rogressive rchitecture

House Minneapolis: FRIEDMAN and REISS; M. E. LEIN, Assoc.	39
Museum Facade Minneapolis: MAGNEY, TUSLER & SETTER	48
Museum for Chinese Art, Shanghai: I. M. PEI	50
You and Your Client: BERNARD TOMSON	53
Three Stores: Critique	55
Department Store, Manhasset, N. Y.: ALFRED HOPKINS & ASSOC.	55
A. PARRISH & CO., Assoc. Book Store, San Francisco: BOLTON WHITE	61
Shoe Store, Harrisburg, Pa.: CARSON & LUNDIN; WM. L. MURRAY, Assoc.	66
Fire Safety for Moving Stairways	70
Two Classroom Types Designed to Utilize Light More Fully Liberty School, Agoura, Calif.: RALPH C. FLEWELLING & ASSOC. Lowell School, Salina, Kans.: CHAS. W. & JOHN A. SHAVER	74
Warm Air Radiant Heating in a Subdivision	76
(Hause Beef Querkaner Window	47
Selected Details	65
Selected Details Store: Shelving Store: Front	69

1

EDITORIAL: 1 VIEWS: 8 PROGRESS REPORT: 18 MANUFACTURERS' LITERATURE: 79 PRODUCTS: 81 REVIEWS: 96 JOBS AND MEN: 106 P.S.: 136 Sears-Roebuck and W. T. Grant Ca., Stores, La Crosse, Wisconsin. Pozzolith Architectural Concrete. Building Owner—Dr. Frank Hoeschler. Archt.—Boyum, Schubert & Sorenson, La Crosse, Wis. Contr.—Theo, J. Molzahn & Sons, Inc., La Crosse, Wis.

200



Joseph Magnin Co., Inc., Sacramento, Calif. Pozzolith Architectural Concrete. Archt.—Harry J. Devine, Sacramento, Calif. Structural Engineer—Ernest D. Francis, Sacramento, Calif. Gen. Contr.— Swinerton & Walberg Co., San Francisco, Calif.

M

Foley's Bros. Store, Houston, Texas. 50,000 cubic yards of Pozzolith Ready-Mixed Concrete. Archt.—Kenneth Franzheim, Houston, Texas. Contr.—Frank Messer & Sons, Cincinnati, Ohio. Ready Mixed Producer—Parker Bros. & Co., Inc., Houston, Texas.



Rich's Department Store, Atlanta, Ga. 25,000 cubic yards of Pozzolith Re Mixed Concrete. Archt.—Toombs & Creighton, Atlanta, Ga.; Engr.—W. B. I owner's representative; Gen. Contr.—Capital Construction Co., Atlanta, Ready Mixed Producer—Whitley Construction Co., Decatur, Ga.

TORONTO, ONTARIO

Nation's Most Modern Stores built with POZZOLITH CONCRETE

These four metropolitan stores, embodying the most modern features of department store design, are representative of the many important structures being built today with Pozzolith Concrete.

Advantages gained by the use of Pozzolith, cement dispersion:

- 1. Easy, fast placing
- 2. Minimized honeycombing . . . uniformity
- 3. Great watertightness, durability
- 4. Economy

CLEVELAND 3, OHIO

Pozzolith not only improves all of the properties of concrete in both the plastic and hardened stages, but it has proved to be the most economical means for obtaining these better results.

Write for information and new Pozzolith book.



February, 1948

EDITORIAL STAFF

Thomas H. Creighton Editor

Charles Magruder Managing Editor

George A. Sanderson Feature Editor

Frank G. Lopez, Jr. Technical Editor

Edith Lamar Charlotte Masters Jane Weisselberg Assistant Editors

Elsie Tupper Editorial Assistant

Gene Hawley Art Director

Edna Luginbuhl Assistant

Elmer A. Bennett Drafting

EXECUTIVE AND BUSINESS STAFF

John G. Belcher Publishing Director

Frank Armeit Production Manager

John Zellner Circulation Manager

Allen A. Raymond, Jr. Promotion Manager Mr. David Searcy Barrow 605 Central Avenue Wilmette, Illinois

Dear Mr. Barrow:

We have your letter asking for details of the 1947 PRO-GRESSIVE ARCHITECTURE Annual Awards. Here they are:

The Awards are intended to recognize and cite the most successful efforts in the direction of sincere progress in architectural design in the United States. There are two Awards — one for a residence; one for a building not a residence. Buildings entered must have been constructed during the calendar year 1947. Entries close March 1st.

You can submit your own work, or you can nominate a job done by someone else. For the jury to give your entry proper consideration, you must send us at least three photographs, a plot plan, floor plans, and a brief description of the building, its construction, and its purpose. We are sending to you and all architects an entry blank to accompany submissions. Anyone who doesn't receive one, or wants more, can get them by writing to us.

The jury this year is made up of the following distinguished men: Henry Churchill, architect and city planner; Joseph Hudnut, dean of Harvard's Graduate School of Design; Douglas W. Orr, architect, president of the A.I.A.; Antonin Raymond, architect; Paul Weidlinger, engineer. Thomas H. Creighton will serve as professional adviser.

We look forward to having your work to submit to the jury for their consideration.

Sincerely,

The Editors

Published monthly by REINHOLD PUBLISHING CORPORATION, 330 West 42nd Street, New York 18, N. Y., U. S. A. Ralph W. Reinhold, Chairman of the Board; Philip H. Hubbard, President; H. Burton Lowe, Executive Vice President and Treasurer; Gilbert E. Cochran, Vice President and Secretary; Francis M. Turner, Vice President; William P. Winsor, Vice President. Executive and editorial offices: 330 West 42nd Street, New York 18, N. Y. Subscriptions payable in advance: 1 year, \$4.00; 2 years, \$6.00; 3 years, \$8.00 in U. S. and Possessions, Canada and Pan American Union; \$2.00 extra for each year in all other countries. Single copies, \$1.00. Printed by Lotus Press, Inc., 508 West 26th St., New York I, N. Y. Copyright 1948, Reinhold Publishing Corp. Trade Mark Reg. All rights reserved. Reentered as second class matter, January 22, 1947, at the Post Office at New York, N. Y., under the Act of March 3, 1879. Volume XXIX, No. 2, Feb., 1948. Indexed in Art Index.

P/A:czm

OT OST ... a steel heat exchanger

MADE OF 12-GAUGE STEEL

... approximately three times minimum A.G.A. requirements. The HEVIGAGE is constructed by the industry's most advanced machine welding process. Individual sections are welded together, front and back, the entire depth of the unit. Number and size of sections vary with the capacities of Bryant equipment in which the HEVIGAGE is installed.



STAMPED FROM A SINGLE STEEL PLATE, sections like this are shaped in one stroke on a huge 2,000-ton press. Oval shapes impressed on sides are to baffle hot gases passing through assembly after sections are formed together as a unit. MACHINE -WELDED ACROSS TOP. This second operation completes the individual sections that will be assembled into the complete unit shown at top. See how the top weld forms a solid-walled, streamlined air tunnel.

INSTALLED IN BRYANT EQUIPMENT

as shown in cutaway at right, the streamline air tunnels of the HEVIGAGE provide straight-line flow, both horizontal and vertical. Note how flames are directed fully across the bottom of the exchanger, and that no weld is exposed to flames. Each original section of the HEVIGAGE is U-shaped, and only the full, unbroken thickness of steel comes into contact with flame.

that will LAST... and LAST... and LAST! THE NEW BRYANT

EVIGAGE

NOW ... years of extra service, without the bulkiness and extra cost of dead metal. Free air-flow, straight-line design with no cooling-pocket twists and turns. Generous heat transmission areas that squeeze the ost beat from every fuel dollar spent!

This steel heat exchanger has squelched forever the idea that a good heat exchanger must be large and cumbersome. Blasted the false impression that intricate, honevcombed passageways are necessar for efficient heat transmission. Proved, by use of the right steel and the right design, that today's heat exchanger can be *big* in performance without being *big* in size and weight.

WINTER AIR CONDITIONER Suited for homes, apartments, offices and stores, this compact vertical winter air conditioner is made in six sizes, inputs from 45,000 to 145,-000 btu's an bour. Heats, filters, humidifies and distributes the air to do a complete winter air conditioning job.

Featured IN THE NEW

BRYANT Modernaire

Featured IN THE NEW

DUCT AND UNIT HEATERS Newest design in gas-fired unit and duct heaters is this Bryant-engineered unit that delivers warm air quickly, efficiently and economically for all types of commercial and industrial installations. Made in six sizes, from 60,000 to 210,000 btu/hour.

ONE OF THE DRESSER INDUSTRIES HEATING AUTOMATIC

BRYANT HEATER COMPANY . CLEVELAND. OHIO

The NEW products come from Bryant

SERVEL IS THE CHOICE YEAR AFTER YEAR BECAUSE

"'WAY BACK IN 1933 ...

we chose Servel for our 56-room apartment house. Thanks to that wise choice, my tenants have enjoyed 15 years of silent, dependable service . . . at very low cost."

JACOB BROMBERG

President of the 6930-62nd Street Corp. Ridgewood, Long Island, New York



TODAY, with families moving into apartments and housing developments as fast as they're made available, there's a greater appreciation for *silent* refrigeration than ever before. Tenants associate silence with modernity. They reason that every step away from mechanical noise is a step toward happier home life. And the owners and architects want refrigerators that give *dependable*, *year-after-year service* . . . *at low cost*. That's why more and more tenants prefer—and more and more owners are ordering—Servel.

Unlike other type refrigerators, Servel operates with no moving parts. A tiny, silent gas flame does the complete job of circulating the refrigerant through the Gas Refrigerator's simpler, basically different freezing system. There's nothing to make the slightest sound . . . no machinery to wear or break. That's why it costs so little to operate and maintain a Servel . . . why repair and replacement bills remain low.

Besides the famous "no noise, no wear" freezing system, Servel has all the worthwhile, up-to-date cabinet features tenants and owners are looking for, including a big frozen food compartment... plenty of ice cubes... moist-cold, dry-cold for fresh foods ... large, flexible interior with adjustable shelves ... and a host of other modern conveniences.

For installation data and complete information; see Sweet's catalog . . . or write to Servel, Inc.; Evansville 20, Indiana.



IT'S THE ONLY REFRIGERATOR THAT-

"JUST 12 MONTHS AGO ...

we installed 89 new Servels. What sold me on the Gas Refrigerator? Why, no noise, no wear, low operating cost, and longer life, of course."

Morry Lames

MORRIS LAINOFF Agent for Kings Tower Realty Co. 1525 E. 26th St., Brooklyn, N. Y.

Here's WHY Servel freezes with ...



The refrigerant is hermetically sealed in a set of vessels connected by pipes. A tiny gas flame is applied to the lowest vessel (A). Owing to the evaporation properties of the refrigerant and the law of gravity, ice forms in an upper vessel (B). No machinery not a single moving part—is needed. Thus, Servel stays silent, lasts longer.

NO NOISE

NO WEAR

Rugged Strength

• This corner bar is one of several Pittco Metal members specially constructed to provide an insulated metal setting for Twindow, "Pittsburgh's" new window with built-in insulation. Its tubular construction gives sufficient strength and rigidity for most installations, but it may be strengthened with five different reinforcing members where extra support is required. And, like other Twindow settings, it can be used with Pittco De Luxe frame mouldings. This combination of strength and beauty makes Twindow available for a wide range of store front installations.

Pittco Store Front Metal settings for Twindow are produced by the extruded process to provide strength, sharp profiles and a rich, smooth finish. With Pittco Metal, setting operations proceed rapidly. No special tools are required, and setting procedures are so simple that a substantial saving in setting time is usually effected.



No. 21 Corner Bar

135



No. 21 Corner Bar 90°



PITTCO STORE FRONT METAL

No. 23 Division Bar

No. 25 Division Bar



TALLEST OFFICE Building in The south has



A one-shot testimony, except—the largest office building in New England, the largest postwar banking building in the whole British Empire, the largest all-metal commercial building group in the world—all are to have Q-Floors!

Q-Floors are steel and require a minimum of time to erect. Therefore, their cost can be accurately known in advance. They speed up construction to reduce 20 to 30% off building time. They are dry, noncombustible, clean and free from forms and shoring.

Q-Floors save architects an enormous amount of drafting room work. Outlets and partitions need not be definitely located until the building is occupied. Every six-inch area of Q-Floor can be tapped for electricity. The steel cells are crossed over by headers carrying telephone, power and other electrical services. An outlet can be established anywhere at any time in a matter of minutes. Any number of outlets can be added at any time. An electrician merely drills a small hole, fishes the wires from the panel box and installs the outlet without muss or trenches.

See Q-Floor fittings at any General Electric construction materials distributor's. For complete details and literature, please write:

H. H. ROBERTSON COMPANY

- FLOORS

2405 Farmers Bank Building Pittsburgh 22, Pennsylvania



Offices in 50 Principal Cities World-Wide Building Service 15 15 1 SO. FT. 0



PRO . .

Dear Editor: Yes sir, the profession certainly needs real research data, test results, and technical information.

It is amazing how little of it is available in the day-to-day exercise of our wise and noble profession. I am talking with some feeling about that, as I have been during the last two or three years working on both a steel prefab and a wall panel. I can tell you that in my opinion one of the great handicaps to progress is this lack of really factual, readily available information on what materials or combinations of materials can do. That to me is infinitely more important than trying to find out if the minimum house is 767 or 830 sq. ft.

> WILLIAM LESCAZE New York, N. Y.

Dear Editor: In your December "Observations" you allude to what appear to be "pseudo-scientific" experiments taking place at the University of Illinois. I first thought of it as one of those many things on which it is not worth wasting one's ammunition. But the same mail brought a book just released by the Commonwealth Fund, Medical Research in America (a whole book, mind you!). I began to search for an answer why medicine, which is also regarded as an art, has research whereas architecture has practically none. (Tell a reputable surgeon that his work is not art and he'll knock your block off!)

In the medical profession much research takes place in hospitals, or in cooperation with the pharmaceutical industry, but always under a strict discipline of the medical profession. By and large, architects would not know research if they met it in the street because those of them who have any intellectual pretensions regard architecture primarily as ART. Not being interested in tech-

CONTEMPORARY COINCIDENCE

Dear Editor: Ralph C. Flewelling's Episcopal Church (August 1947 Progressive Architecture) gave me quite a shock. Generally speaking, it is a fine piece of contemporary design.

The reason for the shock is that my design for a Tabernacle for The Christian and Missionary Alliance, Toronto, with its serrated side walls, had not yet been published. Now all the local boys are going to think I lifted that serrated nave side wall idea from Flewelling: they'll never believe I dreamed it up myself.

Flewelling's design is better than mine—at least it may be said that it looks like a church. When I am told that mine does not, I just say, "Well, but it is a church, therefore it must look like one." FRANCIS G. REED Toronto, Canada In the December "Observations," P/A Editor Thomas H. Creighton commented on a press release from the University of Illinois which seemed to speak of "research" of a type lower than the excellent work that institution has been known for. Creighton ended his observation by saying, "Oh dear, I suppose I've stepped on a lot of toes again." He had.

nical matters, we have no problems to toss to the producers. (Sure, we too have A. I. A. Committees, etc., but you can't kid me.) The producers not being stimulated by the profession produce irresponsible "pseudo-science." When the architect becomes a technologist (he may even obtain a social conscience), he will demand and obtain the blessings of scientific research.

> ISADORE ROSENFIELD New York, N. Y.

Dear Editor: I have read myself the press release of the University of Illinois to which you have referred in your column. What you have written about it expresses in a more restrained language what I and some other friends of mine, interested and engaged in housing and building research, felt upon reading this news item. The building industry is still full of traditional superstitions and needs nothing less than reflections about the beauty of aluminum shingles. I wonder if the sponsors of this "research project" realize that, at the present time, a great number of allaluminum houses are being produced, aluminum sidings, roofing sheets, and structural members used in buildings, without the benefit of anything resembling an aluminum building code, stand-

CON . .

Dear Editor: Your recent "Observation" regarding the University of Illinois Housing Research Program seems to me to be an excellent example of "pseudo-editing."

Views

The position of the University of Illinois in housing research is widely known and respected by men in science and industry, many of whom have visited us here and are contributing their cooperation for the progress of our program.

I want to extend a standing invitation to you to visit us in Urbana to see for yourself what we are doing and to discuss current thinking for the improvement of housing.

> WILLIAM H. SCHEICK Coordinator, Small Homes Council University of Illinois Urbana, Ill.

Dear Editor: Professor Scheick's letter to you of December 6th was far more restrained than one I might have written if I were in his position. Because I received a copy of his letter, I read your "confession of ignorance" and noted your question, "Am I wrong when I think this sounds like nonsense?". My answer to that is YES!

But more to the point, I would suggest you not only accept Bill Scheick's invitation to do a little personal research on research activities, but that you also visit Purdue where, for more than 10 years, the Housing Research Campus has been testing housing advances by actually living in them. It isn't to be expected that one house is a test—but when a scientifically-minded family is the occupant, and instruments record

(Continued on page 12)

(Continued on page 10)



Tabernacle for The Christian and Missionary Alliance, Toronto, Canada-Francis G. Reed, architect.

FOR GOES TO MANHASSET, LONG ISLAND for B. ALTMAN & CO.

and Amos Parrish & Co.

THERE were many challenging problems involved in the project at Manhasset. Not one, however, had to be compromised with. Neither the architects nor the store executives were asked to change their plans "because it just can't be done that way." Bergen craftsmanship combined with Bergen know-how have again translated the designers' vision into an enduring reality.



Shown are just 3 photos of B. Altman & Co.'s newest suburban store at Manhasset, L. I. The architects' integration of functional design and modern merchandising is easily discerned here. We're proud to be able to say we participated in this program.

Photos by Richard Garrison

Bergen-sure the success of your modernization program with



ARCHITECTURAL WOODWORK That Makes The Designer's Plan An Enduring Reality

1552-56 BERGEN STREET BROOKLYN, N. Y.

Phone: PResident 2-3121





(Continued from page 8)

ards, or specifications. This is just one urgent example of the need for the "real research data, test results, and technical information" to which you referred in your "Observations."

The especially surprising and depressing note in this story is that this alchemy is being carried on in the University of Illinois. The Engineering Experimental Station of this very same University has in the past published (without any press releases) some of the most outstanding research bulletins on various topics connected with structural engineering and stress analysis. Through the reading of these underpublicized bulletins I have grown accustomed in the past to a high level of scientific thinking and honest research work from this source. I would be extremely disappointed if the University should publish anything resembling, as



you have so aptly expressed it, cigarette advertising.

PAUL WEIDLINGER United Industrial Associates, Inc. Washington, D. C.

Dear Editor: I wish to commend you for your remarks on page 122 of the December issue of P/A anent "housing research." Some very sad travesties of real endeavor are being perpetrated in that guise. The reason appears to be that the genuinely inventive spirits have been starved out of this field, leaving "housing research" to become the monopoly of those whose real interest is the status quo.

Consider the predicament of any college wanting to create the impression that it has some slight interest in the housing problem. Where is its money for research to come from? With profits what they are currently reported, it is natural to "approach" some industrialist in the housing field for the necessary funds. But this industrialist may be having a struggle to keep his own research technicians from "digging too deeply" or from "browsing too far afield" to shell out money for professors to dig down into fundamentals. If such an industrialist can be coddled for the sake of his alma mater to shell out, be sure it will be to encourage the professors to browse far on the outer fringes of real research. Thereafter, in order to make their labors seem significant to their alumni, the professors have to exagger-ate the significance of the work. Someday I hope some University will take the bull by the horns and initiate a program of genuine research, let the chips fall where they will. The first requisite is a disinterested angel.

> CORWIN WILLSON Director of Research Corwill Corp. Flint, Mich.

Dear Editor: Your item on "pseudo" research on the December "Observations" page made an important point in drawing attention to the increasing commercialization of terms such as "research" and "planning." As a selling point for a wide range of professional and not-so-professional activities, these concepts are achieving a dubious popularity reminiscent of the added vitamin in every what-not from ice cream to face cream.

It is a very natural corollary to professional and public acceptance, but unless we insist on some sort of standards in the profession in using these terms, we will end up by discrediting a valuable advance in our still largely irrational and backward field.

Two things especially impede an efficient use of research data. The first is this vulgarization that has little in common with a scientific approach, and in fact becomes a cover-up for doing things in the same old way. As a result, clients

(Continued on page 12)

Pittsburgh Steeltex Lath For Plaster Gives you All Enduring, Economy and Safety

The economy and safety of your buildings is permanent when Pittsburgh Steeltex lath is used as a backing for interior finishes. Your homes sell easier. Your reputation as a designer and builder is enhanced because owners quickly sense the value of fire-resistant construction and freedom from plaster cracks and stud marks provided by Steeltex. Many architects specify Steeltex and experienced

builders prefer it because of its ease of installation and the savings in material. They both agree that Steeltex definitely makes possible the finest construction available in homes and other types of buildings.

It will pay you to write today for our illustrated technical booklet which shows how you can assure better construction at low cost with Pittsburgh Steeltex lath for plaster.

STEELTEX for Plaster, Floor Lath, Stucco, Masonry Veneer Available Now at your local dealer





(Continued from page 10)

and the public at large underestimate the crucial role of research in improving environment, and therefore do not appreciate the costs involved. Secondly, while we are flooded with a wealth of data, much of it of very sound value in itself, the lack of coordination and of facilities for making it available in usable form vitiates its utility to the practitioner and the public. In its final presentation there is too often a slanting which creates new misconceptions.

even though the original work may have been valid.

It is essential that some way be found to organize this asset and put it to use objectively in the interest of better building and planning. And as a beginning, let's stop kidding ourselves.

> HERMANN H. FIELD Director of Building Plans Cleveland College Cleveland, Ohio



IT'S A GOOD IDEA TO USE D-O-U-B-L-E W-I-D-T-H Barcol OVERdoors FOR TWO-CAR GARAGES...

NO CENTER POST. When planning the doors for a two-car garage (either new construction or remodeling), a doublewidth Barcol OVERdoor offers several worthwhile advantages. The center post is eliminated, amount of door mechanism is reduced, and appearance is better, especially for long and low structures.

SEE OUR CATALOG

BARBER COLMAN

EASIER, SAFER DRIVING. With the center post gone, it is a lot more convenient to get cars in and out, particularly if a turn near the door is involved. Clearances are greater, and the chances of colliding with the door frame are reduced. With the present trend in auto design, this is a considerable help. ELECTRIC OPERATOR. More and more, electric door operators are being used in residence garages. A double-width door offers a saving here, because only one operator is needed. It is not mandatory to use an electric operator with a double-width Barcol OVERdoor since tailored counterbalancing makes it easy to handle. For installations with electric operators, the Barcol Radio Control gives the final touch of convenience control of the door by radio from the car! Write for information on all Barcol products, or ask your Barber-Colman representative for details.

FACTORY-TRAINED SALES and SERVICE REPRESENTATIVES in PRINCIPAL CITIES

BARBER-COLMAN COMPANY

100 MILL ST. . ROCKFORD, ILLINOIS



CON

(Continued from page 8)

the physical performance of the structure and its equipment, you can indeed learn a great deal.

Furthermore, you should recognize that this is only one type or phase of research—a test application of developments made in many fields brought together as they are intended to be used in an actual dwelling. It is the culmination of basic work, exceedingly valuable in keeping the more fundamental studies in the right direction.

> Tyler S. Rogers Owens-Corning Fiberglas Corp. Toledo, Ohio

Dear Editor: Your "Observations" in the December issue of PROGRESSIVE AR-CHITECTURE appear to be somewhat misleading in the case of the research program at the University of Illinois. As Chairman of the Subcommittee on Construction Methods of The Producers' Council, I have been fortunate in working with Messrs. Scheick and Lendrum on the Industry-Engineered House study which they are conducting at the University. Therefore, I have had some opportunity to familiarize myself with some of the other housing projects which are in progress there.

> D. T. COLTON Research Center Johns-Manville Corp. Manville, N. J.

Dear Editor: I have copies of the letters addressed to you under dates of December 6th and December 15th by Professor William H. Scheick and Mr. D. T. Colton, respectively, regarding your "Observations" in the December issue of PROGRESSIVE ARCHITECTURE on the University of Illinois Housing Research Program and I concur with both of these gentlemen that a better understanding on your part, than you appear to have, of the entire program would be in the interest of all concerned.

> HARRY C. PLUMMER Director, Engineering & Research Structural Clay Products Institute Washington, D. C.

WHITE AND NEGRO

Dear Editor: In the Visitors' Building of the Fontana TVA Dam, toilet facilities are provided, as labelled in your drawing, for WHITE and COLORED. In the lead Editorial and descriptive material of the December issue you describe the dam as a *Democratic* monument and *Progressive* architecture. You failed to qualify that these words

(Continued on page 14)





No. 3120



No. 3124

2 Gang Unit

1 Radio and 2 Power

Outlets Complete, - con-sisting of Two Gang Multicoupler Unit, 2 Gang Cover with Divider Plate, No. 1913 Duplex Convenience Outlet, No. 2149 Radio Outlet, GH Cap, Multi-coupler, 2 Gang, 040" Brass Plate ... Use standard 4" square box (not included) (not included).

1 Gang Unit

Radio Outlet Only

Complete,-consisting of Single Radio Outlet Multicoupler, No. 2149 Radio Outlet, GH Cap, Multicoupler, 1 Gang .040" Brass Plate ... Standard switch or outlet box can be used (box not included).

Up to 20 radio outlets may be serviced from one antenna where this multiple receiving system is installed. The system brings to each radio set complete "freedom of the air" in getting any desired broadcast, regardless of what programs other sets may be tuned to at the same time. It brings in FM, standard broadcast and short waves with maximum of volume and minimum interference.

Of

Multicoupler-Antenna System is not only the most adaptable to the whole range of radio conditions; it's the least expensive and most easily installed of any multiple receiving system. For apartment houses, private homes or hotels, hospitals and dormitories, this system economically completes your up-to-date radio facilities.

DISTRIBUTED THROUGH ELECTRICAL WHOLESALERS HART & HEGEMAN DIVISION

ARROW-HART RIC COMPANY, HARTFORD U.S.A HEGEMAN ELECT CONN



(Continued from page 12)

apply to only some of the buildings, because certainly no building can be considered to be part of a *Monument* to *Democracy* and *Progress* and still respect the practice of race discrimination.

I know that the policy of your magazine is opposed to such biased discrimination.

> DAVID L. SOLTKER Chicago, Ill.

THE MAIN POINTS

Dear Editor: Your presentation of the Fontana Dam project in the current issue of P/A is tops. That is quite an involved piece of work and the featuring of the main points without losing oneself in the numerous small items must have been a very difficult editorial task. The spread was enjoyed by all of us. GILL & BIANCULLI Chattanoora Tenn

Chicago, III. Chattanooga, Tenn. fie gro Chicago, III. Chattanooga, Tenn. fie gro Chicago, III. Chattanooga, Tenn. fie gro Lie Chicago, Chicago, Constant Chicago, Tenn. fie gro Lie Chicago, Chicago, Constant Chicago, Ch

Fully guaranteed against warping or sep aration of Vengers.

Qak, Walnut, Mahogany Guin

PANELS

TEGO-BONDED STOCK SIZES—UP/to and Including 4 Face Meneers center book matched

Ocik, Wainur, Mahogany, Prima Verd other fancy-faced saminer word

DISTRIBUTORS IN PRINCIPAL CITIES

THE AMES EXPERIMENTS

WARM RESPONSE

Dear Editor: I have just read the "Progress Report," "Form Still Follows Function," in PROGRESSIVE ARCHI-TECTURE for December.

It is by far the most concise and communicable statement of the significance of our work to an applied field that has been made to date, and there have been many attempts. It is a much more significant statement than we ourselves are capable of. Our experience in the field is too meager to provide a background necessary for wisdom.

> ADELBERT AMES, JR. The Hanover Institute Hanover, N. H.

LEFT HIM COLD

Dear Editor: Your December "Progress Report," "Form Still Follows Function," was stimulating, but I wish I could share your enthusiasm. I tried very hard to feel the challenge of a new approach to esthetics in the work of the Dartmouth Eye Institute but was left cold. To save my life, I could not see how the experiments in vision by Professor Ames led you to conclude that "there could not be a clearer, more rational call for architectural design which is esthetically, emotionally, spiritually appropriate to our times and our people."

Without being acquainted with Professor Ames' experiments beyond your remarks, it seems to me that any esthetic theory based solely on visual experience is bound to be limited. Physiology is not esthetics. All the eye experiments in the world could never, by themselves, suffice as a springboard for a satisfactory theory of art.

Contrary to your feeling that Ames' ideas lead to action, I am left with the feeling—and I know I may be very wrong—that they indicate a passive direction. I cannot see, on the basis of what I have read, how change in architectural style can be accounted for. I do not see evolution, growth, conflict, decay. I fail to see a basis for a creative esthetic, or a history of art.

The emphasis on the relationship between form and function, I feel, is mechanical. The suggestion that our "value-sense," or, shall we say, esthetic satisfaction, is connected with a "sense of surety," leaves out the element of surprise and shock in art, as in Futurism. The value of mystery and drama does not depend on a sense of security. Aristotle valued poetry for its cathartic, or purgative, effect. Where is the "sense of surety" in Picasso's "Guernica?"

I would welcome the opportunity to read a longer account of Professor Ames' (Continued on page 16)

Grand Ballroom Hotel Astor . New York Interior designed and executed by The Walter M. Ballard Corp. New York

FOR THAT "NEW LOOK" IN

ighting Fixtures

All in the tempo of life today—casting a magic spell of light where needed—yet subtly designed to form an integral part of the interior. Throughout the land, where excellence in lighting is a dominant note in all types of buildings and for many purposes, Caldwell Fixtures are to be found —fully justifying a reputation born more than 50 years ago.





EDWD. F. CALDWELL & CO., INC. . 101 PARK AVE., NEW YORK 17, N. Y.



(Continued from page 14)

experiments and a discussion of his specific contributions to esthetics. Several of the implications you attribute to his researches might be called old. Perhaps Professor Ames himself disclaims that they are novel. It should be remembered that we are heirs to a considerable amount of research in physiology and psychology of vision anteceding by centuries the scientific studies in the nineteenth century by Young, Helmholtz, and the Impressionists. Right at the present time, we have the school of Gestalt psychologists who, following the trend of Kohler, Kofka, and Wertheimer, are making new investigations in physiological optics. Moholy-Nagy's teaching is connected to this trend, and Kepes, who taught previously at the Chicago Institute of Design, has recently issued a book, *The Language of Vision*, in which, acknowledging his attachment to the Gestalt school, he goes into detail about our

ELECTRIC TRACTION DUMB WAITERS by Sedgwick

FOR MORE THAN 55 YEARS Sedgwick Machine Works has specialized in the design and manufacture of elevators and dumb waiters. The improved Sedgwick Electric Traction Dumb Waiters are the result of specialized knowledge and experience, and are used for installations where three or more landings are to be served. Widespread use of this equipment contributes to convenience, efficiency and economy in hospitals, hotels, restaurants, clubs, libraries, schools and other commercial institutional and industrial buildings.

The machine consists of single speed elevator-type high torque, low starting current motor, with worm gear reduction built as one unit and an electric brake. The worm is special alloy steel, machine finished. Worm shaft is provided with ball or roller bearings designed to take both radial and thrust loads. Worm gear is special analysis cast bronze with teeth accurately hobbed and smoothly finished. Gear is mounted on alloy steel sheave shaft provided with roller bearings. Worm gearing operates in a sealed case, filled with special lubricant, providing automatic lubrication to all parts. The electro-magnetic brake is adjustable to provide accurate floor stops with all loads and to compensate for wear of brake lining.

The control is fully automatic, having a bank of buttons at each opening, permitting the car to be called and dispatched from any landing. Combination door locks and switches are provided for the hoistway doors to prevent operation of any door except when car is at the door.

STANDARD DIMENSIONS							
Capacity in lbs Speed in F.P.M Car Width Car Depth. Car Height Inside	50 24"	100 24" 24"	300 50 30" 30" 36"	100 30" 30"	175 30" 30"	50 36" 36"	36'
Clear Inside Hoistway Width Clear Inside Hoistway Depth		33"	39"	39"	39" 35"	45"	45'

For additional information and prices; for data and recommendations on Sedgwick Dumb Waiter Doors; or other types of Sedgwick Dumb Waiters and Elevators—address

SEDGWICK MACHINE WORKS, 164 West 15th Street, New York 11, N. Y. ELECTRIC AND HAND POWER ELEVATORS AND DUMB WAITERS

sensation to color, space, motion, all of which he relates to the idea that vision is a creative act involving the whole man.

My feeling is that the virtue of Professor Ames' studies lies in its possible correlation with a humanistic approach to architecture. Art, just as Aristotle said it was, is, after all, a human activity. How we see things, how we arrive at our criteria of beauty, how we create, is deeply rooted in our composition as human beings and in our experiences as human beings. In elucidating the physiology and psychology of vision and, as a result, our esthetic processes, the experiments of Professor Ames would be significant, but not as an esthetic creed as I can gather so far from your "Progress Report."

> MILTON F. KIRCHMAN New York, N. Y.

Mr. Kirchman's reaction to the article about The Hanover Institute (formerly called Dartmouth Eye Institute) experiments in visual perception may prove that Dr. Ames was right in saying that no brief summary of the work could be made, and that the phenomena must be experienced in the laboratory to be understood. However, there are several points in the letter above which raise general questions. In the first place, it does not seem a valid objection to physiological or psychological research to say that some of the implications discovered "might be called old." If new studies support old theories, we should simply feel safer of our ground. Then neither Ames nor P/A contends that the experiments are producing an "esthetic theory based solely on visual experience." Ames is merely studying visual sensations and reporting his findings; a number of students in the field of esthetics have found that the studies help them understand esthetic experiences.

The statement of Kirchman's which opens a great field of controversy is his dissatisfaction with the "sense of surety" which, Ames' findings seem to indicate, is essential to the value one derives from architecture. Surprise, shock, even a purgative effect, seem to Kirchman to be proper objectives for design. Isn't this forgetting the purpose of buildings? Isn't architecture the provision of shelter which will, in the most agreeable possible way, modify man's physical environment beneficially? Architecture can't be nonobjective; it deals with useful objects.

To put it in Dr. Ames' own words: "(Shock) may play a role in education to awaken people out of a static world in which they have encompassed themselves and therefore may serve a purpose in such arts as writing and poetry, drama, and in the pictorial arts. But it would seem apparent that its introduction into man's artifacts, whose function is to help him carry out his purposes, would only lead to confusing the users as to the use of the artifacts." T. H. C.



DECORATIVE MICARTA BY 10 IMPORT

BY 10 IMPORTANT POINTS

What puts Decorative Micarta* out in front? It's the only surfacing material that gives you *all 10* of these important advantages.



WON'T SCRATCH OR MAR under ordinary service conditions. Finished surface is hard and durable.

STRONG, **DENSE MATERIAL** . . . guaranteed not to warp, chip or crack under ordinary service conditions.



WILL NOT SPOT OR STAIN from spilled food, grease, alcohol, etc. Highly resistant to heat, moisture, mild acids and alkalies.





COLOR-FAST, PERMANENT FINISH. Unusually clear, lustrous colors and patterns won't fade or darken.



GENUINE WOOD VENEERS AVAILABLE. Truwood Micarta combines the beauty of such woods as primavera, mahogany and walnut with all the practical features of Decorative Micarta.

QUICKLY, EASILY CLEANED because of its permanently smooth surface.





AVAILABLE IN "CIGARETTE-PROOF" GRADE at slight extra cost. Even when cigarettes burn out on it, "cigarette-proof" Decorative Micarta remains unmarred.

Just about adds up to perfection, doesn't it? Get *all* these advantages when you buy a surfacing material. Specify Decorative Micarta . . . and be sure.

Use it for table-tops, counters, bar-tops, built-in booths, walls . . . anywhere at all when you want beauty,

Weldwood** Hardwood Plywood Douglas Fir Weldwood Mengel Flush Doors Douglas Fir Doors Overhead Garage Doors Molded Plywood Armorply** (metal-faced plywood) Tekwood** (paper-faced plywood)

Flexmetl Weldwood Glue** and other Adhesives Weldtex** (patented striated plywood) Decorative Micarta* Flexwood** Flexglass** Firzite **EXCLUSIVE "BEAUTY MASK"** of tough Kraft paper protects the surface during shipping, machining and installation. Strips off easily when ready for use.





OPTIONAL FINISHES. Brilliant high-gloss or lustrous satin.

LARGE 4 FT. BY 8 FT. SHEETS of Decorative Micarta are available for covering large surfaces quickly, and with a minimum of joints. Smaller sizes also available for table tops and similar applications.



convenience and durability combined in one practical material.

Get complete information on Decorative Micarta. A variety of desirable colors and patterns is available now. Write:

UNITED STATES PLYWOOD CORPORATION 55 West 44th Street, New York 18, N.Y.

*Manufactured by Westinghouse Electric Corporation, Reg. U. S. Pat. Off, **Reg. U. S. Pat. Off, United States Plywood Corporation



Town planning, as any student of the subject knows, has been largely a matter of theory in the United States. Examples of planned communities are so rare as to be classic; discussions, treatises and books, symposia and exhibits, have had to satisfy those who would rather see concrete results. -

A number of recent planning studies for small communities and minor regions may mark a break in the impasse. In our present mood, there does not seem to be much chance for any great regional planning projects on the TVA scale. The growth of the large urban centers seems to remain largely a matter of expediency. Under those circumstances it is hopeful, and perhaps significant, to find towns like Fairfield, Connecticut, and Harrison, New York, engaging competent planning consultants to prepare studies for them.

P/A has already documented some of the work of Arthur D. McVoy (March, 1947) who, with Plan-Tech Associates, is making studies for several communities. Churchill-Fulmer Associates have completed studies for a number of towns; Technical Planning Associates in New Haven, Connecticut, have made "pilot studies" for several New England towns and cities. Arthur A. and Sidney N. Shurcliff, of Boston, are doing the same job for other communities. The Village of Millbrook, New York, has published "The Millbrook Plan," arrived at by an exceptionally competent citizens' planning and zoning committee with the technical advice of Walter C. Jago, architect consultant. Granted that these are isolated, tentative efforts; they still indicate that local citizens are interested in studying the growth of their towns, and the relation of their areas to adjacent ones. The possibilities in this grass-roots approach to planning are so great that it is worth examining some of the studies to see what the procedure is.

Typical of the work of the Churchill-Fulmer office is a study for the Sewickley District in Allegheny County, Pennsylvania. Four adjacent boroughs collaborated in sponsoring the project, as the Sewickley District Planning Association. The report, for this rather wealthy residential area near Pittsburgh, is a model of analysis; the recommended program is divided into "immediate steps" and "long-term plan." Some parts of the report are extremely quotable. For example:

Realization: "No 'plan' can be carried through without the will of the people of a community. A sound plan will be of benefit in one way or another to all. All must be represented in the longrange councils: rich, poor, white, colored, tenants, landlords."

Housing: "The substandard housing or blighted conditions that are in evidence in Sewickley Borough should be of sufficient concern for the community to take action to eliminate them. The failure of the community to prevent the development of such housing is no reason that it should be ignored. Not only are these housing conditions a drain on public finances; they are cancerous growths that affect adjacent properties and even neighborhood areas."

Zoning: "The rehabilitation of blighted neighborhoods requires far more than zoning regulations. In the case of the Dickson Street section of Sewickley Borough, zoning cannot change the character of this substandard area. The improvement of this area can only be made by a redesign of the neighborhood, wholesale land acquisition for housing, private or public, or for such public purposes as recreation areas. Zoning becomes simply one of a number of instruments in the process of a redevelopment program."

Subdivision Control: "Subdivision is the process of using raw land in the



Proposed Redevelopment of Sewickley Borough, Allegheny County, Pennsylvania Churchill-Fulmer Associates, Consulting City Planners, New York, New York

design and development of new urban centers. Considerations determining the subdivision design, at the moment, such as amount of profit or cost of engineering, will frequently determine lot sizes, locations and width of streets, and location and size of water and sanitary utilities which, so far as the basic pattern is concerned, will remain substantially the same from then on. These initial considerations eventually lose much of their significance, but good or bad, the community must live with the results. . . . Poor subdivision design is therefore a first step toward the creation of substandard housing."

Finances: "Money is cheap, now. The present rate of interest on long-term bond issues in some cases is less than one and one-half percent and certainly not more than 2.5 percent. If expenditures following World War I are any indication of what may happen when interest rates on highest grade municipals sell at rates between 4.5 and 5 percent, it seems desirable that communities with favorable financial conditions . . . study ways and means, now, to establish funds on a long-term financial plan with an orderly debt retirement program, and thence gradually shift to a pay-as-you-go policy."

A "pilot study" for the town of Fairfield, Connecticut, typifies the work being done by Technical Planning Associates. The brochure which has been issued studies in general terms the background of the town and the region, traffic problems, industry, residential neighborhoods, zoning, and subdivision control. It advises on how to set up a capital budget, and how to develop a master plan. It concludes by pointing out that the study that has been made is simply a preliminary, and that "the next step is to study these problems in greater detail, giving all who are interested a chance to contribute their ideas . . . The 'Master Plan' must always be flexible enough so that changes can be made to meet new conditions. It will not be adopted all at once, for some parts will take definite form earlier than others. However, it will at all times represent the best thinking of the town about its own future."

It is interesting to note that in the Sewickley study an economist (Homer Hoyt) and a town planner (Carl Gudat) worked with architects Churchill and Fulmer. The group that calls itself Technical Planning Associates includes a city planner, an engineer, an attorney, a land architect, and three architects— M. H. Lincoln, Lawrence Moore, and Douglas W. Orr, A.I.A. president. This sort of teamwork is proving highly successful in these and other instances. It indicates that forward-looking architects are finding planning important.



BEHIND TRANE HEATING AND AIR CONDITIONING--

The Most Complete Line of Products in the Industry

Whatever the problem—whether heating an apartment—dehumidifying the air in a blast furnace—attracting mid-summer business to a restaurant—preventing ether explosions in a hospital operating room— Trane Heating and Air Conditioning Systems offer the correct solution. To make this versatility in heating and air conditioning possible, Trane furnishes the most complete line of products in the industry.

Trane products are developed, tested, and built to the highest engineering standards ... with the added advantage that every Trane product is designed to match every other Trane unit. Thus Trane systems give the performance that is only possible when every component is operating in complete harmony with every other.

The completeness of the Trane line makes it possible for the architect, engineer, and contractor to specify from *one source* in planning Trane Heating and Air Conditioning Systems. Trane field offices in 85 principal cities co-operate with them.

The Convector-radiator—modern successor to the old-fashioned cast iron radiator—has been engineered by Trane for universal application to steam and hot water heating systems, and is being produced in quantity so you can now secure it from local distributors' stocks.





Floor-to-ceiling areas of plate glass or *Thermopane* let people see into the store. Built-in cases spotlight small items. American Home Appliance Co. in San Francisco. Architects: Igaz & De Martini.



Store owners want more than fine appearance alone ... they want stores that fulfill the *second* meaning of attractiveness — having the power to attract business.

The Visual Front has won wide acclaim for this purpose. It makes the entire store a "walk-in showcase". It calls attention to the merchandise the owner wants to sell. It is truly functional architecture.

Colorful Vitrolite* glass facing on solid areas attracts attention. Large areas of plate glass reveal the store interior. Where window condensation is a problem, *Thermopane** should be specified. *Tuf-flex** tempered plate glass doors extend a cordial welcome... are now readily available. Because it's all glass, a Visual Front can be kept new looking by cleaning with water and a squeegee. Your L·O·F Glass Distributor has prices and data on all glass products for storefronts.

You'll find our Visual Fronts book helpful in suggesting ideas and color combinations. It contains many designs by leading architects. For your copy, write to Libbey-Owens-Ford Glass Company, 5728 Nicholas Building, Toledo 3, Ohio.

*®



THIS *Frank Adam* INSTALLATION



SOLVED MANY POWER PROBLEMS

Behind the attractive appearance of this new ^(h) Shutlbrak Switchboard is a host of features which added greatly to the safety, efficiency and operation of one company. It provided, for instance, a more compact unit with greater electrical capacity... greater operating efficiency with less maintenance ... easier, faster and more positive switching with new heavy-duty ^(h) Shutlbrak Switches... safe operation with dead front, safety-type enclosure ... safer maintenance with fuses concealed behind doors that open only when switch is in "off" position ... greater simplicity of maintenance due to accessibility and design ... more efficient power transmission with High Efficiency Feeder @ Busduct carrying current from transformer station to switchboard with a minimum of voltage loss ... and greater flexibility by providing for future additions when the need arises.

You'll solve these and many more power problems by including the ^(h) Shutlbrak Switchboard in your <u>new</u> electrical system. This heavy-duty, safety-type switchboard with quick make and break switches fitted with ^(h) Kamklamp (pressure type) Fuseholders is available in a full range of capacities: 30 to 1200 amps., 250 volts, AC or DC; and 600 volts AC, 2, 3 and 4 poles. Consult your nearest ^(h) Representative for details.



ank Adam Electric Co.

ST. LOUIS 13, MISSOURI Makers of BUSDUCT + PANELBOARDS + SWITCHBOARDS + SERVICE EQUIPMENT + SAFETY SWITCHES + LOAD CENTERS + QUIKHETER



Baha'i's boilers offer three-fold warmth in welded steel from a triad of



Steaming Capacity, 500 horsepower, fueled with oil

L. J. Bourgeois, Architect Advance Heating and Air Conditioning Corp.

The BAHÁ'Í TEMPLE Wilmette

Nonagon in plan, tripartite in elevation, this architectural masterpiece blends the ancient mysticism of the Orient and of the Occident with the practicality of the present. It was laboriously molded block by block in gleaming white cement sparkled with fine-ground quartz.

Three tiers of nine capital-tipped pilasters support as many arched facades for the doorways inset below. All are richly fashioned in symbolic tracery. All converge triumphantly to a focal pivot-point, fit apex for the capping cupola, spheroid shaped and textured in frosted filigree.

In perspective a brilliant vista, this house of meditation is the visible nucleus of a cultural center to come, purposed as a social service grouping to exemplify in practice the unifying influence of Baha'i teachings.



KEWANEE BOILER CORPORATION KEWANEE, ILLINOIS Branches in 60 Cities-Eastern District Office: 40 West 40th Street, New York City 18 Division of AMERICAN RADIATOR & Standard Sautitary CORPORATION



Roll out the Carpet for an Old Friend.

A.W. FABE R. 回回 "CA STELL" 回回 u.S. A. 9000 * HB *

the Drawing Pencil of the Masters

It's the most exciting news in eight years. CASTELL is back in all its incomparable quality. CASTELL, milled according to the secret micrometric process of Old World Craftsmen, whose cumulative experience goes back to 1761.

CASTELL

When you again get a CASTELL in your fingers you will instantly recognize its tangible superiorities

 in smoothness, graphite adhesion, controlled tone, needlepoint sharpness without point breakage and 7B softness without flake or crumble.

You will say, "It's easy to see why CASTELL is the world's finest drawing pencil!"

Despite increased prices on almost everything else, CASTELL is still sold at the old pre-war price of

15c each . . less in quantities
18 superlative degrees . . .
... 7B to 9H

FABER CASTELL PENCIL COMPANY INC. NEWARK 4.NJ

Hospitals with a modern air

Many leading hospitals are enhancing their prestige with a complete Carrier air conditioning system. Close control of temperature and humidity in bedrooms increases patient comfort, speeds recovery. . . . Modern Carrier systems can be as readily installed in old structures as in new. Compact Carrier design keeps space requirements at a minimum. . . . For operating rooms, nurseries and other special rooms, Carrier self-contained air conditioning units are available. And for refrigeration in laboratory and kitchen there's a Carrier refrigerating unit to meet any need. . . . Carrier leadership in air conditioning and refrigeration engineering assures dependable, low-cost service. Carrier engineers for years have teamed up with architects and their consulting engineers to create the finest possible air conditioning and refrigeration for each individual installation. Carrier Corporation, Syracuse, New York.



AIR CONDITIONING . REFRIGERATION . INDUSTRIAL HEATING



SIEE _ DECK

INSULATED STEEL WALLS

for WALLS, ROOFS FLOORS and PARTITIONS

In modern construction today, Steel Deck continues to prove its versatility in all types of industrial and commercial building. It is extensively employed by many of the country's leading architects and construction companies for Walls, Roofs, Floors, Ceilings and Partitions . . . complete plants have been constructed with insulated exterior walls and roofs of this material. Concrete floors, in multiple story buildings, are also economically constructed with Steel Deck serving as permanent concrete floor forms. See Mahon Inserts in Sweet's File for complete information, or call in a Mahon representative.

You will find that Mahon Steel Deck, due to its basic design, lends itself to a broader range of uses in modern construction.

MAHON

с.



STEEL

INSULATED

ROOFS

Representatives in all Principal Cities Manufacturers of Steel Deck for Roofs, Sidewalls, Ceilings, Floors, Partitions and Doors. Also Roof Sumps and Recesses, Rolling Steel Doors, Grilles, and Underwriters' Labeled Rolling Steel Doors and Fire Shutters.

COMPANY



No extra hardware to buy, installation costs cut 80% • Planing and fitting eliminated. Factory finished, no painting necessary • Precision made, ready to install without fitting. Standard sizes, ready to install, eliminating work of fitting, trimming and painting.

Have you ever asked yourself "How can home building costs be reduced?" Now, that's a practical question-and here at Ceco we have an answer. Certain Ceco products *will reduce* home building costs. Take steel windows for example: They cost less installed, because there are no hidden costs to overlook, such as hardware, prime coat, accessories, additional labor costs. Then, too, steel windows last, and last, and last. There is no need for repair-they cannot rot... they are Bonderized and painted for protection against rust. And that goes for steel basement windows, too. Another way to save is provided by Ceco metal frame screens. Installed, they actually cost less than old-style screens, are factory finished-need no on-the-job painting, trimming, or fitting. So, to reduce building costs, recommend Ceco metal casements, basement windows, and metal frame screens.

WHY SPECIFY CECO?

Ceco does more than design and manufacture fine construction products. Besides their wealth of technical engineering skill, there is available construction knowledge gained by 35 years of experience on the job. In 23 offices strategically located from coast to coast, Ceco stands ready to help you reduce home building costs. Call on Ceco today!

GENERAL OFFICES: 5701 West 26th Street, Chicago 50, Illinois

Offices, warehouses and fabricating plants in principal cities

Other Ceco products include—Combination All-Aluminum Storm Panel and Screen for Wood Windows, Steel Joists, Meyer Steelforms, Reinforcing Steel, Roof Deck, Metal Lath and Accessories, Highway Products, Corrugated Roofing



CECO

STEEL

This specialty shop exhibit at the General Electric Lighting Institute, Nela Park, Cleveland, shows dynamically how the "3 A's of Store Lighting" may be applied to move merchandise.

1. ATTRACTION is achieved by emphasis lighting with G-E fluorescent lamps in floor and wall case displays. Accents and highlights are superposed with reflector and projector spot lamps mounted in recessed fixtures.

2. APPRAISAL illumination, using both fluorescent and filament lamps, may be set from 30 to 120 footcandles, providing correct conditions for quick, accurate buying decisions.

3. ATMOSPHERE lighting combines blue, gold, pink, daylight and 4500° white fluorescent lamps housed in the wall case tops. Perimeter lighting creates feeling of spaciousness.

For the latest in lighting ideas, tools and techniques, architects are invited to visit the G-E Lighting Institute. Make arrangements through your nearby G-E Lamp district office.

> SIXTH OF A SERIES PEATURING DISPLAYS AT THE Q-E LIGHTING INSTITUTE



Section of ceiling luminaire. Reflectors are designed to distribute light both over selling areas and over vertical displays in wall cases.



G-E projector spot lamp with side prong hase in shallow box used for flexible spotlighting in show window arcangement.

For successful lighting, always specify G-E Lamps . . . constantly improved by G-E research to STAY BRIGHTER LONGER

GENERAL 6 ELECTRIC

GENERAL BELECT



low G-E lamps make merchandise

easier to see ...

easier to buy!



Newest Video-Radio Stalion...in the Modern Structural Material... ARCHITECTURAL CONCRETE

THE new \$2,500,000 home of the Mutual-Don Lee Broadcasting System, now nearing completion in Hollywood, is a three-story-and-basement structure approximately 280 feet square with a floor area of about three acres. It is a building of beauty, strength and permanence because it is built with the modern, versatile structural material-architectural concrete.

This is another example of how the structural and ornamental parts of a building can be cast in one operation with architectural concrete—a valuable point to remember in planning public buildings, schools, hospitals, apartment houses and industrial buildings. Architectural concrete is adaptable to an unusually wide range of architectural styles and decorative treatments.

Moderate first cost, low maintenance expense, long life, firesafety and **low annual cost** are just a few of the advantages of architectural concrete. Architects and engineers are invited to make full use of our services to secure the maximum advantages of architectural concrete for their projects. See our catalog in Sweet's, section 4e/5.

PORTLAND CEMENT ASSOCIATION Dept. 2-25, 33 West Grand Avenue, Chicago 10, Illinois

A national organization to improve and extend the uses of portland cement and concrete ... through scientific research and engineering field work

Avenues in the heart of Hollywood's Radio Center, combines the latest in

television, FM and AM radio in what

is said to be America's most modern

broadcasting station. Of all-concrete

construction, the new studio features

a contemporary design of horizontal

The first floor contains eight large

studios. Four will accommodate au-

diences of 350 people each. Four will

be non-audience studios. In addition.

there will be five small studios for

newscasting and FM. There will also be about 70 offices and recreation

This new structure was designed

by Claude Beelman, architect, and

Herman Spackler, associate. Con-

struction by Wm. Simpson Construc-

motif.

rooms.

tion Company.



Fleur-O-Lier fixtures are made to exacting specifications that cover performance, construction and safety. Then they are tested and certified by Electrical Testing Laboratories Inc., as meeting these specifications. A Fleur-O-Lier label on each fixture identifies them.

What's the value of this?

Fleur-O-Lier fixtures are insurance on your reputation. A Fleur-O-Lier installation assures customer satisfaction—freedom from complaints. With Fleur-O-Lier equipment you *know* the customer will get fine lighting performance-trouble-free operation.

Fleur-O-Lier is both a Product and a Program. Those rigid specifications, the careful checking, enable you to give the product unqualified endorsement. The promotional program develops the commercial fluorescent lighting market and raises the standards of lighting to higher levels. You benefit—and the customer benefits.



Fleur-O-Lier is not the name of an individual manufacturer, but of a group of fixtures made by leading manufacturers. Participation in the Fleur-O-Lier program is open to any manufacturer who complies with Fleur-O-Lier requirements.



A photograph of the Jacob Riis Housing Project under construction in New York City. 19 buildings-each 12 stories high-are being built to rid the city of one of its worst slum areas.

15 million dollar project proves advantages of...

Kimpreg*+ Plywood Concrete Forms

KIMPREG* plastic surfacing is a tough, durable material fused to exterior grade plywood in manufacture. Carloads of KIMPREG+Plywood panels were supplied for the tremendous Jacob Riis construction job and here's why:

Lower Ultimate Cost. KIMPREG increases the strengthadds to the life of plywood. KIMPREG-surfaced plywood concrete forms-handled with reasonable care-can be re-used scores of times.

Smooth Concrete Finish. Plywood panels protected with KIMPREG produce a remarkably smooth, long-lasting surface. They were ideal for the giant Jacob Riis Project because ceilings were not plastered, but painted directly over the concrete. The exceptional smoothness of the slab kept rubbing and stoning labor at a minimum.

50% Less Maintenance Expense. Light in weight, KIMPREG+Plywood panels cut handling time. Highly resistant to water, they won't swell-require no separation while drying. And oiling is reduced to a minimum. They strip easily-clean quickly.

Full Information For You. Time-saving, money-saving KIMPREG-surfaced plywood concrete forms are available through your local plywood jobber. They are also sold by individual plywood manufacturers under the trade names Laminex, Inderon and Westboard Industrial Plastic. For complete details write:

> KIMBERLY-CLARK CORPORATION Plastics Division · Neenah, Wis.



What's the long-term story on insulation costs?

• In the long run, insulation will cost your clients less, in both dollars and trouble, if you specify PC Foamglas insulation. With Foamglas, first cost is last cost. No constantly recurring expenses for repair, replacement, maintenance. When

installed according to our specifications for recommended applications, PC Foamglas retains its original insulating effi-

Being glass, Foamglas is highly resistant to moisture, vapors and fumes which cause many insulating materials to ciency permanently. deteriorate. Foamglas helps to maintain desired temperature

levels, to minimize condensation. It is ideal for use in roofs, core walls, floors and ceilings.

Consult us about PC Foamglas insulation for your clients' special requirements. Meanwhile send the coupon for our free booklets of valuable information about this unique material.

Pittsburgh Corning Corporation also makes PC Glass Blocks.

When you insulate with FOAMGLAS you insulate FOR GOOD. WHEN WALLS ARE INSULATED with PC Foamglas, the material can be easily cut to fit around pipes, conduits and other ob-structions. In core walls of all sorts of buildings, PC Foamglas minimizes con-densation, reduces heat loss, eases the load on heating and air-conditioning equipment.

	E.	33	the last	
5				1
		CER.	S.	A A
	12	30	Y	7
		1		
Churter	chock	FFOTIO	N of PC	P

10.

CEALED

THE MAGNIFIED CROSS SECTION of PC Foam-glas shows its cellular construction. It is literally a foam of glass, solidified into big, strong, rigid blocks. In the millions of minute cells of glass-enclosed air, lies the secret of its permanent insulating value.

Name	Walls Floors	
	State	
P	FOAMGLAS INSULA	TION
]	FUAMGLAS INSULA	IIUR



the house that knack built

Working closely with architects for many years developed Lockwood's *knack* for simplifying everything an architect wants to know about Finishing Hardware – and then putting it under one roof!

That's why Lockwood's "Simplified Specifications for Finishing Hardware" can be your stand-by for writing up private dwellings, schools, hotels, hospitals, apartment houses and commercial dwellings. And with good reasons. For example, *one* Unit Number selected from *one* listing specifies the lockset, hinges, door-stop, kick plate and even the door closer for a particular door. The whole story is there at a glance; yet you still have free selection of design and finish. Nothing could be simpler!

"Simplified Specifications for Finishing Hardware" will be a big help to you again this year. You'll find the new edition bound into Sweet's Architectural File for 1948 — or we'll be glad to send you an easy-to-handle copy for your own individual use. Just ask for it.

L-81A FACTURING CO. Independent Lock Company . FITCHBURG, MASSACHUSETTS Division

QUIETER ...

SAFER

Samuel B. Dixon School, Detroit, Michigan. Architects: Lane-Davenport-Meyer Contractor: H. B. Culbertson Co.

STEEL PANELS

acoustical ceiling of noncombustible Fenestra

This Detroit school gymnasium illustrates the versatility of Fenestra Building Panels. Here is a combination ceiling and roof that provides desired quietness and firesafety, and does it by economical construction methods.

Fenestra Type AD Panels, 17' long, are laid directly on the beams, eliminating purlins and rafters. The result: a clean, unobstructed ceiling.

This long-span panel is capable of carrying either roof or floor load between beams. The smooth, bottom face is perforated and backed up with fibre glass or rock wool, inserted within the cells, for sound absorption. Wiring for lights is also concealed in these cells. Insulation and roofing, applied to the top surface, completes the roof unit. When used for floors, the Type AD Panels are combined with concrete or other floor surfacing materials of your choice.

Type AD Panels, available in lengths up to 20', are ideal for construction calling for two flat surfaces. Also available are Fenestra Type C and D Panels, as well as Holorib Roof Deck. These metal panels provide an economical and timesaving means of building floors, walls, ceilings, roofs and partitions. You'll find data on all types in Sweet's Architectural File. Or mail the coupon.



DETROIT STEEL PRODUCTS COMPANY Building Panels Division Dept. PA-2, 2253 E. Grand Boulevard Detroit 11, Michigan

Please send me, without obligation, information on Fenestra Building Panels.

Name_

Company.

Address

Officially Grade-Marked Douglas Fir Doors

are held to rigid standards of quality and uniformity through Fir Door Institute inspection service

NOW in effect are new quality standards for all Douglas fir doors, and new dimension specifications for stock interior doors—both backed by official Fir Door Institute inspection.

Stock interior doors are prefit to 1/8-inch less than previous catalog height and 3/16-inch less than catalog width, which permits on-the-job installation without sawing or trimming. Stock doors are also resin presealed for better finishing and improved dimensional stability.

On order, Douglas fir interior doors are available Factri-fit as well-pre-fit, pre-sealed and completely machined for locks and hinges.

All these features come under official inspection—as does workmanship and grade. The F.D.I. "grade trade-mark" is your assurance of a highquality, uniform product.

A CALL STAR BILL STAR

FIR DOOR INSTITUTE

TACOMA BUILDING

TACOMA 2, WASHINGTON

THE NATIONAL ASSOCIATION OF

DOUGLAS FIR DOOR MANUFACTURERS

One of these distinctive F.D.I. "grade trade-marks" appears on the bottom of every officially inspected Douglas fir door—and only on doors so inspected. Look for the F.D.I. seal. It is your symbol of fine craftsmanship, backed by rigid inspection.
SLASH UPKEEP COSTS

with windows of Alcoa Aluminum

When you figure window costs, add in upkeep expense as well. Then you'll see how quality aluminum windows save you money all along the line.

Painting costs are eliminated. Repair and replacement costs are cut to the bone. Aluminum windows can't rot or warp. They keep their snug fit and trim appearance.

DRE FO

Quality windows of Alcoa

No Painting Less Repair Less Replacement

Snug Fit Easy Operation

Aluminum give you these money-saving advantages:

OUR MO

For modern buildings that will stay modern, specify windows of Alcoa Aluminum. They are available now in types and sizes for all commercial, industrial, and residential uses. For information on any application of aluminum, write to Aluminum Company of America, 1868 Gulf Building, Pittsburgh 19, Pennsylvania.

FIRST IN

COMMERCIAL

EVERY

IN

MINUM

FORM

FEBRUARY, 1948 35

ALCOA



Designed by Harold Spitznagel

PUT TELEPHONE RACEWAYS IN YOUR SMALL HOME PLANS



Buyers of small homes as well as larger ones are quick to notice and appreciate any features which add charm and convenience. Telephone raceways are important because they provide a channel within walls for telephone wires, avoiding the need to run exposed wires on attractive walls and woodwork.

It is easy and costs little extra to install a raceway during construction. A few sections of pipe or electrical conduit will provide an entrance for telephone wires and passage within walls to convenient telephone outlet locations.

Your Bell Telephone Company will be glad to co-operate with you in planning telephone raceway systems. Just call your Telephone Business Office and ask for "Architects and Builders Service."

BELL TELEPHONE SYSTE



Yes... Pop's in the shower. ...while Dick does the car!





Thanks to a farsighted architect who specified "oversize" pipe

HE only good water system is the one you never have to think about. Dad can revel in his shower while Dick works full-stream on the car and Mother soaks the flower beds.

After the family moves into the house is the wrong time to discover that the water can't flow freely because meter and pipes are too small--as for instance, the third floor bath goes dry if the hose is on. Responsibility for such a predicament must go right back to the original plans.

Pinching pennies on piping is a poor way to cut cost. It's a sure way to incite the wrath of a disappointed client who wants water when he wants it, where he wants it. The golden rule, water-wise, is: Be Generous with Steel Pipe. Specify and install it in adequate diameter--plenty big to accommodate today's equipment plus all the water-consuming appliances that homes will have tomorrow.



PETER COOPER VILLAGE-Manhattan, New York

A development of the Metropolitan Life Insurance Co. to provide apartments for 2,495 families. Architects: Board of Design-Gilmore D. Clarke, Chairman; Irwin Clavan, Architect. General Contractors: Starrett Bros & Eken, Inc. Flooring Contractor: John T. Swanson Co.



It's Bruce Block Floors IN PETER COOPER VILLAGE and other big apartment projects

Architects and owners alike give Bruce Block Floors the very highest rating for modern apartment projects such as Peter Cooper Village. There is no floor so satisfactory on these five most important considerations: (1) Easily and economically installed over concrete. (2) A permanent part of a building . . . not a floor that must be replaced every few years. (3) Distinctive, modern and beautiful. (4) Comfortable—warm, resilient and quiet underfoot. (5) Easily maintained in perfect condition. Bruce Blocks are so popular that production cannot match present demand. Specify this flooring on projects being planned now for future construction. See our catalog in Sweet's.

Large Scale Apartment Projects with Bruce Block Floors Include:

Parkchester, Stuyvesant Town, Hillside, John Hancock Village, Riverton, Fresh Meadows, Clinton Hills, Parkway Village, Peter Cooper Village, Parkmerced.



E. L. BRUCE CO., MEMPHIS, TENN., World's Largest Maker of Hardwood Floors







WALKER ART CENTER: The Museum's new facade (Magney, Tusler & Setter, architects) is presented on pages 48-49.

HOUSE MINNEAPOLIS, MINNESOTA

"IDEA HOUSE II" FOR THE WALKER ART CENTER*

WILLIAM M. FRIEDMAN and HILDE REISS (of the Walker Art Center Staff), Designers; MALCOLM E. LEIN, Associate

Built on the grounds of the Walker Art Center purely as an educational venture, this is the second complete "Idea House" that institution has built to guide the public toward a sound contemporary approach to useful and comfortable living quarters. "This house is simply an extension of our Everyday Art program," comments D. S. Defenbacher, Art Center Director. "Our aim is to show people that a modern house is not the product of gadgetry but is achieved through planning based on an intelligent evaluation of today's living with today's utensils." Objectively studied to provide a good, durable living environment for a family of four, the 19,000-cubic-foot house consciously employs materials and structural methods that are available today, rather than experimental methods or products still in the laboratory-potential stage.

* Co-sponsored by the Walker Art Center and the Home Institute, Northwestern National Bank of Minneapolis.



AT LEFT: Northeast view. Morning sun floods the bedrooms; wall to the north and least favored exposure is blank. The rectangular, wooded site has a 12-percent slope down toward the north; street frontage is on the west.



N







ABOVE: From the southeast, the family living area is apparent at left, with the plan so worked out as to provide privacy from both the street and the entrance sides of the house. The roof has a summer-sunshade overhang 5 feet deep. As will be seen in the interior views, exterior finish materials are carried right into the house. All exterior trim is painted white; gutters, pipe columns, etc., are aluminum-painted.

PLAN HIGHLIGHTS

Porch

LOWER LEVEL: Carport; bulk storage space; utility room; multiaccess entrance hall (all economically organized in the downhill slope of the site).

UPPER LEVELS: Central hallway; "four-in-one" living area, including eating and meal-preparation activities as well as entertaining and family recreation; sleeping wing on separate level; bed-sitting room with view window to living area; flexible apartment for children (playroom and two sleeping-study alcoves); multi-use bathrooms; stair hall-picture gallery.

HOUSE, MINNEAPOLIS, MINNESOTA

WILLIAM M. FRIEDMAN and HILDE REISS, Designers MALCOLM E. LEIN, Associate

The house is arranged on three levels, a device that takes advantage of the site slope and results in good functional separation in the plan. Oriented to gain full solar values in the main living area, the house is further comfort-conditioned by means of a year-round, gas-fired air conditioning system. Throughout the house, built-in, prefabricated storage units have been incorporated. Construction methods and the materials used are conventional—frame and masonry elements, concrete block, natural redwood, plywoods, glass. But these have been freshly employed to produce an integrated, contemporary design.

F LEFT: View from street side orthwest). Family living area mpletely shielded; garage and eltered entrance walk to front or at left. In the kitchen wing at ht, a projecting, slatted sunade screens the hot afternoon n. Exterior walls are of vertical twood siding.

Living-Dining

Kitchen

BOOK SHELF

OPEN OVER

UNDER





FIREPLACE WALL: Masonry is concrete block. High windows (left) open into bed-sitting room and (right) to outside north light. Prefabricated storage units form wall at left of fireplace.

HOUSE, MINNEAPOLIS, MINNESOTA

STAIR HALL: The directional light units in the ceiling both provide general illumination and spotlight "exhibits." The bedroom wing is concealed around the corner of the upper level (rear of photo); front door appears at left (downstairs).



LIVING ROOM, toward southern window wall (large, fixed glass panes with ventilating transoms above); the ceiling and far wall of the room are of redwood, echoing the exterior wall finishes; asphalt tile is used for flooring. All upholstered furniture is covered with a dark blue herringbone tweed; furniture is light wood. The lowered light fixtures at right bring light down on the dining-work-play table. The room is planned and the furniture arranged so that several activities can take place at once—talk at the far end, music playing by the storage-wall units at left, eating or games around the big table at right.

WILLIAM M. FRIEDMAN and HILDE REISS, Designers

MALCOLM E. LEIN, Associate



WILLIAM M. FRIEDMAN

THE DESIGNERS: William M. Friedman, Walker Art Center Assistant Curator, trained as an architect (N.Y.U.: Atelier Whitman-Goodman; U. of Minn.), later was Faculty Chairman, N. Y. Laboratory School of Design; worked with Norman Bel Geddes, and, as design head, Iowa WPA Art Project. Hilde Reiss, Curator of the Center's Everyday Art Gallery, studied architecture under Mies van der Rohe at the Dessau Bauhaus, subsequently working in New York industrial design offices and teaching (Laboratory School of Design, New School of Social Research, San Francisco Labor School). During 1943-45, she was Technical Consultant, Vallejo (Calif.) Housing Authority.



HILDE REISS





DINING, ETC .: At the west end of the living area is the kitchen which can be entirely cut off from the rest of the area (by means of a roll-down slatted blind and double doors) or opened up through, as shown in the photograph above. Meals may be taken either at the all-purpose family table in the big room or at the pass-through bar, equipped with adjustable, high chairs on both sides. Also, in this immediate area and served by doors from both living room and kitchen, is the screened living porch, opened on the east and south to the private family garden and cut off from the street view and noise by a solid wall to the west. In the kitchen proper, there are windows on north and west walls (the latter sun-screened by a fixed wood-slatted "eyeshade"). There are two counter heights-36" at the sink, 32" at the right of the stove to allow work while sitting. Cabinets are birch; the counter top, a dark gray linoleum.





Section at A

HOUSE, MINNEAPOLIS, MINNESOTA

WILLIAM M. FRIEDMAN and HILDE REISS Designers MALCOLM E. LEIN, Associate





BATHROOMS: On the bedroom level is a flexible, tworoom arrangement of toilet and bathing elements. One room contains complete bathroom facilities in a factoryfabricated, one-piece unit that includes a swing-around lavatory. Turned to rest above the toilet, the lavatory is completely out of the way of the bathtub; turned the other way over one end of the tub, it forms a handyheight baby's tub as well as an adult lavatory. In the adjoining room are standard toilet and lavatory units.



PRIVACY FOR THE CHILDREN

HOUSE, MINNEAPOLIS, MINNESOTA

WILLIAM M. FRIEDMAN and HILDE REISS, Designers



PRIVACY FOR THE PARENTS



MALCOLM E. LEIN, Associate

BEDROOMS: For the two children, a small private apartment is provided. Folding, sliding partitions form separate sleeping-study rooms (with storage units between); for daytime use, with partitions pushed back, these open up to become one with the adjoining playroom. The parents' bed-sitting room has its own fireplace, allowing parents a pleasant refuge from a living-roomful of children, while still able to maintain control through windows overlooking the lower room.



HOUSE MINNEAPOLIS, MINNESOTA

WILLIAM M. FRIEDMAN and HILDE REISS, Designers MALCOLM E. LEIN, Associate



Hedrich-Blessing Photos

The 9-foot square of stone on the upper right of the facade is intended for some form of decorative treatment. To obtain this element, the Art Center is considering a nation-wide competition.

MUSEUM FACADE

WALKER ART CENTER, MINNEAPOLIS, MINNESOTA



BEFORE: Original building, completed in 1927; Long & Thorshov, architects. For work this firm is NOW doing, see the special feature in our next month's issue.

MAGNEY, TUSLER & SETTER, Architects

This is frankly a face-lifting operation, as the other sides of the museum remain essentially as they were. Simple and architectural in organization, the new facade not only dramatizes the Center, but serves as a flexible, ordered billboard for museum activities.

Replanning consisted chiefly of relocation of walks, etc., and elimination of troublesome gallery windows; hence, we let the photographs tell the planning story. The resurfacing involved removing the terra cotta mask and installing a face of local limestone and red granite; entrance doors are of wood, with trim painted blue.



THE ARCHITECTS: Gottlieb R. Magney, structural and mechanical engineer and architect, received his training at the U. of Minn. Work with firms in Minneapolis, San Francisco, and Duluth preceded the founding of the firm of Magney & Tusler, Inc., in 1917. Wilbur H. Tusler, former president of the Minneapolis Chapter, A.I.A., studied at the U. of Minn., receiving his architec-tural degree at the U. of Penn. He joined Mr. Magney in the founding of the firm after working in offices in Philadelphia and Minneapolis. Donald P. Setter had his architectural training at Cornell, thereafter working with Buffalo, Ithaca, and Minneapolis architects before joining the present firm in 1938. The office's chief designer, he is also president of the Minneapolis Chapter, A.I.A.



GALLERY FOR CERAMICS



EVERYDAY ART GALLERY

INSIDE THE CENTER, a few galleries have been redesigned in a contemporary manner. Above: the gallery for ceramics is the work of William M. Friedman. The Everyday Art Gallery was designed by Hilde Reiss and William M. Friedman, chief designers of the "Idea House II" (pages 39-47).



"BILLBOARD": The 48-foot, red granite canopy contains double rows of cold cathode tubing for illumination of the sign space. For attachment of signs, bronze lugs were tapped and inserted at the joints of the stone veneer in a 3-foot grid. Any sign using unit panels and forms can be readily installed. The architects point out: "Whether or not a sign is in place, the architectural effect is unimpaired."



P. A. Dearborn Photos of Model

MUSEUM

This remarkable graduate-school project strikes us as an excellent synthesis of progressive design in addition to providing a much-needed architectural statement of a proper character for a museum today.



LOWER FLOOR: Tea Garden in center extends through building to walled court at rear; two-story gallery at right of this area entered from lower floor or viewed from upper-floor gallery. "The traditional Chinese garden is literally a garden of walls," Mr. Pei explains. "This building is sunk half a level below ground in order to create walls for the main garden while permitting a view into it from outside."

BACKGROUND: Planned to replace an inadequate structure that occupies a site within the city's new Civic Center, plans for which were completed in 1933, this design for a museum "befitting the dignity of the city of Shanghai" is developed as an integral part of the civic plan. The structure is low in relation to surrounding buildings; hence the architect has carried the marble facing right up onto the roof to give it visual importance equal to that of elevations. He hopes the treatment will "enhance the plastic and sculptural quality of the structure." The entrance canopy comes at an intermediate level, with a ramp leading either up or down a half flight to the two main exhibit floors.



FOR CHINESE ART, SHANGHAI, CHINA

On page 52, Dr. Gropius gives his opinion of its importance. In approaching the design, Mr. Pei felt that "a technically perfect (artificially controlled) space alone was insufficient and unsympathetic." To create the desired sympathetic environment, he has employed walls and landscaped courts to heighten the esthetic appeal of the collections. From the entrance canopy, ramps lead to the two main floors.

I. M. PEI, Architect



UPPER FLOOR: Collections are arranged in chronological order around landscaped courtyards. "All forms of Chinese art are directly or indirectly results of a sensitive observation of nature," says Mr. Pei. "Such objects, consequently, are best displayed in surroundings which are in tune with them, surroundings which incorporate as much as possible the constituting elements of natural beauty."

MUSEUM, SHANGHAI, CHINA

I. M. PEI, Architect

THIS PROJECT for a museum in Shanghai, China, was designed by Mr. leoh Ming Pei in the Master class of Harvard's Department of Architecture under my general direction. It clearly illustrates that an able designer can very well hold on to basic traditional features—which he has found are still alive without sacrificing a progressive conception of design. We have today sufficiently clarified our minds to know that respect for tradition does not mean complacent toleration of elements which have been a matter of fortuitous chance or a simple imitation of bygone esthetic forms. We have become aware that tradition in design has always meant the preservation of essential characteristics which have resulted from eternal habits of the people.

When Mr. Pei and I discussed the problems of Chinese architecture, he told me that he was anxious to avoid having Chinese motifs of former periods added to public buildings in a rather superficial way as was done for many public buildings in Shanghai. In our discussion we tried then to find out how the character of Chinese architecture could be expressed without imitating such form motifs of former periods. We decided that the bare Chinese wall, so evident in various periods of Chinese architecture, and the small individual garden patio were two eternal features which are well understood by every Chinese living. Mr. Pei built up his scheme entirely on a variation of these two themes.

This design was highly prized by the Harvard Design faculty because we thought that here a modern architectural expression on a monumental level was reached.

Malker

Walter Gropius, Chairman Graduate School of Design Harvard University



I. M. PEI came to this country as a student in 1935, obtaining his Bachelor of Architecture degree at M.I.T. in 1940; in that same year, he was awarded the A.I.A. medal and M.I.T. Traveling Fellowship. From 1942 to 1945 he worked as a concrete designer for Stone & Webster, was appointed Wheelwright Fellow at the Harvard Graduate School of Design, and served with the National Defense Research Committee at Princeton, whence he returned to Harvard. He earned his Master of Architecture from Harvard in 1946, worked in the office of Hugh Stubbins, Jr., and is at present teaching at the Harvard Graduate School of Design.



SECTION THROUGH LARGE GALLERY: Radiant heat, integral light sources, and continuous finishes. This section looks toward the entrance garden court, at right of which is a modern translation of the traditional Chinese Tea Garden. Usually located in the market place, or near the temple grounds, to serve men of all classes as a social center and place for intellectual exchange, its inclusion here in a museum is with the hope that it will help make the institution a living organism in the life of the people, rather than a cold depository of masterpieces.



Practice

EDITORIAL NOTE: This article, by an attorney whose clients include a number of architects and engineers, inaugurates a series of articles on office practice subjects which will run intermittently through the year. This material will be supplementary to the data in Cowgill and Small's book. "Architectural Practice," published by Reinhold Publishing Corporation.

Mr. Tomson's statement should be useful not only to the young man beginning practice, but might equally well be checked by the older firms against their standard procedure. The subject of the contract with the client is receiving a great deal of professional attention these days. The New York Chapter of the A.I.A. has recently published a short, sensible document on the Services of the Architect, as well as two documents explaining the percentage-fee and the cost-plus-fee contracts to potential clients. In Cleveland, Ohio, a number of architects are using a new contract form developed by Richard Hawley Cutting and Anthony S. Ciresi, architects. This document has been, we understand, submitted to the A.I.A. for consideration as a standard form. Comments on Mr. Tomson's article would be appreciated; we will print those that seem to add something to the discussion.

AND YOUR CLIENT

By BERNARD TOMSON

The architect best serves his client who first puts his own house in order. Architects are plannersthey design and plan homes for others to live in efficiently, commercial buildings for others to work in efficiently, recreation areas for others to play in efficiently. Most members of the profession, however, will agree that they seldom take the time to plan so that their own businesses operate efficiently, economically, and profitably. Members of no other business or profession will as casually and unknowingly risk the monetary fruits of their labor. Most architects approach the problem of entering into a definitive agreement with a client with great timidity. The result is that very often no understanding at all exists or the agreement is so vague and indefinite as to be unenforcible.

An architect who embarks upon a project without a well defined agreement may incur minor or major monetary loss. Every member of the profession has been the victim of the owner of property who has the architect spend several mornings or afternoons at a site, for no other apparent purpose than to have him approve in general terms the owner's vague ideas and affirm his exclamation, "Ain't it a beauty." This situation may only involve a minor monetary loss, although the architect has only his time, ability, and experience as his stock in trade. Far more serious consequences may result from proceeding beyond this "advice" stage with a poorly drawn agreement or no agreement at all. The architect is likely to find that he has worked himself into a position where he will receive inadequate or no compensation.

The truly unfortunate consequence of this type of

architect-client dealing, however, is that a disservice is rendered to the **client** as well as to the architect. The architect may fail to get a just return for his efforts. At the same time the client may become dissatisfied, because he has proceeded in ignorance of the expenses and costs for which he is obligated.

The very nature of the architect-client relationship makes it morally the duty of the architect to define the terms and conditions under which he is retained at the inception of the relationship. Only then can the architect proceed freely to solve the problem for which he was retained, with reasonable assurance of having a satisfied client.

What form should the agreement take? Should it be a contract drawn for the particular situation or will a printed form suffice? Although it may be advisable to rely upon the A.I.A. forms primarily as a basis for negotiation, they should be modified to fit the particular case. Experience will indicate those changes or additions which will adapt standard forms to the particular operation of the user. Let us examine some of the modifications that might be made.

It is suggested that there be a clause providing for a retainer fee payable at the time the agreement is signed. This is particularly advantageous since it guarantees a minimum fee, and indicates at the outset to the client that the architect's time is valuable and that reimbursement is expected therefore an elementary principle but one very often overlooked. The architect too often feels that to require the payment of a retainer will result in his losing the client. If such is the case, he should also realize that he is better off. A client who does not expect to pay fees is not a desirable client.

In most cases it is probably desirable to provide for periodic payments not only during the progress of the building operations, but also during the preparation of preliminary studies and working drawings. The architect should know at the beginning, just as the client should, when the client is required to make additional payments. The architect is not a banker and should not be required to finance the client.

Another clause that might be desirable, for selfevident reasons, would provide that the architect's estimates are to be binding for the purpose of determining the amount of the respective payments, until actual costs are finally determined.

Since each case must be considered in the light of its own peculiar facts, there can be no blanket preference for one type of contract over another, though there is an increasing preference for the "three times drafting costs" arrangement.* This contract has serious limitations, however, when the architect's own services in the particular case are out of proportion to the time usually spent by him. The percentage contract, on the other hand, has obvious limitations where the work required is out of proportion to the net return. At times a combination of the cost-plus and percentage contract will be found most appropriate.

Where preliminary studies will require an inordinate amount of time and effort, it is probably advisable to use a cost-plus basis for the preliminary studies and a reduced percentage basis to cover the balance of the project. This arrangement recognizes the fact that the architect's preliminary studies make the greatest call on his imagination, and guarantees reasonable recompense at this stage.

* * *

How best can the architect avoid pitfalls in planning his business-in other matters as well as the contract provisions we have considered? Probably the most important single thing is to recognize the fact that running an office efficiently and profitably requires planning and competent advice. A profession that knows how important it is for a client to obtain the advice of an architect when building is contemplated should appreciate the function of professional advice from an attorney and accountant when legal problems and books of account are involved. It is earnestly suggested that you discuss at length the general nature of your practice with your attorney and accountant. Have them present at periodic office meetings so that they will have the proper background of knowledge of your current problems to advise you properly. Submit to your attorney each and every contract to which you are a party. Follow the advice of the experts with whom you consult in the same fashion as you expect your expert advice to be followed.

The benefits that flow from following this procedure are immediate and important. Records, proper from a legal and accounting standpoint, mean security from "wages and hours" claims, "social security" errors, unnecessary tax liability, and a host of other evils. They will accurately reflect the financial story for the client who is a party to a cost-plus arrangement. They will satisfy tax requirements. And, above all, the architect will personally benefit from plans carefully conceived, legally sound, and properly executed. Such plans can be evolved at regular office meetings attended by the architect-attorneyaccountant team. They will pay dividends and will accomplish what every architect has a right to expect: a fair and profitable return for his efforts.

- 1. Don't be timid about proposing a contract for your services.
- 2. Make clear the duties and responsibilities of both architect and client.
- 3. Modify the standard contract forms as necessary for each job.

4. Consider the advisability of a retainer fee.

- 5. Provide clearly for periodic payments through ALL STAGES of your work.
- 6. Make your estimates binding for fee purposes until actual costs are known.
- 7. Consider the cost-plus method of payment, at least for preliminary studies.
- 8. Secure competent legal and accounting advice.
- 9. Hold regular meetings with your attorney and accountant present.

In summary, the matters for an architect to watch carefully, and the steps to take to insure a good business practice, include these:

^{*} In the cost-plus-fee contract, the architect's fee-the amount paid him in excess of his costs-may be determined by one of three methods: negotiation, a percentage of the construction cost, or a ratio to the technical salaries. It is this third method that Mr. Tomson refers to.

THREE STORES



In May 1947 we presented an inclusive Retail Store Critique analyzing numerous jobs of a widely varying nature that we considered illustrative of design progress. Herewith is our first supplemental study or "minor critique"—three

recent retail establishments (a suburban branch department store and two specialty shops)—which emulate many of the points of view established in the initial Critique. In this instance, the editors undertook to serve as the jury; but, as usual, the designers had full opportunity to rebut, explain, or otherwise comment. Altman's branch store automatically solves the twin difficulties (encountered in any downtown store) of traffic congestion and what to do with the car when you get there. In the collaborative design presented here, the Hopkins office was chiefly responsible for site plan and design of the physical building: the Parrish office (consulting with Altman representatives) developed the merchandise plan, departmental layouts, and interior design.

The Editor.

PARKING PAR

BAltmando SUBURBAN DEPARTMENT STORE MANHASSET, N. Y.

ALFRED HOPKINS & ASSOCIATES, Architects

AMOS PARRISH & COMPANY, INC., Designers



FEBRUARY, 1948 55



VIEW FROM SOUTHWEST: Cavity wall construction-exterior withe, granite; 2-in. air space; interior withe, terra-cotta block.

1. SUBURBAN DEPARTMENT STORE, MANHASSET, N. Y.

ALFRED HOPKINS & ASSOCIATES, Architects AMOS PARRISH & COMPANY, INC., Designers

PROBLEM: To develop a department store within a building not to exceed 100' x 200' arranged on two levels. both accessible from grade.

SITE: A restricted lot along a main boulevard bordering an intensively developed community.

MAIN POINTS ADMIRED: Use of site, the store forward, with ready access to parking at rear; ingenious handling of two "ground floors" on a practically level site; efficient organization of floor plans (stairway in center, departments arranged to lead to this point with minimum confusion).

CHIEF POINTS QUESTIONED: Method of marking stock and delivery to departments (the area seemed small); relation of department layouts and exterior windows (in most instances the windows subtend departments; in two cases they simply adjoin secondary areas); the rather severe "look" of the exterior.

Regarding the limited space for receiving incoming stock, we learned that all merchandise arrives from the Manhattan store pre-marked and goes directly to departmental stockrooms. As to the apparent lack of integration between exterior windows and departments, the two firms of designers worked to the same general plan, but the need for construction speed made it necessary to proceed with major structural elements before details of departmental organization had been worked out. However, interiors are considered "expendable," and windows can be blocked or used as future conditions require. The formal appearance of the exterior derives from community restrictions requiring a measure of design conformity. Also, an atmosphere of solidity was specifically desired.

VIEW FROM NORTHWEST: Truck dock in prominent lower-floor corner. Structure, steel; stone concrete arches and fireproofing.





GIFTS: Much display in limited space. On one 15-ft. wall, 80 dinnerware patterns are shown.



SILVERWARE: At foot of stair; wall case displays are protected by sliding glass doors.



GIRLS-7-14: An airy bubble-patterned wallpaper surfaces the wall above display.





B INFANTS: Concealed fluorescent lamps downlight the displays as well as flood upper walls.





C



CHILDREN'S SHOES: A serpentine wall finished in scored plywood defines the department.





PREP SHOP: Near an entrance; the angled canopy subdivisions divide merchandise by sizes.



TOILETRIES: Southeast corner. Painted plaster walls; lacquered display case frames.

A



B SPORTSWEAR: Deeply textured, natural wood surfaces the curved superstructure wall.



Upper Floor



INTIMATE APPAREL: At left of boulevard (north) en-D trance. Windows offer pleasing outlook.



MILLINERY: Squares of wood mounted on fabric form the background for the dressing tables. Ø



VIEW TOWARD CENTRAL STAIRCASE: Etched glass balustrade set in stainless steel frame. Shoe department and boulevard entrance, around corner at right.

1. SUBURBAN DEPARTMENT STORE, MANHASSET, N. Y.

ALFRED HOPKINS & ASSOCIATES, Architects AMOS PARRISH & COMPANY, INC., Designers



COATS: Lighting combines incandescent units recessed in ceiling and fluorescent in coves.



EVENING DRESSES: Northwest corner of the G floor. Lighting fixture leads the eye around.



EXPOSURE of the building required some sun screening and protection for the public. A marquee encircling most of the building protects the upper floor on the north and east and the lower floor on south and west.

SCREW HEADS SOLDERED 1. SUBURBAN DEPARTMENT STORE CAULHING. BUILT-UP BOOFING MANHASSET, N. Y. in with WOOD SHEATHING ALFRED HOPKINS & ASSOCIATES, Architects 1/4"BOLT BLOCKING AMOS PARRISH & COMPANY, INC., Designers WEEP OLES STAINLESS STEEL 2000 TOP LINE OF 3"×4"L Detail 3"SCALE INT ANGLE SCREEN WELDED JOINTS WOOD BLOCKING IO"I BEAMS, APPROX 8-0" CENTERS CONTINUOUS ANGLE STUCCO SCREEN DESIGNERS' COMMENTS: "The site is one of a series of eight along Northern Boulevard which are set aside as a shopping center. . . . Future expansion of the building contemplates the addition of neighborhood features such as a tea room and lounge. . . . In PREFABRICATED the design we had the most complete freedom we've ever had, except for rigid DOUBLE GLAZ

merchandise requirements."

GANNETT HERWIG, Alfred Hopkins & Associates

"In order to achieve an integrated merchandising and selling operation, at the very outset a thorough analysis was made of the peak stock requirements by *items* in all classifications to be carried. . . . In addition, an analysis was made of the amount of goods that could reasonably be carried in reserve stockrooms adjacent to each department. . . . Wrapping and cash desks were so located that there would be complete control from all departments at all times. . . Every effort was made to keep decorative features to an irreducible minimum, relying upon function to dictate form and make it much easier for the maintenance department to keep the store new-looking and exciting."

JAMES H. PICKERING, Amos Parrish & Company, Inc.

Overhang Section

ATAL FRAMES

THREE STORES

Critique (continued)

In distinction to the complete, independent unit just studied, the following two specialty shops were both built within existing older buildings. Here the problem is more familiar and-in some respects-more difficult. Unwanted columns rear their immobile shafts in midstream, and stairways (serving other tenants) jut out from prominent corners. That a measure of good space organization, harmony, and architectural quality can result is a tribute to the trapeze-artistic facility as well as the skill of the designers. The total effect of the relation of the shop design to the building as a whole or of the building to the block cannot fairly be criticized severely; for, however important, these factors are usually beyond the province of the problem, let alone the budget. One must simply hope that such shops, progressive elements in themselves, may exert a contagious influence out into the community.



Z BOOK STORE SAN FRANCISCO, CALIFORNIA

BOLTON WHITE, Architect

PROBLEM: To create a pleasant and efficient environment for stocking, display, and sale (emphasis on wholesale) of a complete line of current medical and technical books.

SITE: 40-foot width of basement and ground floor and full 60-foot width of second floor (half rented to another tenant); old building.

MAIN POINTS ADMIRED: Uncluttered design; provisions for browsers' comfort; display-shelving (see Selected Detail, page 65; skillful coping with intruding structural elements.

CHIEF POINT QUESTIONED: Efficiency of having stacks in basement, receiving dock on ground floor, and shipping room on second floor.



Second Floor (REAR PORTION)



FRONT: Bulkhead, green terrazzo. Sign, aluminum rod, painted red, mounted against panel of corrugated aluminum; enframing bands are stucco.



2. BOOK STORE, SAN FRANCISCO, CALIFORNIA

BOLTON WHITE, Architect

In reply to our question about the separated arrangement of receiving dock (main floor), stacks (basement), and shipping room (second floor), we learned that since the major portion of the business is wholesale, much of the activity is with retailers, authors, publishers, etc., who need to see various persons in the office; hence it was essential to have office space immediately adjoining the store proper. According to William L. Butler, Stacey president, "the only disadvantage in having the receiving and shipping rooms separated from stock rooms is a few seconds' additional ride on the elevator."

ENTRANCE: Line of sign continues as display case inside.

PLANS

The entire basement is stock space—14,000 square feet of it arranged in back-to-back rows of shelving 7 ft. high and 2 ft. wide. In the big ground-floor display-sales room, islands for browsers and S-shaped light fixtures are organized around the existing columns. The forward half of the second-floor space is leased to another tenant.



SALES AREA: Stripped steel columns, painted flat white outside, and deep salmon inside the "H." Existing heavy girder painted dark and further obscured by thin plane attached along bottom. Carpet is forest green; seating upholstered in light apple green.



Island Stat and Lighting Details



FRONT: Head line of windows carried back as plaster soffit with downlights and concealed lighting along inside edge.



DISPLAY shelves contain one of every book in stock, arranged by subjects. Built-in lighting produces 50 foot-candles on shelves. General room illumination, about 20 foot-candles. The store is heated by warm air circulated from steam-heated transfer coils. Furniture frames are of natural birch. Shelf edges, light strip fascia, etc., painted off-white; interior of shelving and wood vertical divisions, a dark gray-green.

2. BOOK STORE, SAN FRANCISCO, CALIFORNIA

BOLTON WHITE, Architect



BOLTON WHITE received his architectural training (after graduation from Stanford U.) at Columbia, winning a Whitney Warren Scholarship at the American School of Fine Arts at Fontainebleau. Later receiving an M.S. degree at Columbia, he went on to teach at Stanford, worked as a designer in the office of Gardner A. Dailey in San Francisco, served with the Navy, in a civilian capacity, and started his private practice in San Francisco in 1946.



SHELVING: The vertical, movable ferro-enamel "subject strips" are medium gray-green, with white plaster lettering.

Selected Detail



STORE: SHELVING





Plan through Shelving 11/2" SCALE



BOOK STORE SAN FRANCISCO, CALIFORNIA

BOLTON WHITE Architect



1

FRONT: Since ground-floor space was ample, the front was recessed to give it distinction on a block of lot-line fronts.



ENTRANCE: Display case-open front scheme, detailed on page 69. Just inside the door, a showcase forms a see-through vestibule.

SHOE STORE HARRISBURG, PENNSYLVANIA

CARSON & LUNDIN and WM. LYNCH MURRAY, Associated Architects

PROBLEM: To design an effective background for the display and sale of I. Miller shoes and supplementary lines of accessories.

SITE: Ground floor of existing two-story building.

MAIN POINTS ADMIRED: The store front, skillfully combining display case with open-front scheme; plan organization; integral design handling of such items as lighting, air diffusers, etc.

CHIEF POINTS QUESTIONED: Use of valuable up-front space as a handbag stockroom; whether a second door to the main stockroom might have improved efficiency; apparent lack of exterior design relation between new store and existing second floor.

A stockroom for the sizable handbag inventory was essential, the architects tell us, and placement front and to one side has three advantages: (a) it balances the heavy pier at the opposite side (stair to upstairs tenant's space); (b) it places stock exactly where wanted; and (c) by forming a forward area, it creates a desirable sense of separation for the shoe salon. As to the second door to the main stockroom, the width of the present door—5 ft—is quite ample, we are told; furthermore, a second door would have upset the seating arrangement and resulted in loss of needed stock space. The point about design relation to the second floor, we found, was captious. No funds were available for a total remodeling job. "Here," the architects comment, "we wished to lose the second floor and keep customers' interest on the shop."





OE SALON: Ceiling-to-floor mirrors are set in a staggered arrangement, extending apparent space on both sides.



EXTERIOR marble frame (graining overemphasized in black-and-white picture) is a very deep green. The second floor is rented to another tenant; the design assignment began and ended with remodeling the ground floor.

3. SHOE STORE, HARRISBURG, PENNSYLVANIA

CARSON & LUNDIN and WM. LYNCH MURRAY Associated Architects



THE ARCHITECTS: Robert Carson (U. of Penn.), with Mr. Lundin, resident architect of Rockefeller Center, started career as designer for Raymond Hood. Earl H. Lundin (U. of Mich.), with Smith, Hinchman & Grylls in Detroit before joining Rockefeller Center office. Managing Architect, Rockefeller Center, Inc., since 1938. Wm. Lynch Murray (the firm is now Wm. Lynch Murray & Associates), an architect in Harrisburg for 20 years, received his architectural training at Harvard.



LOOKING TOWARD FRONT: Carpet and walls, gray; wall hangings, gray-pink, with deep gray and red design; sofa upholstered in green.





SHOE STORE ARRISBURG, PENNSYLVANIA

CARSON & LUNDIN and WM. LYNCH MURRAY Associated Architects STORE: FRONT



Fire Safety for MOVING STAIRWAYS

The Escalators shown above, in the Kresge Department Store, Newark, N. J., are not only the most improved type manufactured by Otis; they are also the first to be protected against fire by a new combination of automatic control devices applied to rolling metal enclosures. The entire enclosure assembly and control system are manufactured and installed by the J. G. Wilson Corp., of New York, N. Y., who cooperate in such installations with the stairway manufacturer.

Findings in recent disastrous fires

indicate that open wells, which act as flues not only for smoke and flame but also for deadly gases generated by fire, have to be dealt with carefully in planning for fire safety. There has been talk of requiring the wells of moving stairways to be fully enclosed. On the other hand, open wells in department stores are considered extremely important from the merchandising point of view; the store owner cannot afford to enclose the wells.

The use of a rolling metal curtain to seal off the top of each run of

a moving stairway is not new; there have been several installations of manually or electrically powered shutters. What is new in the Kresge installation is the provision of automatic controls: either an accumulation of smoke sufficient to interrupt a beam of light which impinges on a photoelectric cell, or a rise in temperature sufficient to activate a thermal device, causes these shutters to close automatically. If these controls fail, the shutters may be closed electrically by means of the switches visible on
the face of the column at the right of the Escalators shown at left. And if there is a complete electrical failure, there is a hand crank in the side of the Escalator housing for manual closing.

The design of electric-power operated, rolling metal curtain enclosures for moving stairways involves a series of requirements which normally are not encountered when these enclosures are hand-operated. The only operating requirement of a hand-operated enclosure is that it be readily closed by means of a hand crank or pull chain in the event of fire and that in so doing an electric cutout switch is tripped causing the moving stairway to stop. The closing of the curtain, however, requires the designation of an individual to that duty in case of fire or for the nightly closing as is usually required by the authorities.

Automatic power operation eliminates the need for the above and provides greater safety in the instant operation of the detector device. Since the power-operated enclosures are designed to be entirely automatic in operation, a number of safety features and control interlocks must be included in the design of the control so that new hazards are not created with the incorporation of automatic power operation.

The usual type of normally open fire cutoff on a vertical wall opening, as approved by the National Board of Fire Underwriters, incorporates a fusible link which in case of fire permits the gravity closing of the curtain or door. On a stair opening where the closure is normally open and the travel of the curtain is mostly horizontal, gravity closing cannot be employed, and when automatic power operation or closing is required. the control must simulate the effect obtained by the fusible link and gravity closing.

The first item of control, therefore, is a smoke or fire detector switch which will operate a magnetic contactor, this contactor in turn starting the motor operation in the closing direction. Provision is also made through a threebutton remote master switch to (a) start the curtain closing, (b)

start the curtain opening, (c) stop the curtain travel at any point. The introduction of the remote push-button control necessitates the inclusion of a geared limit switch cutout at the end of either travel cycle. Safety to the users of the moving stairway dictated the inclusion of a safety cutout switch on the moving edge of the curtain to prevent injury to persons on the moving stairway. This was accomplished by the use of a pivoted safety bar on the moving edge of the curtain, which, through a very light pressure against it, would operate an electric cutout switch, thereby instantly stopping the curtain travel. Since this switch is mounted on the moving edge of the curtain, it must be connected to the control through a flexible cable winding on a spring take-up reel.

The inclusion of this safety feature together with the remote master switch control then required an auxiliary maintaining circuit in the control so that, although the closing travel of the curtain could be momentarily interrupted by human obstruction on the moving stairway, closing travel would be resumed automatically as soon as the travel path of the curtain was cleared. It also provided for automatic reversal of the curtain travel from opening to closing in the event that the fire switch tripped after the curtain had been started in the opening direction by the remote master switch. A further use of the auxiliary maintaining circuit was to prevent stopping the curtain travel in the closing direction through the remote master stop button once it had been actuated by the fire switches.

As in the case of the original handoperated closures, an electric cutout is provided to the moving stairway drive so that the start of the curtain in the closing direction also provides for stopping the moving stairway.

The control is designed so that the entire arrangement is composed of standard unit assemblies, such as magnetic reversing starters, switches, and operating stations, which are available from a number of electric control manufacturers without need for special electrical apparatus of any kind. (Continued over-page)



ANOTHER NEW DEVELOPMENT in this field is the illuminated balustrade applied by Otis to the Escalators recently installed in a Dayton, Ohio, department store. The entire interior paneling of the balustrade consists of frosted tempered glass, lighted from behind by cold cathode tubing. This installation was designed by Eleanor Le Maire as an improvement on the usual overhead lighting.



TYPICAL PLAN shows location of smoke and fire detectors as well as incandescent downlights and fluorescent perimeter lighting. To accommodate all the wiring for controls, lighting, etc., a false column was constructed at one side of the Escalator bank on all floors.





THESE TWO VIEWS show the galvanized steel rolling shutters open and closed. Note the manual push-button motor controls on the column at the right.



PHOTO TAKEN DURING INSTALLATION shows the small recess into which the shutter rolls. Controls and motors are housed in the same recess. Hand crank at right is for use in case of complete power failure.



PHOTO TAKEN DURING INSTALLATION on an upper floor in the same store shows application of the automatically-operated enclosures to existing Escalators.



PARTIAL SECTION shows location of photo-cell smoke detectors close to the sloping stairwell soffit. In case of fire, Escalators are stopped and galvanized steel shutters automatically close the openings. In addition to the photo-cell units there are thermostatic elements to detect excessive temperatures and close the shutters, and manual push-button controls and hand cranks.



LIBERTY SCHOOL, AGOURA, CALIF.

RALPH C. FLEWELLING & ASSOC., Architects



PLAN shows the single class-

room addition to a small rural

school.



SECTION shows how desire to utilize natural light fully and correctly can control shape of room. Sloping ceiling is intended to reflect light evenly over seating area from large north window. Note wide overhang shading south windows.

TWO CLASSROOM TYPES Designed to Utiliz

In these two classroom plans, from widely separated parts of the country and differing almost as widely in concept, we see the impact of research upon architectural design. Other experimenters are at work, notably Kenneth C. Welch in Detroit, Michigan, and Henry L. Blatner in Albany, New York. Much of the current interest in this type of design grows from the research of Dr. Darrell B. Harmon in Austin, Texas, whose studies have been widely published though they have hardly reached a state of completion sufficient to make precise evaluation and recommendations a possibility. Both the classroom types here presented must have been influenced by Harmon's work, though possibly not directly; at least not in the Lowell School, whose architects tell us that they were not influenced by his research. But some of their information undoubtedly came from the glass block manufacturer, who has had the foresight to try to develop ways to use his product in accord with findings of independent research.

The Liberty School addition shows rather complete integration of curricular requirements, structure, heating, ventilating, and lighting. Inclusion of toilet rooms as well as coatroom within the classroom unit is intended to give the teacher better control over the pupils. The 30-ft-square room lends itself well to flexible seating arrangements. Structurally, the addition consists of reinforced concrete block walls. concrete slab floor, and roof framing of prefabricated lightweight steel trusses or joists. None of these materials is unusual; however, turning the trusses upside down provides a sloping reflecting surface for light from the tall north windows, and placing them slightly off center provides an 8-ft overhang which not only shades the south windows but also affords shelter for the outdoor corridor along this wall. Heating and ventilating ductwork is carried through the open roof truss panels from the heater room to diffusing outlets in the ceiling.

In the Lowell School, the lighting and teaching advantages anticipated depend entirely upon satisfactory performance of light-directing glass block used in upper portions of exterior walls. The

LOWELL SCHOOL SALINA, KANSAS

CHARLES W. & JOHN A. SHAVER Architects

PLAN of Lowell School-an entire building-shows effect of full employment of light-directing glass block. Rooms were placed diagonally to obtain better quality of light and lower brightness ratios than unilateral lighting would afford. They were made square for flexibility in seating, for informality, and other teaching advantages. Diagonally placed classrooms permit inclusion of locker room, workroom, or study alcove (and, for lower grades, a toilet) in each class unit, with the interior workrooms receiving borrowed natural light. Ceiling height is low (9'-8"), for intimacy and appropriateness to children's size.

Natural Light Fully

architects believe that not only does the low ceiling obviate monumentality in the design; it also is expected to reduce total cubage enough to compensate for any extra costs due to the "sawtooth" exterior walls.

In plan, workroom, locker room, and, in lower grades, toilets, are included in the classroom unit. Structure is a combination of bearing walls and steel frame; finish materials and colors are to be selected for their domestic qualities as well as sparkle and brightness. Equipment is to include recessed, louvered fluorescent lighting, with fixtures near interior walls controlled by separate switches to permit a uniform light level whatever the intensity of natural light.





MODEL photo, Lowell School, shows light-directing glass block used in upper portion of two exposed walls of typical classroom. Operable windows are placed below.



Photos courtesy Surface Combustion Corp

WARM AIR RADIANT HEATING

PROGRESSIVE ARCHITECTURE here presents another case study of a warm air radiant floor heating system. Last month's issue contained a presentation of a similarly heated single house at Liverpool, New York, for which Sargent-Webster-Crenshaw & Folley were architects. In that case, the architects employed metal decking to form the air ducts because metal heats and cools rapidly and the heating lag experienced in some installations might thereby be reduced. Because the decking carried the floor loads, only a thin topping layer of concrete was applied over it. Of this Liverpool house, the architects stated that they believed the cost of the heating system to be excessive; all their radiant installations. they said, had cost too much.

Since that issue went to press the Editors have discussed the cost problem with another architect in upstate New York who has had some experience with radiant heating. This man could not agree that radiant heating, per se, is too expensive. In the case of the Kew Gardens development presented here, the Editors do not have exact cost data; but it is hardly conceivable that a reliable and successful firm such as Taft & Blackman, developers and builders of Kew Gardens, or C. G. Blackman, heating contractor on the project, would even consider for a development of this size a type of heating system which would be excessively expensive to install. The Editors have been informed that experience at Kew Gardens to date indicates that the particular method used there offers reductions in both construction and operating costs.

Kew Gardens, at Berea, Ohio, is eventually to consist of over 300 houses, and is scheduled for completion within the next two years. At present more than 45 houses have been finished; several have been occupied for well over a year, including the winter of 1946-47 during which their floor heating was thoroughly tested. As the plans show, these are onefloor houses without basements, and have three bedrooms, living room, bath, and combination kitchen-utility room in which the



PHOTOS show, across-page, general view of Kew Gardens subdivision, Berea, Ohio; Mellenbrook, Foley & Scott, architects. Above, one of the variations in facade obtained through ingenious use of two standard plan types. PLAN AT RIGHT shows arrangement of ducts in attic space.

in a Subdivision

water heater and furnace are located. Heated air is distributed overhead, through ducts laid between the attic joists, to vertical stacks that carry it down to passages in the double-slab concrete floor. Since the heating system is so intimately tied into design and construction of the houses, the architects, Mellenbrook, Foley & Scott, deserve much credit for its development.

Above the floor the houses are of conventional frame construction. The unusual floor consists of two slabs, each 3" thick, separated by a $5\frac{1}{2}''$ air space through which the warmed air travels. The top slab is supported on brick withes which also separate the air passages. Note that the passages all have corners rounded to a long radius where they change direction; this was done to minimize resistance to air flow. Thickness, depth, and board insulation of the foundation walls from the floor slabs are all designed to reduce

GROUND FLOOR PLAN showing forced warm air heater located in combination utility room and kitchen; also, stacks which carry warmed air down from attic to underfloor heating panels.

SUBFLOOR PLAN showing arrangement of air passages, which are separated by brickwork. Floor construction consists of two concrete slabs with the air passages between. This is shown in detail on the following page.







FLOOR CONSTRUCTION, showing the two thin concrete slabs with air passages between. Corrugated steel used to support the top slab during pouring remains in place in the finished construction.



INCRETE SLAT

WARM AIR RADIANT HEATING

lateral heat losses to the earth and the outdoor atmosphere. In addition, much heat absorbed by the ground beneath the floor can be returned to the floor ducts during periods when the heater is not operating; and, since the two floor slabs are separated by an almost continuous air space, the possibility of moisture penetration from beneath, as well as floor condensation, is minimized. Since there is little that can go wrong with the part of the installation built into the floor, maintenance problems on this score are not anticipated.

In constructing the floor, corrugated steel sheets are laid directly on the brick withes which separate the air passages; reinforcing steel is then placed and the top slab poured. Thickness of the top slab is limited to the minimum required structurally—3"—in order to permit relatively quick heating and cooling in response to demand. During the occupancy of several of the houses (by members of the builders' families and others) desired room temperatures were maintained by this system without need for any auxiliary convected heat.

The system operates on warmed air from a Janitrol unit at 85F, plus or minus 5F, which maintains a design room temperature of 70F. The total static resistance equals 25 in. of water pressure; against this, 1050 cfm of warmed air is supplied. This requirement is based on a total building heat loss of 43,000 Btu per hr at zero outside temperature.



Hoor Section

ARRANGEMENT OF WATER HEATER AND FURNACE in utility room, showing plenum that carries warm air to the attic duct system. Furnace is a Surface Combustion Janitrol Series FAC-105 gasfired "winter air conditioner."



Editors' Note: Items starred are particularly noteworthy, due to immediate and widespread interest in their contents, to the conciseness and clarity with which information is pre-sented, to announcement of a new, important prod-uct, or to some other factor which makes them es-pecially valuable.

Air and Temperature Control

1-134. The Van-Packer Chimmey, 5-p. illus. folder on a lightweight, sectional, precast chimmey shipped ready to install; can be hung from floor or ceiling, eliminating foundations. Underwriter-approved for all fuels. For 1- and 2-story houses. Van-Packer Corp.

1-143. Breidert Air-X-Hauster, G. C. Breidert Co. Reviewed December.

1-144. Type C Worm-Feed Stokers, AIA 30 C-1 (Bul. S-70-2nd Edition), Brownell Co. Reviewed December.

1-145. The New Bryant Hevigage Steel Heat Exchanger (SA-3388), Bryant Heater Co. Reviewed December.

1-146. Rheem, Floor Furnace Series 1600, AIA 30-B-1 (RA-75), 8-p. illus. booklet on floor furnaces for various heating needs: flat register, dual wall, and space-saver models for use with any type of gas. Descriptions. Illustration of types and particular uses. Output and dimension table. Installation data; also other appliance products and tank charts. Rheem Mfg. Corp.

1-147. Trane Heating Products, 8-p. illus. booklet on heating coils; convec-tor radiators; Torridors (for blower type unit heaters), projection heaters, valves, caps, etc. Description; types; uses; operation and construction de-tails. Trane Co.

1-148. Kewanee Power Boilers, 15-p. illus. booklet on operation and care of high pressure Kewanee power boilers. General rules. Construction details; instructions for putting new boiler in service. Maintaining data: water levels; prevention and remedy of foaming; scales; oils; corrosion; blow backs; leaks. Complete data on hand firing, reservicing. Kewanee Boiler Corp.

1-149. Modine Convector Radiation, (Bul. 247, Form 015847), 22-p. illus. booklet on convector radiation for residential, commercial, and institutional buildings. Advantages. Illustrations of typical installation. Enclosure feature in detail and sectional drawings. Dimension tables; construction and installa-tion data; location; steam capacity table; specifications. Modine Mfg. Co.

1-151. Jacketed "K" Oil or Stoker Boiler (Cat. 47-K), 11-p. illus. catalog on a boiler with a noncorrosive metal coil, furnishing year-round hot water for the small house. Description; advantages; features. Details of construction and operation; installation data. Dimensional drawing; capacity, and dimension table. Spencer Heater, Div. Avco Mfg. Corp.

1-153. The New Viking Series V Blower Assembly (Form M-304), Viking Air Conditioning Corp. Reviewed January.

19-182. Leigh Building Products (Cat.

47-L), Air Control Products, Inc. Reviewed December.

1-155. Exidust (Bul. F-4 3-47MC), 6-p. illus. bulletin on a series of light, medium, and heavy duty portable vacuum cleaners for plants, institutions, build-ings, etc. Specifications of various types. Applications; operation data; cleaning tools and accessories. Lamson Corp., Allen Billmyre Div.

Doors and Windows

4-112. NuEra Double Hung Aluminum Window, NuEra Window Co. Reviewed December.

4-115. Bedroom Windows (Re-9), 8-p. (6" x 4") brochure on an in-tilting vent for bedroom windows. Advantages; fea-tures; details of construction. Chart illustrating types and sizes available. Detroit Steel Products Co.

4-117. Builders' Cabinet and Sliding Door Hardware, Knape & Vogt Mfg. Co. Reviewed January.

4-118. Har-vey Rolling Hardware, AIA 27-A, 8-p. illus. booklet on door tracks (single and double), hanger rollers, guides, and plates for rolling doors. Installation data and drawings. Descriptions; advantages; specifications. Metal Products Corp.

4-119. Herculite Door-Frame Assembly (G 61387-8-47), 7-p. illus. booklet on a factory-as-× sembled door frame which comes ready to install into rough opening of building. Description of installation and construction. Sectional drawings of 12 standard styles. Variable dimensions. Pittsburgh Plate Glass Co.

Electrical Equipment and Lighting

5-107. Q-Floor Wiring, Data Manual, AIA 31-C-62 (18-136), × 106-p. illus. manual on Q-floor ing, a cellular steel flooring series of raceways for electrical wiring. Description of seven basic types and applica-tion. Q-floor wiring method; use. Distribution fittings data. Various accessories, fittings, tools, compounds, and tapes. Description and applications. Layout details; specifications. 40 pages of dimensional drawings. Installation data. General Electric Co.

5-108. How to Figure a "Cut-in-the-Field" "Plug-in" Strip Job, 10-p. loose-leaf booklet on estimating and procedure in installing "plug-in" and "cut-in-field" strip jobs. Fittings required for ordinary installation job. Lopo-Trim installation. Seven pages of diagrams illustrating installation steps for various size bedrooms and living rooms. National Electric Products Corp.

5-109. National Electric Plug-in Strip, AIA 31 C 71 (Cat. CF-2, Form 554), National Electric Products Corp. Reviewed January.

Finishers and Protectors

6-108. Alodine (Form 586, Technical Data Sheet 7-16-100), 4-p. illus. folder on an aluminum protector which provides high corrosion resistance and anchors paint. Pictorial illustrations of effect of application. Explanation of "rinse" and "hot-dry" processes. Data; tables; details. American Chemical Paint Co.

6-109. Douglas Fir Plywood (Form 41-10), 4-p. illus. folder on plywood as a wall baseboard for interior and exterior use. Application; advantages; characteristics. Data on possible finishers and method of application. Details. Douglas Fir Plywood Assn.

 ★ 6-111. Painting Specifications, AIA 25, 32-p. periodical on standard painting specifications approved by Painting & Decorating Contractors of America. Preparatory data. Surface conditions; materials; workmanship; arbitration of disputes; payments; etc. Methods of interior and exterior application. Use of ready mixed, lead, oil, and resin oil emulsion paints; also stain and varnish on various types of surfaces. Application of finishers and refinishing of previously coated surfaces. Supplement on woods used for interiors; description; char-acteristics; uses. Code of ethics. (Price \$1.00 per copy; make check or money order payable to Painting & Decorating Contractors of America.) Painting & Decorating Contractors of America.

6-112. Aquella, 6-p. booklet on a deco-rative surfacer for the control of water seepage and dampness in interior and exterior porous masonry surfaces. Illustrated explanation of principle. Test results. Details of application. Specifications on dampproofing and waterproofing work under various conditions. Uses. Prima Products, Inc.

6-113. Para-Stone Tex (Bul. 684), 4-p. illus. brochure on a coating said to be resistant to * the alkali in masonry, concrete, stucco, and asbestos cement. Also resistant to moisture, sunlight, fumes, and vapors. Advantages; application; features; colors; details. Truscon Laboratories, Div. of Devoe & Raynolds Co.

Insulation (Thermal, Acoustic)

Two 4-p. folders on insulation boards for use as roof decks and finishing material in attics, basements, offices, farm buildings, etc. Characteristics; thermal conductivity; method of application. Illustrations of typical installation; details. Armstrong Cork Co.: 9-84. Temlok Insulating Board. 9-85. Temlok Roof Insulation.

9-86. Acousti-Booths (170), Burgess-Manning Co. Reviewed January.

9-89. Zonolite, Insulating Concrete (Form CA-5), 4-p. illus. folder on a concrete which, when poured over wire mesh, ribbed metal, etc., provides protection against fire and weather. Preparation; advantages; typical installa-tions. Description, reinforcement, and forms; construction; surfacing; design data. Quantity table. Specifications. Universal Zonolite Insulation Co.

Load-Bearing Structural Materials

12-140. Truscon Weltrus Steel Poles (N-60 5M 7-47), 6-p. illus. folder on steel poles used chiefly for power transmission lines, etc. Construction details. Fittings and anchor bolt foundation



data. Dimensions, properties, and characteristics tables. Comparison between single and double pole capacity. Truscon Steel Co., Subsidiary of Republic Steel Corp.

> 12-142. Fletcher Standard Granite Sections, AIA 8-B-3, 8-p. bul-

ite Sections, AIA 8-B-3, 8-p. bulletin on standardized granite units. History of dimensional coordination in granite masonry. Standard Nine Square Granite Units system explained. Table and data on available sizes. Freedom of size selection within framework; possible applications. Gang and rotary saw finishes. Specifications. H. E. Fletcher Co.

Non-Load-Bearing Structural Materials

14-50. Natcor Extruded Metal Store Fronts, Natcor. Reviewed December.

14-51. Decorative Glass, Harriton Carved Glass. Reviewed January.

14-52. Magnalite, AIA 26A 526, 4-p. illus. folder on a series of diffusing glass for decorative and functional use. Illustration of typical installations. Description of different types. Dimension tables; details. J. Merrill Richards.

14-53. Corrugated and Patterned Plexiglas, 4-p. illus. brochure on Plexiglas in a variety of patterned surfaces for decorative and utilitarian use. Illustrations. Details of manufacture. Advantages; use. Rohm & Haas Co.

Sanitary Equipment, Water Supply, and Drainage

19-184. The Huntington Dispenser, Huntington Laboratories, Inc. Reviewed December.

19-191. Aloyco Valves & Fittings (Cat. 47), 54-p. catalog on various types of stainless steel gate and globe valves, gauge glass; screwed, and flanged fittings. Illustrations; specifications; dimension tables. Corrosion data and resisting alloys. Construction details; drawings. Names of valve parts. Application data. List of alloy groups. Illustrations of typical installations; manufacturing data. Alloy Steel Products Co., Inc.

19-192. Central Fire Protection Equipment (Bul. S-2-12644-BC), Central Automatic Sprinkler Co. Reviewed January.

19-193. Economy Pumps (Cat. G845), 14-p. illus. booklet on large capacity horizontal and vertical axial flow pumps for drainage, condenser circulation, etc. Capacity; application. Construction data; illustrations; detailed drawings of operation and construction. Rules for station and special pump arrangements. Typical installation; selection tables. Economy Pumps, Inc.

★ 19-195. Lathurshelf (Form 947), 4-p. pamphlet on combination shelf and soap dispenser for commercial, institutional, industrial lavatories; made of 18-8 stainless steel; large capacity; extremely simple installation. Also complete line of other types of soap dispensers. Advantages, installation data, etc. American Dispenser Co., Inc. 19-196. Stasco Seats (Cat. L), 49-p. illus. loose-leaf manual on a standard line of toilet seats. Terms and guarantees. Development of finishes. Illustrates, in regular and elongated bowls, Saniseal seats; Airlite plastic; Ebonite plastic, for rough and hard wear; deluxe marine-pearl; economy white, for low cost houses, etc. Details of construction; features; hinges; finishes; applications. Shipping data. Standard Tank & Seat Co., Inc.

19-197. Thrush Ajustaflo (Form AT 247), 4-p. folder on an adjustable tee for single main method of heating which controls amount of hot water diverted from the main into the radiator. Description; advantages; sizes. Illustration of installation and operation process. Other Thrush products. H. A. Thrush & Co.

Specialized Equipment

Two booklets on a new perspective drawing instrument said to draw perspectives accurately in half the time required by other methods. Operation explained. Examples of drawings, and comparative timing. Pomeroy Stereograph Co. Inc.

graph Co., Inc.:
19-172. What the Sensational New Pomeroy Stereograph Will Do For You.
19-173. A Short Cut to Perspectives.

19-185. Bruning 7" Core-Fed Eraser (A 1042-50M-9-47), Charles Bruning Co., Inc. Reviewed December.

19-186. Surgical Equipment (July 1947), Ohio Chemical & Mfg. Co. Reviewed December.

19-187. Wayne Drafting Tray, Wayne Products Mfg. Co. Reviewed December.

19-198. Executone (Form 250), Executone, Inc. Reviewed January. 19-199. Fine Writing and Calligraphy. 6 sheets on 17th century fine lettering and writing. Examples of Gothic, Roman, Old English, etc. (bold & italic). Also brochure on pen drawings. Suggestion for technique improvement. List of available pens for various subjects and paper surface. C. Howard Hunt Pen Co.

Surfacing Materials

19-188. Facing Tile (Cat. 48C), Facing Tile Institute. Reviewed December.

19-189. Terrazzo (AIA 13 B 5), 4-p. brochure on terrazzo for floors, walls, borders, as radiant heating finish, in various types of buildings. Adaptable to any color, design, or structure. Details; specifications; advantages; utilitarian and decorative uses. Other available literature. National Terrazzo & Mosaic Assn., Inc.

19-190. Wrightex Soft Surface Rubber Tile, Taylor Mfg. Co., Wright Rubber Products Div. Reviewed December.

Traffic Equipment

20-44. Warsaw Equipment for Vertical Transportation, Warsaw Elevator Co. Reviewed December.

20-45. "Gyrol" Fluid-Drive Elevators, Warsaw Elevator Co. Reviewed December.

20-46. Murphy Elevators (Cat. 46), Murphy Elevator Co. Reviewed January.

20-47. Vertical Transportation (B-677 9-47), 12-p. illus. booklet on passenger elevators (signal and collective control), hospital elevators, Escalators, freight elevators, dumbwaiters, and residence elevators. Description. Operation data; illustrations. Size and capacity tables. Detailed drawings. Otis Elevator Co.

PROGRESSIVE ARCHITECTURE, 330 West 42nd Street, New York 18, N. Y. I should like a copy of each piece of Manufacturers' Literature listed.

We request students to send their inquiries directly to the manufacturers.

City	LEASE PRIN	T		State	2/48
Mailing Address		A.			Home Business
Firm		N			
Position	1-2-5-1				
Name					
No.	No.	16	No.	No.	
No.	No.		No.	No.	*
No.	No.		No.	No.	
No.	No.		No.	No.	

Products









New Standards

Among developments late in 1947: The Fluorescent Lighting Association proposes a set of standards for dimensional and electrical characteristics of cold cathode lamps which they hope to have ASA approve. Those interested can obtain data from the Fluorescent Lighting Association, 501 Fifth Ave., New York, N. Y.

Another development of much greater importance—though it may have little "practical" effect—is the proposal by the National Bureau of Standards to replace the present universal length standard (one meter measured on a platinum-iridium bar which is stored in France) with the wave length of green radiation of mercury 198. For some time, precise measurements have been based on the red emanation of cadmium; however, the green line of mercury 198 is much more easily perceived, says NBS, and this makes accurate determination of its wave length more certain. A wave length standard, of course, can be translated into many forms of measurement, and can be obtained wherever mercury 198 and the proper apparatus are available.

The metal, mercury 198, is an isotope transmuted from gold by neutron bombardment. There's a certain irony, not only in the lack of publicity which has been accorded this offshoot of atomic exploration, but also in the possibility of the ancient alchemists' dream becoming the very foundation of modern science.

Supply and Demand in '47

Everybody knows that demand for building materials and construction far outstripped supply in '47; this situation is improving. For instance, Thermopane, the prefabricated insulating glazing manufactured by Libbey-Owens-Ford, has finally, their advertising manager tells us, succeeded in meeting a demand up 800% since 1945, and in bringing their back-order file down to a 45-day basis as well as shipping stocks to dealers all over the U.S.A. This means that standard sizes should be obtainable almost immediately, special sizes in 45 days.

At what cost are such achievements made? United Industrial Associates, Inc., of Washington, D. C., offers statistics on costs of houses. The average price of an American house in mid-December was \$10,648 —compared with \$4,599 in 1939. In Los Angeles, the most inflated market, prices have nearly tripled in the same period; New York, Boston, and Chicago are also high-priced markets.

1. New air diffuser by Anemostat has adjustable center cone to increase its adaptability to varying conditions. 2. Lathurshelf, made of stainless steel, combines soap dispenser for one or two lavatories with hollow shelf which is the soap reservoir; American Dispenser Co., Inc., New York, N. Y. 3. Neoprene washer for waterproofing nails, now applied before shipment by several manufacturers, including Nichols Wire & Steel Co., Davenport, lowa; and Independent Nail & Packing Co., Bridgewater, Mass. 4. New Home Precipitator (Raytheon Mfg. Co., Inc., New York, N. Y.) for electrostatic air cleaning for domestic air conditioning; unit is 54 in. high, weighs only 300 lbs; costs about \$550 plus installation.



THIS MONTH'S PRODUCTS _

AIR AND TEMPERATURE CONTROL

Class "T" Temperature Regulator: singleseated temperature regulator for steam pressure to 125 psi (175 psi liquid) and temperatures to 450F. Has packless main valve stem and hard-faced seating surface. Sizes ½" to 4". Leslie Co., 58 Delafield Ave., Lyndhurst, N. J.

Home Precipitator: small electronic precipitator for domestic use becomes an integral part of the air conditioning or heating system. Is said to remove 90% or more of all airborne dirt. 54" high, 28" wide, 27" deep; 300 lbs in weight. Consumes 50 w per hour. Raytheon Mfg. Co., 60 E. 42nd St., New York 17, N. Y.

Pacific Suspended Heater: contains all heating elements within streamlined body. Fan spreads warm air downward to desired location. For commercial and industrial use. Naco Mfg. Co., 7631 Roseberry Ave., Huntington Park, Calif.

Type AA Climate Changer: air conditioner for small multiple units in apartments, hotels, tourist courts. Summer-winter thermostat control; seasonal change-over manipulated by valves at central plant. Two styles; three sizes available. Trane Co., La Crosse, Wis.

DOORS AND WINDOWS

Aluminum Awning: fire-, wind-, and rust-proof aluminum venetian year-round awning for domestic, office, institutional use. Has inside fingertip shade control. Also colored awning for decorative use. J. E. Baker Co., 1325 E. 152nd St., E. Cleveland 12, Ohio.

No. 32 Cabinet Catch: catch designed for either lipped or flush cabinet doors. Requires no mortising. Roller fastens either to cabinet shelving or side jamb; serves as cushion against clicking or slamming noise. The Stanley Works, New Britain, Conn.

Door Control: a steel or cadmium-plated door control claimed to require no periodic oiling or servicing. Door closes rapidly up to about 1" of full closure, then eases into place. For domestic, industrial, and office use. Comes in standard and heavy duty sizes; each weighs 1¼ and 2½ lbs respectively. Mallory Co., 1201 E. Eight Mile Road, Hazel Park, Mich.

Wood Casement Window Operators: complete line, with internal, external, and horizontal gearing in choice of materials and finishes. Newly redesigned model No. 4703 W features solid bronze housing, plus simplified installation. Another recent addition, No. 4700, can be used interchangeably for right- or lefthand casements. H. S. Getty & Co., Inc., 3346 N. 10th St., Philadelphia 40, Pa.

ELECTRICAL EQUIPMENT AND LIGHTING

Allied Fluorescent Lampholders: lampholders featuring spring-action prongs which grip lamp pins and hold securely; also procure positive contact between lamp and starter. Guide prevents incorrect insertion or removal. Prevent cracked sockets, faulty contacts, falling lamps. Allied Fluorescent Products, 77 Cort St., Irvington, N. J.

Aurora and Versile: two new electric fixtures. Aurora, a white metal fluorescent ceiling unit of low brightness contrast; measures 15½" width and 49" length. Versile, a dusk-gray, portable, swivel-type unit for window display, domestic use, etc. Glare reduced by additional clip-on-louver assembly. Uses R-40, PAR 38 reflector or standard lamps up to 150w. Kurt Versen Co., Englewood, N. J.

Pendant-Type Electric Fixture: pendant set designed to blend with other Sylvania commercial fluorescent fixtures. Ceiling strap facilitates mounting by means of cutaway stem slots, permitting assemblage on floor; entire assembly is then raised, stem and locknuts engaged in cutaway slots. Canopy secured to assembly by one center screw. Sylvania Electric Products, Inc., 500 Fifth Ave., New York 18, N. Y.

Swivelier "960": chrome-plated, satin- or bronze-finished counter lamp which adjusts to any position; for department store, office, domestic use. Weighted to prevent tipping; felt base protects against scratching. On-andoff switch on base. Socket 250v-660w rating. Swivelier Co., Inc., 30 Irving Pl., New York 3, N. Y.

FINISHERS AND PROTECTORS

Fyr-Kote: line of fire-resistant finishes which may be used over old paint. Protects inflammable wood fibers beneath surface, confining and retarding the flames. Available in three finishes. Also Flame Proofer Clear: a transparent solution for drapes, rugs, or any waterfast fabric. Impregnated materials will withstand application of a blowtorch. Fyr-Kote Co., 1823 Washington Ave., St. Louis, Mo.

Rubber Bevels and Grooves: rubber strips used in new method of forming bevels and decorative grooves on concrete surfaces. Strips are attached to forms instead of conventional wood strips; can be removed easily and reused. U. S. Rubber Co., Rockefeller Center, New York 20, N. Y.

Weatherproofing Roofing Nails: a neoprene washer which forms a seal around nail holes in metal roofs and sidings to prevent corrosion. Neoprene rubber used in washer is said to bear up under all types of weathering. Nicholas Wire and Steel Co., Davenport, Iowa; also Independent Nail and Packing Co., Bridgewater, Mass.

SANITARY EQUIPMENT. WATER SUPPLY. AND DRAINAGE

Boosey Floor Drains: a drain which combines clamping ring and heavy traffic deep set strainer; made of solid nickel alloy which eliminates peeling or loosening of plating. Unit provides watertight installation where heavy factory truck traffic is necessary. Norman Boosey Mfg. Co., Div. of American Skein & Foundry Co., 420 N. La Salle St., Chicago 10, III.

Lathurshelf: new combination shelf and liquid soap dispenser for commercial, institutional lavatories. Made of 18-8 stainless steel, thus eliminating verdigris. Large capacity. Snap lock on cover opens only with key supplied. Gage indicates liquid level. Simple installation. American Dispenser Co., Inc., 215 Fourth Ave., New York 3, N. Y.

Mullingider: kitchen waste disposer; motordriven; grinds garbage into fine particles, easily flushed down drain. Centrifugal action provides scouring motion which keeps pipes clean and eliminates odor. Can be installed in either single- or double-bowl sinks. Mullins Mfg. Corp., Warren, Ohio.

SPECIALIZED EQUIPMENT

Hermetically-Sealed Water Coolers: for industrial, commercial, or institutional needs. Complete line featuring automatic pressure regulator, new orifice to prevent squirting and water damage, removable front panel giving easier access to mechanical parts. Each cooler backed by manufacturer's fiveyear protection plan. Westinghouse Electric Corp., East Springfield, Mass.

Infinarc: stainless steel drawing instrument with four preformed wire curves said to draw almost any shape curve desired (including reverse curves) by moving two adjustable screws along slots of instrument. Comes in lacquered wood case. Cook Specialty Co., Green Lane, Pa.

Vanishing Patch: dry, transparent film which, when placed over tear on drawings and ironed with miniature electric "patch welder," is said to make patches invisible on blueprints. Thermostat controls heat of welder and prevents burning or scorching. Seal, Inc., Shelton, Conn.

SURFACING MATERIALS

Chrome and Colored Wall Tiles: chromiumplated zinc tiles and colored tiles, for kitchen, bathroom, clubhouse, restaurant, etc. Chrome tiles come in four finishes: striped, bright, checked, and satin. Colored tiles available in five colors: ebony, gold, maroon, royal blue, and sage green. Tile-O-Chrome Corp., 4421 N. Clark St., Chicago 40, Ill.

TRAFFIC EQUIPMENT

Lightweight Escalator: especially designed for maximum rise of 23 ft. Said to bring about 25% savings in weight and 33% in cost, when compared with standard size. Operating machinery built within unit's truss, eliminating need of machine room. Speed rate 90 fpm; 30° incline; handling capacity, 5,000 persons per hour. Width between handrails 32". Otis Elevator Co., 260 11th Ave., New York 1, N. Y.

A Roof of

"PRE-TESTED" QUALITY

built with REVERE COPPER AND COMMON SENSE!

Of all the commonly used sheet metals, copper is the most enduring when exposed to the elements. But experience has shown that while *correct* installation details insure permanence and trouble-free service . . . *incorrect* details can cause unnecessary failures.

So Revere undertook a continuous research program covering every phase of sheet copper construction. Installations were made under conditions simulating those to which actual building installations are exposed. All types of design details and methods of installation were tested and compared, and the findings made available to you in the form of specific recommendations.

You have these recommendations in your copy of Revere's 96-page manual* of sheet copper construction. Use this book as your guide whenever you are faced with a design or installation problem—for you can be sure that every suggestion in it has been "pre-tested" for long-lasting performance.

Revere materials are available from leading distributors throughout the United States. A Revere Technical Advisor, Architectural, will always be glad to consult with you, without obligation.

*"Research Solves Problems of Stress Failures in Sheet Copper Construction."



COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801 230 Park Avenue, New York 17, New York Mills: Baltimore, Md.; Chicago, Ill.; Detroit, Mich.; New Bedford, Mass.; Rome, N.Y. – Sales Offices in Principal Cities, Distributors Everywhere.

St. Agnes Church, New York A. Munder & Son, Inc., roofing contractor Thomas

Thomas A. Kelly, Consultant

FEBRUARY, 1948 83

ANNOUNCING... **FUSCON** FORMED STEEL SURROUNDS for Residential Steel Casements



• The introduction of Truscon Formed Steel Surrounds meets the increasing public demand for permanent construction materials. Made of 18-gauge electro-galvanized steel, bonderized and shop-painted with a high-quality baked-on primer, Truscon Surrounds are adaptable for use where a wider and moulded window frame appearance is desired.

Of particular interest to builders in concrete block or similar standard masonry units, are the resultant modular dimensional opening widths when steel surrounds are used with the popular two, three and four light wide casements. The opening dimensions of 3'-4'', $4'-8\frac{1}{8}''$ and $6'-0\frac{3}{8}'''$ work in closely with standard 16'' modular masonry units, thus permitting the masonry walls to be laid up around window openings with full-blocks and half-blocks at minimum cost.

Truscon formed steel surrounds are available for shipment from Truscon warehouses. Consult the nearest Truscon sales office for prices and delivery to fit your requirements.

Write for fully descriptive literature.



Here they are...

KIMSUL insulation resists fire, moisture, fungi and vermin — is termite-proof. Packaged in easily handled rolls and cut to fit standard stud and rafter widths, it can be installed without expensive machinery or skilled labor. It's light in weight, clean, and odorless . . . no irritating dust or sharp particles to injure workmen's skin.



For complete details on how to insulate with easy-to-use KIMSUL, send for this informative Application Data File. Simply forward the request on your letterhead.

KIMBERLY-CLARK CORPORATION KIMSUL DIVISION • Neenah, Wisconsin



6 exclusive advantages make KIMSUL* the choice of architects and builders

Many-Layer Construction. KIMSUL* insulation is a prefabricated blanket made on the many-layer principle. The many layers create millions of tiny air-cells to give KIMSUL its remarkable insulating efficiency ("k" factor 0.27). And many-layer construction provides dependable, uniform thickness over every square inch of insulated area.

2 PYROGARD[†] Cover. Only KIMSUL insulation has the PYROGARD cover — chemically treated, just as the inner layers of KIMSUL are treated, to resist fire.

3 Compressed Package. Delivered compressed to 1/5th installed length, KIMSUL saves labor, space, and time.

Extra Width. The KIMSUL blanket is made extra wide to provide *fully insulated* fastening edges . . . and to fill extra wide framing spaces.

Use For Caulking. Trimmed pieces of KIMSUL are efficient for caulking around windows and door frames.

Flexible Blanket. Many-layer KIMSUL insulation can be easily tucked around obstructions, fitted into non-standard openings, pulled around corners.

FOR HER CHILDREN'S GRANDCHILDREN

The drop-forged Von Duprin exit devices you install this year are built to last the life of the building ... to serve all the generations that are to come, as long as the structure stands . . . to provide over all these years the safest, fastest, surest exit ever known.

VON DUPRIN DIVISION, VONNEGUT HARDWARE CO., INDIANAPOLIS

SELF-RELEASING FIRE AND PANIC EXIT DEVICES

prin

北

Don

86 PROGRESSIVE ARCHITECTURE

From basement to attic... Curtis SILENTITE means

More Value 1





The new Curtis Silentite double-hung window unit is 20% more weather-tight than the famous original Silentite introduced in 1932. New construction includes floating weather-strips that press snugly against moving parts of window, yet permit easy operation. And, of course. Silentite has no weights or pulleys. Photo shows Silentite double hung units flanking a Curtis picture window.



Silentite casements combine better appearance, easier and more dependable operation and greater weather-tightness than ordinary casements. They were developed after years of research and testing. The Silentite casement is a complete unit with all parts machined and prefitted. It is wood, of course, for lasting satisfaction. This is an exterior view of the large illustration above.



The popularity of the picture window is growing rapidly for both new work and remodeling. There are many possible combinations with Silentite windows flanking the stationary sash, or these sash are often used alone, as pictured above. This is Curtis Design C-2735 and is made in two sizes -5.0x4-6 and 6-0x4-6. This sash is shown on far left with double-hung Silentites on either side.



The new Curtis bow window is a complete unit made up of horizontal light casement sash, and may be used in any wall construction. Rough opening size — width 8' 2", height 5' $8/h_a''$. Two of sash may be arranged to open. Different style casement sash may be used, if desired. The Curtis dealer in your area will give you full information on this and other Curtis Woodwork. See him soon!



This full circle Curtis window may be opened for ventilation to half its area. It is fully weatherstripped. Fits any architectural style. Unit consists of frame, pre-fit circle window, screen and operating hardware. Sash opens from inside without disturbing screen. Special combined lock and fastener holds sash securely in a closed, half open or fully opened position. Over-all diameter is 2'-0".



Silentite basement unit consists of frame, sash installed with all operating hardware and weatherstrips applied, and pre-fit screen. No hardware visible on outside. Window operates from inside only with full control of sash without disturbing screen — opens to any degree up to entire opening area. No rattling or vibration. Made in commonly used sizes for any wall construction.

★ Silentite WOOD windows are made by the manufacturers of Curtis Woodwork. Curtis bas made windows and fine woodwork since 1866. When you specify or recommend "Curtis Silentite," you guarantee your clients and customers bonest and lasting window satisfaction.



MAIL THE COUPON

CURTIS COMPANIES SERVICE BUREAU
PA-2S Curtis Building, Clinton, Iowa
Gentlemen: Please send me booklet on Curtis Silentite Windows.
Name
Address
City
I am () Architect, () Contractor, () Prospective Home Builder () Student.
(Please check above)



She's light . . . she's bright . . . she's beautiful. She has a warm, honey-colored complexion, and a *beautiful* figure . . . both stripe and some crossfire.

Her name is *Korina* . . . and she's the newest beauty in the famous family of Weldwood Hard-wood Plywoods.

But don't get us wrong. *Korina* is not expensive, and she's far from flamboyant. This new decorative beauty is right at home any place . . . in the best shops, the finest homes.

And *Korina* is now being shipped to lumber dealers all over the country in a good range of sizes and thicknesses.

When it comes to price, there's another pleasant surprise. *Korina* closely resembles Prima Vera.

Weldwood Plywood and Mengel Flush Doors are products of UNITED STATES PLYWOOD CORPORATION New York 18, N. Y. THE MENGEL COMPANY Louisville 1, Ky.

Distributing uniss in Baltimore, Boston, Brooklyn, Chicago, Cincinnati, Cleveland, Detroit, Fresno, High Point, Los Angeles, Newark, New York, Oakland, Philadelphia, Pittsburgh, Rochester, San Francisco, Seattle. Also U.S.-Mengel Plywoods, Inc. distributing units in Atlanta, Dallas, Jacksonville, Louisville, New Orleans, Houston, St. Louis. In Canada: United States Plywood of Canada, Limited, Toronto. Send inquiries to nearest point. It finishes every bit as well . . . yet costs one-third *less!* In addition, *Korina* is cleaner, sounder and runs to wider flitches.

If you haven't yet seen *Korina*, make a date to meet this new beauty at your favorite lumber dealer. You'll find all the familiar features of Weldwood Plywood...so popular with clients and architects alike.

Mail the coupon for complete information.

EN -	MAKE A DATE TO MEET KORINA It's easy. Just clip out and mail the coupon. UNITED STATES PLYWOOD CORPORATION 55 West 44th St., New York 18, N. Y. Gentlemen: Please send me complete specifications on y new Weldwood Hardwood Plywood Korina.	you
Name Company Address		-
City	State	

Weldwood* Hardwood Plywood Douglas Fir Weldwood Mengel Flush Doors Douglas Fir Doors Overhead Garage Doors Molded Plywood Armorply* (metal-faced plywood)

Tekwood* (paper-faced plywood) Flexmel' Weldwood Glue * and other adhesives Weldrex* (striated plywood) Decorative Micarta* Flexwood* Flexglas* Firzite* * Reg. U. S. Pat, Off.



Weldwood Plywood is made in both interior and exterior types, the former bonded with extended urea resins and other approved bonding agents; the latter welded for Good with phenol formaldebyde synthetic resin.

FOR HOSPITALS OF DISTINCTION:

Counter-type storage cabinet in unsterile workroom of Central Service Department Adjustable stainless steel shelves, metal doors. Stainless steel counter top, back and end splashers.

SCANLAN-MORRIS **Recessed** Cabinets

Authentic Guidance and Assistance Available to Architects, Without Obligation

• Storage of supplies and materials in the modern hospital is greatly facilitated by the installation of Scanlan-Morris Recessed Cabinets - engineered to fit requirements.

Many years of direct contact with hospital superintendents, surgeons and architects, qualify the Scan-Ian-Morris Technical Sales Service Department to supply valuable assistance and authentic guidance in such installations-backed by more than 40 years of experience in designing and manufacturing hospital and surgical equipment (not only cabinets but also surgical lights, complete sterilizing equipment and other hospital equipment). Scanlan-Morris Recessed Cabinets are made in styles and sizes as required to serve the needs of the various hospital departments. Cabinet bodies are made of heavygauge steel, with double-lapped and sweated seams, insuring sturdy, dust-proof construction; frames are electrically-welded flat steel; doors and shelves may be of glass or metal, counters and shelves of stainless steel or other metal, as specified.

Mail the coupon for detailed information or submit your problems with floor plans for layout suggestions, without obligation.



Recessed supply cabinet in septic operating room



Recessed cabinet in maternity department. Upper section open and fitted with adjustable stainless steel shelves for holding mothers' treatment travs.

Thio	Chemical	MANUFACTURERS OF MEDICAL APPARATUS, GASES AND SUPPLIES FOR THE PROFESSION, HOSPITALS AND RESEARCH LABORATORIES	THE OH 1400 E. Send inf	
THE OHIO CHEMICAL & MFG. CO.				
1400 East Washington Ave., Madison 3, Wisconsin				

IO CHEMICAL & MFG. CO. Washington Ave., Madison 3, Wis. formation on 🗌 Scanlan-Morris Recessed Cabinets attach professional card or letterhead) Name

Represented in Canada by Oxygen Company of Canada, Limited, and Internationally by Airco Export Corporation, 33 West 42nd Street, New York Address..... City.....PA

BRANCH OFFICES IN PRINCIPAL CITIES

SMALL



Westinghouse *life-Line* Compressor-Motor Unit

MAKES THESE AIR CONDITIONERS THE MOST DEPENDABLE UNITS EVER MADE

There are two big reasons why Westinghouse "packaged" air conditioners work so well, so economically, so satisfactorily. One: every Westinghouse Unitaire has the hermetically-sealed Life-Line Compressor-Motor unit—the most dependable air conditioning compressor ever built. Two: only Westinghouse builds all of the important components that make up an air conditioning unit. This undivided responsibility means that every part of a Westinghouse air conditioner is designed and built to work in perfect coordination with every other part. The result is economical, trouble-free service—so, to get the most out of your air conditioning investment, whether for restaurant, store, hotel, bank, theatre, hospital or office, specify Westinghouse. Call your nearest Westinghouse air conditioning distributor, or write to Westinghouse Electric Corporation, Sturtevant Division, 47 Readville Avenue, Hyde Park, Boston 36, Massachusetts.



LARGE

THE WORLD'S FINEST AIR CONDITIONING Compressor . . . Sealed in Steel For a lifetime of service

Air Conditioning

IIIO

J-80053

FLOORING

FACTORS GOVERNING THE USE OF RESILIENT FLOORING FOR STAIR TREADS

In addition to their functional use, stairs often can be made an important part of interior architectural design. When this is desired, consideration should be given to the finish or covering of the stair treads and risers as well as to the style of the staircase itself.

Where resilient flooring is used in the areas connected by the stairs, the resilient covering for the stair treads and risers usually can be of the same type that is on the adjoining floors. If the adjoining floors have two different types of resilient flooring, such as linoleum on one floor and asphalt tile on the other, either of the two materials can be used on the stairs. Since all of the resilient flooring materials linoleum, asphalt tile, rubber tile, Linotile[®], and cork tile—give the same degree of service on stair treads as they do in standard flooring installations, personal preference usually is the governing factor in making the selection of the material to be used.

INSTALLATION REQUIREMENTS

Among the factors to be considered in the specification of resilient flooring materials for stair treads are the construction of the stairs and the type of installation desired.

New staircases, whether of wood, concrete, or metal, require virtually no special preparation for the installation of resilient flooring treads. If existing stairs are worn or corrugated, they should be made smooth and level in the same manner as in the preparation of a subfloor of the same type. Worn places and cracks on the treads should be repaired, and the entire surface of the tread should be cleaned and free of paint, varnish, oil, and dirt before the installation of the resilient floor covering is made.

A protective nosing should be installed along the front edge of each step before installing resilient stair treads. This can be of metal or hardwood. While hardwood nosings generally are butted against the front of the step, metal nosings may be of either a flange type or butt type.

A layer of lining felt should be put down over the stair tread before the resilient flooring material is installed. With a flange type nosing, the felt should be butted flush to the back edge of the flange to help compensate for the thickness of the flange. Also, felt should be installed over wood stair treads as a guard against damage to the resilient flooring through movement of the boards. This should be done with either butt type or flange type nosings. The use of felt is optional over metal or concrete stairs when butt type nosings are used. The diagram at the bottom of the opposite page shows details of installation on stair and riser and also of the various types of nosings.





The lobby of the Birchwood Club, Omaha, Neb., is an outstanding example of the way in which a staircase can be incorporated into the interior architectural design. The sweeping lines of the staircase are enhanced by the design of the linoleum floor. Linoleum is used also on the stair treads and risers to unite them with the decorative treatment of this interior. On this installation, the tread is in three pieces with three matching pieces butted against each riser. Edward J. Sessinghaus, Omaha, was the architect.



On this staircase, linoleum is flashed up the riser for a one-piece tread and riser installation. Top-set asphalt cove base is installed at the sides of the steps and along all walls.





This is typical of the installation of asphalt tile for stair treads. $9.'' \ge 9''$ and $18'' \ge 24''$ tile have been cut to fit the flat tread. In this installation the riser is left uncovered. The sanitary aspect of this type of stair tread installation is readily evident. The linoleum used here is flashed up the risers and skirtings of each step in a single piece.

The photographs on this page show some of the various ways in which resilient flooring can be installed on stairs. When only wearing surface is required, the resilient flooring can be installed flat on the tread. Where sanitation and ease of cleaning are of great importance, as in hospitals, the resilient flooring can be flashed up the riser and coved up the side of the step. For purely decorative effects, resilient

stair treads can be installed in either of these ways, and one or several pieces can be used effectively.

When the tread is to be flashed up the riser and coved at the sides of the step, linoleum should be used since the great flexibility of this material permits it to be fashioned easily in this manner. In the hands of experienced mechanics, asphalt tile also can be flashed and coved in



This composite diagram illustrates installation details for stair treads and risers of all types of resilient flooring materials.

this same manner by heating and bending the tiles before they are installed. Asphalt tile cannot be used, however, when it is important that the tread be installed in a single unit since the longest length available in asphalt tile is 24". To form a tread of asphalt tile on the average sized 11" x 30" step, it is necessary to use at least two pieces.

The difficulty of bending cork tile and Linotile and the springiness of rubber tile make these materials unsuited

for other than flat treads. For risers covered with these materials, a second piece should be used instead of attempting a flash type installation.

These are the general conditions encountered in stair tread installations. For help on specific problems, contact any Armstrong office or write, giving details, to Armstrong Cork Co., Floor Div.,

8902 State Street, Lancaster, Penna.



Ingersoll Utility Unit Established with Successful in 211 Cities from Coast

INCREASED FACILITIES IN 1948 WILL MAKE UNIT MORE



THE INGERSOLL UNIT One Package, One Purchase, One Installation The INGERSOLL UTILITY UNIT is a single, engineered assembly of the fixtures, appliances, controls and fittings of Kitchen, Bathroom and Heating Plant plus all interior plumbing and electrical connections.





BATH Includes tub, combination shower, lavetory, water closet, medicine cabinet, all measury lixtures and connections.



Gas ar all furnace, water heater, complete



KITCHEN Electric refrigerator, porcelain-enomel sink, gas range, steel well cabinets and drawers, fluorescent light, and all fixtures.



Firmly Installations to Coast!

You are invited to visit and inspect the **PERMANENT DISPLAY** in our new sides and service headquarters, featmont the complete **INGERSOLL UTILITY UNIT** See it at **321 PLYMOUTI COURT** Chicago when you attend the NATIONAL ASSOCIATION OF MATIONAL ASSOCIATION OF Sop in at Boods 23-24 a the Congress Hotel February 22-26

ADAPTABLE TO INDIVIDUAL PLANS AND REQUIREMENTS

Expansion, and consolidation of facilities, now make it possible to produce the Ingersoll Utility Unit more efficiently and to furnish it so that it is more adaptable to individual plans and needs. The improvements in manufacture allow the architect or builder to furnish expanded kitchens, to offer a choice of heating units and to better meet local building requirements.

Only a little over a year ago the Ingersoll unit was new and untried. Proved practical and economical in 211 cities during 1947, it has demonstrated its value in housing projects of every description. It is adaptable to a wide variety of plans in single home and multiple dwellings.

The Ingersoll Utility Unit is compact, requires less than 80 square feet of floor

ITY UNIT

Inger

space and provides more living space for less money. Complete, it eliminates timeconsuming specifications — everything comes with one purchase, from one source, right when it's needed. It cuts building time from three to four weeks and can be installed before, during or after construction of building framework.

It will pay you to check the many time and money saving features of the Ingersoll Utility Unit. Send for illustrated brochure and see for yourself how the Ingersoll Utility Unit can fit into your plans for better homes in every housing project.

> INGERSOLL UTILITY UNIT DIVISION of Borg-Warner Corp., Dept. J-2 321 Plymouth Court, Chicago 4, Ill.

Firm

Address

Please send me complete information of how the Ingersoll Utility Unit is now more adaptable to individual plans and requirements.

Name

FEBRUARY, 1948 95



FROM THE TECHNICAL PRESS

By JOHN RANNELLS

HANDBOOKS, MANUALS, PAMPHLETS

Durisol. Durisol, Inc., 420 Lexington Ave., New York, N. Y. 8 pp., illus.

Here is a new material that will bear watching—lightweight, good insulating qualities, rough-textured, strong and (presumably) cheap. It is a wood-chip cement block or panel with the woodchip aggregate treated chemically to bring about mineralization of the fibers.



PROTECT EVERY BUILDING WITH PECORA CALKING COMPOUND

RAIN OR SNOW CAN'T BEAT THROUGH BUILDING JOINTS CALKED WITH PECORA

Dependable weather protection in concentrated form for every type of building. Pecora Calking Compound, when used for sealing joints around window and door frames, and for pointing up masonry, assures these important benefits.

- FUEL SAVING
- FREEDOM FROM NEEDLESS DRAFTS
- NO MOISTURE SEEPAGE IN JOINTS
- NO NEEDLESS DUST INFILTRATION
- BETTER TEMPERATURE CONTROL FOR AIR CONDITIONING
- BETTER OCCUPANCY CONDITIONS



Pecora Calking Compound remains permanently elastic beneath its tough outer skin, and is impervious to heat, cold and moisture, even acid fumes. Time-tested for 38 years.

See SWEET'S for suggested specifications, or write us for descriptive folders and detailed information.



It was used extensively in Switzerland during the war and should take hold here, assuming that tests of its physical properties compare favorably with materials already in use.

Reviews

HHFA Technical Bulletin, Vol. 1, No. 1. Nov. 1947. Housing and Home Finance Agency, Washington 25, D. C.

This modest, effective bulletin is packed with ammunition for the Housing and Home Finance Agency's campaign for lower building costs.

The drive for uniform codes based on realistic performance standards is described in an article, "Lower Costs Thru Better Codes." A uniform plumbing code, soon to be issued, is described under "Housing Research," as are studies of lightweight concrete, condensation control, etc.

A very thorough article on "Insulation of Concrete Floors in Dwellings" presents the facts of heat losses with various methods of insulation and makes clear recommendations, illustrated by well drawn details.

Earth construction of different types is touched on briefly, and a thorough bibliography on this subject is given.

Structural and Insulation Requirements for Houses. Housing and Home Finance Agency, Washington 25, D. C. 12 pp.. 8¹/₂" x 11". 10 cents

This, the first of the Housing and Home Finance Agency's Performance Standards, sets up a uniform basis for measuring the adequacy of building materials and house construction methods. Under these standards the merits of new materials and building techniques can be judged and put to use. The arrangement is clear and concise, with no words wasted.

The Industry-Engineered Homes Program, 1948. National Retail Lumber Dealers Assn., 302 Ring Bldg., Washington 6, D. C. 128 pp., 8¹/₂" x 11", illus. \$1.00

This booklet contains a good deal of material on the industry-engineered house, concentrating on two typical examples, one- and two-story, 768 and 896 sq ft total area. An excellent general description is given of the advantages of modular materials and details as applied to these plans which are based on a 16-ft span between exterior walls. (A variety of plans, based on these principles, is understood, of course.) Details are given for several types of floor and wall construction, the purpose being the best utilization of materials and labor. The choice of materials is determined by local conditions, for the entire program is cen-

(Continued on page 98)



RADIATORS

for any kind of Radiation

Best

For luxurious winter comfort, there's nothing like the sunny warmth of radiant heat! And whether it is distributed by radiators, baseboards, convectors or radiant panels, a B & G Hydro-Flo Heating System assures you of its maximum benefits.

B & G Hydro-Flo Heating takes full advantage of the basic superiority of forced bot water as a heating medium. It establishes ideal comfort conditions because it measures out heat in the exact amounts required by the weather. As the outdoor temperature varies, the average temperature of the water in the system is varied also,





CONVECTORS

BASEBOARDS



RADIANT PANELS

providing exact compensation for changes in heat loss. The result of this variable water temperature is a constant

room temperature, regardless of weather changes. Operating economy is obvious since fuel is burned only in amounts sufficient to satisfy the heat demand.

Don't forget year 'round hot water With a B & G Hydro-Flo Heating System installed, the same boiler that heats the house also heats water for kitchen, laundry and bath. The supply is virtually limitless ... low

in cost . . . furnished 24 hours a day, all year 'round.

B & G Hydro-Flo Heating Equipment can be installed on any hot water heating boiler. It is known everywhere for dependable operation.





Hydro-Fio HEATING BELL & GOSSETT COMPANY Dept. AK-37, Morton Grove, III.

*REG. U. S. PAT. OFF.





The Case of the NERVOUS PERIPHERY

through, and it re-inks without line-

See for yourself how much better

Arkwright is. Send for free working

samples. Arkwright is sold by lead-

ing drawing material dealers every-

where. Arkwright Finishing Co.,

feathering . . . ever!

• The tracer had to erase a couple of times. It happens to the best of us. And when he re-inked, his periphery was definitely on the "nervous" side. Next time he'll use Arkwright.

Erasures mean little to Arkwright ing drawing mate tracing cloth. It can take erasure where. Arkwrigh after erasure without wearing Providence, R. I.

All Arkwright Tracing Cloths have these 6 important advantages

- 1 Erasures re-ink without "feathering"
- 2 Prints are always sharp and clean
- 3 Tracings never discolor or become brittle
- 4 No surface oils, soaps or waxes to dry out
- 5 No pinholes or thick threads
- 6 Mechanical processing creates permanent transparency



(Continued from page 96)

tered around retail yard services. In addition to the general exposition by the lumber dealers there is a wealth of material supplied by other interested groups from structural clay products to kitchen equipment. It all adds up to an excellent manual of economical construction for small house work. The program should have very good results, even though these plans will inevitably be used in most cases as stock plans without benefit of architect. (The in-evitable "horrors" of bad site planning will be no worse than at present.) Architects in the small house field will find much of value to them here, even though they don't use any of the material "cold."

Radiant Panel Heating. Revere Copper & Brass, Inc., 230 Park Ave., New York 17, N. Y. 36 pp., 8¹/₂" x 11".

An unsatisfactory attempt to present a non-technical discussion of a technical subject. Revere's Research and Development Department has managed to confuse good basic material (papers by Raber and Hutchinson) just enough to mystify the reader. The illustrations of actual installations are very good. Of course, the freedom from corrosion of course, the freedom from corrosion of copper is stressed. It is unfortunate that the handling of the text is not up to Revere's previous high standard.

Rayduct, The Pipe for Radiant Heating. Bethlehem Steel Co., 703 E. Third St., Bethlehem, Pa. 40 pp., 8½" x 11".

Bethlehem has developed a pipe which can be easily bent cold and readily welded into radiant heating panels. The pamphlet emphasizes layout and installation details, and contains an excellent discussion of radiant heating theory and practice well illustrated by photographs and line cuts. Of course, the freedom from corrosion due to the "closed system" inherent in panel heating is stressed.

FROM OTHER PUBLICATIONS

Information Sheets. The Architects' Journal, 13, Queen Anne's Gate, Westminster, S.W. 1, London, England. Oct. 2, 1947.

Data sheets are to be issued regularly by *The Architects' Journal*, covering all sorts of subjects classified into 46 groups under six heads: general (practice, science, planning); construction by materials; construction by products; services and equipment; applied finishes and treatments; furniture and fittings, miscellaneous.

This is an entirely fresh, new series, superseding the former information sheets which were a casualty of the war. The two sheets given to start with promise well for the series. One is an (Continued on page 100)

Lang the door problems!

ROLL

SLIDING

DOOR

NARROW STILES

HIGH FREQUENCY

The Hardware Consultant in your locality has the training and experience, not only to take care of specification and price details, but also to suggest hardware designs, qualities and functions in keeping with your buildings.

KALAMEIN

FOLDING

THE DETAILS of hardware specification mean a laborious job that a busy architect is usually willing to hand over to a good hardware consultant. This is doubly wise because the modern consultant's services go much farther than catalog work. His specialized training highly qualifies him to diagnose, advise and cooperate with you in the most exacting requirements of the structure you are planning.

PAINT CLEARANCE

You can count on his knowledge and judgment in the interpretation of your ideas — providing hardware in keeping with the job in terms of easy installation, fine appearance, faultless functioning and lasting service. You will appreciate his professional competence all the way — in planning, purchasing, installing and maintenance. Why not make full use of the service he offers in your current building plans?

PRESSED STEEL

DEEP REVEAL

If you do not know the hardware consultant in your area, a letter to Stanley will put you in touch with him promptly.





THE STANLEY WORKS, NEW BRITAIN, CONNECTICUT

Every business uses this speedy service



Attorneys, bankers and such, know the fastest way to ship important documents is Air Express. They're big users and they've found speed pays.



otel and restaurant people use Air Express regularly to get sea food, out-of-season produceserve it at a profit. Speed pays.



Every kind of manufacturer finds profitable use for Air Express. Speed pays.

Speed pays in your business, too!

Air Express can help speed up your business—use it regularly. Ship-ments go on every flight of the Scheduled Airlines. It's the fastest possible way to ship or receive. Rates are *low*. For example: 25 lbs. goes 800 miles for \$6.14—8 lbs. for \$2.36. And these rates include door-to-door service.

door-to-door service.
Low rates—special pick-up and delivery in principal U.S. towns and cities at no extra cost.
Moves on all flights of all Scheduled Airlines.
Air-rail between 22,000 off-airline offices.

Direct air service to and from scores of foreign countries. For service or information call Air Express Division, Railway Express Agency.



(Continued from page 98)

excellent treatise on perspective, the other a detail of a suspended acoustic ceiling system.

Reviews

The Heating of Houses. The Architects' Journal, 13, Queen Anne's Gate, Westminster, S.W. 1, London, England. Oct. 2, 1947.

Continuing the full-scale research on heating conditions in actual use, 20 houses have been built with identical insulation and different heating systems. (The first group of eight had identical heating systems but different thermal insulation.)

After an initial calibration period under scientific observation the houses will be put to normal family use. Fuel consumption and the temperatures maintained in various rooms will be recorded by built-in instruments without burdening the tenants with record-keeping. The initial calibration period will establish usable comparative data on different types of appliances. The really valuable results will take years, but meanwhile a truly realistic program is in progress and it will give workable results, tested in practice.

Tomorrow's School Building. William S. Vincent. The School Executive, 470 4th Ave., New York 16, N. Y. Nov. 1947.

This article is the result of a study of recent literature on school building design and covers general needs rather than specific requirements:

1. More space for demonstration, exhibition, experimentation; workrooms in addition to the traditional classroom, and spaces for student activities outside of classes, such as school stores, meeting rooms, etc.

2. Flexibility by building with nonbearing curtain walls to provide for altering sizes of rooms or using accordion partitions to convert several small rooms into one large room.

3. Variability in decorative treatment, suitable to rooms of various uses; use of display niches in otherwise unrelieved corridors.

4. The school as a child's institution, conceived as a community, preferably spread out in units of varying type, away from main traffic, pleasantly landscaped.

5. Anticipation of future educational practice by close attention to current educational developments.

6. Cooperative planning, architect and administrator working together, keeping always in mind the needs of staff, teachers, public.

7. Accommodation for all-weather, allpurpose, all-season program, for the school and for the community, utilizing the school yard with its recreational

(Continued on page 102)



This switch says plenty by keeping silent

Shhh! Here's silence that's really golden—for you. Quieter than the drop of a pin (you can hear *that*), yet the G-E Silent Switch's very lack of noise is one of the loudest-talking salesmen you can have on the job.

Think a minute. What builds your customers' confidence in you? It's your reputation and the quality of work you do, of course. But did you ever stop to consider how important, too, is the reputation and performance of the wiring you specify?

That's where G-E Silent Switches come in, and all the other products in the full line of G-E wiring devices. They are the *visible evidence of quality* on every job. Their name signifies long life and reliable service to every user. Why not specify General Electric throughout, and let that big name go to work for you?



Wiring Briefs from your G-E Distributors

Are you familiar with the great variety of products in General Electric's full line of wiring devices? Do you know the interesting features that help to make them easy to use and safe to specify? Keep an eye on this column, and you may discover a lot of useful facts and information. We'll keep dishing them out for you.

Now, the entire Watch Dog* line of starters meets a new, high-temperature rating. Maximum recommended operating temperature



has been increased from 140 F to 160 F. This is important in installations that are enclosed, or that are subject to high ambient temperatures.

Whether you already include fluorescent lighting in your plans, or just want more information for your files, you need this new folder on "G-E Fluorescent Accessories." It



shows you—and your clients—what products G.E. is making, and how they can be used to advantage. Tells about Watch Dog* and standard starters; Slimline, Circline, and Twin Turret lampholders; and fluorescent starters and switches. Ask us for a supply today.



A certain well-known soap has nothing on those boys in G.E.'s "fuse factory." Do you know that the zinc used in General Electric fuse links has to be 99.98 per cent pure by laboratory test? Good point to remember when you specify fuses for that next job.

If you want additional information on these or other G-E Wiring Devices, ask us—your G.E. Merchandise Distributor—or write to Section D52-269, Appliance and Merchandise Dept., General Electric Co., Bridgeport 2, Conn.

*Trade-mark Reg. U.S. Pat. Off.



(Continued from page 100)

possibilities, the school library, shops, auditoriums, etc., for community use, making the school an integral part of the community.

BOOKS

STATING THE CASE_ FOR THE APARTMENT

Apartment Houses. Joseph H. Abel and Fred N. Severud. Reinhold Publishing Corp., 330 W. 42nd St., New York 18. N. Y., 1947. 288 pp., illus. \$10.00. (Second book in the Progressive Architecture Library series)

With the assistance of his colleagues, Joseph Abel has written a book that says the last work on its subject. Architects who have any aspirations to design multiple dwellings will not glance at it and put it away on the shelf, but will con it until it is dog-eared. It comes at the right time, too. The authors evaluate a decade of prewar evolution in apartment house design. But while being wholly practical for 1948, their conclusions reach out for another decade or two-decades of continued urbanization and rental housing demand that will be filled with apartment house building.

The authors have not omitted to state the case for the apartment. In doing so, they also point out the proliferation of apartment house design into many distinct types. The urban luxury apartment, so-called "efficiency" apartments. the family-sized suburban garden apartment, public housing-each type is identified and its potentialities are shrewdly appraised and given appropriate analysis.

The authors have in the best sense an architectural attitude. In consequence, they have written a thoroughgoing book that reaches a high professional standard and will be of great practical usefulness. Their approach to design is fresh and analytical. Almost every problem that must be faced in the architect's work as apartment house designer is treated, giving all of the pertinent data and a reasoned statement of the arguments that support the correct solution. Four pages, for example, are given simply to listing elements in site selection. I think Mr. Abel's readers will find an incidental value in the book. In addition to helping them think through their problems, it will also help architects to convince their clients!

While much has been written on the functional analysis of apartments, the authors have summed up nearly all the relevant data relating to floor plans and

(Continued on page 104)

rotective grille removed to show 4-high installations of Vulcan Radiation

Vulcan continuous line radiation installed beneath the window area of schoolroom provides a protective blanket of convection heat, minimizes cold-air drafts dangerous to health. Note its compactness . . . allowing for greater room utility. A neat, protective grille further adds to the attractiveness of the installation.

VULCAN ... in the

Picture of today

Yes, Vulcan radiation plays an important part in today's up-to-the-minute heating. Its versatility has made it the approved modern installation not only in schools but in ships, trains, homes, hospitals, public buildings and industrial plants.

Vulcan is light in weight yet rugged in construction . . . is easily installed in any type room or space . . . responds

quickly to heating controls.



Look for the name "Vulcan-Hartford" stamped on every radiator.

More heat in less space. Vulcan patented offset fin construction with fins mechanically imbedded in pressure tube extends heating surface . . . gives complete rigidity to entire assembly.

THE VULCAN RADIATOR COMPANY 26 FRANCIS AVE., HARTFORD 6, CONN. RADIATOR MANUFACTURERS FOR OVER TWO DECADES





... delivering Roddiscraft doors from an Architect's office?

YES – delivery of Roddiscraft Flush Veneer Doors actually begins at your door. The pattern for delivery is laid down on the architect's board, because delivery largely depends on the specification of stock sizes by the architect.

Concentration on stock sizes permits us to get maximum production from men and materials. It means more doors for everyone — On the other hand, odd sizes and special details are a serious brake on door output.

Plan for stock sizes when you draw your plans. Then we can plan to meet your needs with warehouse stocks ready for delivery when and where you want them.



Roddis Lumber & Veneer Co. MARSHFIELD, WISCONSIN



SPECIFICATION FOR SAFETY

THE ABOVE photo is one of the operating rooms of the Los Angeles Monte Sano Hospital, showing the use of the Cannon Electrostatic Grounding Intercoupler. Bead chains (noted by arrows) ground patient, table, nurses, attendants, etc. Why these precautions? Why this particular apparatus?

Type "HG" Intercoupler with 2 typical chain assemblies. Box is bronze, insulation phenolic with 42 megohm resisters and ground to nearest cold water pipe. List \$206.10.



BECAUSE IT IS INSURANCE AGAINST EXPLOSIONS

... of hydrocarbon gases, well known as a hazard to all hospital authorities. No other intercoupler is as foolproof nor as safe. Fire prevention authorities have long recommended adequate equipment of this type. The "HG" is the answer. Hospitals throughout California and in other parts of the United States are installing Cannon equipment, because it meets the most exacting requirements. This is only one within the complete line of Signal Equipment manufactured by Cannon Electric. Available from your electrical wholesaler.

Send for Cannon Electric Bulletin HG-A, Address SINCE 1915 Dept. B-293.



IN CANADA & BRITISH EMPIRE: CANNON ELECTRIC CO., LTD., TORONTO 13, ONT. WORLD EXPORT (Excepting British Empire): FRAZAR & HANSEN, 301 CLAY ST. SAN FRANCISCO



(Continued from page 102)

layouts, kitchens, baths, storage, and other elements. An atmosphere of realism is given by the numerous sketches of circulation patterns. The full tables of data are counterbalanced by recent reviews of tenant behavior and opinions, as disclosed in "livability" surveys.

It would not be fair to leave the impression this is a pedestrian book. It is a book for reference, but it is also a genuinely exciting book to read. The authors are interested above all in workable ideas. They are not overconcerned whether a building has been erected or remains a project, recognizing what everyone knows but too seldom pays attention to—that there are more and better buildings in the plan files than there are in city streets.

Pointing to the future of apartment design, as disclosed by present trends, the authors feel that emphasis on the super-block will continue, and that further mechanization and low maintenance will characterize the design of most new buildings. They might also have added that the changes now taking place increasingly make obsolete thousands of older apartments (and not a few brand-new ones) and that the longer builders and investors delay in bringing their ideas up-to-date, the more money they will lose.

FREDERICK GUTHEIM

MIES VAN DER ROHE

Philip C. Johnson. The Museum of Modern Art, 11 W. 53rd St., New York 19, N. Y., 1947. 207 pp., illus. \$7.50

A monograph on the work of the internationally known architect who is now director of architecture at Armour Institute of Technology. Plates and running text carry the study from his student work to the current construction of the new Armour campus. It is complete and useful, although sometimes cloying in its constant use of superlatives. Some of Mies' writings are appended, and there is an excellent bibliography.

T. H. C.

HISTORIC MIDWEST HOUSES

Juhn Drury. University of Minnesota Press, 100 Westbrook Hall, Minneapolis 14, Minn., 1947. 246 pp., illus. \$5.00

Photographs of house museums in the Midwest comprise a memento of pioneer effort by*men who had first to shelter themselves in the wilderness and whose sons were to remember manners and monuments of the Seaboard Colonies. There is not an architectural detail that could not better be copied from Eastern examples, but the text is informative in its account of the beginnings of many families influential in America today.

SAN FRANCISCO PERSPECTIVE

San Francisco Bay Cities. Around the Golden Gate in Pictures. Josef Muench. Hastings House, 67 W. 44th St., New York 18, N. Y., 1947. 101 pp., illus. \$2.50

A lively introductory statement by Joseph Henry Jackson helps explain the combined serenity and vigor that typify this sparkling city by the Golden Gate. Mr. Muench's superb photographs, including views of nearby Marin County, Berkeley, Oakland, and Palo Alto, as well as of San Francisco proper, bring the area into sharp focus and polish the highlights. No San Francisco devotee could fail to delight in the choice of subjects; would-be travelers will find the collection a tangy appetizer. Happily, a few shots show the awful and wonderful carpenter's Gothic row houses of earlier days. For more recent structures, the larger and more imposing suffice. Little sign here of the exciting progressive architecture for which the area is world renowned.

G.A.S.

PICTURES TO ENJOY

Springtime in Virginia. Samuel Chamberlain; introduction by Virginius Dabney. Hastings House, 67 W. 44th St., New York 18, N. Y., 1947. 329 pp., illus. \$4.00

Behold Williamsburg. Samuel Chamberlain. Published in cooperation with Colonial Williamsburg by Hastings House, 67 W. 44th St., New York 18, N. Y., 1947. 176 pp., illus. \$5.00

These are the two latest in a long line of photographic compilations by the well known author, whose penchant for seeing and recording the beauty of landscape with or without architectural elements has delighted a whole generation of picture lovers. The first of the two volumes is a compounding of the contents of six years of The Virginia Calendar, an annual publication by the same author. The second is a comprehensive selection of pictures taken over a period of 10 years at Colonial Williamsburg and seasoned with a sprinkling of sketches and dry points in Mr. Chamberlain's inimitable but unmatched style. For those who still believe that architecture is to be looked at and enjoyed in its natural surroundings as well as lived in and used, these books are full of inspiration and instructiveness. Earth, trees, and greenery; sunshine and shadow; all are part of the architect's means of making his buildings meaningful beyond their purely utilitarian aspects. The smartest progressives can learn from these compositions, even though the architecture Mr. Chamberlain depicts belongs to another era.

KENNETH REID

Although a Certified Ballast is usually placed out of sight, its importance can never be overlooked, because top fluorescent lamp performance is so dependent on proper ballast operation.

Certified Ballasts assure maximum lamp performance . . . longer lamp life. They safeguard against overheating . . . eliminate disturbing noise. That's why Certified Ballasts are a "must" in good commercial and industrial fluorescent lighting installations.

CERTIFIED

SPEC. NO. 6 HIGH PF Certified Ballasts are better... because they are built to precise specifications...then tested and checked by Electrical Testing Laboratories, Inc., against these specifications. Only when they pass this testing are they *certified*.

may be "out of sight,"

but never "out of mind."

ified Ballasts

For these reasons fluorescent fixtures perform better...give more lasting satisfaction...when they're equipped with Certified Ballasts.

Certified Ballasts are used in all Fleur-O-Lier fixtures and in Certified Lamps with circline tubes.

IED BALLAST MANUFACTURERS

Makers of Certified Ballasts for Fluorescent Lighting

2116 KEITH BLDG., CLEVELAND 15, OHIO



MEN WANTED

DRAFTSMEN, ENGINEERS-architectural and structural draftsmen, electrical and mechanical engineers wanted. Housing available. Address Skidmore, Owings & Merrill, P.O. Box 385, Oak Ridge, Tenn.

ARCHITECTURAL DRAFTSMAN - capable of designing and executing complete working drawings and details. One experienced in store layouts and fixtures preferred. State qualifications in detail and salary requirements. Woodward & Lothrop, Washington 13, D. C.

. obs

ARCHITECTURAL CHIEF DRAFTSMAN-in the Finger Lakes district of upstate New York; an excellent opportunity for a responsible, qualified man. The office staff is young, congenial; applicant will direct their efforts in production of high quality work. Salary in top bracket. Thomas Lyon White, 444 Exchange St., Geneva, N. Y.

e of tloor Spa Nas SPECIFY VANISHING DOORS VANISHING (Sliding) DOORS HINGED DOORS CLOSET BATH CLOSET BATH HALL HALL CLOSET BEDROOM CLOSET BEDROOM No "Dead" Space Here

Shaded Areas are "Dead" Space

Floor plans above show the same bedroom, closet and bath arrangement with hinged doors and with vanishing doors. Note absence of "dead" areas in plan utilizing vanishing doors.

Whether it's a spacious mansion or the tiniest kitchenette apartment, wasted floor space is wasted money! And every hinged door wastes the floor space covered by its swinging arc. With vanishing doors there's no floor area lost . . . furniture, pictures and fixtures can be placed correctly and conveniently; rugs can be laid close to the wall line; color harmony is not disturbed by the "wrong side" of an open door. For all interior doors, it's smart and economical to install vanishing doors.

Specify R-W Vanishing Door Hangers and Wood Lined Track

For smooth, quiet vanishing doors, be sure to specify Richards-Wilcox Vanishing Door Hangers and Wood Lined Track. Compact and noiseless in operation, R-W Vanishing Door Hangers are equipped with Oilite self-lubricating bearings. Hanger wheel rolls in "V" shaped groove in wood lining of steel track to keep wheel centered at all times—no metal-to-metal contact to cause noise or friction. Get complete details from your nearest Richards-Wilcox office-free consultation available without obligation.





Designed for Use in 2 x 4 Studded Walls

> OVER 68 YEARS

Richards-Wilcox No. 719 Vanishing House Door Hanger and Wood Lined Track installation in ordinary 2 x 4 studded house partition, showing application of hanger and track to header and door.

CHIEF DRAFTSMAN - capable head draftsman or job captain. Experienced in fine building. Toombs & Creighton, 127 Walton St., Atlanta 3, Ga.

d

a n

Men

ARCHITECTURAL DRAFTSMEN-capable of developing working drawings, details, etc., for all types of projects. Excellent working conditions and an opportunity to secure well balanced experience. Please give complete experience record and salary in first letter. Cooper & Perry, Architects-Engineers, Andrew Johnson Hotel Bldg., 211 W. Hill Ave., Knoxville, Tenn.

ARCHITECTURAL DESIGN DRAFTSMANat least three years' experience in an architectural office. Salary according to experience and ability. State experience, age, education, and full details in first letter. Whitehouse & Price, Architects, 715 Hutton Bldg., Spokane 8, Wash.

ARCHITECTURAL DESIGNER - fully experienced on theatres, stores, and industrial work. Must be capable of executing working drawings and details and of directing such effort. Permanent connection can be offered to qualified applicant in large architectural-engineering organization. Send record of experience and samples of work. Marr & Holman, 701-703 Stahlman Bldg., Nashville, Tenn.

STRUCTURAL ENGINEER-with good experience who can design and make drawings for structural and reinforced concrete. Permanent position can be offered to properly qualified applicant in large architectural-engineering organization. Send record of experience and samples of work. Marr & Holman, 701-703 Stahlman Bldg., Nashville, Tenn.

MECHANICAL ENGINEER - fully experienced in making designs, working drawings, and writing specifications for heating, plumbing, and air conditioning. Permanent connection in large architectural-engineering office can be offered to properly qualified applicant. Send record of experience and samples of work. Marr & Holman, 701-703 Stahlman Bldg., Nashville, Tenn.

JOBS WANTED

ARCHITECTURAL DESIGN AND DRAFTING SERVICE-free-lance services are available in architectural design and drafting by a well versed draftsman who has a college education with long experience in Government service. Sketches, perspectives, plans, details, and specifications prepared. W. Lawrence Clark, Box 5021, Knoxville, Tenn.

ARCHITECT-ARTIST AND DELINEATOR-of long experience, offers services for freelance architectural renderings and perspectives, bird's-eye views of architec-

(Continued on page 108)




oduced over a year ago, Kawneer's h-glazing assembly has made pose the construction of store fronts ch truly embody "Full-Vision."

y eliminating projecting sash mems, this Kawneer flush-glazing asbly makes glass "disappear" into ls and ceilings. It creates the aprance of a continuous, uninterrupted ace for walls and ceilings . . . yet it vides a metal construction that holds ss in place firmly but resiliently.

awneer's flush-glazing assembly has in fully "store-tested" in hundreds successful installations from coast oast.

Vrite today for complete construction ails. The Kawneer Company, 779 th Front Street, Niles, Mich., and Dwight Way, Berkeley, Calif.



SALES-BUILDING

STORE-FRONTS





Westchester County Home, Westchester County, New York, Morris & O'Connor, Architects . Wm. L. Crow Constr. Co., Builders

OVER GETTY OPERATORS 4000 STILL GOING STRONG AFTER 10 YEARS OF CONTINUOUS HARD SERVICE

At the Westchester County Home, Westchester, New York, 2100 metal casements were equipped with 4200 Getty Casement Operators 10 years ago. Here is another example of what we mean by long life: after 10 years of rugged conditions of winter ice and summer heat, of manual operation by inmates who

do not always have regard for things mechanical, these Getty operators are still rendering dependable service, day in and day out. Their Internal Gear construction (exclusive with Getty), solid bronze housing and cold-rolled steel cadmium-plated arm, together with casehardened steel worm, assure long years of trouble-free positive casement control. And the Getty angle-drive means easy operation-open or closed with a flip of the finger.

Internal Gear

Getty manufactures operators for all types of casements for both wood and metal. Also a complete line of high-quality accessory hardware for casement windows. Write for Catalog E today!



H. S. GETTY HAS BEEN BUILDING FINE HARD-WARE FOR OVER A QUARTER OF A CENTURY



(Continued from page 106)

tural treatment of engineering structures such as highways and bridges. Theodore A. De Postels, A.I.A., 644 Riverside Drive, New York 31, N. Y. AUdubon 3-1677.

Jobs and Men

SCALE MODELS-for architects far from our studio-are being successfully built and shipped without damage. Your requirements of scale and cost can be met. wherever you are. Write, without obli-gation, for estimates and pictures of similar models, to Musselman-Casey Studio, 2121 Cherry St., Philadelphia. Pa.

ARCHITECTURAL DRAFTSMAN-20 years experience, all types buildings, project development to finished working drawings. Also, interiors and store fixtures of higher class. U. S. Civil Service rating for dependability, experience, fit-ness: 92%. Eastern U. S. preferred Unencumbered. Address sealed replies to "Delores," American Institute of Music Bldg., 207-9 N. Foushee St., Richmond, Va.

EXECUTIVE ARCHITECT - registered in N. Y., N. J., Ohio, Va., and Pa.; mem-ber, A.S.C.E. Experience of 22 years covers client contact, specifications, field supervision, and superintendence. Structural design, working drawing production on commercial and industrial work. Desires connection which can lead to firm membership. Box 95, PROGRESSIVE ARCHITECTURE.

FREE-LANCE DRAFTING-two practicing architectural draftsmen are desirous of part-time, free-lance work. Varied building experience includes store fronts, interiors, residential alterations. Field measurements taken; neat, accurate drawings submitted. Convenient service to architects, designers, or builders with limited or no drafting facilities. Call Lu 4-1234, or write Box 96, PRo-GRESSIVE ARCHITECTURE.

ARCHITECT-DESIGNER-A.I.A., registered, 20 years' varied experience, in-cluding foreign, desires association or responsible position leading to firm membership. Capable of directing the work of others and taking charge of office. Availability of apartment or house important. Give full particulars. Box 97, PROGRESSIVE ARCHITECTURE.

ARCHITECTURAL DRAFTSMAN - (European and American experience) now in Copenhagen, sincerely wishes to return to U.S.A. if afforded opportunity to gain more experience in progressive office, any location. Box 98, PROGRES-SIVE ARCHITECTURE.

ARCHITECT - 35, wishes to associate with practicing architect in California. Experienced in contemporary design and techniques, from client contact to complete building. Good education and background. Navy Seabee Officer dur-

(Continued on page 110)



Flat, Hipped or Pitched... Insulating Them is Simple with VERSATILE **Balsam-Wool**

• Flat-roofed, hip-roofed or pitched roofed homes—you can insulate them easily and effectively with versatile Balsam-Wool. You'll find scientific "pointers" on such applications in Balsam-Wool Data Sheets—a veritable library of useful data on correct application practice.

Balsam-Wool Data Sheets were prepared to give you ready information on a wide variety of insulation problems. Designed to fit your A.I.A. file, they help conserve your valuable time. Send today for *your* set—enclosed in an attractive file folder. There's no obligation, of course. Reduced about the set of the set

MAIL THE COUPON FOR YOUR BALSAM-WOOL DATA SHEETS

Balsam-Wool



SEALED INSULATION

WOOD CONVERSION COMPANY
Dept. 117-28 First National Bank Building
St. Paul 1, Minnesota
Please send me a set of Balsam-Wool Application Data Sheets.
Name
Address
City

BALSAM-WOOL • Products of Weyerhaeuser • NU-WOOD

REG. U. S. PAT. OFF.



Wet or dry, Alberene stone's highly toothed surface is always safe. You'll find it's comfortable, too – retarding your feet, but never bringing them to a dead stop.

Learn about the many other advantages of Alberene tread stock by writing-

ALBERENE STONE CORP. OF VIRGINIA

419 - 4th Ave., New York 16, N. Y.



(Continued from page 108)

ing war. Now in charge of plan production and design important work. Certificate N.C.A.R.B. Box 99, PRO-GRESSIVE ARCHITECTURE.

ARCHITECT, MODERN DESIGNER — with traditional background based on European travel and study. University graduate, Pennsylvania license. Desires association or responsible position with progressive Philadelphia or suburban architect. Experience in commercial, residential, industrial buildings, schools, hospitals. Veteran with initiative, pep, alertness. Capable of organizing, taking charge of office. Box 100, PROGRES-SIVE ARCHITECTURE.

DESIGNER—Can an architect, planning interiors as well as exteriors, use as assistant or apprentice, talented woman designer with ideas and a fresh approach? Specialty—use of functional units architecturally; exceptional spacecolor arrangement. Sound applied-fine arts background. Private design experience; some office practice. N. Y.-Boston area only. Box 101, PROGRES-SIVE ARCHITECTURE.

ARCHITECTURAL DRAFTSMAN—ambitious veteran, 27, desires position in modern office located in moderate-sized southeastern city. Qualifications: 2 years of college, 2½ years' residential and commercial designing and detailing in East and West, and esthetic and structural appreciation. Satisfactory housing necessary for family of four. Box 102, PROGRESSIVE ARCHITECTURE.

ARCHITECT'S ARCHITECT — nationally known, F.A.I.A., broad education, and long experience, available as consultant on program-making, master and site planning, contemporary architectural design on other than residential practice of high quality. Percentage or fixed fee for preparing master plans, preliminary studies, and show drawings. Box 103, PROGRESSIVE ARCHITECTURE.

ARCHITECT—business executive, project manager and director, with finest references and a highly successful record of accomplishment on large projects; presently desires a high-caliber connection in executive or managerial position, associateship, or partnership in architectural engineering, construction, or manufacturing firm. Location anywhere. Box 105, PROGRESSIVE ARCHITECTURE.

NEW ADDRESSES

ROY M. SCHOENBROD, 1253 N. LaSalle St., Chicago, Ill.

NATHANIEL C. SAXE, 122 E. 42nd St., New York 17, N. Y.

SYLVIA & WILLIAM WILDE, 415 E. Fifth St., Tucson, Ariz.

C. A. DUNHAM Co. have moved their offices from 450 E. Ohio St. to the Chicago Daily News Bldg., 400 W. Madison St., Chicago, Ill.

Cabot's 24 attractive shades give you freedom in Color Selection

> Cabot's House Paints offer you this wide variety of colors.

5 Greens, 9 Reds and Browns, 4 Blues, 2 Creams, 2 Grays, Old Virginia White and Cabot's Famous Double White.

Cabot's Paints have tremendous hiding power and lasting brilliance because they are made by our patented Collopaking process. Pure pigments are broken down into particles of submicroscopic size and colloidally combined with wear-resistant oils. No fillers or adulterants are used. As a result, Cabot's Paints produce a porcelain-smooth finish which shows no brush marks . . . hold their color, and resist the elements for years.

WRITE TODAY for color cards and complete information. Samuel Cabot, Inc., 2101 Oliver Bldg., Boston 9, Mass.

Cabot's Collopakes

"We endorse the use of metal windows, particularly

for the warmer parts of California. In these areas of extreme

Frank Wynkoop designs a school...

井 り

Mesker Steel Windows

temperatures we have found them most suitable."

Architect Frank Wynkoop San Francisco

For your copy of the Mesker Book of School Windows, write Mesker Brothers, 4340 Geraldine, St. Louis 15, Mo.



1-300 Yorkshire Lavatory

2-131 Lahoma Bath

3-140 Oxford Closet

in hotels and apartments, too top quality means CRANE quality • The word Crane on your hotel or apartment specifications has real meaning to your client. It is the name he associates with fine quality . . . he knows it better than any other name in plumbing.

This quality can be had in Crane bathrooms small and large... bathrooms styled for a hotel room as well as for the most luxurious apartment.

In kitchens, too, Crane offers this same wide selection. Besides a complete line of cabinet sinks, you may select small, individual units just right for kitchenette planning.

Kitchen and bathroom plumbing fixtures in all price groups feature the new and exclusive Crane *Dial-ese* controls that operate at the touch of a finger.

Crane fixtures suited for apartment and hotel use are represented in your copy of "Crane Service for Architects." If you are without a copy, your Crane Branch will be glad to supply one.

CRANE CO., GENERAL OFFICES: 836 S. MICHIGAN AVE., CHICAGO 5 PLUMBING AND HEATING VALVES • FITTINGS • PIPE PLUMBING AND HEATING CONTRACTORS

At this modern Texas Building ...

THERE'S LASTING BEAUTY IN NICKEL SILVER

You will FIND Anaconda Nickel Silver true to the up-to-the-minute spirit of the West—as this time-honored metal graces the entrances and hallways of Houston, Texas' smart Mellie Esperson Building.

Gleaming, luxurious nickel silver lends a pleasant note of warmth—adds a brightness to this building that will last through the years. This ageless metal is famous for giving a youthful "new look" for decades to the buildings it adorns.

For ornamental work of every description, choose Anaconda Architectural Bronze and Nickel Silver—long the choice of architects and fabricators alike for their high resistance to corrosion, and economical qualities. In addition to a wide range of extruded shapes, The American Brass Company furnishes drawn shapes, angles, channels, sheet, strip and tube in metals to match the colors of architectural bronze and nickel silver extrusions.

The 24-floor Mellie Esperson Building, Houston, Texas -John and Drew Eberson, New York City, Architectswas completed in 1941. Anaconda Nickel Silver is used extensively in doors, doorways, hand rails, and ornamental work. General Bronze Corporation, Garden City, L. I., N. Y., fabricated the main entrance way (see left) as well as all other nickel silver metal work.



MICKEL SILVER

THE AMERICAN BRASS COMPANY

General Offices: Waterbury 88, Connecticut Subsidiary of Anaconda Copper Mining Company Canada: ANACONDA AMERICAN BRASS LTD. New Toronto, Ont.

"You adjust the temperature to suit yourself sir!"

...it's easy with General Electric Flexible Air Conditioning

FOR EXAMPLE, General Electric's *Personal Weather Control* for multiple-room buildings provides:

Localized control of temperature. Each room can be cooled or heated to individual taste.

Flexibility. Fits easily into your present building designs or into plans for new buildings. After installation, room layouts can be changed without disrupting the air conditioning system.

Filtering. All the air can be filtered, not just a part of it.

Dehumidification. Equipment is sized to do a good job even in humid Southern areas.

Simplicity. A simple piping system served by a central plant in the basement can provide each room with cooling in summer, heating in winter.

Fresh Air...Ventilotion. Fresh air can be introduced directly through room units, by hall ducts, or by a central plant. Adaptable to ventilation needs of each space.

This is one of *many* types of General Electric Equipped Air Conditioning Systems. Whether the need is large or small, simple or complex . . . there's a General Electric System designed to give your

client Better Air Conditioning. General Electric Co., Air Conditioning Dept., Section 8502, Bloomfield, N. J.



GENERAL Better Air Conditioning



American Radiator and Standard Sanitary Corp. Louisville, Bayonne, and Buffalo plants

The entire facades of these three striking modern plant-identification units are of Enduro Architectural Terra Cotta. The matte glaze buff ashlar units, 2'0" x 2'0", surfacing the conventional masonry wall construction are virtually self-cleaning for permanent color and display value.

ENDURO ARCHITECTURAL TERRA COTTA

MERICA'S most famous names are moving out front. Modelled in terra cotta as an integral part of the facade, these and many other familiar trade marks are becoming permanent, colorful functional elements of the structures designed to house their growing activities.

An architectural terra cotta facade stays clean, thus combines maximum appearance with minimum maintenance. Wherever appearance is a part of the investment value, architectural terra cotta is indicated.

Federal Seaboard stands ready to advise on preliminary sketches, furnish construction detail, data and suggestions, color samples, estimates—all without cost. Call on us for any help you may need. Greyhound Bus Lines, Atlanta, Ga. Greyhound, about 12 feet long, is graybuff terra cotta on a matte blue terra cotta background.

National Biscuit Company, Providence, R. I. This trademark, in Chinese red and white, appears on an exterior of warm brown mottle matte glaze.





Nestle's Milk Products, Inc., Freehold, N. J. Panel, 4'0" x 8'0", over entrance, executed in ivory and various shades of brown as in Nestle's trademark.

Schreiber's Clothing Store, Scranton, Pa. Hart, Schaffner and Marx trademark, in the polychrome colors of the original, highlights the terra cotta facade.

Forward plans and sketches to our New York office for quotations.



FEDERAL SEABOARD TERRA COTTA CORP. 10 EAST 40th STREET, NEW YORK 16, N. Y. PERTH AMBOY, N. J. SOUTH AMBOY, N. J.



HEAVY DUTY HEATING COILS

Types for all Applications

NON-FREEZE for entering air. Non-freezing, non-stratifying. FLEXITUBE absorbs expansion and con-

traction strains. UNIVERSAL incorporates S-bends with steel

headers. NARROW WIDTH, straight tube for water

cooling or flooded Freon systems. CONTINUOUS TUBE for cooling air with

cold water. CLEANABLE TUBE with easily removed

headers. DIRECT EXPANSION, centrifugal header

type, for Freon expanded directly into coil. Specially designed for use where extra-rugged coil is needed for close control. Continuous tube type. Operating pressure 25 to 350 p.s.i., temperature up to 350°F. Pressed steel headers, heavy copper tubing and fins, galvanized-iron casings. Highly efficient. Fast heating. Compact. Write for complete ratings and specifications.

AEROFIN CORPORATION 410 South Geddes St., Syracuse I, N.Y.

NEW YORK

CHICAGO
CLEVELAND

DETROIT . PHILADELPHIA

. DALLAS . MONTREAL



In Memphis, for example, 510 Otis elevators have helped create one of America's great skylines. Among the city's finest are the newly modernized elevators in the famed Peabody Hotel (*left*).

FRESH THING!

We hasten to add that the lady refers to the elevator's air, not its attendant. It's all due to ultraviolet lamps that purify the air and keep the bacterial count low (don't worry about the attendant—rays are indirect so passengers can't get "sunburned"). Manhattan's Lane Bryant Store and the new Tishman office building at 445 Park Avenue have them; so do leading hospitals.





GOODBYE TO BUTTERFLIES.

That sinking feeling you sometimes experience in an elevator, strangely enough, isn't due to its speed. It's because of excessive or uneven acceleration. To assure smooth, accurately controlled acceleration, Otis pioneered the first elevator application of a unique electrical principle – Unit Multi-Voltage. Now, with UMV, you're scarcely aware you're starting or stopping.

HOW TO RAISE A FORK

(truck, that is). The extra strain and wear that power trucks put on freight elevators call for something extra tough in elevator construction. Otis makes the only standardized line of elevators built specifically to withstand continuous, slambang punishment of heavy, quick-stopping fork and lift trucks. If you'd like to know more about these extra-rugged elevators, the coupon below will bring you an interesting bulletin.





Name	1.6		
Address		1.172	
City	Zone	State	1.





THE NEW LOOK



IT'S BEST ATTAINED with SAFETY-SET



One of the five new Brasco Safety-Set Sash, actual size

A Complete Line Every Design **C**OMBINING showmanship with salesmanship, the open-view front is architecture's newest and greatest contribution to retail merchandising. Clearly visible from the outside, interior displays beckon invitingly and sales curve UP.

New as the New Look, Safety-Set Construction enlarges the possibilities of wide-visibility store front design because it has been expressly created for that purpose. Heavier metals, substantially reinforced, provide ample support for heightened areas and larger glass loads. Our exclusive FINGERTIP SETTING minimizes breakage by eliminating all screws and pressure devices.

In addition, Safety-Set Construction permits unusual economies. Practically any front, ultra-modern or conventional, can now be built with standard members, utilizing stock millwork only. Available in attractive stainless steel or anodized aluminum, Safety-Set's combination of distinctive beauty and structural perfection offers top value for store fronts designed to do a real job of *selling*.

BRASCO MANUFACTURING CO. HARVEY · (Chicago Suburb) · ILLINOIS Specialists in Metal Store Front Construction for more than 35 Years

They're the fountains to specify... for '48

YEAR after year Halsey Taylor Drinking Fountains are the preferred specification of architects and school authorities who know and appreciate their unique advantages.

Modern in design, their distinctive features spell convenience and sanitation, and they are available in a wide variety of types. Write for latest literature.

The Halsey W. Taylor Co., Warren, O.

HALSEY TAYLOR Drinking Fountains.

the hand of Art

AND THE MAGIC OF PHOTOMURALS

Today the technique of producing photomurals is so highly perfected that fine art can be reproduced with fidelity that defies careful scrutiny. Utilizing fine art through Photomurals is just another facet in the flexibility of the Photomural technique. Our colorful and descriptive brochure "Make Blank Walls Live" is yours for the asking.

Kaufmann & Fabry Co. Originators and Developers of the Photomural 425 S. WABASH AVE., CHICAGO 5, ILL.

BLOCK CO. INDIANAPOLIS. IN SNYDER, STORE ARCHITEC

DRINKING FOUNTAINS

Call on Jaylor Habey Jaylor

Price \$12.00

Here is the most comprehensive book of its kind ever written. It covers the professional, business, and legal aspects of architectural practice. Commissions for professional services are traced in minutest detail from the day the client arrives to the last payment for work performed. Theory and practice are successfully woven throughout the book.

Clinton H. Cowgill, A.I.A.

Ben John Small, A.I.A.

REINHOLD BOOK

Architectural Practice

Introduction

Part I-The Divisions of Architectural Practice

Development Preliminary Presentations Design Working Drawings and Specifications Administration Management

Part II — Business Aspects of Architectural Practice

Business Principles Architects' Accounts Financing Building Projects

CONTENTS



Part III — Legal and Professional Aspects of Architectural Practice

Laws Affecting Construction Agreements The General Conditions of the Contracts Change Orders, Certificates of Payment and Insurance Bonds Mechanic's Liens Contract Letting

Part IV - Professional Aspects of Architectural Practice

Certification of Architects Professional Societies

Part V — Miscellaneous

The Building Industry Miscellaneous Forms for Contractors

REINHOLD PUBLISHING CORPORATION Dept. P.A. 330 West 42 New York 18, N.Y.

Enclosed find \$_____ for _____ copies of Architectural Practice. (Add 2% sales tax to your remittance for orders delivered in New York City.)

State_

Name____

City____





for LASTING BEAUTY, specify Adlake Aluminum Windows

- MINIMUM AIR INFILTRATION, because of nonmetallic weather stripping and serrated guides
- FINGERTIP CONTROL
- NO WARP, ROT, RATTLE, stick or swell, ever
- SOLID, LUSTROUS ALUMINUM construction, requires no painting
- NO MAINTENANCE required, except routine washing
- · EASE OF INSTALLATION is a dominant feature

expertly designed for a lifetime of service, Adlake Aluminum Windows bring lasting beauty to any building, modern or traditional. Built of lustrous aluminum, they do away with the cost of painting and maintenance. You install them, you forget them! They look lovely and operate smoothly for years and years.

Only Adlake Windows combine woven-pile weather stripping and serrated guides to assure a minimum air infiltration and absolute fingertip control. And because of their construction (see diagram), Adlake Windows never warp, rot, rattle, stick or swell. Installation is phenomenally easy -you can complete all exterior work first and then simply set the window in place!

TELL YOUR CLIENTS about the beauty and long, worry-free service they can expect from Adlake Aluminum Windows. And for complete data, drop us a post card today at 1103 N. Michigan, Elkhart, Ind. No obligation, of course.



MONUMENTAL

THE

Adams & Westlake

COMPANY

Established 1857 • ELKHART, INDIANA

COMMERCIAL

STANDART

Furnishers of Windows to the Transportation Industry for Over 30 Years

1853v





especially in ALUMINUM WINDOWS



There's no hit or miss in these fine aluminum windows.

Every step in design and fabrication is supported by 71 years of experience in the manufacture of architectural metal products.

That's why Thorn Windows are strong—smooth operating —tight against wind and rain—trouble free—and still low in cost.





A SUGGESTION TO EVERY ARCHITECT

* * *

Conceal the Door Closers Up Here Where They're Safe and Dry

... Not Down Here

Rain, snow, dust, floor dirt, scrub water—all of these are mortal enemies of good precision machinery such as the door closers you buy.

You can avoid such abuses, save money on original cost and on maintenance, and get far better door control, by specifying LCN Overhead Concealed Closers for every door where good appearance counts.

The LCN Overhead Concealed Closer (one type shown in phantom view below), because of its location over the door, delivers better performance at a lower



total cost than any floor type closer. A strong claim, but not a biased one. We make LCN Floor Type Closers in three series, and have supplied thousands of them to satisfied users. But we know that the overhead closer does a better job, size for size, and largely avoids the handicaps of any floor closer.

Where They're Abused

Merie HATE @

It is simple to install. No chiseling of floors; no interference with pipes or conduits; no need for boxed or cut thresholds. Job cost and total cost are less. Upkeep is less, as the closer is hidden up in the head frame where weather, floor dirt and scrub water cannot reach it. Yet adjustments are easily made without removing anything. May we send you LCN Catalog 11-b, a handbook of good door control? Address LCN, 466 W. Superior St., Chicago 10, Ill.

← At left — phantom view of LCN 204 Closer concealed in head frame over the door, safe from fouling.

At right – phan. tom view of LCN 4 Closer, the best floor type for butt-hung doors.



LCN Catalog 11b Sent on Request-No Obligation

Overhead and Floor Type Concealed and Surface Type Door Closers



Without exception, masonry surfaces deteriorate because of excessive moisture. Rain water, vapor, air-borne acids, salts, ice and dust-capillarity, efflorescence, condensation, oxidation and expansion . . . settlement and local overstressing—all cause the disintegration of porous masonry surfaces.

This natural and wasteful destruction can be prevented and structures protected through remedial restoration and weatherproofing. Properly handled, these treatments will add many years of use to any type building and reduce interior and exterior maintenance costs. Western's materials -Resto-Crete and Ironite-and Western service-a combination of technical knowledge, proper methods, adequate equipment and 35 years of experience-can be safely specified for the protection and maintenance of your client's structures.

Let us assume complete responsibility for weatherproofing your buildings.

See our catalog in Sweets file for Architects



00

CLEAR

EVIDENCE of the

LEARPRINT

Reg. U. S. Pat. Off.

TRACING PAPER

Superior Rag Stock is the Basis of

America's Strongest Technical Paper

Lasting quality, unchanging transparency, unrivaled

Perfect Paper



Seven percent more living space in this Jacob Riis project was achieved through modern construction methods. This huge group of apartments now under way in lower Manhattan is one more major project using Gold Bond solid partitions of fireproof gypsum

plaster and metal lath.

Compared with old style walls, these streamlined partitions save approximately 4 inches per wall. Multiply that by the number of walls in each apartment and then multiply that by 1768 apartments and you have a quick appreciation of the overall saving.

The resulting Gold Bond walls are fireproof and effectively subdue noise transmission. As for durability, it



NATIONAL GYPSUM COMPANY BUFFALO 2, NEW YORK

would be hard to name a better combination for super strength than solid plaster and metal lath.

All products needed for this system are Gold Bond -ceiling runners, metal lath, plaster, lime and the

famous flush type metal base. With these 100% Gold Bond walls the entire responsibility for the performance of all integral products is centered with one manufacturer— National Gypsum.

You'll find the Gold Bond Solid Partition System fully described in Sweet's. For a 15 minute demonstration by your local Gold Bond representative, just say the word. No obligation, of course.

Over 150 Gold Bond Products including gypsum lath, plaster, lime, wallboard, gypsum sheathing, rock wool insulation, metal lath products and partition systems, wall paint and acoustical materials.



NEW PRACTICES, PARTNERSHIPS

MORGAN STEDMAN, FURBER LIBBY, and DOROTHY GRAY have formed a partnership with offices at 180 University Ave., Palo Alto, Calif.

HUGH B. JOHNSON & ASSOCIATES have announced the opening of offices at 1129 Vermont Ave., N. W., Washington 5, D. C.



ELIEL SAARINEN and EERO SAARINEN

have announced a new partnership un-

der the name of SAARINEN, SAARINEN

& ASSOCIATES, with offices at West Long

P. M. O'MEARA ASSOCIATES has changed

its firm name to MAGUOLO & QUICK, re-

taining the same offices in St. Louis,

Minneapolis, Detroit, and Cincinnati,

DELIVERY

Lake Rd., Bloomfield Hills, Mich.

MORTISE, RIM and VERTICAL **ROD** types

and cast iron

HEAVY BRASS, lighter brass

allable i

OR IMMEDIA

- MATCHED and PAIRED for uniform installations
- TO DIMENSION in brass and cast iron. Also cast iron packaged for on-the-job cutting

WRITE TODAY ...

for illustrated literature and information on the type of devices you need. Our easy-order information will speed your specification listing.



ARTHUR J. KELSEY has opened an office at 1830 Jefferson Pl., N. W., Washington 6, D. C.

Notices

LEON HYZEN, formerly with RAYMOND LOEWY ASSOCIATES, has opened his own offices at 53 W. Burton Pl., Chicago, Ill.

LOUIS A. OLIVER has announced a new practice at 823 W. 21st St., Norfolk, Va.

ROBERT A. LITTLE has opened a new office at 1303 Prospect Ave., Cleveland 15. Ohio.

DAN SAXON PALMER has announced the opening of his new architectural office at 3633 Carnation Ave., Los Angeles 26, Calif.

LESLIE J. GREENWALD and JULES G. MIROT have opened an office at 127 N. Dearborn St., Chicago 2, Ill.

ROBERT L. BROWN and WILLIAM G. WELLS have formed a partnership under the name of BROWN & WELLS, P. O. Box 1205, Roanoke, Va.

HARRY A. BALKE, consulting engineer, has opened an office at 800 Broadway, Cincinnati, Ohio.

NEW ADDRESSES

JOHN A. CAPONE, 505 Orange St., Newark 7, N. J.

WALTER H. SOBEL, 737 Michigan Ave., Chicago 11, Ill.

CHARLES MELOV, 310 Coral Way, Coral Gables, Fla.

W. LOCKWOOD MARTLING, JR., 6 W. Ontario St., Chicago 10, Ill.

CHAUNCEY W. RILEY, 52 W. 46th St., New York, N. Y.

ARCHITECTURAL ENGINEERING

A Practical Course (HOME STUDY) by Mail Only

Prepares Architects and Draftsmen for structural portion of

STATE BOARD EXAMINATIONS

For many this is the most difficult section of the examinations. Qualifies for designing structures in wood, concrete or steel. Successfully conducted for the past fourteen years. Our complete Structural Engineering course well known for thirty-eight years.

Literature without obligationwrite TODAY

WILSON ENGINEERING CORPORATION

College House Offices Harvard Square CAMBRIDGE, MASS., U. S. A.

What good is a house without <u>heat</u>?

This winter is proving many modern houses to be obsolete, due to conditions no one thought possible one year ago.

They cannot be adequately heated because of shortages of certain fuels.

It is predicted that shortages in those fuels will exist for several years.

INVESTMENTS and loans on houses that may become "fuel orphans" are imperilled by inadequate provisions for heating just as the health and comfort of their occupants are endangered.

Now is the time that houses are being designed, loans on projects being discussed, investments in developments being considered.

To maintain the value of all new con-

struction, provision should be made for the storage and use of anthracite (hard coal), the clean, smokeless, abundant, domestic fuel.

In following issues of this magazine, we shall bring you news of modern developments in heating with anthracite information that you can use to give modern buildings modern heating.



ANTHRACITE INSTITUTE 101 PARK AVENUE · NEW YORK 17, NEW YORK



PETRO OIL HEAT... "A part of Good Store Planning"

RETAIL STORES differ widely — from the small compact one-floor establishment to the huge multi-floor enterprise occupying an entire city block.

Yet both benefit from the same dependable, lowcost heat when Petro equipment is installed. For stores, as for apartments, one-family homes, bakeries, laundries and even large manufacturing plants, Petro Oil Burners can be specified to serve any heating load, utilizing light fuel or, where batteries of large boilers are operated, heavy commercial oil.

As Mr. Morris Ketchum, Jr. puts it, "Petro systems meet all these requirements . . . are a part of good store planning."

Petro Oil Burner Systems provide many significant benefits. Supervision on the part of the janitor or building custodian is held to a minimum. Fuel is economized through high combustion efficiency. Dust and noise are eliminated, thereby improving customer shopping conditions in basement stores. Costly furnace maintenance is avoided.

Whether you are designing a store or other building, you and your client will find that Petro Oil Burning equipment means low-cost, high-efficiency heating year after year.

INDUSTRIAL MODELS: No. 5 or No. 6 fuel oil; manual, semi-automatic or automatic operation; 8 sizes to 450 bhp. Thermal Viscosity preheating.

DOMESTIC MODELS: No. 3 or lighter oils; "conversion" and combination-unit types, 7 sizes. Patented "Tubular Atomization."

FULL DATA on Petro Industrial Burners are in catalog files of Sweet's and Domestic Engineering. Details on Petro Domestic Burners available in separate catalog. Copy of either sent gladly on request.



Morris Ketchum, Jr., of the firm of Ketchum, Gina and Sharp, New York architects, is well-known as a designer of many outstanding buildings and as an expert on store planning. Included in his work are Florsheim Shoe Store for Women, Ciro of Bond Street, Lederer de Paris, Artek-Pascoe, and America House, all in New York City.



cuts steam costs

PETROLEUM HEAT AND POWER CO. · Makers of Good Oil Burning Equipment Since 1903 · Stamford, Conn.





Notes on bending light

A new approach to daylight control in offices, laboratories, precision manufacturing plants and classrooms lies open.

Insulux Glass Block No. 351 actually bends light rays. Light is thus directed to ceiling for even distribution deep into the room.

Combined with Insulux Block No. 350 (pattern spreads light evenly through horizontal plane) brightness contrasts are sharply reduced, and light is more evenly distributed throughout the room.

American Structural Products Company is a wholly owned subsidiary of the Owens-Illinois Glass Company. It has taken over the manufacture and sale of Insulux Glass Block and other Owens-Illinois structural products. For data on Insulux write Dept. E-21, American Structural Products Company, P. O. Box 1035, Toledo 1, Ohio.



See how a combination panel of Insulux Glass Blocks No. 351 (a) and 350 (b) directs light into a room. No. 351 turns major part of light transmitted upwards, has a greatly reduced brightness when viewed from below. No. 350, used below eye-level, diffuses light evenly over horizontal plane; has low surface brightness at all angles.



AMERICAN STRUCTURAL PRODUCTS COMPANY Subsidiary of OWENS-ILLINOIS GLASS COMPANY







INDEX TO ADVERTISERS

Adam, Frank, Electric Co 21 Adams & Westlake Co 123
Aerofin Corp
press Agency
Aluminum Co. of America
American Brass Co., The 113 American Roof Truss Co 132
American Structural Products Co 133 American Telephone and Telegraph
Co
Anthracite Institute
Armstrong Cork Co 92, 93
Arrow-Hart & Hegeman Electric Co 13
Barber-Colman Co
Bell & Gossett Co 97
Bergen Cabinet Mfg. Co
Bruce, E. L., Co
Bryant Heater Co 2, 3
Cabot, Samuel, Inc
Cannon Electric Development Co 104
Carlson & Sullivan
Ceco Steel Products Corp
Certified Equipment Manufacturers 29
Cheney Industries
Clearprint Paper Co 126
Crone Co
Detroit Steel Products Co
Elliott, B. K., Co 130
Faber, A. W., Inc
Federal Seaboard Terra Cotta Co 115
Fir Door Institute 34
General Electric Co., Air Conditioning Div
General Electric Co., Construction
Materials Div
General Pencil Co 124
Getty, H. S., Co., Inc 108
Hart & Hegeman Div., Arrow-Hart & Hegeman Electric Co
Hillyard Sales Cos
Ingersoll Steel Div., Borg-Warner Corp
Insulite Div., Minnesota & Ontario Paper Co. 3rd Cover
Insulux Products Div., Owens-Illinois
Glass Co
the state of an and a state of the state of

Kaufmann & Fabry Co. 120 Kawneer Co. 107 Kennedy, David E., Inc. 10 Kewanee Boiler Corp. 22 Kimberly-Clark Corp. 30, 85 125 LCN Door Closers Mahon, R. C., Co. 25 Master Builders Co. 2nd Cover Mengel Co., The 88 Mesker Bros. 111 Miller Co. 118 National Gypsum Co. 127 Northwestern Terra Cotta Corp. 132 Ohio Chemical & Mfg. Co. 89 Otis Elevator Co. 117 Owens-Illinois Glass Co., Insulux Products Div. 133 Peck & Harvey 130 Petroleum Heat & Power Co. 131 Pittsburgh Corning Corp. 31 Pittsburgh Plate Glass Co. 6 Pittsburgh Steel Products Co. 11 Portland Cement Assn Reinhold Publishing Corp. 121, 122, 132, 135 83 Richards-Wilcox Mfg. Co. 106 Robertson, H. H., Co. 7 Roddis Lumber & Veneer Co. 103 Rosenthal Co. 130 Sedgwick Machine Works 16 Servel, Inc. 4, 5 Streamline Pipe & Fittings Div. 118 Taylor, Halsey W., Co., The 120 Trane Co. 19 Trinity Portland Cement Co. Back Cover Truscon Steel Co. 84 United States Plywood Corp. 17, 88 Vulcan Radiator Co. 102 Western Waterproofing Co. 126 Westinghouse Electric Corp. 90, 91 Wilson Engineering Corp. 128 Wood Conversion Co. 109 Youngstown Sheet & Tube Co. 37

Advertising and Executive Offices 330 West Forty-Second Street, New York 18, N. Y. JOHN G. BELCHER, Publishing Director

FRANK J. ARMEIT, Production Manager ALLEN A. RAYMOND, JR., Promotion Manager

Advertising Representatives

DOUGLASS G. PILKINGTON, District Manager, 22 West Monroe St., Chicago 3, Ill.
D. B. WILKIN, District Manager, 1133 Leader Building, Cleveland 14, Ohio
EDWARD D. BOYER, IR., District Manager, 330 West 42nd St., New York 18, N. Y.
HAROLD D. MACK, JR., District Manager, 330 West 42nd St., New York 18, N. Y.
DUNCAN A. SCOTT & CO., Mills Building, San Francisco, Calif.
448 South Hill St., Los Angeles 13, Calif.

Joseph H. Abel, A.I.A. Fred N. Severud, A.S.C.E.

Apartment Houses

Architectural Design

Landscaping

Structural Engineering

Mechanical Equipment

PROGRESSIVE ARCHITECTURE LIBRARY

In APARTMENT HOUSES, the second volume of the Progressive Architecture Library series Mr. Joseph H. Abel, A.I.A., gives complete information on over-all and specific design problems, as well as an analysis of how good design can affect the return on investment. Mr. Fred N. Severud, A.S.C.E., includes in his section a discussion of the latest developments in structural systems, use of concrete, steel, and wood framing. Mr. Clifford Strock, Editor of Heating and Ventilating, has outlined the fundamentals of both new and older types of heating systems. Mr. H. M. Nugent and Mr. W. H. Easton, Jr., of the Otis Elevator Company have made a careful analysis of the problems in vertical transportation. Mr. Alfred Geiffert, Fellow, A.S.L.A., suggests many possible treatments in landscaping. There are over 400 illustrations. Price \$10.00

REINHOLD PUBLISHING CORPORATION Dept. P.A. 330 West 42 New York 18, N.Y.

Enclosed find \$______ for _____ copies of Apartment Houses. (Add 2% sales tax to your remittance for orders delivered in New York City.) Name

Address	
City	State



IN THE NOVEMBER 1947 ISSUE OF P/A we ran an article on hospital equipment, on which we have received many compliments. However, I have a letter from Mr. G. K. Lermond, who is in the hospital department of Wilmot Castle Company, questioning a table we used to show sterilization times. We said that a "commonly quoted authority" gave one minute as the thermal death point of resistant pathogenic sporebearing organisms in 15-lb. steam at 250F. Mr. Lermond writes, "We, who are interested in sterilization, know that resistant dry spores are destroyed in 13 minutes by saturated steam at 250 degrees."

He goes on to quote Dr. Carl Walter, director, Laboratory for Surgical Research, Harvard Medical School, an authority whom we had mentioned in our article, and encloses an article by Dr. Walter. Sure enough, the article says just what Mr. Lermond does—13 minutes. So we turned back to our original authority—an article in the December 1938 issue of the Journal of Bacteriology, by Hoyt, Chaney & Cavell, which says, "In direct contact with steam the more resistant of the pathogenic spores are destroyed in one minute at 250F..."

We have no desire to get involved in a disagreement among research authorities. Incidentally, Dr. Walter's article is available as a pamphlet through the Wilmot Castle Company; the other article is quoted in a pamphlet distributed by the American Sterilizer Company.

SOMETIMES IN THIS JOB WE GET A CHANCE FOR PROMOTION OR PUBLICITY which does us no harm at all and at the same time helps the profession as a whole. An instance of such an opportunity occurred recently, when I got a call from N.B.C. asking if I would like to be interviewed on the Jinx Falkenberg - Tex McCrary morning program about our book, Homes. There seemed no good reason to say no, so I said yes. In the course of the program, P/A, Reinhold, and Homes got mentioned, just by accident, you understand, but at the same time I managed to get in plugs for a number of individual architects and, I hope, do a small job for good residential design in general. Besides that, it was a lot of fun.

I should like to report on this experience as follows: the McCrarys are very swell people (Tex, it developed, graduated from Yale in architecture, during the depression, and then went into newspaper work); facing a microphone with no prepared script, for a truly "spontaneous" program, is a terrifying experience; in radio there is a large, unexplored, fertile field for the sowing of ideas about architecture, if one can judge from the interest, in this instance, of N.B.C., the program director, and the listeners who called me and the architects I mentioned, after the broadcast.

QUINCY JONES. OF LOS ANGELES. tells of being interviewed by a prospective client for an important job. The first question asked him was, "If you were going to select an architect, how would you go about it?"

WHILE WE WERE TALKING WITH MR. PEI ABOUT HIS DESIGN FOR A MUSEUM which appears in this issue, someone asked him how PROGRESSIVE ARCHITEC-TURE would be translated into Chinese. He laughed off the question, and we'd forgotten it until we received a letter from him the other day enclosing the following translation, "chosen after much discussion with Chinese friends."



Mr. Pei says, "The word *progressive* is especially difficult to translate. Its accepted Chinese equivalent is awkward sounding when used with the word *architecture*. The enclosed . . . is quoted from our ancient writings. Although it is not the most obvious translation, it is in our opinion the most appropriate."

PROGRESSIVE ARCHITECTURE is a mouthful in English, too. For that reason we've accepted the abbreviation that most of our friends had already been using and, as you may have noticed on our new cover and redesigned department headings, we're unbending enough to use the initials P/A.

Using the device which Gene Hawley designed for us also makes it possible to call attention to recurring P/A items which we have found, by surveys, to be the most popular and the most often referred to-featured design presentations. Critiques, office practice articles and data, Selected Details, etc. This is solely for your convenience. The Selected Detail format has been revised, at the suggestion of many of you, for maximum convenience in reference. The double heading on the long side of the page (type of building and part of building) will make it possible to build up a file of such Details which can be cross-referenced as you wish.

MOST OF THIS YEAR'S CHANGES IN P/Ano change in basic policy, but rather in emphasis and layout, addition of some new features (such as the office practice pages in this issue), and other things that you will notice as the year goes on -result in part from several surveys that we had made recently. I was much interested in the fact that two surveys -one asking a number of representative readers what they wanted in the magazine, and one factual survey of what had been read in a given issuedisagreed in a number of respects. In other words, architects quite often read items they say they're not interested in. and ignore things they have especially asked for.

All of which goes to prove, I suppose, that surveys can indicate almost anything, and must be interpreted very carefully. One of the best researchists in the magazine field says that a survey can't be substituted for a policy. a conclusion with which I agree heartily. All of the surveys in the world run by various people to determine consumer "preferences" in house design can't produce good residential architecture. One designer of a large housing project tells us of a questionnaire submitted to prospective tenants asking them in detail what they wanted. The replies indicated, of course, that they wanted everything. A second questionnaire which simply asked basic questions about living habits produced a great deal of very valuable design information. By and large, people ask for things they are familiar with; they can't very well ask for improvements that they haven't seen or heard of.

I'll end this rambling discourse by coming back to the point that we will continue to use surveys, conversations, letters, our own knowledge, and, frankly, our own opinions to try to produce the most useful magazine we can, documenting progress in architecture for a professional audience.

Hernas & Cenglitan

(BILDRITE SHEATHING)

INSULATES AS IT ...

AS

IT

BUILDS

You pay for one but you get TWO . . . uses. Sheathing PLUS insulation. Your client gets more for his money and is better satisfied. Better construction, stronger bracing, plus insulation as a bonus. Specify double-duty INSULITE.

> Refer to Sweet's File, Architectural Section 10 a/9

E

BUILDS ... INSULATES



INSULITE DIVISION

MINNEAPOLIS

double-duty

DOUBLE DUTY

MINNESOTA & ONTARIO COMPANY 2. MINNESOTA

INSULATES

"Insulite" is a registered rade mark, U.S. Pat. Off.

BUILDS



Extra Whiteness ...

gives beauty and charm to many a structure

An architectural designer may harness the whiteness of Trinity to a number of useful purposes—and in a number of different ways.

Use its superlative whiteness with compelling effect in masses. Or in contrasting trim to embellish a design. Properly used in exterior and interiors, its light reflecting properties can be most helpful.

Use Trinity White in ... architectural concrete

units; cast stone; terrazzo; stucco; cement paints; many concrete floors; and roof tile.

Trinity White—the whitest white cement is a portland cement. Hence it combines permanence, workability and strength with great beauty. Trinity Portland Cement Division, General Portland Cement Co., 111 West Monroe Street, Chicago; Republic Bank Building, Dallas; 816 W. 5th Street, Los Angeles.





as snow



TRINITY WHITE PORTLAND CEMENT