The town of Jasper, Indiana has launched a new approach to garbage disposal problems. The town will cease garbage collections, build sewers, and individual citizens as well as restaurants, schools, etc., will install G.E. garbage disposers which they will purchase from the city. More than half of the home owners have placed orders, and others are expected to follow suit, or as an alternative find a means of home incineration.

A large hospital commission in Nashville, Tenn., to be sponsored by the State and the University, has been sought by a number of outstanding firms. 16 architects were interviewed recently by the governor; guess is that the job will go to local architects with an outside associate.

Expansion of airport facilities will be important field in years just ahead, says Walther Prokosch in report for Urban Land Institute. Anticipated 60% increase in air passenger traffic by 1965 will cause need for enlarged and new terminal structures. Access to residential areas of cities rather than business districts will be new trend, the report indicates. Technical development will be reduction in number of runways. Separate passenger and freight airports should now be planned for.

Two days after N.Y. press conference at which Lustron Corp. spoke optimistically of distribution plans and cheaper models, RFC foreclosed on $37½ million loan. Speculation is that some method of carrying on under receivership may be found, since complete liquidation of Lustron's assets would result in almost total loss.

U. of Illinois announces the Kate Neal Kinley fellowship, to the amount of $1000 for study in music, art, or architecture. Applicants must be less than 25 years old, and prove unusual promise in their fields. Information about applications can be had from Dean Rexford Newcomb at the University.

Buford Pickens, head of Tulane's architectural school, is new president of Society of Architectural Historians.

18 retailers concentrating on modern home furnishings have formed a new trade association called Contemporary Furniture Retailers. Sam Bordelon, of Bordelon Interiors, Chicago, was elected acting president at the first meeting, the idea for which came from Alfred Auerbach.

M.I.T. announces plans for most worth-while conference, August 21-26, on the subject of Space Heating With Solar Energy. There will be both an educational section (4 or 5 lectures) and a symposium section. It is expected that the outstanding researchers in this field will attend and compare notes, in open sessions. A small registration and tuition fee will be charged. Details will be announced later in the spring.

(Continued on page 2)
Growth in number of small businesses, including architectural practices, is indicated by fact that there were 2,900,000 business firms in the country in 20's, 3,300,000 in 1939, 3,900,000 now. In 20 years income from non-incorporated businesses has grown from $8 million to $25 million. Mortality rate is about 750 bankruptcies a month at present.

How architectural firms fit in this picture is indicated by a recent P/A survey in 15 representative cities. These facts were uncovered: 75% of the architectural firms in those cities today were not in business in 1941; 33% of the firms which were in business in 1941 have disappeared; the total number of active firms in the cities studied has tripled during the 8-year period.

J. C. Nichols, planner and developer of the Kansas City Country Club District, died last month. Based on fairly expensive homes, Nichols' development was a landmark in planned access, planned shopping centers, planned parking facilities, adaptation to topography, etc.

With Wurster going to California, the scuttlebutt in the architectural school field centers around M.I.T. deanship. Many rumors involving many educators and architects; apparently no decision yet.

Yale University's Department of Architecture (George Howe, Chairman) announces a new program in city planning, leading to the degree of Master of City Planning. Study will be two years on a graduate level, open to a limited number of professional degree holders. Christopher Tunnard will be Director of Planning Studies.

Producers' Council has developed two presentations for meetings of architects or others, with a number of manufacturers discussing their parts in the solving of a joint problem. One has to do with toilet-room planning, and brings together fixtures, accessories, and fittings. The other discusses attachment methods — adhesives, welds, pins, and studs.

Competition among contractors is now greater than at any time since the war, reports Associated General Contractors. Survey conducted among members turned up unanimous opinion on this score.

The popular house in 1950 will be "of no definite architecture type" according to an interesting survey completed by National Assn. of Real Estate Boards. It will be a one-story "bungalow, will have no dining room, no basement, smaller kitchen, more closet space than now common. Low cost (averaging $9000) but larger lot is desired by the U.S. public. "Porches" are wanted sometimes still formally on the front, but more often on side rear, "serving as outdoor living room."
Rolling Steel

Manually, Mechanically, or Power Operated

Modern, permanent industrial or commercial buildings today merit the permanence of good, all metal rolling steel doors. No other type of door offers as many desirable features as the vertically acting, quick opening, quick closing, power operated rolling steel door. Open or closed, it occupies no usable space inside or outside the opening. . . its roll-up action requires a minimum of space, provides 100% clear opening, and eliminates door damage . . . its all metal construction assures permanence and a lifetime of trouble-free service — and, most important, it provides maximum protection against intrusion and fire. If you select Mahon Rolling Steel Doors, regardless of the type of opening, you can rest assured that you will get the latest developments in doors of this type . . . more compact and more practical operating devices, curtain slats of Aluminum, Stainless Steel, or Galvanized Steel which is scientifically cleaned, rust proofed, and coated with high temperature oven-baked rust inhibiting enamel prior to roll-forming. These, and many other desirable features that characterize Mahon Rolling Steel Doors, are worthy of your consideration. See Sweet's Files for complete information, specifications and details, or write for Catalog G-49.

THE R. C. MAHON COMPANY
Detroit 11, Michigan • Western Sales Division, Chicago 4, Illinois
Representatives in all Principal Cities

Manufacturers of Rolling Steel Doors, Grilles, and Automatic Closing Underwriters' Labeled Rolling Steel Doors and Fire Shutters; Insulated Metal Walls, Steel Deck for Roofs, Partitions, Acoustical Ceilings, and Permanent Concrete Floor Forms.

Three Mahon Power Operated Rolling Steel Doors recently installed in a new addition to a large Midwest Automobile plant. These openings are 37'-0" x 14'-9", 33'-0" x 14'-9" and 11'-0" x 15'-1". A total of seventy-six Mahon Rolling Steel Doors are now installed in this one plant.
YOU ACHIEVE COMPLETE FREEDOM IN DESIGNING... AND REDUCE BUILDING COSTS THROUGH THE IMAGINATIVE USE OF KAWNEER STORE FRONT METALS
Architectural talent and ingenuity result in outstanding modern store fronts when Kawneer Metals are used with skill and imagination.

Striking proof is offered by this department store designed by Perry, Shaw and Hepburn, Architects, Boston, Massachusetts for Allied Stores Incorporated, George L. Ely, Store Designer.

Combining simplicity, good taste, and originality, this handsome front arrests the attention of shoppers, displays merchandise, and invites people inside to shop.

Kawneer Metals and Entrances, styled and engineered to the highest contemporary standards, were used extensively. One of the stock assemblies specified was the cleanly-designed glazing sash pictured at left. Selected from the wide variety of Kawneer Stock Mouldings, this unit holds glass securely and resiliently in place in the giant four-story show window (as pictured) and in the large sidewalk show windows.

The use of well-designed Kawneer Stock Metals meets your clients' demands for lower building costs, because these units cost less than special, made-to-order assemblies. Your own operating costs are also reduced by eliminating drafting and detailing.

For information consult your Portfolio of Kawneer Details, Sweet's Catalog, or write 213 N. Front St., Niles, Mich., or 2573 8th St., Berkeley, Cal.

THE KAWNEER COMPANY
ARCHITECTURAL METAL PRODUCTS
Store Front Metals • Aluminum Roll-Type Awnings
Modern Entrances • Aluminum Facing Materials
"With Plywood, Design and Structure Can Be Treated as a Single, Integrated Unit,"

Says Architect Gordon Drake

An excellent example of the contemporary search for more livable, more economical design is this award-winning Los Angeles home by Architect Gordon Drake of Carmel and San Francisco.

In its conception, design becomes structure . . . structure becomes design—a simplification of approach made possible by the unique properties of Douglas fir plywood.

Mr. Drake says: "Because plywood is at once a structural and a finish material, offering both strength and beauty, many construction economies were effected in this home. Plywood makes possible new architectural conceptions, enabling the designer to concentrate on essentials without sacrifice of beauty, charm or utility."

Typical section shows Exterior-type plywood employed as structural skin between 4" x 4" posts, 6' o.c. Interior walls, ¼" plywood, were resin-sealed, given coat of grey paint, wiped to desired grain show-through, and waxed. Interior and exterior joints covered with narrow battens.
Progressive Architecture said this about the house: "Seldom does one see work in which structure, site and clients' needs merge so completely. Conditioned by the particular circumstances, the construction system here is also the esthetic concept." Isometric shows elements of the wood post-and-girder construction, employing plywood as a structural diaphragm for floor and roof and as a structural skin for walls.

Plywood exterior treatment is both simple and dramatic. Contemporary design is a "natural" for this modern panel material.

Charming simplicity keynotes the interior treatment, blending glass and plywood walls to achieve warmth and spaciousness.

These Grades of Plywood Will Prove Most Useful in Home Construction

**PLYSHIELD**

*Exterior-Type Plywood*

- Grade A-C
- DFPA Inspected

PlyShield is the siding grade of Exterior-type plywood. Fits any architectural style; can be utilized for flush surface, lap siding, wide siding, board and batten.

**PLYSCORD**

*Sheathing Plywood*

- Grade C.D.
- DFPA Inspected

PlyScord is the unsanded construction grade—for strong, rigid wall and roof sheathing and subflooring. Use it for basement and foundation forms, too; can be stripped and re-used for sheathing on the same job.

**PLY PANEL**

*Interior-Type Plywood*

PlyPanel is the "one-side" grade of Interior-type plywood—for real wood paneling, cabinets, built-ins. Provides a smooth, firm underlayment for wall-to-wall floor coverings, too.

Large, Light, Strong

Real Wood Panels

DOUGLAS FIR PLYWOOD ASSOCIATION:
Tacoma Building, Tacoma 2, Washington;
848 Daily News Bldg., Chicago 6, Illinois;
1232 Shoreham Bldg., Washington 5, D.C.;
500 Fifth Avenue, New York City, 18.

For complete data on Douglas Fir Plywood, including information on other grades, see Sweet's File, Architectural, or write for basic catalog—sent free to any part of the United States. Just write any of the offices listed on the left.
An important announcement to all who read or write architectural books

Wm. W. Atkin
Appointed Architectural Editor, Reinhold Book Div.

Reinhold Publishing Corporation, publisher of Progressive Architecture and the world's leading publisher of professional architectural books, is pleased to announce the appointment of Wm. W. Atkin as Architectural Editor for the Reinhold Book Division. Mr. Atkin replaces Jeffrey H. Livingstone, who has resigned.

This is another forward step in the continuing development of an already distinguished architectural book publishing program. This program, started several years ago, was planned to provide architects with the latest and best information and data on the design and construction of contemporary buildings, on office practice and on presentation techniques. Among its outstanding features in recent years has been the "Progressive Architecture Library," a succession of authoritative big books each devoted to a single important building type—e.g., Apartment Houses, Hospitals, Shops and Stores, Theatres and Auditoriums, Schools, etc.

Analogous books on churches, shopping centers, motels, specific types of schools and commercial buildings—new books on architectural law, architectural models, building economics, contemporary structure and other subjects of importance to architects, engineers and draftsmen—timely revisions of earlier works—these are all part of the program for the near future.

Mr. Atkin is ideally equipped for the execution of this program and for the development of a continuing flow of outstanding new architectural books. Educated at New York and Northwestern Universities, where he studied both architecture and journalism, he has had considerable practical experience in the building field and in writing. He has been on the staffs of American Home and the Architectural Forum and most recently has been Technical Advisor for the Revere Quality House Division of Southwest Research Institute. He has authored numerous articles on buildings and their maintenance in architectural journals, shelter magazines and newspapers, and is co-author of the book "The Encyclopedia of Home Care and Repair," published by Lantern Press in 1948.

In his important new duties and responsibilities Mr. Atkin will be backed up by all the facilities of the Reinhold Book Division, the world's leading publisher of architectural books, and of Progressive Architecture magazine, the outstanding professional journal in this field. Architects men everywhere are invited to give him their suggestions and ideas at all times.

Reinhold Book Division
Reinhold Publishing Corporation, New York 18, N. Y.
WHY THE STYLES?

Dear Editor: At last I have had a chance to sit down and pore over the January P/A. In the limited space you had, I think you did a remarkably good job of reviewing the work of your profession for the first 50 years. For a non-professional like myself, this will provide one more important addition to the other careful reviews of this dynamic period.

I got the impression that, as in many other fields, the top-grade architects during this period have been far in advance of the thinking of their clients and that, given a more sophisticated public, advances in design would have come about much more rapidly. But, dependent upon the public as they were for their fees and not having access to large funds available for research, as in the medical or chemical fields, they have made remarkable progress. The limit here, obviously, is the great expense of each experiment.

Frankly, as a lay reader, I would have wished for just a little more interpretation in this work. The explanation for the skyscraper style and the pseudo grandeur of the movie palaces may be clear enough, but why did the articular styles employed have such a vogue? Why, for example, did the terra cotta Gothic of the Woolworth building satisfy the clients? I don’t know whether such interpretation would be possible or valid, but for those who wish to take part in the advancement of this important art in the future, such interpretation of the influencing forces of the immediate past might be extremely valuable. For example, there is a style which I will call Miami Spanish which even had a wide vogue in northern cities 10 to 30 years ago. You see today in wealthy mansions, even here in Philadelphia, in some office buildings all the way down to gasoline stations and cheap housing developments, I don’t see what got this started and why did people who are as un-Spanish possible fall for it—even demand it? This may sound like carping with an editorial job extremely well done. It is not meant to be. I fully realize that your staff had a choice to make—either to do a good reporting job or critical examination—and since the inons of your readership must be delicately varied, the former obviously must have seemed the more discreet. Any rate, I feel the book must be of mendous value and interest to its readers.

Cleveland Lane

AVOIED PIT FALLS

Dear Editor: The January issue contains a wonderful job—congratulations and thanks to all concerned. You have neatly avoided all the pitfalls of compression—contents and visual result splendid.

Serge Chermayeff, President
Institute of Design
632 North Dearborn St.
Chicago, Ill.

P/A AWARDS DECISION

Dear Editor: The issue of the "Memo from the Octagon" under date of January 11 mentions your fine co-operation in discontinuing P/A's awards in favor of the A.I.A. program of honorable mention. Your work was very well handled and developed considerable interest, so we know it was valuable for your publication.

We are glad to know that the Honor Award Committee has agreed to broaden the program incorporating suggestions on your part. Our compliments on your fine attitude which we know is prompted by interest in the advancement of the profession.

Glen Stanton
Portland, Oregon

MIRROR OF PAST


In turn, it is a fine commentary on, and a mirror of our immediate past, logically relating the effect of life, events, and scientific trends on the architect's work.

We found it inspiring.

James A. Mitchell
Dahlen K. Ritchey
Pittsburgh, Pa.

RECOMMENDS DUPLEX

Dear Editor: I wonder why there has been so little mention of duplex apartments in the past few years. They are still being built, but why is there so little interest in them from an architectural standpoint?

There appears to be little difference in the four-unit apartment and the duplex from an investment standpoint, as
the duplex commands a higher rental per unit thus, making the return on investment very nearly the same or perhaps more when it is considered that in the duplex a caretaker isn't required, nor is central heating.

JOHN R. RAMEY, JR.  
West, Mississippi

INTERIOR DESIGN

Dear Editor: Your P.S. in December 1949 PROGRESSIVE ARCHITECTURE re architects and furnishings has created much comment in our office—both pro and con as to the ethical method of furnishings distribution and what part you expect the professional interior designer to play in the manufacturing-architect relationship. We have chosen this profession because of its obvious necessity and for its future merit, and therefore resent perhaps the discussion of furnishings and housing collectively without mention of this specialist.

It is our contention that we were trained to be an aid to the architect in regards to the interior finishing of his building. Contrary to the decorator viewpoint, we feel the architect, of his own designs, to be the only capably versed interior planner. With that thought in mind, since our interest lies solely in contemporary building, we have established what may be termed an adjo-1ent's position—what otherwise the architect-decorator, a decorator (conversely, architector), system exists.

Briefly the situation is this: Since the architect is the creator of the master building plan, he either has or has not given considerable thought to how the structure is to function, therefore he should be aware of every possible means of making his creation perform properly. We all know however, that this is becoming a specialized world, and that the architect who conscientiously devotes his research time to the best possible contemporary building methods cannot possibly be responsible for knowing the furnishing field from the latest Nelson creation, or an unknown designer's masterpiece, to the most recent discovery in fabric chemistry. Nevertheless, the architect is the planner and has the greatest opportunity to foresee through close association with the client and his family, the requirements and limitation for both the client and the structure. The architect therefore, is almost in the position to dictate what furnishing requirements are necessary.

From this point on the architect has the choice of several things: Let the decorator "take over" (enough said) and grope for his visualized furnishings; or contract for the client, together with the architect, the construction breakdown contract for the furnishings mandatory for the successful completion of his building.

The interior designer then is read to supply the architect, on a contract basis, all furnishings needed and in conjunction is able to offer the facilitie and the professional knowledge for procuring, processing, or fabricating such needs, notwithstanding the psychological and physiological analysis of color, texture, and pattern accumulation. If the architect sets up his office, the designer also establishes an office at the showroom, complete with files and samples of all contemporary furnishing fabrics, accessories and so on, by the best designers. The architect in no cases knows precisely or approximate what the requirements are for a particular problem. In any case, the designer is able to show a complete collection of such contemporary pieces will be acceptable. He will either sup
FIRST IT WAS DESIGNED
for flexible arrangements, simplicity, freedom from exposed nuts and bolts, stock parts for additions and alterations, adaptability to sloping roofs and heights to 30 feet.

THEN TOOLS WERE MADE
for low cost rolled shapes and high precision inter-changeability of parts.

NEXT IT WAS TRIED
for low erection costs and field cutting for special conditions.

AND TESTED
for durability and maintenance, sturdiness and ease of wiring.

NOW IT IS READY
for immediate shipment. Full details of panel sizes, construction and applications are available. Send for complete data.
them directly or purchase for the architect, via the furnishings contract, receive the deliveries and pursue any further processing necessary for the finishing of such pieces. At the architect’s discretion the interior designer will sit in on architect-client discussions and, according to the architect’s selection, have for presentation to the client large color cards of paint manufacturers (architect’s choice), floor coverings, furniture, and drapery fabric samples prescribed.

Such coordination between architect and interior design consultant allows the architect complete control of his building, provides the manufacturer with an excellent distribution agent and, of course, benefits the client in measurably through his assurance of a furnished dwelling by budgeting of initial cash for the non-financeable furnishings. Interior Designs Ltd. has found this plan very successful in creating closer harmony among all parties involved in promoting fine structures.

LEWIS S. BALDOTT
The Baldons & Associates
Los Angeles, Calif.

SALTING THE ROOF

Dear Editor: The article on weather conditioning of roofs in the December P/A moves me to send in a few notes on one of my favorite subjects. Here in South Florida, we have many problems more or less peculiar to the locale not entirely unique, but just enough different so that we can’t be as completely tropical as Guam or Puerto Rico nor do we have to be as particular about cold as Maine or Minnesota.

While white roofing tile has for many years been our chief insulator (in the economy brackets) against heat on roofs, it’s an imperfect choice. Recently experiments have been made with vermiculite roofing tile, but the material so far is weak and it’s too soon to evaluate. In any case, tile roofs are too limiting in design, so for some time we have been developing other methods. It is my belief that more widespread use of them may be indicated in northern climates.

In 1939 or 1940, we first coated a gravel roof with lime and cement poured on thick from a sprinkling can and found that it did four things for us:

1. It allowed the use of the lower sloping roofs, that we were previously unable to use for residential work, and freer plan.
2. It gave us good heat reflection.
3. It stabilized the gravel, so that it would not wash or blow away.
4. It presented a pleasing appearance, which enabled us to see the idea.

The war interfered with the development of this system, but when it returned to practice we began working on it again. It presented some bugs—the right proportion of cement, lime, salt, and water and application problems—but we have finally worked out what seems to be a workable procedure. We sweep off a good deal of extra gravel, mix lime and cement and a little water (sea water seems to have the right salt factor) to a pea soupph consistenty, so that it will pour through the voids; we sweep the surface with

(Continued from page 10)
The Mengel Co., Plywood Division
2303 South Fourth Street, Louisville, Ky.

Gentlemen:
Please send me, without obligation, full specifications on Mengel Hollow-Core Flush Doors; Mengel Stabilized Solid-Core Doors.

Name: _____________________________  Street: _____________________________
City: _____________________________  State: _____________________________

April 1950
stiff broom to obtain an even surface and texture. It's a cut-and-try formula and is probably incorrect, but it seems to work. One contractor reversed the proportions of cement and lime and got a well-stabilized roof, but it wasn't really white.

The mixture crazes a bit, but so far we have not had any continuous cracks, with temperatures varying from about 32° to a nominal 90° outside temperature. Too much salt causes flaking. If too thin, the mixture will not cover or anchor the gravel properly, and obviously if too thick cannot be evened out by sweeping.

We very often use reflective insulation along with this, particularly where the finish ceiling follows the slope of the rafters. It is our practice to use a continuous screened eve vent 1" to 2" wide, so we usually turn the insulation paper side up at the bottom of the ceiling or roof joists so that strong winds will not flutter the foil or tear it loose.

(One of our early foil jobs was quite effectively dispersed by a small hurricane.)

More recently, we have added the use of vermiculite in the base plaster as a standard specification with the hope of added protection, but principally because of its light weight, workability, and inert qualities. (We have no accurate figures on its actual insulating value used this way.)

In a job just completed we went "out on a limb" to pour 1 1/8" of vermiculite over a low sloping pitch and gravel roof, where the use of exposed ceiling joists was indicated. In this case we swept off all the loose gravel, using what remained to bind the vermiculite and provide some measure of stabilization for the pitch. The pour was screeded off to a ground at the ridge and a deep gravel stop at the eaves.

We found that the pour should be dribbled or floated with some pressure at the point of setting-up to eliminate shrinkage cracks. The surface was painted with a white cement water-proofing, again to help in the job of heat reflection and to lessen moisture absorption. The roof hasn't been in place long enough for us to offer a real judgment of heat reflection or absorption, but we are quite confident that it will do a satisfactory job.

With the thought that the information may encourage further developments for special conditions, let me add two more systems we have recently used.

Just being completed is an addition to the Sea Ranch Hotel, north of For Lauderdale on the ocean. The structure is a cellular system of reinforced concrete and concrete block masonry for 16 rooms. Two stories high, 19' bay 16' with an 8' cantilever deck on one side and a 5' cantilever passage on the other. The bearing walls on 16' centers are concrete masonry, with flush marginal columns. Floors are 10 1/2" thick using 8" x 8" x 16" partition block 20" on centers to form flush pan or beam construction. The ribs are reinforced with 3/8" round rods in the bottom and 6" x 6" #10 mesh continuous in the slab.

There are 3' wide flush beams on the supports with negative reinforcement both ways. On the roof, which is 25' x 160' (with a slope), 8" x 8" x 8" vermiculite concrete block were used spacers. Using approximately 3500 cubic feet of concrete, the roof was machine-troweled to a dense finish and sprayed with curing agent. The exposed concrete is to be painted in stripes to enhance the...
AS IMPORTANT AS THE BUILDING ITSELF

THE CONTROLS THAT GIVE HOSPITAL COMFORT

This room thermostat looms large—and for a purpose! We are emphasizing its importance in the modern hospital. Hospital administrators—and the patients themselves—recognize and appreciate the advantage of individual room control—COMFORT—the prescribed temperature for rapid convalescence.

In hospitals—in homes—in every structure, the quality of service delivered by the heating or air-conditioning system is in exact proportion to the quality of controls governing the system. Honeywell controls are quality controls. Specify them.

Minneapolis-Honeywell maintains Factory and Branch Offices in all principal cities. Consult experienced Honeywell engineers on every automatic control problem.

Mail the coupon for free booklet—"Plan Your Hospital’s Atmosphere".

Honeywell
FIRST IN CONTROLS

MINNEAPOLIS-HONEYWELL REGULATOR COMPANY
2602 Fourth Avenue South
Minneapolis 8, Minnesota

Please send free copy of booklet “Plan Your Hospital’s Atmosphere.”

Name: ____________________________
Address: ___________________________
City: __________________ Zone: ______ State: ________
progressive architecture

(Continued from page 14)
cabana motif and to keep temperatures down. Only a month old, the roof has no cracks or checks of any kind. We don’t guarantee that it won’t, but are convinced of its durability, and expect that it will provide a reasonable factor of insulation.

Another venture into the field of insulation is the use of 2 1/2" vermiculite concrete slab over steel floor lath on floor joists as a base for radiant floor panel heating in one-story construction. Our local conditions often require a self-supporting floor construction (on piling over filled land, with need for raising floors 3' to 4' over normal grades to avoid inundation during hurricane tides). We have three such installations in operation and again the time element is too short to be absolutely sure of performance. Our cold weather is usually of short duration and moderate intensity. Rarely do we have frost conditions, but the need for some heat occasionally is real. For those who can afford it, the panel system appears to be the answer. We are in the second season of operation with apparently excellent results. Contrary to popular opinion in this area, the lag in heating and cooling of the floor is not a factor. Heating pipes were fastened directly to the vermiculite concrete floor with 1 1/2" of cement/sand to cover the pipe and provide a setting bed for marble and terrazzo floors. Total floor thickness is approximately 5" to 6". A similar system should work in other localities where conditions are approximate.

Robert E. Hansen
Fort Lauderdale, Florida

Painted Roofing

Dear Editor: On page 72 of December 1949 P/A, top paragraph, left column, the statement is made: “Aluminum roofing shingles showed a temperature rise from 19.4° to 41.6°—only a little better than lampblack.”

We appreciate that this information was taken from a Bureau of Standards report BM3-64 in which three types of shingles including aluminum are tabulated. It is our understanding, however, that these were all asphalt shingles and the term aluminum applying only to the color of the shingle or the granules in it and not to the material of the shingle.

In fairness to manufacturers of aluminum roofing and aluminum shingles, this point should be made clear.

C.O.P. Klotz
Product Manager—Building Industry Aluminum Company of Canada, Limited

Bureau of Standards report from which the information was taken indicates, text only, that “roofing shingles, aluminum” referred to roofing felt paint with aluminum paint, not to aluminum shingles. Solid aluminum shingles were not tested or reported in the Standards document quoted.

B.H.

NOTICES

Prize Winner

Elizabeth Graham Bell, student architect at Carnegie Institute Technology, is winner of the $500 first prize in a small homes design contest for women students sponsored by "The American Builder" magazine and the national Association of Home Builders,

Lockwood Key’n Knob locks, engineered to new high standards of durability, simplicity and security now take their important position beside Lockwood HEAVY DUTY and STANDARD grade mortise cylinder locks. They carry the assured soundness in design and lasting performance that is underwritten by 72 years of experience in the manufacture of high grade locks.

The difficulties encountered in the past in master keying locks of this type with mortise and tubular type locks as well as padlocks, is now eliminated.

Specification of Lockwood for ALL locking equipment throughout ensures top quality, an adequate master keying system and lasting satisfaction.

Lockwood Key’n Knob Locks
Lockwood Hardware Mfg. Co.
Division of Independent Lock Company
Fitchburg, Massachusetts

16 Progressive Architecture
For Protective Coating of Plywood Forms
eliminates
oil staining
and reduces rubbing
costs

All Over America
Contractors Report
- Increased speed of form handling
- Increased form use without recoating
- Increased life of forms
- Eliminates all disadvantages of oil or oil deposits on concrete

Satisfied Users in
Salt Lake City say:

ALFRED BROWN CO.—
"Rubbing costs reduced, grain raise eliminated."

OLSON CONSTRUCTION—
"More re-uses of forms especially on exposed concrete work."

TOLBOE & HARLIN—
"Leaves smooth concrete surface, reduces cost of stoning."

GENTLEMEN:
Please send me complete data on FORMFILM.

NAME_____________________________ TITLE_____________________________

COMPANY________________________

ADDRESS________________________

CITY________________________ STATE________________________

A. C. HORN COMPANY, INC.
Manufacturers of materials for building maintenance and construction—established in 1897
10th Street & 44th Avenue, Long Island City 1, N. Y.
Los Angeles • San Francisco • Houston • Chicago • Toronto
SUBSIDIARY OF SUN CHEMICAL CORPORATION
Steel truss problems of heat loss, heat intrusion and condensation solved

For under 15c sq. ft. material plus labor

IN FACTORIES, WAREHOUSES, HOSPITALS, SCHOOLS, MARKETS, ARENAS, THEATRES, FIREPROOF RESIDENCES, ETC.

It is hard to keep these structures comfortably warm or cool. In addition, condensation forms, often drips, causes damage. These problems are solved by using 3, tough, never-touching sheets of aluminum, compartmented by 2 fiber or asbestos partitions.

Steel beams are good conductors, exchange much heat with the surrounding atmosphere, causing condensation, and need insulation against heat and vapor flow. Multiple accordion aluminum sheets allow no vapor to pass; are non-condensation-forming; retain no moisture. With their zero permeability, they push out fortuitous vapor from wall, floor, and ceiling spaces. They emit practically no heat on the cold side—only 3%.

Contrast this with the necessity of heating-up tons of steel and mass insulation (usually wet) which wastefully emit 90% heat on the cold side. In summer, iron, steel, mass insulations, and most building materials, continue to radiate uncomfortable heat into a room long after the outside air has cooled. Multiple accordion aluminum sheets not only are cool at night, but all through the hot summer day often maintain temperatures 10° to 20° cooler than the shade outside.

Insulation as described above is technically called Type 6 Infra.

THERMAL FACTORS, TYPE 6 INFRA
Down-Heat C.044, R22.72 equals 7½" DRY Rockwool
Up-Heat C.080, R12.50 equals 4" DRY Rockwool
Wall-Heat C.073, R13.69 equals 4½" DRY Rockwool

VAPOR PERMEABILITY equals ZERO

Multiple Accordion Aluminum and Triangular Reflective Air Cells

INFRA INSULATION, INC.
10 Murray Street New York, N. Y.
Telephone: Cortlandt 7-3833

Get Valuable Free Copy of new, revised "Simplified Physics of Thermal Insulation," an authoritative, simply-written 44-page manual on heat and vapor flow, condensation, radiant heating, etc. Just off the press. Master Chart gives k, C, R, and U factors of all insulations, of all thicknesses, weights, densities.

Explanations and illustrations of multiple aluminum accordion insulations and mass insulations; and how to install and where. Check coupon to get free samples of Infra's Insulations and price lists.

Our experts will answer specific questions.
21 Acres is a group project entered into by 13 families, on 21 acres of rolling land adjacent to Ardsley, N.Y. Each house is on a site of 1 1/2 acres, the final acre and a half being held in common for development for community purposes. In the group are a number of architects and designers—Roy S. Johnson and Stanley Torkelson, both of Edward D. Stone's office, Lionel Freedman, the architectural photographer, Fred M. Ginsbern, Martin Glaberson, and Irving Rubin—who formed a design team for the entire project.

They worked out a structural system, basically 3" x 6" posts supporting 8" x 8" rafters meeting on a solid ridge detail, over which 2" tongue and groove roof planking is laid. Posts are on a 4' module, and within this simple system infinite variation in the design of the houses has been found possible. Exterior walls consist of panels within the 4' module, which are filled with doors, windows, wall panels of Durisol, or combinations of these. Gable ends are generally covered with red cedar siding. No two houses are alike in plan or appearance and sizes range from a one bedroom arrangement to a rather large house which has two stories on the openhill side.

Completed costs of the houses average about $10.00 a square foot. The group formed a corporation for the purpose of building and a great deal of the work has been done on a direct labor and material basis. Rough and finished carpentry is particularly excellent, and is credited by the architects in the group to workmen on the job who became interested in the project as a challenge to old-time craftsmanship.

After the construction process is finished there will be no co-operative aspects to the development other than maintenance and development of the common property; individual lots are privately owned.

Progressive Architecture will document this unusually successful venture in full detail later in the year, when all of the houses are finished.
New Kimsul* reflects heat ...shuts out condensation!

New Reflective KIMSUL* does far more than ordinary insulation. With its unique, double barrier of aluminum foil cover and many-layer fiber blanket, new Reflective KIMSUL stops both radiated and convected heat from escaping. This is the most effective method of stopping heat loss ever devised!

It's the first complete, all-in-one insulation—with all the features you've wanted, all the features home-owners have wanted! Here's an insulation providing a double barrier against heat loss—with vapor seal that meets FHA requirements, too. Here's greater strength and permanence—with the non-sifting, non-settling stitched blanket construction. Now, the smaller, lighter, compressed package reduces storage and handling costs 80%; and new, sturdy tacking flanges cut the time and expense of installation—eliminate the need for trained applicators.

Here's everything that could be expected of an insulation—and more. Resistance to fire, insects and mold—fuel savings up to 44%—greater comfort in hot weather—you'll find all these advantages in new Reflective KIMSUL. Now, without question, America's finest insulation.

For further information on new Reflective KIMSUL Insulation, contact your KIMSUL Dealer, or see literature in Sweet's Architectural and Builder Catalogs, or write directly to Kimberly-Clark Corporation, Neenah, Wisconsin.

Now two types of Kimsul

REGULAR KIMSUL
(red package)

REFLECTIVE KIMSUL
(gray package)

KIMBERLY-CLARK CORPORATION, Neenah, Wisconsin

*T. M. REG. U. S. PAT. OFF. & CAN.
More Brixment is used for brickwork than any other masonry cement on the market. Literally thousands of architects, contractors and bricklayers prefer Brixment to any other mortar material.

Brixment makes better, more economical stucco, too. It is more plastic and easier to apply. It is used in leaner mixes, hence reduces hair-checking and crazing. It is stronger, more weatherproof and more permanent than "workable mixes" of portland cement and lime.

Brixment can cut your costs and give you better stucco jobs. For proof, please ask your dealer (or write us) for a copy of the handbook "Brixment for Stucco and Plaster."

LOUISVILLE CEMENT COMPANY, Incorporated, LOUISVILLE, KENTUCKY
Rose-Covered Cottage
or Queen of the Skyline

...THERE'S A
WELDWOOD DOOR
TO DO THE JOB

When you specify Weldwood Flush Doors, you combine
convenience with quality material and real economy.

For here is a line of doors to fill almost any standard
opening.

WELDWOOD FIRE DOORS. Absolute fire protection
combined with the striking beauty of genuine birch face
veneer. A large variety of other fine decorative hard-
woods is available on special order. This is the only
wood-faced fire door that carries the Underwriters' Label
for Class "B" openings.

WELDWOOD STANDARD MINERAL CORE Flush Doors.
Guaranteed against swelling and sticking in summer... or
shrinking and rattling in winter. Excellent for inte-
rior or exterior openings in schools, offices, hospitals,
hotels or other institutional buildings. Incombustible
mineral core provides increased fire resistance, excep-
tional dimensional stability, resistance to vermin and
decay and insulating qualities superior to double glazing.

WELDWOOD SOLID LUMBER STAVED CORE FLUSH
Doors. Core is of thoroughly kiln-dried hardwood
staves, laminated under pressure with waterproof glue
and high frequency heat. Top and bottom members are
of glued up stock. This door has a high degree of dimen-
sional stability, unusual versatility. Hardware, lights
and louvers can be custom-positioned. Available in a
wide variety of handsome hardwood faces.

MENGEL HARDWOOD HOLLOW CORE FLUSH DOOR.
Grid-core construction...dovetailed, wedge-locked joints
on rails and stiles...and a wide variety of hardwood
facings combine to make a door with a well-earned
reputation for durability, beauty and economy. Meet
low-budget requirements with this high-quality door.

* * *

Complete information and specification data on the
entire Weldwood line of Doors is listed in Sweert's, or
may be had quickly by writing our nearest office.
The Smithcraft Troffer offers complete "freedom of expression" in planning recessed lighting layouts, permitting straight-line or pattern installations in any type of ceiling construction. Troffers are available for two-foot or four-foot bi-pin lamps, and for four-, six- and eight-foot Slimline lamps. Smithcraft Trim Flange, when required, effectively conceals irregular ceiling openings. Perfect right-angle corner effects can be formed by Smithcraft Troffers, with or without Spot Boxes or "pattern bar" glass frames.

The patented Aligner Hanger permits screwdriver levelling of the troffer before or after installation is completed... a tremendous saving in installation time and cost.

The reflector is removable at any time for maintenance without disturbing wiring or ceiling. Shielding components available include louver, Halophane, Albalite, ribbed glass, and any other commercial medium desired.

Write today for your copy of "Architectural Troffers", a 20-page booklet describing the Smithcraft Troffer in detail. Information on all Smithcraft commercial and industrial fluorescent fixtures is also available upon request.
INSTALL Youngstown today, in sizes adequate for the increased loads it will have to carry tomorrow, and both you and your customers can forget pipe indefinitely.

The dependability of Youngstown Steel Pipe rests on experience—on nearly 50 years of producing highest quality steel and fabricating it into highest quality pipe.

Youngstown Steel Pipe is available everywhere, sold by leading pipe distributors who are prepared to recommend and furnish it in proper sizes for any job, adequate for both tomorrow’s needs and today’s.
Embody the
BEAUTY OF WOOD
without the HAZARD!

FIREPROOFED
with PROTExOL

Unmatched as an architectural medium for beauty — wood offers even greater advantages when impregnated by the approved Protexol process. The natural charm and greater attractiveness of wood . . . combined with the safety and strength added by the Protexol treatment creates an entirely new concept of wood as a construction material.

- **FIREPROOFED** . . . Wood can't burn when Protexol-impregnated . . . eliminating fire hazards . . . assuring safer, better construction.
- **ROTPROOFED** . . . Protexol-impregnated wood is protected against decay, mold, mildew and stain.
- **VERMINPROOFED** . . . Prevention of termites, powder post beetles, wood borers and other vermin helps wood retain structural strength and beauty.
- **DIMENSION-CONTROLLED** . . . Protexol-impregnation reduces shrinkage and warping to a minimum, stops grain raising and checking.

Write for colorful brochure A.I.A. No. 19 19:A:33. Covers Fox-Made Wood Fire Door test and approval.

**FOX BROS. MFG. CO.**

*75 Years Experience*

MANUFACTURERS OF ARCHITECTURAL WOODWORK

Custom-built Millwork

- 2700 SIDNEY STREET

ST. LOUIS 4, MO.
THE DAY OF DECISION

Below and beyond this painting in the new home office building of the John Hancock Insurance Company, elevator lobby floors and all stairways have been made permanently non-slip and more wear-resistant by the addition of Norton ALUNDUM aggregate to terrazzo surfaces. It is always a wise decision and a good (insurance) policy to make walkways safe by the use of Norton non-slip floor products.

See our catalog in Sweets

NORTON COMPANY • WORCESTER 6, MASSACHUSETTS
New! KAYLO LAMINATED PANELS
Provide Finished Walls

That Resist
HEAT LOSS...

FIRE...ROT...

WATER DAMAGE


Kaylo core material is a remarkable chemical composition which is completely inorganic, incombustible, rot-proof and undamageable by water.

Other Kaylo products include: wood-faced and metal-faced firedoors; insulating roof tile, heat insulating block, and pipe insulation.

FOR CURTAIN-WALLS OR INTERIOR PARTITIONS, new Kaylo Laminated Panels mark a significant development in the building field. Available with a number of different facings, they alone provide this great combination of advantages:

Insulating Value—Two-inch panels have better insulating value than 16 inches of solid concrete.

Fire Protection—The Kaylo core is incombustible. Installed with proper joint systems, Kaylo Laminated Panels (with cement-asbestos, steel, aluminum or Monel facings) meet A.S.T.M. one-hour fire standards.

Permanence—The inorganic Kaylo core is rot-proof, vermin-proof and insoluble in water.

Structural Strength — Kaylo Laminated Panels have great strength and dimensional stability. Facing and core material are securely bonded with waterproof adhesives.

Easy Erection—The lightweight panels (weighing only 6 lbs. psf) are easy to handle and move into place; can be sawed, nailed or bored with standard tools.

Kaylo Laminated Panels provide better walls, reduced building load and easier erection for nearly every type of building. Investigate now.

SEND COUPON FOR LITERATURE

OWENS-ILLINOIS GLASS COMPANY
Kaylo Division, Dept. N-28, Toledo 1, Ohio

Gentlemen: Please send me literature on Kaylo Laminated Panels.

NAME..........................

FIRM..........................

ADDRESS..........................

CITY.........................STATE..........................

SALES OFFICES:
Atlanta • Boston • Buffalo • Chicago • Cincinnati • Dallas • Minneapolis
New York • Philadelphia • Pittsburgh • St. Louis • Toledo • Washington

April 1950 27
Home owners like the comfort and convenience of self-insulating windows. They enjoy freedom from bothering with storm sash spring and fall. *Thermopane*® all through the house gives them what they want. It adds salability, creates long-lasting satisfaction with the home.

Fifteen companies now manufacture aluminum casement and double-hung windows to accommodate *Thermopane*. Ten manufacturers make casement and double-hung steel windows for *Thermopane*. Eight manufacturers have standard wood windows available in both double-hung and casement styles for *Thermopane*. Many local sash houses regularly fabricate to order double-hung and casement wood windows as well as framing for inexpensive window walls. Write for a list of *Thermopane* window manufacturers.

*Thermopane* is made in more than 80 standard sizes for all types of sash—wood and metal. Contact sash suppliers for information on types and sizes available. Write for a list of standard sizes of *Thermopane* units, or see your L·O·F Glass Distributor.
Adlake aluminum windows are ideally suited to curtain wall construction

Although designed for a lifetime of service in any building, modern or traditional, Adlake Aluminum Windows are a "natural" for curtain wall installations. Built of lightweight aluminum, they do away with the cost of painting and maintenance, and keep their smart good looks and finger-tip control for the life of the building!

What's more, only Adlake Windows combine woven-pile weather stripping and serrated guides to assure minimum air infiltration. Adlake Windows never warp, swell, rot, rattle or stick, and installation is amazingly simple: you can complete all exterior work first and then simply set the window in place!

For complete information, please drop us a card today.
Address The Adams & Westlake Company, 1103 N. Michigan, Elkhart, Indiana. No obligation, of course.
How to kill 3 birds with one stone...

One letter or phone call will bring your U.S.G. representative out to give you complete information about three types of roof decks—poured-in-place gypsum, precast gypsum, and steel deck. His wide knowledge of roof deck requirements is always at your service.

If you have a specific problem, a U.S.G. engineer will gladly go over it with you, and come up with a dependable recommendation—one that's completely unbiased because United States Gypsum offers all three types of roof decks.

Whether your plans call for a pitched, flat or curved roof, there's a U.S.G. roof deck that fills your requirements best. All U.S.G. roof decks are incombustible, lightweight, strong, quickly installed and easy to maintain. Be doubly sure of your next roof deck—consult U.S.G. . . . specify U.S.G.
Why Silentite Windows ...make happy home owners!

WEATHER STAYS OUTSIDE
Patented "floating" weather-strips—exclusive Curtis-designed weather-stripping at head, meeting rail, and sill—plus the insulating value of a wood window. That's why Silentite windows are weather-tight—dust-tight. Wind infiltration is reduced to a minimum—comfort stays in while the weather stays out.

EASY YEAR-ROUND OPERATION
No tugging, no straining, to open a Silentite window. Silentite spring suspension keeps these windows operating easily through constant use. No rattling or banging either—and, of course, no weights, cords or pulleys. Curtis also makes Silentite in casement units.

MODERN BEAUTY IN 12 STYLES
Slender mullions—wide glass areas—beautiful Miterlite trim—these qualities put Silentite windows at the head of the beauty parade. Silentite windows are available in 12 sash styles—all economical because they are quickly installed. Silentite is a popular choice with women.

Curtis makes a complete line of architectural woodwork for the modern home. Make your next house "all Curtis."

Curtis Companies Service Bureau
PA-45 Curtis Building
Clinton, Iowa

Please send me book on Silentite windows, including casements. (Please check above)

Name:

Address:

City. State:

April 1950 31
specify STANLEY TEMPLATE BUTT HINGES for metal doors

Architects like the smooth operating efficiency and long life of Stanley Ball Bearing Template Hinges. Every Stanley Template Butt Hinge fits exactly the sinkage and screw hole location in both door and jamb made to U. S. Standard Template.

This hinge and door teamwork—made dependable by Stanley accuracy in manufacture—will save worker time, cut building costs, and assure the durable service that makes satisfied clients. Insist on butt hinges that bear the name Stanley. There is an architectural Hardware Consultant in your vicinity whose specialized knowledge and training is at your service. The Stanley Works, New Britain, Connecticut.

Specify 2 Ball Bearing Template Butt Hinges. For medium weight doors receiving average frequency service, BB174 Template shown here is recommended.

Stanley Template Butt Hinges are made in steel, brass, bronze, stainless steel, aluminum, and are exact in size and gauge of metal. Each hinge is stamped with the class number on the back.

Specify Extra Heavy 4 Ball Bearing Template Butt Hinges. On heavy hollow metal doors or hollow metal doors with high frequency service.

STANLEY

HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEE
NOW! Asbestos Movable Walls WITH THE PANELS “integrally colored”

NOTE HOW THE COLOR GOES ALL THE WAY THROUGH!

No paint to wear off, chip, or peel...

A totally new and important feature has been combined with the basic advantage of flexibility in J-M Movable Wall construction.

Johns-Manville scientists have perfected a process for introducing inorganic pigments throughout the asbestos panels used in J-M Movable Walls.

As a result, these beautifully-textured, fireproof panels are now “integrally colored” at the factory. That of course means the color is not a painted or baked-on surface coating; it is an intrinsic part of the structural material—goes all the way through each panel.

With no paint to wear off, chip, or peel, your walls will have that “first-day newness” every day for years and years to come!

By eliminating the cost of periodic painting and decorative treatment, the new Transitone Movable Walls will help you to meet your wall-and-partition requirements economically.

Transitone panels are hung on steel studs, forming a 4" double-faced partition. Also used as interior finish for the outside walls. Lighter than ever, they are readily installed or re-located. For details or an estimate, write Johns-Manville, Box 290, New York 16, N. Y.

Johns-Manville

Transitone

MOVABLE WALLS with asbestos panels colored all the way through

**important facts about Insulux Fenestration***

*Insulux Fenestration: Light-directing glass block above a clear glass vision strip.

There are many good reasons for specifying Insulux Fenestration for daylighting in school classrooms. Outstanding ones to jot down and remember:

a. Prisms inside light-directing glass block bend the daylight up to the classroom ceiling which reflects it down onto the working surfaces.

b. Because glass block directs the major portion of the light above the horizontal, its surface brightness is low, and shades over the panel are unnecessary.

c. Light-directing glass block distributes daylight evenly and controls daylight illumination so that brightness ratios are low and seeing is made easy.

d. Windows below light-directing glass block provide ample vision and ventilation.

Full information about light-directing glass block can be had by writing to the makers, American Structural Products Company, a subsidiary of Owens-Illinois Glass Company. Pioneers in daylighting, this company developed a light-directing glass block as early as 1937, and currently maintains a daylight research laboratory at the University of Michigan.

Address: American Structural Products Company Dept. G-120, P.O. Box 1035, Toledo 1, Ohio

**Drawing** shows how Insulux light-directing glass block bends incoming daylight to ceiling from where it is reflected to children's work surfaces. Daylight distribution is more uniform; contrasts throughout the room are lowered. Since most of the daylight is directed upward, the panel has a low surface brightness, and shades are not required.

**DIRECTS DAYLIGHT**

Photograph of light beam through Insulux light-directing glass block.

**INSULUX GLASS BLOCK®**
MANHATTAN HOUSE, New York City

FRESH MEADOWS, Queens, Long Island

In all three New York Life apartment developments

Bruce Block Hardwood Floors

Bruce Block Hardwood Floors

PRODUCT OF E. L. BRUCE CO., MEMPHIS 1, TENN.
World's Largest Maker of Hardwood Floors
WHY

SHOULD AN INSULATION

HAVE FLANGES?

Insulation is only as good as its application. That's why Balsam-Wool has special spacer flanges to fasten the insulation securely and more rapidly in place. These tough flanges fit over, and are nailed or stapled to, the face of the framing members. Proper air spaces, one on each side of the insulating mat, are also provided by these flanges. The result: a sealed, tight, foolproof application for maximum Balsam-Wool insulating efficiency!

Balsam-Wool, the completely sealed insulation, constantly adds latest scientific developments to its own time-tested features... combining practical "on-the-job" experience with laboratory research. The ever-increasing popularity of Balsam-Wool as the complete insulation results from these advantages to you and your clients:

You'll want to specify Balsam-Wool on your next job... for it's the insulation that stays put for life. Send today for your complete set of Balsam-Wool Data Sheets in A.I.A. folder.

Balsam-Wool

SEALED INSULATION

BALSAM-WOOL • Products of Weyerhaeuser • NU-WOOD®

• Continuous, Integral Vapor Barrier
• Sturdy Wind Barriers
• Double Air Spaces
• Special Spacer Flanges
• Rot and Termite Treatment
• Highly Fire Retardant
• Rigid Quality Control

32 Data Sheets provide hard-to-get facts on insulation application problems... mail the coupon now!

Wood Conversion Company
Dept. 117-40, First National Bank Building
St. Paul 1, Minnesota
Please send me a set of Balsam-Wool Application Data Sheets.

Name

Address

City

State
Most of the basic mouldings in the new Pittco Premier Moulding Kit are interchangeable, and may be combined, both horizontally and vertically, in a wide range of attractive patterns. Thus, an architect can give a distinctively different appearance to each of several adjacent store fronts through the selection and arrangement of a variety of mouldings.

The transom bar and jamb shown here illustrate two of the many moulding combinations possible with the new Pittco Premier Moulding Kit. Its basic shapes are detailed below, at left.

This versatile Moulding Kit introduces fresh style and beauty into the field of Store Front design... another result of "Pittsburgh's" constant research to be first with the solution to architectural and building problems encountered in the field.

BASIC SHAPES OF MOULDING KIT (1/2 SIZE)

PITTCO STORE FRONT METAL

PAINTS - GLASS - CHEMICALS - BRUSHES - PLASTICS

PITTSBURGH PLATE GLASS COMPANY

April 1950 37
One of a complete new quality line ideal for school installations. Removable cover plate for easy access... bright vitreous china for quick cleaning... durability to withstand years of tough school usage. For everything in school plumbing, consult your Crane Branch or Crane Wholesaler.

CRANE CO., GENERAL OFFICES:
836 S. MICHIGAN AVE., CHICAGO 5
PLUMBING AND HEATING
VALVES • FITTINGS • PIPE
Richmond flush kalamein doors are built in accordance with the method approved by the Underwriters' laboratory and are eligible to bear labels for class B, C, D and E situations.

Steel reinforced and asbestos lined, with metal coverings glued to cores under enormous pressure, these doors are not only sturdy, fire resistant and corrosion resistant, they are smooth and rich in appearance and decidedly modern.

Richmond flush kalamein doors are being specified by an ever increasing number of architects for public and semi-public buildings... wherever fire protection and easy quiet door action are essential. They are ideal also for exterior openings being waterproof.

Ask for details.

The Richmond Fireproof Door Company

NO SEAMS — All seams in the metal covering of Richmond flush kalamein doors are in the center of the door edges and are thoroughly filled with solder and ground smooth. All doors are prepared at the factory to receive hardware. That is—all necessary reinforcing, mortising, drilling and tapping for mortise hardware is completed before delivery. For most favorable insurance rates, Richmond labeled frames should be ordered with labeled doors.

No Waves • No Buckles: Cores are covered inside and out with 24 gauge galvanized steel glued under enormous pressure to insure flat surfaces free from buckles and waves.
The serviceability, economy, cleanliness, paintability, and washability of Fir-Tex Perforated Acoustical Tile have made this type one of the most popular.

Made of sound wood fibers, felted and pressed into rigid tile. Exposed surface perforated for maximum acoustical properties.

For sheer beauty, Dantore tile can be put at the top of the list. Its fissured travertined surface provides character and distinction as well as unexcelled acoustical properties. Being incombustible, Dantore tile is ideal for use in such public institutions and buildings as hospitals, schools, hotels, theatres, restaurants.

DANT & RUSSELL SALES CO., 8 South Michigan Ave., Chicago, III.

Gentlemen: Please send me name of nearest applicator-distributor,

Name __________________________
Street No. ______________________
City ___________________________
State __________________________
You enjoy complete creative freedom when you design with ENDURO-ASHLAR ARCHITECTURAL TERRA COTTA

You can achieve any desired effect with Enduro-Ashlar Architectural Terra Cotta, for it possesses remarkable plasticity of form, color and texture. This time-proved terra-cotta is tailor-made to meet your most exacting requirements—severe surfaces or decorative sculpture, brilliant colors or delicate tints, individual units large or small. This explains why more and more architects are specifying Enduro-Ashlar Architectural Terra Cotta to highlight the modern motif in architecture—for mercantile, industrial and monumental construction, and for modernization. Besides providing maximum appearance, it assures minimum maintenance... its original richness and beauty can be retained indefinitely by simple soap and water washings.

Construction detail, data, color samples, estimates, advice on preliminary sketches, will be furnished promptly without charge. Send your inquiry today.

FEDERAL SEABOARD TERRA COTTA CORP.
10 EAST 40th STREET, NEW YORK 16, N. Y.
PLANTS AT PERTH AMBOY AND SOUTH AMBOY, N. J.
Show your clients dozens of different door and wall combinations
WITH THE Roddiscraft DOOR AND PLYWOOD SELECTOR

You Can Show Your Clients in Full Color Exactly the Kind of Doors and Wall Treatments You Are Planning

Sometimes — with only words and samples — it's pretty hard to make your clients understand exactly the combinations of doors and wall treatments you have in mind.

But with a Roddiscraft Door and Plywood Selector you can show them dozens of different combinations of doors and walls. You can let them see for themselves precisely how the finished job will look.

The Roddiscraft Door and Plywood Selector includes ten different doors and ten different wall treatments — reproduced in true color on thick enamel stock.

This remarkable visual aid for architects was developed by Roddiscraft with the aid of a well-known architect. Now you'll be able to give your clients a future look at the finished job. A "sight-satisfied" client will be your reward.

Write to us on your letterhead, and we will send you a Door Selector free. Additional sets for your clients, 15¢ apiece.
MODERN DOOR CONTROL BY LCN - CLOSERS CONCEALED IN HEAD FRAME

EM-BEE BUILDING, 3926 LINDELL BOULEVARD, ST. LOUIS

LCN CATALOG 11-E ON REQUEST OR SEE SWEET'S • LCN CLOSERS, INC., 466 WEST SUPERIOR STREET, CHICAGO 10
You should

TELL Economy-minded Clients about MONEL!

If costs interest your clients, so will the facts about MONEL® Roofing Sheet.

FACT ONE: Long-lasting Monel roofs are within the range of even a moderate building budget.

Here's why that is true. Monel's superior corrosion resistance, high strength, toughness and low rate of heat expansion makes it safe to use lighter gauge sheet. Architects reduce sheet thickness for batten seam roofs as much as two full gauges. Even greater reductions have been made for louvere, ventilators and gutters.

FACT TWO: Fabrication and installation costs for Monel roofs need be no higher than for other quality roofing materials.

The reason is that roofers cut, form and solder Monel Roofing Sheet with standard tools and equipment...in about the usual length of time. It's easy to fabricate and ductile enough to take intricate shapes and sharp corners without cracking.

FACT THREE: Most important of all, Monel provides the lowest cost roof over the years. Roof maintenance and repair costs are minimized or eliminated.

Service records prove this. Monel installations dating back 40 years are still in good condition.

You can specify soft-temper Monel Roofing Sheet for every type of roofing application. Its properties make Monel a natural choice for flashings, coping, penthouse siding, cornices, leaders and downspouts, as well as complete roofs.

To help you get these points across to your clients quickly and convincingly, we've prepared a booklet that tells the whole story. Its title: ONE METAL ROOF...FOR THE LIFE OF YOUR BUILDING. The text is short, non-technical. There are sketches and diagrams...and plenty of pictures. Included, too, is an actual sample of Monel Roofing Sheet.

Write today for your personal copy, and see how helpful this booklet really is. Then tell us how many copies you want for distribution to your clients. We'll send as many as you need—without cost or obligation.

ECONOMY-OF-SERVICE

THE INTERNATIONAL NICKEL COMPANY, INC.
67 Wall Street, New York 5, N. Y.

MAIL THIS COUPON
Get free booklet and test sample of Monel Roofing Sheet

The International Nickel Company, Inc.
67 Wall Street, New York 5, N. Y.

Please send your booklet, ONE METAL ROOF...FOR THE LIFE OF YOUR BUILDING, and sample of Monel Roofing Sheet. Also tell me how I can get other literature, and special advice when needed. I understand this request does not obligate me in any way.

Name ____________________ Title ____________________
Company ____________________
Street ____________________
City ____________________ Zone ______ State ______

MONEL...for the life of the building
Architects Firestone and Lorscheider economically provided abundant daylight in St. Monica’s School at Rochester, New York, with ceiling-high Fenestra Intermediate Projected Windows, light-colored Venetian blinds for light control, light-colored walls and ceilings to spread daylight.

See Fenestra BEFORE window layouts are made if THESE are your school window objectives

1. **Large areas for more daylight**—Fenestra’s Standard Intermediate Steel Windows combine to form window walls. Their slim frames, muntins, mullions allow more glass per opening—permit more daylight to spread throughout the room.

2. **Controllable fresh air ventilation**—Select ventilator arrangements desired (note Fenestra® Projected-Type Intermediate Windows above). Open-in vents deflect air upward, shed rain outside; open-out vents shield openings from the weather.

3. **Quality appearance**—These windows are of rolled casement sections of advanced design and distinctive hardware is used throughout. Workmanship is by skilled craftsmen in the plants of America’s oldest and largest steel window manufacturer.

4. **Low cost**—Low first cost results from standardized types and sizes . . . produced in volume. Low installation cost . . . modular sizes co-ordinate with wall materials. Low maintenance results from precise fabrication of high-quality materials. See Sweet’s Architectural File, Section 17b/7.

---

Mail the coupon for

FREE AUTHORITATIVE BOOK ON CLASSROOM DAYLIGHTING
Proved methods of window treatment, seating arrangement, decoration, etc., recommended by Professor R. L. Bieseley, Jr., Chairman of Daylighting Committee, Illuminating Engineering Society.

---

DETROIT STEEL PRODUCTS CO.
Dept. PA-4, 2253 E. Grand Blvd.
Detroit 11, Michigan

Please send immediately your free new booklet on Better Classroom Daylighting.

Name __________________________
Company ______________________
Address _________________________

April 1950 45
The Sun Hides on Most School Days...but...

Ceco Steel Windows provide plenty of daylight for Good Vision

Maybe you don't know how elusive old Sol can be during the school term. Actually, he hides most of the time. So say government figures. In 90% of the country, there are less than 130 clear days in a whole year when you deduct weekends. Then subtract 90 summer days and it's easy to see most school days are overcast. Therefore, it's most important in providing light for schools to use a window that admits the most daylight. Here, Ceco Steel Windows truly meet the test because only steel windows admit enough daylight on overcast days to provide good vision. Then, too, steel windows offer controlled ventilation to 100%...assure distant vision. The cost? Lowest of installed. Maintenance? Cost is lower here too. Any way you figure it—cost, maintenance or functional superiori-Ceco Steel Windows are the best buy.

*Bamberger & Reid, architects. Roger Sturtevant Photo.

CECO STEEL PRODUCTS CORPORATION
General Offices: 5601 West 26th Street, Chicago 50, Illinois
Offices, warehouses and fabricating plants in principal cities
BIG OR LITTLE the store with the distinctive Brasco Front is quickly identified and well remembered. The wide range and versatility of Brasco store front metal permits unusual latitude in individualistic architectural treatment with standard stock members.

Here is heavy gauge rolled construction, soundly engineered to provide enduring strength and maximum glass protection. In both stainless steel and anodized aluminum Brasco sections are expertly fabricated and handsomely finished.

Classic styling completes the picture, blending beautifully with modern facing materials . . . another reason why Brasco Store Fronts are the number one choice of outstanding architects and their clients. New 1950 catalog and details portfolio immediately available on request.

BRASCO MANUFACTURING CO.

HARVEY • (Chicago Suburb) • ILLINOIS

Specialists in Metal Store Front Construction for more than 40 Years
Grab a 2B or 3B and see the design tricks possible to create different ceilings with these new Sylvania Flexi-Module Luminous ceiling units! Here is a completely architectural means of supplying light efficiently—with simplicity of installation and low cost of maintenance. Don't miss this design bet.

DESIGN VERSATILITY—The field of the ceiling consists of 32 in. square louver or "egg-crate" grids with 3 in. cells. Units are of treated aluminum having low surface brightness. You can use specially colored units for accent as shown above... you can introduce spot lights for high attention to floor displays as shown at the left... you can form patterns with solid modular units in aluminum color or contrasting shade... luminous corrugated modular units may be used... any Flexi-Module units may be used in endless combinations with conventional opaque ceiling materials.

FLEXI-MODULE LIGHTING—Many variations are easily obtained in both QUALITY and QUANTITY of light by choice of the number and color of the fluorescent light sources. The light of the sky is simulated without awareness of the ceiling source of the illumination. Don't forget, too, that for unbroken ceiling planes all piping and unsightly service lines are hidden above the suspended Flexi-Module surface.

SYLVANIA SERVICE—Complete data for Flexi-Module Luminous Ceilings in schools, offices, plants, and stores will be promptly furnished. Just send a request on your letterhead to your local Sylvania office or to Sylvania Electric Products Inc., Ipswich, Mass.
This splendid new structure offering refuge to temporarily homeless women and children replaces several wretched old buildings, of which the rooftop play yard photo at top of page is a grim reminder. The architects ask that special credit be given to the following: Robert D. McKinnon, Jr., Design Project Chief; Fred N. Severud, Structural Engineer; V. Folotico Associates, Mechanical Engineers; Stanley McCandless, Lighting Consultant; Dr. Leonia Baumgartner and Miss Cornelia Goldsmith (of the N. Y. City Department of Child Welfare), Consultants; Canon E. F. West, consultant on the chapel interior. William L. Crow Company was the general contractor. Old photo: Pix, Inc. All other photos: Lionel Freedman-Pictor
program: Replacement of old and obsolescent buildings of Saint Barnabas House with a new headquarters for the New York Protestant Episcopal Mission Society; complete facilities for a shelter for homeless women and children of every race and creed, one of the Society's important activities (the Society conducts many others all over the City of New York; summer camps for children, etc.); a family-welfare department; a chapel. The architects describe the chief function of Saint Barnabas House as "giving temporary shelter to homeless children—survivors of the daily fires, automobile crashes, desertions, and other drastic occurrences in which their parents have become involved"; it also offers refuge for women guests—17 expectant mothers and 8 older women—going through difficult situations.

site: Corner of Mulberry and Bleecker Streets, in the heart of the Bowery, the site of the old buildings the new structure replaces.

solution: A multi-story, fireproof structure, arranged in a T-shape plan, the entrance and main living quarters for the homeless women and children (as well as for the staff) occupying the streetfront crossbar of the T; the rear extension dividing the property into north and south courts. From the north court, direct access is provided for the Mission Society offices (rear and left-hand portion of first floor) and the Family Welfare offices (rear of basement floor which, due to excavation for this courtyard, is largely above grade). General organization of the building is as follows: Basement—delivery and storage, laundry and main kitchen (which, via dumbwaiter, serves all floors), and offices for the family-welfare activities; Ground Floor—main entrance, lounge, interviewing, fund-raising offices, chaplain's offices (for both the Mission Society and for the shelter), and the chapel; Second Floor—women's floor (elderly women in rear wing; unwed, expectant mothers in forward portion of floor); Third Floor—school-age (6-11) boys and girls; Top Floor—pre-school-age (up to 5) children, nursery, play porch, and roof deck.

A structural detail of particular interest is the projection of the building envelope in front of the structural columns. At sidewalk level (see section at left), this becomes a setback concealing high, wire-glass windows opening into basement rooms. Use of this detail, in place of the customary, flush, granite base, effected a saving of $25,000, the architects tell us.


EQUIPMENT: Heating: oil-fired furnace; low-pressure, hot-water system; automatic controls. Lighting: recessed downlights; recessed fluorescent units; recessed lens-tube units.

materials and methods:

A sub-cellar (not shown) contains (in the right-hand, forward portion) storage rooms and boiler room. Laundry and kitchen facilities on the basement floor serve all departments. The staff dining room and lounge has a large window overlooking the north courtyard from which (down a few steps) there is direct access to the family-welfare wing at rear. On the first floor, the main entrance opens into the lobby (photo at left) and looks out through tall windows to the south court. In-coming guests are interviewed in the wing to the right, the southern end of which contains living quarters for the male help.

WELFARE OFFICES AND SHELTER, NEW YORK, N. Y.
Photos at left: top—the north courtyard a bridge-like, reinforced concrete flight of steps, spanning a planted area, lead in from the side street. In the corner the opened door marks the entrance to the Mission Society's offices, located on the first floor; concealed behind the brick wall immediately to the left of this door are steps leading down to the Family Welfare Division offices.

Bottom: the staff lounge and dining room, located in the basement, with large window looking out on the north courtyard; natural woods and light robin's-egg blue and canary yellow coloring in the fabrics were selected for their cheerful restful aspect.
Above: the south courtyard-play yard. The blank wall straight ahead (with a single door) is the side of the chapel; at top, left, is the children's play deck.

Left: the teakwood dedicatory plaque and baptismal font in the chapel, spotlighted from above.

Below: The Chapel. Chancel walls are dark red brick, waxed and polished. The altar cloth is richly embroidered; handwrought cross and vases are silver. All wood objects and furnishings are of teak; acoustic plaster surfaces wall and ceiling; flooring is gray linoleum. Artificial lighting creates a soft, dignified illumination in the windowless room.
The second floor provides living quarters for women guests—17 expectant mothers and 8 older women. Bedrooms are of three types—single, double, and triple, all furnished with individual beds, bureaus, and chairs. Above: dining room-lounge for women guests; lightweight, easily moved furniture allows flexibility in arrangement.

Typical single bedroom for a woman guest; comfortable furniture; ample space.
The third floor has space for 30 school-age children—separate bedroom groups and toilets for boys and girls, but a common playroom-dining room (photo below). An outdoor play yard is provided in the south court. Meals, prepared in the basement kitchen, come up by dumbwaiter and are served from the adjoining buffet table.

Right: a typical room for three children. The institutional atmosphere has been consciously minimized. Each room has a different decorative scheme, worked out to provide a home-like aspect.
On the fourth floor, space is provided for 30 children under 5—a large, sunny nursery; serving pantry; indoor-outdoor play area (photo below) almost a city block in length. The deck is surfaced with rubberized cement to cushion the impact of spills and falls. The wall-hung radiator detail (below) is typical of the care that has gone into simplifying maintenance and reducing the number of things that need cleaning or dusting around.
Bank: Houston, Texas
MacKIE & KAMRATH, ARCHITECTS

Program: Neighborhood bank for an industrial area, with space alongside for stores and a branch post office. Anticipation of future growth. Two-lane drive required for drive-in teller service. Initial plans contemplated adding five floors of rental space. Budget limitations finally reduced this to two. When second floor is added (along south and west), bookkeeping, accounting, and executives’ offices will move, providing space for expanded first-floor facilities.

Site: 160’ x 245’ lot, bounded on east by heavy traffic artery (which emerges from an underpass); a major avenue to the north; railroad right of way on the south.

Solution: Building placed at northeast corner of site, where underpass artery and the avenue meet; remainder of site (except for space allocated for shops and post office) devoted to the drive-in lane and parking space.


Equipment: Heating and air conditioning: gas-fired hot water boiler; radial air-conditioning unit with condenser and directly connected motor; automatic controls; double-deflecting diffusers; tube and fin type coils. Other equipment: telephone PBX board; music amplifiers; automatic door closer.

The Architects: See biographical data, page 50, December 1948 P/A.

Photos: Dorsey & Peters
Above: banking floor, looking toward rear; when second floor is added, officers' space (along left-hand wall; detail, photo below) will move into space now occupied by accounting department (which will move upstairs), to make way for additional line of tellers' cages. Perforated acoustical panels surface upper parts of walls.
Above: detail of tellers' cages, with sawtooth arrangement to simplify standing in line.

At left: detail of west wall of bank, showing the two drive-in tellers' cages, shaded by a five-foot-deep canopy.

Below: general view of the banking floor, looking toward main entrance; ceilings and upper portions of walls are finished with sprayed-on asbestos acoustical material. Ceiling troffers (aligned with structural columns) contain both concealed lighting and air diffusers; downlights are mounted flush.
Two Furniture Showrooms
OFFICE OF GEORGE NELSON; ERNEST FARMER, DESIGNER IN CHARGE

1. Grand Rapids, Michigan

The home-office showroom for the Herman Miller Furniture Company, for which George Nelson is one of the chief designers. A major problem was to provide desirable display spaces for the company's entire line, at the same time avoiding a crowded or warehouse appearance.

**site:**
Large, almost rectangular space in an existing building.

**solution:**
Quite definite partitioned spaces organized around a central rectangular area, treated as a courtyard. Though not set up as a series of furnished rooms, furniture groupings are arranged in logical and harmonious relationships; semi-partitions of net hangings, translucent screens, etc., serve further to divide the major spaces. The interior court-like area contains a minimum of furniture, an effective foil to the busier surrounding display rooms. Color is an important element in the effectiveness of the design—partition walls painted white, beige, light blue, dark blue, yellow, sienna, dark brown, and a few surfaced with natural wood siding. A wide variety of lighting fixtures and devices adds good theater, plus flexibility, to the display palette—flush-mounted down lights; adjustable ceiling mounted lamps; concealed fluorescent lamps; not to mention the company's own line of lamps, which are used throughout the exhibits.

**program:**

**the designers:**

George Nelson: Yale College; Yale School of Fine Arts; American Academy in Rome. Many years an editor—with Time, and Architectural Forum. At present, contributing editor (Interiors), and Architectural Consultant (Holiday). Opened office for practice of architecture and industrial design in 1947.

Ernest Farmer: Worked in furniture and interior design for ten years before joining George Nelson in 1946. Previous activities include furniture design with Gilbert Rohde.
From the public hall a wall of vertical board-
ing continues from the corridor to the recep-
tionist's desk, broken only by the panel and
doors of tempered plate glass.

Split view showing (at right) portion of re-
ceptionist's office-waiting room; display of
storage units at end of passage, straight ahead,
and a glimpse of the central "courtyard," at
left. The abstract fish is a Nelson sculpture.

A ceiling-hung curtain separates the waiting
room from the main display areas.

Photos: Hedrich-Blessing Studio
3. A corner of the bed-sitting room display space. Wall at left, dark brown; "fireplace" wall, light blue.
4. Looking through a net curtain division into the area where living and dining-room furniture is shown.
5. Looking at opposite end of living-room furniture area shown in 4. Wall at right is white; background partitioning, red.
2. Chicago, Illinois

program: To develop, with a minimum budget, the Chicago showroom for the Herman Miller Furniture Company. No funds for elaborate partitioning or complicated lighting schemes.

site: A sizable, deep, rectangular space in the Merchandise Mart.

solution: No solid partitions of any kind; subdivisions into specialized display areas accomplished by means of curtaining, hung from ceiling tracks, or by alignments of furniture storage units (chiefly Nelson designed). Lighting ingeniously solved by a series of ceiling hung continuous plug-in ducts, to which adjustable units—direct, indirect, flood or spot lights—may be attached at any point along their length. Almost limitless effects are thus made possible. In contrast to the Grand Rapids showroom, this one provides a neutral background (except for some draperies) throughout—white walls and ceiling, an uninterrupted floor, except where small rugs or carpets serve to highlight a display grouping.

Abstract symbols that decorate the column visible through the entrance door (photo at top of page) are symbols for the chief designers of the Miller furniture—Eames, Nelson, Noguchi, and Laszlo—with the stylized M. trademark of the furniture company, at the bottom.
(two pages back): The entrance to the showroom, seen from the public hall.

Partial partition at left serves as background for possible room groups, though no attempt is made to develop "model" rooms; in the background is a grouping of related storage units.

View back into display space, on other side of low partition seen in Picture 2.

The right-hand wall of the showroom, with various available cases set up on the company's bench that Nelson designed. Rectangular patterns on the wall indicate dimensioning of the various items. Notice the suspended lighting ducts, with lamps plugged in wherever needed.

Photos: Hedrich-Blessing Studio
Protecting Your Partnership

By KENNETH G. ALLEN

Whether you are a partner or have an individual practice employing associates who might qualify in the future for partnership with you, one or more of the business planning fundamentals to be outlined in this article may be useful to you. The same is true if you are an associate in a large firm and look forward to your own partnership some day. Any one of these plans might prove the decisive factor in stabilizing your professional practice.

In the March 1949 issue of P/A, the editor discussed the factors to be considered in the selection of a suitable partner to insure a compatible and efficient professional association. In his column called IT’S THE LAW, Bernard Tomason in February and April, 1950, discusses the legal problems which a partnership involves, and he points out the need for careful planning both for continuing professional activity and for possible dissolution of the partnership by death or otherwise. Here, as a logical sequence, we shall discuss ways and means of protecting the professional association after it is consummated, including the element of continuity of service for your clientele. Partners who are working together smoothly in a successful practice find it difficult to conceive that anything could occur which might, overnight, completely destroy the momentum of production for their clientele and security for themselves. The purpose of this article is to bring out into the light of day, for your examination, a few possible hidden hazards, together with corrective steps which may be taken now to prevent unforeseen circumstances disrupting the functioning of your smooth-running organization.

your written agreement to preserve continuity

The first hazard to the partnership which is often overlooked, especially in a young firm, is the possibility of the loss of a partner through sudden and premature death. The law states clearly, according to legal counsel, that the death of a partner automatically and instantly terminates a partnership. It further states that the duty of the survivors is to liquidate the business assets and settle with the estate of the deceased partner, before they may reorganize. This can be a very expensive and unpleasant experience for all parties concerned. Living partners may go through many years of pleasant business and professional association with no serious differences and with complete understanding. However, upon the death of one of these partners one or more things may occur to destroy completely all of the good will and fine feeling that has been developed over the years.

There have been cases where the family of a deceased partner has taken very aggressive action against the surviving partners; well-meaning friends may attempt to advise the family. On the other hand, it has been noted in some instances that surviving partners are not well-disposed toward the family of a deceased partner, and in those cases the family may not receive too much consideration in liquidation proceedings. The situation becomes more complicated if you or your children survive the deceased partner, as minors are afforded special protection in the settlement of an estate.

Passing over the unpleasant and seemingly callous aspects of these possibilities, their occurrence in actual experience and observation points to the wisdom of taking certain steps now and specifically executing a valid written agreement between living partners.

If you are practicing without partners, your need for a written agreement with an associate or another architect may be even more acute. By this procedure in several cases continuity of service and family remuneration have been accomplished in a most satisfactory manner for concerned.

Obviously, a formal agreement which can accomplish these certainties in a variety of cases must be custom made and requires the guidance of specialists experienced in this field. Failure to have a valid written agreement between living partners in accordance with their joint wishes almost invariably leads to difficulties when one of the partners is lost. Existence of such an agreement eliminates these difficulties. And yet the written agreement is but one part of the planning that you should consider.

your keystone

An architect who is a good business man should insulate his firm against the loss of key persons, whether partners or not. Essential as any one partner or group of partners may be to each other, successful architectural or engineering firms frequently count heavily also upon the skills and abilities of technical experts or "key men."

For instance, the structural engineer who has won on many of a firm's projects through the years inevitably carries in his own head vast amounts of detail and specialized information peculiar to the firm. His long experience in working with the firm and his familiarity with their designs constitutes an asset which is very specifically locked up in him as an individual. The loss of his services through total disability or premature death could be very expensive for the architects who utilize those services.

In a large architectural firm with numerous partners, there may be one or more "junior" architects (not partners) who are in complete charge of specific jobs without working under the general supervision of a partner. Such a young man might be more familiar with the problems than is the partner in charge. He may even know more about it than anyone else in the firm. Like the structu
engineer, this young architect often carries many details in his head. Not infrequently he has working agreements with the contractor and sub-contractors which may not have been confirmed in writing. As a job supervisor, he might be making trips by air as often as once or twice a week. To replace him and at the same time try to maintain the momentum of progress on the job while someone else is becoming acquainted with all its details becomes a costly and serious problem for the partners.

The structural engineer and the young architect in charge of a job are only two examples of "key" individuals whose loss to the partnership might be expensive. The financial shock of such a loss can be absorbed economically by proper business conservation planning.

**Protecting the firm credit**

Another matter often overlooked in protecting the partnership is the unexpected event which might impair credit. There have been instances of a senior partner, virtually in retirement, who had personal means with a salutary credit standing which made it possible for the firm to enjoy substantial credit when needed for financing architectural jobs. Occasionally, this individual is not even in the partnership, but is a good friend of the partners, or one who might be termed a silent partner. If the lack of such a man is lost, the partners soon find their ability to receive credit is severely curtailed—usually most immediately. This may come at a very awkward time when considerable investment has been made in prospective work and renderings, or in getting a job started before the payments have begun to come in. More an one firm has experienced very rough going and seen two or three years to regain financial equilibrium, due to the loss of the man responsible for a fine credit standing. You may anticipate a similar situation by recognizing his economic value if such a man is helpful to the credit standing, and taking steps promptly to protect your partnership against the loss of his backing.

**1. Protection of firm**

is customary for a firm to carry insurance on its material, equipment, and buildings. The purpose is to supply immediate cash to replace them if destroyed. It is not as practicable and economical to insure the productive capacity of your personnel for the same purpose. The cost of the partnership of insuring against loss of key personnel is no greater than is that of protecting its buildings against fire and other forms of destruction. Specifically, each $1000 of protection to insure any of the foregoing personnel problems may have had for a net average cost as low as $1.40 per year. A figure represents the actual net cost outlay to the firm over the period of years of its business life. Naturally, this actual net cost to the firm will vary somewhat with each individual case, in accordance with the different values, duration, and requirements involved. In general, however, it is true that it costs no more to insure the productive capacity of a man in the firm for $1000 over period of 15 or 20 years, than it costs to insure equipment and buildings for $1000 for the same period. Furthermore, the annual cost per $1000 of protection is approximately the same whether the purpose is for protection on the life of the individual who is necessary for it standing, on the life of a valued key employee or ultimt (such as a structural engineer or the architect in charge of one of the jobs), or whether it is to protect the families of the partners themselves and the uninterupted continuity of surviving partners to function under the terms of a written living agreement.

Over a normal span of professional life activity, the actual annual cost per $1000 of protection could be even less than the $1.40 figure previously mentioned. For example, three architects in partnership were insured in 1920 for $50,000 each. The partnership paid the annual premiums. One partner died in 1944 and the surviving partners received $50,000 net, free of all income tax. They have left the fund on deposit with the insurance company since 1944 and receive interest at a minimum rate of three percent. Under the contract settlement options, they may convert to guaranteed life income (also free of income tax according to tax counsel) at any time, with a return of $84 per year on each $1000 (8.4 percent). And, in addition, there are total cash reserves in the two policies on their own lives which exceed the total premiums paid over the years for those two policies. Not much cost there! These cash reserves also may be converted at any time to guaranteed monthly income for life.

**Protecting the partners’ retirement security**

Finally, in devoting most of your professional life to building a successful firm, a further requisite is the complete protection of your partnership is provision for a guaranteed life income for all partners upon attaining the age of retirement. Any plan to protect your partnership must be erected on the foundation that fully as many partners will survive to age 65 or 70 as will pass on prematurely prior to that time. Careful planning, therefore, indicates that any long-range protection of the partnership must place as much emphasis on life income security for the partners who reach retirement age as it does on the hazards of loss along the way.

It is just too bad that present regulations do not extend the same tax advantages to partnerships as they do to corporations in setting up a pension for the partners themselves. Competent tax counsel seem to concur in this opinion. It is possible, nevertheless, to develop a satisfactory arrangement for the retirement security of partners. Such an arrangement has collective advantages over the usual method in which each partner maintains an individual program for creating his own retirement income.

In conclusion, let us point out the need for co-ordinated planning of all the factors entering into the matter of protection of partnerships. Just as the architect acts as co-ordinator of all the design and construction elements which finally produce a building, so it is advisable to have some person delegated to co-ordinate the activities of an architect’s attorney, accountant, tax adviser, executor, insurance and annuity specialist, trustee, and duly appointed guardian of his children. You may find among these individuals that one of them has specialized in the over-all end product and is qualified to act as your co-ordinator. Although certain fundamental technicalities are common to all business, each plan must be as truly custom designed to suit the individual case as is the creative design of each individual architectural structure. True business conservation planning ties together into one whole the individual work of your consulting specialists in their respective fields, and thus makes sure that none of the known hazards in your business has been overlooked.
program: Summer home for parents of a family with several children—plus a children's playroom; existing cottages on the property provide sleeping quarters for children and guests.

site: Wooded point of land, with ocean views to the east and south.

solution: The reverse curve of the long living-dining-room was literally developed from a pre-construction session of stake-placing, wherein owners and architects determined locations for view windows, openings toward the sun, and desired sizes of areas. Children's playroom placed well apart (obvious reasons) at the end of servants' wing.


EQUIPMENT: Heating: electric unit heaters; fireplaces. Lighting: individual wall fixtures; directional pin-point spotlights in ceiling.

the architects: A firm of architects who, in various associations (past and present), represent one of the best known design groups in the country. Wallace K. Harrison and the late André Fouilhoux had an important part in the design of Rockefeller Center, New York. Harrison & Abramovitz are at present serving as co-ordinating architects for the United Nations Headquarters.
Across page: view from southeast. Sash throughout are fixed; ventilation is handled by means of louvers or opened doors. Stone for the chimneys is native granite; pine for the exterior walls comes from Maine.

At left: the path to the front door; the high wall (and fence extension) shield the service terrace and yard.

Photos: Tom Leonard
Above: fireplace end of the serpentine living area. The ceiling contour echoes the curved form of the walls. Wall surfacing is pecky cypress—a particular request of the owners. Concealed cabinets at left of fireplace house a radio, record player, and record collection. At right of fireplace, doors near the floor provide access to a firewood closet, that is fed from outdoors.

Right: full-length view of room; dining table, carved by Isamu Noguchi, in foreground.

Below: the master bedroom (also with cypress wall finish) has a full-width view window; the fireplace (left) is raised to approximately bed height.
Architects in the national capital have been very busy for the last 18 months. What kinds of buildings have resulted? Where is the emphasis on design and type? How high are the standards? We invite our readers to make the evaluation of a year’s work in one city. All the Washington offices were invited to contribute to this initial Case Study of a new P/A series, recording fully and uncritically the current architectural work in representative American cities. In this case the metropolitan area covered includes the several Maryland and Virginia counties adjacent to the District of Columbia. Some interesting comparisons are suggested by the pictures on the following pages which report the activity in various categories. Architects who gather in Washington next month for the 82nd convention of the American Institute of Architects will have an opportunity to visit many of these buildings.

Strong local factors must be weighed in viewing Washington architecture. Congressional indifference to the voteless city has impeded municipal advance for 75 years and resulted in some shocking contrasts. Some of the world’s most hideous rat-ridden slums are hidden by government colonnades and pretentious (tax-free) blocks. The business district has as many routine modernistic store fronts as any other town but “official” architecture has had its effect on other building types. Schools, hospitals, even churches, have been influenced by the sometimes florid, sometimes chaste, sometimes just colorless government work. The conglomerate population also clings insistently to flatly average hometown taste. Whole neighborhoods are so positive that their houses are in a Colonial tradition, that architects and clients who want anything different must find sites outside the District and older subdivisions.

Nevertheless, architects with design ability and conviction have been able to produce some excellent work. Here and there one finds a disciplined contemporary expression, there is some of the highly personal (perhaps romantic) approach to design, and there is a great deal of “traditional” work being done. All in all, Washington has produced in the last 18 months an architectural product typical of U.S. architecture—1950.
The architects of Washington supplied us so generously with photographs of work completed in 1949—and renderings of jobs now under construction—that the editors found it necessary to restrict the representation of each office to one picture for each building type. The examples shown reflect the character of new work there and the captions list other jobs reported by the offices; comprising together a record of the volume of construction. It should be noted that there is also in progress a considerable amount of remodeling that could not be shown due to space limitations.

Increased pressure for adequate schools has resulted from the postwar expansion of Washington, particularly in the populous suburban communities. Additions to old buildings supplied the first demand until the more extensive building program indicated here was started last year. The Washington Board of Education has already asked a budget increase of $8,670,995 for the fiscal year starting in July, principally for new school buildings (75% for more Negro schools).

Too late for inclusion in the picture record, Hilyard R. Robinson advised us that he has under construction for Howard University two dormitories and an architecture-engineering building, costing over $2,000,000, which should be added to the total of school and college work reported.
religious structures

Church building committees are apparently as cold to new interpretations of liturgical requirements in Washington as anywhere in the country. The briefest analysis of the "church problem" reveals that the body of ritualistic prescriptions relates to exact plan, not to design expression. But generations of architects have been misled by fiercely conservative clergy and laymen into the impression that it is somehow devotional to repeat endlessly—with noticeably decreasing skill and accuracy—those superficial elements that characterized medieval or 18th century religious structures. The few departures from conventional denominational architecture are thereby highlighted—and are usually cause for much local comment and discussion.

The new churches of Washington, as shown here, tell the same story. Some are by firms whose buildings of other types, on following pages, range from good to excellent by contemporary standards. But in this field they especially remind us that long-departed architects worthyly expressed the religious aspirations of their own time and society. One of the notable exceptions is the Church of St. Clement (below) reflecting the creative skill of an architect and a young muralist, fortunately commissioned by a forward-looking clergyman to provide a contemporary building for the devotions of a contemporary congregation.

Jewish Community Center, Montgomery County, Md. (meeting rooms, recreation facilities, classrooms), under construction. Norman Kertzman, Max Rhee, and Leon Julius, associated architects.
Rendering: Max Barth

Educational and social activities building for First Methodist Church, Laurel, Md. (cost: about $100,000), under construction. J. Rowland Snyder, architect.
Rendering: J. Rowland Snyder

Greenbelt Community Church, Greenbelt, Md., under construction. J. Rowland Snyder & Associates, architects. The firm also has under construction Sunday School buildings and church additions as well as Bethesda Baptist Church, Washington, Arlington Baptist Church, Arlington, Va.; Silver Spring, Md., Baptist Church and has recently completed a Sunday-school building for First Presbyterian Church, Arlington, Va.
Rendering: John W. McLeod

Chevy Chase Baptist Church (seats for 750), Chevy Chase, Md., under construction. E. Burton Carney & Raymond G. Moore, architects.
Photo: Gretchen Van Tassel

St. John's Protestant Episcopal Church, Bethesda, Md. (seats for 500), Faulkner, Kingsbury & Steinhouse, architects.
Rendering: Joseph A. Parks

Additions to All Saints' Episcopal Church, Chevy Chase, Md., recently completed. William N. Denton, Jr., architect.
Rendering: Joseph A. Parks

Southern Baptist Church, Washington (seats for 600), under construction. Howard H. Mackey, architect. He is also building the Mt. Pleasant Baptist Church (seats for 500) in Washington.
Rendering: Howard H. Mackey, Jr.

Church of St. Clement, Alexandria, Va., recently completed. Joseph H. Saunders, architect; Robert E. Davidson, Cranbrook, mural painter. Chosen by committee of Episcopal clergy as one of "10 Finest Examples of American (Episcopal) Churches."
Photo: Robert C. Lautman

Photo: Robert C. Lautman
Architects of commercial buildings have long congratulated themselves that alert businessmen, being prejudiced in favor of promotion and efficiency, are amenable to advances in design. Pioneers of this century such as Wright, Perret, and Aalto received their first large commissions from merchants and manufacturers—with historic results. These afforded opportunities to create contemporary structures that would be visited and used by thousands, thus multiplying the influence and acceptance of better design. At the same time, they demonstrated that production increased when workers were released from industrial prisons and that orderly merchandising was more successful than the ages-old haggling amid a musty jumble.

In Washington the modern shop and office building made its appearance later than in great trade centers of the country. But the business of the capital—there is virtually no industry or manufacturing—is now being conducted in more and more modern structures. When William Lescaze’s balconied Longfellow Building was built on Connecticut Avenue in 1941, the Cave Dwellers and their claque angrily protested. Their worst fear have been realized: the influence of the building is apparent in some of the newer office blocks. The older influence of the government designs is still apparent, especially in scale, fenestration, and addiction to white surfacing that glares through the long summers. Shade and broad lawns of the many Washington parks are then the more grateful.

Smaller commercial structures and the almost standardized “smart shops could be found in any American city, competing wildly with each other and in violent contrast to the nondescript blocks they occupy at street level. Business is good, though, because the 200,000 government workers and their families readily accept the familiar fronts of stores such as they patronized back home. Since Washington is far-spread, motoring almost a necessity for the residents and every unzoned intersection of the outlying shopping street has its sales and service structures. For the new suburban housing groups there are some well-planned shopping centers.

7 Mayflower Office Building, Washington. F. Wallace Dixon, architect, Ring Engineering Company, builder. This firm also recently completed the Ring Building and Ring Building Garage Offices, Washington. Photo: Walter van Durand

8 K Street Garage, Washington (400 cars). LeRoy L. Werner, architect, for Catritz Construction Company. This building won a Washington Board of Trade "Award of Merit." The firm also has under construction a parking-office building on Eye Street, N.W. (450 cars; 204,000 sq. ft. of rentable office area). Photo: Elkey Photographers

9 Downtown cafeteria, Washington, for Hot Shoppes, Inc. Maurice B. Gill, architect, and Joseph G. Morgan, architect for interior. Gill is chief architect for the restaurant chain. Photo: Cas. Baptie Studios


15 Warehouse for Valley Forge Distributing Co., Washington, recently completed by Berla & Abel, architects. Photo: Robert C. Lautman
16 Fur shop for Wm. Rosendorf, Washington, recently completed by Berlo & Abel, architects.


18 Office and Showroom for Clyde Haggerty Co., Inc., Washington, recently completed. J. Rowland Snyder, architect. Rendering: J. Rowland Snyder

19 Queenstown Shopping Center (seven stores), Prince Georges County, Md., recently completed. E. Burton Corning & Raymond G. Moore, architects. This firm also has a second unit of this shopping center (one large store) under construction, as well as other shopping centers, including Willston (25 stores), in Fairfax County, Va.; Potomac (nine stores and a theater), in Montgomery County, Md.; Langley Park (25 stores and a theater) and Bladensburg (eight stores), both in Prince Georges County.

Photo: Gretchen Van Tassel


Photo: Gretchen Van Tassel

21 Service Station for Pohanka, Washington. Howe & Foster, architects, J. Rowland Snyder, associated.

Photo: Robert C. Loutman

22 Office building, air-conditioned, for Virginia Hotel Company, Washington, under construction (cost est. $2,300,000—under $1.12 per cu. ft.), A. R. Clas, architect.
other building types

The architects practicing in Washington receive, in addition to the customary office commissions, a share of work for various government departments and agencies. Justement’s model for the new Federal Courts Building (bottom of page) suggests that even the major buildings have now been freed of the over-size New Rome manner. The new General Accounting Office (not shown) now under construction is vast, but essentially a simple office block designed by Public Buildings Service, General Services Administration. Work for the Department of the Army done by Mills & Petticord (right) is more imaginative in treatment, while the recent work of the Bureau of Yards & Docks, Department of the Navy, is continuing the structural and design traditions that have distinguished that bureau’s achievements. Renovation of the White House and the Capitol, though well publicized, was not ready to be photographed.

The other examples shown here suggest the competence of local offices in specialized assignments of various types. The studio perched on a filled hillside (right) may be better appreciated when the architect’s report is noted, that he bored through accumulated earth layers and even an old quarry excavation before reaching a solid base for the supporting concrete piers— atop a long-forgotten brick tank.

Reported too late for inclusion were the $1,300,000 Washington Sanitarium and Hospital, Takoma Park, Md., and the $600,000 Nicols Avenue hospital, by Ronald S. Senseman and under construction.


Group & Squadron Administration Building, Air Force National Guard, Department of the Army, Washington, is one of a series of military buildings under construction, designed by Mills & Petticord & Associates, architects and engineers. Others include a Squadron Administration Building, a Parachute Building, a Gymnasium for Chief of Engineers, part of the Army, and an Engineer-Aviation Station Building.

Sculptor’s Studio for Alice G. Decker (Mme. Davidsson Huggins), Washington. Theodore W. Dominick, architect.

Hotel DuPont Plaza, Washington, completed in 1949 by Alvin L. Aubine, Inc., builder. Aubine, words & Berry, architects. This firm also recently completed the Hotel Congressional on New Jersey Avenue.


George Washington University Hospital, Washington, D.C., Faulkner, Kingsbury & Senehouse, architects.

Grandstand for Rosecrans Raceway, Oxon Hill, Md., Al Johnson, architect.


Photos: Robett{l},ed & {l}ed (top of page) and {l},ed & {l}ed (bottom of page)
The houses collected for this section of the Case Study reflect accurately the startling range of commissions executed by the Washington offices in a year. The majority are in suburban communities of the Maryland and Virginia counties adjacent to the District of Columbia, because available sites and clients' wishes are restricted in the older neighborhoods. In Georgetown, whose rows of preserved or restored 18th and 19th century houses are cherished by many, departures in design are almost prohibited by community sentiment. Some newer neighborhoods have copied the original houses and restrictions as well. Apparently this is the one taboo that invading wealth does not readily overturn in the capital.

Even in many of the suburban areas developed within recent years the rule is adamance against contemporary expression and tolerance toward any approximation of "Colonial." But, as shown here, some clients have found sites where they could build excellent houses designed for them by local architects. The speculative builders, with one or two exceptions, prefer a middle-of-the-road standard that has resulted in the "ramblers," "ranch houses," and "Cape Cod" all too familiar in America. In all, about 9,250 single dwellings were built last year.

Houses built in Washington do not go unnoticed by the residents, who have an established weekend afternoon habit of driving around and visiting anything just roofed. Ten to twenty thousands a day will visit, walk through, and compare with surprising candor any house furnished and opened as a "Model Home." And they want one for each Saturday and Sunday!

2 Dr. Harold H. Whitted house, Washington, Howard H. Mackey, architect. He has four more houses of this type under construction. Photo: Howard H. Mackey

3 Dr. and Mrs. Irving Burke house, Washington. Leon Brown, architect. Photo: Robert C. Lautman

4 John V. Olson house, Oxon Hill, Md. Mayhew W. Siess, architect, who also recently completed a one-story house on the adjoining lot. Photo: Robert C. Lautman

5 Osceola A. Thaxton house, Westgate, Md. Deigert & Yorke, architects. This firm also recently completed the Kent A. Yoke house, Bethesda, Md.; the Gale McLean house, Potomac, Md.; the Morris Egen house, Lengley, Va.; the G. Clark Brant, Jr., house, Riverview, Md., and a house for Mrs. C. L. Watkins, Rockville, Md. The firm also has under construction three other one- and two-story suburban houses of comparable design. Photo: Robert C. Lautman

6 Douglas Laird house, St. Mary's County, Md. Francis Palms, Jr., architect. He also recently completed the Murray C. McComas house, Gibson Island, Md. Photo: Robert C. Lautman

7 Joseph D. Cappock house, Bethesda, Md. J. P. Trouchaud, designer. This architect also recently completed the William Diggs Wright house, Washington. Photo: Robert C. Lautman

8 Harry N. Hirschberg house, Montgomery County, Md. Arthur H. Keyes, Jr., and Basil Yurchenco, architects. Keyes also recently completed his own house in Washington. Photo: Gretchen Van Tassel

9 Mr. and Mrs. Willard Walter house, Washington, recently completed. Grosvenor Chapman, architect. He also recently tackled the problem of fitting a modern house for himself among the historic houses of Georgetown. Rendering: Grosvenor Chapman

10 J. H. McCarthy house, Falls Church, Va. John Raham, Jr., architect. Photo: Porter Studios

11 G. F. Horine house, Quaker Lane, Alexandria, a. Gordon D. Rust, architect. He also recently completed the George Galland house, Bishop's Lane, Alexandria, and has started construction on four comparable one- and two-story houses in the area. Photo: Robert C. Lautman


13 Katherine Do Reeves house, Washington. Clifton White, architect. This architect also recently completed a house at Bethesda, Md., for Mr. and Mrs. Charles Schupp. Photo: O. L. Yarella

14 Paul R. Hoffmaster house, Washington. Walter and Byrd, designer. Photo: Del Ankers

15 Mr. and Mrs. Walter Waggoner house, Garrett Park, Md. Alexander Richter, architect. This architect, who is assistant professor of architecture at Ward University, also recently completed other contemporary houses in Garrett Park; as well as "the group developments in Fairfax County, Va., as "Quaestum" (36 houses), "Oak Haven" (34 houses), and "Poplar Heights" (36 houses). Photo: Robert C. Lautman

CASE STUDY: WASHINGTON, D.C.

   Photo: Gretchen Van Tassel

18 William M. Parrott house, Fairfax County, Va., overlooking Potomac River. Richard L. Parli, architect. He also has recently completed a smaller house in Washington and another, approximately this price class, in South Arlington, Va.
   Photo: Robert C. Lautman

19 Mr. and Mrs. Irving 1. Axelrod house, Tauxe mont, Alexandria, Va. Charles M. Goodman Associates, architects and engineers. This firm also recently completed six other houses near Alexandria a house in Washington; and has under construction another house in Washington and one in Bradie Hills Grove, Md.—all expressions of design for contemporary living.
   Photo: Rodney McCoy Morgan

20 Mr. and Mrs. Louis Coreq beach house, Deal Md. Mills & Petticord, architects and engineers. This firm also has under construction a house for Mr. and Mrs. Jack R. Turney, in McLean, Va.
   Rendering: Joseph Hennes

21 Dr. and Mrs. David Riech house, Chevy Chase Md. Chloethiel Woodard Smith, architect. This was a Washington Board of Trade Award of Merit. The same architect now has under construction smaller house in Rockville, Md., a weekend house and a larger, more luxurious house in the Bricarci section of Washington.
   Photo: Richard Gorris

22 John G. Shaffer, Jr., house, Fairfax, Va., recent completed by Nicholas Satterfield.
   Rendering: Nicholas Satterfield

23 Mr. and Mrs. M. T. Broyhill house, "Broy Hill Arlington, Va. Horace W. Peasley, architect.
   Photo: Gretchen Van Tas

24 Newman house, Falls Church, Va., being completed, William Smull, architect.
   Photo: Robert C. Lautm
other building types

The architects practicing in Washington receive, in addition to the customary office commissions, a share of work for various government departments and agencies. Justement's model for the new Federal Courts Building (bottom of page) suggests that even the major buildings have now been freed of the over-size New Rome manner. The new General Accounting Office (not shown) now under construction is vast, but essentially a simple office block designed by Public Buildings Service, General Services Administration. Work for the Department of the Army done by Mills & Petticord (right) is more imaginative in treatment, while the recent work of the Bureau of Yards & Docks, Department of the Navy, is continuing the structural and design traditions that have distinguished that bureau's achievements. Renovation of the White House and the Capitol, though well publicized, was not ready to be photographed.

The other examples shown here suggest the competence of local offices in specialized assignments of various types. The studio perched on a filled hillside (right) may be better appreciated when the architect's report is noted, that he bored through accumulated earth layers and even an old quarry excavation before reaching a solid base for his supporting concrete piers—on top of old buildings. The new Army, Navy, and Air Force headquarters, for example, designed to house the Departments of the Army, Navy, and Air Force, is more imaginative in treatment, while the recent work of the Bureau of Yards & Docks, Department of the Navy, is continuing the structural and design traditions that have distinguished that bureau's achievements. Renovation of the White House and the Capitol, though well publicized, was not ready to be photographed.

The other examples shown here suggest the competence of local offices in specialized assignments of various types. The studio perched on a filled hillside (right) may be better appreciated when the architect's report is noted, that he bored through accumulated earth layers and even an old quarry excavation before reaching a solid base for his supporting concrete piers—atop a long-forgotten brick tank.

Reported too late for inclusion were the $1,300,000 Washington Sanitarium and Hospital, Takoma Park, Md., and the $600,000 Nichols Avenue hospital, by Ronald S. Senseman and under construction.


Group & Squadron Administration Building, Air Force National Guard, Department of the Army, Washington, is one of a series of military buildings in construction, designed by Mills & Petticord and Associates, architects and engineers. Others include a Squadron Administration Building, a Paratroop Building, a Gymnasium for Chief of Engineers, apartment of the Army, and an Engineer-Aviation Station Building. Rendering: Joseph Hennessy


Hotel DuPont Plaza, Washington, completed in 1969 by Alvin L. Aubin, Inc., builder. Aubine, wards & Beery, architects. This firm also recently completed the Hotel Congressional on New Jersey avenue. Photo: Robert C. Lautman


George Washington University Hospital, Washington. Faulkner, Kingsbury & Stonhouse, architects. Photo: Blakeslee-Lane

Grandstand for Rosecroft Raceway, Oxon Hill, Md., by L. Anderson, architect. Photo: Leet Brothers


Group & Squadron Administration Building, Air Force National Guard, Department of the Army, Washington, is one of a series of military buildings in construction, designed by Mills & Petticord and Associates, architects and engineers. Others include a Squadron Administration Building, a Paratroop Building, a Gymnasium for Chief of Engineers, apartment of the Army, and an Engineer-Aviation Station Building. Rendering: Joseph Hennessy


Hotel DuPont Plaza, Washington, completed in 1969 by Alvin L. Aubin, Inc., builder. Aubine, wards & Beery, architects. This firm also recently completed the Hotel Congressional on New Jersey avenue. Photo: Robert C. Lautman


George Washington University Hospital, Washington. Faulkner, Kingsbury & Stonhouse, architects. Photo: Blakeslee-Lane

Grandstand for Rosecroft Raceway, Oxon Hill, Md., by L. Anderson, architect. Photo: Leet Brothers


multiple dwellings

Apartments in Washington are not only more numerous than in other cities of comparable size—largely because of the (politically) seasonal population attached to or doing business with the government—but they are also more carefully studied in plan and more comfortable. Nowhere else is there the number of firms paying such special attention to the amenities of urban apartment-living. Some of the firms, Berla & Abel for instance, have made a national reputation in this field alone. Obviously this is not to say that all Washington apartments are well planned and well designed: there is also the purely routine work to be found. Some 22,000 units were built last year.

Housing developments continuously being added around the capital are almost uniform: good site planning generally well adapted to the terrain, fairly unimaginative orientation, general disregard of Potomac Valley climate. An occasional project has appeared in recent years that is excellent in planning and expression throughout.

In addition to the projects represented by the pictures and captions here, more work in this field has been reported. Too late for inclusion were Adams Mill Plaza apartments and Parkwood Plaza apartments, Washington; University Park apartment group, Takoma Park, Md.; Elmar Gardens apartments, Prince Georges County, Md.; and a speculative “Rambler” house, all by Milton J. Prassas. Also: Northwest Park apartments, Prince Georges County, Md., and Andrews Field apartments (Air Corps). Md., both by Victor E. DeMers.
When you drew up plans for your newest air-conditioned building, each 60-watt lamp shown on the plans added $20 or more to the cost of the air-conditioning system!

Each time you substituted a 150-watt reflector lamp in a cheap high-light fixture, for a 40-watt unit, you added $14 to the cost of the job!

Each time you used a 150-watt lumen lamp instead of a 40-watt uorescent lamp, you increased the electrical energy consumption of that bulb, not by 110 watts, but by 137 watts!

And finally, most installations using projectors and reflector lamps for interior lighting cannot be successfully air conditioned regardless of cost.

These are startling statements and will not go unchallenged. All but the first, however, are susceptible of simple proof, thus: One ton of air conditioning represents the absorption of 12,000 Btu per hour; this is the whir of a ton. One watt is equal to 3.4 Btu per hour. Therefore, a ton is equivalent to 12,000 ÷ 3.4 = 3500 watts. Or, 100 watts is equal to 35 tons. Now, a ton of air conditioning in the average commercial occupancy today costs about $500, sometimes much more, sometimes a little less. Let us take $1000 as an average figure. By simple arithmetic, our 100-watt lamp, or 1/85 ton, or $500, or $23. Therefore our first statement was conservative!

Let us now take the second statement. An inexpensive high-hat fixture for a 150-watt reflector lamp costs about $9. Suppose we tabulate the total and the other cost elements:

<table>
<thead>
<tr>
<th>Cost of lighting fixture</th>
<th>$9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of installation (not including wiring)</td>
<td>$2</td>
</tr>
<tr>
<td>Cost of 150 watts of air conditioning</td>
<td>@ $23/100w = $35</td>
</tr>
<tr>
<td>Total</td>
<td>$46</td>
</tr>
</tbody>
</table>

Now compare this with similar figures for an inexpensive 40-watt fluorescent unit:

<table>
<thead>
<tr>
<th>Cost of lighting fixture</th>
<th>$16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of installation (not including wiring)</td>
<td>4</td>
</tr>
<tr>
<td>Cost of 50 watts of air conditioning (allowing 10 watts for ballast loss)</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>$32</td>
</tr>
</tbody>
</table>

The difference between $46 and $32 is $14, so our second statement is proved. We have ignored the saving in wiring costs by the use of the fluorescent unit so that the $14 difference is conservative.

To prove the third statement, that electrical energy consumption is increased by 137 watts when a 150-watt filament lamp is used instead of a 40-watt fluorescent unit, we must consider a few more factors. As a rough average we may say that a ton of air conditioning requires about 1.3 horsepower in motors for compressors, fans, etc. One horsepower equals 750 watts; but, since motors are not 100 percent efficient, let us take 1 hp as equal to 1000 watts. Therefore, one ton equals 1.3 hp equals 1300 watts in energy consumption by the air-conditioning equipment. If a 100-watt lamp adds 1.35 ton to the air-conditioning plant, it also adds $1500 or 37 watts.

Our 150-watt filament lamp therefore results in an electrical load of:

- Lamp load: 150w
- Air-conditioning power load: 100 x .37 = 36w
- Total: 206w

But the 40-watt fluorescent lamp and its 10-watt ballast consume:

- Lamp and ballast load: 50w
- Air-conditioning power load: 100 x .37 = 36w
- Total: 69w

Therefore the difference in total electrical load between 150 watts and 40 watts of lighting in an air-conditioned area is not 110 watts, but 137 watts!

The statement that most installations using projector and reflector lamps, or other sources of high beam candlepower, cannot be successfully air conditioned is not susceptible of such rigorous proofs at this time. But observation of a number of recent store jobs indicates that there is nevertheless a substantial degree of truth in it. The problem for the air-conditioning designer is not to get rid of the total heat of the lamp; that is easy. The serious problem lies in the disposal of the radiant energy component of the lamp's total energy consumption. Let us consider what happens to the energy that we feed into a typical 150-watt filament lamp. This is how it breaks down:

<table>
<thead>
<tr>
<th>Power Source</th>
<th>10%</th>
<th>15w</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visible radiation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heat radiation</td>
<td>70%</td>
<td>105w</td>
</tr>
<tr>
<td>Heat conduction and</td>
<td>20%</td>
<td>30w</td>
</tr>
<tr>
<td>convection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>150w</td>
</tr>
</tbody>
</table>

Since the visible radiation is converted to heat upon absorption by the various surfaces that it strikes, we may say that 80 percent of the filament lamp electrical energy becomes radiant heat energy. This radiant energy is absorbed to a negligible extent in its passage through the air; but it is absorbed very readily by human skin, hair and clothing, and by the surfaces of furniture, walls, floors, and ceilings. The furniture, walls, floors, and ceilings become warm and in turn become radiators. But the major damage is done when the radiant heat strikes skin, hair and clothing first. This impinging radiation can be taken care of—at a certain cost—by reducing air temperature, provided that the radiation received by people at various points in the room does not vary appreciably from point to point.

How often is this proviso realized in practice? Very seldom indeed, if high candlepower sources are used. Consider a typical case: In a store with a 10'-0" ceiling, recessed high-hat fixtures are located on 6' centers over the jewelry counter. Each unit is lamped with one 150-watt, PAR-38, projector floodlamp. This lamp has a fairly sharp light cutoff at an angle of 30° from its vertical axis. The beams of light from adjacent lamps overlap at 4'-9" above the floor.
A salesgirl 5'-6" tall working in this area is subjected to intense radiation on hair and forehead at some moments, and to practically no radiation on her head at other moments, while her hands at counter level receive a fairly uniform radiation. Finally, when she walks to the wrapping desk, she enters, let us assume, a fluorescent area with very little radiant heat. How does she feel under these changing conditions?

If the air temperature is such as to result in comfort under the light center, it will not result in comfort anywhere else, and vice versa. The situation is analogous to the problem of air conditioning a kitchen. Obviously the conditions that suit the man at the oven cannot suit the man at the salad counter. To design for the average of these two conditions is to satisfy neither. The answer seems to be that if you must throw radiant heat into a room in large quantities, do it uniformly, so that it can be compensated for. And by doing it uniformly, we mean uniformly at the occupants' head level, and not on "the working plane" which is the usual reference area in lighting calculations. This can be done by placing narrow beam lamps very close together, or by using wide beam equipment.

Another solution to the problem, of course, is to avoid the use of intense radiant heat sources. Consider the input to a typical 40-watt fluorescent lamp, which breaks down as follows:

- Visible radiation: 21% 8.4w
- Heat radiation: 26% 10.4w
- Heat conduction and convection: 53% 21.2w
- Total: 100% 40.0w

To this we must add approximately 10 watts ballast loss, all of which becomes conducted and convected heat. We may say that 19 watts, or 38 percent of the total input becomes radiant energy in a 40-watt fluorescent lamp. Compare this 19-watt radiation with the 120-watt radiation from a 150-watt filament lamp.

The comparisons made in the course of this article between the 150-watt projector or reflector lamp and the 40-watt fluorescent lamp were not made by chance. In use, these are two almost equal light sources. The initial output of a 150-watt PAR-38 projector floodlamp is 1150 lumens; while the initial output of a 40-watt, 3500° white fluorescent lamp is 2300 lumens. In use in typical lighting fixtures this lamp has an output of about 50 percent, or 1150 lumens. Therefore, the two sources will give about equal average light intensities.

With the fluorescent lamp, or a well diffused filament lamp unit, the word "average" means something, since it is fairly easy to design a uniform lighting installation in which the "average" intensity approximates the actual intensity over much of the working area. But with the high beam candlepower lamps, "average" illumination is frequently a meaningless phrase. If point A on a counter top is at 120 footcandles, and point B, 3' away, is at 20 footcandles, do we have an effective average of 70? Arithmetically, yes, but for practical purposes we can hardly be said to have any average at all since the arithmetical average occurs so seldom.

Filament lamps in general and reflector and projector lamps in particular have grown very attractive to the architect in recent years because they do permit high lighting intensities with minimum lighting fixture size. A carefully designed reflector lamp fixture may be made quite unnoticeable in the finished ceiling. This cannot be done with fluorescent lamps, it is true. But most architects, and many engineers, are under the impression that the filament light source also saves money, and this is certainly false in air-conditioned occupancies. Indeed, when the air-conditioning cost is considered, it becomes apparent that low-cost filament units are a luxury that few jobs these days can afford in any quantity. The high-hat becomes in the lighting field, as in society, a symbol of conspicuous consumption!

There are, of course, other differences in the performance of filament and fluorescent lamps, such as lamp life, maintenance of lumen output, replacement cost, and color. Each of these, and others, must be considered and evaluated for each job to determine where true economy and suitability lie.

Color has been a strong point in favor of filament lamps, with good reason. But new colors of fluorescent lamps recently placed on the market give reasonably close approximations to the color of incandescent light, and may be used successfully where this color is required. Examples of such use are restaurants, bars, shoe stores, cosmetic departments, evening dress departments and so on, depending on the predominant color of the merchandise being sold, or on the color of light in which it is normally to be seen.

It must be admitted that the discussion of radiant heat from lamps is quite controversial. The Joint Committee on Lighting and Air Conditioning of the Illuminating Engineering Society and the American Society of Heating and Ventilating Engineers does not consider radiant energy from light sources to be particularly serious an air-conditioning problem. But it must also be noted that the last report of this committee was published in September, 1946 (see Transactions of the Illuminating Engineering Society), when intensities were lower and projector reflector lamps were not in use for interior lighting. It may be that people only think they are warm when standing in an intense light beam, as the committee seems to feel, but the discomfort resulting from that thought must still be relieved by the lighting designer, the air-conditioning designer, and the architect.

But there is no controversy about total heat from light sources, about the need for keeping project costs within reason. We conclude therefore that much more serious consideration must be given to complete fluorescent lighting in air-conditioned buildings.
Laminated wood construction, the gluing together of several laminae to form one structurally sound member, originated in Germany before World War I and later spread to Switzerland, Norway, Denmark, and Sweden. As a result of its many advantages, this type of construction has become increasingly popular in the United States, principally during the last decade. Finished members may be either curved or straight, and as they span long distances with safety and grace, they are well suited for use in churches, auditoriums, clubhouses, showrooms, gymnasiums, restaurants, farm structures, and some industrial projects.

Construction costs may be frequently reduced through the selection of laminated wood structural methods. This is especially true with some types of arches, as they act at once as both columns and roof supports. As the attractive appearance of laminated girders obviates the need of boxing, another economy is achieved. Lighting effects are often simplified. Laminated members are structurally sound and will last indefinitely. Arches of this type will not check or warp, as solid members occasionally do, and because they employ a minimum of steel, co-

* Vice President, American Roof Truss Company.
Left: laminated three-hinged arches, acting as both columns and roof supports, are widely used in churches, recreation buildings, and auditoriums. Photo by Hedrich-Blessing; courtesy of Unit Structures, Inc.

Right: glued laminated arches with timber purlins and roof sheathing. Photo courtesy Timber Structures, Inc.

Left: beam arches in bomber hangar, placed 10 ft. on center, span 152 ft.; arches are 35 ft. high at center. Photo courtesy Rico Laminated Products, Inc.

Right: laminated rafters in this church are placed 4 ft. on center and span 42 ft. Photo courtesy Unit Structures, Inc.

Conditions likely to induce rust or corrosion are not detrimental. Little or no assembly is required at the job-site, so construction time is reduced. Variegated laminae provide a pleasing appearance; the size and shape of the structural members offer excellent resistance to fire; shrinkage is eliminated as only kiln dry lumber is employed.

Structural grade fir or yellow pine is generally employed in the fabrication of laminated members. Two-inch lumber is specified for laminates with very small curvatures; one inch or less where larger radii...
are required. Yellow pine lumber is considered best for large curvatures because of its capacity for bending. The superiority of today's glues has made possible the many excellent installations of this material. Casein glue is used primarily for indoor construction; urea-resin and resorcinal-phenol glues are especially useful for members requiring water-resistant qualities. Laminae are glued together under pressures ranging from 100 lbs. to 200 lbs. per sq. in.

A preservative usually acts as a sealer and base coat. Stain, paint, varnish, liquid wax, or shellac may be applied over this coat; the architect must specify the finish he desires, as the manufacturer prepares the exterior surfaces of the laminates in conformance with the final finish.

In shipment and erection, arches and girders should be protected from adverse weather conditions. Angles and bolts should be set in masonry before members are delivered to the site.

The photographs on these pages illustrate the principal architectural forms that result from the use of glued laminated wood structural members.

Left: arched bowstring roof trusses safely and economically span distances of 200 ft. Photo courtesy of American Roof Truss Company.

Below left: glued timbers were employed as the vertical supporting members of this screen tower for a drive-in theater. Towers are assembled, painted, and wired at ground level, then swung up into position. Upper photo shows laminated members attached to steel swivel shoes embedded in concrete. Both photos courtesy of Timber Structures, Inc.

Below: laminated structural members have many uses for farm structures. These workmen are erecting a corn crib. Photo courtesy of Rilco Laminated Products, Inc.
streamlined specifications

By MORTON ISAACS* AND BEN JOHN SMALL**

This article, second of a series illustrating the application of streamlined specifications to electrical installations (see Part I, page 79, November 1949 P/A), deals with the nature of main power source or service. As services for projects covered in this series vary widely, it will be necessary to modify this specification to meet job requirements.

An industrial plant that purchases electric power at primary voltage, installs voltage transformation equipment and the necessary switchgear to control power distribution through the plant, requires a specification that is quite different from one applicable to an apartment house. Even in the industrial plant there are many variations to be considered. Utility lines may be overhead or underground; it may be desirable to install voltage transformation, metering, main and/or feeder control equipment outdoors. The project may require either pole line equipment or manholes and related sub-structural features. Furthermore, several types and grades of equipment are available; each may be suitable for the purpose but subject to final selection by variables such as 1) need for service continuity; 2) space conditions; 3) need for meters; 4) power source(s); 5) local codes; 6) local utility requirements; 7) cost. Thus it is obvious that this series cannot cover the entire subject, and specific examples must be used.

In order to illustrate the application of streamlining to this particular phase of electrical work, three types of projects are illustrated: 1) an industrial plant; 2) commercial building; 3) a residence. Each illustration will be specified as though it were the actual service for the hypothetical project; this will be done to maintain a continuity of the series, so that a complete specification will be available at the conclusion of the article. In each case, certain assumptions will be made regarding characteristics. These assumptions will be varied to cover the greatest possible number of conditions, so that the reader may select parts of these illustrations for use in an actual specification.

Illustration 1, industrial plant, assumes:

1. Electric energy purchased from local utility.
2. Characteristics of available power: two 1150 volt, 3 phase, 4 wire, 60 cycle feeders, each having maximum short circuit capacity of 150 MVA.
3. Local utility furnishes and installs conductors from existing primary feeders to user’s switchgear.
4. Local utility supplies metering transformers and installs meters. User provides primary and installs meter and instrument transformer housings in accordance with utility company specifications. User provides meter wiring in accordance with utility company specifications.
5. Other details as shown on Diagram 1.

PART 4—SERVICE (Illustration 1)

(a) Definitions contained in "American Standard Definitions of Electrical Terms" published by AIEE govern the terms used herein, except as noted.
(b) Abbreviations used (and on Diagram 1) are:

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>KVA</td>
<td>Kilovolt amperes</td>
</tr>
<tr>
<td>MVA</td>
<td>Millions of volt amperes</td>
</tr>
<tr>
<td>V</td>
<td>Volt</td>
</tr>
<tr>
<td>Ø</td>
<td>Phase</td>
</tr>
<tr>
<td>P</td>
<td>Cycle (frequency)</td>
</tr>
<tr>
<td>A</td>
<td>Ampere</td>
</tr>
<tr>
<td>W</td>
<td>Watt</td>
</tr>
<tr>
<td>WH</td>
<td>Watt hour</td>
</tr>
<tr>
<td>KWH</td>
<td>Kilowatt hour</td>
</tr>
<tr>
<td>IC</td>
<td>Interrupting capacity</td>
</tr>
<tr>
<td>MCM</td>
<td>Thousand circular mils</td>
</tr>
</tbody>
</table>

* Guy B. Powe, Consulting Engineer
** Associate, Alfred Hopkins & Associates, Architects

88 Progressive Architecture
ELECTRICAL WORK, PART 2

1. Source and distribution characteristics

(a) Incoming supply:

1. Electrical energy will be supplied to this project from facilities of Electric Light and Power Company (hereinafter called "utility").
2. Energy will be furnished to user's facilities through two 4160V, 3Ø, 60F, alternating current primary feeders.

(b) Distribution characteristics:

1. Energy for ¼ horsepower and larger motors, welding units, and primary side of lighting transformers: 480V (nominal), 3Ø, 60F, alternating current.
2. Energy for motors smaller than ¼ horsepower, lighting units, and miscellaneous power: 120/208V, 3Ø, 4 wire, 60F. (Exceptions from 120/208V distribution for miscellaneous power will be necessary for signal communication systems. These exceptions are noted under applicable parts of this specification.)

3. Equipment

(a) Equipment shown in "Service One Line Diagram": unit substation type(1) in indoor(2) type housings.

(b) Where more than one unit of any particular piece of equipment or apparatus is required, such units: product of one manufacturer.

(c) Entire unit substation(1) assembly of single approved supplier.

(d) Ratings in accordance with AIEE standards:

1. Capacity 2000 KVA
2. Frequency 60 cycle
3. Phase 3

2. Two incoming 4160V, 3Ø, primary circuits. Two main secondary circuits, 480V, 3Ø. Eight secondary, outgoing circuits, 480V, 3Ø. Six secondary, outgoing circuits, 120/208V, 3Ø.

(e) Substation(1) consists of following equipment, co-ordinated:

1. Incoming line switchgear sections, each with 3 pole, double-throw switch, fuses and fuseholders. Switch: 3 position, open or selection of either primary feeder. Switch minimum rating: 5000V, 400A continuous current, 20,000A momentary current, 10,000A for 5 seconds; switch contacts: air break.

Fuses: rated at 5000V, twice normal transformer current at full rated load and IC of 150 MVA. Fuse holders: product of manufacturer of fuses or specifically approved for service. Provide poles, wires and connections as required.

2. Two transformer sections, each as follows: 3Ø, askarel(3) cooled, 1000 KVA, 60F, 4.16 KVA primary, 480V delta secondary. Details in accordance with applicable sections of standards C-37.1 of ASA. Four 2½ percent taps (two above and two below normal) rated high voltage and rated for KVA) in high voltage winding. Externally operated manual tap changer. Tap changer operated only when transformers are de-energized(4) High voltage and low voltage bushings and connecting threads: co-ordinated properly to simplify field connections and assembly.

3. Two 480V sections with two indoor(4) type metal enclosures having hinged front doors, removable rear plates, copper buswork, provisions for connection to transformer sections and following equipment mounted in each section:

One main secondary air circuit breaker rated at 1200A, 600V, 50,000 ampere IC, 3 pole, single-throw, silver plated(5) main contacts, manually operated(6) drawout(7) type, with time-overcurrent protection and instantaneous short circuit trip. Provide interlock so arranged that double-throw primary switch (associated with each main breaker) cannot be opened or changed in position unless this breaker is open.

Four feeder air circuit breakers: each rated at 600A, 600V, 25,000 ampere IC, 3 pole, single-throw, silver plated(5) main contacts, manually operated, drawout(7) type, with time-overcurrent protection and instantaneous short circuit trip. Provide clamp type cable connections for cables. One transformer section, 3Ø, askarel(3) cooled, rated at 200 KVA, 480V delta primary, 120/208V wye secondary, 60F. Details in accordance with appliance sections of standards C-37.1 of ASA.

Four 2½ percent taps (two above and two below normal high voltage and for rated KVA) in high voltage windings. Externally operated manual tap, designed for use only when transformer is de-energized. High and low voltage bushings and throat connections to simplify field connections. Three circuit(9) breakers on 120/208V section. Circuit breakers similar to those in 480V section, except continuous current ratings: 200A,(10) and 15,000 ampere IC.
4. Wiring and miscellaneous connections

(a) Conduit: galvanized, exposed within switchboard room.

(b) Conductors:
   1. Primary connections: IPCEA voltage rating 7.5 KV, varnish cambric insulated braided covered.(11)
   3. Grounding: copper bus, 1" by ¼" or 4/0 bare copper, soft drawn.
   4. Secondary connections: NEC type RH.(11)

(c) Grounding: ground neutrals of 480/208/120V transformers and equipment frames. Neutral ground individually, using separate conductor from each to final ground connection. Maximum resistance (dc) to ground: 3 ohms.

Illustration 2, commercial building, assumes:
1. Electric energy purchased from local utility.
2. Characteristics of available power: 120/208V, 3Ø, 4 wire, 60F system.
3. Utility furnishes and installs service taps into buildings.
4. Utility furnishes and installs meter.
5. User installs meter housing.
6. User furnishes and installs meter wiring in accordance with utility specifications.
7. User furnishes and installs service switch and distribution board.
8. Service switch and distribution board is combined in one housing, metal-enclosed dead-front type.
9. Other details as shown on Diagram 2.

PART 4—SERVICE (Illustration 2)

(a) and (b) Same as illustration 1.

(a) Incoming supply: 120/208V, 3Ø, 4 wire, 60F. Supply conductors installed and connected to meter housing by utility.

(b) Distribution: power for all uses distributed at 120/208V. (Exception for signal and communication systems noted under applicable parts of this specification.)

(c) Equipment shown in “Service One Line Diagram”: product of one manufacturer and assembled in individual housings.

(d) Switch jaws: double break, visible for inspection when door is open.

(e) Switch jaws and fuse clips: removable from within each unit without disassembling unit.

(f) Entire panel: flush(12) type, door in door with cylinder lock over primary door section covering live parts.

(g) Panel box: hot dipped galvanized.(13) provide one knockout(14) for each conduit shown on diagram and following spaces.(15) (Specify desired space) (Specify trim finish)(16)

(b) Meter housing: conform to utility specification.

(c) Conduit: galvanized.

(d) Conductors not otherwise specified under other parts: NEC type RH(17) except for meter wiring: install type specified by utility.

(e) Install grounding in accord with utility specification and NEC.

Illustration 3, residence, assumes:
1. Electric energy purchased from local utility.
2. Characteristics of available power: 115/230V, 1Ø, 3 wire, 60F system.
3. Utility installs aerial service drop to building.
4. User installs standpipe and conductor from point adjacent to attachment of service drop to outdoor meter.
5. User installs outdoor meter housing.
6. User installs wiring from meter housing to distribution panel.

PART 4—SERVICE (Illustration 3)
(a) and (b) Same as Illustration 1.
(a) Incoming service and distribution: 115/230V, 1Ø, 3 wire, 60F.
(b) Distribution panel:
   1. Totally enclosed.
   2. Pull cut main fused switch.(18)
   3. Pull fused switch for range.(18)
(b) Branch circuits, four 15A, two 20A, one 35A, 1 spare 30A(19) plug fused holders.
(b) Conduits: NEC type RW in conduit exposed to weather; NEC type R in all other wiring.
(b) Grounding: conform to utility specification and NEC.

REFERENCES
1. Substitution as used in the specification is defined as the assembly of equipment necessary for metering, primary control, voltage transformation, and secondary control all contained in unit type, co-ordinated housings arranged for final connection and major assembly in the field.
2. Specify indoor or outdoor, as required.
3. Specify air, oil, or asbestos, as required.
4. Specify taps and tap changers to suit individual project.
5. Optional, specify other contacts, if desired.
6. Optional, specify electrical operation, if desired.
7. Optional, specify stationary type, if desired.
8. Specify continuous current ratings as per job requirements.
9. For actual specification, detail conduit connections and conductor sizes. Other items may be required as: monorail and chain hoist for lowering drawout type breakers, ammeters, voltimeters, clocks, watt meters, all of which should be specified in accordance with job requirements.
10. Specify actual required continuous current ratings.
11. Indicative only, specify voltage rating and insulation, as required.
12. Indicative only, specify whether flush or surface type or whether enclosure suitable for hazardous area or outdoors is required.
13. Indicative, specify prime coated black iron or other finish.
14. Or conduit tap.
15. Knockout or conduit taps may be left for shop drawings, specified or shown on the drawings; job conditions will dictate policy to follow.
16. Panel box trim is generally prime coated to permit finish painting on job under painting contract or subcontract, thus the flush panel is painted same color as walls. Specify deviations from this procedure.
17. RH indicative only, specify desired type.
19. Indicative only, specify required number and ratings.
20. Indicative only, specify desired type.
Concrete forms made of magnesium have been added to the line of products manufactured by the Symons Clamp and Manufacturing Company. Although forms of lumber and plywood, which Symons will continue to produce, are less expensive, the new units will prove cheaper for contractors who specialize in foundations. The new type will last longer and may be erected more rapidly.

Principal advantages are: 1) weight is less than three pounds per foot; 2) panels will not swell when wet, or contract or rust when drying; 3) precision production makes them automatically accurate; 4) forms rent at same price as those of plywood. Units are available in three sizes: 2' x 4', 2' x 6', and 2' x 8'. Adjacent units are connected with flat steel connecting bolts; outer and inner walls are held in alignment with slip ties. 2' x 4' held in place by "1" templates hold entire wall unit in line. Trim 3/16" facing leaves no waves or dent in the concrete. Inside and outside corners are likewise available. Symons Clamp and Manufacturing Company, 4257 Diversey Ave., Chicago 39, Illinois.

unit designed for attic or crawl space installation

Type 155, L. J. Mueller Furnace Company's new gas-fired horizontal winter air conditioner, has been especially designed for attic or crawl space installation in new small home construction, or multiple installation in large one-level homes. These units may be used to advantage in basementless homes, as they occupy no floor space and permit houses to be constructed without utility rooms. They may also be installed with perimeter, zone control, radiant, or conventional forced warm air systems. Available in 60,000 and 90,000 Btu input capacities, Type 155 is American Gas Association approved for natural, mixed, manufactured, L. or Butane gasses, and for high altitude installation without derating.

Outstanding features include an all-welded steel, updraft, tubular horizontal air exchanger; a cast iron, raised updraft burner which provides instant ignition with no cross-lighting problem and a large single-port air shutter for eliminating noise and vibration. Cold air may be brought in from either side or back, or bottom. L. J. Mueller Furnace Company, 2005 W. Oklahoma Ave., Milwaukee 16, Wisconsin.

standby electric plant powered by air-cooled engine

To help fill the demands created by an increased interest in stand-by electric power a new model has been placed on the market by the Kato Engineering Company. Known as Model 45HFW4, it is powered by a two-cylinder air-cooled engine. As there is no radiator, winter freezing problems are eliminated and installation can be accomplished in the coldest weather. Although electric cranking may be added if desired, the engine is normally equipped with a high-tension magneto which requires no batteries.

The generator has a rated capacity of five kilowatts and will start single phase motors in sizes up to three horsepower. This plant runs at 1800 rpm; however, during continuous operations when it is used as the sole source of electrical supply, the manufacturer recommends a lower speed of 1200 rpm. Available with automatic transfer switch, the generator is designed to give inherent voltage regulation; regulation is held to eight percent on non-inductive loads. The dimensions are: 37" long, 28" high, and 22" wide. Kato Engineering Company, Mankato, Minn.

vibrationless electric tool performs three duties

An electric eraser which develops a speed of 3000 rpm and prevents burning or tearing of drawings and tracings has been added to the power tool line of Dremel Manufacturing Company. The vibrationless motor permits pinpoint accuracy; a sliding snap-type switch has been built into the handle for intermittent or continuous operation. The entire weight of the device is less than 12 ounces.

A burnisher at the opposite end of the eraser shaft has a ball point which smoothes erased areas for perfect re-drawing or re-inking; a rotating abrasive disc located at the base of burnisher for sanding leads is an additional time saver. This tool is furnished complete with six foot rubber cord and plug, three grades of 3/8", eraser tips, and six extra abrasive discs. Dremel Manufacturing Company, Racine, Wisconsin.
this month's products

air and temperature control

cooling Tower: especially adaptable to self-contained, but where greater cooling capacity is needed, any installation with water cooled- condenser is feasible through the use of tower type equipment. Available in 4 models, ranging from 8 to 15 tons of refrigeration capacity.

Window Room Air Conditioner: one h.p. unit for home or business use. Incorporates two free air circulating fans, self-contained, with adjustable grill work in air to air part of system. General Motors Corp., Fridgitarie Div., Dayton Ohio.

therm: oil-fired, warm air furnace, small, (impact 40" high by 40" deep by 20" wide); independent of house. Oil Burner Corp., 71 Grove, Montclair, N.J.

Cabinet Convertors: recessed, semi-recessed, or wall mounted. Insulates, dries, and regulates air temperature, utilizing exhaust or return air. General Electric Co., Erie, Pa.

Air Washer: Air operated units for cleaning and recirculating chilled or heated air. Model: 205 E', Chicago 20, Ill.

Sylkete Fluorescent Slimline: fixed, in boxed white enamel, with removable ends, permitting continuous mounting. No partitions necessary. May be spaced to break even flow of light; patented device assures uniformity of light. Model: Neo-Bright, Inc. 315 E 22 St., New York 10, N.Y.

Trugon-Air: overhead electric power, with buoyant power, for use in full length and breadth of plant or building for lighting, or air conditioning. Model: Leaf-Tower, Inc. (4132-40 Colorado Ave., Buffalo 15, N.Y.)

Truscon Classroom Window: intermediate weight steel window. Large upper fixed light receiver, large lower fixed light, with 1/4" clear glass. Other glass types and colors; possibilities, depending on climatic and solar factor. Either or both panels may be viewed in one of many types of 1/4" wire glass: lower portion glazed with 1/2" clear glass. Thermodrain. Model: Truscon Steel Co., 131 Albert St., Youngstown, Ohio.

Thirt-Ba1e Basement Window: riveted construction of heavy hot rolled steel. May be opened fully or closed securely. Recommended for cliiming or glazing; frame prepared for storm sash and screen; same action lock holds sash and frame lightly. Model: Metal Co., Inc. 252 Colorado Ave., Buffalo 15, N.Y.

Electrical equipment, lighting

No-Shak Safety Duplex Receptacle: incorporating safety built-in rotary cap which automatically closes outlet when not in use, providing protection to adults and children and reducing fire hazards. Bronze contacts in spring action, double walls of Bakelite insulating heavy duty terminal. Model: Bell Electric Co., 1444 W. 21 St., Chicago 8, Ill.


Elkay 39" Budget Sink: recommended to be lowest priced stainless steel work top sink available on market. Elkay Mfg. Co., 1784 S. 54 Ave., Chicago 30.

Surface Airline Fitting: newly styled refrigerator coils, equipped with improved, sealed rotary Moler-Miller compressors providing more cold with no increase in current required for same construction, improved insulation. Also new 30" refrigerated ranges with extra-large full-width ovens, new large capacity freezers and improved electric defrosting for residential and commercial use. General Motors Corp., Fridgitarie Div., Dayton, Ohio.

Automatic Electric Clothes Dryer: tumbler type unit, fully automatic. Holds 8 lbs. (dry weight) Cabinet measures 30" wide x 24" deep x 36" high; finished in white baked enamel; outer panels easily removed for servicing any part of chassis. Thor Corp., 2115 S. Wab., Cicero, Ill. 30, Illinois.

Westinghouse Kitchen Appliance: new front opening automatic dishwasher allowing for unbroken working surface. Surfaces are non-stick and dry equivalent of dinner service for 8. May be used in a variety of positions. Westinghouse Electric Corp., Box 2959,3.

insulation

lo ppl: post-dual-purpose plastic-coated steel material serving as first adjustable support column early stages in residential construction, eliminating temporary port installation, and eventually embedded in concrete floor as permanent fixture. Post is high, wide, consists of about 48 lbs., assembly in welded plates at top and bottom, and used for periodic adjustments during permanent construction. Akron Products Co., Ohio.

Air and windows

Access Panels: made of galvanized steel, primed coat of baked paint, designed with a reinforcing and wide "built-in" platter. Special device assures positive looking closing door. Wide range of sizes to receive, and differnt types are being used. Training Conference, Box 2959, 2, 3, or 4 available in one compact housing with independent control over each. Trumbull Electric Mfg. Co., 1936 Woodford Ave.,Plainville, Conn.

Industrial Fluorescent Luminaires: 2- and 3- lamp units with 2½" and 5½" lamp spacers; alternate 2- and 4-lamp units with open-end and closed porcelain reflector. Shallow Trolley Luminaire: with incombustible reflectors, Shallow design requires only ¾" of ceiling space. Three types of shielding available. Westinghouse Electric Corp., Box 2959, Pittsburg, Pa.

interior furnishings

Colorbesters: Flameproof drapery material, such as for showrooms, theaters and movie houses, and believed to be the first commercial asbestos textile for use in such places. Woolens, schools, shops, etc. May be used as decorative material in residence or commercial rooms, 18 prints, 10 colors and 3 different weaves. Johns-Manville, 22 E 40 St., New York 16, N.Y.

Sanitation, water supply, drainage

Easy Flush Pedal: attachable foot pedal for controlling water action on toilets to foot pedal flush. Eliminates unhands toilet seats, and saves water action in waste water. Accommodates all flushometer and tank type water closers on new or existing installations. Finished in chromium plating or combination lacquer. Model: 220 E 42 St., New York 17, N.Y.


Explosion-Proof Drinking Water Coolers: designed for potentially combustible areas, such as oil and chemical storage, food processors, libraries, etc. Special construction makes it imposible to start a fire in or near interior mechanism, to generate static electricity. Hermetically sealed compressor and motor to prevent explosive conditions. Optional equipment is Temprent Products Corp., 434 Dearborn St., Detroit, Michigan.

Residential Hot Water Boiler: design is combination of water tube, fire tube, and refractory-lined firebrick construction. Unit flexible for electrically controlled pressure atomizing oil burners. Fiberglass insulation. Only 5' high; requires 25" square floor space. Will-Burt Co., Orville, Ohio.

Specialized equipment

Norge Refrigerators: 1950 line includes 6, 9, 10 and 12 cu. ft. models, some with automatic for easy, others with side freezers. All models completely restored. Berg-Warner Mfg. Co., 670 E. Woodbridge St., Detroit 26, Mich.

Elkay 39" Budget Sink: recommended to be lowest priced stainless steel work top sink available on market. Elkay Mfg. Co., 1784 S. 54 Ave., Chicago 30.

Cabinet-Style Floor Lamp: newly styled Refrigerators, all equipped with improved, sealed rotary Moler-Miller compressors providing more cold with no increase in current required for same construction, improved insulation. Also new 30" refrigerated ranges with extra-large full-width ovens, new large capacity freezers and improved electric defrosting for residential and commercial use. General Motors Corp., Fridgitarie Div., Dayton, Ohio.

Automatic Electric Clothes Dryer: tumbler type unit, fully automatic. Holds 8 lbs. (dry weight) Cabinet measures 30" wide x 24" deep x 36" high; finished in white baked enamel; outer panels easily removed for servicing any part of chassis. Thor Corp., 2115 S. Wab., Cicero, Ill. 30, Illinois.

Westinghouse Kitchen Appliance: new front opening automatic dishwasher allowing for unbroken working surface. Surfaces are non-stick and dry equivalent of dinner service for 8. May be used in a variety of positions. Westinghouse Electric Corp., Box 2959, 3.

surfacings materials

Deco-Molds decorative wood molding designed exclusively for closet interiors; Special patented glueing permits clean edge break by hand every molding, some moldings with automatic for easy, others with side freezers. Available in wide variety of tradtional and modern design details, in 8 color choices, Wein Co., 4550 Spring Grove Ave., Cincinnati 32, Ohio.

Luxwood newest addition to line of decorative plastic laminates, said to be most authentic reproduction of real wood grain ever offered in decorative material of the type. Available in 22 color choices, including mahogany, gray, and three shades of blonde. Fasteners, Inc. 4503 Spring Grove Ave., Cincinnati 32, Ohio.

Enduro: industrial floor tile, asphalt based, can be colored to harden and set, in two colors, and in practically any type of underflooring. Will not flex, cracks, or break; easy to clean, extremely slip-resistant. Comes in dark brown, black, dark gray, etc., and also in 12", 18" and 24" tile sizes, and in 2", 4", 6" and 8" 56% asbestos. Johnson-Blanton Corp., 253 Fifth Ave., New York 16, N.Y.
MANUFACTURERS' LITERATURE

AIR AND TEMPERATURE CONTROL

1-10. Air-Trol (FS), 4-p. illus. folder describing fireplace screen consisting of fireproof glass louvers in metal frame that may be opened or closed to increase or decrease draft; fine bronze mesh behind louvers retains sparks; smoking eliminated. Advantages, models. Dollinger Corp.


1-12. General Controls (53G), 106-p. illus. catalog offering line of automatic pressure, temperature, level, and flow controls for heating, air conditioning, refrigeration, and other applications. Descriptions, technical and general data, specifications, tables, charts, index. General Controls Co.


Two illus. bulletins on pressed steel furnaces, gas or oil fired. Models, specifications, general information. Morrison Steel Products, Inc.: 1-14. Mor-Sun (48-8-A) 1-15. Mor-Sun (48-14-8)

1-16. Chromalox Built-In Air Heaters, AIA 31-K-3 (F-1514A M), 4-p. illus. folder on recessed, fan-type electric heaters with thermostat controls, totally enclosed heating units, silent operating motors. Advantages, installation directions, selection chart, models, ratings, prices. Edwin L. Wiegand Co.

CONSTRUCTION


3-10. Vermiculite Plaster Fireproofing, AIA 21-A-7, 16-p. illus. booklet on plaster aggregate for floors, roofs, columns, beams, girders, trusses, providing as much as four hours fire protection to structural members. Properties, comparative weights of various systems of floor construction, typical applications, typical details, fire test summary. Vermiculite Institute.

DOORS AND WINDOWS


4-10. Better Classroom Daylighting, AIA 16-E (TE-6), 20-p. illus. booklet suggesting methods of improving quantity and quality of daylight in construction of new schools. Minimum daylighting requirements, recommended window sizes, control of brightness through blinds, shades, or special glass, proper interior decoration, seating arrangements, classroom equipment, brightness ratios. Detroit Steel Products Co.

4-11. Screen-O-Matic, 4-p. pamphlet and price list on automatic, Lumite window screening that rolls into metal housing when not in use; will not corrode, stain, or bulge. Advantages, installation drawing, operation. Lockhart Mfg. Corp.

4-12. Hamptonite (1001-70), 4-p. illus. folder describing moderately priced wood flush doors in variety of constructions, weights, and finishes. Also, examples and descriptions of decorative plastic laminates. Plywoods • Plastics Corp.


Two bulletins, one on elevator doors, the other, on industrial doors. Types, plans, details, specifications, sections, elevations. Security Fire Door Co.


4-17. Woodco R.O.W. Windows, 4-p. folder, 3 data sheets, and price guide on fully removable wood windows with metal-covered wood guides replacing weights, cords, pulleys. Advantages, typical installation drawings, stock sizes and layouts. Also description of stool and screen combinations. General Woodcraft Co., Inc.

ELECTRICAL EQUIPMENT, LIGHTING

5-5. Remote Control Wiring System (16-299-1), 16-p. booklet illustrating system of wiring homes, farms, office buildings, factories etc., in which control of 125v pov circuits is performed by low-volts relays in isolated circuit. Advantages and specifications, installation diagrams, dimensions. General Electric Construction Materials Dept.


5-8. Onan Electric Pla (A168H)

5-9. Onan Diesel Electric Pla (A192B)

5-10. Prescolite, AIA 31-F-231 (Cat. 4-10.) catalog and specification sheet of recessed lighting fixtures for dental, display, and commercial types. Specifications, finishes, basic housings, advantages. Presco Steel Co.

5-11. Trimeline Series (C-503), folder with loose catalog sheets scribbling line of commercial, industrial and institutional fluorescent fixtures and equipment. Applications, general information, technical data, drawings. Sy! Electric Products, Inc.
FISHERS AND PROTECTORS


2. One Aluminum Paint Can't Do Everything, 4-p. folder illustrating uses and uses of aluminum paint. Skybryte Co.


ISOLATION (THERMAL ACOUSTIC)

1. How to Select an Acoustical Material (AD-21-1249 B), 16-p. illus. bookpointing out problems of sound and control through proper selection of mechanical material. Types, characteristics, sound-absorption coefficients, installation methods. Armstrong Cork Co.


SPECIAL EQUIPMENT


19-10. Julius Blum & Co., Inc. (Cat. 6, 1950), 112-p. catalog describing line of stock elements for fabrication and assembly of ornamental metal work. Seven sections covering railings, trellises, saddles and nosings, moldings, tubing, shapes, and rods, ornaments, miscellany. Illustrations, sizes, dimensions, weights, numerical index. Julius Blum & Co., Inc.


19-13. There's a Wonderful New Frigidaire Kitchen for Your Home (KA-1912-2)

19-14. Majestic Building Necessities, AIA 14, 28-p. illus. catalog presenting line of building products including ash pit doors, attic ventilators, basement windows, coal chutes, furnaces, fireplace dampers, incinerators, grilles and grates, outdoor fireplaces, window wells, etc. Descriptions, specifications and sizes, photos, drawings, details. Majestic Co.

SURFACING MATERIALS


(To obtain literature coupon must be used by 6/1/50)

PROGRESSIVE ARCHITECTURE, 330 West 42nd Street, New York 18, N. Y.
I should like a copy of each piece of Manufacturer's Literature circled below.
We request students to send their inquiries directly to the manufacturers.

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Firm</th>
<th>Mailing Address</th>
<th>City</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Proudly Printed on Recycled Paper. © 1950

April 1950 95
Don't take chances . . . specify genuine Celotex Roof Insulation!

25 years of actual use prove its
UNSURPASSED PERFORMANCE AND ECONOMY

You can specify Celotex Roof Insulation for use under built-up smooth-surfaced, or gravel-surfaced roofing with complete confidence! For this low-cost rigid insulation has proved its exceptional insulating efficiency, true economy, and long service life through a quarter century of use in installations of every sort. Celotex Roof Insulation is available in three types to meet every requirement—Regular, Pre-Seal with asphalt coating for moisture resistance, and Vapor-Seal with asphalt coating and offset channels to permit equalization of the pressure of air entrapped under roofing. Write now for complete technical data. The Celotex Corporation, Dept. PA-40, 120 South LaSalle Street, Chicago 3, Illinois.

9 REASONS
why more and more architects are specifying
CELOTEX ROOF INSULATION

1. High insulating efficiency means greater comfort the year 'round, plus lower heating and air conditioning costs.
2. Strong and rigid: can take rough handling during application; so tough you can wheel loaded pitch carts over it without significant surface damage.
3. Light in weight: easy to handle, quick and thrifty to apply.
4. No delamination: won't pull apart during handling or whipping under wind pressure.
5. Has hard, square edges that assure snugger, tighter joints and a more uniform surface.
6. Gives excellent bond to roof deck, and also forms a positive bond for hot mopped roofing felts of either the asphalt or coal tar pitch type.
7. Good nail-holding power: won't crush when nailed to wood decks; gives uniform surface free of depressions that can weaken roofing.
8. It is the only roofing made of long, remarkably strong Louisiana cane fibres, and protected against dry rot, fungus and termites by the exclusive patented Ferox Process.
9. Low in cost, high on dependable performance through the years.

IT PAYS TO SPECIFY GENUINE

CELOTEX ROOF INSULATION

THE CELOTEX CORPORATION • CHICAGO 3, ILLINOIS

REG. U. S. PAT. OFF.
TRUSCON
"O-T"
STEEL JOISTS

Eight advantages...

PIPE AND CONDUIT
easily installed through open web

FIRE-RESISTANT
because built of incombustible materials

VERMIN-RESISTANT
because steel is impregnable to insect and animal life

RADIANT HEATING
through unobstructed flow of heat

SOUND-RESISTANT
through dead air space and built-up materials

ALL-WEATHER BUILDING
because not dependent on setting concrete

LIGHT WEIGHT
permits quick, convenient handling and placement with a minimum amount of labor

WIDELY USED
in factories, office buildings, apartments, schools, hospitals and similar structures

ECONOMICAL
through savings in supporting framework and foundations; speed of erection; insurance; maintenance.

for architectural advancement

Truscon "O-T" Open Truss Steel Joists offer the architect and builder an extremely modern instrument for rigid, fire resistant, economical and light weight floor construction. This unit is a Warren truss having top and bottom chords of wide tee-shaped members and a plain round continuous web member. The bottom chord is continuous from end to end of joist and bent up at the ends to form the bearings. These steel joists are fabricated by means of electric machine welding under pressure, making positive connections at all joints. Study the many advantages described above—then write for free illustrated literature on Truscon "O-T" Open Truss Steel Joists.

FREE Book on Truscon "O-T" Steel Joists. Write for it. The Truscon Steel Company Manufactures a Complete Line of Steel Windows and Mechanical Operators ... Steel Joists ... Metal Lath ... Steel-Deck Roofs ... Reinforcing Steel ... Industrial and Hangar Steel Doors ... Bank Vault Reinforcing ... Radio Towers ... Bridge Floors.

TRUSCON STEEL COMPANY
Subsidiary of Republic Steel Corporation
YOUNGSTOWN, OHIO
Warehouses and sales offices in principal cities
TWICE
as many people want colored fixtures as white!

BRIGGS Beautyware
brings them the world's
smartest colored fixtures
at the never before price of only 10% more* than white!

Check the latest surveys! You'll find that of
all the people asked, two-thirds prefer
colored bathroom fixtures. Briggs
gives them—and you—a choice of the four
most popular decorator colors for only
a few dollars more! No wonder successful
builders all over the country are
specifying Briggs Beautyware in color.
No wonder wide-awake plumbing dealers
are promoting it for all it's worth!
Join them by ordering America's favorite
colored fixtures, today!

BRIGGS MANUFACTURING CO.
3001 Miller Ave.

*10% additional charge
for colored-ware applies
to complete sets including
Briggs brass fittings.

HITECT'S OWN HOME, Lexington, Massachusetts

Hugh Stubbins, Jr., Architect

April 1950 101
Modern Buildings of the Future will be Fabricated by Arc Welding

By E. O. SESSIONS
Sessions Engineering Co.
Chicago, Illinois

We have frequently submitted our continuous-beam rigid-frame welded designs along with alternate riveted designs to fabricators for comparative bids. Where the fabricator has had previous experience with welding of frame members, the bids for the welded designs have been similar or lower than for riveted designs.

Potential savings in the cost of fabricating structural members plus greater speed in the erection of buildings are two fundamental reasons why there will be a noticeable trend toward the welding of new buildings in the future. The construction industry, at present, is undergoing a gradual change in its basic concepts of structural design. When the present "growing pains" have been remedied, it is our belief that the greater percentage of industrial plants and multi-story buildings will be designed and erected by arc welding.

Our opinion results from 35 years experience in designing many different types of structures. Since 1934, however, we have specialized in engineering principally two types of industrial buildings, the welded rigid frame design and, where this has not been feasible, reinforced concrete design.

Upon casual observation of practically any riveted building framework, it becomes evident that there is an obvious excess of material and work required for this type of construction. Most riveted designs have deep trusses, small bays and are generally cluttered with reinforcing members, angles and plates. Welded designs, on the other hand, need only simple angles and butt plates welded to beams or columns with fast downhand arc welding techniques during shop fabrication.

As progressive architects and engineers become more experienced with welded structural designs, building specifications will insist on this type of construction rather than permit the choice of an alternate construction. While it requires more hours of designing time to turn out a properly designed welded structure, from our experience at least, the results more than justify the added effort.

GET THE FACTS
Write for Studies In Structural Arc Welding
THE LINCOLN ELECTRIC COMPANY
Dept. 161, Cleveland 1, Ohio
Sales Offices and Field Service Shops in All Principal Cities
selected details

Plan 1/2" Scale

Window Section 1/2" Scale

PARKINSON, POWELSON, BRINEY, BERNARD & WOODFORD, ARCHITECTS

VROLET ASSEMBLY PLANT, Van Nuys, California

April 1950 103
Choosing the right door chimes can mean savings of thousands of dollars on large scale housing projects — If they're Auth's Parkchester Model Non-Electric Door Chimes. These distinctively modern chimes not only eliminate expensive electrical wiring and accessories, but have such added features as a lookout window through the door for protection of the resident, and a personal name-and-apartment-number plate. Suitable for low or high cost, speculative or investment projects, the Parkchester Door Chime costs little initially, installs easily, and requires no maintenance. It is mounted on the apartment door, and operates by pressing a mechanical push button to sound two musical chime notes. It is as pleasing to the apartment resident as it is economical for the builder.

The Parkchester has been installed on numerous outstanding apartment projects throughout the world . . . including projects totaling 35,000 apartments by three leading developers: Metropolitan Life, New York Life and Equitable Life Companies.

OTHER AUTH PRODUCTS FOR HOUSING
ARE ILLUSTRATED BELOW

U. S. Approved Apartment House Mail Boxes. Highest quality available, the choice of leading developers.

Electrical Bell Systems. Visitor can call apartments and latter can operate vestibule door release.

Apartment Telephone Systems. Provide communication between apartments, vestibule and other points, if desired. Feature loudspeaking, receiverless telephones. A wide choice of systems at reasonable prices.

MANUFACTURERS OF
Electrical Signaling, Communication and Protective Equipment for Housing, Hospitals, Schools, Offices, Ships and Industry.

SINCE 1892
AUTH

AUTH ELECTRIC COMPANY, INC.
34-20 45TH ST., LONG ISLAND CITY 1, NEW YORK

Literature is available describing these and other Auth products and systems.

Complete Systems • One Responsibility

Photo: Roger Sturtevant
Across America the story of contemporary building is punctuated with such bright spots as Portland’s Equitable Savings and Loan Building. Sheathed in Alcoa Aluminum, this building reflects the advanced thinking that is in every part of its design and construction.

The lightness and structural honesty of contemporary architecture are well expressed in aluminum—the modern metal. This expression springs from the inherent qualities of the metal itself. For no other building material so well combines workability, strength, weather resistance, good appearance, lightness, economy, long life and ease of installation.

The host of new buildings that make extensive use of aluminum’s unique qualities stand as proof that aluminum has come of age as a building material. Consider it not only for the visible applications . . . walls, windows and trim . . . but for the hidden places . . . ducts, wiring, insulation, flashing and vapor barriers . . . where economy, conductivity, reflectivity or freedom from corrosion and decay make Alcoa Aluminum the logical material.

To architects designing in aluminum, Alcoa offers engineering assistance and a fund of aluminum knowledge gained through sixty-two years of research and development. For a forward look at aluminum’s place in the building world, ask to see the film or book, “The Davenport Story”. Call or write your nearby Alcoa Sales Office or ALUMINUM COMPANY OF AMERICA, 1892D Gulf Building, Pittsburgh 19, Pennsylvania.
Author of the highly successful "Design: An Introduction," published in 1946, Janet Smith draws upon experience gained in years of art teaching at state universities and private colleges in many sections of the country. Dr. Smith is now a professor in the Dept. of Home and Family Life at Florida State University. Her new book, explaining modern methods and materials, points out in precise detail what to use and how to proceed in creating original art objects.

Design fundamentals are the foundation of all art and architecture. Here's your modern and complete course in design for only $5.00

**A Manual of DESIGN**

Architects, designers, draftsmen and students—everyone interested in design—will hail Janet Smith's new volume as a source-book of knowledge and inspiration. It is a lucid, practical textbook, which teaches, in an interesting manner, modern design and the application of methods and materials to the art and commercial products of today.

In "A Manual of Design" you are led through a graded series of problems, the mastery of which reveals how the artist thinks, plans and creates various art objects. Problems emphasize such art elements as—line, shape, tone, color, texture, mass and space. The major principles of arrangement—rhythm, balance and emphasis—also are exemplified by a number of design problems. Individual creative thinking is stressed throughout the book. The advanced student will find that the problems serve as guides and suggestions. The beginner, holding more closely to the book's sequence, will find that the developing experiences achieved through the step-by-step instructions will surely dispel that mystical fog which so frequently and needlessly has gathered about the subject of design.

200 pages, 8 3/4 x 11 1/2, profusely illustrated, $5.00

---

**WAYS WITH WATERCOLOR**

By Ted Kautzky

Watercolors at their best . . . in this new Kautzky book! Twenty-five full-color reproductions of superb paintings and over 100 black and white studies. With this book, Kautzky turns from pencils to brushes to show student and artist the intricacies of watercolor painting, aided by black and white pictures that explain his unusual technique. He tells you the important things to strive for in making watercolor pictures, and introduces you gradually to your tools—color pigments, paper, brushes. From there, you learn about washes and how to treat clouds, water, trees, and how to work with two, three and four pigments.

107 pages, 9 x 12, $10.00

---

**MODERN FURNITURE**

Its Design and Construction

By Mario Dal Fabbro

With over 400 furniture designs, including desks, chairs, sofas, etc., this book affords a vast choice of original and basic designs from which it is possible to create new types and styles of furniture. Here you will find, at a glance, the solution of a particular furniture problem, each with its own individual design. The solutions are original designs by Prof. Mario Dal Fabbro and merited designs of well-known international architects. Included at the end of the book is a section for amateurs with a complete list of materials and very complete detail drawings.

175 pages, 9 x 12, $5.00

---

**IMPORTANT SUBJECTS COVERED**

Conceiving, Planning and Creating the Art Object

The Art Elements: Line, Shape, Tone, Color, Texture, Mass and Space

Arrangement: Rhythm, Balance, Emphasis

Art and Originality

Graftsmen and Machine

Fun from Art Hobbies

Graded Laboratory Problems


Grafts: Bookmaking, Box Making, Maps and Graphs, Linoleum and Silk Screen Printing, Stencils and Masks, Textile Decoration, Plaster Casting, Toy Making, Weaving.
The work of recognized authorities in their fields, each book contains a complete and comprehensive treatment of the building type to which it is devoted. You'll find these volumes invaluable in your reference library ... additional books on still other important types of structures will be brought to you soon by Reinhold—the world's leading publisher of architectural books.

SCHOOLS—By Lawrence B. Perkins and Walter D. Cocking
This book deals with the educational program of studies and services which require housing, factors which determine the educational plant, trends in design, cooperative planning, and developments in school house architecture. Comprehensive in treatment, informal in style, profusely illustrated, it promises to be the indispensable handbook for both architects and school administrators.

320 pages * 9 x 12 * $10.00

HOSPITALS—Integrated Design—By Isadore Rosenfield
Here is a book which deals with all phases of hospital design, construction, costs and equipment. It is written by a well-known hospital consultant who is completely familiar with the architectural problems involved in this work. It is a thorough, well-illustrated study based on a lecture series given at the Architectural League of New York.

308 pages * 9 x 12 * $10.75

SHOPS AND STORES—By Morris Ketchum, Jr. The down-to-earth approach of author Ketchum assures you of getting the best, most comprehensive and complete information on store design. He discusses, among other things: the scope and character of design for merchandising; analysis of business and space requirements; the small store in the city and on the highway; small store trends; the large store; the development of a street; structural design and materials; and investment values. This is the third volume of the PROGRESSIVE ARCHITECTURE LIBRARY series.

280 pages * 9 x 12 * $10.00

APARTMENT HOUSES—By Joseph H. Abel and Fred N. Severud
This volume gives you the latest design, engineering, heating, and landscaping information on apartment houses. Mr. Joseph H. Abel, A.I.A., gives complete information on overall 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 many possible heating systems which may be used in apartment houses, and in several cases includes an analysis of costs. 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.I.A., suggests many possible treatments in landscaping.

280 pages * 9 x 12 * $10.00

THEATRES AND AUDITORIUMS—By Harold Burris-Meyer and Edward C. Cole
This book undertakes for the first time to derive theatre design from an analysis of function. The activities of the audience and the operations in presenting all types of productions, from pageant to solo concert to motion picture, have been studied and architectural requisites drawn therefrom. It provides the analytical basis for good design in a form which the architect will find especially useful in enabling his client to understand the scope and complexities of the problem.

230 pages * 9 x 12 * $8.00
The right roof specification at your fingertips every time... that's what this new edition of Ruberoid's Built-Up Roof Specification Book provides. Whether it's the special treatment required for a Garden roof or Parking Space roof... the latest in flashing details for low parapet walls... or a question about choice of base felts... you'll find every answer you need in this comprehensive file. Doubly indexed and tabbed for most convenient reference, it's a book you'll reach for as often as roof problems occur. A note on your letterhead will bring your free copy to you promptly.

The Ruberoid Co. built-up roofings

Building Materials for Industry, Home and Farm • Executive Offices: 500 Fifth Avenue, New York 18, N.Y.

The right roof for any job—from ONE source!

Ruberoid makes every type of built-up roof—Smooth Surfaced Asbestos, Coal Tar Pitch with gravel or slag surfacing, or smooth or gravel-and-slag surfaced asphalt... in specifications to meet any need. Ruberoid Approved

Roofers are not prejudiced in favor of any one type. You are assured of one source for all materials, centralized responsibility, smoother operation, uniform quality

The A.I.A. is in the process of re-evaluating the schools and the licensing examinations. This corner suggests that some attention to the techniques of scientific method might save the earnest researchers from merely refining the mistakes that architectural education has been guilty of, these past several decades.

There is a risk that the new committee set up by President Walker may be too occupied with surveying that their solutions will be based primarily on what was, instead of what should be and that they may disregard (by taking for granted) the bigger problem to which this survey fits—the status of the architectural profession itself in our society. At the same time, there appears to be too little attention to the scientific method of determining and solving a problem in architecture on the part of many practitioners. In their concern with architecture as an art, it seems possible that even some of our best men have not kept up with the techniques or even the philosophy of scientific inquiry, in order to determine hat their application to planning and building problems might be.

A recent joint statement on the scientific approach (three articles in Science, vol. 4, 11, 18, 1949) should interest architects. Its title, "Psychology and Scientific Research," may appear apt but the very generality of its subject fits our case very well, especially if we hold on to the mistaken notion that scientific research is confined only with measurable quantities. The first article, "The Nature of Scientific Inquiry," describes how we build up our understanding (of any situation) and how we adjust our understanding to changing situations.

What we bring to a situation is an accumulation of impressions, awareness, knowledge—an assumption or mental world which we have built up in the process of adjustment to life. This accumulation is not inherent in external things. It takes on meaning as we individually build, through tested experience, a pattern of expectations on which can base action. This is the theme Adelbert Ames’ work on perception previously reported. (See page 20, February 1947 P/A, "Form Still Functions.")

But the changing world of reality getting out of fit with the pattern have made: And so we run into hitches in everyday life because of our inadequate understanding of conditions giving rise to a phenomenon and our ability to act effectively for a purpose becomes inadequate. When we try to grasp the inadequacy intellectually and get at the why of the ineffectiveness of our purposeful action, we are adopting the attitude of scientific inquiry.

This is the attitude of ordinary common sense, too, but with a difference. In the daily life situation, we are in-

(Continued on page 112)

**SPECIFY FLEXWOOD for FINE INTERIORS**

Your decorative scheme carried out in Flexwood® gives dignity, versatility and beauty to your designs. For Flexwood consists of thin veneers of real wood, firmly mounted to a flexible, fabric backing. Use it over curved surfaces or flat ... for modern or traditional decor.

And there's variety to match versatility. For Flexwood is available in many imported and domestic woods.

Installation is simple, too. Flexwood goes up over any smooth, firm surface. No expensive structural work in remodeling. No time-consuming surface preparation in new interiors.

Be certain to get complete information on this versatile wall covering. Write us today for samples, specifications and a list of available veneers.

**UNITED STATES PLYWOOD CORPORATION**

Dpt. F, 55 West 44th Street, New York 18, N.Y.

Flexwood is manufactured and marketed jointly by United States Plywood Corporation and The Mengel Company.
Like the smooth, rolling action of the wheel, the coiling upward action of Kinnear Rolling Doors involves a basis principle of highest operating efficiency. You can change the wheel's "face" in hundreds of ways, but you can't find a better way to do its job. By the same token, the basic advantages of Kinnear Rolling Doors give you the best answer to door needs.

Kinnear's rugged curtain of interlocking metal slats opens straight upward. It coils compactly out of the way above the opening. Floor, wall and even ceiling space remain fully usable at all times. The door clears the opening from jamb to jamb, and from floor to lintel, completely out of traffic's way. When open, it is safe from damage by wind or vehicles. When closed, it presents an all-metal barrier that assures extra protection against storms, intruders, or fire.

In addition, Kinnear Rolling Doors provide smooth, easy operation under all conditions. They may be controlled manually, mechanically (by chain or crank) or electrically. Motor operated doors can be equipped with any number of remote control switches, for highest convenience. Kinnear Rolling Doors are built of various metals, in any size, for easy installation in old or new buildings. Let us send you complete information.

The KINNEAR Manufacturing Co.

1742 Yosemite Ave. San Francisco 24, Calif.
1900-20 Fields Ave. Columbus 16, Ohio

Offices and Agents in All Principal Cities

(Continued from page 111)

 technical press

(Continued on page 112)

volved in it ourselves and being pushed around by it. In the scientific situation we can, to a large degree, be in control. By using not only the ways of working but the ways of thinking, that science has proved out, we can greatly increase our ability to handle new situations in our own practice.

The process involved in scientific inquiry would seem to be somewhat as follows: 1) sensing the inadequacy of the conceptual aspects of our assump-
tive world, thereby being faced with a problem for which we must seek an answer; 2) deciding on all the aspects of a phenomenon that might have a significant bearing on the problem—deciding on those aspects except for which the functional activities in question would not exist; 3) picking out from the various aspects assumed to be involved those that seem most important in terms of the original hitches we faced and that will serve as bases for standards we can think about and manipulate; 4) working out some method of changing those aspects we have chosen as variables or bases of standards and conducting our empirical investigation accordingly; 5) modifying our assump-tive world on the basis of the empirical evidence concerning the validity of formulations that have re-
olved an immediate problem.

The solving of the immediate problem will automatically give rise to new hitches and the above process constantly repeats itself.

The second article, "Scientific Inquiry and Scientific Method," gets down to cases and points the way for constructive work. First the air has to be cleared of some misconceptions. Scientific re-
search is not just a method of investiga-
tion—progress will be hampered if we forget that what is known as the scientific method is a means of pursu-
ing scientific inquiry. The first article dealt with the nature and purpose of scientific inquiry at some length in order to give background to this key relationship.

The all-important consideration in scientific research is the problem of setting up a problem for scientific investi-
gation. If the formulation of the problem does not contain within itself the possibility of going beyond what is scientifically established, then succeeding steps in investigation are futile.

It is the way in which the investigator poses his problem that determines where he will come out—what functional activities he will feel have bearing on the problem, which of those he will use as the bases for standard
Insist on this seal... when you specify ALUMINUM WINDOWS

Use this your "safety rule" when you specify aluminum windows—insist on "Quality-Approved" seal.

Your protection against windows of inferior materials or construction.

Your assurance of complete satisfaction, for you and your client.

When you see this bright red seal you are getting windows that have been tested against rigid standards, and approved! You can be sure of all the advantages of aluminum windows at their best—good looks, freedom from painting, ease of operation, low maintenance and long, long life.

You can get "Quality-Approved" aluminum windows for any type of building. Consult any Association member, see Sweet's (Section 17a/4a) or write for complete information to Dept. PA-4.

Aluminum Window Manufacturers Association
74 Trinity Place, New York 6, New York

The William Bayley Company, Springfield, Ohio ♠ Cupples Products Corporation, St. Louis, Missouri
General Bronze Corporation (and its subsidiary The Aluminum Window Corporation), Garden City, New York ♠ Windalume Corporation, West New York, New Jersey
Sterling Windows, Inc. New York City, N. Y.
Every installation of a
YEOMANS DRAINAGE PUMP
builds prestige

for the building

for the architect-engineer

For simplicity of design, sturdiness of construction and excellence of workmanship, Yeomans Drainage Pumps are the first choice of experienced architects and engineers. As for building owners, it is significant that many Yeomans Drainage Pumps are purchased to replace inferior pumps—as a sensible means to put an end to further expense for service and repairs.

THERE ARE TWO TYPES OF PUMP

- YEOMANS BILGE PUMP — HEAVY DUTY, for handling drainage and wastes containing no solids.
- YEOMANS SCREENLESS EJECTOR, for handling wastes containing solids.

Each of these well designed, well built pumps is an acknowledged leader in its field, a fact which effectively guarantees dependability and trouble-free performance.

A full range of capacities from 10 to 5000 gpm. Heads to 75 feet.

To aid architects and engineers in selection of the proper pump for any installation, Yeomans maintains competent sales and service representa-tives in 50 cities. This organization makes available to you more than fifty years of Yeomans experience in analyzing pumping problems.

Sweet's Architectural and Engineering Files contain full information. Also available for your own Reference Files are helpful bulletins containing complete selection and installation data.

USE THE COUPON

BUILDER'S OF DRAINAGE PUMPS FOR OVER 50 YEARS

YEOMANS BROTHERS COMPANY
1448 North Dayton Street, Chicago 22, Illinois

Please send these bulletin: No. 3005—Yeomans Heavy Duty Bilge Pump
No. 8004—Yeomans Screenless Ejector

Name ____________________________
Firm ____________________________
Address ____________________________
City __________________ Zone _____ State____

TECHNICAL PRESS

(Continued from page 112)

in empirical investigation, and what methodological procedures he will follow or try to devise. In this connection it is relevant to note that the popular conception of what makes a scientist "great" is that he has solved problems that have long baffled others. While this may be true enough, a review of the history of science will show that in general the solution of a problem is relatively easy once the problem has been posed and that the real scientific contribution of those scientists we regard as outstanding is due to the way in which they have formulated problems which they or others have solved.

(Here is strong confirmation of the spreading conviction among architects that a soundly worked-out program is not only essential but is considerably more than half the battle—the rest is easy.)

The tremendous advances in the physical sciences since the 17th century, for example, are due more to improved formulations than to changes in methodology. In the 17th century and continuing into the 20th, science sought all-inclusive "laws" and felt that reality was firmly in hand. But today both all-inclusive laws and reality seem more elusive than ever. Contemporary physicists is seeing its ultimate particle die away, physiology is realizing that it is not dealing with the classical closed energy system. The need for a basic conceptual reformulation to bring about a richer and greater understanding is apparent on all sides.

So you see the scientists also have trouble keeping their thinking straight. The big difference between them and the architects seems to be that the scientists have been there before. Changing concepts are the breath of life in their way of working, while the very idea of formulation of concepts comes hard to the architect. But we do recognize the need. Walker puts it this way: "Granting the need and desirability of an architectural evolution, does it necessarily follow that the architect may not accomplish a clear statement of his place in society, just as the oath of Hippocrates has had meaning since the fourth century before Christ until the present time? I believe that if we have some simple statement of purpose we could pass on as an ideal we might achieve less exhibitionism, less museum acclaim, and much more honest architecture.

The articles go on to point out, considerable detail, the difficulties of misapplied efforts caused by lack of clear formulations. They draw attention..."
So valuable in engineering ...a Kodagraph Micro-File Machine

It microfilms your drawings —old or new—automatically... with precision and accuracy.

It is easy, economical to operate... records 675 24 x 36-inch drawings, for example, on a 100-foot roll of 35mm Kodagraph Micro-File Film.

It allows you to destroy old records, drawings... reclaim 98% of your filing space.

It increases protection... simplifies and speeds reference.

PLACE AN ENGINEERING DRAWING... or any document—bound or unbound—on the copyboard... touch a foot-switch... and the Kodagraph Micro-File machine does the rest—

It photographs your material at tremendous reduction... records it on a compact roll of film which requires only 2% of the original storage space... which can be filed at your finger tips... or stored in the vault, if you wish.

You can refer to these film records quickly, conveniently... view each image enlarged sharp and clear on the screen of the Kodagraph Film Reader. And there's this advantage, too: With a Kodagraph Micro-File Enlarger, you can readily make large reference-size prints of maximum legibility—directly from any filmed image.

Now available—4 different models of Kodagraph Micro-File Machines

Created for the wide range of requirements in engineering departments—each is a precision machine... designed by Kodak... made by Kodak... for simplified, economical microfilming.

EASTMAN KODAK COMPANY
Industrial Photographic Division, Rochester 4, N. Y.

"Kodak" is a trade-mark

MAIL COUPON FOR FREE BOOKLET

Eastman Kodak Company
Industrial Photographic Division
Rochester 4, N. Y.

Please send illustrated literature about the complete line of Kodagraph Micro-File equipment.

Name ____________________________ (please print)

Department _______________________

Company _________________________

Street ____________________________

City _____________________________

State ________________

Kodak
with BALL BEARINGS
the small extra first cost of test samples pays off in assurance of efficiency and durability of the finished mechanism.

with TRACING CLOTH...
The small extra first cost of Arkwright Tracing Cloth, over that of tracing paper, repays many times over in the efficiency and durability of valuable drawings.

Through continued research and development plus skilled manufacturing processes, Arkwright Tracing Cloths meet every requirement of exacting draftsmanship. You'll find no pinholes, stains or other imperfections to detract from drawing quality — nor smudging or feathering after repeated erasures. Most of all, you'll have highly transparent, long lasting usefulness that perishable tracing paper can never match.

For every drawing worth keeping for future use — specify permanent Arkwright Tracing Cloth. Send now for generous working samples. Sold by leading drawing material dealers everywhere. Arkwright Finishing Company, Providence, R. I.

The Big Six Reasons Why
Arkwright Tracing Cloths Excel
1. Erasures re-ink without feathering.
2. Prints are always sharp and clean.
3. Tracings never discolor or go brittle.
4. No surface oils, soaps or waxes to dry out.
5. No pinholes or thick threads.
6. Mechanical processing creates permanent transparency.

ARKWRIGHT
TRACING CLOTHS
AMERICA'S STANDARD FOR OVER 25 YEARS

(Continued from page 114)

the avoidance of important problems in the concentration on method—"The shotgun approach in which the idea seems to be that if one only gathers enough data, possibly with the use of new gadgets or apparatus, one must sooner or later come out with some sort of scientific result" (Francis Bacon started this some three hundred years ago and he was right—in his time)—or the "quantitative" approach in which the investigator is so busy measuring that he gets sidetracked from the more important matter of what data are important and even avoids important problems to which quantitative method don't apply—or the tricks that word or familiar patterns or traditional abstractions can play on us. We architect are on familiar terms with that last one. We could pile up example after example (cliché on poché) that we are all too familiar with, and our client sometimes point out others that we are still blind to.

It is tempting to quote and quote by the articles are there to read if anyone is really interested. And they are just adversely critical. The purpose after all, is "to accelerate the kind of scientific research that will increase our understanding of man." Many examples are given of ways of thinking at working in various fields. Written plain English, by golly. A sort of procedure manual for tackling unfamiliar problems might be abstracted from the second article. It is to be hoped that the authors will produce something of the sort in the course of their collaboration.

Only the third article, "The Transactional View in Psychological Research gets into technicalities and terms that the layman might not follow. Two authors are primarily concerned, course, with psychologists; but arch tects can read and think, too. We can be strengthened in our thinking and our planning by the use of some of the techniques of science.

NOTICE

APPOINTMENT

KONRAD WACHSMANN, architect and signer, has been named professor charge of advanced building research and design at the Institute of Design of Illinois Institute of Technology.
Simpson research developed the exclusive HOLLOWKORE drilling process... a process which makes possible clean, round perforations with no loose fibers to encourage unsightly paint bridging when re-finishing. HOLLOWKORE drilling reduces maintenance costs... contributes to the appearance and efficiency of the material. Simpson Acoustical Tile can be painted repeatedly without impairing its acoustical efficiency and beauty.
WHEN IT'S TIME TO DECEIDE...

REMEMBER...there's lasting beauty in stucco made with ATLAS WHITE CEMENT

- You give sound advice to your client when you suggest Atlas White Cement—or Atlas White Duraplastic®—for a modern stucco finish... for thus you counsel longer life for the beauty and utility of your design.

A matrix of Atlas White Cement, in white or in one of an infinite variety of pigment-based colors, brings out the full beauty of stucco. It also sets off, in contrast or blend, the full color values of pigments used in portland cement paint or of aggregates used in terrazzo and architectural concrete slabs.

Atlas White Cement complies with ASTM and Federal Specifications for portland cement. It has the same advantages when used for concrete and is used in the same way. Concrete made with Atlas White Cement cleans easily. Maintenance costs are low.

For further information on the uses of Atlas White Cement, see SWEET'S Catalog, Section 4E/7a and 13C/5, or write to Atlas White Bureau, Universal Atlas Cement Company (United States Stee1 Corporation Subsidiary), Chrysler Building, New York 17, N. Y.

*"DURAPLASTIC®" is the registered trademark of the air-entraining portland cement made by the Universal Atlas Cement Company.

FOR BEAUTY AND UTILITY

ATLAS WHITE CEMENT

FOR TERRAZZO, PAINT, SLABS, STUCCO

"THEATRE GUILD ON THE AIR"—Sponsored by U. S. Steel Subsidiaries Sunday Evenings—NBC Network

P/A

REVIEWS

BOOKS

DESIGN SOURCES

European Architecture in the Twentieth Century. Arnold Whittick. Published by Crosby Lockwood & Son Ltd., London, 1950. 259 pp., illus., 50/-

This is the first volume of a series that will eventually tell the story of European architecture in the first half of the 20th century. For a start, Whittick has prepared a historical background study and carried this forward as far as 1924. The next volume will cover the period from 1924 to 1953, while the final book will take in the remainder of the first 50 years.

Lewis Mumford recently pointed out that the trouble with the 19th century was that it began in 1815 and ended in 1914. Whittick has, in effect, come up with the same conclusion and as a result this first volume of his is not much more than a prologue from the Revivalism of the early 19th century to the Bauhaus. It is a little unfortunate that this fact immediately invites comparison with Dr. Pevsner's earlier history of the period, Pioneer of Modern Design. Since the two approaches to the same development differ considerably in emphasis, a comparison is worth going into in some detail.

Whittick states that he has "sought for the explanations of the changes in the appearance of buildings mainly in the development of the craft of building and science of construction and in the satisfaction of social needs." This approach recently made popular in this country by authors like Jane Fitch and John Kouwenhoven. On the other hand, Dr. Pevsner, if I understand him correctly, does not believe that architecture is merely the automatic confluence of mechanical and social events—a view that finds a parallel in certain historical theories of the 19th century. Instead, he stresses the "historical accident," the direct intervention of the individual artist through creative acts, and the power of such acts to shape the aesthetic presence of their time.

Certain curious attitudes develop; one accepts the first theory. One is a reluctance to admit to the influence of the other arts upon architecture (since the latter is assumed to be a kind of social science, anyw
ALL THINGS CONSIDERED—INCLUDING TELEPHONE RACEWAYS

It's especially true in small homes—thoughtful details are often the strongest selling points. And built-in raceways for concealed telephone wiring are one feature sure to impress today's home buyer.

Installing telephone raceways is easy and inexpensive. Simply select the locations for telephone outlets in advance. A few lengths of pipe or flexible tubing, placed inside the walls during construction, will carry the wires to the outlets.

For all homes—large or small—your Bell Telephone Company will be glad to help you plan for modern telephone facilities. Just call your Telephone Business Office and ask for "Architects and Builders Service."

BELL TELEPHONE SYSTEM
Another is a tendency to wax enthusiastic about very ugly buildings that make an obscure technological or sociological point. And, finally, just as there is no discussion of the influence of other arts, so there is little reference to the development of modern furniture and other applied design—a most important testing ground for new architectural ideas.

All this is a serious matter in an overall discussion of the origins of the modern movement: it is hardly possible to exaggerate the importance of L’Art Nouveau, for example, in breaking down the imitative eclecticism of its time and thus opening the way to more revolutionary developments. Yet Whittick, in a very brief chapter without illustrations, states that L’Art Nouveau “had little influence on architectural design,” only to have to admit a little farther on that Mackintosh, Rietveld, Van de Velde and, eventually, even his hero, Eric Mendelsohn, were under the Art Nouveau spell.

In a similar instance, concerning the influence of De Stijl on modern architecture, Whittick merely refers to general cubist imprint upon the work of the great pioneers. There is no tribute to Van Doesburg, to Van Eesteren to Rietveld or to Mondrian. J.J.P. Oud, the only member of the group mentioned by Whittick, is discussed largely in a technological frame of reference.

The least pardonable omission, however, would seem to be Whittick’s failure to mention the influence in Europe of the 1910 Wasmuth publication, Frank Lloyd Wright’s work, which like other “historical accidents” more to change the shape of European architecture than any a technology invention.

These are isolated faults. Yet there are symptomatic of a kind of imposed straitjacket in which several architectural historians find themselves today. Supposing they were frank admit that architecture is above an art; it would then be reasonable to admit further that many of the sources of modern architecture can be found in the painting and sculpture of past 75 years. For these arts continue to flourish even when architects reach the heights of eclecticism.

Where Whittick tells the story, the “science of construction and of social needs” he comes up with good deal of valuable material chances are that he will follow historical prologue with some observations that may fill in the gaps left by the present volume.
DON'T BLAME YOUR PAINTING CONTRACTOR

You've often seen unsightly rust stains from metal sash on the adjacent brick and stone surfaces. You need never blame your painting contractor for unsightly stains caused by rust! You can prevent rust... and at no extra cost... simply by specifying RUST-OLEUM as the shop coat, primer and finish coat on all metal rust can attack.

But, specify Rust-Oleum in the first stages... when design, engineering and contracting take form... before actual delivery of material for the job. Rust-Oleum costs no more than quality material you may now be using... and is easy to apply at no added expense.

Rust-Oleum is tested and proved by a host of nationally known users. Rust-Oleum stops and prevents rust! RUST-OLEUM protects metal from rust with a tough, pliable film that dries to a firm finish. Rust-Oleum defies sun, rain, snow, salt air, smoke, fumes and other rust-producing conditions... and adds longer life wherever it is used. Girders, plates, stacks, gutters, roofs, tanks... every metal surface can be protected surely, safely and economically with RUST-OLEUM.

Rust-Oleum beautifies as it protects because it is available in many attractive colors including aluminum and white. Rust-Oleum can be applied to already rusted surfaces with minimum preparation... it is not necessary to remove every appearance of rust!

So, take the sure way to stop rust. Specify Rust-Oleum on all rustable metal, inside or out. It costs less ALL WAYS to do the job right.

Rust-Oleum is stocked and sold by leading industrial distributors in all principal cities of the United States and Canada. See Sweets for complete catalog and nearest source of supply, or write us direct for complete Information.

Architects, Engineers, Builders

If you have a client with a rust problem, and would like a free survey and recommendations, send his name and address on your business stationery. A qualified Factory Representative will arrange this FREE Service, and it includes a trial size of Rust-Oleum for specific test purposes. There's no obligation on your part. Write today.

*Names on request*

RUST-OLEUM CORPORATION

2523 Oakton Street • Evanston, Illinois
Immediate liquidation of a business may be financially catastrophic.* In the absence of a specific agreement to the contrary, however, upon the death of one partner surviving partners must do just this. A partnership business must be liquidated upon the death of a partner even though by the terms of the partnership agreement it was to endure for a fixed term, unless the contract between the partners provides for survival of the partnership entity. Upon dissolution the surviving partners must immediately settle all accounts, collect all the property and assets of the partnership existing at the time of its dissolution, and wind up the partnership affairs. The dissolution of a partnership by the death of one of the partners ends the mutual agency of each of the partners and the community of interest of the partners only subsists long enough to enable the survivors to settle the affairs of the business.

The effect of the death of one partner upon the financial status of the survivor was aptly illustrated in a case litigated recently in Arkansas. In that case, a partnership operated a hotel business. The partnership contract had no provision relating to the death of either of the partners. Upon the death of one of the partners, his executor agreed with the surviving partner to continue the operation of the hotel business. Subsequently the executor of the deceased partner demanded that the business be liquidated. The surviving partner contended that the continued operation of the partnership business constituted a sale and assignment of the deceased partner’s interest to him and that he was entitled to continue the business in his name. He further contended that if the estate of the deceased partner had on a creditor’s claim for the value of the deceased partner’s interest in the business. The Arkansas court ruled that the partnership business could not be carried on by the surviving partner, as that the assets would have to be sold in public or private sale. The court would not consider the economic undesirability of immediate liquidation. It stated the rule as follows:

“The legal rule is fixed on this subject. If the survivors of a partner carry on the concern, and enter into new transactions with the partner's funds, they do so at their peril, and a representative of the deceased (partner) may elect to call on them for capital, with a share of the profits, with interest. If no profits are made, even if a loss is incurred, they must be charged with interest on the funds used and the whole loss will be their...”

The importance, therefore, of the partnership agreement containing a provision to cover the contingency of death of one of the partners, is evident. There are many possible provisions that can be used to fill this requirement.

(Continued on page...)

*This is a continuation of the column in Feb 1950 P.A., relative to the partnership relationship.

---

**TABLE I A.S.T.M. SERIAL DESIGNATION A305-49**

<table>
<thead>
<tr>
<th>NOMINAL DIMENSIONS ROUND SECTIONS</th>
<th>REQUIREMENTS OF DEFORMATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>--------</td>
<td>---------</td>
</tr>
<tr>
<td>3</td>
<td>0.738</td>
</tr>
<tr>
<td>4</td>
<td>0.668</td>
</tr>
<tr>
<td>5</td>
<td>1.043</td>
</tr>
<tr>
<td>6</td>
<td>1.502</td>
</tr>
<tr>
<td>7</td>
<td>2.044</td>
</tr>
<tr>
<td>8</td>
<td>2.670</td>
</tr>
<tr>
<td>9</td>
<td>3.400</td>
</tr>
<tr>
<td>10</td>
<td>4.303</td>
</tr>
<tr>
<td>11</td>
<td>5.313</td>
</tr>
</tbody>
</table>

*These sections have the same weight and area as bars formerly known as 1" Sq., 1½" Sq. and 1¾" Sq.

1Chord of 12½% of Nom. Perimeter.

2Bar numbers are based on number of ¼" included in the nominal diameter of the bar section.

---

By BERNARD TOMSON
New Book Now Ready for Architects • Builders • Dealers

Morgan makes the Woodwork that makes the better homes. True in 1855, True in 1950. Here are a few designs from the complete new Morgan line of Woodwork for Ranch Type construction. Morgan Woodwork fits every type of decorative, functional planning, and it is built to meet every sound structural requirement. Order your catalog. Bring your Ranch House File up to date.

Send for New Ranch Type Planning Book

MORGAN COMPANY • Manufacturers • OSHKOSH, WISCONSIN

Since 1855: Doors, Entrances, Trim, Mantels, Corner Cases, Stairwork, Sash, Morganwalls, Kitchen Cabinets
Jackson, Mississippi, doesn’t call its industrial growth a boom. It spawned no war babies. Its 187 manufacturing plants processing 271 varied products are bedrock solid. 30 of these plants came to Jackson during the last three years. 30 others completed large expansions. Mississippi’s Capital is friendly toward business. It is kindly taxwise. It offers a strategic Southeast location, modern transportation, abundant raw materials, low-cost fuel and power and an enterprises community of 122,000. Jackson’s rising skyline has a vital network of 294 elevator installations — of which 190, we are proud to say, are by Otis.

NO PENTHOUSE REQUIRED.

Up to 2,500 pounds of freight can be lifted electrically with an Otis Self-Supporting light-duty Freight Elevator. It requires no penthouse, no overhead supports, no building reinforcing. It is easily installed in any 2 or 3 story building. Write for Booklet B-720-P.

WAITING ON BUSINESS.

Company mail, orders and supplies can be delivered by Otis electric dumbwaiters. No waiting for inter-floor messengers. Serve as many floors as you like, in any sequence. Automatic, interception-proof deliveries of 100 to 500 pound loads. Write for Dumbwaiter Booklets B-453-P and A-380-P.

ESCALATORS IN INDUSTRY.

Cafeteria rushes are being handled without waiting or crowding. Shifts change faster. And Escalators, which provide effortless vertical transportation, make it less tiring for workers to keep up with modern materials handling and production schedules in multi-story plants. For details, contact your local Otis office.

ELEVATOR COMPANY

Home Office: 260 11th Ave., New York 1, N. Y.

It’s the law

(Continued from page 122)

partnership agreement may provide that in the event of the death of one of the partners the partnership be liquidated over a period of time. This will enable the surviving partner to achieve his maximum benefit from the liquidation. The partnership contract may provide that the heirs, administrators, or executors of the deceased partner shall carry on the operation of the partnership business together with the surviving partners. Such a provision is usually binding upon the survivors but is optional with the representative. The partnership agreement may provide that the interest of the deceased partner shall continue in the partnership business and that upon the death of one of the partners the partnership need not be liquidated. Such a provision will be binding upon all of the parties.

Many partnership agreements provide that upon the death of one of the partners the surviving partner will have a preferential right to purchase the interest of the deceased partner and to carry on the business. If a workable formula determining the interest of the deceased partner is delineated in the partnership agreement, future disputes will be avoided. The value of the interest of the deceased partner may be based upon book value or upon actual value or determined by some other formula. It should be specifically provided in the partnership contract whether the good will is to be considered in determining the value of the deceased partner’s interest or whether good will shall become the sole property of the surviving partner. It has often been deemed advisable for the contract partners to provide that mutual life insurance policies be taken out on the lives of each of the partners, in order to enable the surviving partner to have sufficient funds to purchase the deceased partner’s interest, based upon a formula determined value set forth in the partnership agreement. By careful and prudential planning, both the surviving partner and the estate of the deceased partner can be fully and adequately protected from a financial viewpoint upon the death of one of the partners.

There is a direct relationship between the provisions of a partnership agreement relating to the survival of the business and the provisions that shot be contained in the last will and testament of each of the partners. No matter what plan is evolved in the partnership agreement to cover the contingency of the death of one of the partners, wills of each of the partners should be drawn in conformity with such plan.

(Continued on page 125)
New WALL RADIATION
for Schools, Institutional, Commercial, Industrial and Residential uses

Fedders Wall Radiation provides new lower costs...easier and greater space-saving installations...lighter weight...easier handling...easier stocking.

Increased efficiency of transferring heat is assured by the pattern stamped in the fins which creates a turbulent scrubbing action of airflow against fins. This die-formed pattern so produces greater fin strength.

Three styles of enclosures are available as illustrated.
Fedders Wall Radiation for steam and hot water lines is available in lengths from 2 to 12 feet in 6 inch increments. 8 and 50 fins per foot on 1 1/4 inch tube and 24 fins per foot on 2 inch tubes. Write for catalog WR-C1 TODAY.

Fedders-Quigan Corporation
Buffalo 7, N.Y.
Crowded school conditions have you in "hot water"?

**R-W DeLuxe**

Fold-R-Way Partitions

FULLY AUTOMATIC • ELECTRICALLY OPERATED

Because of its high standard of excellence and performance, the R-W DeLuxe fully automatic electric soundproof folding partition is now specified by leading School Architects and demanded by progressive Boards of Education as the best solution to current problems of space and expenditure.

In the installation shown above, both side-jambs are insulated against the transmission of sound by the correct application of rubber gaskets. The clearance gap between the top of the doors and the underside of the ceiling-track is effectively sound-proofed by rubber seals. Duck-covered, sound insulated, acoustically designed doors provide the ultimate in "sound-stifling" construction. Doors are positively locked to the floor without the use of any floor bolts, tracks, or mechanically operated devices. Electrically operated— you just turn the switch-key and R-W does the rest. The DeLuxe Fold-R-Way Partition goes into motion smoothly and silently— opening or closing automatically!

R-W Offers a Complete Line of Single and Multiple Action Classroom Wardrobes

R-W No. 833 Multiple Action-Master Control Door Wardrobe

Richards-Wilcox Classroom Wardrobes are outstandingly popular because they are designed to give maximum space for pupils' wraps without overcrowding— because simplicity of design and installation in wall recess means low cost. Wardrobes are available in Single or Multiple Action-Master Control Door units with chalkboards or cork boards. Each door opening accommodates eight to ten pupils.

**Also...**

Uninterrupted R-W Service to HOME, INDUSTRY and FARM Since 1880

- In industry, conveyor systems to solve any overhead handling problem.
- In the home, R-W Silver Streak Vanishing Door Hangers and Aluminum Track afford quick, economical conversion to space-saving Disappearing Doors. Complete hardware for modern overhead garage doors.
- For the farm, barn door hardware up to any size, gable door fixtures, stay rollers, latches, etc. that perform up to par year after year.

Get all the facts about Richards-Wilcox cost-cutting, space-saving Fold-R-Way Partitions and Classroom Wardrobes now— write today or call your nearby branch office for complete information without obligation.

**it's the law**

(Continued from page 124)

Where the interest of the deceased partner is to be purchased by the survivor by means of insurance provided for that purpose or otherwise, the estate will be the recipient of a large cash sum. It may be desirable to provide for a testamentary trust to protect the widow and children of the deceased partner and for sound investment of such cash. If the partnership business is to be carried on by the legal representative of the deceased or if the interest of the deceased in the business is to be maintained, it will be of importance to provide in the wills of the partners for sufficient liquid assets to pay for estate taxes and administration fees. If it is the desire of the partners that the partnership continue after the death of one of them and that their legal representative continue to operate such business, the wills of the partners should contain testamentary provisions sufficiently broad to empower the executors to carry on the business with simplicity and without the necessity of constant application to court for authorization to perform acts in connection with the continued operation of the business.

The partnership interest may be the most important asset of the estate. Contrary to a popular belief that if a man dies intestate, his assets do not go exclusively to his wife, but may be shared by other heirs. In New York, for example, if a man dies without a will, his wife is entitled to only one-third of his estate and his children are entitled to the balance. Only a valid will can provide for a different result or prevent a number of heirs from exercising their divergent views on the operations of the surviving partnership. Understandably, the results in the absence of a will or with one poorly drawn, can be emotionally as well as financially disastrous.

As was pointed out in the February column the partnership agreement should contain a definitive and express provision outlining the financial arrangement between the partners and the method by which management and control is to be exercised. It is also important that the relationship of partners to third persons be considered at the time the partnership agreement is drawn and that the powers and limitations of the partners to bind the firm be delineated.

Each partner is both principal and agent in his relationship to every other partner, and consequently each partner...
This "character" looks worried. He's picking lighting fixtures. But he won't find the answer in a magazine cutout.

What's more, there is no single "cure-all" lighting fixture. You know that, of course, but how many others do? Each luminaire has a different purpose—a different application—and a different economy depending on specific conditions.

Analyzing these conditions takes an expert. You need the services of a lighting engineer.

Whether you plan lighting, buy lighting, or install lighting, the services of a Westinghouse Lighting Engineer are available to you. J-04281
The buildings you plan will be built to your plans... by

MERRITT-CHAPMAN & SCOTT

In completing hundreds of construction projects—large scale housing, hospitals, schools, institutions, industrial and business buildings—Merritt-Chapman & Scott has earned a nation-wide reputation for accomplishment. M-C & S brings to each job, large or small, an organization with extensive knowledge in every building field... specialized facilities that assure speed, economy and full attention to detail... ingenuity that makes the most of knowledge and resources. You can depend on Merritt-Chapman & Scott to work closely with you in solving any construction problem.

MERRITT-CHAPMAN & SCOTT
CORPORATION

Founded in 1860...now in our 90th year

GENERAL OFFICES
17 Battery Place, New York 4, N. Y.

BOSTON • CLEVELAND • NEW LONDON • PASADENA, TEXAS

it's the law

(Continued on page 128)

may be legally liable for the activity of every other partner. However, the authority of a partner to act as agent for the partnership is limited to transactions within the scope of the partnership business. It is consequently desirable to set out in the partnership contract the scope of the partnership business and those express limitations considered desirable, upon the rights of the partners to bind each other.

The Uniform Partnership Act provides that all partners will be bound by the act of any one of them which is apparently conducted in the business of the partnership. Even where the activity in question is not authorized by the partnership agreement, if it is within the apparent scope of the business of the partnership, all partners will be bound. However, the Uniform Partnership Law specifically provides that unless expressly authorized, a partner has no authority to assign the partnership property in trust for creditors, dispose of all the good will of the business, confess judgment, submit a partnership claim to arbitration, or do any other act which would make it impossible to carry on the ordinary business of the partnership.

In the absence of specific provision in the partnership agreement the courts have been called upon to consider questions dealing with the authority of partners to bind the partnership. The nature of the partnership is often decisive in these considerations. The association of architects is designated as a "non-trading partnership" in contrast to a partnership conducting a commercial business. In the case of a non-trading partnership, the presumption is made that no partner has been given the right to bind the firm by a promisor notice. In the case of a commercial partnership it is presumed that a principle of the firm who borrows money or gives a note in the name of the firm is acting for authorized partnership purposes. Many partnership contracts, in order to protect each partner from indiscreet activities of any other partner, provide for the necessity of more than one signature on checks. No matter what the type of partnership the rights, limitations and powers of the partners bind the firm should be expressly stated.

In gross outline, a partnership agreement should set forth in detail:

1. The term of the partnership.
2. The financial arrangements between the partners.
3. How control and management of the business is to be exercised.
4. A consideration of the impact on the partnership of death, withdrawal, illness of a partner.
5. The rights and limitations of partners to bind the firm.
The loss of command over the human environment is not the cause of the breakdown of civilizations.

ARNOI J. TOYNBEE

"But it is sure as Hell a contributing factor.

CARL FEISS

For those readers who have followed me so far in these personal thoughts on architectural education, it may have become apparent that there is a theme, a light threnody, veining its way through the heavy body of words. It took nearly seven issues before I dared drop the atomic phrase "comprehensive architecture" on the community of educators and educatoees. The bomb was a dud! Hardly an architect as much as broke a lead or wiggled his ruling pen a bit to let an educator stepped talking. Undaunted, however, our columnist pursues his illusive theme, a huntsman lost in a forest of ideas.

Next month we architects convene in Washington, D. C. (in a forest of columns), to talk about architecture and particularly about city planning. It has come to a hundred years to get around that. We are really celebrating not just the passage of time and honored tradition of the A.I.A. but we are honoring ourselves with a break in the tradition. Limited Architecture may some day become as obsolete as Federal architecture, for it has long been apparent that it is, with few exceptions, the plan of Washington and not the building which establishes the character of the city. The tragedy is that the two together could not have been so combined that a comprehensive architecture could have eventuated which would have created a truly great city.

City planning is now in the annals of the architecture schools and the architecture schools have either separate or as a high-sounding title, a specialized technique which has hitherto only a scattered application to the curriculum or to real life architecture. The many painters paint without a frame mind and too much art is done for the blank and unknowing walls of a museum. The art of architecture has suffered much in the same way. The tradition of architecture-the breaking of the walls of the museum and science of architecture—the breaking down of borders and specialization of art into science and humanism, that is the true architecture, the architecture of architecture, that becomes the fine art of architecture which combines the physical sciences with the sciences of human nature and with the science of environment, knows no boundary line.

In previous articles we have touched briefly on planning education in the schools. The "Grand Plan" of the Beaux Arts days was mentioned in the January issue. For a change, let me mention in January that only a few of the Grand Plans ever built. Be that as it may, during period of most intense B.A.I.D. con of the schools, the Grand Plan-large-scale thinking alive and well seems to have started in the school departments of landscape architect. I am under the impression that the Henry V. Hubbard at Harvard about as responsible as anybody arousing interest in the subject in t
Preserves Your Original Conception
Of Attractive Washrooms
Throughout Life of Building

LIKE THIS

NOT LIKE THIS

You have in mind clean, sanitary washrooms when you design your buildings, but what do you get? Clean, sanitary rooms or those with towel-liner all over the floor, marred walls and scratched floors from waste containers? Do your clients get a perpetual fire hazard, and towel-clogged toilets which result in costly plumbing bills? Your original concept of tidy washrooms will remain throughout life of the building if you specify

ELECTRIC-AIRE
Evapo
HAND DRYERS
"towel eliminators"

- CHAP-FREE thor-o-drying service in as little as 20 seconds
- Work automatically at touch of button
- Cut off automatically
- On service 24 hours a day
- Reduce towel costs by 85% to 90%

ELECTRIC-AIRE are easily installed in new or old buildings. Approved by Underwriters' Laboratories. Backed by 29 years experience and a 2-year guarantee.

ELECTRIC-AIRE HAIR DRYERS dry hair in 3 minutes. Coin operated or free service types available.

- Our AIA FILE 31-L with illustrations and complete specifications mailed on request. One of our trained field engineers will gladly call and demonstrate ELECTRIC-AIRE Hand and Hair Dryers.

ELECTRIC-AIRE ENGINEERING CORP.
Phone WEBster 9-4564
209 W. Jackson Boulevard
CHICAGO 6, ILLINOIS

Hats off to M. E. FREITAG of Iowa State the Major prize winner in the $5,000 architectural competition for the best Eight-Family Garden Type Apartment designed in Wood Frame Construction.

Thirteen professional men and 15 students led the field of 276 entrants from 34 states and Canada.

MAJOR AWARDS

M. E. Freitag, Iowa State Student
First Prize.................................................. $1,500.00
(Joint Entry)
Second Prize...........................................$ 750.00
Third Prize............................................$ 500.00

10 Major Honorable Mentions, $100 Each:

STUDENT AWARDS

E. A. Ingram, Jr., Texas A. & M.
First Prize................................................ $500.00
Allan B. Mitchell, Carnegie Tech
Second Prize.............................................$ 250.00
Milton Holtzmann, Georgia Tech
Third Prize...............................................$ 150.00

7 Student Honorable Mentions, $50 Each:

THE JURY OF AWARDS:

Mr. George W. Pettitson, Jr., A.I.A., Washington, D. C.
Mr. John M. Walton, A.I.A., Washington, D. C.
Mr. Edward R. Carr, Builder
Washington, D. C.

Professional Advisor:

Mr. Lawrence M. Stevens, Architect, Washington, D. C.

Send coupon for copy of Jury Report containing the prize winning designs and the judges' comments on these interesting and practical approaches to economical housing built of wood.

Timber Engineering Company,
1319 18th Street, N. W.,
Washington 6, D. C.

Please send me Free copy Jury's Report on Wood Garden Apartment Competition.

Name..........................................................
Firm (or School)...........................................
Street.....................................................
City.......................................................... State............
How to make Insulation

a Dramatic Feature

in your plans...

The story of Aluminum's radiant heat reflectivity is challenging, exciting... and convincing. Clients like the idea of this modern "miracle" inside their walls and attics, under the floor joists of unheated crawl spaces. They talk about BTU's bouncing off the aluminum... up to 95% of all radiant heat.

Technically, it's a sound specification... providing the perfect vapor barrier together with high insulating efficiency. Under floor joists, one layer of Type B (foil two sides) has a conductance coefficient of approximately 0.10—meets FHA requirements in most areas. Over ceilings or under rafters, one layer of Type B is excellent to take off summer sun load; two reflective-faced air spaces give you a conductance of approximately 0.14; or the single foil face (Type C) may be used with blanket insulation. In side walls, Type B bowed between studs provides extremely high efficiency at low cost... see diagrams below.

Turn the prosaic subject of insulation into a Sales Feature... with Reynolds Aluminum Reflective Insulation. Write for folder in A.I.A. file form. Reynolds Metals Company, Building Products Section, Louisville 1, Ky. Offices in 32 principal cities.

Reynolds Aluminum Reflective Insulation

Aluminum foil bonded to one side (Type C) or both sides (Type B) of tough kraft paper. Special pressure-embossing strengthens the bond and produces a handsome pattern effect. Clean, odorless, pliable, fire-retardent. Easy to cut, bend, tack or staple. In boxed rolls of 250 square feet, 25", 33" and 36" wide. Rolls weigh 15 lbs.

Also board types, for use as exposed wall and ceiling material. This is aluminum foil bonded to one or both sides of 15-pt. cardboard. Supplied in 25" and 17" widths, in rolls of 2,000 square feet.
Atom pile by-products "fly" to help medical research

Radioisotopes were needed by a Boston hospital for patient treatment. Lead-shielded box of radioactive iodine (weight, 35 lbs.) picked up by Air Express in Knoxville, Tenn., at 11 A.M., delivered 7:15 P.M. Charge, $8.60. Hospitals, like all business, use Air Express regularly to get supplies from anywhere in hours.

It's easier and more convenient to use the world's fastest shipping service. When shipments are ready, just phone for pickup. Special door-to-door service included in the low rates.

Only Air Express gives you all these advantages

World's fastest shipping service.
Special door-to-door service at no extra cost.
One-carrier responsibility all the way.
1150 cities served direct by air; air-rail to 18,000 off-airline offices.
Experienced Air Express has handled over 25 million shipments.

Because of these advantages, regular use of Air Express pays. It's your best air shipping buy. For fastest shipping action, phone Air Express Division, Railway Express Agency. (Many low commodity rates in effect. Investigate.)

rates include pick-up and delivery door to door in all principal towns and cities

AIR EXPRESS
GETS THERE FIRST

A service of Railway Express Agency and the
SCHEDULED AIRLINES of the U.S.

out of school

(Continued from page 130)

schools. The landscape school at Illinois was also in the field at an early date. When I say early date, the time is purely relative because not much of significance in planning training occurred until the early 1920's. Nearly all important early modern American city planners came out of landscape training. Besides Hubbard, there is a distinguished list of names, including John Nolen, Sr., Henry Wright of Radburn, Arthur Comey, Russell Black, Harlan Bartholomew, and by adoption from Great Britain, Thomas Adams of the New York Regional Plan. Most architects are unfamiliar with either the names or accomplishments of these men who made the first studies in the harmonizing of environment with land use and movements of people.

But the standard training for landscape architects was not the most satisfactory incubator for planners. A predominant part of the programs was, necessarily, devoted to botany, botany, botany, plant geography, and the complicated science and esthetics of planting plans. Also the design traditions of Italian, French, and English gardens did not lend themselves too well to translation into city-wide planning. (I know whereof I speak, since my career began, believe it or not, as an undergraduate landscape student under the beloved Robert Wheelwright and Frank Schreffler at the University of Pennsylvania in 1925.) However, no sound landscape school could avoid the history of city planning any more than it could fail to mention the relationships between the plan of Versailles and the plan of Washington. The relationships between the landscape school and the schools of architecture themselves were, however, quite vague and non-existent and so what planning advances were made in landscape education failed largely to influence architectural education.

The landscape architect came in city planning through park and recreation work. Parks were extended or tenanted into parkways as the automobile grew in importance, and parkways grew into subdivisions, and subdivisions grew into little plans for suburban communities, and these in turn grew into plans for whole towns.

Both the architect and the landscape architect in the early years of schools remained indifferent to the legal consequences of architecture. Reforms engendered by the establishment of building codes, tenement laws, and zoning—though to have direct effect on the practitioner—remained unimportant in the schools and the fore of little responsibility later to
This is Armstrong's Rubber Tile. This flooring is widely specified for areas where an atmosphere of luxury is desired. It has an unusual clarity of color and graining which gives a rich appearance to the floor. The 21 high-style colors offered in Armstrong's Rubber Tile permit an almost endless variety of flooring effects. It is also often specified for its exceptional underfoot comfort and for its long wear. Armstrong's Rubber Tile is made in two thicknesses, 1/8" and 3/16".

This is Armstrong’s Linoleum
No other Armstrong Floor is so widely used in stores and offices as Armstrong's Linoleum. There are many reasons why it is often the first recommendation of architects. It offers the widest selection of decorative effects. It is moderate in first cost, easy to maintain, and gives long service. Armstrong's Linoleum is manufactured in three thicknesses and six types—Plain, Jaspé, Marbelle®, Spatter, Embossed Inlaid, and Straight Line Inlaid.

For additional data on Armstrong's Resilient Floors for business, industrial, and residential use—Rubber Tile, Linoleum, Asphalt Tile, Linotile®, Arlon Tile, and Cork Tile—consult Sweet's Architectural File, section number 31, catalog number 2. For samples and specifications for the various types of Armstrong's Resilient Floors or help in solving unusual flooring problems, architects are invited to get in touch with the nearest Armstrong Office or write directly to Armstrong Cork Company, Floor Division, 8904 State Street, Lancaster, Pennsylvania.

This is Armstrong's Asphalt Tile
When it is necessary to keep first cost to a minimum and still have an attractive and colorful floor, Armstrong’s Asphalt Tile is a logical choice. Though low in price, this floor is noted for toughness and durability. It is made in a variety of marbleized and plain colors. It is not harmed by alkaline moisture and is especially recommended for on-grade and below-grade sub-floors. Made in Standard and Greaseproof types in two thicknesses—1/8" and 3/16".
New Flint High School


SELETS BERGER SERVICE

Berger Type SD Steel Lockers
Recessed in Corridors of New Robert N. Mandeville School

Overcrowding and staggered programs are ended for Flint, Michigan, high school students. Their ultramodern Robert N. Mandeville School—named for a Carman School District World War II hero—admitted 1,000 enthusiastic students in September.

Prominent in the new school’s superb equipment are Berger Steel Lockers. In this case, as in thousands more, experienced Berger representatives helped school officials and architects translate their ideas into a workable storage plan.

Berger service and cooperation are recognized wherever lockers are used. As largest supplier of steel storage equipment to the schools of America, Berger contributes valuable ideas on how to use it best. Berger will plan and engineer your storage equipment, furnish the material and handle all installation details.

Whether your own school jobs still are in the talking stage or already on the drafting boards, call in your Berger representative now. See Sweet’s Architectural File, or write us for more information.

BERGER MANUFACTURING DIVISION
Republic Steel Corporation
CANTON 5, OHIO

Recessed groupings of Berger double-tier, standard louvre Steel Lockers line the spacious corridors. School planning experts recommend that corridor lockers be provided for each student up to 125% of the school’s capacity.

"A complete steel equipment service for the schools of America"

BERGER STEEL

STEEL Lockers, Wardrobes, Storage Cabinets
STEEL Office Equipment and Furnishings
STEEL Cabinets for Kitchens, Laboratories, Dispensaries
STEEL Shop Equipment, Shelving
STEEL Book Shelf Units, Library Stacks
Announcing...

"55" Line
OF PC FUNCTIONAL GLASS BLOCKS

... featuring 9 distinctive improvements in glass block design

1. Better, more comfortable, softer, "eye-ease" panel appearance.
2. Better pattern match.
3. Easier, faster, better, less costly installation.
4. Better brightness control and uniformity.
5. Better visual environment.
6. Wider horizontal light distribution by optically designed face corrugations.
8. Greater impact resistance.

Here are some of the most important improvements in glass blocks since this modern building material was first introduced.

The functional features of these new glass blocks include light-directing prisms on the interior faces of certain patterns, a fibrous glass insert to diffuse further the light transmitted by the block itself, and the exclusive PC Soft-Lite® Edge Treatment. These features are combined in the various glass blocks, according to the functional use for which the specific pattern is designated.

Moreover, the new "55" line also embodies all the advantages afforded by other PC Glass Block patterns, such as excellent insulating properties; little or no expense in repairs or replacements; no painting or puttying; quick and easy cleaning. And the full line of decorative PC Glass Blocks will continue to be available for their specific purposes.

Why not get further details on the new "55" PC Functional Glass Blocks? Just fill in and return the coupon below.

LIGHT-DIRECTING PC GLASS BLOCKS
Specify for above eye level with high reflectance ceilings.

LIGHT-DIFFUSING PC GLASS BLOCKS
Specify for at and below eye level, and where ceilings are cluttered or dirty.

* T. M. Reg. applied for.
Soft-Lite Edge Treatment (opalescent glass fused into the block, prior to manufacture) permits enough diffused light transmission around block perimeter to create "eye-ease" panel appearance.

Distributed by Pittsburgh Plate Glass Company; by W. P. Fuller & Co. on the Pacific Coast, and by Hobbs Glass Ltd. in Canada.
ROE STEEL TAPES are best for ARCHITECTS... the facts prove it!

FIRST AND FOREMOST, Roe Steel Tapes are extremely easy to read... and they go right on being clearly legible year after year. The black markings are permanently etched into the steel which is then nickel-plated to provide a lustrous contrasting background. A transparent plastic overcoating is added for top-most wear resistance—and durability.

A - Steel tape  
B - White nickel  
C - Black etched markings  
D - Plastic overcoat

Pictured here is the Roe Steel Tape #302 with polished chromeplated, sturdy welded steel case. Other Roe models feature cases in handsewn leather, and in metal-banded leather and leatherette. They have a reinforced rust resisting liner, precision winding drum, flush-folding handle, press butten center and roller mouthpiece. All are available with 25, 50, 75 or 100-foot tapes; feet in inches and eighths, or in tenths and hundredths.

Get Roe Steel Tapes from your hardware dealer—or write us giving his name and address.

JUSTUS ROE & SONS  
Makers of fine steel tapes since 1876  
PATSYHOQUE, NEW YORK

out of school

(Continued from page 136)

little background to the thesis on which I am about to embark. The schools, during the depression years, prior to World War II, found out about large-scale housing and site planning from the many high-grade European periodicals, books, and visiting architects. Housing and planning in Scandinavia, Holland, and Germany opened new vistas of design and new elements of construction to consider. Students and faculty, traveling abroad, directed their interests more and more to modern architecture and planning, and tried to bring them to the cathedrals. The schools, perforce, changed their pace and interest though not with much inherent good will. It was a slow process. Eliel Saarinen, in opening a school for planners at Cranbrook in 1932, added much weight to the value of planning. By 1933, when the first significant steps in Federal housing architecture were to begin, there was still little school interest reflected in the design programs. For usual, the faculties were slower to respond than the students or even, in this case, than the practicing architects.

The most important planning schools, largely at the graduate level, beginning with Harvard, M.I.T., Columbia, Illinois, Iowa, and followed in varying degrees by others, have all developed planning as either an adjunct or a specialty. While Harvard, M.I.T., Columbia, and the University of California at Berkeley, are now trying to identify the planning specialist, a fundamental issue is not being solved. (It should be noted that at Berkeley, North Carolina, and others, the Planning Department is not in the architectural school.)

Any visitor to the TVA is astonished by the harmony of architecture and environmental planning, if he is aware of what he is seeing. The breadth of vision, the dynamic quality of the technical solutions to vast problems, and the beauty and sufficiency of the design are breathtaking and convincing. Why? What, besides the talent of architects, engineers, and physical planners, was involved?

First: there was a program. The program consisted of a series of objectives. These objectives were stated in terms of social, economic, and administrative philosophy.

Second: there were environmental and geographical factors which required objectives balanced with the first.

Third: there were the architectural and engineering plans to be designed to carry out the objectives of the first two points.

From the smallest house in the planned town of Norris to the greatest dam or power plant a unified creative effort placed a premium on consistent, orderly, and attractive development of land, water, and buildings for a fundamental social purpose. That's why the whole thing rings true.
Paneled wall of Blue Ridge Satinol Valves.
Glass keeps offices private, yet transmits daylight from them to the corridor.
Panels may be opened for draftless ventilation or closed for quiet.

how to solve several problems at once!

Gain light in two areas, assure privacy in each, provide sparkling decoration on both sides ... with one installation of Blue Ridge Patterned Glass. This versatile glass does triple duty ... is inimitable for walls, panels, partitions and doors.

Blue Ridge Patterned Glass is adaptable to a wide variety of treatments in exterior and interior applications. It may be fixed, sliding, movable, louvered. For special purposes, it may be Satinol*-finished for greater obscurity or Securitized for greater strength. Your L·O·F Glass Distributor can show you over 20 patterns in Blue Ridge Glass to create distinctive effects in offices, homes and buildings of all types.

*®

Yours on request ... two "idea" books

"Patterned Glass for Modernization" is copiously illustrated with commercial installations. "New Adventures in Decorating" shows ways to use Patterned Glass in homes. Write: Blue Ridge Sales Division, Libbey-Owens-Ford Glass Company, 8845 Nicholas Building, Toledo 3, Ohio.

BLUE RIDGE Patterned GLASS

April 1950 139
SITUATIONS OPEN

ARCHITECTURAL CHIEF DRAFTSMAN—between 35 and 50 years; experienced to lay out plans and coordinate the work of an office handling several contracts simultaneously, to take complete charge of drafting room personnel. Permanent position for a qualified person. Furnish references, samples of work and salary expected. Offices of M. J. DeAngelis, 42 East Avenue, Rochester, N. Y.

ARCHITECTS WANTED—The Tennessee Valley Authority has several openings for architectural draftsmen in its Division of Design at Knoxville, Tennessee, for work on a broad construction program of hydro-electric and steam power plant buildings. Base entrance salary for these positions is $3,900 a year, advancing through periodic within-grade increases to a maximum rate of $4,650. Vacancies also exist for specification writers at a base entrance salary of $4,650 with periodic within-grade increases to $5,400. Interested candidates should write the Chief, Personnel Office Branch, Tennessee Valley Authority, Knoxville, Tenn.

ARCHITECTURAL DRAFTING ROOM SUPERVISOR—capable of directing the preparation of drawings for multi-storied and other large buildings. Must be thoroughly experienced, reliable, able to assume responsibility and to carry out work with direct supervision. Positions permanent for qualified persons. Salary between $8,000 and $12,500 per annum depending on qualifications. Must be able to prepare complete information as to education, experience, references, salary expected, and availability. Well-established, progressive firm, operating in South Carolina, North Carolina and Georgia. Work varied, principally contemporary. William G. Lyles, Bissett, Carlisle & Wolff, Architects-Engineers, 1321 Bull Street, Columbia, S. C.

EXPERIENCED ARCHITECTURAL DESIGNER (DRAFTSMAN)—should have some knowledge and experience in school building and public institutional design. Should have working facility with contemporary design. Creer, Kent, Mather, Cruise and Aldrich, Architects and Engineers, 423 Industrial Trust Building, Providence, R. I.

LONG ESTABLISHED SMALL OFFICE—with two years' assured work in "Contemporary" design of public, commercial and residential buildings has openings for two senior draftsmen. Write fully to:—Architect, 820 Commercial National Bank Building, Shreveport, La.

WANTED—experienced architectural draftsmen, who can turn out working drawings from sketches, by old and well-established office, with broad, general practice. Give references, experience, age, salary and availability. Barber & McMurry, 2505 Kingston Pike, Knoxville, Tenn.


ARCHITECTURAL DRAFTSMAN—with some design ability; must be good draftsman. Partnership interest possible. Mid-west location. Give full details. Box 292, PROGRESSIVE ARCHITECTURE.

ARCHITECTURAL DRAFTSMAN—for the preparation of working drawings and details, General practice but principally schools and churches. Permanent position. State details including age, education, experience, references, starting salary, availability. Submit samples of recent work. Office of Virgil J. Miller, Architect, 1057 Bayard Park Drive, Evansville 13, Ind.

IN NEED OF 4 SENIOR ARCHITECTURAL DRAFTSMEN—immediately for period of approximately one year. State education, experience and salary. Mecm, Zehner, Holien and Associates, Box 628, Santa Fe, New Mexico.


SITUATIONS WANTED

ARCHITECT—graduate of leading U.S. university; registered in Indiana and South America; country, town experience in U.S. architects' office in: production of complete working drawings; architectural and structural design in concrete, steel and wood; job supervision. Desires connection with architectural firm or architect preferably in South, Southwest or Northwest with possibilities for partnership or advancement. Age 27. Box 295, PROGRESSIVE ARCHITECTURE.

ARCHITECT-DESIGNER—interested in partnership possibility. Twenty years' experience. Five years' private practice in area of stagnant economy. Strong contemporary designer with historical training. Detailed plans, specifications, supervision. Two degrees at leading university. Please personality, drive and initiative. Active in organizations. Age 40. Box 296, PROGRESSIVE ARCHITECTURE.

DESIGNER DRAFTSMAN—man, 39, with excellent experience and ability in contemporary design desires position in medium-sized firm, Louisville or vicinity. Salary secondary to position. Box 300, PROGRESSIVE ARCHITECTURE.


RENDU—staff of freelance specialists, working in any medium, offers competent rendering service to meet the architects' requirements. Prices quoted on request. Write or phone Rendu, 209 Munche Street, Harrisburg, Pa. Phone 2-7515.

PLUMBING AND HEATING DESIGN—freelance. Calculation, drawings, specification. My service peculiarly suitable for the small-town architect. Write for details. He man J. Merkel, 23 Gifford Avenue, Pougkeepsie, N. Y.

DESIGNER-ELECTRICAL—15 years' experience in power and light layout with leading engineering concerns, college training, etc. Genial, reliable, would like to associate with established firm in New York City doing commercial and public building lighting. Freelance arrangement preferred. Box 25, PROGRESSIVE ARCHITECTURE.

ARCHITECT-SPECIFICATION-WRITER—member A.I.A. Available, Los Angeles, write specifications for schools, hospitals, houses institutional, commercial and governmental work. Partial or complete service in accordance with your requirements—flexible working arrangements. Rapid, dependable service. Box 298, PROGRESSIVE ARCHITECTURE.

SALES ENGINEER—(Professional Engineers) and contractors in Mass. and New York desires sales agency requiring engineer to know how. Exclusive territory and commission basis. Best of references. Box 299, PROGRESSIVE ARCHITECTURE.

ARCHITECTURAL REPRESENTATIVES—on the country's largest producers of building materials wants men with architectural training to represent them from their Box Philadelphia, Dallas, Chicago and Los Angeles branches. These are high type jobs with a real future to persons having between one and two years' experience in design. Write full details first letter and send snapshot if possible. Salary open. Box 293, PROGRESSIVE ARCHITECTURE.
Q-Floors save materials, time and financing expenses during construction. The number of factors are many; lightweight, dry construction; speed of installing floors; use of floors as storage space by subcontractors; noninflammable construction—and more... Q-Floors permit occupancy 15 to 20% sooner. Earlier revenue... All electrical outlets and partitions located *after* tenants move in—a great saving of time in drafting room... No preset inserts... Tenants can be offered greatly reduced *initial* alteration expenses and guarantee of continuously up-to-date electrical layout—forever.

Have you considered all the factors in favor of Q-Floor? Write for our free Q-Floor Catalog.

**H. H. ROBERTSON CO.**


PC GLASS BLOCKS complement any architectural plan. Whether in a large structure, like this new generating station of the Potomac Electric Power Co., Alexandria, Va., or in a small home, PC Glass Blocks provide many decorative and utilitarian advantages. They admit plenty of daylight, yet shut out distracting views. They cut heating and air-conditioning costs, because of their superior insulating properties. They eliminate many maintenance problems, since they rarely need repairs or replacements. They lessen eye fatigue among workers. Engineers and Constructors: Stone & Webster Engineering Corp., Boston, Mass.

AT THE NEW PASTEURIZING and bottling plant of the Carnation Company, Houston, Texas, PC Glass Blocks exclude dust and dirt from the processing area. Panels of PC Glass Blocks appeal to your clients for many reasons. One is their ease of cleaning. The entire panel can be cleaned as a unit by wiping with a damp cloth, or by using a hose and long-handled brush. There's no expensive washing of small, individual panes. Architects: Finger and Rustay, Houston, Texas.
PC Glass Blocks are "The Mark of a Modern Building"

In this dining room, PC Glass Blocks make family meals more delightful. The light is cheerful and softly diffused. And, being non-transparent, prying eyes can't see into the room. From the outside, glass blocks highlight the beauty of the home. At night, too, the light streaming through them from the inside, adds sparkle to the dwelling.

It's hollow! All PC Glass Blocks are hollow. They are made of two pieces of formed glass, fused together, enclosing a partial vacuum. Thus, each block is an insulating unit. Various outer patterns and inner contours enable the single cavity blocks to admit plenty of daylight; to direct, divert or diffuse light to areas remote from openings. Double cavity blocks, in which a fibrous glass screen is inserted between the halves of the block, assure additional light diffusion and insulation. Because of their architectural adaptability . . . because they "make the most of daylight," PC Glass Blocks are specified by America's outstanding architects.

Pittsburgh Corning Corporation
N-19, 997 Fourth Avenue
Pittsburgh 19, Pa.
Without obligation on my part, please send me your free booklets on the use of PC Glass Blocks for all kinds of construction.
Name
Address
City State

V. P. Fuller & Co. On the Pacific Coast, and by Hobbs Glass Ltd. In Canada
SHARPER PRINTS by any process!

with the world's largest selling

VENUS

DRAWING PENCILS

• ACCURATELY GRADED— in 17 degrees
• STRONG—the lead is Pressure-Proofed™
• SMOOTH—the lead is COLOIDAL* processed

Exclusive Venus Patent

They hold their points, give clear, opaque lines for clean, sharp reproduction. No smudge; no ghosts from erasures. They're smooth in action. Lines are uniform in weight and tone. There's the right degree for the tracing paper you prefer. Better prints—by any process!

TRY THEM—on your drawing board! Technical Test Kit—FREE!

AMERICAN LEAD PENCIL CO.
Hoboken, New Jersey

Please send me free Technical Test Kit featuring two Venus Drawing Pencils—in these degrees:\[].

NAME
COMPANY
STREET
CITY STATE

American Lead Pencil Company Dept. No. PA450 Hoboken, New Jersey

An Architectural Triumph!

HILLYARD TREATED FLOORS add to its fame!

• St. John's Church in Los Angeles, California, with its rich, dark green terrazzo aisles and altar floor, is famous in church architecture. The beautiful floors of this church were sealed, cleaned, and are regularly maintained with HILLYARD quality floor products... approved, for nearly half a century, by leading architects and building manufacturers throughout the world.

TERRAZZINE—permanently seals the terrazzo against stains, grease, moisture, traffic wear. Specified through the years, by leading architects, for new terrazzo.

SUPER SHINE-ALL—Hillyard neutral chemical cleaner, thoroughly cleans the floor without harmful scrubbing or time consuming rinsing. Specified by floor manufacturers. U/L approved.

HIL-TONE DRESSING—Picks up germ-laden dust... gives a protective non-slip coverage that does not track and reduces necessity for frequent washings.

Send for your FREE A. I. A. Folder... gives clear, concise specifications for every type of flooring... proper treatments for new and old floors.

HILLYARD CARE! ST. JOSEPH, MISSOURI U. S. A.

BRANCHES IN PRINCIPAL CITIES

Progressive Architecture
BUILD YOUR HOUSES
4 WAYS BETTER

with new, improved Gold Bond Gypsum Sheathing

PERMANENT FIRE PROTECTION The gypsum center of Gold Bond Gypsum Sheathing is completely fireproof. It can't burn!

GREATER STRUCTURAL STRENGTH Rock-like panels of Gold Bond Gypsum Sheathing add greater structural strength to houses by actual test!

ASPHALT-TREATED CORE Combines with water-repellent surface for greater protection against moisture. (Stockpile it outside without fear of damage from the elements.)

WIND-TIGHT JOINTS Tongue and groove edges insure snug fitting joints. No expansion or contraction to cause open gaps. No knot holes.

And that's only half the story. Gold Bond Gypsum Sheathing actually reduces building costs. It costs about 1/3 less than ordinary sheathing and cuts handling and installation time in half. It comes in standard 2 x 8' panels. For use under any exterior finish including shingles. Specify Gold Bond Gypsum Sheathing on all your houses from now on, and give your clients more house for their dollar.

NATIONAL GYPSUM COMPANY, BUFFALO 2, N. Y.

Fireproof wallboard, decorative insulation boards, lath, plaster, lime, sheathing, wall paint, rock wool insulation, metal lath and sound control products.
the best laid plans include

INDIVIDUAL
VIKON METAL TILES

IT PAYS 3 WAYS

1 The low initial cost of this tile beauty fits your plans on the most modest budget.

2 There's no need for extra wall strengthening. Vikon tiles are made of feather-light aluminum or steel bases.

3 You guarantee your client's complete satisfaction with the lasting beauty of Vikon tile. Easy to maintain, durable surfaces of baked-on enamel.

- 27 fade-resistant decorator colors and stainless steel
- will not warp, crack or craze
- resists heat and household chemicals
- fire-resistant, waterproof, seals out insects

The Original Individual Metal Tile. Established 1926.

See our catalog in Sweet's Files

VIKON TILE
BEAUTY - ECONOMY - DURABILITY

MAIL THIS COUPON TODAY

VIKON TILE CORPORATION DEPT. 3D
Washington, New Jersey

Please send me, without obligation or cost, a full-color descriptive brochure and samples of Vikon Tiles. I am interested in tile for:

My home [ ] As a dealer [ ] As a contractor [ ]

NAME ___________________________ (Please Print)
ADDRESS ________________________________________________________________
CITY ________ ZONE _______ STATE

NEW WAY to make a GRAND ENTRANCE

Shafts of refracted light attained by the use of Structural Corrugated Glass dramatize the entrance to Beloit College Field House, Beloit, Wisconsin. Note how the bright, vertical lines accent height, lend stature and dignity, increase the apparent size of the structure. Transmitted light gives the modern architect another dimension...broader scope for his talents. For exteriors of weather-defying beauty and interiors high in interest, specify Structural Corrugated Glass by Mississippi.

Obscure glass by Mississippi is available in a wide variety of patterns and light transmission characteristics to meet architectural or structural requirements in any location or exposure.

*W. Fred Dolkke, Architect; Maurice Webster, Associate Architect; Cunningham Bros., General Contractor.

For further data see Sweets' Architectural File or contact your nearby distributor of quality glass. Samples on request.

Send for booklet "Structural Corrugated & Structuralite Glass by Mississippi."

MISSISSIPPI Glass COMPANY
SAINT LOUIS 7, MO.

NEW YORK • CHICAGO • FULLERTON, CAL.

World's Largest Manufacturers of Rolled, Figured and Wired Glass

146 Progressive Architecture
WHY IS BEAUTY—an important factor in home designing—neglected below grade? All too frequently basements, representing 20% or more of the home area, are left unfinished. These basements are highly valued by home owners for laundries, workshops, recreation and play rooms. Why, then, should they be neglected... particularly when it costs so little to decorate with Medusa Paints!

With colorful Medusa Paints, you transform dull unfinished basements into bright, livable areas. But this is only half the story of Medusa Paints. On walls, Medusa Portland Cement Paint actually protects the construction... sealing out mild dampness, while Medusa Rubber Base Coating gives concrete floors a super-tough finish that has remarkable wearing qualities. Specify these long lasting paints for basements, utility rooms, garages, breezeways, stucco and concrete block homes—in fact, all concrete and masonry surfaces! To help you specify harmonizing color schemes, we have prepared color chip folders. Write for them.

MEDUSA PRODUCTS DIVISION
of MEDUSA PORTLAND CEMENT COMPANY
1004-3 MIDLAND BUILDING • CLEVELAND 15, OHIO

BEST for Masonry Surfaces
MEDUSA PAINTS

REG. U. S. PAT. OFF.
HAR-VEY
ROLLING DOOR HARDWARE
-- made from the Quality Products of America's Leading Manufacturers

Bearing s by Chrysler
The Chrysler Corporation produces the oil-cushioned Oilite bearings now used in Har-Vey Hardware. These rustproof, self-lubricating bearings make possible even smoother, more silent rolling than ever before.

Check the names that stand behind a product, and you can check its quality as well. Check these names:

CHRYSLER CORPORATION, ANACONDA COPPER, FORMICA, REYNOLDS METALS

All are names of national leaders in quality manufacturing -- and all are typical producers of component parts for Har-Vey Hardware! These firms contribute the finest in materials and workmanship to make Har-Vey the leader in its field for quality.

Check, too, Har-Vey's Engineering leadership -- its new features which make it completely rustproof and assure positive locking -- its superlative ease of installation -- its smooth, silent operation -- and its consistent lifetime performance in thousands of residences throughout the nation.

Architects: Gamble, Pownoll and Gilroy, Ft. Lauderdale, Fla.

...because wood is the time-proven material for awning windows

As pioneers in awning window design, we thoroughly studied the merits of wood construction more than 10 years ago. Our recommendation today, based on satisfactory performance in all climates, is still wood.

Not only do Gate City Wood Awning Windows harmonize with all architectural styles, but their natural beauty is easily maintained.

If you're considering awning windows, you'll find ready acceptance for Gate City windows of toxic-treated wood.

Export Sales Representatives: Frazar & Company, 50 Church St. New York 7, N. Y., U. S. A. -- Cable address: Frazar, N. Y.
Regardless of the type of building you're planning... regardless of whether it's new construction or remodeling... Scott Washroom Advisory Service can help you with trained consultants and priceless experience gained in servicing over 300,000 washrooms.

Layouts are available to help you plan the best possible personal services for your project. And remember—the extra care you put into these rooms will enhance your reputation... help your client through the added good will of washroom users.

Have Scott experts give you a confidential report on the ideal washroom arrangement for the job you're working on right now. Contact Washroom Advisory Service, Scott Paper Company, Chester, Pennsylvania... you'll hear from us promptly.

Send for A. I. A. file form brochure on Scott Washroom Advisory Service!

WASHROOM ADVISORY SERVICE
Scott Paper Company, Dept. B, Chester, Pennsylvania

Please send me A. I. A. file form brochure on your Washroom Advisory Service for architects.

Name ____________________________ Title ____________________________

Company ____________________________ Address ____________________________

City ____________________________ Zone ___________ State ____________

April 1950  149
There are a lot of good cars ... but there is only one **CADILLAC**

There are a lot of good violins ... but there is only one **STRADIVARIUS**

There are a lot of good drawing pencils but there is only one **CASTELL** with the Genuine IMPORTED CASTELL lead

So smooth, so free-flowing—it's an inspiration for genius. Yes, it costs a few pennies more, but it lasts so much longer than ordinary pencils—it's more economical in the long run. 18 exact tones of black—7B to 9H.

**NOTE:** CASTELL does away with the irritation of point breaking. It takes needlepoint sharpening without snapping. Order from your Dealer today—and don't allow yourself to be talked into a substitute.

G-J **DOOR DEVICES**

*Used in Foremost Buildings Everywhere*

For detailed description and applications of these devices, refer to our general catalog.

**Glynn-Johnson Corporation**

Builders' Hardware Specialties for Over 35 Years 4422 N. Ravenswood Ave., Chicago 40, Illinois
Which homes will they visit first?

It was just another classified ad in the Daily News. Three or four lines of type described the house on Rosewood Drive. But the last four words turned the usual flow of house-lookers into a parade.

Those words... *Bryant Automatic Gas Heating*... have caused many home-seekers to make a certain house their first and, often, their only stop. That's because, somehow, people have come to know that *Bryant originated* gas heating equipment for homes, and they have faith in this famous name.

Today, the Bryant distributor and dealers in your area offer the most complete line of gas heating equipment in the nation. You can find in their stocks just the right equipment for all residential, commercial and industrial applications, for every new construction or modernization program.

So, watch the house-hunting Sallies and Bobs in your neighborhood beat a path to the Bryant heated homes. It's a tip-off for all who strive to please them.

*Bryant Automatic Heating*

The most complete line of gas heating equipment in the nation

Bryant Heater, Dept. 241, 17625 St. Clair, Cleveland, Ohio

(*) Send me the new booklet that tells the Bryant story. ( ) Have your distributor call on me.

Name: __________________________

Company _________________________

Address: __________________________

City _______ State ________________

April 1950 151
Progressive AITERINGS

Preserves Your Original Conception Of Attractive Washrooms Throughout Life of Building

LIKE THIS

NOT LIKE THIS

You have in mind clean, sanitary washrooms when you design your buildings, but what do you get? Clean, sanitary rooms or those with towel-litter all over the floor, marred walls and scratched floors from waste containers? Do your clients get a perpetual fire hazard, and towel-clogged toilets which result in costly plumbing bills? Your original concept of tidy washrooms will remain throughout life of the building if you specify

ELECTRIC-AIRE

Evapo

HAND DRYERS

"towel eliminators"

• CHAP-FREE thor-o-drYing service in as little as 20 seconds
• Work automatically at touch of button
• Cut off automatically
• On service 24 hours a day
• Reduce towel costs by 85% to 90%

Recess type 7½” x 16”
Rogged construction

ELECTRIC-AIRE are easily installed in new or old buildings. Approved by Underwriters' Laboratories. Backed by 29 years experience and a 2-year guarantee.

ELECTRIC-AIRE HAIR DRYERS dry hair in 3 minutes. Coin operated or free service types available.

• Our AIA FILE 31-L with illustrations and complete specifications mailed on request. One of our trained field engineers will gladly call and demonstrate ELECTRIC-AIRE Hand and Hair Dryers.

ELECTRIC-AIRE ENGINEERING CORP.
Phone WEBster 9-4564
209 W. Jackson Boulevard
CHICAGO 6, ILLINOIS

Hats off to M. E. FREITAG of Iowa State the Major prize winner in the $5,000 architectural competition for the best Eight-Family Garden Type Apartment designed in Wood Frame Construction.

Thirteen professional men and 15 students led the field of 276 entrants from 34 states and Canada.

MAJOR AWARDS

M. E. Freitag, Iowa State Student
First Prize........................................ $1,500.00
(Join Entry)
Second Prize...................................... $ 750.00
Third Prize........................................ $ 500.00

10 Major Honorable Mentions, $100 Each:


STUDENT AWARDS

E. A. Ingram, Jr., Texas A. & M.
First Prize........................................ $500.00
Allan B. Mitchell, Carnegie Tech
Second Prize....................................... $250.00
Milton Holtzman, Georgia Tech
Third Prize........................................ $150.00

7 Student Honorable Mentions, $50 Each:


THE JURY OF AWARDS:

Mr. George W. Petticord, Jr., A.I.A. Washington, D. C.
Mr. John M. Walton, A.I.A. Washington, D. C.
Mr. Edward R. Carr, Builder Washington, D. C.
Professional Advisor:
Mr. Lawrence M. Stevens, Architect, Washington, D. C.

Send coupon for copy of Jury Report containing the prize winning designs and the judges' comments on these interesting and practical approaches to economical housing built of wood.

Timber Engineering Company, 1319 18th Street, N. W.,
Washington 6, D. C.

Please send me Free copy Jury's Report on Wood Garden Apartment Competition.

Name..................................................
Firm (or School)...................................
Street..............................................
City..................................................
State.............................................
PA
Come with us to EUROPE THIS SUMMER!

Yes, There’s Still Time To Join the
AMERICAN ARTIST ESCORTED TOUR

Yes, at length our plans have been completed. After weeks of effort, the American Express Company has finished all of the travel arrangements for our group, and they promise to look after every detail from the first day to the last... So here the grand tour is, ready for YOU—a tour planned for artists (and art lovers), by artists, and led by a leading authority in the art field, John D. Morse. He will be with the group every minute. In case you don’t happen to know Morse—he was editor of the Magazine of Art, remember?—read about him at the left, or look him up in Who’s Who. He’s a pleasant chap in his early forties, the ideal conductor. He knows his stuff and how to pass it on to you, so you’ll learn a lot from this trip, while having a good time.

"A NEW LOOK AT THE OLD WORLD"

THE ITINERARY

THE ART CENTERS OF SEVEN COUNTRIES

For steamship passengers, the tour starts in New York on June 15, and ends there on September 3. During those weeks you will visit an amazing number of famous places, including Liverpool, London, Windsor, Hampton Court, Stokes Poges, Oxford, Stratford-on-Avon, Shakespeare’s birthplace; Amsterdam, Volendam and Marken; Brussels, Ghent, Bruges; Frankfurt, Heidelberg, Rothenburg, Nuremberg, Regensburg, Munich; Lucerne, Interlaken; Venice, Florence, Siena, San Gimignano, Perugia, Rome, Assisi, Orvieto, Viterbo, Pisa, Rapallo; Nice, Monte Carlo, Avignon, Paris. But this gives only a hint; send for complete itinerary.

THE COST

The cost will range from $1626 for those few who can obtain the minimum steamship rates on the Georgic, to $1916 by air. We are not fooling when we say that the boat accommodations are very limited in number, so, to be sure of a place, send your reservation at once. Get your name on record; details can be arranged later. Travel with congenial art-minded companions!

MAIL THIS COUPON TODAY

AMERICAN ARTIST MAGAZINE
341 Hudson Street, New York 14, N. Y.

☐ Please send me further tour information and itinerary.
☐ Hold _______ place(s) for me tentatively.

Name ___________________________ (Please Print)

Street ___________________________

City ___________________________ Zone _______

State ___________________________

April 1950 153
AMAZING NEW, FAST WAY TO FIREPROOF

- Slashes Costs
- Cuts Weight
- Saves Money

Discover the Time-Saving Zonolite* Vermiculite Plaster Method!

Here's the sensational discovery that's helping to shave days, even weeks, off building completion time. Underwriters' Laboratories tests give a 4 hour rating to steel columns protected by metal lath and 1% of Zonolite vermiculite plaster! Yet weight is 1/10 that of ordinary fireproofing materials!

Because the weight of fireproofing materials is so drastically cut, structural steel needs may be as much as 15% less! Material handling time is slashed as much as 87% Zonolite plaster weighs 1/4 as much as sand plaster—is up to 4 times more fire safe. Get the facts today!

Sold by Lumber and Building Material Dealers
*Zonolite is a registered trade mark

PLAN FOR BETTER ROOM DESIGNS
- INCREASES ROOM ATTRACTION
- PROVIDES GREATER SPACE
- CUTS BUILDING COSTS

Beautifully designed sliding door closet fronts save as much as 40% floor space. Our own patented hardware (supplied in prefabricated package with door and jamb) enables door to glide quietly. May be used as a partition. Available in a large variety of finishes and sizes.

Write for Catalog, 15
UNITED STATES SLIDING DOOR CORP.
241 Lexington Avenue, New York 16, N.Y.

BANISH "Booby Trap Showers" with the DOUBLE Safety of

POWERS THERMOSTATIC SHOWER MIXERS

One shower accident may cost many times more than Powers shower mixers. They are really safe and non scald. Temperature of Powers regulated showers remains constant wherever set regardless of pressure or temperature changes in water supply lines. Failure of cold water supply instantly and completely shuts off the delivery. Bathers can really relax and enjoy the best showers they ever had.

THE POWERS REGULATOR CO., 2720 Greenview Ave.
CHICAGO 14, ILLINOIS • Offices in over 50 cities

WRITE

THE TYPE THAT MEETS YOUR NEED

You'll find Halsey Taylor fountains ideal for school and public building installations. There's a type to meet your requirements ...pedestal, wall, battery or cafeteria cooler!

The newest Halsey Taylor development, the Lo-Level Cooler for schools, is designed with the child in mind. Foot-pedal control permits filling glass with water while holding lunch-tray...the result, greater convenience, less confusion.

And of course, patented features to safeguard sanitation, are an integral part of Halsey Taylor design...in every model! Write

THE HALSEY W. TAYLOR CO.,
Warren, Ohio

HALSEY TAYLOR Fountains

UNITED STATES SLIDING DOOR CORP.
241 Lexington Avenue, New York 16, N.Y.

Write for Catalog, 15

One shower accident may cost many times more than Powers shower mixers. They are really safe and non scald. Temperature of Powers regulated showers remains constant wherever set regardless of pressure or temperature changes in water supply lines. Failure of cold water supply instantly and completely shuts off the delivery. Bathers can really relax and enjoy the best showers they ever had.

THE POWERS REGULATOR CO., 2720 Greenview Ave.
CHICAGO 14, ILLINOIS • Offices in over 50 cities

WRITE

THE TYPE THAT MEETS YOUR NEED

You'll find Halsey Taylor fountains ideal for school and public building installations. There's a type to meet your requirements ...pedestal, wall, battery or cafeteria cooler!

The newest Halsey Taylor development, the Lo-Level Cooler for schools, is designed with the child in mind. Foot-pedal control permits filling glass with water while holding lunch-tray...the result, greater convenience, less confusion.

And of course, patented features to safeguard sanitation, are an integral part of Halsey Taylor design...in every model! Write

THE HALSEY W. TAYLOR CO.,
Warren, Ohio

HALSEY TAYLOR Fountains

UNITED STATES SLIDING DOOR CORP.
241 Lexington Avenue, New York 16, N.Y.

Write for Catalog, 15

One shower accident may cost many times more than Powers shower mixers. They are really safe and non scald. Temperature of Powers regulated showers remains constant wherever set regardless of pressure or temperature changes in water supply lines. Failure of cold water supply instantly and completely shuts off the delivery. Bathers can really relax and enjoy the best showers they ever had.

THE POWERS REGULATOR CO., 2720 Greenview Ave.
CHICAGO 14, ILLINOIS • Offices in over 50 cities

WRITE

THE TYPE THAT MEETS YOUR NEED

You'll find Halsey Taylor fountains ideal for school and public building installations. There's a type to meet your requirements ...pedestal, wall, battery or cafeteria cooler!

The newest Halsey Taylor development, the Lo-Level Cooler for schools, is designed with the child in mind. Foot-pedal control permits filling glass with water while holding lunch-tray...the result, greater convenience, less confusion.

And of course, patented features to safeguard sanitation, are an integral part of Halsey Taylor design...in every model! Write

THE HALSEY W. TAYLOR CO.,
Warren, Ohio

HALSEY TAYLOR Fountains

UNITED STATES SLIDING DOOR CORP.
241 Lexington Avenue, New York 16, N.Y.

Write for Catalog, 15

One shower accident may cost many times more than Powers shower mixers. They are really safe and non scald. Temperature of Powers regulated showers remains constant wherever set regardless of pressure or temperature changes in water supply lines. Failure of cold water supply instantly and completely shuts off the delivery. Bathers can really relax and enjoy the best showers they ever had.

THE POWERS REGULATOR CO., 2720 Greenview Ave.
CHICAGO 14, ILLINOIS • Offices in over 50 cities

WRITE

THE TYPE THAT MEETS YOUR NEED

You'll find Halsey Taylor fountains ideal for school and public building installations. There's a type to meet your requirements ...pedestal, wall, battery or cafeteria cooler!

The newest Halsey Taylor development, the Lo-Level Cooler for schools, is designed with the child in mind. Foot-pedal control permits filling glass with water while holding lunch-tray...the result, greater convenience, less confusion.

And of course, patented features to safeguard sanitation, are an integral part of Halsey Taylor design...in every model! Write

THE HALSEY W. TAYLOR CO.,
Warren, Ohio

HALSEY TAYLOR Fountains

UNITED STATES SLIDING DOOR CORP.
241 Lexington Avenue, New York 16, N.Y.

Write for Catalog, 15

One shower accident may cost many times more than Powers shower mixers. They are really safe and non scald. Temperature of Powers regulated showers remains constant wherever set regardless of pressure or temperature changes in water supply lines. Failure of cold water supply instantly and completely shuts off the delivery. Bathers can really relax and enjoy the best showers they ever had.

THE POWERS REGULATOR CO., 2720 Greenview Ave.
CHICAGO 14, ILLINOIS • Offices in over 50 cities

WRITE
Liquid fountain engineers have a large fund of practical, specialized knowledge gained in more than half a century of fountain production. They will gladly consult with you in finding the right answers to technical questions of soda fountain and luncheonette location, floor space, design, capacity, service speed and other important factors. Architects are invited to take advantage of Liquid's long experience.

Let "LIQUID" Help Plan this Space...

THE LIQUID CARBONIC CORPORATION
3110 South Kedzie Avenue • Chicago 23, Illinois
TENANTS LIKE OPEN SPACE... MOBILE PARTITIONS

Send for Illustrated Data Sheet

YOU'LL Benefit in several ways
if you acquaint yourself with AMERICAN-bowstring trusses to carry roofs and ceilings. They permanently eliminate posts... layout-spoiling columns. Partitions are non-bearing—can be easily, quickly, rearranged to any tenant's taste.

Used by America's builders for 27 years, AMERICAN trusses are manufactured in popular styles—shipped (or erected) your job. Write us today!

AMERICAN Roof Truss Co.
William and Raymond Waddington
6852 STONY ISLAND AVENUE, CHICAGO 49 • PLAza 2-1772
Established 1922

SAFE GUARD STRUCTURAL BEAUTY...
specify CRYSTAL Silicone Water Repellent

Amazing exterior water-repellent actually penetrates to prevent moisture and water damage... gives you two important benefits:
1. ORIGINAL BEAUTY RETAINED—Invisible after application, Crystal does not change the color or surface texture... makes surfaces stainproof and prevents efflorescence.
2. MATERIALS LAST LONGER—Crystal repels water throughout entire depth of penetration... provides lasting protection to all man-made masonry and most natural stones.

ONE COAT OF CRYSTAL is all that's needed, applied at any temperature... saves money... saves time on the job!

Send for your free copy of 32 page "Exterior Masonry Waterproofing Manual."

WURDACK CHEMICAL COMPANY
4953 FYLER AVENUE ST. LOUIS 9, MO.

GET YOUR COPY

Our new Unitbilt Boiler-Stoker Combinations are fully described and illustrated in Bulletin No. SF-1. It contains complete engineering and dimensional data. A copy will be gladly sent upon request. Clip this advertisement or make a memorandum to write us.

The BROWNELL Co.
432 N. Findlay St., Dayton 1, O.

Throughout the AIR CONDITIONING Industry—

AEROFIN FIN-TYPE HEAT-TRANSFER UNITS do the job Better, Faster, Cheaper

AEROFIN CORPORATION
410 South Geddes St., Syracuse 1, N. Y.
The $40,000,000 Parklabrea Housing Project of the Metropolitan Life Insurance Company will, when completed, cover 176 acres and contain 4253 units to house 13,400 people...the largest architectural concrete project in America.

Each of its 18 boiler rooms will be equipped with 3 gas-fired Kewanee Type "C" boilers...a total of 54 steel boilers, each with a steam rating of 10,330 sq. ft. E.D.R. or 2,479,000 Btu. The design provides for quick, economical conversion to oil firing.
For strength with beauty, durability with modernity—specify Natcor Fully Extruded Alumilite Aluminum Moldings, the increasingly popular Natcor Moldings that have won acceptance all over the world. Send for full or ½ size details.

Now in Taunton, Massachusetts

BOSTON Model KS
Pencil Sharpener

All the famous BOSTON features in a completely all metal modern design
Dial selector for 8 pencil sizes
BOSTON twin milling 15 edge cutters
All metal, nickel-plated receptacle
Stream-lined, heavier stand for greater strength
Write for Catalog
C. Howard Hunt Pen Co., Camden, N. J.
Also manufacturers of Speedball Pens and Products...Hunt Pen

If it's not the Artgum brand, it's not Artgum
Be sure to look for the name—it's the only way to be sure!

The Rosenthal Co., 45 E. 17 St., New York 3

INVESTIGATE!
GET THE FACTS!
SAVE MONEY AND SPACE

AGITAIR
AIR and GREASE FILTERS

Highest Efficiency! Lowest Cost!

Convince Yourself—Write for Bulletin FM101-1

Air Devices, Inc.
17 East 42nd St. • New York 17, N. Y.
THE CEILING
with a hundred thousand
"NOISE TRAPS"

Send for Free, Fascinating Brochure:
Tells you about Fibretone®, the acoustical
ceiling, and how its thousands of scien-
tifically-designed noise traps help elimi-
nate unwanted noise—in offices, restau-
rants, banks, schools, factories, and recre-
atation centers. Write Johns-Manville,
Dept. PA 4, Box 290, New York 16, N.Y.

Johns-Manville
FIBRETONIC

SHADES OF YESTERYEAR

REBORN FOR THE FUTURE BY
PHOTOMURALS

Delightful sketches, reminiscent of saw-
dust covered floors and...free-lunches!
Whimsical characters and atmosphere
captured for the amusement of today's
patrons of the Abraham Lincoln Hotel
Men's Bar at Springfield, Illinois. Just
one of the multifarious facets of the
photomural...a medium with un-
limited decorative possibilities and sub-
stantial momentary attraction.
FULLY DESCRIPTIVE BROCHURE PA-3...FREE.

KAUFMANN & FABRY CO.
425 South Wabash Avenue • Chicago 5, Illinois
Progressive without the most complete equipment in the industry.

Climate of nearest office.

Devising and planning, all requirements will be produced. Write for literature.

Economical and durable applied boards, one for recessed board system. Two types available — weather qualified under every indication by their specifications. Obligations, our engineers will assist properly. Inspection will be produced. Order. No return privileges. Include 5% sales tax on N.Y.C. orders.

Mario Dal Fabbro... Internationally known designer, gives his unique and refreshing ideas for the solution of furniture design and construction problems. In text and over 400 photographs and illustrations, he explains the development of furniture with unusual design features; what has been produced before and what may be produced in the future.

MODERN FURNITURE
Its Design and Construction
By Mario Dal Fabbro

Winner of the Garzanti contest for standardization of furniture. Author of several books on furniture. Contributor to the Italian magazine "Domus and Stile," and the French magazine "L'Architecture D'Aujourd'hui." For practical application, study and interpretation, this novel and important book presents to architects, designers, interior decorators, furniture manufacturers, and amateur craftsmen the best work in modern furniture by many of the world's leading designers. This book shows unique ideas for the solution of design and construction problems. It is composed of technical material with brief, concise legends to explain drawings. Each of the furniture pieces is notable for its mechanical features. To help solve many technical problems, the author simplifies the presentation and clarifies certain difficult design elements. Each piece of furniture, on every page of the book, is drawn to scale so that dimensions can be figured quickly and accurately. Photographs and drawings in profusion—actually over 400—illustrate the many original designs by Mario Dal Fabbro. The many other designs in the book consist of the best work of internationally famous architects and designers. Whether the building and designing of furniture is your business or your hobby, you'll find "Modern Furniture," an indispensable tool that will give wings to your own creative ability. 175 pages, 9 x 12, $5.00

USE THIS COUPON FOR 10-DAY FREE EXAMINATION

REINHOLD BOOK DIVISION
Dept. M-228, 330 West 42nd St., New York 18, N. Y.

Please send me a copy of Modern Furniture..............................$5.00

Remittance enclosed.

[ ] Send on free 10-day examination.

Name.........................................................

(Please print)

Address..................................................

City................................. Zone............. State...........

NOTE: You save postage and delivery charges by sending payment with order. Same return privileges guaranteed. Include 5% sales tax on N.Y.C. orders.

LOXIT SNAP-ON CHALKBOARD SETTING SYSTEM

Beautifully designed, neat and practical. Two types available—one for surface applied boards, one for recessed boards. Durable—Glo-Dull finish is permanent. Economical—easy to install—easy to maintain. Write for literature.

LOXIT SYSTEMS, INC.
1217 W. WASHINGTON BLVD. CHICAGO 7, ILL.
Men whose work requires the finest qualities in a pencil agree that in all the world there is just one MARS-LUMOGRAPH—America’s only imported drawing pencil.

Do not accept substitutes. Insist on MARS-LUMOGRAPH made by craftsmen with almost 300 years of experience. Your choice of 19 degrees. See and feel the difference.

SPECIAL INTRODUCTORY OFFER

You receive FREE a one dozen assortment of Tradition-Chroma colored pencils with each order for one gross or more of MARS-LUMOGRAPH. $17.00 per gross, less in quantity. State degrees.

Write Department B. Advise dealer’s name. Offer limited.

ARCHITECTURAL ENGINEERING

A Practical Course (HOME STUDY) by Mail Only

For structural portion of

STATE BOARD EXAMINATIONS

For many this is the most difficult section of the examinations. Qualities for designing structures in wood, concrete or steel. Successfully conducted for the past sixteen years. Our complete Structural Engineering course well known for forty years.

Literature without obligation—write TODAY

WILSON ENGINEERING CORPORATION

College House Offices

CAMBRIDGE, MASSACHUSETTS, U. S. A.

1950 P/A BINDERS

For PROGRESSIVE ARCHITECTURE

Set of 2, Jan. to Dec., 1950.....$4.50

One Binder, Jan. to June......$2.50

Each binder holds 6 issues of P/A

REINHOLD PUBLISHING CORP.

330 W. 42nd ST. New York 18, N. Y.

NEW LOW GLAZING COSTS!

NEW HIGH GLAZING QUALITY!

Specify TREMGLAZE

Mastic Glazing Compound

IN COLORS

Requires No Painting

Aluminum Windows

• Specify Tremglaze Aluminum color. It bonds to aluminum, requires no painting ever. Proven on actual jobs for over ten years. Meets Aluminum Window Manufacturers Association standards.

Steel or Wood Windows

• Specify Tremglaze yet pay no more for completed window installations than with a putty job. Save on the paint contract; specify—"Paint first—then Tremglaze". Put paint on the window where it belongs—Tremglaze requires no paint. Save on cost of cleaning glass also.

Consult your local Tremco Representative or write to:

THE TREMCO MANUFACTURING CO.

CLEVELAND 4 • TORONTO

April 1950 161
Trane Unit Ventilators give controlled ventilation to classrooms in the Stratfield School and provide the utmost in effective, economical and dependable operation:

**EFFECTIVE** because they bring in healthful outdoor air, clean it, warm it, and spread comfort to even the remotest corners of the classroom—QUIETLY AND WITHOUT DANGER OF DRAFTS!

**ECONOMICAL** because over two decades of Trane engineering know-how have been applied to developing today's attractive sturdily-constructed unit ventilator. As a result every Trane Unit Ventilator embodies thoroughly proved and tested designs, expertly built from top quality material.

**DEPENDABLE** because Trane has developed smoothly running centrifugal fans—particularly desirable where extremely quiet operation is necessary. Kinetic Orifice coils guard against freezing and assure positive, capacity heating. Block-offs and quick acting dampers prevent cold outside air from blowing directly through the unit. Generous filters trap dust and dirt.

There are Trane Unit Ventilators for every size room—gymnasium, classroom, auditorium or office. The Trane sales engineer in your area will be glad to show you how Trane Unit Ventilators and other Trane products are being used to meet heating, ventilating and air conditioning needs in modern day schools.

**THE TRANE COMPANY...LA CROSSE, WIS.**
**EASTERN MANUFACTURING DIVISION, SCRANTON, PA.**
Manufacturing Engineers of Heating, Ventilating and Air Conditioning Equipment—Unit Heaters, Convector-radiators, Heating and Cooling Coils, Fans, Compressors, Air Conditioners, Unit Ventilators, Special Heat Exchange Equipment, Steam and Hot Water Heating Specialties ... IN CANADA, TRANE COMPANY OF CANADA, LTD., TORONTO.

Beauty is added to classrooms while clean, tempered air promotes health and efficiency.
SELECTED PRODUCERS' BULLETINS

- Careless and improper methods of nailing tongue-and-groove hardwood flooring often result in tongue splitting. When this occurs, squeaks and creaks may develop with the failure of flooring strips to hold together as securely as they should, according to a statement made by the Maple Flooring Manufacturers Association. Good flooring nails are obtainable, but correct nailing technique must be followed to avoid trouble with all of them. Nails should be driven at an angle of 45° to 55°; the first nail or two driven should be "too-nailed" towards the preceding flooring strip to which it joins. This method assures tight end joints.

The spiral floor screw, which drives like a nail but turns and holds like a screw, is gaining popularity; authorities report little or no tongue-splitting, bending, or waste. The Maple Flooring Manufacturers Association recommends the following nail specification:

"For 5/4" flooring: use 6, not over 7-penny cut steel flooring nails or 2 1/4" and 2 1/2 No. 5 spiral floor screws, driven not over 16" apart.

"For 3/4" flooring: use not over 7-penny cut steel flooring nails or 2 1/4" and 2 1/2 No. 5 spiral floor screws, driven 12" or 16" apart.

"Wire casing nails may be used where cut steel or spiral floor screws are not obtainable. Use only non-splitting type wire nails, and nail to each support bearing (Joist or sleeper)."

- A three-month survey of the states east of the Rockies, conducted by the Remington Corporation, of Cortland, New York, revealed widespread interest in single room air conditioners, for which the record-breaking summer of 1949 was partly responsible. Architects, distributors, dealers, and consumers in these areas will be further interested in Remington's substantial price cuts, ranging from $65 to $140, on both window air conditioners and console units.

- A new weather resistant hardboard suitable for exterior building has been developed by the Forest Fiber Products Company, of Forest Grove, Oregon. During the manufacturing process a plastic treatment is applied to selected Douglas fir fibers; after the board is formed an additional surface treatment is given.

The plastic application provides greater structural strength and resistance to water, soap or alkali, and general wear. Like standard hardboard, this new material is grainless so that it will not splinter. The hard, smooth surface will take any type of finish by spraying, baking, or brushing.

- EQUATEMP, a bronze balancing valve, which provides positive leak-tight shut-off and adjustable flow in a single valve has been introduced by the Ohio Brass Company, Mansfield, Ohio, for use with hot water radiant heating systems. The closing and balancing actions of the valve are accomplished by a butterfly disc. The disc is fitted with a composition rubber ring which assures tight shut-off for bleeding or venting of lines. Straight-through design of the oversize port permits optimum flow through valve and eliminates turbulence. This valve accommodates any one of several standard venting attachments; a well drilled into the stem provides a handy method for taking temperature readings. These valves are available with solder-type ends in sizes 5/8 to 1 ¼ inch, or with screw ended in sizes 3/4 to 1 ½ inch.

Thatcher

the oldest name in heating

1850-1950

offers you a complete line of residential heating equipment

White Thatcher

FURNACE COMPANY, DEPT. PA
Germantown Road, Norwood
for current catalogue

- Air Conditioners

FURNACES

AIR CONDITIONERS

DRAFTING TEMPLATES

SPEED JOBS

TRACE standard architectural symbols thru cutouts of exact, transparent templates. House Plan Template: 1/4" scale. $1.50. Planer: 1/8" scale plus modular spacing in all scales. $1.00 Buy from your dealer or direct postpaid.

TIMELY PRODUCTS Box 206P Columbus 9, Ohio
DIRECTORY OF PRODUCT ADVERTISERS


Advising and Executive Offices
330 West Forty-Second Street, New York 18, N. Y. Bryant 8-4430

JOHN G. BELCHER, Vice President & Publisher
FRANK J. ARMIT, Production Manager
WILLIAM D. FRISSELL, Promotion Man.

Advertising Representatives
DAVID B. HAGENBUCH, District Manager, 111 West Washington St., Chicago 2, Ill. Randolph 6-8947
R. JEROME CLAUSEN, District Manager, 111 West Washington St., Chicago 2, Ill. Randolph 6-8947
BRAD WILKEN, District Manager, 630 Terminal Tower, Cleveland 15, Ohio. Prospect 5583
EDWARD D. BOYER, JR., Eastern Advertising Manager, 330 West 42nd St., New York 18, N. Y. Bryant 9-4430
HAROLD D. MACK, JR., District Manager, 330 West 42nd St., New York 18, N. Y. Bryant 9-4430
WILLIAM B. REMINGTON, JR., District Manager, 330 West 42nd St., New York 18, N. Y. Bryant 9-4430

West Coast Advertising Representatives
DUNCAN A. SCOTT & CO., Mills Building, San Francisco, Calif. Garfield 1-7950
2978 Wilshire Blvd., Los Angeles 5, Calif. Dunkirk 8-4151
The secret is a clever hinge arrangement—plus a muntin, a glass panel and a metal panel. This same beautiful Fenestra® Hollow Metal door can be used: Swing-in or swing-out... left or right hand—each with panels of metal or glass... with or without a muntin.

It costs a lot less because Fenestra craftsmen can give you the variety you need and still concentrate production facilities on a few basic high-quality types. Naturally, when production waste in time and money is eliminated, quality goes up and cost comes down.

This door is tough—it can be kicked and slammed and still look good. After years of use, a coat of paint will make it like new again.


This door is easy to handle—it swings open and shut smoothly, quietly. That operating balance never changes. Each door is packed with sound-smothering insulation. This door is fire-safe—steel won’t burn.

Door Comes Complete with Frame and Hardware. Each Fenestra door is carefully packaged to protect the gleaming finish. You can count on quality with Fenestra... over half a century a leader in metal fabrication. Take advantage of versatile Fenestra Stock Hollow Metal Doors. See Sweet’s Architectural File, Section 16a/6. Call your Fenestra representative (listed in the yellow pages of your telephone directory) for further information, or...

*Trademark

MAIL THIS COUPON
DETROIT STEEL PRODUCTS COMPANY
Door Division
Dept. PA-4, 2253 E. Grand Boulevard
Detroit 11, Michigan
Please send me, without obligation, information on Fenestra Stock Hollow Metal Doors.

Name ...........................................

Company ...........................................

Address ...........................................

April 1950 165
ARCHITECTS ARE OFTEN ASKED to design buildings—especially commercial structures—with the possibility of adding additional stories in the future. This always sounds like a sensible idea, but the clients seldom realize all that is involved. In the case of the Mackie & Kamrath bank illustrated on page 87, for instance, an original scheme for five additional future stories was studied, and it was found that the structural system and the foundations required for this possible addition would have made the original first-stage building prohibitively expensive. The idea was dropped, but in the meantime the design of the building had gone ahead under the always complex program of providing an original low building which would not look truncated and an ultimate tall building which would not seem to be an afterthought. Although the economics didn’t work out, it seems to me that the aesthetics were pretty well solved. The illustration shows how the building would have looked with added stories.

IT IS A CUSTOMARY COMPLAINT OF VISITORS from abroad that the architectural journals in the United States give a completely false picture of architectural development in this country. They come to our shores expecting to see work of great competence and dignity on every hand and they discover that it is necessary to search with a carefully drawn map or a personal guide, through thebyways and the side streets, for the accomplished work which they had thought to find all about them. There is, in fact, some of this disappointment when an architectural visitor from the middle west, say, comes to New York, or when an easterner makes his first trip to the west coast. By editorial selection—by publishing only what the editors, using whatever criteria they have established for themselves, consider the “best” of current work—the magazines each month fail to give a realistic impression of the over-all quality of today’s design. We justify that attitude and that program by asking what possible benefit it would be to readers of our papers to show them pictures and describe to them in a given number of words, anything less than the most able work.

This month, however, in the 12 pages devoted to the study of current work in Washington, D.C., we have tried to do a purely news-reporting job. This is the last year’s output of the architectural profession in our nation’s capitol. The total output, as accurately presented as we, with the help of a number of Washington people and the Washington Metropolitan A.I.A. Chapter, could accomplish that job. For the information of all, we show all the work. Some of it is good, some is bad, some is interesting, some is dull. We don’t attempt, in the presentation, to editorialize. Here it is—you look at it and draw your own conclusions.

I am going to permit myself here to speculate on what those conclusions might be. Here we are in the middle (or toward the end) of a great period in man’s history. We are very proud of our social and economic system—so proud, in fact, that we are ready to act as missionaries in teaching it to other people, ready to fight for its preservation even before the drop of a hat. Other great periods in history have produced their equally great architectural achievements. We have the benefit, today, of many converging and possibly culminating influences—the Renaissance and post-Renaissance traditions, the growth of modern thought and modern science, the studies and experiments of the great innovators of our time, the most tremendous technological developments in building construction and control of the environment that have ever been made. We are a sensitive people; we have adopted a democratic political philosophy which is the bravest attempt yet to make all people happy and productive and cultured. What an exciting and wonderful architectural express all this must have!

Well, it’s demonstrated on pages to 82. What do you think? Is the work in your own community as good; better; worse?

AS A POST-SCRIPT TO A POST-SCRIPT

I would like to quote from an app in the February 1950 issue of the Journal of the A.I.A. Frederick N. Claydon, architect of Los Angeles, Calif., we the architectural journals to publish only the work of registered architects. It is his idea that we should be in- sted not in architecture, but in the defined architects. He says, “The archi- tects are fast coming to desper- straits due to the inroads of ‘industri- designers,’ ‘plan services,’ ‘comp building services,’ and just plain signers. We have been asleep so on defensive measures (or that they know beneath our dignity) that have allowed these competitors (a ribble word) to get more than a foot in our field…” I just raise the question as to whether “defensive measures are the means with which to a those ‘desperate straits.’ Could it be that ‘competitors’ would be readily eliminated by more frequent design competence on the part of licensed profession?”

Thomas H. Wright