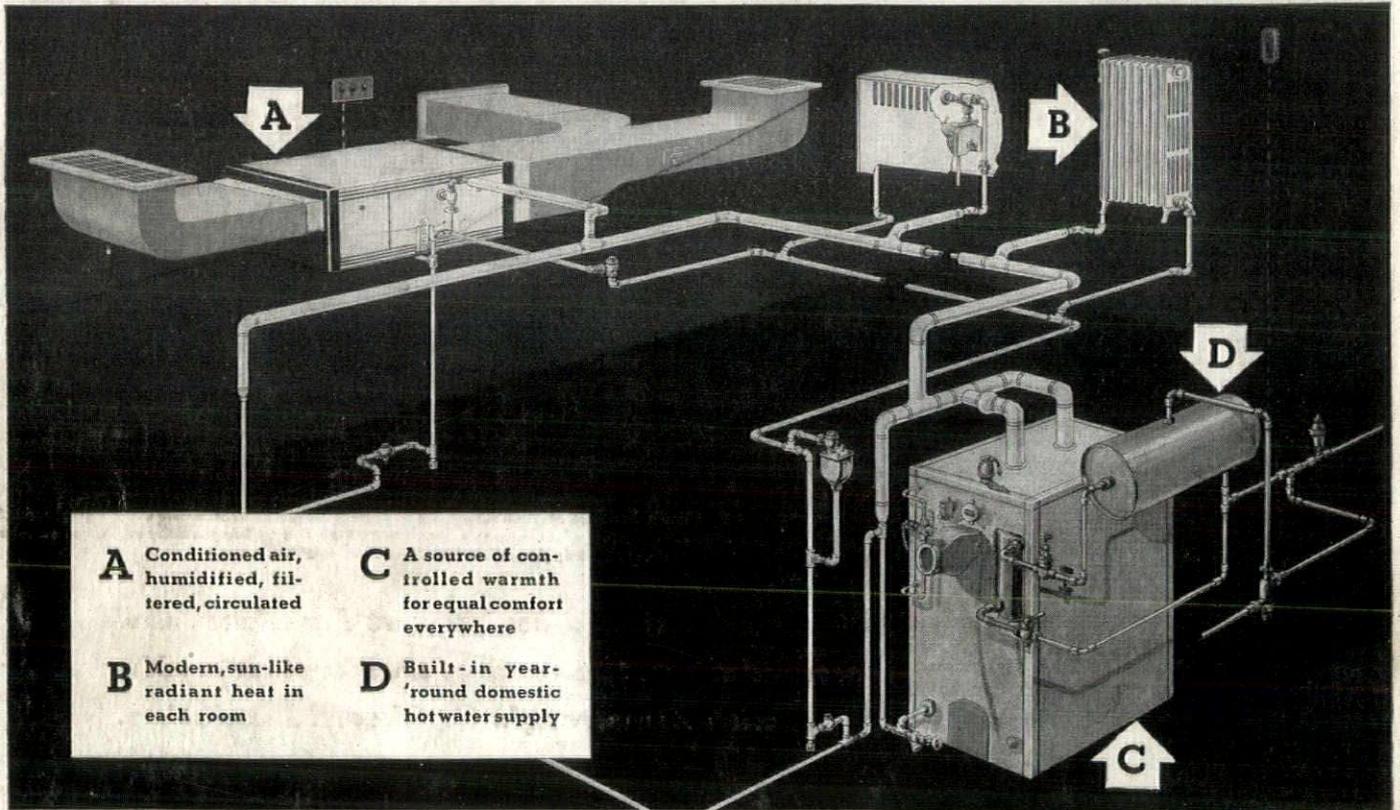


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