Again, as during the last war, we are laying up trouble for ourselves in the orderly progress of architectural practice by the gap in the training of architects which appears ahead. How long it will last this time no one can foretell, but the peak enrollments which all schools have gone through since World War II have now been replaced by student-body drops that are alarming many of the schools.

Production of building materials and equipment in 1950 exceeded all past records. What will happen in 1951 depends, of course, on how much of vital base products is diverted into channels other than construction. Producers' Council president A. Naughton Lane points out, however, that in some lines the cutback will be less than the reduction in building volume, because low year-end inventories will be built back. Aluminum production, according to authorities like Richard S. Reynolds, president of Reynolds Metals, will climb to more than 1 1/2 billion lbs., this year (double 1946 production).

Moss Rose Mfg. Co. announces a competition for textile designs, limited to students. Inquire through your school. Entries are due May 31. The jury, a good one, includes architect Abel Sorenson.

American Standards Ass'n. has published a new edition of A.S.A. Abbreviations for Use on Drawings. Of interest primarily to engineers—somewhat to architects—the revised edition can be had from A.S.A., 70 E. 45 St., N. Y. 17, N. Y., for $1.00 a copy.

M.I.T. announces establishment of a new School of Humanities and Social Studies, to be of equal rank with the present Schools of Science, Engineering, and Architecture and Planning. Dean will be John Ely Burchard, architecturally trained former director of Bemis Foundation and director of the college's libraries. M.I.T.'s other architect-dean, Pietro Belluschi, is now a Doctor of Laws, having received the degree from Reed College in Oregon.

Frank Montana, until now partner of Suren Pilafian in Detroit, is new head of the Department of Architecture at Notre Dame.

A.I.A.'s survey of the architectural profession, concerned primarily with education, has received a new financial boost through an additional grant of $40,000 from the Carnegie Corporation of New York. Returns from the questionnaire sent out were good, and preliminary statistics are about ready to be released. Now the Survey Commission is holding a series of conferences around the country and seeking more specialized information from school faculties.

A plan of city-wide improvements for Sao Paulo, Brazil, was announced last month by Ibeo Technical Services, Corp., an organization formed in 1948 to assist foreign countries in technical development, of which Wallace K. Harrison is president. In the Sao Paulo study Ibeo called on Robert Moses and a staff of his specialists from New York.

Associated General Contractors are urging recreation of the War Damage Corporation and legislation offering war damage insurance. Idea is protection of uncompleted building projects in case of enemy attack.
NPA order banning practically all types of commercial construction until February 15 has left the construction industry in a complete state of confusion. What buildings have been actually "started"? What happens to capital investments in land? How flexible will be the definitions of "emergency cases" after the preliminary ban is lifted? How soon will it be before other categories of building are similarly restricted? Industrial expansion, certain types of housing, schools and hospitals, certain classes of public buildings seem safe fields for the moment. This checks well with F/A's survey of the most active fields published last month, and one wonders how much actual tonnage of essential materials is being saved by the new ban.

Heavy construction, according to Engineering News-Record, reached a volume in December, 1950, that made it the record month of all time, and boosted the year's total to a record 12 1/3 billions in this construction field. Public building, (including public housing) and industrial contracts rose sharply; private building (including privately-financed mass housing) dropped.

$3 billion Federal housing program announced in January should offset some of the fears that this field of practice will slump in 1951. There will be continuing arguments as to how much of this the government should and will construct (Senator Maybank says it will be the intent of the bill to leave construction and operation to private enterprise "wherever possible") but it seems clear that this will be architect-designed work, whoever the client. Push, of course, will be on housing for defense areas, which means that many localities will be anxious to prove themselves vital to the defense production activity.

The program which was announced by Sen. Maybank and Rep. Spence is in effect a newborn, lusty but not yet articulate relative of the Lanham Act of recent memory. Schools, hospitals, and community facilities are envisioned as recipients of part of the proposed appropriation. One- and two-family units, row-housing and "particular assistance" to rental housing are contemplated. Again, a push will be given prefab units, and Lustron, forsaken by RFC last year, is already seeking more capital to add to its $37 1/2 millions debt.

Twist on the present housing situation is that war possibility, which is causing the curtailment in private house building, is also producing a greater need for houses due to increasing marriage rate. Marriage license rise in last half of 1950 caused an increase in this commodity over 1949, a shift in the downward trend in "doubling up" on living accommodations, and thus a need for additional housing units.

Architects still seem to be busy, although more and more are turning their eyes—and their feet—toward Washington and the agencies handling defense contracts. Present rush of jobs to beat further limitation orders cannot continue indefinitely and more solid future planning than opportunistic approach of some firms is going to be needed. This will be a tough year for the marginal firm and the firm that has not gotten itself firmly established. Architect-engineer combinations are beginning to blossom again, as are amalgams of smaller offices into more effective and more rounded large groups, which stand a better chance of surviving the peculiar times ahead.

(Continued on page 2)
Manually, Mechanically, or Power Operated

When selecting doors for industrial or commercial buildings, particularly for shipping openings, your first considerations should be economy of space, permanence and reliability... opening and closing speed is also important, not only because it affects heating costs, but from a standpoint of time-saving door efficiency in daily operation. The quick opening, quick closing rolling steel door provides all of these desirable features... open or closed it occupies no usable space inside or outside the opening... its all-metal construction provides permanence and maximum protection, and its simple vertical action assures a lifetime of continuous trouble-free service. If you buy Mahon Rolling Steel Doors, you can rest assured that you will get the finest materials, finest workmanship, and the latest developments in doors of this type. Comparison will convince you. See Sweet's Files for complete information including specifications, or write for Catalog G-50.

THE R. C. MAHON COMPANY
Detroit 34, 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.

Typical Installation of Two Power Operated Mahon Rolling Steel Doors in two double-truck openings to an enclosed shipping dock. These doors are 22 ft. x 14 ft. and are operated by remote push-button controls.
How would you select the DRAINAGE PRODUCTS for a school building?

The selection of the correct drainage products — the products charged with the responsibility of carrying away the waste water in a school — is an extremely important task. You might spend months studying the drainage requirements ... you might spend weeks studying drawings and other data ... and still not be certain that your selection of drainage products was the best.

Drainage, too, is only a small part of a school's requirements, therefore you cannot afford to waste costly time trying to find the right plumbing drainage products to use. How then, can you be certain of your selection? Simply by remembering two facts: (1) Josam has the widest range of plumbing drainage products in the world. (2) Josam is specified and installed in more buildings, than all other makes combined.

For these reasons, you can call on Josam today, knowing that it offers a product for every drainage condition ... a product that has been proven correct in thousands of installations. That's why it is important to call on Josam whenever drainage is required — there's no time wasted, there's no guesswork, and you pay no more for Josam quality.

Select your drainage products by allowing proven experience to do this work for you — put Josam on the job — then you know your job will be done right!

Josam Manufacturing Company

Representatives in all principal cities

Floor, shower and roof drains • Interceptors • Backwater valves • Shock absorbers
Illustrated above are a few of the many types of Josam products now being widely used in school and institutional buildings. For further information send coupon below.

Josam Manufacturing Co.
302 Josam Building • Cleveland 13, Ohio
Please send information on the following products:
- Shower Mixing Valves  □ Drains
- Shock Absorbers  □ Backwater Valves
- Swimming Pool Products  □ Interceptors

Firm: ..........................................
By: ..........................................
Address: ..................................
City & State: .................................

February 1951 5
In these days of critical shortages—when men and money and material must be used to the very fullest, there is one method of building that truly meets the need on every count—it's Ceco's Meyer steelform construction. For here is a building way that saves as it serves:

* saved* men because less time and labor are required in providing open wood centering and form work.

* saved* money because less concrete is used ... the dead load is kept at a minimum ... less lumber is needed ... and since removable steelforms can be re-used, a nominal rental fee is charged.
Concrete Joist Construction

Saves material because only a minimum of critically short steel is needed—and even here less concrete is necessary than required by other concrete floor constructions.

Ceco originated the removable steelform method of concrete joist construction. The company is first in the field—providing more services than all competitors combined. So call on Ceco... the leader over all.

CECO STEEL PRODUCTS CORPORATION
General Offices: 5601 West 26th Street, Chicago 50, Illinois
Offices, warehouses and fabricating plants in principal cities

HOSPITALS—Ceco Concrete Floor Joist Construction is ideally suited to hospitals since it provides fire-safe, sound-proof buildings at economical cost. Widely used in Veterans Hospitals.

COMMERCIAL BUILDINGS—Ceco's Meyer steelform method speeds construction; the simple skeleton centering goes up fast; the forms are quickly placed and removed by unskilled labor.

SCHOOLS—Safe, low-cost construction is assured: concrete is kept at the minimum required for the live load. Saving in dead load reduces costs throughout the structure.

CONCRETE JOISTS eliminate much of the concrete below the neutral axis, saving money, saving material. Suited to buildings with long spans: stores, offices, apartments, hotels.
Every Kwikset box carries the statement "Unconditionally Guaranteed Against Defects in Materials and Workmanship." What does this unconditional guarantee mean to you?

**FIRST, IT GUARANTEES QUALITY MATERIALS**

No manufacturer can afford to make an unconditional guarantee unless highest quality materials are used in his products. Kwikset adheres strictly to this policy of using only the highest quality materials scientifically selected for the particular service to which they are put.

**SECOND, IT GUARANTEES FINE WORKMANSHIP**

The finest of materials are useless unless they are processed into the final product with care and precision. Kwikset's simple design and advanced facilities make possible cost-saving precision manufacture. Tolerances are held to .001-inch... equivalent to \( \frac{1}{500} \) the thickness of a human hair! Kwikset's gleaming finishes are permanently protected by a specially compounded plastic.

**THIRD, IT GUARANTEES CUSTOMER SATISFACTION**

Every one of the millions of Kwikset locks now in use is its own best testimonial. When you specify Kwikset, you are backed by Kwikset's unconditional guarantee. Kwikset challenges comparison on beauty, quality, ease of installation and low price...no other lock combines all of these desirable qualities so well!
Dear Editor: IT'S THE LAW of November and December should make every thoughtful architect ashamed of himself, of his profession, and of the industry of which he is a part. The cases Tomson describes constitute a vote of no confidence in those responsible for our physical environment. Furthermore, it is almost a foregone conclusion that laws such as these will increase in number and comprehensiveness. They are the inevitable result of the way architects and particularly builders have exercised their responsibilities. The building industry is behaving in the same way the food dealers did who sold worthless medicines, who sold worthless medicines, the advertisers who made false claims. Like these industries, building will soon have its own version of a Pure Food and Drug Act clamped on it—hardly houses are any better. They have, almost literally, no place to turn for advice. There is no leadership from the one profession who design and build them have a public responsibility. Architects and builders have not accepted it voluntarily. One result is esthetic zoning, with all it entails in restrictions, red tape, rigidity, appeals, politics, and the like. Undoubtedly there is much more, and worse, to come.

Every sensible architect knows that the very idea "esthetic zoning" is ridiculous. There is, therefore, no point in belaboring the point here. But as one indication of the failure of building as a whole it deserves the closest analysis. Obviously such laws are invoked to stop abuses against the public interest. They would not have been thought of, let alone written, had the building business displayed professional competence. For the knowledge and skill required to make a good subdivision, like those required to perform a good appendix, or write a good will, are just that. Such laws are silly, we say. But without a competent profession to fall back on, how could the lawyers, city fathers, and city planners who write them do any better? They have, almost literally, no place to turn for advice. There are no standard texts such as the medical profession displayed professional competence. For the knowledge and skill required to make a good subdivision, like those required to perform a good appendix, or write a good will, are just that. Such laws are silly, we say. But without a competent profession to fall back on, how could the lawyers, city fathers, and city planners who write them do any better? They have, almost literally, no place to turn for advice. There are no standard texts such as the medical profession enjoys, no analysis of existing streets in the full context of their physical and social development paralleling the studies the social sciences have made of half a hundred whole societies. The architectural profession, unlike any other, is without a literature, without a body of knowledge, literally without any comprehension of what it is doing. This is why architects, builders, developers, no research worth mentioning, and no comprehensive thinking at all. These are the hallmarks of a bankrupt human enterprise.

Had the people of Scarsdale Village been writing a public health law they could have obtained from the USPHS, from several universities, and from thousands of leading, a tremendous body of knowledge, observations, and informed speculation on trends. Because they were writing a public "beauty" law, they had nothing to fall back on but their own limited experience. Had they gone to the profession of architecture, they would have found it divided against itself; its schools without money or sufficient background to make thorough research studies of all the factors which go to make up good streets. True, they reject architects. True, their only interest is money. Also true, the profession has never given them any indication of how to do better. In the face of an intolerable situation, without leadership from the one profession which might have helped, the public itself has decided to tell the builders how to do it, and incidentally, the architects too.

The people of Scarsdale Village have my sympathy. They have been more sinned against than sinning.

ROBERT WOODS KENNEDY
Boston, Mass.

Dear Editor: In commenting on the subject of "esthetic zoning," my first reaction is to call attention to the so-called Shipsted Act, enacted by Congress in 1928, which brings under the jurisdiction of the National Commission of Fine Arts private buildings fronting the national capital. Without any such specific stipulations as included in the Scarsdale regulations, it has functioned satisfactorily for more than two decades.

With similar objectives, the Washington architects operated an "Architects Advisory Council" for 10 years of the '20's and '30's. With no powers other than moral suasion, a rotating jury viewed all plans filed for building permits and graded them according to their general fitness. Operative builders, who first opposed the procedure, came to seek the jury's approvals and commendations. One very definite result of the experiment was abandonment of the filing of a single plan for endless repeats of mediocre house fronts.

These developments were covered in some detail in an address which I delivered at the 23rd annual meeting of the National Conference on City Planning; published in the Octagon for February or March 1929, under the title, "Architectural Guidance in Relation to City Planning and Development." As the title indicates, I have favored general guidance rather than specified controls.

Of current interest and application to the subject of esthetics is a law, adopted by this Congress, which establishes an "Old Georgetown District." All plans for new buildings or alterations in this district must clear the Fine Arts Commission: but, in this instance, the Commission operates through a co-operating committee of architects. This set-up combines the guidance feature of the one-time Advisory Council with the authority of the Shipsted Act. It has the flexibility needed to adjust the delicate balance between the preservation of an old town "atmosphere"—intangible but definitely affecting property values—and the modifications or compromises required by modern residential and commercial requirements.

With the gradual adoption of adequate laws relating to the practice of architecture, and the realization that good design adds dollar value to operations, it would seem that now, more than ever, the principle of co-operative guidance rather than of imposed controls is the best modus operandi. The negative provisions of the Scarsdale requirements could be enforced in every respect—with no two buildings alike and all equally bad: whereas merely general but positive objectives constructively interpreted in give-and-take exchanges between architects (with due allowances for the reasonable requirements, as well as the eccentricities, of clients) could well lead to far happier results.

HORACE W. PEASLEE
Washington, D. C.

Dear Editor: Tomson's articles, IT'S THE LAW, which appeared in the November and December issues of P/A, should be read and thoroughly digested by architects, city planners, and municipal governments. In my opinion it is evident that our cities, counties, etc., should adopt zoning regulations. However, whatever regulations must in some way be flexible with social and economic conditions, and in time, the possible changing of these conditions. With an expanding popula-

(Continued on page 10)
tion, and in turn expanding communities, it is often necessary to change stringent zoning regulations to those of lesser degree.

Although I am not a frequent visitor nor a resident of Scarsdale, I think the community will eventually be an architectural monstrosity. Architecture, esthetically, economically, and practically, is not a static thing. The Scarsdale legislation reminds me of certain areas in and around the District of Columbia where the deeds to property prohibit flat roof houses, prohibit one-story houses, and insist that the architecture conform to a certain period. To my way of thinking, this is the complete reverse of progress. It appears, on the surface, that the architectural profession had little influence on the basis of the Scarsdale legislation.

Many ordinances, regulations, deeds, etc., at one time or another restricted construction to certain costs. It has been proven that with a changing economy these costs restrictions became meaningless. In the “Flower Hill Building Corp.” case, it appears that the zoning regulations involved a square foot area requirement, and nothing else. What has this to do with esthetics, public health, safety, etc., of the building of homes? Perhaps the Building Departments of all communities should establish a “Fine Arts Commission” to study and approve all structures. A commission of this nature would have to be trained, open-minded, and not appointed due to political affiliations. We should have more of Tomson’s articles.

DEAR EDITOR:

Esthetic zoning as discussed by Bernard Tomson in the November and December issues of P/A considers converting into law the standards for residential neighborhoods, which in Southern California have generally been incorporated into deed restrictions by the sponsors and developers of new tracts. If “esthetic zoning” is to embrace design features, which in our best local tracts are passed upon by an architectural committee, then zoning is much too permanent a device. Time is of the essence in any kind of zoning. Because of its terrible population increases, Southern California offers unusual opportunities for a study in “Time, Restrictions, and Architecture”—to paraphrase Sigfried Giedion. Esthetic zoning restrictions suitable for a small, horse-drawn city, such as Los Angeles was at the turn of the century, would be grotesque and preposterous for the hub of the great metropolitan area which now 50 years later surrounds it. Land-use zoning which was made law only 23 years ago is causing much hardship along the boundaries which separate residential neighborhoods from the expansion of the strip commercial districts. Many lots along famous Wilshire Boulevard which lie between business sections are restricted to single-family dwellings, and as such are of little value to their owners. Such hardships would have been tremendously increased with all of the additional restrictions of esthetic zoning. In a city not subject to growth pressures, esthetic zoning could be successfully established.

Certainly in any community it would be highly desirable to put a low-level thermostat under minimum standards for size and appearance. The danger, however, comes in also putting in a high level thermostat, the setting of which would be in the hands of conservative people, who might shut off new ideas in space-planning, construction techniques, and design. Living customs in this area are far from static, and the 20-30 year limitation of deed restrictions enables one generation to protect its own standards of living and property values, without imposing them on the next. Esthetic zoning then, would seem to be a welcome innovation for those who would
Ruberoid makes every type of built-up roof - Smooth Surfaced Asbestos, Coal Tar Pitch with gravel or slag surfacing, and 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 centralized responsibility, smoother operation, uniform quality with Ruberoid built-up roofings.

Because Ruberoid Built-Up Roofs are so logical, a Ruberoid roof was chosen for this outstanding building. A 4-ply coal tar pitch, felt and gravel roof was applied, part over cork, part over foam glass insulation.

Ruberoid specifications provide a functional, time-tested, simple solution to every roofing problem. If you don't have a new edition of Ruberoid's Roof Specification Book, a note on your letterhead will bring your free copy promptly.

S. C. Johnson & Son, Inc., Research and Development Tower, Racine, Wisc.
Architect: Frank Lloyd Wright
Roofing Contractor: Badger Roofing & Siding Co.
We doubt that you've worked on many igloos lately. We haven't helped heat any, either.

But we can help architects and their heating engineers provide the proper thermal environment for any client — anywhere — in any kind of structure.

We have a lot of literature on the automatic control of all phases of heating, ventilating and air conditioning. Information you should have in your files.

And we have a lot of very well informed engineers — in our 87 different offices — who have a lot more information right at their finger-tips.

We sincerely believe we can help you on any project that poses problems of control of any kind — for control is Honeywell's business.

So, why not talk to Honeywell? Why not write to Honeywell for complete information on the equipment discussed in the column across the page? And why not do it now?
maintain the status quo, but one which could prove a deterrent to the continuous re-evaluation of our residential standards and requirements, which is basic to genuine progress.

PAUL R. HUNTER
Los Angeles, Calif.

Dear Editor: In analyzing the cases presented by Tomson, i.e., "Gignoux vs. Village of King's Point" and "Matter of Flower Hills Building Corporation," it seems to me that the zoning in question is a matter of land coverage and usage rather than "esthetic zoning." Zoning based on land coverage, etc., can be based on very sound planning principles and can be judged impartially and impersonally on such basis. When you speak of esthetic zoning, I am always fearful of the type of academic and dogmatic opinions and the perpetuation of the forms of antiquity such as arose to combat the building of Saarinen's Smithsonian Institute on the Mall in Washington. The fact that our communities architecturally have frequently degenerated into environments which are completely uninspiring, if not depressing, cannot, in my opinion, be corrected by esthetic zoning. It may seem far from the point, but it seems to me significant of the quality of taste, which seems to be general in our country, that soap operas, murder mysteries, and give-away programs flourish, while programs such as the Boston symphony and C. B. S. symphony, which were sponsored by major corporations a few years ago, are now going off the air for want of public support. It may sound like sour grapes, but it seems to me that nothing is so profitable as mediocrity and bad taste. A few bright spots in the architectural world such as the General Motors Technical Center, Drake University, and a few other isolated examples are about the only evidence we have going up today that refinement and good taste in design is being supported by our major corporations and financial interests; I sincerely believe that the bad taste exhibited in radio programs, auto designs, etc., is simply a direct manifestation of the general public attitude toward esthetics.

However I do believe that the architectural profession cannot wash its hands and say that public bad taste is to blame for all the monstrosities and ill-planned designs which we have built every day. It is sometimes appalling to realize that a great many of the architectural horrors which cover the country have architects' names proudly attached.

CHARLES GRANGER
Austin, Texas

They won't help you heat igloos, but they will help you on many other problems of control—so write us now for these

Facts you need—FREE!

Just check space opposite equipment you're interested in, fill in your name and address and mail this column to us. We'll get your facts to you promptly.

Weatherstat systems tend to eliminate underheating and overheating. These sensitive instruments compensate for such variable factors as sun, wind, air temperature, etc. Thus, they meter heat in direct proportion to need—provide uniform comfort at lowest possible fuel cost. Available in on-off, or modulating systems. Check here for 16-page booklet.

Pin-point temperature control in pneumatic systems is now possible—thanks to this new Automatic-Reset Pneumatic Relay. Virtually eliminates offset, hunting and cycling in pneumatic systems. In comfort applications, guarantees maintenance of desired temperatures, even in severest or mildest weather. Check here for free folder.

Hospital Thermostat with "Nite-Glowing Dials"—first thermostat ever designed specifically for hospital needs. Luminous dials glow in the dark and are easy to read without lights. No electrical connections required. Magnified indicators. New speed-set control knob, camouflaged against tampering. Simplified design eliminates frequent adjustment. Check here for booklet on hospital temperature control.

MINNEAPOLIS-HONEYWELL REGULATOR CO.
Minneapolis 8, Minnesota, Dept. PA-2-07

Name

Firm Name

Address

City Zone State

February 1951
Why don't you yourself test and compare the various thermal insulations in the privacy and convenience of your own office?

We will send you for 2 weeks' free use a simple, compact, practical and efficient heat-flow tester, with samples of mass insulations, and multiple sheet accordion aluminum insulations. Put it on your desk, plug it in, and make your tests for Down-Heat Flow, Up-Heat and Wall-Heat. Test other insulations of your own choice.

Multiple sheet accordion aluminum cellular insulation is also completely impervious to vapor, will not form condensation nor retain moisture. Its ZERO permeability will force out fortuitous vapor. Safeguards against moisture damage; is an efficient fire stop.

Please refer to revised "Simplified Physics of Vapor and Thermal Insulation" for more information on heat and vapor flow, and on the various thermal insulations. FREE COPY accompanies every tester. To get only this manual, without tester, check indicated square in coupon and mail.

THERMAL FACTORS, INFRA TYPE 6

<table>
<thead>
<tr>
<th>Condition</th>
<th>C.044, R 22.72</th>
<th>7 1/2&quot; dry rockwool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Down-Heat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Up-Heat</td>
<td>C.080, R 12.50</td>
<td>4&quot; dry rockwool</td>
</tr>
<tr>
<td>Wall-Heat</td>
<td>C.073, R 13.69</td>
<td>4 1/2&quot; dry rockwool</td>
</tr>
</tbody>
</table>

Costs less than 9¢ sq. ft., material with labor, between wood joists in new construction.

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

Infra Insulation, Inc.,
10 Murray St., New York, N.Y. Dept. P-2
Please send HEAT TESTER for 2 weeks. Not responsible for any damage to it.
\[\square\] Send only "Simplified Physics of Vapor and Thermal Insulation," NO tester
NAME__________________________
FIRM__________________________
ADDRESS_____________________
TITLE_____________________

Progressive Architecture
First prize and the commission to design and build the new Village Hall were won by Moore & Hutchins, architects, New York.

Moore & Hutchins, New York architects who won the recent “Competition for Village Hall: Garden City, New York,” now are preparing plans of the $400,000 building that will contain the town offices and the fire, police, and public works departments. The Long Island garden community was founded in 1869 by A. T. Stewart, merchant prince and civic leader of that era, who paid $55 an acre for a large tract of land now occupied by Garden City and Mitchell Field. The municipality was incorporated in 1919.

Eight architectural firms were invited to participate in the design competition, for which Edgar I. Williams, F.A.I.A., New York, was the professional advisor. Their designs were judged by Arthur Loomis Harmon, Thomas Harlan Ellett, and Philip L. Goodwin, all of New York. The competitors included: Gugler, Kimball & Husted; Cameron Clark; Adams & Woodbridge; Gillette & Bell; John S. Burrell & Greville Rickard; Clay, Potter & Coulter; and Charles L. Nutt. Five cash prizes were awarded by the jury.

In a statement addressed to those interested in the awards, the jury commented on the problem of designing a public building for a community of established character as follows:

“The proper solution of a structural problem requires a careful balancing of many factors and the exterior appearance, however beautiful it may seem to its creators or might appear to the passer-by, should not be more important than the sum of all the factors—such as suitability, use, a proper relation of the various parts and their relative importance, and the possibility of erecting the building within the funds available, and maintaining it within the yearly budget ... An extravagant plan and/or one which, to be completed, requires the diversion of considerable sums for nonessential elements, becomes as impossible of realization as though it were too large. And the owners, having asked for bread, would be given cake.

“A private owner may dispose of funds as he wished, but the proper use of municipal funds is a public trust ... Never have these considerations been of more importance than they are today.”

(Continued on page 16)
Comments of the jury on the five designs awarded prizes were as follows:

First prize: Moore & Hutchins. "The majority jury feel that this design is definitely the best solution of all the basic factors stated above. The disposition of the parts is excellent, as is their inter-relation and relative importance. The plan is well integrated and the circulation throughout is good. The evidence of judgment and logical thinking is apparent. The exterior is eminently suitable to its locality and this period. It is in scale with its surroundings in mass and composition, in harmony with its plan, and in its details is contemporary with today's thinking without being offensive to yesterday's precedents. It bears the evidence of competence."

"In one detail, the jury suggests that the Board Room and its dependent areas would be improved by placing the Platform on the east end. This will provide a side light and, in its judgment, improve the planning."

Second prize: Gillette & Bell. "This was the runner-up and the minority preference because of its excellent symmetrical mass and its monumental character. "The majority agreed that the mass is excellent but that it was perhaps too monumental, and that certainly too much had been sacrificed to that end. It seems to them that the five great windows shown on the exterior are not an honest expression of the numerous small two-story spaces behind them, and that while they appear as units on the drawing they would not be so in actuality, because of the spandrels between the first and second floors and the location of partitions on the window muntins."

Third prize: Charles L. Nutt. "The plan is well integrated and it fulfills..."
What other wall or floor covering material can take a drenching with hot water so well? Or for that matter what other material can resist knocks and scratches so stubbornly... and stay fade-proof and fire-proof for a lifetime?

Genuine Clay Tile cleans as easily as a china dish and commands respect wherever it is used. Have you considered the use of tile in the kitchen, foyer, utility room or powder room? It is worth a fresh appraisal every time you design or build any type of building. And remember—tile is one of the most versatile materials you can use in designing distinctive color schemes.

Tile Council of America, Room 3401, 10 East 40th St., New York 16, N. Y. or Room 433, 727 W. Seventh St., Los Angeles, Calif.
many of the requirements, but the long, narrow corridors are unfortunate and the exterior is judged to be an unsatisfactory solution.”

Fourth prize: John S. Burrell & Gre­ville Rickard. “In spite of meeting the requirements in many ways, the plan lacks proper intercirculation and the partly enclosed court seems unnec­essary under the plot conditions. More particularly, the exterior, although an honest effort to marry the Colonial Style to contemporary needs, is judged unsuccessful.”

Fifth prize: Gugler, Kimball & Hus­ted. “This was awarded a prize in defer­ence to certain esthetic qualities which are evident. However the majority felt that it is unrealistic in the dispersion of its parts, in its extravagant use of nonessentials, and in its over-emphasis on a past age. It is, for instance, illogi­cal to suppress both the entire Police and Fire Departments to the status of enclosing walls. The jury decided, that if selected it could not possibly be real­ized.”

For the job that requires quality protection against the ravages of water, dampness and weather, specify PECORA SEALING COMPOUNDS.

BLACK ASPHALTIC SEALERS ... in paste or liquid form ... for protecting masonry below or above grade. A versatile product that may be used as a protective covering for all kinds of building materials, resistant to weather, acids and alkalis ... adheres to all surfaces. Contains no coal tar.

KLERE-SEAL DAMPPROOFING ... A colorless liquid with the consistency of thin varnish for above grade sealing of porous or spongy masonry or as a priming coat or sealer in porous joints where caulking compound is to be applied. Contains no paraffine or wax ... will not discolor any surface.

VARSEAL DAMPPROOFING ... For sealing above grade masonry ... especially designed to remedy severe water penetrated condi­tions. Varseal is a transparent amber-colored liquid of varnish consistency. Contains no wax or paraffine.
Pittsburgh Steeltex Floor Lath speeds construction and cuts costs because it permits you to pour your floors while continuing complete operations on the floor below. You get a stronger slab because it is properly reinforced with welded wire mesh—properly cured because the moisture is retained by waterproof backing. For further detailed reasons for specifying Steeltex, see Sweet's or write for catalog D. S. 133, Dept. PA, Pittsburgh Steel Products Co., Grant Building, Pittsburgh 30, Penna.
When you're considering doors...

Here are some COLD FACTS about a HOT PROBLEM

Low Heat Transmission is another reason why you should choose Weldwood Fire Doors

Fire protection has two sides to it. Of course, it's necessary to block passage of the flames. Another requirement... and more difficult to meet in the past... is the maintenance of reasonably low temperatures in the protected area, so that heat can't damage contents (or even start a new blaze).

In a word, the ideal fire door should insulate.

Weldwood® Fire Doors (Underwriter-labeled for Class “B” openings) do just that. In a recent test, the temperature one foot away from the unexposed side of a Weldwood Fire Door stayed down to only 102°F, after one hour's exposure to flame. Indeed, the temperature of this unexposed face of the door was well under 400°F!

The chart shows you how that compares with both Kalamein and hollow metal doors... cold facts that prove the superiority of Weldwood Fire Doors.

And when you consider the bonus of beauty you get in the wide variety of faces of imported and domestic hardwoods... you'll start reaching for your fountain pen to o.k. the order.

Now you'll get a pleasant surprise. For the price on that order is astonishingly low... so low that no modern building can afford to be without the protection these doors give it.

Weldwood Fire Doors are now available in standard sizes up to 4' wide. If desired, they can be furnished with a 10” x 10” glazed light.

You owe it to yourself to get complete information on this Underwriter-labeled Fire Door. Write today, and ask us to send you full details.

United States Plywood Corporation carries the most complete line of flush doors on the market including the famous Weldwood Fire Doors, Weldwood Stay-Strate Doors, Weldwood Honeycomb Doors, Mengel Hollow-core Doors, Mengel and Algoma Lumber Core Doors, 1½” and 1¾” with a variety of both foreign and domestic face veneers.

For Companion-Installation... choose THE WELDWOOD STAY-STRATE DOOR

While this door has the same incombustible Kaylo Core material as the Fire Door, it doesn't carry the Underwriters' Label.

It does, however, offer extraordinary fire protection... as well as other advantages, such as dimensional stability, light weight, permanent resistance to vermin and decay, and modest cost.

Available in the same beautiful hardwood facings, the Weldwood Stay-Strate Door can be used for interior or exterior service.

WELDWOOD FLUSH DOORS

Manufactured and distributed by

UNITED STATES PLYWOOD CORPORATION

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

Branches in Principal Cities • Distributing Units in Chief Trading Areas

Dealers Everywhere
Using Copper wisely in Building Design and Construction

Copper flashing at roof—no parapet

Where walls are to have a capping stone in place of a parapet, this flashing construction is suggested. Twenty-four oz. cold rolled copper with locked soldered seams is recommended so that ample strength will be provided for expansion and contraction stresses. Copper used properly for this and other building details affords lasting protection and a minimum of maintenance expense. For suggestions or counsel on any problem involving sheet copper construction write: The American Brass Company, Waterbury 20, Connecticut.

In Canada: Anaconda American Brass Ltd.,
New Toronto, Ontario.
FOR KITCHEN CONVENIENCE

SURFACE RANGE OUTLET
Adds to appearance, simplifies cleaning. Easy and economical to install. Many types available.

INTERCHANGEABLE LINE
May be employed many ways to suit special requirements. Complete assortment of plates, outlets, switches, etc., is found in H&H catalog.

FLUSH TUMBLER SWITCH
Sturdy, small, Bakelite-based switch designed for Type "C" lamp loads. Fits standard boxes and takes standard plates.

CLOCK OUTLET
Connects clock electrically and conceals all wiring. Flush job provided by recess for plug cap.

MAKE THINGS HAPPEN EASILY
HERE, THERE, EVERYWHERE
WITH H & H WIRING DEVICES

It’s up to you to make things happen easily for the people who will live in a home of your design. This means adequate wiring, and quality wiring devices all over the house. So plan for your clients’ maximum needs. Familiarize yourself with the H&H catalog, and discover how many new and unique devices are available for better living, present and future. You’ll find a complete line of modern, dependable, service-proved standard units, too — good reasons for specifying H&H on your next job.

For more information, write today to: 2302 Laurel Street, Hartford 6, Connecticut. Idea-provoking booklet “Electrical Planning In The Home” promotes adequate wiring.

QUALITY-MINDED ARCHITECTS SPECIFY

THE ARROW-HART & HEGEMAN ELECTRIC COMPANY
HARTFORD, CONNECTICUT

Branch Offices: Boston, Chicago, Dallas, Denver, Detroit, Los Angeles, New York, Philadelphia, San Francisco, Syracuse — In Canada: Arrow-Hart & Hegeman (Canada) Ltd., Mt. Dennis, Toronto
Bui/cl Strength, Long Life and Permanent Beauty

into your new hospital walls... with

NATCO STRUCTURAL CLAY TILE

Natco Structural Clay Tile offers every desirable advantage for hospital wall construction—strength, permanence, attractiveness, firesafety, imperviousness to moisture... plus construction economy and practically no maintenance.

For interior walls, Natco Glazed Facing Tile provides added features of cheery brightness, cleanliness, sanitation, and germproof qualities so necessary to wards, rooms, kitchens, laboratories, operating rooms, corridors, etc.

Many of today's newest and finest hospitals have used Natco Structural Clay Tile for both interior and exterior wall construction. First cost is last cost—because Natco Structural Clay Tile never deteriorates. Installation is easy and speedy with minimum material waste due to modular sizes. Each tile is marked "NATCO" as an assurance of quality. Write for Catalog SA-50 for information and details.

ST. VINCENT'S HOSPITAL
Toledo, Ohio

Interior views showing 6-T series Natco Structural Glazed Vitritle walls. Natco partition tile was also used in the building construction.

Architects—Maguolo & Quic, St. Louis
General Contractors—A. Bentley & Sons, Toledo, Ohio

Buff Unglazed and Manganese Spot Dri-Speedwall Tile
5 1/2" x 12" Nom. Face Size

Regal Blocks
Red Mingled Shades
4" x 5 1/2" x 12" Nom. Size

Speed-A-Backer Tile For backing Brick Faced Walls
12" long, Varying Heights

Ceramic Glazed Vitritle
8" x 16" Nom. Face Size

Ceramic Glazed Vitritle
5 1/2" x 12" Nom. Face Size

NATIONAL FIREPROOFING CORPORATION
327 FIFTH AVENUE • PITTSBURGH 22, PA.
Branches: New York • Syracuse • Detroit • North Birmingham, Alabama
Chicago • Philadelphia • Boston • Toronto 1, Canada

February 1951 23
Because this metal-to-glass seal is airtight—hermetically sealed. The clean, dry insulating air between the panes of Thermopane® is not subject to changes in moisture content. No desiccant is necessary to absorb excess interior moisture. The sealed air space has a uniform ability to insulate against the loss of heat.

Q: WHAT'S THE SEAL MADE OF?
A: Of a lead spacer and a special copper alloy we developed after more than 2,000 tests with all sorts of organic and inorganic materials. These durable metals will not corrode or rust under normal conditions. They are flexible to withstand strain.

Q: HOW IS THIS SEAL PUT ON?
A: A continuous strip of copper is bonded to the inner surface along the edge of each pane... then the lead spacer is heat-bonded to the copper alloy. Glass, copper band and lead spacer are joined into one strong, solid unit.

Q: HOW DO WE GET THE AIR DRY AND ASSURE AN AIRTIGHT SEAL?
A: Following this assembly, filtered, dehydrated air is passed through the unit for a predetermined length of time to remove moisture-laden air. Each Thermopane unit is then tested by a scientific method so sensitive that an airtight seal and maximum performance are assured.

For clear vision and trouble-free performance, insulating glass is only as good as its seal. These are some of the reasons it is important for you to insist upon Thermopane, made in the U. S. solely by Libbey-Owens-Ford.

Get complete information on Thermopane insulating glass from an L-O-F Distributor listed under Glass in the yellow pages of your phone book. Or write Libbey-Owens-Ford Glass Company, 1821 Nicholas Building, Toledo 3, Ohio.
OUT GOES THE CLASSROOM "COAT ZONE"

...when DRAFT STOP is brought in!

TEACHERS KNOW that too many classrooms have a comfort problem. It can seriously affect the health and study habits of students. A day in school offers ample proof. Chilling down-drafts from today's large window areas require additional clothing in certain parts of the classroom.

That's why Herman Nelson DRAFT STOP is being hailed by architects and school officials as the only modern method of protecting pupils against drafts. Over-heating is prevented because the system is controlled automatically. Fresh air supply always available... drafts and cold rushes of air never have a chance.

Be certain the school you're interested in has DRAFT STOP. There's nothing in modern classroom heating and ventilating that can take its place. For complete information, write Dept. PA-2.

HERMAN NELSON
Division of the AMERICAN AIR FILTER COMPANY, INC.
PLANTS IN MOLINE, ILLINOIS AND LOUISVILLE, KENTUCKY

February 1951 25
ANOTHER ADVANTAGE OF BUILDING WITH HOMASOTE...

WITH

NO CORNER BRACING

HOMASOTE greatly exceeds F.H.A. strength requirements
surpasses corner-braced, horizontal wood sheathing

SINCE 1937, Homasote has been eligible for F.H.A. Mortgage Insurance—without corner bracing—as used in Precision-Built Construction. The F.H.A. standards require bracing strength equal to horizontal wood sheathing with corner bracing. Racking tests—by an independent laboratory—showed that Homasote, without corner bracing, has a 150% margin of safety at 1200 lbs. and a 300% margin at 2400 lbs. over these requirements. Many another test has repeatedly shown Homasote to be the strongest insulating and building board on the market.

No corner bracing is required when Homasote—in 4' widths or in greater widths up to 14'—is used on jobs under F.H.A. supervision.

HOMASOTE COMPANY, Trenton 3, N. J.

Weatherproof HOMASOTE

in Big Sheets up to 8' x 14'

...Oldest and strongest insulating and building board on the market

Nova Sales Co.—a wholly-owned Homasote subsidiary—distributes the Nova Roller Door, Nova-I. P. C. Waterproofing Products, the Nova Shingle and Nova-Speed Shingling Clip and the Nova Loc-Nail. Write for literature.

STANDS UP UNDER HURRICANES, TORNADOES, TWISTERS

THIS CHART shows the results of racking tests made by an independent laboratory, using 8' x 8' Homasote sheathing on standard wall framing without corner bracing. At 1200 lbs. pressure, deflection could not exceed 2/10 inch; at 2400 lbs. pressure, 6/10 inch. The diagonal line shows that Homasote without corner bracing had a margin of safety of 150% at 1200 lbs. and 300% at 2400 lbs.
HARD USE makes your decision easy

CASE WALJET $2100. Wall Hung Siphon Jet Closet with hard rubber open front seat, concealed check hinge.

CASE CASCO #2300-A. Vitreous China Straight Front Urinal Stall.

CASE WYNGATE $600. Vitreous China Lavatory. Square basin. Anti-splash rim, heavy wall hanger.

CASE CASCO #2325-A. Vitreous China Wall Hung Washout Urinal with shields, integral flush spreader and spud.

CASE WINDSOR #720. Lavatory with leg, square basin, anti-splash rim. Made in 2 sizes.

CASE #1600. Syphon Jet Flush Valve Closet Combination with elongated bowl.

The heavier the washroom traffic for which you must plan, the more vital it is to make sure the plumbing fixtures will give long years of service with a minimum of maintenance. Case fixtures are molded of the finest vitreous china, highly lustrous and unsurpassed in permanence, sanitation, and resistance to acids and discoloration. Fittings are specially designed for the needs of the fixture in which they are used—a factor of great importance in long service life. The fixtures are available with chair carriers—a necessary safeguard in many installations. For the name of your Case Distributor, see your local Classified Telephone Directory—or write W. A. Case & Son Mfg. Co.,

33 Main Street, Buffalo 3, New York. Founded 1853.

For industrial, institutional and commercial installations

Case Vitreous China
To many a first-year school athlete, much of the thrill of "making the team" is his assignment to personal space in the team locker room. His private Berger Steel Locker is real evidence that he "belongs". It's part of his introduction to the comradeship and good-fellowship that typify American competitive sports.

Berger Steel Lockers are strong and rugged . . . built to stand up under the wear and tear of generations of exuberant athletes. By specifying this safe, convenient, well-ventilated storage, the school architect has helped make uniforms and equipment serve through several seasons . . . helped protect them against loss and unauthorized use.

Chances are that Berger may have helped the school architect work out the details. Berger offers architects and builders a thorough factory engineering and installation service based on many years experience in solving school equipment problems. See Sweet's Architectural File for more details, or write:

154 free-standing single tier Berger Steel Lockers are installed in the boys' locker and dressing rooms at Euclid Senior High School, Euclid, Ohio. Harry A Fulton, Architect.
NOW -
A HINGE
THAT FITS
THE PLANS

for
HEAVY DUTY SERVICE

Full-Jeweled
Ball Bearing Butt Hinge

takes lateral
as well as
vertical thrust

Exclusive Full-Jeweled Ball Bearing assembly consists of a movable and fixed raceway. When lateral thrust occurs, the movable raceway transmits the force directly to the bearings, which, in turn, are held firmly by the fixed raceway. Thus, the weight of the door is supported both laterally and vertically on ball bearings.

Now Stanley provides the Full-Jeweled Hinge—with new ball bearing construction for carrying lateral as well as vertical thrust. It fits the plans that require a hinge that won't wear out.

The Full-Jeweled Hinge is the result of exhaustive laboratory and field tests. You can specify it for heavy doors, exterior doors or for doors receiving high frequency service—with full confidence that it will last longer than any other hinge made.

Now all Stanley Extra Heavy Ball Bearing Hinges have Full-Jeweled Bearings.

STANLEY

THE STANLEY WORKS, NEW BRITAIN, CONN.

HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL

February 1951
For the first time the builder may procure from a single source a steel door frame, flush swing door and choice of four types of high quality hardware. These new Truscon Residential Steel Doors are smart . . . strong . . . modern. Precision engineered and carefully manufactured. Smooth, quiet, trouble-free in operation. Outstanding economy of labor and material for installation is a major feature. Steel construction protects against warping, shrinking or sagging during the life of the structure. Efficiency of space and operating convenience are special advantages of the sliding closet doors. See SWEEP'S for complete details on Truscon Residential Steel Doors, and all other Truscon Steel Building Products.
This is the Society for Savings in the City of Cleveland. To begin their second century this large mutual savings bank completely modernized the building interior—and installed Carrier air conditioning.

This is the Carrier Centrifugal Refrigerating Machine. It provides refrigeration for both the Carrier Weathermaster System (individual room controls at the turn of a dial) and a central zone system.

This is where they put the Carrier Centrifugal Refrigerating Machine. It's right next to the School Savings Department. Yet the Society for Savings says: "While in full operation it has never caused any distraction or inconvenience." Carrier Corporation, Syracuse, New York.
There's a Johns-Manville Built-Up Roof!

Right! It's smooth-surfaced—has fireproof, asbestos felts

...and Asbestile Flashings give added protection!

Yes—it's a Flexstone* Roof
Each ply is a flexible covering of stone!

The secret of a Johns-Manville Flexstone Built-Up Roof is in the felts. They're made of fireproof, rotproof, weatherproof, enduring asbestos.

Flexstone Built-Up Roofs won't dry out from the sun . . . need no periodic coating. They're smooth-surfaced, too—permit thorough drainage, make any damage easy to locate and repair. They are engineered to each job . . . applied only by J-M Approved Roofers. J-M Asbestos felts are perforated to make application easier, give a smoother job, conform better to roof decks.

For your added protection, the Johns-Manville Asbestile* System of Flashing insures proper treatment of all critical areas. Asbestile is a heavy-bodied plastic cement designed for use with asbestos flashing felts to give thorough watertightness. As it sets, Asbestile becomes hard and forms an integral part of the wall itself.

Send for brochure BU-51A. Contains complete specifications for Flexstone Roofs and Asbestile Flashing System. Johns-Manville, Box 290, Dept. PA, N.Y. 16, N.Y.


Johns-Manville FLEXSTONE® Built-Up Roofs
ASBESTOS CORRUGATED TRANSITE® • ACOUSTICAL CEILINGS
DECORATIVE FLOORS • MOVABLE WALLS • ETC.
If you're up against a problem of lighting an irregularly shaped room ... or if plans call for high ceilings and high lighting levels ... put it up to Sylvania.

Whatever your problems, Sylvania lighting experts will sit down with you and work out the perfect lighting layout for your individual requirements.

With Sylvania you get assurance of correct all-over lighting, from a leader in the fluorescent lighting field. You'll get smart, attractive fixtures that harmonize with any interior ... win client approval.

TRIMLINE ... the complete line
The Sylvania Trimline Series offers you fluorescent fixtures easily adapted to the needs of any office, store, or school. Made with plastic or metal shielding. Equipped with 2 or 4 Sylvania tubes ... standard start or instant start ... in 4-foot or 8-foot lengths.

CL-283. This handsome Sylvania Trimline Fixture is equipped with two 96-inch, T-12 instant-start Fluorescent tubes. Luminous side panels add to the overall efficiency and attractive lighting effect.

Get this FREE Lighting Data Folder
Here’s the information architects have long needed. Here are detailed charts for calculating proper illumination ... determining types of Sylvania fixtures. Handy as a slide rule. For free copy mail the coupon now.

Sylvania Electric Products Inc.
Dept. L-5202, 1740 Broadway, New York 19, N. Y.
Please send me FREE copy of your new Lighting Design Data Folder.

Name ___________________________
Company _________________________
Street ___________________________
City __________________ Zone _______ State ____________
Plan a "disappearing act" for telephone wires

Hidden telephone wiring helps protect the beauty of carefully planned interiors. It helps, too, in selling quality-conscious prospects. For telephone raceways are a sign of thorough planning and thoughtful construction.

It's easy and inexpensive to build in telephone raceways. First, select convenient locations for telephone outlets. Then, during construction, have a few lengths of rigid or flexible conduit placed inside the walls and connected to the outlets. These provide "hidden passages" for wires when telephones are installed later on.

Your Bell Telephone Company will be glad to help you. Just call the local Business Office for assistance in planning telephone service in the homes you build.

BELL TELEPHONE SYSTEM
LOOK how effectively the new Insulite SHINGLE-BACKER achieves rich, new beauty for shingled exteriors! See how easily it solves the problem of uniform exterior shingle application! The long 48-inch panels cover a lot of space — fast — and provide a firm, smooth undercourse that makes it easy to match the outside processed shingles with uniform deep-line shadow beauty.

Only a few seconds time and just 4 nails give you a strong, wind-resistant, uniform undercourse that ordinarily requires many miscellaneous shingles, many nails and much longer time to apply. It saves man-hours, eliminates waste . . . and in many cases the total applied cost is surprisingly less than the cost of standard double-coursing procedure. Insulite SHINGLE-BACKER is made of genuine waterproofed Graylite—asphalt-impregnated throughout. It is equally effective for shingling on wood sheathing or Bildrite Sheathing. Ask your Insulite representative to give you all the facts.

RESISTS WINDS BEYOND 250 M. P. H.

Complete instructions show how to use the new Insulite application system for applying shingles over Bildrite Sheathing with the new SHINGLE-BACKER. Test panels, using this system with "Stronghold" grooved nails, have resisted air blasts of more than double hurricane velocity in laboratory wind tunnels—without the loss of a single shingle. Holding strength with plenty to spare!—plus extra insulation, plus assurance of uniform, attractive, exterior beauty.

Write for Complete Information!
USE WINDPROOF BALSAM-WOOL  Wind infiltration through Balsam-Wool® in a frame wall is less than 0.000203 cubic feet per square foot per hour.

For complete information about Balsam-Wool application, send for free A.I.A. file folder containing informative data sheets.

Wood Conversion Company, Dept. 117-21, First National Bank Building, St. Paul 1, Minnesota.

balsam-wool
Sealed Insulation — A Product of Weyerhaeuser
MODERN DOOR CONTROL BY LCN • CLOSER CONCEALED IN HEAD FRAME

THE BROCKTON, CHICAGO, ILLINOIS

LCN CATALOG 11-E ON REQUEST OR SEE SWEETS • LCN CLOSERS, INC., PRINCETON, ILLINOIS
FACTORIES, hotels, hospitals and other structures and buildings erected now will require much less maintenance in years to come — if effective rust control with RUST-OLEUM is written into the original specifications.

Protection against costly rust is particularly important in structural beams and columns, metal deck ceilings, crawl spaces, metal sash, etc., where manufacturing processes, industrial fumes, and condensation due to ventilation difficulties increases serious rust damage that threatens the structural strength of the metal.

RUST-OLEUM effectively retards rust because its tough, pliable, moisture-resisting film combats the causes of rust — even under many of the most difficult conditions.

25 years of superior service to industry is proof that RUST-OLEUM gives excellent results in protection of rustable metal. RUST-OLEUM is highly resistant to water, dampness, brine, heat, industrial fumes, general weathering, and many other rust-producing conditions.

In drawing up specifications that involve the use of rustable metal, consider the extra protection that RUST-OLEUM provides. Specify RUST-OLEUM as the shop coat on all new steel. Remember, the first primer coats are the foundation on which your plan for future protection must stand. It's a profitable, worthwhile investment for your client!

When you deal with rust problems, we'll gladly help you with specific recommendations. See the complete RUST-OLEUM catalog in Sweets Architectural File, or write for a copy. RUST-OLEUM can be obtained promptly from Industrial Distributors' stocks in principal cities of the United States and Canada.

RUST-OLEUM CORPORATION
2522 Oakton Street, Evanston, Illinois

"Rigid Economy Man!"

RUST-OLEUM Stops Rust

Available in many COLORS, aluminum and white.
Recommended and Not Recommended uses for **KENTILE** Asphalt Tile Flooring

**KENTILE IS MADE OF** asbestos • coumarone-indene resins • plastisizers • color pigments.

**KENTILE CAN BE INSTALLED** over any smooth floor that is free from spring, oil, grease lumps or foreign matter • metal • wood • concrete • radiant heated concrete floors • concrete in direct contact with the earth.

**KENTILE COSTS** about 25c per sq. ft. for standard \( \frac{1}{2}'' \) thickness for a minimum of 1,000 sq. ft. depending on size and condition of floor, colors chosen and freight rates. For an accurate estimate, consult your Kentile Dealer. His name is listed in your classified phone directory under FLOORING.

<table>
<thead>
<tr>
<th>KITCHENS</th>
<th>BATHROOMS</th>
<th>BEDROOMS</th>
<th>NURSERIES</th>
<th>LIVING ROOMS</th>
<th>FOYERS</th>
<th>BASEMENT ROOMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>R</td>
<td>R</td>
<td>R</td>
<td>R</td>
<td>R</td>
<td>R</td>
</tr>
</tbody>
</table>

* can be installed below grade over concrete in direct contact with the earth (see diagram)

<table>
<thead>
<tr>
<th>OFFICE WORKING AREAS</th>
<th>PRIVATE OFFICES</th>
<th>CORRIDORS</th>
<th>SCHOOLS AND PUBLIC BLDGS.</th>
<th>LIBRARIES</th>
<th>STORES</th>
<th>RESTAURANTS</th>
<th>FACTORIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>R</td>
<td>R</td>
<td>R</td>
<td>R</td>
<td>R</td>
<td>R</td>
<td>R</td>
</tr>
</tbody>
</table>

**COMMERCIAL USES**

<table>
<thead>
<tr>
<th>SPECIAL KENTILE is recommended for preparation areas</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="SPECIAL KENTILE GREASE-PROOF" /></td>
</tr>
</tbody>
</table>

**SPECIAL KENTILE** is recommended

---

* Standard Kentile is not recommended where constantly exposed to grease, oil and cooking residues. Use SPECIAL KENTILE for areas such as:
  - industrial plants
  - laboratories
  - machine shops
  - food preparation areas
  - cafeterias and restaurants

---

**KENTILE**, The Asphalt Tile of Enduring Beauty

KENTILE, INC., 58 Second Avenue, Brooklyn 15, New York • 330 Fifth Avenue, New York 1, N. Y. • 705 Architects Building, 17th and Sansom Streets, Philadelphia 3, Pa. • 1211 NBC Building, Cleveland 14, Ohio • 225 Moore Street, S.E., Atlanta 2, Georgia • Kansas City Merchandise Mart Inc., 2201-3 Grand Avenue, Kansas City 8, Missouri • 1440 11th St., Denver 4, Colorado • 4532 South Kolin Ave., Chicago 32, Ill. • 1113 Vine Street, Houston 1, Texas • 4501 Santa Fe Avenue, Los Angeles 28, Calif. • 95 Market St., Oakland 4, Calif. • 452 Starler Building, Boston 16, Mass.

February 1951
SPANDREL FIREPROOFERS claim the work was greatly simplified by carpenter shop moved to each floor. Formwork fabricated near where used. Transporting concrete from material hold to where it was poured was made much easier by smooth Q-Floors.

ELECTRICIAN was able to time work to his own convenience, roughing-in anywhere in the building, without waiting for other subcontractors to vacate floor space.

MATERIAL ELEVATOR could work to every floor, increasing the tower height with the framework. Every floor was available for material storage. There was no double handling.

PASSenger ELEVATOR was helped by convenient storage. Several miles of rails were stacked close to where needed but never in the way of other workers.

STONE Mason saved time on storage. Only one handling of materials from truck on the street to within 20 feet of where used.

BRICKLAYER unhampered by forms or shoring, worked safely and quickly with materials and equipment loaded onto floor immediately behind the men. Streets and sidewalks not needed for storage.

CARPENTER moved his shop from floor to floor, with power equipment always nearby.

SASH CONTRACTOR had same storage convenience as masons; only one handling of material, every floor being a warehouse.

HEATING CONTRACTORS could work on any floor without delay. Every floor was convenient for on-the-spot fabricating.

PLUMBERS also had complete flexibility of storage and assembly areas.

AIR CONDITIONING was speeded by needing no preset inserts for duct hangers. When changes of layout were called for, the flexibility especially was an asset.

LOOK BETWEEN THE LINES and you will see the evidence of how Q-Floors reduce the overall cost of a building. The subcontractors say their men were able to work faster. Materials were handled less.

Time saved is merely another way of figuring money saved. Another saving accrues from the earlier completion date you get with Q-Floor construction. Earlier occupancy brings revenue sooner. When the price of Q-Floors is quoted, these savings cannot be actually deducted from the cost of the Q-Floor, but they should be kept in mind.

Steel Q-Floor is shown here with suspended ceiling and a condensed presentation of mechanical equipment needed in a modern building. No preset inserts.

The General Contractor, and others closely associated with the building found it hard to realize that there were 1,000 men distributed over the building at once. This type of construction permits all the trades to work at one time with smaller groups. This is one reason for the speed—hence the lower cost.

Twice beautiful to the engineer's eye...

kno-draft adjustable air diffusers

Beautiful to look at, of course...with an unobtrusive simplicity that is as much at ease amid the crystal chandeliers of a ballroom as in the stark severity of a broadcasting studio.

But the engineering eye sees also the functional beauty of Kno-Draft Adjustable Air Diffusers...the uncomplicated cleverness of engineering and design that assures an even distribution of air without draft.

Kno-Draft Air Diffusers are adjustable after installation. Both the volume of air and its direction can be screw-driver controlled to balance temperature and distribution exactly as required throughout the entire conditioned area.

Still a third "beauty" of Kno-Draft Adjustable Air Diffusers is the complete satisfaction they give on the job. Types and sizes to meet every need.

KNO-DRAFT DATA BOOK: Complete specifications, engineering and installation data on Kno-Draft Adjustable Air Diffusers. To get your copy, simply fill in and mail the coupon. No obligation, of course.

W. B. CONNOR ENGINEERING CORP.
Danbury, Connecticut
Air Diffusion • Air Purification • Air Recovery
In Canada: Douglas Engineering Co., Ltd., 190 Murray Street, Montreal 3, P. Q.
Explicit Catalog Data

- 99 Product Illustrations
- 51 Cross Section Details
- 47 Light Distribution Curves
- 24 Coefficient of Utilization Tables
- Detailed Product Specifications
- Applications
- Data
- General Engineering Information

Write on your letterhead for free catalog, INCANDESCENT UNIFIED LIGHTING

Art Metal Incandescent Unit for every lighting need.
MINUTES MEAN MONEY

When you complete 38 homes a day!

"We use MATICO because it's easier, faster to install... assures low cost... high quality."

... says Levitt & Sons

America's largest builder of private homes.

Time is precious when you build 5,400 new homes a year. To meet such an exacting schedule, Levitt & Sons is geared to complete 38 new homes a day. That's why they select MATICO Asphalt Tile for flooring every room of their new 1950 Levittown economy-type homes and their Roslyn, N.Y. luxury-type homes. MATICO's precision-cut, squared edges save valuable installation time and MATICO assures a minimum of breakage — an important cost-cutting factor. Precision tested throughout manufacture, MATICO meets Federal specifications for flexure, indentation, curling and impact.

Homeowners like MATICO's durability... economy... and 27 rich, clear colors that harmonize readily with any decorative plan.

Specify MATICO for every type of installation—apartments, industrial plants, institutions, stores and homes.

Get to know MATICO

See our insert in Sweet's File Architectural, section 13g/MAS. For free samples, write us on your business stationery.

MASTIC TILE CORPORATION OF AMERICA

Member: Asphalt Tile Institute

Factories: NEWBURGH, N.Y. • LONG BEACH, CALIF.
THE lively business reported by stores equipped with modern Brasco Fronts is generally credited to advanced Sellevision* design incorporated by the architects. 'Round the clock if you want it, the revealing magic of Sellevision catches the eye of the passer-by and directs it within.

With Brasco sash members reduced in height to only 25/32" larger glass areas are revealed and maximum Sellevision attained. At the same time the deeper, safer Brasco grip on the glass is fully and dependably maintained. The wide variety of interchangeable sash and sill assemblies available in both heavy gauge stainless steel and anodized aluminum permits handsome custom designed effects with our standard stock members.

Installations require stock size millwork only, saving time and reducing costs. Full size details of Safety-Set Store Front Construction and the outstanding new Brasco line of aluminum doors and complete entrances are immediately available. Please address Dept. P 102.

A COMPLETE LINE FOR EVERY DESIGN

BRASCO MANUFACTURING CO.

HARVEY • (Chicago Suburb) • ILLINOIS

Specialists in Metal Store Front Construction for more than 40 Years
Multiple-Use-of-Space
Answers All Three Problems

With in-wall equipment an activities room can be converted to a lunchroom for 200 in eight minutes. Lunchroom space and table and chair storage space are eliminated. Now in satisfactory use from coast to coast.

WRITE FOR CATALOG

In-wall
FOLDING TABLES
AND BENCHES
ALREADY SPECIFIED BY 85% OF ALL LEADING SCHOOL ARCHITECTS IN NEW BUILDING AND REMODELING PROJECTS.

SCHIEBER Manufacturing Co.
12730 Burt Road, Detroit 23, Michigan

February 1951 45
Making Daylight work better for you is our business.

Putting Daylight to work for you is the business of our Daylight Engineers. Your next problem may be careful designing for smooth operation and economical maintenance rather than of light control.

That was the chief problem before Holabird and Root and Burgee when they designed the Illinois Bell Telephone’s second long-distance switching center in Chicago. While daylight was desirable, it was subordinate to good insulation for the air-conditioning system, exclusion of dust and dirt.

An Insulux Fenestration System provided this building with good insulation. It made possible lower cost air conditioning, heating and maintenance plus all the daylight needed. The Insulux glass panels will not rot, rust or corrode. No painting is necessary. Infrequent washing keeps the glass block sparkling.

Whenever you have a problem involving daylighting plus other building considerations, consult our Daylight Engineering Laboratory, Dept. PA 2, Box 1055, Toledo 1, Ohio. Insulux Division, American Structural Products Company, subsidiary of Owens-Illinois Glass Company.
Mengel's hardwood Stabilized Solid Cores are deeply slotted both with and across the grain to absorb expansion and contraction internally without changing the dimensions of the door. The entire poplar core assembly is tongued-and-grooved into the dove-tailed wedge-locked hardwood frames, with enough tolerance to absorb stresses.

Designed and built to withstand severest conditions, Mengel Solid-Core Flush Doors are better. Get all the facts. Write today for new full-color A.I.A. descriptive catalog, including specifications.
In a ground-to-roof remodeling program begun in 1946, the Webster Hall has modernized all of its guest bathrooms as well as the public lounges. This view of the women's rest room shows smartly styled, shell pink Crane Marcia Lavatories in a counter of black tile. Of vitreous china, the Marcia comes in white and eight Crane colors. Features: roomy, semi-oval basin, exclusive Secura waste. Dial-ese controls on convenient beveled panel. Size: 24" x 21". Consult your Crane Branch or Crane Wholesaler.
ANNOUNCING YOUNG...

Low-Level Convector-Radiators

FOR INSTALLATION BENEATH PICTURE WINDOWS

Streamlined, compact cabinets; slide-in inlet grilles optional.

Abundance of heat delivered from louvered grille.

Chain damper control permits individual room temperatures.

Felt strips and corner gaskets prevent leakage and attendant wall streaking.

Knockouts and header casting design permit simplified piping.

Sturdy tube-and-fin core has exclusive easy-to-adjust supports.

Cabinet radiates heat, helping to offset normal off-peak heat loss.

One-piece front panel easily removed for access.

Here is a Convector-radiator just 12'' high, yet capable of providing a blanket of warm air for the "room with a view."

It's the Type "FL" model—the latest addition to the Young line of Convector-radiators—for use with any hot water or two-pipe steam system. Low-level cabinets are available in a wide selection of sizes, ranging from 20'' to 112'' in length, 4'', 6'', and 8'' in depth, and for either free standing or semi-recessed installations.

Specify "Young" for your convector-radiator requirements. All models are tested and rated in accordance with Commercial Standards CS 140-47, as developed cooperatively by the trade and national Bureau of Standards, U.S. Department of Commerce.

Catalog No. 4150, just released, gives roughing-in dimensions, ratings, etc. Write now for your copy.

OTHER STANDARD TYPES

Free Standing Type "F"—Suitable for either free-standing or semi-recessed installation.

Wall-Hung Type "S"—Sloping top grille. Wall-hung model facilitates cleaning of floors.

Partially-Recessed Type "R"—Cabinet fits into wall recess conserving valuable floor space. Type "FR," Fully Recessed Model, Designed for full utilization of room space.

Bathroom Type "B"—Compact wall-hung unit permits installation under average lavatory fixture.

YOUNG

Heat Transfer Products for Automotive and Industrial Applications.

Heating, Cooling, Air Conditioning Products for Home and Industry.

YOUNG RADIATOR COMPANY

DEPT. 621-B, RACINE, WISCONSIN

Plants at Racine, Wisconsin and Mattoon, Illinois

Sales and Engineering Representatives in All Principal Cities

"YAC" Air Conditioners Horizontal Unit Heaters Cabinet Unit Heaters Heating - Cooling Coils "Vertiflow" Unit Heaters

February 1951 49
A design study for The Mosaic Tile Company to illustrate uses for ceramic tile in a contemporary house

by Serge P. Petroff A.I.A. and Harvey P. Clarkson A.I.A.

132 E. 58TH STREET, NEW YORK 22, N. Y.

In the architects' search for materials which help to express the practical utility of functional design, Mosaic Ceramic Tile is finding wider and wider acceptance.

In this living-dining room study, the architects clearly illustrate how Mosaic Ceramic Tile may be used in several ways to provide an unusual combination of lasting utility and beauty—a warm and attractive background for pleasant, carefree living.

Several types of Mosaic Ceramic Tile are used in the study. Mosaic Granitex for the floor over a concrete slab in which heating pipes are placed; Mosaic Glazed Wall Tile for decorative surface on two walls; Mosaic Carlyle Quarry Tile in the construction of the fireplace, as the surface for a unique bench served by movable seats and as steps to reach the dining area on an upper level.

The complete Petroff-Clarkson Study is available at no cost. Three folders describe the study, provide tile specifications and radiant heating computations. Use the coupon on the opposite page.
Mosaic Granitex Floor Tile

Mosaic Granitex Tile is made from a blend of native clays. Its distinctive, pleasing texture is restful and easy to live with.

Granitex does not fade. It is not affected by acid or stains. It cannot burn, warp or curl.

Mosaic Granitex Tile is made in eight colors, as illustrated. Reminiscent of rich earth tones, Granitex colors have a natural charm to harmonize with decorator colors.

Mosaic’s nation-wide organization is available to you for specification, design and installation assistance. Be sure your files contain every piece of up-to-date literature now available on Mosaic Tile. Use this handy check list to be sure.

Grecian spiral floor in red Granitex, as specified in the Petroff-Clarkson study. It is made up of units 1” x 1” and 2” x 2”. Pattern No. 2251A.

Tan Granitex No. 1221
Brown Granitex No. 1222
Buff Granitex No. 1223
Red Granitex No. 1225
Black Granitex No. 1228
Yellow Granitex No. 1231
Blue-Grey Granitex No. 1226
Blue-Green Granitex No. 1227

Granitex is a Registered Trade Mark

THE MOSAIC TILE COMPANY

GENERAL OFFICES: ZANESVILLE, OHIO • WAREHOUSES AND OFFICES IN PRINCIPAL CITIES • OVER 4000 TILE CONTRACTORS TO SERVE YOU

CLIP THIS HANDY CHECK LIST TO YOUR LETTERHEAD. MAIL TO MOSAIC AT ZANESVILLE OR TO YOUR NEAREST MOSAIC OFFICE FOR THE LITERATURE YOU NEED.

☐ Petroff-Clarkson Study
☐ Quarry Tile Booklet
☐ Ceramic Floor Tile Booklet
☐ Trim Chart
☐ Tile Bath Accessories Folder
24 Pages of Orderly Data on Finishing Hardware!

Simplified formula for writing precise specifications

Contains . . . illustrations and descriptions of Key 'n Knob locks, Bor-a-lign locks, traditional mortise type handle and knob locks, door closers, hinges and exit devices.

. . . precise specifications for various openings in Commercial and Public Buildings, Schools, Hospitals, Hotels, Apartment Buildings and Residences.

Prefaced by a simple 5 step formula for writing a complete finishing hardware specification for all buildings of the above type.

STEP 1 — Explanation of formula and a typical example.
STEP 2 — Selection of design and type of lock desired.
STEP 3 — Selection of finish for all or various portions of the building.
STEP 4 — Specification of exact items required for each opening (compiled in tabular form).
STEP 5 — Specification of window hardware and miscellaneous items.

A new, practical and greatly simplified product and data file designed to render assistance wherever an Architectural Hardware Consultant is not readily available. Specify Lockwood — it's easy . . . and it assures lasting satisfaction!
In addition to the library, which occupies the whole of the second floor, this building, attached to the old administration building of Cameron State Agricultural College, contains the offices of the college president, the registrar's and business offices, and three classrooms.

Right—detail of entrance, which is also the link that joins the new and old buildings. Photos: Julius Shulman
A new building for Cameron, to be joined to the existing administration building, that would include offices for the college president, business offices, three classrooms, and a library with a capacity of 15,000 volumes. The college, founded in 1908, now has an enrollment of approximately 600 students.

Flat property on the campus immediately south of the administration building.

A two-story scheme, with the president's offices, business offices, and the three classrooms on the ground floor; library facilities, above. The entry corridor connects to the old building at the ground-floor level. The library required greater width than the classrooms below, which proved a "natural" for letting the second floor overhang the south-facing classrooms, and thus subdue the glare of the sun (see photo above and section, facing page). On the library floor, a roof overhang is provided for the same reason, and this works out well, according to the architect, except in mid-summer, when some direct sunlight enters. With this setback feature thus established, it was felt it would be esthetically satisfying to carry out the same general scheme throughout the fenestration.

Due to a clay-soil condition, with a spontaneous water gravel about 12 feet below grade, bell-bottom footings, extending down 15 feet, were used. The building is steel framed. Interior walls are either pumice-concrete masonry or brick; exterior walls, separated by an air space from interior walls, are of either brick or corrugated metal siding. The building is steam heated with baseboard radiation in the office and library areas; wall convectors in classrooms.

CONSTRUCTION: Foundations: bell-bottom concrete footings. Frame: structural steel and bar joists. Walls: cavity walls of brick; metal spandrels. Floors: concrete, either colored and hardened or surfaced with as-
phalt tile. **Roof:** steel deck; built-up tar and gravel roofing. **Insulation:** acoustical—tile on ceilings; thermal—glass wool in attic space. **Vene-**
 remarkably, a projection sash; $1/4$" plate, double strength, and heat-
absorbing glass. **Doors:** hollow core, birch; folding doors; built-up, flush, birch.

**EQUIPMENT:** **Heating:** gas-fired, sectional cast-iron steam boiler and con-
trols; wall-hung convectors; baseboard type radiation. **Lighting:** fluores-
cent; flush; incandescent; galvanized conduit.

**Paul Harris:** Oklahoma A. & M.; work in various offices until 1927 when partnership was formed with the late E. H. Eads; private practice since 1932.

**Philip A. Wilber:** Oklahoma A. & M.; Professor of Architecture and Head of School of Architecture and Applied Arts at A. & M. from 1930 to 1947. Since 1947, College Architect charged with development of plans and supervision of construction for the eight schools and colleges under the Board of Regents for the Oklahoma Agricultural and Mechanical Colleges.

---

**Left—section indicates the setback wall system worked out for the southern classroom and library wall.**

**Below—photograph indicates how this operates as a sun control.**
Left—the east-facing entrance and stair hall pavilion; at right of photo is wall of old administration building. Students using the library can reach it without passing through other parts of the buildings.

Above—detail of stairway, taken from the landing. Display cases line inner walls at both levels.

Left—the registrar’s desk and south entrance.
Left—detail of charging-desk end of library, with open stacks in back.

Below—detail of room, looking across desk to south window wall, and (bottom of page) looking back toward the entrance and corner window.
Shop: Seattle, Washington
RALPH BURKHARD, ARCHITECT, GIDEON KRAMER, ASSOCIATE

The verde antique marble veneer of the store-front (left) is applied over existing 6" terra cotta wall surfacing, with a 2 1/4" air space left between. Angled display window allows relaxed window shopping.

Immediately below—one of the movable, curtained and mirrored background panels that define sales areas.

Bottom of page—general view, looking toward street. Carpeting is light, warm gray; chartreuse window curtains; light gray curtain on sales-area panels.

Facing page—looking to rear of shop. Round island display table is used for the pièce de résistance. The background curtain is white, and the ceiling eggcrate is painted off-white.

Photos: Dearborn-Massar
A conservative setting for display and sale of quality furs. The original idea was that the shop should be separated from the street by a fairly solid wall, with only small show windows. Specific requirements: three defined selling areas; work shop, storage space. To be accomplished as economically as possible.

Deep, ground-floor rental space, at corner of pedestrian alleyway. Instead of the closed-front parti originally contemplated, an angled, open-front scheme was adopted; equipped with a sliding curtain, so that the degree of openness is optional. To provide the required selling areas, yet allow the client flexibility in his shop arrangement, movable panel units were provided. Thus, as shown in the plan, the entire shop may be rearranged at will. Display of furs is limited to a few pieces, placed casually on the chairs or tables that furnish the sales areas. Ceiling lowered by wood eggcrate hung from existing ceiling.


EQUIPMENT: Heating, plumbing, etc.: existing. Lighting: fluorescent lamps above wood eggcrate construction; eyeball spotlights.


Gideon A. Kramer (lower photo): Art Institute, Chicago; industrial designer with various plants; engineering research at Boeing during war; industrial-design practice established, 1946.
Co-operative Housing—An Appraisal

BY VERNON DEMARS

Recent years have seen a great upsurge of interest and activity in a form of enterprise comparatively new to this country, but one which for many years has been spectacularly successful in other parts of the world—co-operative housing.

The idea of co-operation or mutual self-help is no stranger to America. Barn-raisings and husking bees were part of the fabric of pioneer life. The frontier was penetrated by the trapper and trader who were, of necessity, rugged individualists. But, of the same necessity, the wagon trains of settlers which followed them were co-operative enterprises. The many could do together what one could not do alone. The idea behind co-operatives today is as simple as that.

Co-operation in early America was not a self-conscious affair. It was simply a direct answer to an obvious problem. The production of housing being a pretty complex business, it is not surprising that organized co-operatives confined themselves in general to other forms of activity for several decades in the United States. The packing, shipping, and marketing co-operatives of the California Fruit Growers are independent, old, and solid institutions not really related to the co-operative movement. Yet these are, in one sense, consumers' co-operatives; for although the individual members are producers of goods, they are also consumers of the co-operative services.

In the Middle West, however, the retail, wholesale, and processing activities of co-operatives have reached a scale that justifies calling them a movement. In 1948, the co-operatives in Ohio, Illinois, Michigan, and Wisconsin did a retail business of almost $200 millions, including more than 20 percent of the farm-supply business—seed, fertilizer, feed, and other supplies—and nearly 25 percent of retail petroleum business in the rural sections of those states. Here again the base is agricultural, with the implication, perhaps, that the co-operative is a necessary device in rural areas. It is, of course, more than that, and its widespread activities in the Middle West stem, without doubt, from the large Scandinavian population with its background and experience of successful operations in the Rochdale type of organization.

The principles developed by the mill workers of Rochdale, England, in 1844 have been taken as the basis of most co-operative enterprises throughout the world today. Briefly, as listed by Elsie Danenberg in *Get Your Own Home the Co-operative Way* (Greenberg Publisher, 201 East 57th Street, New York, N. Y.), they are:

1. All goods to be sold at prevailing market prices.
2. All merchandise to be sold for cash.
3. Membership to be open to men and women regardless of party or creed.
4. One vote to be allowed each member regardless of shares owned.
5. Full information, based on proper accounts and audits, to be presented to members.
6. Interest payments for the use of capital to be restricted to a fair return.
7. Fair and honest dealings to be maintained in all business.
8. Savings to be returned to patrons in proportion to the patronage of each.
9. A portion of all savings to be used for education and expansion.

In turn, the experience of co-operatives in large-scale planning, economic construction methods, and efficient organizational techniques has led to their employment by these governments to provide housing for the lowest income families.

Co-operative housing has been most successful in those countries where aid and encouragement in various degrees have come from municipal and national governments. In turn, the experience of co-operatives in large-scale planning, economic construction methods, and efficient organizational techniques has led to their employment by these governments to provide housing for the lowest income families.

The reasons for government support of co-operatives abroad could not be better summarized than by quoting from the report of the U.S. Senate Banking and Currency Subcommittee on a study of co-operative housing in Europe:

"The governments have encouraged the co-operative because they believe that it affords an efficient technique of economic construction and maintenance, resulting therefore in lower rentals and housing costs to the consumer, and at the same time keeps government out of a field which, it has been demonstrated, is as efficiently or more efficiently run by the co-operative type of organization than by the government itself. In fact, many municipalities employ the co-operatives to build and operate the housing projects for them. Furthermore, these governments believe that the people gain an advantage from taking part in such activity in terms of personal satisfaction and by substituting their own work and efforts for that of others, an economic or
monetary advantage. The co-operative, it is pointed out, are not only interested in housing as such, but in the social aspects of housing as well, yet unlike the government they retain the advantage of private initiative. Because they are interested in the social aspects of housing they work in conjunction with the government, but are nonetheless independent of it. They at the same time serve as a vehicle for special aids by the government to large families and the aged, and carry on a number of special social tasks—such as providing and operating nurseries, kindergartens, recreational activities, etc. The self-operation of the co-operatives relieves the government of a huge administrative task.

"Co-operative housing appeared on the Swedish scene as early as 1880," states the above report, and continues with what might be a description of co-operative housing in the United States today; "The founders of these early societies tried to secure lower housing costs and greater security in tenure for their members. However, because each society was an independent unit, each new venture had to go through all the difficulties of organizing without being able to use the experience of earlier groups. Consequently these early societies were generally financially weak and involved considerable risk to the members who had pooled their small savings to make the cooperative possible.

World War I, with its housing shortages and sharply increased rents, brought on a spurt of co-operative housing activity in Sweden, but it was not until the 20's that the key was found to the accomplishments of the next quarter century. In 1924 the war-born local housing societies formed the National Association of Tenants' Savings and Building Societies—Hyrsegästerma Sparbank- och Byggnadsföreningarna Riksförbund—otherwise known as H. S. B.

The essential characteristics of all the Swedish associations are ownership and control by the member-tenants. H. S. B. is organized on three levels. In the middle are the "parent" societies in some 130 towns and communities which take the initiative in new projects and provide certain banking, bookkeeping, purchasing, and supervising services at the local level. On completion, a project is taken over by a "daughter" society composed of the tenants whose five percent equity and modest payments will make them the future owners of the specific development. These continue, of course, to receive business and bookkeeping assistance from the "parent" society. Then there is the "national" office which, in addition to performing architectural, engineering, and financing functions for the society, operates various business enterprises such as banking, materials manufacture, prefabrication and architectural and town planning consultation to communities.

Co-operatives had long been dealt with in some detail because, despite differences of history and temperament, it seems unlikely that co-operative housing in this country will ever amount to very much without most of the ingredients of the successful Swedish program.

Until comparatively recently, co-operative housing in the United States was limited almost entirely to apartment houses which had been built or purchased by co-operative associations. Of these, the majority represents an established, conservative real estate device among high income groups. Others seem remembered mostly for their financial difficulties during the depression of the Thirties. These associations were for the most part completely independent and unrelated to the Rochdale movement. An outstanding exception to both these categories is the developments sponsored by the Amalgamated Clothing Workers in New York City, within the framework of the N.Y. State Limited Dividend Housing Law. These are now in their 24th year. Through May, 1950, 11 separate projects had been undertaken to a total of 1906 dwelling units. At the present time, 665 additional units are under construction. Most of the projects were financed by the Bowery Savings Bank and some insurance companies. Some received N.Y. State tax exemption for 20 years on the improvements. (Swedish co-operatives pay full taxes.) Member's equity is based on a payment of $500 a room. Rents are $11 and $12.50 per room per month. Persons forced to leave the development receive a full refund for their equity. Distribution of patronage rebates on the 1944-45 operations of two developments exceeded $50,000. Voluntary contributions of one half of these rebates over the years had built up reserves in the Bronx projects totaling $250,000 in 1946. A.C.W. is proud of the fact that it was able to carry most of its tenants through the depression, with its own reserves.

Since World War II, a new wave of interest in co-operative housing has swept the country. Now the crest is passed. Of the many who rode the wave some few are still afloat and may yet make the shore. Many have sunk from sight and others are on the rocks—the beach is strewn with wreckage and the rescue party which set out with such high hopes has been critically delayed. This grim metaphor is, unfortunately, too apt.

Of those who made it, however, the score or more in war housing projects had it easiest. When permanent or semi-permanent war housing was put up for sale by the government, veterans and tenant co-operatives were given preference and many co-operative organizations over the country came into being, with most problems already solved.

Another category included small associations with modest aims, whose goal might be a group of 5 or 50 homes either detached or in a row, scheme, of which the Avenel group, on the next two pages is an example.

In H.S.B.'s famous small-house program, a family with three children can own its own home, co-operatively, for less than 20 percent of annual income, its own labor providing the 10 percent down payment.
Early in 1946, 10 veterans and their families who wished to live in a central location joined together in the hope of saving through a co-operative undertaking. Because of rapidly rising building costs, the houses cost more than originally anticipated; yet they were built for close to $10 a square foot, and there was also a real saving in the joint purchase of the property.

Financed under Title 608 of the FHA, the group consists of 10 identical houses, arranged in two rows across a slope so that the living sides of the upper-level houses look across the rooftops of the downhill houses, and all houses thus enjoy the widespread view.

Through use of sliding doors or panels, the houses can be one, two, or three-bedroom dwellings at will. The large bedroom off the living room can be furnished as a den, and, with a panel opened wide, this entire area is added to the living-room space. Similarly, a panel between the two smaller bedrooms can be moved on its track to form one large room.

Stud-and-stucco construction was selected as the most economical, and fixed glass or doors were inserted between non-load-bearing posts spaced four or six feet on centers.

The architect is frank to comment that "other than the savings due to party walls, we doubt if there was a great saving over individual houses in either time or cost. Conditions were at their worst, with contracting on a cost-plus basis." But acquisition of a site in a good central area, within three miles of downtown Los Angeles, at a reasonable individual price ($2,000 each) near parks, transportation, and schools, he believes was a great advantage of the group action: "Such sites just are not available to the individual at several times this price."

In commenting on this project, Vernon DeMars finds the flexible house plan "extremely ingenious" and assumes that the exact repetition of the 10 units undoubtedly resulted in some savings. But, he goes on to say, "10 would seem to be about the limit, esthetically, to be grouped in any one spot."

The Editors
The three photos at the bottom of this page show details of the living room and terrace areas of one of the upper-level houses. All houses have identical plans and similar amenities. The site slope (see section, opposite page) insures for all a good degree of privacy.

Left—detail of one of the upper-level houses, taken from the roof of one of the downhill units.

Below—looking along the entrance walkway for the lower-level houses, at right, the curved enclosures shield service yards.

Photos: Julius Shulman
CO-OPERATIVE HOUSING

If the owners were veterans, financing was not too difficult, as long as they didn't have too unconventional ideas about architecture, nonsegregation or restrictive covenants. Perhaps 50 projects of this sort have been launched successfully, and as many more may have foundered. Success or failure would seem to depend much more on whether sponsoring, financing, and underwriting groups really wished to see them succeed than on any other factor.

In some sections of the country, the time consumed in securing, financing, and underwriting has been a matter of years. On the other hand, in Oklahoma, since the special section was added to the FHA legislation early last year providing 90 percent financing for veterans' cooperatives, 17 projects are actually under way and several others in the process of being organized. Here the story shows the American Legion actively organizing the co-operatives on a statewide scale and the district directors of the FHA lending the kind of assistance formerly reserved for the speculative builder.

Special legislation for middle-income housing, including co-operatives, is available in some states. In New York, this is partly responsible for the new Queensview development now under construction across the East River from Manhattan. The initiative has been taken here by a most impressive list of sponsors. Included are such names as Louis H. Pink, Chairman of the Board of the Associated Hospital Service and of the National Public Housing Conference; Gerard Swope, Honorary President of General Electric; Henry Morgenthau, Jr.; David Sarnoff of R. C. A.; Howard Sheperd, President of the National City Bank; Bernard Gimbel; Beardsley Ruml, and others.

The 728 apartments in fourteen 14-story buildings will rent from $61 to $89 per month including utilities. The low rental charges are possible because of: (1) 25-year tax exemption by the city on the improvements, (2) a $6,800,000 loan at 4 percent interest, (3) site acquired from the city at cost, (4) a necessarily large equity payment—$2100 to $3000—slightly more than 30 percent of apartment cost (which, though desirable from one viewpoint, should nevertheless be compared with the kind of help available to the speculative builder. On the FHA-insured Levittown houses, until the recent credit freeze, the required down payment was—zero!)

Among the most interesting of all the postwar co-operative housing endeavors are the three developments illustrated on pages 65 to 77. Stimulated by the architectural press on the potentialities of planned communities, and seeing little hope of getting such an approach from the speculative builder, these groups set out to build for themselves complete residential communities, in a controlled environment.

These are by no means small undertakings. Involved were hundreds of families and millions of dollars. That they did not altogether succeed is less surprising than the fact that they did not altogether fail. From the case histories of Ladera, near Palo Alto, California; Bannockburn, near Washington, D.C.; and Mutual Housing Association, near Los Angeles, California, emerges a pattern curiously similar in almost every respect: general conception, timing, size of undertaking, kind of property purchased, the architects chosen and their number, range of prices and house types, and the income bracket. Even the difficulties encountered follow an almost identical pattern: internal organizations, reaction to rising costs, trouble with financing and the FHA. And these projects, in quite different parts of the country, were virtually unaware of each other's existence until after their patterns were completely set.

Just what this proves, I suppose, is that under a given set of circumstances one group of human beings will react very much like another. But, more specifically can we not read into this that groups in the range of 50 to 300 persons or families begin to exhibit a predictable and dependable composition and behavior; that any such group is a ready-made actual market for housing investment of potentially greater security than the hypothetical market of the speculative builder; that the difficulties encountered by such enterprises have been in the necessity of pioneering a most difficult field, and without the usual assistance available to the speculative builder; finally, that if encouragement, advice, and financing were available to co-operatives, a healthy, new kind of democratic building activity would appear profitable not only to the shareholders and residents but to the whole building industry as well.

What was achieved by the Peninsula Housing Association at Ladera, by Bannockburn Co-operative, and by Mutual Housing Association came only through continuous, disheartening struggle. The results give some idea, however, of what might have been, and what might yet be done, with a change in heart toward co-operatives.

Co-operative housing group at Blackwell, Oklahoma—one of 17 projects in that state that have been spurred by the American Legion, with full co-operation from FHA district directors.

Amalgamated's "Queensview" project in New York—728 apartments in 14, 14-story buildings. Nondiscrimination as to race, creed or color has maintained from the start. Brown & Guenther, New York, Architects.

(Delmars text continued from page 61)
In 1944, Group Housing Co-operative was organized in D.C. to stimulate postwar construction of co-operative housing. In 1946, the Bannockburn Golf Course in Maryland, eight miles from the White House, was put up for auction. With remarkable determination, Group Housing raised $50,090 within two weeks and was successful bidder on the 124 acres of rolling fairways and wooded hillsides. The prospective residents organized as Bannockburn Cooperators, Inc. (Mary Fox Herling, Executive Director) and engaged Rhees Burket, Joseph Neufeld and Vernon DeMars as their architectural team. For the story of the original ideal (see model photo) and how this had to be tempered, see Page 132.

Questionnaires were sent to members; a series of preliminary plans was developed, and finally some eight or ten house types selected. At first, financing without FHA insurance seemed assured from the Mutual Life Insurance Company of New York, with an 80 percent mortgage at 3 1/2 to 3 3/4 percent. However, as a result of rising costs and a tightening money market, this insurance company insisted on FHA insurance which, in turn, meant individual mortgages. Seven months were consumed in delays and construction detail revisions to suit the FHA. Finally, in order to get on with the planning, to test house types, and perhaps even to reassure the neighbors for another try at rezoning, a “pilot project” of 24 houses was started in the spring of 1949. Design of the houses was purposely nonspectacular. Such issues were at stake—the co-operative itself; the hope for the balanced community—that the battle of the styles seemed best avoided.

Although it is difficult to be objective about one’s own work, I believe that the completed group looks less “like a project” than some of the others. Affecting this are the rugged topography; variation in house heights; pitched roofs that provide variety of wall shapes and—perhaps most important—existing tree masses that break up the group. The writer may seem to be preoccupied with variety and the street scene. It is, however, in just this area that developers have done so badly. V. DeM.
A two-bedroom house with basement, and a carport alongside. Design is tidy but purposefully nonspectacular—one of the useful factors in launching the development.

Photos: Robert C. Lautman

Left and below—details of one of the three-bedroom houses, with a heater room and cellar under the downhill portion of the house. For level sites, the house is built without a basement.
For those preferring a more conventional plan, a two-story, three-bedroom house was designed.

Above and right—plan and photographs of one of the larger house types. Elements in the agreeable visual variety at Bannockburn are the rugged site, good trees, different roof forms, and a lively contrast of verticals and horizontals.
Wartime discussions of better homes and planned communities led to the formation of the Peninsula Housing Association in Palo Alto, California. The goal was to build Ladera, an ideal living environment for 400 families.

John Funk and Joseph Stein, San Francisco architects who had talked to the group in their meetings during the war, formed a team in collaboration with Garrett Eckbo, landscape architect, and Nicholas Cirino, civil engineer, and contracted to provide planning and technical services.

In 1946, a 258-acre site in the rolling foothills west of Palo Alto was found. Parts of the property were steep and heavily wooded. Many fine live oaks dotted the gentler slopes. The plan that developed provided for 400 home sites, an elementary school, a small shopping center, and recreation facilities, including a swimming pool, central play fields and extensive areas of woods on the steeper slopes left in their natural state.

Questionnaires to the members formed the basis of the program developed by an architectural committee of the Association. From this program a range of house types, designed to fit the requirements of every member, evolved, and some ten types were selected as satisfying the majority of family needs and variations.

The Association planned to develop the land co-operatively and to build the houses, both with construction loans. Here was the rub. They were never able to get the construction loan for development, and consequently never realized their full membership. After three years the first and only part developed by the co-operative was done with individual financing—one house and lot at a time. This proved too slow and cumbersome and much too costly. In 1949, with 35 houses built, the co-operative was disbanded and the remaining land sold to a local realtor.

Architecturally speaking, the impression one gets from the section that has been completed brings mixed emotions. There is, on the one hand, the excitement of seeing such a large number of uncompromisingly modern houses in one group. In the section bare of large trees, the most insistent module—the story height—tends somewhat to monotony; although community buildings, school, shopping center, etc., will add the contrasting mass and some notes of vertical change missed at present.

V.DeM.
One of the 10 basic house types designed for Ladera—with one of the bedrooms divisable by a folding partition. Photos below show the fireplace end of the living room and the dining area in an ell at one side. Photos: Ernest Braun
A three-bedroom house. Houses planned for Ladera range in size from two to four bedrooms and in price from $10,000 to $18,000.

Below—plan and interior view of one of the two-bedroom schemes. All houses were laid out on a modular system to allow precutting of all material regardless of variation in floor plan.
An extremely compact two-bedroom house. Millwork, doors, sash, etc., were standardized for all houses.

Right—plan and living room of a two- to three-bedroom scheme. Wood-frame construction was chosen for the houses as the most economical.
WHITNEY R. SMITH, A. QUINCY JONES, JR., EDGARDO CONTINI, ASSOCIATED ARCHITECTS, ENGINEERS AND SITE PLANNERS
JAMES CHARLTON, WAYNE R. WILLIAMS, COLLABORATING

Mutual Housing Association, Inc.: Los Angeles, California
Mutual Housing Association grew from a group of four musicians who planned, in 1946, to share an acre of land and a swimming pool. At the peak of activity, the Association had 500 members and owned 800 acres of "gently rolling to hillsides" property.

An architect-engineer team—Whitney Smith, A. Quincy Jones, Jr., and Edgardo Contini—was engaged to render planning and architectural services. The design program was developed through questionnaires and a committee of members, as in Ladera and Bannockburn. The extremely rugged topography here demanded a bold approach. Site planning was initiated with bulldozers; great benches were cut for house sites and trails were blazed for future roads. Sites were determined on the partially graded land and house types planned for the sites, ranging from flat to "over 20%." The decision to provide a range of house sizes for several grade conditions resulted in the design of 35 house types.

Early attempts at financing on a group co-operative basis were unsuccessful and FHA insurance was found necessary. There ensued an endless period of delays and continuous plan revisions running into many months. Only constant hammering at the local FHA and patient resolving of each new objection finally resulted in enough commitments to start construction early in 1949. At present, there are 100 houses completed or under construction. One contractor built a first block of some 30 houses. The others have been done by different contractors in much smaller groups and many have been contracted on an individual basis by the member directly. Surprisingly, the houses built one at a time cost no more than the same units built as part of a large contract. The answer? No overhead; also the great number of types ruled against savings through repetitive work.

The really remarkable thing to anyone outside the fabulous Southwest is that houses of such imaginative and daring design could be built for apparently no more than conventional houses elsewhere. What was merely an extended struggle with FHA could only have resulted in defeat in more "sensible" parts of the country.

The houses, many of them set like birds poised for flight, are not as arbitrary in their design as they might seem without analysis. The slopes have been disciplined into buildable benches, shelves and terraces with walls of concrete block. The houses are wood-framed shelters soaring lightly above. Others are more earthbound with masonry below the sill height continued to become garden walls. Many of these walls have been effectively patterned by the simple device of offsetting the concrete blocks. One is not at all conscious, however, that there are as many as eighteen variations. The architects feel that six or eight types could have suited the different family needs and offered variation visually.

The group picture suffers at present from lack of planting and some crowding not intended in the original scheme, but taking these into account the scene is dramatic, stimulating and altogether human.

V. DeM.
On these two pages are plan, a detail, and photographs of a two-bedroom-and-study house designed for a gentle slope. Plans are used in reverse where orientation requires it. Below sill height, masonry walls are extended to become garden or terrace walls.
From the living room, four steps lead up to the dining deck, the entry, and the bedroom hallway. Detail below shows the typical roof-framing system, with its deep ridge girder. Picture immediately below shows closeup of terrace, with door at corner of masonry wall opening into the dining deck.

Right, above—looking down from dining deck to corner of living room, and wood sun-screen outside the window wall.

Right—dining area (left) with stairs down to living room (right).
Illustrations on this page show a single theme, with variations. The plan is the same for all of the houses shown, but with differing sites the carport occurs at different levels, and wing walls of either masonry or fencing also vary.
CONCLUSIONS AND RECOMMENDATIONS

organization

The procedures for co-operative organizations are well established, but the importance of having experienced business management during the development period cannot be over-emphasized. Speed is absolutely of the essence. Beginning organizations should not tackle land where topography, zoning, utilities or other problems will prevent starting construction by six months to a year.

membership

FHA recommends "forming a group within your labor union, within your place of employment," etc. This is sound advice to the active organizers of the co-operative. When it comes to filling out the membership, however, a wider cross-section of interests will result in a healthier community life later on. And while a spread of income ranges is not in accord with recent real estate practice, it does not run counter to American tradition or the democratic ideal. This leads inevitably to the next question. Co-operatives have traditionally insisted on nondiscrimination as to race, creed, and color, a rather academic consideration in England or Scandinavia, and one not present in the United States. Housing is something else again, and co-operatives should abandon not idealism but naivete. Better housing is, in itself, a crusade —so is the co-operative way.

financing

A few more successful projects will go a long way toward loosening the financing of co-operatives. Of course FHA removes any problem as far as it goes. But direct government loans would no doubt find private money following closely after, in willingness to make loans at low interest rates.

site selection

While rolling, wooded hillsides make the most beautiful homesites, they are not the cheapest to develop. If economy is the main reason for the co-operative's existence, avoid hills like the plague. But if beauty and the good life were the goals which brought the members together in the first place—and if they can pay for it—then by all means pick "gently rolling to steep, wooded slopes."

dwelling types

Co-operatives are progressive and will usually have nothing but progressive architecture—and rightly so. There is some question, however, whether the design approach should not be tempered by the fact of group design and sights set not so high on the spectacular. Plan variations should be kept to the minimum that will serve family needs. For small projects two or three types of detached dwelling plans should be sufficient. For large projects these might have to be increased to six or seven.

design services

The creation of architectural firms by the co-operatives themselves, even if only by suggestion, is dangerous and sure to cost everyone money and delays. The desire for the best talent is understandable, but co-operators should get this by contracting with one firm or an individual who will hire or bring in other expert advice as needed.

building services

In multiple or multi-story construction, there is little question that the standard procedures of competitive bidding are the only safe way. In the case of detached houses, however, the experiences of Ladera, Bannockburn, and M.H.A. show complications arising. In all three cases, large contracts were abandoned after a first block (24, 35, 40 houses) was built. In at least one case, separate houses were being built as cheaply as in a group. Consideration should be given to architect-builder combinations, contracting a package deal after building a sample of each house—just as the speculators do, and for the same obvious reason. It's the only way really to know how cheaply it can be done.

role of the government

The federal government, up to almost the present time, has been the co-operatives' best hope and greatest disappointment. While most developments that have gone ahead have only come so far with FHA insurance, their co-operative organization has, in the past, been considered a liability by FHA, and applications have often been disasterously slow.

There is now, however, a special section of the FHA charged with the responsibility of getting some action under Title 213 of the 1950 Housing Act. The most recent spurt of co-operative housing activity can, for the first time, be traced to the FHA. In fact, the flood of applications under this section amounted recently to $250 millions. Suspected is a remote connection with the recent credit freeze (Regulation X) and the likelihood that many of these applications are builder-inspired, not bona fide co-operatives at all, and the FHA intends a careful screening. Just one item that is now available, an earnest of the new FHA, would have been a ray of sunshine to the storm-tossed craft on our earlier metaphor. This is a large envelope with printed title "A Kit of Tools for Co-operative Housing" and containing questionnaires, pamphlets on organizations and how to climb on with the FHA. Just what we always wanted to know!

Section 213 of the National Housing Act now provides insurance for co-operative housing projects of not less than 12 units. FHA will make a blanket mortgage up to 85 percent of replacement cost for 40 years at a maximum charge of 4 percent on either multi-family construction or individual houses. Individual house developments may be either of the "management" or "sales" type. In the latter case, provision is made for withdrawal from the blanket mortgage on completion of units and transfer to the individual owner.

Veteran membership of 65 percent in the co-operative can bring the loan up to 90 percent. Unless allowed to be averaged over a project, the statutory cost limit of $1800 per room or $8100 per dwelling unit may seriously hamper the production of anything other than minimum-sized dwellings.

While this represents immense progress, co-operatives yearn for provisions of the defeated Title III of the 1950 Housing Act, the Sparkman-Maybank Bill, with direct government loans at 3 percent for 50 to 60 years, and 100 percent development cost for genuine co-operatives or nonprofit housing corporations. And while they wish Godspeed to Warren Lockwood, Assistant Administrator for Co-operatives in the FHA, they are still convinced that co-operative housing should be pulled out from under the wing of FHA, with its weakness to pressure from real-estate interests, and established as a relatively independent administrative setup under the Housing and Home Finance Agency. They argue for the basic principle of good administration: that when something new is to be started it must be entrusted to a group of people vitally concerned with its success and whose primary job it is to make it successful. And they fear that, however well intentioned, any compromise with this principle will doom the co-operative housing program to failure from the start.

Vernon Demars

February 1951

17

CO-OPERATIVE HOUSING
The current military program falls into the following categories. Two other agencies are used by the Defense Department for securing architectural services. The Engineer Corps is relied upon for Army Master Planning and for Army and Air Force Construction. The Corps of Engineers is organized for centralized military control but for decentralized operations. Its structure includes: National Offices in the District of Columbia, 13 Divisions, several District Offices within each Division, with defined boundaries for each Division and for its Districts.

A wide range of categories and cost characterize the projects conducted by the Corps of Engineers. The current military program falls into the following categories:

- Standard Type Building Design (in type to be duplicated locally) let to private architects by the National Office;
- Construction of Cantonments, using standard detail plans already on file (for individual buildings) which private architects are called upon to site and to provide with designs for outside utilities;
- Technical Facilities for special purpose buildings such as Research Facilities or Technical Facilities of water supply, petroleum supply, machine shops;
- Housing Projects constructed under the Wherry Bill Title VIII under the National Housing Act (the Wherry Bill augments housing within bases provided by regular military appropriations).

By its modus operandi, architects and architect-engineer organizations are hired by appropriate District Offices to prepare plans; a "sponsor" is then selected by process of bidding on the plans and the property site is leased to the "sponsor" who develops the project with private means; and

- Until recently, Veteran Administration Hospital Projects, presently to be handled exclusively by the Veteran Administration itself.

PROCEDURE IN APPOINTING ARCHITECTS for Projects of the Corps of Engineers.

The Architect and Defense, 2
By CHARLES K. PANISH*  

THE U.S. CORPS OF ENGINEERS is one of the agencies used by the National Defense Department for securing architectural services.** The Engineer Corps is relied upon for Army Master Planning and for Army and Air Force Construction. The Corps of Engineers is organized for centralized military control but for decentralized operations. Its structure includes: National Offices in the District of Columbia, 13 Divisions, several District Offices within each Division, with defined boundaries for each Division and for its Districts.

A wide range of categories and cost characterize the projects conducted by the Corps of Engineers. The current military program falls into the following categories:

- Standard Type Building Design (in type to be duplicated locally) let to private architects by the National Office;
- Construction of Cantonments, using standard detail plans already on file (for individual buildings) which private architects are called upon to site and to provide with designs for outside utilities;
- Technical Facilities for special purpose buildings such as Research Facilities or Technical Facilities of water supply, petroleum supply, machine shops;
- Housing Projects constructed under the Wherry Bill Title VIII under the National Housing Act (the Wherry Bill augments housing within bases provided by regular military appropriations).

By its modus operandi, architects and architect-engineer organizations are hired by appropriate District Offices to prepare plans; a "sponsor" is then selected by process of bidding on the plans and the property site is leased to the "sponsor" who develops the project with private means; and

- Until recently, Veteran Administration Hospital Projects, presently to be handled exclusively by the Veteran Administration itself.

PROCEDURE IN APPOINTING ARCHITECTS for Projects of the Corps of Engineers.

The current military program falls into the following categories. Two other agencies are used by the Defense Department for securing architectural services. The Engineer Corps is relied upon for Army Master Planning and for Army and Air Force Construction. The Corps of Engineers is organized for centralized military control but for decentralized operations. Its structure includes: National Offices in the District of Columbia, 13 Divisions, several District Offices within each Division, with defined boundaries for each Division and for its Districts.

A wide range of categories and cost characterize the projects conducted by the Corps of Engineers. The current military program falls into the following categories:

- Standard Type Building Design (in type to be duplicated locally) let to private architects by the National Office;
- Construction of Cantonments, using standard detail plans already on file (for individual buildings) which private architects are called upon to site and to provide with designs for outside utilities;
- Technical Facilities for special purpose buildings such as Research Facilities or Technical Facilities of water supply, petroleum supply, machine shops;
- Housing Projects constructed under the Wherry Bill Title VIII under the National Housing Act (the Wherry Bill augments housing within bases provided by regular military appropriations).

By its modus operandi, architects and architect-engineer organizations are hired by appropriate District Offices to prepare plans; a "sponsor" is then selected by process of bidding on the plans and the property site is leased to the "sponsor" who develops the project with private means; and

- Until recently, Veteran Administration Hospital Projects, presently to be handled exclusively by the Veteran Administration itself.

PROCEDURE IN APPOINTING ARCHITECTS for Projects of the Corps of Engineers.

*Chief of Engineering Division, New York District, U.S. Corps of Engineers.
**Two other agencies are used by the Defense Department for procuring architectural services: 1. The major Air Force Command—for master planning by staff, by the Corps of Engineers or by private architects; 2. The Navy Bureau of Yards and Docks, which conducts projects mostly from its National Office in the District of Columbia and occasionally some projects through its District Offices.

A great deal of interest was stirred by the OFFICE PRACTICE article, "The Architect and Defense," by Daniel Wentworth Wright, architect with an office in Short Hills, New Jersey, describing his experiences in applying for defense work from the U.S. Corps of Engineers. (See October 1950 P/A.) A conference was held in New York shortly afterwards attended by representatives of the Corps of Engineers, the National Defense Committee, A.I.A., and the architectural press. To make generally available more factual information on the organization of the U.S. Corps of Engineers and the procedure that architects should follow in applying for commissions, P/A presents the following statement.

The contracts fall into two categories:

1. Negotiated Lump-Sum Contract:* Title I: Plans and Specifications; and Title II: Plans and Specifications and Supervision of Construction.
2. Cost-Plus Fixed Fee, which is used only when the terms of the project are too indefinite for lump-sum evaluation—for instance, when planning must be piecemeal, when construction must start before designs are complete, or in certain foreign work.

For each project, three applications are usually selected, based on the following criteria:

Each applicant must (a.) have proved competence to perform that kind of work; (b.) be not unduly burdened by other obligations; (e.) be normally accustomed to fulfilling projects of commensurate size; (d.) be able to finance the preparation of plans and specifications; (e.) preferably be located near the site of the project.

THREE NAMES ARE SELECTED in accordance with these criteria and are submitted to the Division Engineer or to the National Office in the District of Columbia—according to the importance of the project— for approval to negotiate.

Having obtained approval, the District Engineer selects one of the three recommendations, basing negotiations on prior estimates of his own. If he fails to arrive at a meeting of minds, a second name (of the three) is selected and, if necessary, a third.

When terms are finally agreed, the District Engineer prepares a contract and submits it to the National Office for approval and award. This is done to assure uniform application of fee policy.

*Generally the type of work designated by this title (Supervision of Construction) is conducted by the Corps of Engineers.
This general hospital, planned for future expansion, is finished throughout with durable, easy-to-maintain materials—face brick exterior (reinforced concrete frame), trimmed in stone, with hollow tile back-up walls; terrazzo floors (over concrete); washable wall fabric on plaster walls; glazed tile wainscots.

Above—general view of entrance.
Below, right—air view from northeast.
Photos: Paul Dorsey

Hospital: Alexandria, Louisiana

GOLEMON & ROLFE, ARCHITECTS
FRANCIS J. NIVEN, STRUCTURAL ENGINEER
REG F. TAYLOR, MECHANICAL ENGINEER
A 150-bed general hospital to serve the central Louisiana regional community. To be planned and built in such a way that future expansion to practically twice the initial bed count could be accomplished economically. In line with local practice, separate nursing units and an obstetrical section had to be provided for nonwhite patients, but of the same quality and finish as the other areas. All patients to be served by the same surgical and adjunct facilities; emergency; X-ray and deep therapy; kitchen, etc. Pediatrics and outpatient children's section in a wing, with separate access.

Site
A 25-acre tract, nearly level, wooded in portions, fronting (toward the east) on U. S. Highway 165. Alluvial soil.

Solution
Organization of nursing units in parallel wings—the forward wing for white patients—with a connecting block for joint-use services. On the ground floor, administration offices are organized in a one-story forward projection, while the pediatrics section is located in a curved wing to the northeast. A central kitchen serves all patients by means of dumb-waiters and serving kitchens. To provide additional beds in future, more floors—perhaps as many as four—may be added to nursing-unit wings without disturbing the present operation. Nursing units are oriented to receive the prevailing breezes, with canopies for protection from rain and excessive direct sunlight. All rooms are adequate for two beds if needed (a few four-bed wards are also provided), but a majority will actually be used as private rooms. To help minimize the institutional character of the hospital, full color fabric wall coverings are used in all patient areas. To lower the noise factor, most patient areas are across corridors from work areas.

Surgery is located in the center, with access from both of the nursing-unit blocks. Although this might suggest awkwardness in traffic, the architects report that "there would be very little of it, only by hospital personnel, and there are optional routes of travel at times (usually in the morning) when surgery is in critical use."
The alluvial soil required a precast concrete piling foundation system (driven to 50 feet). To allow for future expansion, piling, foundations, columns and mechanical services enclosed in walls all had to be oversized for the present plant. Space enough to handle the enlarged plant also had to be provided in the present kitchen, laundry, surgery, O. B., X-ray, central service, laboratory and pharmacy areas.


EQUIPMENT: Heating and air conditioning: Steam system, served by welded, gas-fired boiler; recessed and wall-hung convectors; propeller type unit heaters; boiler fire control; air-conditioning system for surgery, O. B. nurseries and X-ray. Lighting: ceiling type incandescent; fluorescent, combination fan and light units in nursing units; operating-room lights. Special equipment: stainless steel kitchen units; automatic laundry units; nurses' call system; public address and doctors' paging system; complete X-ray and other specialized hospital equipment.
HOSPITAL: ALEXANDRIA, LOUISIANA

Left—general view of the forward nursing-unit block. Projecting canopies are provided for protection against sun and rain.

Immediately below—curved access loggia adjoining pediatrics wing; in background, emergency ambulance entrance, with secondary nursing unit block above.

Bottom of page—detail of front of pediatrics wing, curving up to the main hospital mass.
Above—surgery, with wash-up in foreground. Note use of glazed tile, terrazzo floors. Above, right—one of the four operating rooms. Right—X-ray room.

Below, left—sterilizing room (central supply). Below, right—laboratory.
Above—one of the nurseries, with its glazed partitioning. Walls of both this room and the typical patients' room (right) are surfaced with a full-color, washable fabric material.

Below—typical corridor, with terrazzo flooring, glazed tile wainscot and acoustical tile ceiling.
Above—typical nurse’s station located at the center of the forward nursing-unit block.

Below—the waiting room and nurse’s station in the pediatrics wing. A mosaic decoration to interest children is used on the counter face.
Elevator Requirements for the 200-Bed General Hospital

By G. M. HEPPLE

In general hospitals, where differing activities are often spread throughout five or six floors, elevator traffic is unlike that experienced in any other type of building. A careful examination of many influencing factors is essential before efficient and economical elevator service can be provided; the flow of passenger and vehicular traffic, the location of the elevators, the handling of food and supplies, and the actual specification of vertical transportation equipment are among these factors.

The general hospital receives both medical and surgical cases. Its plan must include space for private, semi-private, and ward rooms; a clinic for outpatients; and special facilities for maternity, cancer, and other cases. The general hospital of 200-beds and under comprises 85 percent of the hospitals in this country today.

interior traffic
During a 24-hour period, vertical transportation may be required for as many as 4000 persons. This estimate is based on an average of 20-elevator passengers, including patients, per day per bed—a generally accepted approximation. In addition to passengers, there will be vehicular traffic and the movement of food and supplies, all originating within the building.

The staff for a 200-bed hospital, which includes interns, nurses, and service employees, but no doctors, will average 400-persons. These individuals work in three shifts; between each shift, a peak elevator load is created. Doctors usually perform their routine surgery during the morning, and, as they also frequently visit their patients at this time, there is a relatively heavy traffic of passengers and vehicles during the morning hours. Meals, which are usually served between seven and eight a.m., at 12-noon, and between five and six p.m., will also cause peak loads for the vertical transportation system. At night, there is a minimum of interior hospital traffic and the elevators are relatively idle.

Figure 2 shows a characteristic flow of passenger and vehicular traffic originated in this type of hospital by the staff and the patients.

exterior traffic
Less predictable is the flow of exterior traffic. The amount depends greatly upon the degree of control exercised by the hospital with respect to visiting hours, number of visitors permitted, and the number of outpatients. If waiting rooms are provided on the first floor, the flow of visitor traffic can be regulated by attendants. Overloading of the elevators can also be avoided by establishing visiting hours when the interior traffic is relatively light. Although long visiting hours reduce congestion, peaks will occur at the end of each period.

The average number of visitors for both private and ward rooms is one and one-half persons per bed; for wards alone, the average is three to four persons per bed. Ward-bed visitors are limited to the regular visiting hours which may be from two to four p.m., and from seven to nine p.m.; those people calling on patients in private and semi-private rooms, however, usually enjoy less restricted visiting periods. Under normal conditions, as many as 300-persons may visit a 200-bed hospital during an average day, creating the heaviest concentration of traffic during regular visiting hours.

Clinics receive an average of one-half to two outpatients per day for each occupied bed. If the clinic is located on an upper floor, up to 200-outpatients may have to be accommodated; elevators are especially occupied carrying these patients when the interior traffic reaches its peak.

Figure 2 also shows the flow of exterior traffic; note that it greatly exceeds that of the interior traffic at given periods.

elevator location
Hospital elevators, as a matter of economy, should be all-purpose elevators. When located near the center
of patient population and such im-
or important facilities as operating rooms, X-ray department, and ambulance entrance, an elevator's capacity is more efficiently utilized and the num-
ber of steps of those it serves will be greatly reduced. For maximum efficiency, doors should open at both front and back. Figure 1 shows a rank of elevators in relation to a passenger lobby, ambulance entrance, and other service entrances. Such a relationship permits maximum use of ground floor equipment in a gen-
eral hospital, and enables the architect to obtain full use of the double entrances of the elevator car.

number of elevators
Two elevators are the minimum num-er required for adequate and effi-
cient service in a typical general hospital which has five or six floors. There are several advantages in hav-
ing this number: additional service is available during peak load intervals; at meal times one of the two cars can be used exclusively for serv-

ice traffic; should one of the elevators be halted for repairs, the second can maintain service.

control of elevators
The choice of control is extremely important. A properly controlled ele-
vator is capable of promptly respond-
ing to the requirements imposed by the various activities of the hospital Two-car collective control is a desir-
able solution to the unique traffic problems presented by this type of general hospital, as it provides the

Figure 1 This first floor plan indicates a satisfactory location for a double hoistway in a general hospital. Front and rear doors of the elevator make the cars accessible to both the passenger lobby and the entrance for ambulance-borne patients.

Figure 2

HOSPITAL STAFF TRAFFIC PER 15 MINUTES

EXTerior TRAFFIC PER 15 MINUTES

VEHICULAR TRAFFIC PER 15 MINUTES

February 1951
hospital with dependable 24-hour service without the expense of full time operators. Two-car collective control is a system effectively coordinating the operation of both elevators so that they operate as a team to provide the most efficient service. By eliminating a duplication in answering calls and a waste of power, this system provides maximum service at minimum cost.

To operate the collective control system, a passenger presses the button indicating his floor on the car operating panel—the elevator does the rest. The car answers calls in the order that they reach the control system; doors open and close automatically. All “up” calls are answered on the upward trip; the car reverses itself automatically after answering the highest call. As the car starts downward, it stops for all “down” calls. This control equipment stores all calls received until they are answered.

Although the elevators are fully automatic, the general hospital often requires attendants, who work elsewhere at other times, to operate the elevators during visiting hours. Thus, the two-car collective control should be equipped with an optional feature which permits attendant operation.

The turn of a key switch on the car operating panel allows an attendant to operate the elevator. He operates the elevator by pressing the “up” or “down” button, and he can reverse the car at any landing. In case of emergency, the car can be expressed by the continuous pressing of a direction button on the car operating panel which will cause the elevator to by-pass landing calls.

The basic principle of two-car teamwork, with the attendant-operation feature, is the automatic allocation of each landing call to the car that can answer it more readily.

**self-leveling features**

A micro-drive mechanism, which levels the elevator cars at each floor landing, is a desirable requirement for general hospital elevators. As there is constant movement of stretchers, wheel chairs, and other equipment in and out of the cars, a self-leveling mechanism facilitates this movement and eliminates power-wasting “jockeying” to bring the car floor level with the landing.

**elevator machine**

Accepting the premise that the general hospital does not exceed six stories, high elevator speed is not necessary; therefore, a geared traction machine can be installed. Its cost is low and an economical, efficient machine is provided. A speed of 250 fpm is sufficient.

The machine is powered by a direct current driving motor, equipped with variable voltage speed regulation. Power is transmitted to the drive sheave through a worm and gear. Motion is transmitted to the hoist ropes by traction between the ropes and grooved driving sheave. The driving motor responds to a full load smoothly, quietly, and without effort; at the same time its power consumption is low. It is compact—saving space and weight—yet every part is accessible for maintenance. For reasons of space economy, the elevator machine is normally located overhead; there seldom are any

ditions in hospital construction where the machine is not located overhead.

**elevator cars**

As hospital elevators may be required to carry several types of vehicular traffic—beds, stretchers, iron lungs, and so on—they should have deep and relatively narrow platforms. A platform 5'-8" wide and 8'-7½" deep, with front and rear entrances 2'-10" in width, will allow sufficient room for doctors, nurses and/or attendants to travel with stretchers and beds. The interior height should be 7'-0". The capacity for an elevator of this size is 4000 pounds, in accordance with ratings given in the American Safety Code for Elevators; 26 passengers can be transported without crowding. An easy rule-of-thumb method which may be used to determine the approximate number of passengers a car can carry is to divide the weight capacity by 150.

Cars should have uniform, pleasant illumination. Fluorescent tubes located in coves and extending the full length of the car give highly satisfactory illumination. Lighting of other types can be installed but most manufacturers recommend fluorescent.

Because of hospital odors, which are numerous, proper ventilation must be provided. Forced ventilation will require a blower and plenum chamber; fresh air may enter the car from light coves which deflect incoming air and prevent it from blowing directly upon patients and passengers. As the rate of air change varies widely, because of constant opening and closing of the doors, a simple blower is standard equipment.

**Progressive Architecture**
for hospital elevators. To reduce the bacteria content of air entering the car, germicidal lamps should be installed in the plenum. As these lamps are not standard equipment, they must be specified by the architect.

Car interiors are designed for ease of cleaning. Side and base corners are coved to prevent accumulation of dirt and grease; interior side panels are finished with a hard, synthetic, baked enamel which can be readily cleaned with soap and disinfectants without danger of deterioration. Stainless steel wainscoting is used to absorb the impact of bumps from stretchers and other equipment.

Floor surfacing material should be of rubber tile, which is durable and well suited for hospital use. The platform is isolated from the car-frame by rubber pads which eliminate the transmission of vibration and noises to the car.

car and hoistway doors

Power-operated car doors and hoistway doors are a standard part of the elevator equipment. Car doors must be equipped with a safety shoe which reverses and re-opens them should they come in contact with an obstruction while closing. Two-speed doors which save hoistway space should be specified.

food service

Food service may be provided in any one of several ways; each has an important bearing on the type, capacity, speed, and location of elevators and dumb-waiters. A central kitchen is assumed in the following methods of distribution: 1) patients' trays are sent to the various floors by means of dumb-waiters; 2) trays are conveyed by trucks to elevators and then to the different floors; and, in widest use today, 3) food is prepared in bulk and sent by truck and elevator to service pantries on each floor where trays are filled and then distributed. To help simplify the requirements of vertical transportation, the latter method proves most successful for many general hospitals.

Good service requires that all patients be served promptly and at regular hours; cooked foods must be served hot, chilled foods must be served cold. Efficient vertical transportation eases this problem.

The first method of distribution, used principally for special diet service, has the advantages of being both convenient and expeditious; also, the equipment required involves a relatively low capital investment. When this method is employed for a special diet service, the specifications for the food lifts or dumb-waiters depend upon the number and size of the food trays to be accommodated.

Minimum inside dimensions for a car box should be 32" wide, 27" deep, and 36" high. This car permits three shelf spaces for three loaded trays, 10" apart and with space above top shelf for pitchers and bottles. A dumb-waiter of this size should have a capacity of 200 pounds; this amount will allow large numbers of soiled dishes to be returned to the kitchen at one time. The speed of the dumb-waiter is 100 fpm.

To permit dumb-waiter installation in any location, and to avoid obstruction of the space in front of the lift, biparting doors should be used. These have interlocks which prevent the doors from being opened when the car is not standing at a landing.

The food lift is equipped with controls located at a central station. These controls are able to: 1) send the food lift to any floor, 2) recall the lift to the kitchen, and 3) signal, audibly and visually, when a lift has arrived at a floor for unloading. Attendants at all floors must also be able to signal to the central station for the lift so that trays of empty dishes may be returned to the kitchen. The lift will return automatically to the central station after it has been unloaded. The central station must have a position indicator to show at which floor a car has stopped.

For the general hospital described earlier, three lifts are required to give adequate service. They must be located so that they are accessible to the loading and dishwashing sections of the kitchen.

The dumb-waiters will also be used during nonmeal hours for carrying linens, medicines, and other hospital supplies to relieve the load on the elevators.

The foregoing, outlines the principal requirements that must be met to obtain effective and economical vertical transportation in a general hospital. It must be remembered that the activities carried on in a general hospital are unlike those of any other building; in addition, special requirements peculiar to specific projects often arise.

Careful consideration of all aspects of vertical transportation problems will enable architects to cope with this important phase of hospital planning.

Sample Minimum Specifications

1. Number of Elevators: 2
2. Type of Elevators: hospital size, geared traction machine
3. Load (Capacity): 4000 pounds
4. Car Speed: 250 fpm
5. Operation: two-car collective control, with attendant feature
6. Control: generator field control
7. Car Leveling Device: include two-way leveling
8. Machine Location: overhead
9. Machine Room Floor: concrete slab, by others
10. Car Platform Size: 5'-8" x 8'7½"
11. Car Floor: rubber tile
12. Car Door: two-speed, 3'-10" wide x 7'-0" high
13. Hoistway Doors: same as car doors
14. Car and Hoistway Door Operation: power operated with intermediate speed operator
15. Signals: in car, car position indicator; at landing, push button faceplates
16. Painting: in car, car position indicator; at landing, push button faceplates
17. Maintenance: 3 months; permanent maintenance service suggested
18. Power Supply: 220 volts, 3 phase, 60 cycles, AC
19. Inspection Fees and Permits: by elevator contractor

Travel should include distance from basement to top floor of building. Openings depend on number of floors where double entrances will be used.
Advanced Lighting: Industry’s All-Around Production Tool

By J. L. Tugman*

With many factors tending to make production costs rise sharply, industrial management must constantly give closer attention to better equipment to build up plant efficiency. In this respect, advanced lighting methods should receive deserved attention as an influence for both economy and better working conditions. Lighting can be a prime operating asset when it is applied as fully as a given industrial situation requires. Its bearing upon safety, ease, and accuracy of seeing on the job, and its effect upon general impressions of the attractiveness of a place to work, qualifies it as Industry’s No. 1 All-around Production tool. The present mobilization program arising from the national emergency, with the probability of an extended period of priorities, allocations, scarce labor and high wages, provides a natural demand for high efficiency in a basic facility like lighting. It has a greater pertinence than ever to the old question of how to make investment and operating expense more effective in terms of unit costs of production.

Illuminants

In planning an industrial lighting installation which will provide optimum seeing conditions, architects and engineers should choose illuminants and footcandle levels related to the kind of work (seeing tasks) employees will be doing.

With reference to illuminants—fluorescent, filament, and mercury lamps—a few general distinctions should be kept in mind. Fluorescent lamps, large in area, low in brightness, are approximately three times as efficient as filament lamps. Over a period of time fluorescent lamps will give more light per dollar than filament lamps, even though initial costs are higher. The large, diffuse character of fluorescent sources makes their application in industry better suited to most tasks than the concentrated sources (filament lamps). New instant start fluorescent lamps, which operate without starters, available in lengths up to eight feet, are an added feature in this field of illuminants.

Mercury lamps, characterized by their bluish-green color, approach fluorescent lamps in efficiency. They are high intensity sources and are very effective in medium and high bay areas. In such locations where maintenance must be kept as simple as possible, mercury lamps are a good choice. They are often used in combinations with filament lamps.

Filament lamps, still the most widely used, are also available in self-contained reflector types which have proved extremely valuable for general lighting in situations where dirt and smoke make maintenance difficult. Much supplementary lighting, very important in many specialized tasks, is done with the aid of filament lamps.

*Engineering Division, Lamp Department of General Electric Company.
spacings and mounting heights

If the spacing of lighting fixtures does not exceed the mounting height, a reasonably uniform illumination will usually be provided. This one relationship, or closer, if the character of the building construction requires, offers an approximate guide to permissible spacing. In general, however, better uniformity of lighting is achieved with a greater mounting height and a closer spacing. This spacing-mounting height relationship applies not only to individual units, but to the spacing between continuous rows, luminous panels, or troughs.

A building's dimensions, particularly the ceiling height, and the location of cranes, will usually determine the types of equipment to be selected. This general determination will be developed with respect to maintenance objectives expected to keep the system operating effectively and economically.

For high bays, usually associated with heavy industry where safety considerations on the job and in maintenance rate top priority, the least number of units required to provide the necessary level is often the most desirable solution. Thus, all mercury or all filament equipment, or combinations of mercury and filament lighting, is the most logical recommendation for high mountings. Filament reflector bulb lighting, desirable for foundries or other industries where dirt and smoke abound, is a very practical solution. Very little dirt collects on the light emitting surface of the lamps and an outage, where clusters of these lamps are used, does not hold up production in the area that the cluster serves. Maintenance simplicity is definitely aided in foundry high bay areas by 3000-watt mercury systems. This lamp has the highest output of any single industrial source; it does not take many to deliver a satisfactory illumination level to the work plane. With the aid of cranes or disconnecting hang

ers, maintenance crews are not involved in special hazards.

For intermediate mountings, up to 25 feet, economy in initial installation and in maintenance emphasizes the appropriateness of larger (and fewer) units to obtain a desired illumination level. With higher mountings, the problems of brightness contrast from the units is much less critical. When the mounting can be made under 14 feet, about the maximum for stepladder maintenance, the factors of comfort and economy are differently related than they are at the higher mountings. For one thing, labor time for maintenance is normally less and easier to plan with reference to operations. Most important are the considerations for comfort. Thus more units of lower wattage and lower brightness in the field of view, are more relevant to the objective of ample light with desirable brightness distribution.

An architect can obtain desired illumination levels by following the recommendations offered in material published by the Illuminating Engineering Society and leading manufacturers in the industry. He might distill such information into the following simple program:

For Mounting Heights Under 14 Feet
Continuous rows of 96" T-12 slimline or 2-lamp, 40-watt industrial fluorescent units, 10-feet on center, will deliver approximately 40-footcandles where the maintenance is 65 percent. Rows at right angles to the original rows, making a grid system, should be added where more light is needed. There is a trend toward installing the 96" T-12 slimline lamp because of the absence of starters and the smaller number of units, lamps, ballasts, and so on required to produce a desired level.

For Mounting Heights 14 to 35 Feet
Continuous rows of 2-lamp, 85-watt
industrial units, 13½ feet on center, will give an illumination level equal to that for the 40-watt installation suggested for the lower mounting. If additional light is needed, a grid system offers quality advantages that are practical in many cases. The economies mentioned above for the 96" T-12 slimline lamps are particularly relevant for higher mountings. Without maintenance of equipment, the level in either example will drop to 25-footcandles or lower. This result refers to maintenance of lighting equipment independent of cleaning programs for plant surfaces, such as walls, columns, and machines, where good housekeeping supports comfortable seeing more thoroughly.

For storage areas
A good way to plan for areas which may presently have no critical seeing tasks, but which may offer space for later expansion, is to anticipate the latter situation. Continuous rows could be contemplated here with a 20-foot spacing for the initial rows. Every third unit could be omitted; fifteen footcandles could be realized with a 65 percent maintenance factor, if 2-lamp, 40-watt units were installed.

value of daylight
There are few cases where daylight should be considered as an element in the planning of an industrial installation. Most plants must operate night shifts at times, if they do not require them regularly. The useful light for work, therefore, must come from the artificial system. Daylight is highly variable, even on sunny days, and in important industrial areas of the nation overcast days are more the rule than sunny ones. Even under favorable weather conditions, ordinary fenestration does not admit enough dependable, useful light a few feet away from the windows to make a difference in lighting plans.

From the standpoint of the lighting specification, windows are more valuable for the psychological lift they offer to workers on day shifts. To be able to see outside the plant is regarded by some managements as a factor outweighing some of the advantages which windowless plants offer in controlled conditions. In plants of the latter type some managements regularly announce weather reports and provide rest periods so that the workers can get outside. The more general use of windows in industry indicates the persistence with which architects and managements think of them as aiding in plant seeing conditions. The fact that many plants paint their windows subsequently, as a short-cut remedy for daylight glare, evidences the frequent troubles which result. During the last war, when a number of engineers were working directly on the problem of lighting in production, one of the commonest faults they found was the bad orientation of work positions with reference to windows. With so many architects fully familiar with techniques for control of window brightness, problems of this origin should be eliminated from new buildings. Their confidence with respect to this aspect of brightness control should prove an excellent approach to the problems of interior brightness control. This is an area of special concern to lighting men. To give satisfactory relevance to initially good lighting installations in service, maintenance programs must be relied on to keep room surfaces at reflectance values which support the conditions the system can supply.

reflectances
With respect to desirable brightness distribution, this subject has special importance. Desirable reflectance values for floors should range from 20 to 60 percent. For plants with operations analogous to those in an aircraft plant, where there are work positions under wings cutting off direct illumination, white cement or white asphalt tile floors with top reflectance values which support the conditions the system can supply.
improvement in older plants must await new flooring. Except in very clean industries, the opportunity to get budget concession for the maintenance of floor surfaces at even 20 percent is difficult. Other surfaces, such as walls, columns, and machines, are much more likely to be approved where thorough maintenance plans are observed, as they are easier to keep light and clean.

The satisfactory reflectances to be sought in color schemes for industrial interiors are those found in the higher values—white for ceilings, generally, and to a limited extent for upper walls. There can be a wide choice among blue-greens, warm grays, and buff-tones. Blue-greens are popular for warm areas of a plant, such as the kettle room of a brewery, and warmer yellows or buffs or browns, or even pinks for cooler areas such as refrigerated or air-conditioned space. In one instance, a windowless building uses three tones of gray on its side walls, blue on one end wall, and yellow on the opposite wall. This scheme works out well as a compensation for lack of windows as a psychological factor. In another plant, the upper walls and columns are light green and a dark green stripe separates a gray dado; in addition, light gray machines have been installed.

costs
Lighting costs, which have all too frequently and incorrectly been regarded as unproductive overhead, are never more than a small fraction of operating budgets. Proper cost elements are: 1) the initial cost of fixtures, wiring, and labor; 2) lamps; 3) current; and 4) maintenance, which should cover labor for lamp replacements. Many plants find it sound economy to replace all lamps at 75 percent of rated life. Such a plan cuts labor costs as much as 75 to 80 percent over other lamp maintenance schemes.

conclusion
Whenever industrial lighting is being planned, it is always wise to obtain the co-operation of a trained lighting engineer. His knowledge will assist the architect in making decisions more rapidly and will also help him to establish more practical policies.

The advantages of superior workmanship, reduced spoilage, better utilization of floor space are all valuable elements contributing to more efficient plant operation. Lower eye-strain and lessened fatigue not only influence lower accident rates but also develop better employee morale.
Perforated aluminum ceiling panels combined with one type of acoustical material or another have been successfully installed in many parts of the country for a number of years. In Louisville, Kentucky, Architects Stratton O. Hammon and Neal O. Hammon have now combined a perforated, corrugated aluminum ceiling with an air-conditioning system in the general sales offices of the Reynolds Metals Company. Their system, conceived by Neal O. Hammon, forces year-round conditioned air through the perforated ceiling to achieve the following advantages: 1) increased evenness of air distribution; 2) elimination of need and appearance of diffusing registers; and 3) reduction of cost.

The architectural program for this structure required that the architects remodel an existing five-story industrial building which had previously been used as an assembly plant by an automobile manufacturer. On each of the five levels, the architects were given a space of 200' x 100'. Five percent of this area was to be enclosed by ceiling type partitions; the remaining 95 percent to be divided by relatively low 4'-6" partitions to separate the differing activities of the office personnel.

Although this corrugated aluminum material was only manufactured by Reynolds to provide an inexpensive and permanent acoustical ceiling for the trade, its design made it readily adaptable for the passage of air. To control the temperature of these offices, conditioned air is distributed through aluminum ducts above the ceiling to selected locations and then allowed to find its way down through the perforations. In some instances, there is only one inch between the duct and the corrugated aluminum ceiling. Leaving through holes in the bottom of the ducts (see Figure 2), the air is baffled by a single piece of aluminum plate. The perforations through the ceiling, which comprise about 35 percent of the surface area, are of a diameter that causes the air to distribute itself before penetrating the ceiling. Return air registers are located in the outside wall near the floor.

While still in the design stage, critics agreed that cold air has an inclination to fall in the summertime and that such an air movement would assist the operation of this system; at the same time, they also warned that a natural tendency of hot air to rise might cause the system to fail in the wintertime. As a result of tests taken on one floor through an entire year, however, it was generally agreed that the system works perfectly. During the same testing period, an attempt was made to zone control six different sections of this 200' x 100' area. After a reasonable amount of adjustment, it was possible to control all sections separately and efficiently. To date, this ceiling has exhibited no tendency toward darkening as a result of small amounts of dirt and dust that may remain in the conditioned air. Should this darkening someday occur, the architects state that the aluminum ceiling can be easily lifted out of place, wiped off with a damp cloth, and replaced by a janitor or unskilled laborer.
A layer of glass fibers, applied with mastic on the underside of the concrete slab above the aluminum ceiling, undoubtedly assists the holes to provide excellent acoustics. One unusual observation of this installation has been that better acoustics seem to obtain when the blowers are off and not forcing air through the perforations. Apparently the forward movement of the air is sufficient to reduce the acoustical efficiency of the ceiling; however, this reduction is too small to be of consequence.

The gage of the aluminum sheeting is .032; its extremely light weight, .432 pounds per square foot, made it possible to hang the entire ceiling on the light troughs (see Figure 3). Frequently in the past, when other materials were suspended between troughs, their heavier weight made it necessary to maintain a relatively small distance between lighting units. With this corrugated material, however, the architects were able to span any desired width without overloading the carrying capacity of the light troughs. Although the maximum span for this gage is about 12 feet, it was not used in excess of 7 feet in this installation.

The original building possessed a satisfactory sprinkler system which the architects wished to keep intact for reasons of economy and appearance. The perforated panels were hung under the sprinklers; in the event of a fire, they spray out as before and the water drips through the ceiling with effective results.

At the exterior wall, light-directing glass blocks extend past the new ceiling to the existing concrete. Natural light entering the space between the ceiling and the floor above is reflected back to the working area through the aluminum grille in the ceiling near the window. The structural aluminum framework which contains sash for six windows weighs but 75 pounds. Glass block units were laid directly above these multiple windows without the use of additional steel.
Assembled from prefab sections and erected at the site with a minimum of protection, stainless steel swimming pools introduced by the Standard Swimming Pool Corporation, New York City are designed primarily for use by private home and small estate owners. The pools require no chemical treatment or painting to prevent corrosion and weathering; they have an indefinite life span with low maintenance costs and, when desired, can be moved from one location to another without danger to their usefulness.

Lengths of the pools can range from 20 to 60 feet, in multiples of 5 feet, by the addition of prefab sections, with the width the same for all lengths at 15 feet. The standard "family size" pool measures 15 by 30 feet and has depths graduated from 4 feet at the shallow end to 7 feet at the deep end. Through the use of an adjustable overflow trough and valve, both made of stainless steel, the water level can be raised or lowered to accommodate children or adults. When Olympic diving depths are required, as in installations at hotels and clubs, a depth of 9 feet can be arranged for. While these dimensions are most practical from the standpoint of design and structural purposes, they have also been chosen to keep the cost of the pools at a minimum to meet market demands.

The stainless steel sections of the pools are bolted together, not welded, and the pools are kept watertight through the use of a rubber gasket material especially compounded for the manufacturer. Channels covering the bolted flanges are designed to conceal the joints and provide a smooth appearance.

Type 304 stainless steel, ranging from 12 gauge to 3/16", is regarded by the manufacturer as the best commercial grade available for his purposes. Normally, minimum care is required in the upkeep of the pool. If a ready supply of generally good water is available and changed occasionally, recirculation, chlorination, or filtration is not required. Several conditioners well overcome fungi.

Structurally strong enough as designed, the pool needs no concrete foundation. After the excavation is dug and grading is completed, four parallel rows of concrete blocks, numbering 16 to a row for a standard pool 30 feet long, are laid in the pool's bed. Gravel or earth filling is used between the rows, and the stainless steel sections are placed directly on top of the blocks. Backfill is placed around the pool.

The pool requires no special care during the winter months, except that it is advisable to leave the pool filled to overcome normal heaving and frost conditions. If desired, logs can be put in the water before it freezes. It is not recommended that the pool be used for ice skating, but only because metal skates can mar the surface finish of the stainless steel.

Prices range from $3735 for the 15 by 20 foot size to $10,735 for the 60 foot length. Each additional 5 foot section costs $875. Standard Swimming Pool Corporation, 355 Walton Avenue, New York 51, N. Y.
air and temperature control

260M Anthemubbe: completely automatic, on-the-hearing type for residences, apartments, houses, churches, schools, large residences, etc.; automatically takes coal from bin, burns it and shaken ashes into container or pit; savings said to be as high as 50%. Axemark Anderson Co., 233 West St., Williamsport 3, Pa.

Ingersoll GHSS Gas-Fired Furnace: approved by A.G.A. as vanted wall heater and forced air furnace for use with natural, mixed, LP gases. Heat is delivered in every direction through ducts connected to front, sides, back, or top of cabinet. Assembly includes wedgeguide heat exchanger, blower, filters, raised draft port burners, and automatic controls. Base requires less than 3 ft. floor space. Borg-Warner Corp., Ingersoll Products Div., 321 Plymouth Court, Chicago 4, III.

Hartel Dehumidifier "50": small commercial and industrial dehumidifier with maximum 24-hour capacity of 50 lb. of water removed from room per day. In a single pass is finally sealed from condensing unit. Walter Hartel Co., 2460 4th Ave., S., Minneapolis, Minn.

pl." M Package Fans: vertical discharge, attic fan unit, with built-in suction box including fan and motor, measures 3 sq. ft. and projects only 17½" above attic floor. Automatic ceiling shutter, finished in ivory baked enamel, is operated by wall switch. Available in 4750 and 6800 cfm capacities, with air delivery ratings certified. Robbins & Meyers, Inc., 387 S. Front St., Memphis, Tenn.

Combustion Gas Conversion Burner: approved by A.G.A., for natural, mixed, and LP gases. High efficiency burner head, with telescopic adjustment to increase or decrease burner length; all controls arranged for easy access within burner cabinet. Capacity ranges from 50,000 to 225,000 Btu. Steel Products Engineering Co., Combustioner Div., Springfield, Ohio.

construction

Hercules Metal Floor Bridging: formed from 20-gage, rust-proofed steel, bridging is easily installed with sharp points on each end bite into joist as two pieces snap-lock together when pulled down. Floor can now be laid first and bridged underneath later, in contrast to slower operations with wood bridging. No sawing or nailing necessary; can be removed and reinstalled if heating, plumbing, or electrical alterations are ever required. Glover Mfg. & Sales Co., 2491 Manchester Rd., Akron, Ohio.

doors and windows

Detector Optical Door Viewer: especially designed optical instrument for front door installation, permitting persons inside to see out but preventing outsiders from seeing in; equipped with wide-angle optical lens for all-around view of exterior at glance. Home Protector Mfg. Co., 8258 Melrose Ave., Los Angeles 40, Calif.

Bail-Door: 9" x 7", four-sectional, overhead garage door constructed of steel, adaptable to 6'-6" opening where ample headroom is available. Ball-bearing moving parts and especially designed counter balancing springs insure quiet, effortless operation. No holes to drill or hinges to apply, no skilled labor or special tools required. Morrison Steel Products, Inc., 601 Amberst, Buffalo 7, N. Y.


electrical equipment

Automatic Emergency Exit Light: operates as any ordinary exit light, but if regular current source fails, unit will function instantly and automatically from power furnished by batteries within unit. Brilliant downward beam will illuminate for approximately eight hours. Electric Cord Co., 30 Church St., New York 7, N. Y.

"fixture type" lamp holder: new line of slim-line lamp holders designed for either surface or flush mounting. Fastened easily by means of single screw; these holders are particularly suitable for exposed lamp type fixtures. Available in both low and high voltage models. Sylvania Electric Products, Inc., 1740 Broadway, New York, N. Y.

finishers and protectors

All-Seal Waterproofing: clear liquid compound for weatherproofing of all masonry surfaces, shingle roofs, all natural woods, and many other materials; seals natural resins, prevents bleeding, splitting, decay and curling. May also be used to waterproof canvas, sailcloth, etc., without stiffening or changing the color of material to which it is applied. Progressive Enterprises, 1001 N. Vermont Ave., Los Angeles 27, Calif.

insulation

Acoustical Ceiling Board: rigid, lightweight board composed of Fiberglas, for suspended ceilings. Incombustible; noise reduction coefficient of 80%. Easily cut with knife to conform to irregular openings and boundaries. Fabricated in sizes to fit 24" x 48" grid spacings. Owens-Corning Fiberglas Corp., Nicholas Blvd., Toledo 1, Ohio.

interior furnishings

Coryl: new formed Vinylic calendared film with three-dimensional, textural surface effect that resists wrinkling and creasing; unaffected by mildew, resists moisture, oils, alcohols, most chemicals, and is nonflammable. May be applied wherever conventional Vinylic plastic film is used—in curtains, draperies, shower curtains, etc. Decora Corp., Fort Edward, N. Y.

Extension Drawer Support: metal supporting device enables drawers to be opened fully without slightest danger of them falling, thus permitting full vision and use of drawer. Device eliminates need for old-style center or side guide of framing of cabinets and cases. As much as 2" can be added to height of drawers because of use of low profile, resulting in considerable more drawer space in same sized cabinet. Supports cost very little, are easy to install, save material and labor costs, permit simplified and stronger cabinet construction. Extension Drawer Support Co., 3722 Broadway Pl., Los Angeles 7, Calif.


sanitation, water, supply, drainage


Large Capacity Safety Relief Valve: new series of moderately-priced valves for prevention of excess pressure in domestic water heaters and tanks. Ratings in Btu capacity, making it possible to select valve that will open at desired pressure, with capacity equivalent to heat output of firing means. McDonnell & Miller, Inc., 400 N. Michigan, Chicago, Ill.

specialized equipment

BW Copyflex: new type of office copying machine makes low-cost contact prints of letters, records, reports, etc., any size up to 11½" x 17" under ordinary conditions. Special contact printing cell designed to receive required material, cradle bridge that spans entire width of storage area and projects accomplished within unit; needs no ink, tray developing, dark rooms, or special lighting. Prints are clean, smudge-proof, with last copy exactly as sharp and legible as first in any quantity. Charles Bruning Co., Inc., 100 Reade St., New York 21, N. Y.

Stak-Bak Selective Storage System: entirely new method of storing materials of any size or shape. Consists of self-standing rack-columns designed to receive required material, crane bridge that spans entire width of storage area and is suspended electric fork lift. By means of push button, single operator controls all motions of fork lift to place or remove any item from its place on rack. Complete engineering and design facilities provided by manufacturer. Chicago Tramrail Corp., 4000 W. Washington Blvd., Chicago 24, Ill.

Graphostat Precision Drawing Board: portable plastic drawing board weighs less than 8 oz., compact enough to fit into brief case. Four recessed clamps will hold 8½" x 11" working sheet; two metal straight edges, one vertical, the other horizontal, are retractable, eliminating need for T-square; triangles easily stored under end of drawing board with precision clamps. For desk work, board is equipped with rubber, skidproof feet. A. Patrick Co., 9 Grove St., Westwood, N. J.

surfacing materials

Naugahyde: Wall Covering: vinyl material, adopted from well-known upholstery product, is waterproof, resistant to fire, abrasive wear, and scuffing; unaffected by oils, greases, most acids, alkali, or alcohol; will not shrink, stretch, fade, or change color. Applied by standard methods in thickness material 30" wide with trim allowance to 48", available in range of colors. Richard E. Thibaut, Inc., 269 Madison Ave., New York 16, N. Y.

February 1951 91
AIR AND TEMPERATURE CONTROL

1-71. Presenting the First Fundamental Improvement in Schoolroom Ventilation in Twenty Years (3332), 16-p. illus. catalog describing new system of unit ventilation which intercepts chilling down drafts from large window areas and recirculates captured cold air through unit ventilator for heating before discharging into room. Method of operation, cross sections, plan views, capacity tables, suggested specifications. American Air Filtration Co., Inc., Herman Nelson Div.

1-72. Outdoor Reset Hot Water Controls, AIA 30F (F-3157-1), 4-p. folder and 17 data sheets. Information facilitating selection of automatic temperature controls for hot water heating systems. Schematic operation diagrams, control applications, basic wiring diagrams. Barber-Colman Co.


Catalog describing all-metal, double-wall gas vent and flue pipe employing die-formed couplers permanently attached to each pipe section and forming complete unit without need for cutting, crimping, or special tools. Advantages, specifications, sizes. Other booklet comprehensively analyzes gas appliance venting, its basic requirements, and proper installation. Photos, drawings. William Wallace Co.: 1-75. Metalbestos, AIA 30-D-4 (Cat. 6) 1-76. Venting of Gas Appliances (17)

CONSTRUCTION


3-59. Super-Concrete Bins, 12-p. folder on storage bins, constructed of diagonal-ended, concrete staves formed under 140 tons hydraulic pressure to give them rock-like density and high crushing strength; aside from holding bulk materials, structures may be employed as cooling towers, dryer housings, smoke stacks, mixing tanks, and well houses. Capacity data, other uses. Nef & Fry Co.

3-60. Republic Sheets (548), 20-p. illus. booklet devoted primarily to applications of stainless steel; some data on iron alloy, copper sheets, and other forms of metal. Types, finishes, forms, properties, detail drawings, installation photos. Republic Steel Corp.


3-62. Mobilwalls, AIA 35-H-6, 16-p. catalog describing various types of flush and panel metal partitions designed for complete interchangeability and instant mobility. Features, scale drawings, stock panel sizes, brief descriptions of door hardware, specifications. Virginia Metal Products Corp.

3-63. New Ideas in Fluorescent Lighting, catalog made up of AIA file folders illustrating many popular fluorescent luminaires for use with 4-, 5-, 6-, and 8-ft. fluorescent lamps in offices, stores, schools, etc. Illumination data, materials and finishes, types of reflectors, dimensions. Curtis Lighting Inc.

3-64. New Ideas in Fluorescent Lighting, catalog made up of AIA file folders illustrating many popular fluorescent lighting luminaires. General and technical data, installation directions, details, features. Lighting Products, Inc.

3-65. Acusti-Luminous Ceilings, 4-p. folder describing low cost, acoustically controlled, luminous ceiling. Translucent, corrugated plastic ceiling is hung below fluorescent tubes; hollow acoustical fins, made of perforated steel and containing sound absorbing pad, are placed at intervals below plastic sheeting. Advantages, construction drawing, illumination data charts. Luminous Ceilings, Inc.


3-67. Lighting Transformers (FL-135), 30-p. catalog. Fundamentals of fluores-
cement lighting, types of transformers for hot and cold cathode, and other lamps, electrical and mechanical specifications, lighting calculations and other technical data, index. Sola Electric Co.

FINISHERS AND PROTECTORS
6-19. Phenolene Protected Concrete Floors (C-301), two application sheets showing method of applying thermosteting coating on concrete for increased resistance to corrosion and wear. Coverage, prices. Carboline Co.

6-20. The Multi-Clean Method, AIA 25G, portfolio of folders describing many kinds of floor maintenance products, such as nonslip wax, cleaners, sealers, concrete preservers, etc., for linoleum, concrete, terrazzo, asphalt, and wood flooring. General information, methods of application, recommendations, specifications, reconditioning of old floors, price list. Multi-Clean Products, Inc.

INSULATION (THERMAL, ACOUSTIC)

INTERIOR FURNISHINGS
9-38. Cassard Contemporary, 8-p. brochure containing photos of furniture pieces designed by Eleanor and Ronald Cassard Romano Co., Inc. Allwork . Items, made of fine woods, including tables, commodies, desks, chairs, chests, and lamps. General information. Cassard Romano Co., Inc.


SANITATION, WATER SUPPLY, DRAINAGE


19-105. Packaged Water Heating (SM-41), 4-p. bulletin on all-bronze steam mixer water heaters, complete with controls and accessories; also combination safety unit which supplies hot water at two or more controlled temperatures for industrial washrooms and processes. Ratings, specifications, hot water requirements. O'Brien Steam Specialty Co., Inc.


SPECIALIZED EQUIPMENT
19-107. Automatic Shut-Off Valve, 4-p. brochure describes valve which prevents explosions and fire resulting from breaks in gas pipe lines caused by earth shocks; within valve, chain-suspended ball rests on incline; earthquakes or explosions of established intensity dislodge ball from normal position so that it drops onto rubber gasket sealing off gas. Method of operation illustrated, table of data. Underwriters' Laboratory approved. Guardian Valve Co.

19-108. Proscenium Treatments, AIA 38-A-1 (25R), 16-p. bulletin on theater equipment such as stage curtains, curtain controls, orchestra lifts, curtain tracks, motorized band cars, counterweight rigging, etc. Models, engineering data, photos, list of standard equipment. J. R. Clancy, Inc.

SURFACING MATERIALS

19-110. Flexwood, AIA 28-C, 4-p. folder describing two products: flexible wood veneer for flat or curved surfaces; and extra-strength vinyl sheeting with color permanently fused to underside, for wall covering and furniture upholstery. Advantages, suggested uses, availability, color photos. U. S. Plywood Corp.

VERTICAL TRANSPORTATION
22-3. Passenger Elevators, AIA 23-B (B-4875), 52-p. buyer's guide giving detailed information on different types of elevator controls; selecting correct number of elevators of required size and capacity; budget pricing data; dimensional layouts for standard passenger elevators; safety features; installation information; and modernization of outmoded elevator systems. Diagrams, curves, tables, case examples. Westinghouse Electric Corp.

(To obtain literature coupon must be used by 4/1/51)

PROGRESSIVE ARCHITECTURE, 330 West 42nd Street, New York 18, N. Y.
I should like a copy of each piece of Manufacturers' Literature circled below.
We request students to send their inquiries directly to the manufacturers.
1-71 1-72 1-73 1-74 1-75 1-76 3-56 3-57
3-58 3-59 3-60 3-61 3-62 4-76 4-77 4-78
4-79 4-80 4-81 4-82 5-53 5-54 5-55 5-56
5-57 6-19 6-20 9-37 9-38 9-39 19-103 19-104

Name

Position

Firm

Mailing Address

Home Business

City State

PLEASE PRINT

February 1951 99
How to Specify Armstrong's Rubber Tile for Grade-Level Subfloors

Now architects can specify Armstrong's Rubber Tile for grade-level installation. This is made possible by an adhesive known as Armstrong's No. S-104 Chemical-Set Cement developed originally for cementing linoleum to metal and other non-porous suspended subfloors. Until the development of this adhesive, rubber tile installations were not recommended over grade-level concrete because the alkaline moisture in such subfloors attacked and destroyed the bonding qualities of standard adhesives for rubber tile.

Armstrong's No. S-104 Chemical-Set Cement resists the harmful action of alkaline moisture in grade-level concrete floors. In order to obtain a satisfactory bond, it is extremely important that the subfloor meet certain conditions. It must be clean, free of all oil, grease, and other foreign substances. No. S-104 Chemical-Set Cement will not bond satisfactorily to areas upon which paint, varnish, or flooring adhesives have been applied.

Armstrong's No. S-104 Chemical-Set Cement is a two-part adhesive—mixed on the job. It is troweled on the subfloor in the same manner as standard resilient flooring adhesives. It covers approximately 100 square feet to the gallon. Armstrong's No. S-104 Chemical-Set Cement is also used to bond metal edging to concrete and metal stairs.

Present restrictions on certain raw materials used in its manufacture limit the production of Armstrong's No. S-104 Chemical-Set Cement. It is advisable to contact your Armstrong flooring contractor as to availability in your locality before specifying. For complete architects' specifications and other information on the installation of Armstrong's Rubber Tile over grade-level subfloors with Armstrong's No. S-104 Chemical-Set Cement, architects are invited to contact their nearest Armstrong District Office or write directly to the Armstrong Cork Company, Floor Division, 8902 State Street, Lancaster, Pennsylvania.
OFFICE BUILDING: 

selected details

PLASTER LINE OF COLUMN
INSULATION

SPANDREL SECTION
1/2" SCALE

PRECUT LIGHT-WEIGHT CONCRETE PANELS
ALUMINUM FOIL
1/4" FURRING CHANNELS
METAL LATH AND PLASTER

ASPHALT TILE FLOOR AND BASE

CONCRETE FILL

STEEL CLIPS

FABRIC FLASHING
ALUMINUM FOIL

HEATING COILS
1/4" FURRING CHANNELS
METAL LATH AND PLASTER
FABRIC FLASHING
ALUMINUM FOIL
PRECUT LIGHT-WEIGHT CONCRETE PANELS

Plan at Corner
1/2" SCALE

CONCRETE

LEDEGE FOR WINDOW SILL

FABRIC FLASHING
CONTINUOUS STEEL PLATE INSULATION

HEAD OF VENETIAN BLIND

Typical Column

LEDEGE FOR PRECAST PANELS
FLASHING SLOT

EXTENT OF LEDGE ABOVE AND BELOW WINDOWS

EXPANSION JOINT

CAST ALUMINUM PANELS

ADMINISTRATION BUILDING, ALUMINUM CO., OF AMERICA, Davenport, lowa HARRISON & ABRAMOVITZ, ARCHITECTS

February 1951
YES, BUD, BUT A CLEAN, FAST CUT CALLS FOR GOOD PIPE

Good plumber + good tools + GOOD PIPE = GOOD JOB!

7 POINTS OF UNIFORM GOODNESS IN YOUNGSTOWN STEEL PIPE

- uniform ductility
- uniform lengths
- uniform threading
- uniform weldability
- uniform wall thickness and size
- uniform strength and toughness
- uniform roundness and straightness

ON the job or in the shop, you like to work with Youngstown pipe. Cutting is clean, fast and easy because Youngstown pipe is uniformly round and soft--true to size, even in grain structure, free of inclusions and hard spots. The name Youngstown, rolled into every length, means GOOD PIPE.

Youngstown
STEEL PIPE

THE YOUNGSTOWN SHEET AND TUBE COMPANY
Manufacturers of Carbon, Alloy and Yokoy Steel
PIPE AND TUBULAR PRODUCTS - WIRE - ELECTROLYTIC TIN PLATE - COKE TIN PLATE - HOT AND COLD FINISHED CARBON AND ALLOY BARS - RODS - SHEETS - PLATES - CONDUIT - RAILROAD TRACK SPIKES.
A city within a city...

HEATED BY 15 GAS FIRED

**Kewanee STEEL BOILERS**

- "Stonestown," in San Francisco's famous Lake Merced section, is actually a City within a City. This $20,000,000 development with its fourteen apartment buildings provides homes for 700 families, plus a 40-acre business and shopping area with parking space for 2500 cars.

Heat, plus ample hot water for kitchens, bathrooms and laundries, is provided by 15 Kewanee Steel Boilers equipped with Kewanee Submerged Tankless Hot Water Coils... another typical example of an outstanding modern project where Kewanee was selected for dependable, economical heat.

**"STONESTOWN"**

Apartment Project
San Francisco, Calif.
Architect
ANGUS McSWEENEY
Burlingame, Calif.
Engineer:
C. H. BAZILE
San Francisco, Calif.
Heating Contractors
L. J. KRUSE CO.
Oakland, Calif.

- A view of two boiler rooms showing three of the 15 Kewanee Steel Boilers installed in the Stonestown Project. With a total output of more than 24 million Btu, these boilers provide both heat and domestic hot water for the entire project.
**Elevations and Plan**
1/8" scale

- 2 1/2" x 5" x 1/4" L .092 Aluminum cemented to 5/8" plywood
- 4" x 4" Plywood Wood blocking
- Removable aluminum covered stop
- 1/4" PL. GLASS

**Sections** 1/2" scale
- 1 1/8" x 1 1/2" x 4" L 1/8" plywood
- Welded L Lug 6" x 6" L on top of slab
- Continuous 6" x 6" x 5/16" L welded to uprights
- Cement asphalt tile
- Marble base sidewalk expansion bolts
- Concrete

**Plan** 1/2" scale

- 2 1/2" x 3" x 5/16" Angle frame
- Recessed lighting (T section)
- 1/2" x 2" x 4" L 1/8" plywood
- .092 Aluminum covering
- 24" door
- 5/8" plywood wood blocking
- Welded gusset at each corner, embedded in concrete

**Calderone Theater, Hempstead, New York**

**William Lescaze, Architect**

February 1951
3 to get ready...

... "three" also gets you ready—ready to specify U.S.C. roof decks!

For here in one line are three roof decks to cover your building plans, whether they call for a pitched, flat, or curved roof.

Your U.S.G. representative will give you full information about U.S.G. roof decks—poured-in-place gypsum, precast gypsum, or steel.

Besides, if you have a specific problem, he will gladly go over it with you and offer a dependable recommendation that's unbiased because U.S.G. has all three types of decks. Phone or write him today.

All United States Gypsum roof decks are incombustible, lightweight, strong, quickly installed, and easy to maintain. Be sure of your next roof deck—consult U.S.G., specify U.S.G.

United States Gypsum

For Building • For Industry

Gypsum • Lime • Steel • Insulation • Roofing • Paint
selected details

MEN'S HABERDASHERY: sliding ladder

JOHN FORSYTHE SHOP, New York, N. Y.

MORRIS LAPIDUS, ARCHITECT

February 1951 107
HERE'S THE NEW

TRANE CenTraVac...

For complete literature and full information contact the Trane Field Representative in your area or write to The Trane Company, La Crosse, Wisconsin, for Bulletin S-399.

One installation, one wiring job, one set of controls... one machine is a complete refrigeration system.

Now... better-than-ever results from the systems you design or install... with a CenTraVac, the completely new Trane Centrifugal Refrigeration Unit.

Now... for the first time... a centrifugal design engineered for practical air conditioning and process cooling requirements with models ranging in capacity from 45 to 190 tons of refrigeration.

Flexible capacity control, proportionate power reduction, hermetically sealed construction—these exclusive features are only a few of the outstanding basic improvements available only in the great new Trane CenTraVac Centrifugal Refrigeration Units.

MANUFACTURING ENGINEERS OF HEATING
Complete centrifugal refrigeration unit cuts costs four ways

For the first time, a centrifugal unit furnishes chilled water for installations as low as 45 tons! The CenTraVac is the only centrifugal designed for smaller jobs as well as the bigger ones. A new kind of centrifugal—with hermetically sealed direct drive—with stable operation from 100% down to 10% of rated capacity—with reduced power consumption under reduced capacity operation.

Big Power Savings On Jobs As Low As 45 Tons!

When less cooling is demanded by the system, the CenTraVac automatically lowers capacity. Horsepower per ton reduction parallels capacity reduction over wide operating ranges. Owner pays only for cooling actually used by the system, thanks to CenTraVac built-in capacity control and the new Trane power reduction feature.

Simplified Installation Slashes Costs!

Compact, lightweight CenTraVac can be located conveniently in building without special mounting foundations. Smooth running, quiet operation eliminates need for isolation. Then, too, one wiring job, one set of connections, one system of controls is all that is required. The CenTraVac is a hermetically sealed unit containing the compressor, the condenser and the evaporator for the complete chilled water system!

Maintenance Time and Expense Eliminated!

The CenTraVac is designed to run without special attention. Impellers mounted directly on shaft of water-cooled, hermetically enclosed motor eliminate troublesome shaft seals, gear boxes, unnecessary bearings. Forced-feed oil system is designed for positive lubrication of two main bearings, the only bearings in the entire machine. Turn it on, turn it off, as often as necessary, or let it run continuously season after season.

High Efficiency Means Low Cost Cooling!

Less than one horsepower per ton required for usual air conditioning applications! Under varying loads the tonnage-to-horsepower ratio often averages out even more favorably.

The CenTraVac supplies lowest cost chilled water for smaller jobs as well as big ones. Five models to choose from between 45 and 190 tons!

This great new Trane line makes centrifugal refrigeration available—for the first time—in the capacities required for the majority of practical air conditioning and process cooling applications!
Aluminum...modern metal

...plan for its use

Aluminum troughs reflect light in lobby ceiling, harmonizing with the bronze trim.

Permanent, maintenance-free aluminum louvers provide ventilation, keep hot sun away from air-conditioning equipment.

FOR MODERN BUILDINGS

REMEMBERING REARMAMENT NEEDS COME FIRST

Elevator cabs by Otis are lined with easy-to-clean striated aluminum panels. Combine strength, lightness and lasting good looks.

Aluminum mullions accent the vertical lines, blend with aluminum windows and spandrels.

The clean, efficient lines of today's architecture are well expressed in aluminum... the modern metal. In 100 Park Avenue, aluminum has been used for windows, spandrels, mullions, copings, louvers, and lobby ceiling. In each case, one or more of aluminum's qualities of lightness, economy, workability and freedom from corrosion have contributed to the building's efficiency and economy of maintenance.

As in this building, Alcoa Aluminum has been used in nearly every major office building erected in America in recent years. Alcoa engineering and production men are eager to co-operate with forward-looking designers and builders. For information on any application of aluminum, call your nearby Alcoa Sales Office or write, ALUMINUM COMPANY OF AMERICA, 1890B Gulf Building, Pittsburgh 19, Pennsylvania.
For steel and concrete buildings...

American Welded Wire Fabric

American Welded Wire Fabric reinforcement has been used extensively in building construction. Wrapped around structural steel members, it fortifies the concrete against cracks caused by stresses and strains due to deflection of the structural members, normal temperature changes, and extraordinary temperature variations accompanying fire.

This fabric reinforcement possesses adequate tensile strength. It is easily shaped to structural steel. It comes in rolls and sheets, aids speedy construction. Structural steel beams, when wrapped with Welded Wire Fabric and enclosed in concrete fireproofing, are usually designed as composite beams.

Its adaptability, efficiency and economy have made American Welded Wire Fabric the most widely used reinforcement for concrete. You will find it in floors, walls, roofs and ceilings of all sorts of structures, in highways, sidewalks and driveways, in tunnels, bridges and approaches.

U·S·S American Welded Wire Fabric is available in every locality from jobbers’ and dealers’ stocks—supplemented by prompt mill shipment to identified projects.

When you are planning any kind of concrete construction, our technical staff will be glad to supply complete data on specific designs and standard styles of fabric. Write to our nearest sales office today, you incur no obligation.

Every type of concrete construction needs

AMERICAN WELDED WIRE FABRIC

reinforcement

U N I T E D S T A T E S S T E E L
REVIEWS

STIMULATING, UNHESITATING

All I can say is, it is an amazing book. You start off with the Pyramids and the Acropolis, dive into FHA mortgage financing and come out of the pool with Le Corbusier and the new Utopias. I find the book stimulating. Its greatest asset is its breadth of attack and its unhesitating, almost headlong, plunges into the whole world of planning and housing. Of all the books on these subjects in my bookcase this contains within its 418 pages a wider coverage and more prying curiosity than anything written since Casey Bauer tossed Modern Housing into my empty shelves in 1934. As a social document, The Urban Pattern does not compare, nor for all of its references is it as scholarly a tome; but the eager enthusiasm of its authors and their winning surprise at what they find as they muzzle into the Harvard City Planning Series, the Encyclopedia Britannica, and great piles of periodicals and reports, is one of the book's most ingratiating aspects.

I like a well illustrated book on any subject, being visually minded. This one has a great many fine pictures. It was a big format job and I suppose I should be more lenient, but the choice of illustrations and the captions are not always too happy or too accurate. The weighting of the pictorial selection is questionable—only two pictures of attractive but minor USHA projects to three illustrations of Williamsburg houses and two of Westfield Acres, both PWA projects. PWA built 22,000 dwelling units in four years as against 168,000 by USHA in the same number of years (our authors' own figures and they use "dwellings" instead of "dwelling units," thus confusing terminology with the single family house). Obviously, it would be hard to illustrate all large-scale programs properly, but these pictures are totally inadequate to give the sense of scale or importance deserved by the USHA program. On the other hand, the Greenbelt towns and the Radburn prodigy get a good display. However, their effectiveness is limited by the fact that many of the pictures are old dishes from planning and housing literature, i.e., the air view of Radburn taken before the school was built.

Perhaps the book's worst problem is that while it attempts to be a text presumably for architectural students or planning and housing students in architectural schools, its authors attempted to reach other audiences as well. That does not quite come off. On the other hand, the authors deserve all the kudos available for trying into such a document not only the standard materials on

(Continued on page 114)

BOOKS RECEIVED


Be the first to have it: a new inclined extruded aluminum CHALK TROUGH

CRAYON HOLDER—Crayon is in easy reach and away from chalk dust.

DUST COLLECTOR—Dust drops into special groove. Keeps trough clear. Facilitates cleaning.

ERASER POSITION—Faces student. Dust groove and ridges keep eraser clean.

FEATHER·EDGE FIT—Deflects dust into trough, away from the board and off the floor.

SWEEP-OUT END-STOP—Makes cleaning of trough simple.

Write for literature giving complete information, details and specifications on the Loxit Chalkboard and Tackboard Setting System.

LOXIT SYSTEMS, INC. 1217 W. Washington Blvd., Chicago 7, Ill.
physical planning but also on private and public housing and problems of urban redevelopment.

The problem of writing a comprehensive book on planning and housing, which is faced by any author today, is that the picture is changing so rapidly. Also, there is a tendency to confuse history, which is confused itself, with theory. The authors here have made a valiant stab at trying to accomplish both a clarification of history with the philosophical concepts out of which present programs are growing. But housing and planning historical material becomes dated overnight. For instance, at the time at which this book was written, there was just beginning to be a specific discussion on the control of obsolescence beyond zoning. Chapter 26 stops with Louis Judgement's proposals on a retirement program for buildings, which in turn may have stemmed from some of the earlier German studies on property life insurance. The chapter, however, does not go into the so-called "Baltimore Plan" and principles of enforcement which are now becoming important in all considerations of the control of obsolescence. This does not invalidate the chapter but simply points up the difficulty which anyone has at the present time in preparing a book which in itself will quickly become out of date.

I wish to emphasize that the book's comprehensive nature should stimulate the reader to keep up to date with things that are happening in this country and abroad, and if it does nothing else but include subject matter of importance which the student will follow up himself, it will have accomplished a very important mission.

I hope that what I have said above does not in any way militate against what I consider to be a favorable criticism of the book. It is well worth owning and should be available to every architectural and planning student for study. It has background material on which such a student may analyze work that is being done and work which he himself proposes to do.

CARL FEISS

SWISS ARCHITECTURE


Many of the buildings shown in this collection are well known, for they have been published many times in books and magazines. Nevertheless it is good to

(Continued on page 116)
No matter what type of building you're planning—no matter what noise problems may be involved—your Sound Conditioning specifications are a trust...to your local distributor of Acousti-Celotex products!

He can perform to your specifications without tampering. For he has the broad professional training and experience—the job-proved methods—the complete line of top quality materials necessary to meet every specification, every requirement, every building code!

So when you're planning, be sure to consult with your local distributor of Acousti-Celotex Products. He's backed by the world's most experienced Sound Conditioning organization, with thousands of actual installations to its credit. He can help you be sure in advance of the most attractive, most efficient Sound Conditioning installation possible!
have them all in one place for easy reference. This is the third edition of this work, which was first published in 1938, then edited by Max Bill, George Schmidt, Siegfried Giedion, Lewis Buchler, Werner Jegher, Peter Meyer, and Egidius Streiff. The new edition brings the document up-to-date, the older edition having been culled by Bill for the best examples of Swiss architecture from its earliest days, with additions to the present.

The work is organized in five parts according to building type: 1. for work; 2. for traffic; 3. for dwelling purposes; 4. for recreation; and 5. for education and pleasure. From two sides of a single sheet to six sides of three sheets

ROBBED OF FAME

When I tackled this book, I anticipated a work rather thoroughly taken up with the dustiness of archeology. Instead, to my great pleasure, I discovered within its covers a fascinating harvest of information related to historical, social, personal, and archeological affairs during that exciting era when Englishmen were so active in pursuits of foreign cultures; when Lord Byron made his expedition to Greece, when George Borrow was spreading the Bible in Spain.

Would that the publishers had used continuous chapter numbers to facilitate one's referring to the notes at the end of the book! Would that the author had resisted unfamiliar, untranslated foreign phrases, a habit generally disapproved of by Fowler in his The King's English!

The author was confronted by an incredibly difficult task, for he wrote of an almost unknown man about whom precious little information could be found. He haunted encyclopedias, biographical dictionaries, and lexicons—all in vain. He turned to publications and museums that specialized in Mediterranean cultures, for Catherwood had spent 10 years exploring in Rome, Greece, and Egypt. The Library of Congress, the British Museum, and the Royal Institute of British Architects offered only the scantiest of material. Tempted to accept defeat, the author nevertheless met the challenge. He sent letters of inquiry to Egypt, Syria, Den-
There's a shape
size, type and color

Facing Tile for every job!

You can use Structural Clay Facing Tile almost anywhere—and with maximum ease!

That's a big claim. In fact it took the combined efforts of the Facing Tile industry's leading manufacturers to make that claim a fact.

Today that fact is of real importance to you.

It means that, with Facing Tile, you can design unhindered by material limitations. You can select materials with greater ease. And, since Facing Tile is produced in modular sizes, you can build faster, and at less cost. You can always be sure that the Facing Tile you use is a fine material at its very best.

To accomplish this the Facing Tile Institute works with leading architects, universities and government agencies. Research determines the colors, shapes, sizes and quality standards that will best meet your needs, both structurally and functionally.

The result is a versatile, easy-to-use product that you can get from any Institute member. And it is guaranteed to pass each of the rigid tests of quality set up to maintain the Institute's standards.

Whatever you build, any of the Institute members will be pleased to help you in planning the job. Call on them at any time, or for complete technical data on Facing Tile, write the Institute, Desk PA-2, for our new catalog 51-C.

FACING TILE INSTITUTE
1520 18th Street, N.W., Washington 6, D.C.
Gradually Catherwood, the unknown archeologist, who had undertaken such important work on two continents, began to take on flesh. Fragments of information in amazing numbers were sent in by authorities, librarians, collectors, etc., in snatches from letters, newspaper items, illustrations, all sympathetically contributing to this amazing monument to persistence on the part of the author. Despite many references to Catherwood in letters—this man known to almost every important artist or architect of his time—none had ever described, drawn or painted him.

Catherwood returned to England disillusioned by his years of unprofitable research. He went into the panorama field, working for Robert Burford who had his panaramas in Leicester Square. Rotundas housed colossal circular murals—of battles, coronations, remote cities. They were the 'movie-houses' of the day, and had as much hold on curious citizens. Many a future master contributed to them as an art student.

One day when Catherwood was lecturing in a Rotunda before his mural of Jerusalem, there began his remarkable friendship with John Lloyd Stephens, an American lawyer. This friendship was to lead to their rediscovery of the Mayan Civilization in the western world.

In 1836, Catherwood came to New York and set himself up as an architect at 4 Wall Street, later to enter partnership with another Britisher. He lectured and worked at various projects in Newport and Boston. But his interest lay in building a panorama, and this he finally did in partnership with George W. Jackson, at Mercer and Prince Streets on Broadway in New York (at a cost of $7,816.16). His Rotunda held a huge panorama of the Holy Land, illuminated at night by 200 gas lights. It was well received by enthusiastic critics. Encouraged, Catherwood went to London and purchased Burford's 'Thebes' and 'Baalbek.' Those along with 'Niagara' comprised the New York show.

The panorama business brought him financial success, but Catherwood felt another call. He and Stephens had often discussed the cities and temples of Central America, buried in jungles. He left the panorama to Jackson and he and Stephens went to Guatemala, to be diverted by a local war into Honduras. At Copan they started operations in 1839, thrilled at the prospect of finding the promise of an entire lost civilization. To avoid trouble with natives they bought the site for $50. Catherwood worked standing in the mud, wearing gloves to protect his hands from mosquitos, yet drawing intricate, complicated designs so entirely new and unintelligible that only his stubbornness and enthusiasm carried him through. Sometimes he used the camera.

Theodor Haas supports Catherwood in the belief that this architecture had no tie with any previous Old World style. All archeologists will not agree with him, Catherwood knew Middle East architecture as he could not know the architecture of Southeastern Asia, with which he might have discovered a tie. But this brings us to the Diffusion Controversy, an old one but particularly vehement during the years following 1933 when proponents of each theory, Diffusion and Non-Diffusion, brought into the argument an amazing number of considerations. Some of our younger authorities have recently brought forth additional illustrations of architectural and sculptural resemblances tending to fortify the belief that our ancient Indian culture may have had roots in Southeastern Asia.

*For Hagen supports Catherwood in the belief that this architecture had no tie with any previous Old World style. All archeologists will not agree with him, Catherwood knew Middle East architecture as he could not know the architecture of Southeastern Asia, with which he might have discovered a tie. But this brings us to the Diffusion Controversy, an old one but particularly vehement during the years following 1933 when proponents of each theory, Diffusion and Non-Diffusion, brought into the argument an amazing number of considerations. Some of our younger authorities have recently brought forth additional illustrations of architectural and sculptural resemblances tending to fortify the belief that our ancient Indian culture may have had roots in Southeastern Asia.

**
You can confidently recommend one-story schools of wood to School Boards and parents for their community's increasing school population. These structures are economical to erect and maintain...safe because with all doors at ground level students can be evacuated quickly...flexible because they permit easy expansion for future needs. And the pleasant functional design possible with wood gives you a wide latitude of expression.

There's a RIGHT WAY to do everything... Build RIGHT with

WEST COAST WOODS

Douglas Fir
West Coast Hemlock
Western Red Cedar
Sitka Spruce

Lumber of Quality Produced by Members,
WEST COAST LUMBERMEN'S ASSOCIATION

WEST COAST LUMBERMEN'S ASSOCIATION, Room No. 922
1410 S. W. Morrison, Portland 5, Oregon

Please send free copy of "Today's Better Schools Are Built of Wood."

<table>
<thead>
<tr>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
</tr>
<tr>
<td>City... Zone... State...</td>
</tr>
</tbody>
</table>

February 1961
lucida, a prismatic device, to project a façade onto his paper. There followed further researches at Quirigua, Palenque and Merida. The two men then pushed on to the ruins of Uxmal, 50 miles to the south. While fever kept Catherwood flat, Stephens examined these ruins. His enthusiasm caused his companion to accuse him of romancing, but next morning both were on the ground and before long they went to work. Catherwood soon collapsed and they sailed for New York, July 31, 1840.

Stephens returned to Central America, to write his monumental book, while

Catherwood, in New York, started work on his illustrations." Harper Brothers' undertook to spare no expense in making it one of the finest books ever published in America. Poe wrote: "The work... is certainly a magnificent one—perhaps the most interesting book of travel ever published." Prescott wrote: "...the narrative is spirited, but the real value of the work lies in the drawing..." (remarkably accurate).

In 1841, Stephens and Catherwood sailed again for Central America, with Dr. Samuel Cabot, Jr., to study the Mayan "New Empire" in the dry-zone area where conquest by Toltecs, come from Mexico, brought in the cult of the god Quetzalcoatl. This was Catherwood's best and happiest period. But only six weeks later he was carried away in complete delirium, due to malaria. On his partial recovery, however, there followed visits to the sites at Kabah, Labnah, Sayil, Bolonchen, Sabatsche, and finally the great Chichen Itza. In June, 1842, the expedition was over.

Then tragedy! And loss to the world! Catherwood had kept his priceless Yucatan collections in his Rotunda in New York. One night the Rotunda was destroyed by a spectacular fire and most of his drawings, as well as the large paintings of Thebes and Jerusalem, were ashes. Catherwood courageously threw himself into the illustration of Stephens's book on Yucatan. They even planned a more ambitious work on the whole of Central America, 300 volumes to be sold at $100 a copy. But Stephens lost interest and Catherwood, in desperation, managed to publish his own, rather well written book. But it did not do well.

For five years, on a pittance, young Catherwood served as an apprentice to Michael Meredith, architect. Together they made a topographical tour of England. Then, through a boyhood friend, Joseph Severn, since become notable as a painter, he was brought into the "Keats Circle." In 1820, Catherwood attended free art classes of the Royal Academy and partook of lectures on architecture, among students destined to make archeological history. He was deeply moved by the engravings of Piranesi, so emotionally imbued with the grand archeology of ancient Rome. A similar emotion Catherwood captured, in part, in his own drawings.

In September, 1820, his friend Severn accompanied Keats to Rome, but first made Catherwood promise to follow, upon finishing his studies. Their later meeting was joyful, and visits followed to Saint Peter's and the Vatican. In Rome, Catherwood came into contact

Wherever CORROSION Lurks

Duriron Acidproof Drain Pipe is permanent

You can help clients eliminate the future maintenance item of piping replacement due to corrosive action.

Duriron pipe is all Duriron... all highly resistant to corrosion and abrasion.

Installation costs? The same as that for other less permanent types of drain line. And it's a one-time expenditure only with Duriron. Specify Duriron acidproof drain pipe, made by the company solving industry's most difficult corrosion problems for nearly 40 years.

THE DURI RON COMPANY, INC.
Box 1019, Dayton 1, Ohio

*This review recently saw an exhibition at Colum bu s's Emory Library, which includes their lithographs in color, and a few of Catherwood's masterful delineations in sepia, in many respects surpassing the lithographs in quality, and certainly deserving of separate publication.
The Facing
That Stays NEW...

NORTHWESTERN
Terra Cotta
WALL ASHLAR

In any large industrial city certain important buildings stand out fresh and clean in contrast to their drab and grimy neighbors... the buildings that are faced with terra cotta. Not only does NORTHWESTERN TERRA COTTA Wall Ashlar withstand smoke and grime better than other materials but it is also the easiest of all building materials to keep clean. Simple soap and water washing is all that's needed to retain the original beauty of its ceramic finish.

NORTHWESTERN TERRA COTTA Wall Ashlar is available for immediate delivery in a variety of colors, shapes and textures both glazed and unglazed. Any color or pattern desired can be made up especially to your order.

Write for Free Estimate

Northwestern Terra Cotta Corp. 1750 Wrightwood Ave., Chicago 14, Ill.
with an English aristocracy living elegantly in villas of impecunious Rome nobles. He was welcomed into the Society of Englishmen-20 painters, sculptors, and architects—"all lively and enthusiastic." The author describes Catherwood's temporary involvement with Lady Westmoreland, allowing Severn an opportunity to escape when Catherwood took up residence at her villa. But in time a break came and their planned trip up the Nile was abandoned.

There followed studies and drawings in Rome, then of Greek remains in Sicily. In Greece, Catherwood made castings with his own hands. But Greeks and Turks became involved in war, and Catherwood and a friend escaped into Syria. Dressed as Arabs they made their way to the Nile. It was just when "Egyptianism" had taken hold of European intellectualism, so Catherwood met Englishmen and Frenchmen earning fame in exploration. In 1824, with two friends, he went over a thousand miles up the Nile and into Nubian country. They drew and they mapped clusters of ruins. A meeting with Robert Hay was to set the dial for archeological history.

But the time came when Catherwood's three years of travel had used up his traveling money. He was obliged to return to England. There he worked on architectural projects, but his heart remained in the Middle East. When Robert Hay asked him to return to join an exploration, he accepted. With a retinue, they investigated every known and unknown ruined site along the Nile.

There followed an expedition with Arundel into the Near East where Catherwood, able to speak fluent Arabic as well as Hebrew and Italian, dressed as an Arab. There he accumulated a mass of material. Surveys included the Baalbek ruins and Jerusalem. He gave away many drawings to interested scholars, an act he later regretted and one which contributed toward his obscurity.

After a return to New York, and failure in getting architectural commissions, then a disappearance into South America, Catherwood showed up again in England in 1845. He now became an engineer and a railroad builder! After working on the Sheffield-Manchester Railroad, he was offered a contract for surveying the first railroad in South America. After spending some time in British Guiana in 1845, he returned to England with a report that made a favorable impression. He returned to supervise the work, but encountered formidable difficulties. By 1849 he 'had drunk his drench' and his agreement was terminated. But he was not through with railroads. Stephens had acquired 47 miles of track across the isthmus of Panama, and had bought up the French franchises of two others. Catherwood's affection for Stephens induced him to accept a job, but soon he was suffering from malaria and had to be carried to a ship bound for California.

There—now an American citizen—his health revived quickly and he helped build Yerba Buena (San Francisco), erecting warehouses and wharves. In Oregon, he reported to the U.S. Government on the practicability of forming settlements on the Columbia River. Back in San Francisco, he became involved in railroads and speculations and was made a consultant-engineer. He purchased land and railroad stock. His enthusiasm once more rekindled, he left for England, crossing through Mexico. On his return voyage, in 1854, his ship, the "S.S. Arctic," rammed head-on into a French vessel in a fog, and was lost. Reported among the missing was Catherwood. So came to an end on earth the adventures of this ever restless soul, who contributed so much and received so little thanks.

Greville Rickard
(Continued on page 124)
Kaylo Insulating Roof Tile is selected for more and more buildings of all kinds because it offers a combination of advantages unmatched by any other roof deck material:

- **Incombustibility** of Kaylo Tile assures protection against fire;
- **Insulating Value** eliminates the need for additional insulating materials under all but severe conditions;
- **Structural Strength** is more than adequate for typical roof loads;
- **Light Weight** permits the use of lighter supporting structural members;
- **Inorganic Composition** resists rot—moisture does not damage Kaylo Insulating Roof Tile.

It will pay you to investigate these advantages.

**EASY APPLICATION** of Kaylo Insulating Roof Tile expedites the completion of flat or pitched roofs. Standard roofing materials are used over a Kaylo roof deck.

**KAYLO**...FIRST IN CALCIUM SILICATE

...pioneered by

**OWENS-ILLINOIS GLASS COMPANY**

Kaylo Division • Toledo 1, Ohio

SALES OFFICES: Atlanta • Boston • Buffalo • Chicago • Cincinnati • Cleveland • Detroit • Houston • Minneapolis • New York • Oklahoma City • Philadelphia • Pittsburgh • St. Louis • Washington

**SEND COUPON FOR KAYLO ROOF TILE LITERATURE!**

**OWENS-ILLINOIS GLASS COMPANY**

Kaylo Division, Dept. N-133 • Toledo 1, Ohio

Gentlemen: Please send me literature on Kaylo Roof Tile.

<table>
<thead>
<tr>
<th>NAME</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>FIRM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADDRESS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CITY</td>
<td>STATE</td>
<td></td>
</tr>
</tbody>
</table>

February 1951
REVIEWS

(Continued from page 122)

IMPORTED INDIGENOUS

The Architecture of the Southwest. Indian, Spanish, American. Trent Elwood Sanford. W. W. Norton & Co., 101 Fifth Avenue, New York, 1950. 312 pp., illus. $4.00

The author has made a painstaking pilgrimage of the architecture of the Southwest, beginning with pueblos of the 11th Century in the area now New Mexico, tracing the course of the Spanish explorers who arrived in 16th Century—though little was built under Spanish direction until the 18th Century was just around the corner. He then describes Spanish architecture in Texas including one secular structure, the Governor's Palace in San Antonio now beautifully restored but at one time a barroom known as "The Hole in the Wall." He traces Spanish exploration up the California coast where most of the architecture was busily copied from plates of the orders of architecture, simple or miscellaneously ornate, depending on the taste of the mission priest-builder and the skill of available workmen. It is a surprise to discover that most of the "indigenous" Mission architecture of California was created from the years just before the American Revolution to our War of 1812, during which the Mexicans threw off Spanish rule. Today's Missions along the Coast are largely restorations within the present century.

The early pueblos are described in such a dull a fashion that it is difficult to plow on. But the author takes fire as he describes the early Spaniards venturing forth to discover "Cities of Gold." The pueblo Indians were at first amazingly hospitable, considering the didactic quality of the friars, when they turned to ancient ceremonials in time of drought, their old gods were destroyed and their tribal priests were killed, resulting in a sudden revolt that drove the early Spanish rulers back to Mexico minus most of their missionaries. And to this day, most of the old Missions in New Mexico belong to the Indians, who use what they choose from both cultures.

Most of the Texas Missions show the ornateness of Old Spain and have been rescued, as have the California Missions, by sentimental Chambers of Commerce.

The California Missions are more restored than original, most of them having been completely deserted by 1850, so that it is hard to understand the author's feeling that this is an "indigenous" architecture. The reader is left with a sense of the complete ineptness of the Spanish as both colonizers and converters, and bewildered by the insistence of Californians in clinging to so full a tradition.

One postscript: the Famous Larkin house in Monterey, first in the "Yankee" style and derived from "his native New England," with a second-story porch on three sides—looks more like Charleston or New Orleans than old Boston.

M.A.M.

RICH SOURCE

Ceramics and Potterymaking for Everyone. Carol Janeway. Tudor Publishing Co., 221 Fourth Ave., New York, N. Y., 1950. 126 pp., illus. $1 paper; $3 cloth

This book is the first of its kind to devote especial attention to the making of tiles and to indicate their varied uses. A restudy of this method of wall decoration by architects and interior designers will yield a rich source of decorative treatments, in addition to those so ably presented by Miss Janeway. Interior glazed wall panels as shown in her book, or large areas on exterior walls treated as carved surfaces composed of tiles, are eminently worthy of consideration.

The thoughtful presentation of the technical material in this book makes it possible for designer or architect to carry out his own experiments.

ALBERT JACOBSON

Wilton, Conn.
SATISFY TODAY'S DEMAND FOR COLOR

with the permanent beauty of tile

Here is the smart buy for the luxury look—American-Olean real clay tile. Colors are fired in... they can't fade, streak, wash off, stain or discolor. There are no complaints from home owners, no regrets from home builders, when they have American-Olean walls and floors. Your clients can be sure of the sparkling, clear colors they want... and you and they can forget about maintenance worries forever.

You'll find that American-Olean real clay tile costs no more than many "substitute" materials.

FREE! THE COLOR BOOK OF TILE

AMERICAN-OLEAN TILE COMPANY

Executive Offices, 950 Kenilworth Ave., Lansdale, Pennsylvania

Your Quickest, Easiest Way to Specify Tile

The most complete, most helpful tile book ever produced. 100 pages, including 30 of typical installations in full color; plus color charts of wall and floor tile, trim and hand decorated inserts. Full architectural data and ready-to-use specifications. If you have not yet received your copy, or if you need another, write today.
In the hazardous days ahead for building, an architect with a substantial project may find it evaporating into thin air prior to the time preliminary sketches or even the program are agreed upon. What compensation is he entitled to in such event?

The standard A.I.A. contract employed when a multiple of the technical personnel costs forms the basis of payment for professional services, covers this situation. When the agreement is terminated prematurely, the following clause applies:

"Upon such termination the Architect will be entitled to the payments due or incurred on account of the provisions of this agreement up to the date of such termination."

The provisions of the contract, to which the above clause refers, state the basis of payment as follows:

(a) A sum equal to ... times the Technical Personnel Costs, as stated in Article 2 hereinafter set forth, paid or incurred by the Architect for work performed in connection with this project by the Architect's personnel.

(b) Reimbursements (for the Architect's costs) as stated in Article 4 hereinafter set forth.

(c) The cost for the time actually spent by the Architect (or any partner thereof) on this work, which cost is hereby fixed at the rate of $ . . . per hour of time so spent."

However, most (including the standard A.I.A.) owner-architect agreements provide a definite basis for computing the architect's fee only after the preliminary sketches have been completed. Before that stage is reached, a substantial amount of time and effort will be expended in preliminary work. The amount of the architect's compensation, should the project be abandoned at this point, is not easily determined unless additional explicit provisions are inserted in the agreement.

In the A.I.A. contract which provides for a "fee plus cost" payment for architectural services, the following clause governs the architect's right to compensation on the abandonment of a construction program:

"In case of the abandonment or suspension of the work or of any part or parts thereof, the Architect is to be paid in proportion to the services rendered on account of it up to the time of its abandonment or suspension, such proportion being 20% upon completion of preliminary sketches and 75% upon completion of working drawings and specifications."

The A.I.A. "percentage of the total cost" form of fee arrangement contains the following provision:

"If any work designed or specified by the Architect is abandoned or suspended, the Architect is to be paid for the services rendered on account of it."

Since the reported cases on this subject have dealt with projects terminated at some point following the completion of
Veterans Administration Hospitals using AUTH equipment:

- Fort Hamilton, Brooklyn, New York
- Altoona, Pennsylvania
- Wilkes Barre, Pennsylvania
- Clarksburg, West Virginia
- Omaha, Nebraska
- Saginaw, Michigan
- Albany, New York
- Spokane, Washington
- Grand Island, Nebraska
- Syracuse, New York
- Madison, Wisconsin
- Bonham, Texas
- Iowa City, Iowa
- Baltimore, Maryland
- Kansas City, Missouri
- Minneapolis, Minnesota
- Boston, Massachusetts
- West Haven, Connecticut
- Pittsburgh, Pennsylvania
- Little Rock, Arkansas
- Manchester, New Hampshire

... a name that places over 50 years experience and the finest reputation for dependability and integrity behind every job!

**Auth Signaling, Protective and Communication Equipment**

has been specified and used for Hospitals in every part of the country — installations which include Nurses’ Call, Doctors’ Paging and Staff Register Systems; Attendants Emergency Alarm Systems for Neuro-Psychiatric Patients; Centrally Controlled Clock Systems; Fire Alarm Systems; Intercommunicating Telephone; Vocalcall Systems for voice communication between patient and nurse; Night Lights and Ground Detector Panels. This and other AUTH equipment has proven its value time and time again when comfort and safety and hospital efficiency are prime considerations.

Write for detailed FREE literature.

**AUTH ELECTRIC COMPANY, INC.**

34-20 45th St., Long Island City 1, New York
Bold colors dramatize the strikingly simple lines of the Washington, D.C., handsome new Cafritz Parking Garage. It is faced with architectural concrete slabs made with Atlas White Cement.

For the first floor level, architect LeRoy L. Werner chose blue-green glass aggregate that gives the slabs a rich turquoise color. Upper floors are finished in a delicate pink with contrasting trim made of opaque quartz.

Because of its excellent design and planning, the Washington Board of Trade gave the building its coveted "Architectural Award of Merit."

Slabs made with Atlas White Cement give you the opportunity for equal originality and beauty in the buildings you design. The range of patterns and colors is infinite. And because Atlas White Cement is a true white, it brings out the rich values of color pigments and aggregates you select.

Atlas White Cement complies with ASTM and Federal Specifications for portland cement. For further information, see SWEET'S Catalog, Section 4E/7a and 13C/5, or write to Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), 100 Park Avenue, New York 17, N. Y.

PA-C-30

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

128 Progressive Architecture
How would you go about getting more elevator service in any building? Most people would say, "Put in more elevators." And if you were thinking in terms of an ordinary elevator system, you'd be pretty close to the truth. But—and (and pardon our pride) you'd be far from right if you were thinking about the new Westinghouse Selectomatic system.

Selectomatic is the system that thinks and plans before it acts. Because of Selectomatic's ingenious "electrical brain," calls, cars and floors are instantly and automatically matched. Result—the elevator system that's so efficient it solves traffic problems with fewer elevators!*

And what's more—Selectomatic is the only system that gets you from floor to floor so fast, yet so smoothly, that you can hardly tell a start from a stop.

So, if you're planning an investment in elevators—test ride Selectomatic before you decide. For information on Selectomatic installations you can "test-ride" in your locality, write Westinghouse Electric Corp., Elevator Division, Dept. E-1, Jersey City, N. J.

*Case histories given upon request.

For years, Westinghouse engineering developments have stimulated the vertical transportation industry to strive for ever-higher standards of quality and efficiency. In every phase of vertical transportation—equipment, maintenance, and service—Westinghouse has been the vanguard for progress. So, whatever your traffic problems may be—there's a Westinghouse Integrated Vertical Transportation System to solve them completely. Look ahead with the leader...
The first is a fixed retainer, which would constitute the minimum payment to the architect for his services prior to the completion of preliminary studies. This could be a specified amount, or it might be expressed in terms of some workable formula, such as X times draftsmen's cost. This is similar to the provision for liquidated damages found in many contracts, which is intended to compensate one party for a termination of the contract by the other. By and large, such provisions are upheld if the stated figure, considered with respect to the scope of the entire project, is not, according to the courts, inequitable or unconscionable.

WAYLITE interior Zion Evangelical Lutheran Church, Chicago
Architect: Herbert Brand • Contractor: Crouch-Walker

WAYLITE gives
a completely finished and
acoustically treated interior
at NO EXTRA COST!

A Waylite masonry structural wall with the interior surface left exposed provides a 3-fold advantage for many types of structures. The soft lights and shadows of the textured grey surface are attractive. Waylite masonry has a noise coefficient of up to 50% and provides adequate acoustical treatment. It is a very economical architectural treatment because plaster or other finishes are eliminated.

You'll find such walls useful in churches, theatres, schools and many other types of buildings. You pay only for a structural wall and without further cost you have an attractive interior surface—completely finished—and acoustically treated!

For further information address Waylite Company, 105 W. Madison Street, Chicago 2, or Box 30, Bethlehem, Pennsylvania.

The importance of specifying exactly the purpose such a retainer or liquidated damage clause is to serve, cannot be overemphasized. If the provision does not clearly state that it is applicable only in the event that the work is stopped before preliminary studies are completed, it is in danger of being construed as applying to an abandonment at a more advanced stage in the execution of the contract. Thus, under a given contract where the architect was to be paid 3/4% of the contract price on the awarding of the contract, and 1/4% on the completion and acceptance of the building, but in the event the employer failed to erect the building within a certain time, the architect should receive $250 "for preliminary services rendered in connection with his contract," the court held that the contract provided for payment on one basis if a contract was awarded for construction, but on the basis prescribed by the proviso if the building was not erected. Therefore, since the employer had abandoned the project without having let a contract for construction, the architect's recovery was limited to $250 although he had prepared not only preliminary plans but complete working drawings and specifications as well.

A second method for computing the architect's compensation is on a cost plus basis prior to completion of preliminary studies. This envisages payment to the architect of all actual expenses incurred by him in connection with the preliminary work and in addition a stipulated amount. It is analogous to the standard contract form providing for a cost plus fee method of computing the architect's compensation for full professional services.

A third possible stipulation might provide for payment on the basis of the amount of time the principal spends on the preliminary work. This method, of course, contemplates that the principal will spend substantial time on the preliminary details, and payment would therefore be made for his time rather than that of a draftsman.

The clauses suggested above do not preclude a consideration of other types. No one formula will prove suitable to all types of contract. In addition to the cost plus and percentage of the cost contracts already mentioned, other types, such as contracts stipulating a lump sum fee for professional services, contracts under which the architect is paid a salary, and others, will demand special clauses.

Today, more than ever, the architect should adequately protect himself against the adverse effects of a possible premature termination of his contract by inserting a clause in his contract which will provide specifically his exact compensation in that event.

Consider the incorporation of one or more clauses reading somewhat as follows:

(Continued on page 132)
Telescopic Glazing is another exclusive Hauserman feature that assures convenience year-in and year-out. It's another refinement in detail that helps provide that over-all Hauserman perfection in appearance and convenience.

Telescopic Glazing has no unsightly screws or exposed fastenings of any kind. And it eliminates marring or denting that accompanies drive-on mouldings. What's more, Telescopic Glazing permits clean, quick replacement of broken units.

Hauserman has more exclusive, patented features than any other type of movable wall. Write for the new 1951 Hauserman Movable Steel Interior catalog picturing and detailing all Hauserman advantages. Your nearby Hauserman office or representative can give you expert engineering assistance on any partitioning requirement. The E.F. Hauserman Company, 7202 Grant Avenue, Cleveland 5, Ohio.
Ever been haunted by an "ERASURE GHOST"?

The beauty of Arkwright Tracing Cloth is its permanent translucency — built all the way through the cloth by a special process. Arkwright will take the heaviest erasures without "ghosting". You can count on clear, clean prints from drawings on Arkwright cloth years after you make them.

You can re-ink over erasures on Arkwright Tracing Cloth without feathering or "blobbing". You can be sure there are no pinholes, thick threads or other imperfections in the cloth to bother you. Every roll is carefully inspected before leaving the factory.

Think a moment. Isn't it an unnecessary risk to put your important drawings on inferior tracing cloth or paper? A sample will show you the difference.

Write Arkwright Finishing Company, Providence, R.I.

ARKWRIGHT Tracing Cloths
AMERICA'S STANDARD FOR OVER 25 YEARS

it's the law

(Continued from page 130)

1. A retainer fee of $... shall be due and payable upon the signing of this Agreement and shall constitute the minimum fee payable hereunder. The said sum shall be retained by the Architect and shall be applied on account of the final payment for the Architect's fees.

2. Services rendered pursuant to Article (insert number of article referring to abandonment of work) shall be billed by the Architect and paid for by the Owner at the rate of "drafting" costs plus ...%.

3. In the event of an abandonment of the contract, prior to the completion of preliminary sketches, the Owner agrees to pay the Architect for services rendered:
   (a) A sum equal to ... times the Technical Personnel Costs, as stated in Article ... hereinafter set forth, paid or incurred by the Architect for work performed in connection with this project by the Architect's personnel.
   (b) Reimbursements as stated in Article ... hereinafter set forth.
   (c) The cost for the time spent by the Architect or any partner thereof, on this work, which cost is hereby fixed at the rate of $... per hour of time so spent. (a, b, & c are taken from the "multiple of technical personnel costs" A.I.A. contract.)

Background of Bannockburn Project (See page 65)

Group Housing Co-operative, the Washington, D.C., organization that in 1946 was instrumental in acquiring the golf course for the Bannockburn group shown on pages 65-67, spent the war years discussing a community ideal. Going even beyond the "integrated community" idea of the Ladera venture in Palo Alto, California (pages 68-71), their goal was nothing less than a "wholly balanced community," a social concept, as Vernon DeMars points out, aimed at providing for a wide range of incomes and range of choice in dwelling types, from small apartments to garden duplexes (row houses) and detached houses. Apartments, they argued, would be most desirable for younger and older couples and would free a large area for park use. The duplexes would provide inexpensive housing for those in the lower income brackets, and the detached houses, the group hoped, would range from $9,500 to $20,000 in price.

Since the Bannockburn property was zoned solely for single-family residential units, preliminary work by the architects—Burket, Neufeld & DeMars—was directed mainly toward an application for rezoning. In the hearing before the County Commissioners, two schemes

(Continued on page 138)
Resilient flooring materials made of VINYLITE Brand Resins are actually bringing floor maintenance costs down to record lows wherever they are used. Why?

* They outwear and outlast other types of resilient floor coverings.
* They strongly resist water, soaps, cleansers, foods, grease, oil, even acid and alkali solutions.
* They're flexible, conforming to uneven floor surfaces and absorbing normal play of wood floors without cracking.
* They can be safely laid on concrete floors in direct contact with the ground.

Tile and continuous flooring made of VINYLITE Resins have lighter, brighter tones and clearer, cheerier colors than any other resilient floor materials. Waxing gives them unmatched luster, yet waxing is not needed on their glossy, non-porous, dirt-shunning surfaces.

Available in an almost limitless range of stable colors to match any decorative plan, these rugged materials are friendly to budgets for years on end—and a "must" for the most careful consideration for hospitals, offices, schools, restaurants, public buildings, and private homes. Let us send you a list of suppliers of floor coverings based on VINYLITE BRAND Resins. Write Dept. JN-58.

Data on "Terraflex" flooring courtesy John-Manville Sales Corporation
22 East 40th Street, New York, N. Y.
See how a soft glow of daylight is passed across the table by this wall of translucent patterned glass. Here is privacy without the darkness imposed by an opaque wall. Blue Ridge Patterned Glass gives you a way to spread light where you want it.

Think of the places you can use Patterned Glass to improve the look of a house. A panel beside the front door...or in the door itself. A wall between kitchen and alcove...between entrance hall and living room. Think of the places in an office or showroom.

This wonderful glass saves plastering and painting. It decorates both rooms at once. And its distinctive beauty never dims. A swish of a damp cloth keeps it sparkling clean.

Over 20 beautiful Blue Ridge patterns give you real freedom of choice for new construction or remodeling. Call your L·O·F Glass Distributor for complete details. And mail the coupon below.

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. Send coupon at right.

Blue Ridge Sales Division
Libbey-Owens-Ford Glass Company
B-921 Nicholas Building, Toledo 3, Ohio

Please send me your two idea books: Patterned Glass for Modernization in commercial buildings; New Adventures in Decorating for residences.

Name (please print) .................................................................
Street ............................................................... 
City ...................... Zone ....... State ..........................

PASS THE DAYLIGHT, PLEASE

This light-passing wall of Blue Ridge Satinex® Fluted Glass separates dining alcove and entrance hall...forms a partition for privacy, but doesn't darken the room. Architects: Gerson T. Hirsch & R. H. Rosenberg, New York
Ten Steps to Roddiscraft Quality

There's no shortcut to quality. Roddiscraft quality plywood is manufactured step by step—no shortcuts, no skip steps. You can depend on Roddiscraft quality.

The first step — quality veneers — followed by careful matching, seasoning, moisture control—then the best adhesives, applied in modern hot plate presses—exact machine sanding, final inspection and proper storage.

Quality manufactured Roddiscraft Plywood is available in Birch, Maple, Walnut, Oak, Mahogany, Blonde Limba, Prima Vera, Avodire, Chen Chen, Gum and Douglas Fir from warehouse stocks. Other woods are available on special order. No matter what your paneling plans, you can safely specify Roddiscraft plywood.

First Cost Is Practically Last Cost with Roddiscraft Hardwood Plywood

Figures obtained from well known building authorities indicate that over a period of ten years or less, based on using 1/4" plywood, the average cost of a paneling job will be no more than that of an ordinary plaster job using paper or paint finishes requiring constant maintenance. Beyond that period, the negligible amount of maintenance needed to preserve a Roddiscraft paneled wall results in real savings to the building owner.
New "Controlled Humidity" Method Gives a Better Solution to Air Conditioning Problems

"Hygrol" Absorbent Liquid Dehumidifies Fresh Air Without Refrigeration

NIAGARA Air Conditioners or Dehumidifiers using "Hygrol" liquid absorbent give precise control of air temperature and humidity... at lower operating cost, with larger savings in space and with smaller and less expensive equipment, in many applications.

This method dehumidifies the air by passing it through a chamber in which "Hygrol" spray removes its moisture and produces a low dew point. The "Hygrol" solution resulting is continuously and automatically re-concentrated, providing always full capacity in air conditioning and assuring always a constant dehumidifying capacity and a trustworthy, constant condition for your material, apparatus, process or room to be conditioned.

"Hygrol" is a liquid, not a salt solution; it stays pure and non-corrosive; it does not cause maintenance or operating troubles in food plants or in chemical processes.

Investigate this new Niagara Method for "comfort" air conditioning as well as to protect quality in hygroscopic material, or processes or instruments, or to prevent condensation damage to metals, parts or products.

Write for Bulletin 112

NIAGARA BLOWER COMPANY
Over 35 Years Service in Industrial Air Engineering
Dept. PA, 405 Lexington Ave. New York 17, N. Y.
Experienced District Engineers in all Principal Cities

NOTICES

NEW PRACTICES. PARTNERSHIPS

W. H. WIECHELMAN, JR., Architect, 7113 Euclid Ave., Cleveland 3, Ohio.
CLETIS R. FOLEY, JOHN BYRON HACKLER, Architects, 335 Court St., Pekin, III.
SIDNEY KALIN, Architect, 1505 W. Cold Spring Lane, Baltimore 15, Md.
LEVON SERON, Architect-Engineer, 81 N. Chicago St., Joliet, 111., has now been approved and registered for the practice of architecture in Indiana and Wisconsin.

FRANK MONTANA and SUREN PILAFIAN, Architects, 153 E. Elizabeth St., Detroit 1, Mich., announce the dissolution of their partnership. MONTANA has accepted the position of head of the Department of Architecture at the University of Notre Dame in Indiana. PILAFIAN will continue to practice architecture at the same address.

BARNES & REINECKE, INC., Product Designers and Engineers, 220 E. Ohio St., Chicago, announce that their Product Styling Division has separated from the parent company and has become an independent organization. DAVID PAINTER, JAMES TEAGUE and VICTOR PETERTIL, former heads of that division, have formed the partnership of PAINTER, TEAGUE & PETERTIL, to continue activities in product and package design at the same address.

(Text continued from page 132)
Budget-wise
beautiful
and available
...that’s

ENDURO-ASHLAR
ARCHITECTURAL
TERRA COTTA

Here’s a versatile building material that meets all your design requirements... time-proved terra cotta possessing remarkable plasticity of form, color and texture. In units large or small, it can be tailor-made in an unlimited range of ceramic colors and supplied in a matter of weeks... for interiors or exteriors, plain surfaces or decorative sculpture. What’s more, the original richness and beauty of Enduro-Ashlar Architectural Terra Cotta can be retained indefinitely by simple soap-and-water washings. All these advantages—quality, price, beauty, and ease of maintenance, are reasons why Enduro-Ashlar Architectural Terra Cotta is specified more often today than ever before—for educational, medical or industrial construction, and for modernization.

Construction detail, data, color samples, advice on preliminary sketches, will be furnished promptly without charge. Send your inquiry today.
There is a refining influence from the arts of Design on a prepared mind which is as positive as that of music, and not to be supplied from any other source.  Emerson

Nothing great was ever achieved without enthusiasm.  Emerson

So we come to our third discussion on the teaching of Design and the second on "Basic" Design. Our first article was last October, then the December column had three contributions which ought to be checked before reading this month's. Skipping about as we do with long time lapses makes it difficult for the reader to follow any sequence of thought or consistency in ideas. This is perhaps a bit easier on me than you, since I keep a file of back issues handy to check on. Several people have said that I have enough material already to make into a book. Boswell's "Malahide" papers now at Yale will probably fill 40 to 60 volumes. May I commend these to you instead; it will save me the bother of trying to make steak out of hash. Besides, I have made every attempt to avoid the formal presentation of ideas. Let's just remain friendly, informal, and gently controversial, and forget the Morocco binding.

This column contains, below, the fourth and final (for the present) paper resulting from my request to four Basic Design professors to answer the questions listed in the December 1950 issue. Professor Duncan Stuart did not see the other three before sending me his comments so what he says here is to be added to the other three and considered in the same light.

The statement from Associate Duncan R. Stuart, Associate Professor of Design, School of Design, Department of Architecture, North Carolina State College, Raleigh, N. C., follows:

Question I

The questions you have raised with reference to the teaching of Basic Design are ones which seem to be perennially with us—to the point of having become academic. In the light of our recent conversation, I realize that you are now serving as a somewhat impartial medium through which they can be voiced. These questions have an unblushingly partisan flavor for both sides of the argument. This suggests, on the surface, that there is a deep and abiding difference between the schools which have grown out of the Bauhaus ideology, and the ones which cling more closely to the Beaux Arts system. It is further suggested that the design world must, of necessity, take one of the two systems to its bosom in order that the student may know, by example, what his choice must be.

Question II

The regrettable part of this is that the student, whether he realizes it or not, has not much choice to make. For the newer developments in the teaching of design as characterized by the Bauhaus, are programs which differ from that of the Beaux Arts system not in kind so much as in degree. Both systems are still very much in the same family, though the Bauhaus has undertaken a much livelier program and is, because of this aliveness, much more inviting to the student. Both methods present a seamier side that suffers from the
"The Heatilator Fireplace gives my clients EXTRA COMFORT, WITH NO LIMIT TO MANTEL DESIGN!"

says: JOHN MATTHEWS HATTON
prominent New York Architect

Mr. Hatton has years of experience in designing beautiful homes with Heatilator Fireplaces...using every architectural style and decorative treatment. He's found that the fool-proof Heatilator unit simplifies construction, eliminates smoking, and circulates heat to warm the entire room instead of wasting it up the chimney. Says Mr. Hatton, "There is no Limit to Mantel Design" The Heatilator unit allows complete freedom of architectural expression, with no restriction on mantel design or use of materials. It is a scientifically designed, heavy-gauge steel form, complete from hearth to flue, around which any style fireplace can be built.

Assures Correct Construction. When you specify a Heatilator Fireplace you know the fireplace will draw properly and will not smoke. The Heatilator unit is factory-engineered...cuts construction supervision time to a minimum.

This country home is a striking example of Mr. Hatton's design. He has many houses to his credit throughout the country.

Proved for 24 Years. For greatest client satisfaction, specify the genuine Heatilator Fireplace...the first practical method of circulating fireplace heat. The name Heatilator is on both the dome and the damper handle. Write today for complete specifications and illustrations. Heatilator, Inc., 922 E. Brighton Ave., Syracuse 5, N. Y.

HEATILATOR America's Leading FIREPLACE

T.M. REG. U.S. PAT. OFF.
Look to M-C & S for construction experience and ingenuity to meet the challenge of changing times!

Under current conditions, construction know-how is needed more than ever to translate your architectural plans into structural reality. Working in close harmony with you, M-C & S brings its many specialized skills and unrivaled facilities to bear on each job. Merritt-Chapman & Scott project managers have the experience and proved ingenuity that assure fast, on-the-spot solutions as unexpected problems arise. Examples of M-C & S's ability to complete various types of projects as designed, on time, are contained in the brochure offered below.

Illustrated booklet presents factual record of M-C & S's ability to solve the most challenging construction problems. Your copy will be sent immediately upon request to Dept. PA5.

MERRITT-CHAPMAN & SCOTT CORPORATION
Founded in 1860 ... now in our 91st year

General Offices
17 Battery Place, New York 4, N. Y.

CLEVELAND • BOSTON • NEW LONDON

(Continued from page 138)
LIKE motion picture theatres all over the country, the Westover Theatre in Richmond, Va. had a difficult problem in maintenance due to the sale of pop-corn, candies, ice cream and soda pop. The Westover Theatre solved this problem by installing Kencork Floors!

Kencork is the ideal flooring for theatres where cleanliness and durability must be combined with speedy, economical maintenance and outstanding appearance. Resilient, sound-absorbing Kencork lasts for decades without showing a sign of wear—long after carpeting has been worn out and replaced. Stains and soil can't penetrate...even cigarette burns can be effortlessly removed. Kencork stays gleaming and dust-free with only an occasional waxing. The low initial cost of durable Kencork, as compared with carpet, plus its economical upkeep, makes it the perfect floor for long range economies!

No floor can compare with Kencork for distinguished offices, lounges and homes...any interior area removed from sidewalk grit! Its amazing durability and maintenance economies, combined with its unique beauty, make it a practical floor, too. Contact your Kencork Dealer—his name is listed under FLOORING in the classified pages of your phone directory. Ask him about Kencork for walls when you get your FREE flooring estimate.
THE ONLY FORM FOR
STEEL JOIST CONCRETE
FLOORS AND ROOFS

Corruform

CORRUFORM
sheets are easily placed.
Fasteners are positive for all common joists and beams. Lapping is automatic. No sag or material waste. Concrete is placed and finished by common practice.

CORRUFORM
is nearly twice as strong as ordinary steel of equal weight. Tough tempered to spring back under abuse. Provides a secure form for trades and concrete — no side pull on joints, beams, or walls.

CORRUFORM
is true and level. No cleanup necessary on floors below, no unsightly leakage. Bright, decorative corrugated pattern for exposed ceilings. Corruform is available plain, galvanized or vinyl-primed for painting.

SPECIFICATION
Standard weight Corruform with 2 3/16 inch wide, 1/2 inch deep corrugations. Weight .72 lbs. per sq. foot. Guaranteed average strength of 100,000 psi. — single test minimum strength 95,000 psi.

SEND FOR FREE
AIA FILE TODAY

GRANCO STEEL PRODUCTS CO.
(Subsidiary of GRANITE CITY STEEL CO.)
Granite City, Illinois

out of school

(Continued from page 140)

might conclude that the difficulties that are experienced here are ones which have their origin in the "a posteriori" generalizations of exceptionally perceptive and talented discoverers—which have been converted to an "a priori" state of static "axioms."

Question III

A disturbing situation which exists today can be seen when the student moves from his basic course in generalized (abstract) design principles into a more specialized field such as architectural design. Many of the students who seemed to have come through basic design with ease and fluency are seen to abandon their advantage at the first "practical" encounter. It is alarming, thus, to see the speed with which a student can invest himself with the ability to deal passingly well with "space modulators, light modulators, tactile charts" etc., and pass on to show how little he really comprehended the import of the exercises. Again, the remarkable contrast one finds between the abilities of a student in a drawing and a design class shows clearly that the products of the design class are no index to the student's perceptive abilities, and gives rise to the question as to the student's real abilities to move in the quasi-internal world of imaginative abstraction—regardless of the apparent elegance of his solution to design problems.

As a step toward bringing about a more adept system for the teaching of purposive visual organization, I would suggest the following. First we must undertake to help the student build up his abilities to perceive the world around him with greater clarity. Though we cannot put visual memories into his experience, we can give him methods whereby he can do so with greater ease. This should be coupled with problems which force him to generalize the experiences he has had and conclude from these generalizations, tentative principles. However, visual memory is perhaps the greatest lack which our students bear. Far too many of them are handicapped with a paucity of images on which to draw—too little money in the bank. To alleviate this, our beginning should be from the point of view of giving the student the proper kind of earning power, so that his storehouse of visual raw material will be continually enlarged, and readily available. Couple this with problems which force the student to formulate principles of organization. It is necessary, as well, to submit programs which require the development of the necessary technical skills, so that the student may bring forth images of sufficient clarity that they may be evaluated by himself and others. With this we must also have a varied series of visual experiences available to our students—through the media of direct physical contact and through an examination of the history of man's efforts in image making. Finally, but not least by any means, we must see that the student embarks upon as broad an investigation of the sum total of all man's pres-
WHAT AIR INFILTRATION WILL WINDOWS DEVELOP?

Air infiltration of only 0.095 cfm is amazingly low. In terms of effective closure it is at least TEN TIMES AS TIGHT as the generally established standards for casement windows and projected sash.

AT LAST! You need not compromise when specifying a window. Auto-Lok’s amazing tight closure assures maximum comfort...eliminates unhealthy drafts (when window is closed) ...reduces fuel bills, and air conditioning costs. Yet, when you want it... Auto-Lok gives 100% ventilation, even when it's raining. A child can operate Auto-Lok with ease.

AUTO-LOK THE ALL-CLIMATE WINDOW -- winning architectural acceptance everywhere because it:

- reduces air infiltration to a minimum.
- reduces maintenance costs.
- slashes fuel bills.
- makes air conditioning more economical.
- provides positive protection against all climatic extremes.
- assures draft-free ventilation...even when it's raining.
- can be cleaned entirely from the inside.

The report states simply and convincingly that our AUTO-LOK Aluminum Awning Window showed air infiltration of only "0.095 cfm per ft. at a static pressure equivalent to 25 mph."

Consult SWEETS, or write for name of nearest distributor.
For free folder, "WHAT IS IMPORTANT IN A WINDOW?" address Dept. PA-2

LUDMAN CORPORATION
P.O. Box 4541
MIAMI, FLORIDA

February 1951 143
ent knowledge in all fields, as is commensurate with the time available.

In short, I feel that it is necessary for the student to begin his studies with an investigation of elements which grow out of his experience, and to follow a truly “a posteriori” program. I feel that the best way to accomplish this is to place a greater emphasis than we seem to have on the direct analysis of the physical world of visual phenomenon. To teach the student the art of observing. With observation we should begin to introduce the student to problems of generalization, or abstraction through which he reorganizes his experiences imaginatively. As the student’s fluency in observation increases, questions of a generalized nature inevitably arise, and when they do, the time for investigation of general principles is ripe. It is then possible to do so without the aid of an “a priori.” A student of mathematics finds algebra incomprehensible unless he has the experience in dealing with the operation of number, or “counting.” Just so, we must enable our students to “count” their visual experiences before we ask them to comprehend the workings of visual algebra.

I hope that these words have covered the material which you had anticipated and I thank you for giving me the opportunity to express them.

Now, Professor Stuart is mistaken if he believes that I serve as an “impartial medium” here or anywhere else. I am afraid that impartiality just ain’t in my blood. I like taking sides and howling. You may remember that several commentators on this column have gotten mad. Well, so have I. Too damn few architects ever get mad except when another grabs a client away by doing preliminary sketches for free or undercuts a fee or by leaving a bottle of Scotch in a conspicuous spot.

My four contributors don’t make me mad. I certainly appreciate their willingness to go on record and the completeness of their replies. As far as I know, these four brief statements constitute the first time that teachers of contemporary thought in Basic Design have placed their methods and ideas before the periodical public. These are good men and true and deserve your plaudits.

Now for the substance. Frankly, I find something important missing in these statements. It is an item mentioned directly and indirectly in each. What is missing is a certain quality of emphasis. The word “function” implies at all times the human usefulness of architecture. Harlan McClure regards “function, structure, and esthetics” as the three key elements in design with “function” as the pivot. There

(Continued on page 146)
WHO wouldn't like to go to college, with a dormitory as handsome as this to live in? The Mabee Men's and Women's Halls have a lifetime of efficient service built into them, too. Gold Bond metal lath and plaster products, including famous Best Bros. Keene's Cement, were used throughout.

Whether a job is big or small, there's definitely a big advantage when Gold Bond products are used exclusively. It means that the sole responsibility for material performance rests on one reputable manufacturer, National Gypsum Company. The over 150 better Gold Bond building products are fully described in Sweet's, and they're available at your local Gold Bond Lumber and Building Materials Dealer.

UNIVERSITY OF TULSA
TULSA, OKLAHOMA

J. E. MABEE HALL (shown) and LOTTIE JANE MABEE HALL

Architect: ... Atkinson and Murray, Tulsa

General Contractor: ... Al Ward Construction Co., Tulsa

Plastering Contractor: ... True Plastering Co., Tulsa

You'll build or remodel better with Gold Bond

NATIONAL GYPSUM COMPANY • BUFFALO 2, NEW YORK

seems some lack of decision between the four contributors as to when function appears in the scheme of teaching. Howard Miller feels that the application of Basic Design comes via the addition of use to abstractions. Eugene Mackey, in his carefully planned statement, stresses the continuity of architectural meaning from the beginning. Duncan Stuart is disturbed that a student with all too little experience vocabulary has difficulty in forming the bridge from abstract design to architectural design. I am perturbed in all of this because the beginning is with abstraction and not with reality. For it is here that I am afraid we are still foundering.

Why do we start our students off with abstraction? The understanding of the abstract is one of our minds’ most difficult achievements. In the first place, pure abstraction in any art form—that is, music, sculpture, painting, poetry or literature—is an intellectual ultimate. A Bach fugue is the purest kind of abstraction and may contain the peak in beauty of form, color, light, and sensuous response. Absolute abstraction in painting and sculpture has been achieved rarely with Mondrian, Kandinsky, Picasso, Arp and Klee as protagonists. Most of these men, Braque, Lipchitz, Miro, and Brancusi included, work in the field of concrete abstractions or derivatives, i.e., Brancusi’s “Bird in Space” is, after all, an art form with a subject—bird. Designs made with mandolins, melons, and mon-tages, excellent as they may be, are still designs made from specifics from which images and associations are both consciously and unconsciously drawn. When James Joyce or Gertrude Stein broke words out of the restrictions of established grammatical form they were working with letter combinations that had specific meaning. After all, “A rose is a rose” gives emphasis to the rose.

As I write this, I am listening to a Mozart symphony. On the wall facing me is a titleless Miro abstraction made up of etched lines and subjectless irregular forms. I am enjoying both the aural and ocular stimuli. Neither interfere with my thoughts here as my reaction to them is emotional and sensual and for the moment at least non-intellectual as far as they are concerned. Now, if I were listening to “The Star Spangled Banner” and facing a reproduction of “George Washington Crossing the Delaware,” my attention would be diverted at once. The art forms are no longer abstract. They are concerned with realities growing out of both training and experience. The plastic means...
The Office of JAMES R. EDMUNDS, Jr., Architects, Baltimore, designed the new Psychiatric Institute as a mental hospital and teaching unit for the existing University of Maryland Hospital. Initial construction includes Ground and Grade floors, six full floors, a partial seventh—with provisions for eleven floors, when needed. • OTIS "Hospital-Quiet" Elevatoring includes—3 PASSENGER ELEVATORS; Sound-isolated. Hospital-size cars with automatic doors. Micro "two-way" self-leveling, 500 ft. speed. Gearless machines. Automatic group operation, with or without attendants. This service will be extended from the 6th to 11th floor, and a fourth car added, when the structure is enlarged. DUMBWAITER: Sound-deadened. Automatic "Call and Send" operation directly between Grade and 2nd floor Record Room. FREIGHT ELEVATOR: Electric. Machine located below to save headroom. Push button operation between Grade and Ground floors. Handling refuse, shop equipment. • Elevator maintenance will be simplified by integrating this new elevatoring with the 4 OTIS Passenger Elevators and 6 Dumbwaiters that have been giving excellent service in the main hospital since 1933. For further details see SWEET'S Architectural File. Or, call your local OTIS office.

Otis Elevator Company, 260 11th Avenue, New York 1, N. Y.

February 1951
are subjugated at once by subject which in turn controls my intellect. I cannot escape the subject nor it me.

Architecture, by its nature, cannot ever be abstract. Elements of architecture may be abstract. D'Espouy's plates of classic detail, on which I teetbed, had no more meaning than complete abstractions did to me as an unintellectual architectural freshman. The moduli of classic forms, or those developed by Mondrian, Corbu or Gropius are the results of sophisticated intellects and are as highly developed as Bach's exercises for the Well Tempered Clavichord. To push a fledgling off from these lofty perches, whether classical or contemporary, is to tempt fate. It is one of the reasons for so many crash landings.

And yet there are very good reasons for the present day method of beginning with abstract forms. In the first place, the status of domestic art forms in the country and in most of the world is so degraded that any teacher facing the taste conditioning of the average first year man, wants to wipe the slate clean and start the lad over again from zero. Secondly, with the varied provenance of students in our schools, we are both tempted and compelled to average them all off so that there can be some kind of basing point. Third, with the complexities and terrors of modern life there is comfort in simple forms and elementary and primitive ideas, shapes, colors, and textures. Fourth, the conservative backgrounds of most of our youngsters, coupled with unimaginative high school education, shackles and inhibits them to the point of strangulation. We seem to be able best to penetrate the defense mechanisms thus established by a shock treatment rather than by persuasion.

There are these and many other reasons, as well as those expressed by our four friends, for maintaining some abstract concepts in our Basic Design training. But I believe that what I have said about abstract design as a whole must be considered in the building of a Basic Design curriculum. I revert, therefore, to the lack of emphasis in the four statements, or lack of emphasis of the human factors in design. Stuart came closest to what I have in mind when he puzzles over our attempts to substitute vocabulary for experience—or maybe I misinterpret him—perhaps "all men's knowledge in all fields," which, the Lord knows is broad enough, does include my thought.

Simply, it is this: comprehensive architecture is nonabstract. I go back to my October story. In that I said that

(Continued from page 148)
The De Luxe sill-sash combination gives the appearance of a single moulding. Actually sill and sash are separate members. The sill is invertible, as illustrated below, and may be combined attractively with any of the sashes in the Pittco De Luxe Line. The extruded method of production assures clear, sharp profiles and a finish rich in tone and gloss.
Because Richards-Wilcox offers these
EXCLUSIVE FEATURES

1. Fully Automatic. All folding, unfolding, locking, unlocking, and sound-proofing operations are accomplished by the electric operator and its auxiliary mechanism. You turn the switch key—R-W does the rest.

2. Positive, Silent Action Roller Chain Drive. Will not slip, stretch, or break.

3. Friction-Proof Track. Ball-bearing hanger wheels are machined to provide a line contact with the ¼" round cold-rolled steel bar runways of the track, assuring minimum friction and silent operation.

4. Gymnasium Doors Are Full Three Inches Thick Over Entire Area. This provides flush surface similar to a solid wall. Eliminates protruding butt-hinges in players’ contact zone below seven foot level.

5. Fully Automatic Floor Seals. Self-adjusting to uneven spots in floor. No levers or manual effort required to operate.

DON'T SPECULATE—investigate the advantages of Foldex-Way Automatic Folding Partitions by Richards-Wilcox. Check the installation nearest to you. For details, telephone, write, or wire, today.

Kent State University, Kent, Ohio—Openings: 114" x 20"
Hinsdale Community High School, Hinsdale, Illinois—Openings: 127" x 28"
Arvin High School, Arvin, California—Openings: 143" x 26"
Kinkaid School Gymnasium, Houston, Texas—Openings: 71" x 21"
High School, Brookline, Mass.—2 Openings: 100" x 20" and 130" x 20"
Banks School, Bay City, Michigan—Openings: 50" x 18"

NOTICE

PRINTERS WHIM

When the lockset advertised by Kwisket Sales and Service Company on Page 8, December 1950 P/A, appeared in a lively green instead of the metallic ink that would have suggested the actual range of “satin or polished chrome or brass, or satin bronze” produced by the manufacturer, the publisher and advertiser alike were astonished whereas the printer, amid the confusion of moving his plant from New York to Connecticut, couldn’t even find a suitable alibi. We trust that our readers carefully read the advertisement and were not mis-led by this blatant error. The current Kwisket advertisement is on page 8.

out of school

(Continued from page 148)

great progress has been made in a return to the natural and fundamental logic of human requirements and the resources at our disposal for the satisfying of these requirements.” Recently it has been my privilege to inspect informally several schools. In these I find excellent progress in the beginning year. In all, there is evident a sincere effort to find a good way to get started. In all of them the study of man or adequate study of man, his family, and his environment, are lacking. Or if they appear, it is not until much time has passed on the second class fundamentals.

I believe that Basic Design must begin with man, his shape and size, his movements, his likes and dislikes, his habits and traditions of culture, his sensitivity to nature, and his general orneriness. I do not yet believe in Modulor, Corbu’s dimensional robot, but scale is man size and we must know what man size is. I believe that Basic Design must begin with nature, its shapes and sizes, its color and forms, its materials, its light and dark, its temperatures, its likes and dislikes. I believe, further, that Basic Design must begin with man and nature together, for man requires architecture and both are dependent on the elements of nature. At least one teacher in every Basic Design course should be psychologist enough to explain not only man’s reactions to man and to environment but also to help each student translate his own experiences into vocabulary.

Basic Design, as I see it, then shapes up into the form of Leonardo’s note-books—sketches of ideas based on man and nature, personal, varied, intense, free, mathematics, physics, and esthetics. Nothing too great or too small. And all building toward the understanding of what are the underpinnings of comprehensive architecture—man living freely and with pleasure in the environment provided for him by artifice and God.
The best the house seat in.

Church Seats

"The best seat in the house"


Division of American Radiator & Standard Sanitary Corporation

There are good sound reasons why architects have made Church the overwhelming choice in toilet seats, whether for home, factory, school or institution.

Their styling and design is a compliment to the buyer’s taste . . . their unmistakable quality a mark of good judgment—and the name "Church" stamps them as the best.

Where hard use—even abuse—is anticipated, Church MOLTEX® Seats offer the architect the assurance of lasting quality, lowest cost per year of service.

With MOLTEX, first cost is last cost. They never need replacing.
JOBS AND MEN

ARCHITECTURAL EXPERIENCED DRAFTSMAN OR ARCHITECT—with about 10 years’ experience background, and bulk plant work. Permanency and permanent employment central New York. Location and term of duty noted above with the box number placed in lower left hand corner of envelope.

ARCHITECT—ARTIST AND DESIGNER—of experience, education and salary requirements. State Board, architectural renderings and perspectives in lines, without rendering. Jn. B. B. 7-0160. Chicago art school, had 15 years of successful practice in New York for large clientele, including nationally-known corporations. Box 357, PROGRESSIVE ARCHITECTURE.

MECHANICAL ENGINEER—wanted by architectural firm, in well-established modern office. Experienced mechanical engineer capable of laying out heating and plumbing drawings for all types of buildings and writing specifications for same. Furnish full school and experience record, salary expected, references and availability. Address Box 358, PROGRESSIVE ARCHITECTURE.

ARCHITECT—NCARB, 38, family, four years principal, nation-wide experience design, supervision commercial buildings, also structural, heating, lighting engineering, closing office, seeks appropriate position with firm in Denver, Minneapolis, or similar center Midwest or Southwest to work on long range defense or public project. Reply in detail Box 355, PROGRESSIVE ARCHITECTURE.

Advertising Rates

Standard charge for each unit is Five Dollars, with a maximum of 50 words. In counting words, your complete address (any address) counts as five words, a box number as three words. Two units may be purchased for ten dollars, with a maximum of 100 words. Check or money order should accompany advertisement and be mailed to Jobs and Men, c/o Progressive Architecture, 350 W. 42nd St., New York 18, N.Y. Insertions will be accepted not later than the 15th of the month preceding publication. Box number replies should be addressed as noted above with the box number placed in lower left hand corner of envelope.

ARCHITECT—designs connection with progressive office. Twenty-years’ experience with design and all architectural work. Commercial, ecclesiastical, industrial and residential buildings, hospitals, schools, theatres, air ports. Connection with partnership possibilities desired. Box 356, PROGRESSIVE ARCHITECTURE.

ARCHITECTURAL DESIGNER—desires association or position with company as office lay-out expert and designer of modern interiors. Studied both in America and Europe. Had 15 years of successful practice in New York for large clientele, including nationally-known corporations. Box 357, PROGRESSIVE ARCHITECTURE.

ARCHITECT—reduce your overhead. Have working drawings, renderings and engineering on housing, institutional and commercial work. All work is done under the supervision of architects and engineers. Architectural Drafting Service, 35 So. Dearborn St., Chicago 3, Ill.

ARCHITECTS—reduce your overhead. Have your work done by real professionals—rendering, sketches, engineering, critiques and all kinds of plaster models—schools, churches, hotels, etc. Send rough list of what you want and have your sketches done for a trial. Along modern trend. C. E. Charbonneau, Witherbee Court Appts., Pelham Manor 65, N. Y.

ARCHITECTURAL ENGINEERING

A Practical Course (HOME STUDY by Mail Only)
Prepares Architects and Draftsmen for structural portion of STATE BOARD EXAMINATIONS
For many this is the most difficult section of the examinations. Qualifies for designing structures in wood, concrete or steel. Successfully conducted for the past seventeen years. Our complete Structural Engineering course well known for forty-one years.

ARCHITECTURAL PRACTICE

By Clinton H. Cowgill, A.I.A. and Ben John Small, A.I.A.

422 Pages, Illustrated

$12.00

New Revised Edition

ARCHITECTURAL PRACTICE

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

CONTENTS:

Introduction
Part I—The Divisions of Architectural Practice
Part II—Business Aspects of Architectural Practice
Part III—Legal and Professional Aspects of Architectural Practice
Part IV—Professional Aspects of Architectural Practice

REINHOLD PUBLISHING CORPORATION
Dept. M-259, 350 West 42nd Street, New York 18, N. Y.

Please send me copies of ARCHITECTURAL PRACTICE by Cowgill and Small.

[ ] I enclose $ [ ] Please bill me.

(Postage prepaid if cash accompanies order.)

Name

Address

City State
For best air circulation, odor and fume removal . . . use adequate vents on storage locker doors, recessed exhaust vents high on the wall.

Ventilation planning can make or break a modern washroom

WASHROOM VENTILATION has a noticeable effect on the health and morale of employees. When a washroom has a fresh clean smell about it, you can be sure it has correctly positioned, properly functioning vents. Look for good production records, less illness and absenteeism, too.

In your next building plans, make allowances for correct washroom ventilation. It's a wonderful opportunity to give your client good employee relations for years to come—built right into his plant!

QUESTIONS? Call in your Scott Washroom Advisory consultant. He's one of a group of trained specialists who have gained real know-how from servicing over 500,000 washrooms. And he's ready to give you the answers to any of thousands of questions on modern washrooms.

Contact Washroom Advisory Service, Scott Paper Company, Chester, Penn.

Send for FREE Leaflet . . . “Plant Washroom Designing”

Washroom Advisory Service, Dept. A
Scott Paper Company
Chester, Pennsylvania

At no cost or obligation, please send me your study of personnel, traffic and maintenance problems, “Plant Washroom Designing.”

Name ____________________________
Company ____________________________ Title ____________________________
Address ____________________________
City ____________________________ Zone ______ State ______

February 1951
"Finest hospital in the State", so this hospital was tagged when it was built just a few years ago.

But the charred ruins that remain today prove too late that even modern fireproof construction is not protection enough. There will be fires—and only positive protection can hold losses down... positive protection that starts with adequate warning—a way to call help fast.

For more than 17 years, Couch has specialized in Fire Alarm systems geared to hospital needs. Each type offers around-the-clock protection... constant assurance that when you need help you can get it quickly. Find out which Couch Fire Alarm System is best for you by writing today for Bulletin 116.

Fire Alarm System FS-1—one of several types of Couch protective equipment... uses manual or automatic (self-restoring or partially self-restoring) may be installed with a wide variety of signal alarms.

S.H. COUCH CO., INC.
DEPT. 602 NORTH QUINCY 71, MASS.

Private telephones for home and office... hospital signaling systems... apartment house telephones and mail boxes... fire alarm systems for industrial plants and public buildings.

The original beauty and color of this floor is permanently protected by Hillyard Care against surface wear. No danger of damage from dirt, daily traffic—no soiling from spilled foods, liquids—no fear of slipping accidents. Hillyard's exclusive penetrating ONEX-SEAL seals out dirt—provides the hard, glossy, slip-resistant surface you see above—to resist scuffs, scratches, spots. It's waterproof... is easily maintained with Hillyard's SUPER SHINE-ALL neutral chemical no-rinse cleaner.
WARMING SUNSHINE ENTERS: freezing winds stay outside. It's an easy trick for these expansive WINDOWALLS, which serve simultaneously both as windows and as wall for most of this fine home's southern exposure.

Much of the beauty, much of the famed efficiency of these Andersen Casement and Picture Window Units comes from their careful wood construction. Wood blends with the shingle exterior, and wood's insulating values improve the windows' performance.

See Detail Catalog in Sweet's Architectural and Builders' Files, or write us for further information. The complete WINDOWALLS Tracing Detail File will be sent on request to architects and designers at no charge. Andersen WINDOWALLS are sold by lumber and millwork dealers.
"It's mechanically perfect" and architects, contractors and owners alike agree that Har-Vey is tops for smooth performance," says L. C. Brown, Millwork Sales Manager for the Chicago & Riverdale Lumber Co., Chicago, Illinois.

With its simplicity of installation and quiet, trouble-free operation, Har-Vey Hardware is winning more and more users all the time.

From all over the nation praise like that stems from Champion Har-Vey qualities like these:

- 100% Rustproof
- Self-lubricating Oilite Bearings
- Quick, Easy Installation
- Positive Locking
- Superior parts made by leading U. S. Manufacturers

Write for full details today!

Address HARDWARE DIVISION P
Metal Products Corporation
807 N. W. 20th St. Miami, Florida

Please send me your free folder on rolling doors & Har-Vey Hardware

NAME__________________________
COMPANY________________________
STREET__________________________
CITY__________________________STATE_________P

Blinding sun rays that cause eye fatigue and lead to inefficiency and production declines are turned aside or absorbed by Glare Reducing COOLITE Glass.

Of a cool, blue color with slightly greenish cast, COOLITE admits only softly diffused, comfortable daylight . . . reduces transmission of solar heat radiation and lightens load on air conditioning equipment. Temperatures inside are reduced . . . working conditions improved. Eliminated are pointed windows, makeshift shields and bothersome blinds.

Used either in new construction or in modernization and sash replacement projects, the installation of Glare Reducing COOLITE Glass is an investment in greater production and decreased maintenance costs.

Installations of Coolie, Heat Absorbing and Glare Reducing Glass are stepping up output . . . reducing labor turnover in industries everywhere. For money-saving details, consult your nearby distributor of Mississippi Glass. See him today.

Send for new catalog, "Coolit Heat Absorbing and Glare Reducing Glass."

Rolled, Figured and Wired Glass by Mississippi is "Visioneered" for better daylight illumination. In a variety of patterns and surface finishes, all scientifically designed to distribute light to best advantage.

For further data see Sweet's Architectural File. Samples on request.

MISSISSIPPI Glass COMPANY
SAINT LOUIS 7, MO.

NEW YORK • CHICAGO • FULLERTON, CAL.
World's Largest Manufacturer of Rolled, Figured and Wired Glass
With the dedication on November 17 of the new addition to the S. C. Johnson & Son, Inc. administration building at Racine, Wisconsin, another chapter was written in the long list of architectural masterpieces designed by the noted architect, Frank Lloyd Wright. To accomplish this work, many unique construction principles were incorporated... 20 miles of glass-tubing walls... 15 floors cantilevered from the central core... and the 40 square foot tower is supported at ground level by a base only 13 feet across at the narrowest point!

To blend with the interior decor of this modern-as-tomorrow tower, Mr. Wright needed flooring of a special color. To do this job, he specified Hood Rubber Tile, and today, and for years to come, personnel working in the fifteen floors of this historic tower will enjoy the comfort, quiet and blending beauty of this longer-lasting tile. Mr. Wright's choice of Hood Rubber Tile for this outstanding job is typical of specifications written every day by leading architects. Follow this lead by recommending this better flooring to your customers. It means better business for you.

A letter today will bring full information by return mail.
Utility Hardwood Plywood

The beautiful

Utility Hardwood

Plywood

with

One-Piece Face!

Mengelbord

The Utility Hardwood Plywood

Mengelbord* is a low-priced 3-ply utility hardwood plywood, ¼” thick. It is made from beautiful White Gum (Tupelo), has a one-piece face, with no joints or oval patches to mar its appearance.

Mengelbord is ideal for all interior uses:

Dry Walls

Partitions

Cabinets

Store Fixtures

Furniture

Write today for descriptive literature.

No obligation, of course.

Where fine wood panels of Mahogany, Oak, Birch or Walnut are desired—ask for Mengelux*. Literature on request.

The Mengel Company

Plywood Division • Louisville 1, Ky.

Marble saves critical metals for critical needs!

Marble eliminates the need for metal supports as shown in this section of an installation of 895 toilet stalls in a large southern aircraft plant.

Sanitary requirements for toilets are best met by the one material which discourages bacterial growth, and which can be maintained hospital-clean with merely the simplest regular attention.

Marble meets every sanitary requirement. It is permanent, durable, modern, and most economical when every cost factor is considered.

Marble shoulders new responsibility today by freeing for critical Army, Navy, and Aircraft Air Force use, metals which should be conserved for the national defense program.

Write for FREE LITERATURE by stating your needs to:
The Halsey Taylor line of fountains and coolers has always represented the ultimate in artistic appearance and mechanical design! The distinctive, health-safe Halsey Taylor projector and automatic stream control promote economy in operation and freedom from servicing annoyances.

Get our new 1951 catalog—now!

THE HALSEY W. TAYLOR CO., WARREN, O.

The Little Cooler for Little People

This ideal pedestal cooler is the right height for children. Foot-pedal operation means extra convenience for the child.

Now... with Agitair Exhusters

No Power Costs . . . No Maintenance
Perform Efficiently Regardless of Wind Direction

Now... with Agitair Exhusters, a hole in the roof becomes a complete ventilating system. Yet... every gentle breeze can be put to work to provide positive, adequate ventilation. Agitair Wind-Actuated Exhusters draw hot, stale air, steam or odors from the area being ventilated... regardless of wind direction or velocity. They prevent back-drafting, and are completely weatherproof under all conditions.

Write for Bulletin EX 103-1

AGITAIR
WIND-ACTUATED
EXHAUSTERS

NOW...
ADEQUATE
LOW COST
VENTILATION

AIR DEVICES, Inc.
17 East 42nd St. • New York 17, N. Y.
Air Diffusers • Air Filters • Roof Exhusters

Pre-Sealed Insulation
for Steam, Hot Water or Refrigerants

When you must have unfailing operation over long years of service, you will find DURANT INSULATED PIPE has outstanding advantages that merit preference over many more costly methods of insulation.

D. I. P. solves the problems of electrolysis, corrosion and waterproofing, either underground or exposed — field work is simple and cuts installation costs — efficiency does not lessen with age — no tile or masonry protection are required.

Our representatives throughout the country are at your service. DURANT catalog and engineering data will be supplied on request.

DURANT INSULATED PIPE COMPANY
1015 Runnymede St. East Palo Alto, California
BEST WAY TO SPEED A PLANT EXPANSION PROGRAM — A Macomber Steel Building Of Standardized Structural Units

INCREASED PRODUCTION FACILITIES FOR ESSENTIAL INDUSTRIES — THE FAST WAY

Macomber Standardized Structural Members provide the designer and builder a means of getting under way in the shortest possible time on an industrial plant job.

This universally accepted type of structure gives the designer unlimited freedom and the builder the type of products his men know how to handle best.

Basic to all construction men are Macomber Steel Trusses, Purlins, Eave Struts and Steel Columns with standard wall construction. There remains only the location of the steel sash and doors to have a thoroughly practical, permanent investment in a plant addition. Write for complete information.

STANDARDIZED STEEL BUILDING PRODUCTS

MACOMBER • INCORPORATED
CANTON, OHIO

IN CANADA, SARNIA BRIDGE CO., LIMITED, SARNIA, ONT.
IN MEXICO D. F.—MACOMBER DE MEXICO S. A. CEDRO 500

V BAR JOISTS • LONGSPANS • BOWSTRING TRUSSES • STEEL DECK

February 1961 168
When you next build or remodel a school, you'll find real use for this

BECKLEY-CARDY
CHALKBOARD
SAMPLE KIT

Contains "work size" samples of 3 types of Chalkboard in black and Litegreen and 5 types of Bulletins, cork in tan and Litegreen. Large enough to make comprehensive tests for writability, erasability, strength, etc.

Get this most complete working kit now. It's FREE to architects. On your letterhead—ask for Kit No. 62.

BECKLEY-CARDY COMPANY
1632 INDIANA AVE.
CHICAGO 16, ILLINOIS

SPONGEX
the sponge rubber
rug cushion

The finest cushion underfoot
The cleanest cushion under rugs
doubles carpet life—moth and vermin proof—non-allergenic. Spongex comfort lasts for a lifetime of footsteps—under rug after rug.

THE SPONGE RUBBER PRODUCTS CO.
461 Derby Place, Shelton, Conn.

In your new Sweet's File
see section 13i on
Bruce Hardwood Floors

BOSTON
PENCIL SHARPENERS
BACKED BY A
FULL YEAR'S
GUARANTEE

Let Mr. Speed Cutter tell the Boston story—
No. 1 See this good looking steel nickel-plated Boston receptacle.
No. 2 This Boston KS is wonderful. It sharpens 8 sizes of pencils.
No. 3 This screw-on-type handle has been a good feature on all Boston models for years.

BOOTH #537 — A.A.S.A. CONVENTION
February 17 — Atlantic City, N. J.
C. HOWARD HUNT PEN CO. • CAMDEN, N. J.
Also manufacturers of Speedball Pens and Products • Hunt Pens
Aluminum Seal Company, Inc. depends on RICHMOND Automatic Fire Doors

for better fire protection more modern appearance

The Richmond Fyrgard Door is an outstanding example of how automatic fire doors can be made safer and better through intensive specialization. The Richmond organization is devoted to the improvement, manufacture and installation of fire doors and related products. Such concentration of effort results in surer fire protection, greater manufacturing economies and better architectural design.

Richmond Fyrgard Doors are made in four standard types: Single-slide, Double-slide, Single-swing and Double-swing. Richmond Fyrgard Doors are automatic ... they close at once when a fire occurs ... give extra protection from fire, smoke and fumes. Both sides of these doors are covered with 24-gauge galvanized metal which is twice the thickness of the 30-gauge metal used in standard tinclad doors. Many other exclusive patented features add to the protection afforded by Richmond Fire Doors.

Architects who have projects on the boards that require fire doors of any kind, are invited to write in for suggestions. For complete information and specifications of Richmond Fyrgard Doors, write for Service Sheet R5.

THE RICHMOND FIREPROOF DOOR COMPANY
RICHMOND, INDIANA
an affiliate of THE PEELLE COMPANY

"it's PEELLE-RICHMOND engineered"

AUTOMATIC FIRE DOORS • KALAMEIN DOORS • INDUSTRIAL STEEL DOORS • UNIT STEEL FRAMES

February 1951
Create more comfortable interiors with **Air King** fans

Office, home, factory or store... proper ventilation enhances the value of any interior—makes it more comfortable, more enjoyable. Outstanding Air King Fans are handsomely styled, expertly engineered, economically priced. Send for free catalogue.

BERNS MFG. CORP.
30 W. Woodward, Chicago 10, Ill.

**Built in KITCHEN CEILING FAN**

Removes smoke, odors, grease, etc. Easily adjustable mount anywhere in the ceiling. Heavy gauge aluminum frame in gleaming white enamel to match kitchen chrome still. Quiet, powerful.

**DELUXE EXHAUST FAN**

Perfect for factories, ware houses, stores, etc. Rugged heavy gauge steel construction—exhausts against stronger wind pressure. Carefully balanced aluminum paddle with self-closing louvers attached. In 1/2 to 24" models with 1 or 2 speeds.

**WALL SWITCH CONTROLLED**

No dangling chains!

Flick the wall switch and quiet, powerful kitchen fan starts or stops—color door opens or closes. Easiest to clean, longest lasting. All models adjust to 10" walls. Chrome or gleaming white enamel finish.

FOR EXPORT, WRITE TO: Automotive Distributors of the Americas, 30 W. Washington St., Chicago 7.

---

**KOH-I-NOOR PRODUCTS**

62 Years Ago Koh-I-Noor made the FIRST Drawing Pencil... in 17 DEGREES, 6B to 9H. Since that time no other pencils have approached Koh-I-Noor's Record for Unfailing Uniform Performance.

No Matter What Your Requirements... you will find a Koh-I-Noor Product to satisfy you completely.

**NOW Available...**

No. 1600 KOH-I-NOOR Polycolor Pencils with IMPORTED Leads

in 67 colors

**DRAWING PENCILS**

**COPYING PENCILS**

**WRITING PENCILS**

**CHECKING PENCILS**

**COLORED PENCILS**

**OFFICE PENCILS**

**ART PENCILS**

**HOLDERS and LEADS**

**ERASERS**

**For Aluminum, Steel or Wood Windows**

**SPECIFY TREMGLAZE**

**MASTIC GLAZING COMPOUND**

**IN COLORS**

**NEEDS NO PAINTING**

On aluminum windows, Tremglaze meets Aluminum Window Manufacturers Assn. standards. Completed steel window installations cost no more with Tremglaze than with putty. Save on the paint contract—specify "Paint first—then Tremglaze". Put paint on the window where it belongs. CALL LOCAL TREMCO MAN—OR WRITE

THE TREMCO MANUFACTURING CO.
Cleveland + Toronto

Products and Methods for Building Construction and Maintenance

---

**64 Years Ago** Koh-I-Noor made the FIRST Drawing Pencil... in 17 DEGREES, 6B to 9H. Since that time no other pencils have approached Koh-I-Noor's Record for Unfailing Uniform Performance.

No Matter What Your Requirements... you will find a KOH-I-NOOR Product to satisfy you completely.

**NOW Available...**

No. 1600 KOH-I-NOOR Polycolor Pencils with IMPORTED Leads

in 67 colors

**DRAWING PENCILS**

**COPYING PENCILS**

**WRITING PENCILS**

**CHECKING PENCILS**

**COLORED PENCILS**

**OFFICE PENCILS**

**ART PENCILS**

**HOLDERS and LEADS**

**ERASERS**

**For Aluminum, Steel or Wood Windows**

**SPECIFY TREMGLAZE**

**MASTIC GLAZING COMPOUND**

**IN COLORS**

**NEEDS NO PAINTING**

On aluminum windows, Tremglaze meets Aluminum Window Manufacturers Assn. standards. Completed steel window installations cost no more with Tremglaze than with putty. Save on the paint contract—specify "Paint first—then Tremglaze". Put paint on the window where it belongs. CALL LOCAL TREMCO MAN—OR WRITE

THE TREMCO MANUFACTURING CO.
Cleveland + Toronto

Products and Methods for Building Construction and Maintenance

---

**The one and only Artgum brand! It's the best! Look for the name!**

THE ROSENTHAL CO., 45 EAST 17th STREET, NEW YORK 3
This building was planned for PEACE...

Its roofing, for PEACE of MIND

You probably recognize this recent addition to the midtown New York skyline.

It's the 39-story Secretariat Building, permanent headquarters of the United Nations.

On the roof, high above the busy East River, are some 8,000 pounds of MONEL® Roofing Sheet in the form of flashings and expansion joints.

For applications like these, Monel is a particularly wise choice. Stronger and tougher than structural steel, it resists severe stresses, stands firm against strain and flexure. And it resists corrosion by salt air and water, industrial fumes and smoke.

Right now, of course—with all metals in short supply because of the demands of the national rearmament and defense program—substitutes may have to be used on some of the jobs you've planned. But the time will come again when there is enough Monel available to meet normal roofing needs.

Remember, then, that on the U. N. Secretariat—and on factories, laboratories, public buildings, schools and institutions—Monel stands for long-lasting, trouble-free roofing. It's the "life-of-the-building" metal that brings your clients permanent peace of mind.

WORKMEN PUT FINISHING touches on aluminum-sheathed steel lattice work on roof of the U. N. Secretariat Building. Masonry-sealing flashings at top and bottom are Monel.

VIEW OF MONEL FLASHING at base of masonry column. Thanks to its soft temper, Monel Roofing Sheet is easily cut, bent, formed and soldered into a trim, watertight job.

NO SPECIAL TECHNIQUES needed. A. Munder & Son, Inc., Long Island City, N. Y., fabricators who made this installation, report: "Our men work with Monel just as they do with other roofing metals."

INSPECTING COMPLETED FLASHINGS on one side of the roof. In all, approximately 8,000 pounds of long-lasting, corrosion-resisting Monel were used for flashings and expansion joints on this building.

ARCHITECTS! Valuable Reference Material—USE COUPON

MONEL
"For the Life of the Building"
THE INTERNATIONAL NICKEL COMPANY, INC.
67 WALL STREET
NEW YORK 5, N. Y.

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

Please send me, without obligation, literature I have checked:

[ ] One Metal Roof for the life of your building
[ ] Monel Roofing Sheet—Basic Application Data

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

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

STREET......................................

CITY.......................................... ZONE...... STATE.....

PA-2-51

February 1951
STOP HOT WATER COMPLAINTS!

Prevent danger of OVERHEATED water. Use a POWERS No. 11 Temperature Regulator on water heaters. Fuel savings alone often pay back their cost 3 to 5 times a year. Often give 10 to 25 years reliable service. Overheated water also speeds up lime deposits in pipes, increases repair bills. Powers Regulators will help reduce this trouble.

WRITE FOR BULLETIN 329

THE POWERS REGULATOR CO.
2781 GREENVIEW AVENUE
NEW YORK • LOS ANGELES • TORONTO
Offices in over 50 Cities • Established 1891

No. 11 REGULATOR For Steam-heated Water Heaters
Hot Water Line Control • Dishwashers, Steam Tables, Cooking Kettles, Coffee Urns • Storage Rooms • Drinking Water Cooling

Brownell Stoker

USED 23 YEARS

The two stokers shown in the photograph were among the earliest made by our company. The photo was taken in 1928 shortly after the stokers were installed. One is still operating. The other was replaced in 1949 by a new Brownell stoker.

You'll probably agree that a stoker must have considerable ruggedness to continue working after 23 years of hard service. Its mate which performed for 21 years wasn't a weakling!

Brownell stokers are conceived and born with long life expectancy. That's a point to keep in mind when you purchase stokers.

Do you want literature? We'll be glad to send it upon request.

THE BROWNELL COMPANY
432 N. Findlay St.
Dayton 1, Ohio

Lively Rubber

FOR BETTER ERASING

WELDON ROBERTS ERASER NO. 85
Titian

Velvety Titian is made of live, pink rubber, double-bevel, bias shaped, for studio and drafting room. Titian's sharp edges pick out fine lines accurately. The broad sides and flat ends clean large surfaces quickly.

Ask your stationer or supply dealer to introduce you to Titian!

WELDON ROBERTS RUBBER CO.
Newark 7, N. J.

International SAINT LOUIS
RADIANT PERIMETER HEATING

The most wonderful heat we ever used... saves 30% on our heating budget!

sag William Schuster
Wilrod Corp., Erie, Pa.

For basementless as well as basement type homes.

• The amazing new way of providing all the advantages of radiant heat PLUS greater heating uniformly without lag PLUS lower heating costs ... PLUS circulation of filtered and conditioned air—saving in cost of 30% and more.

• Takes less than 4 sq. ft. floor space ... provides warmth at floors with blanket of heat at outside walls.

• Tested and approved by National Warm Air Heating and Air Conditioning Association in conjunction with University of Illinois. Highly publicized by authoritative builder, architectural and heating trade papers and newspapers throughout the nation.

Send plans for free heating estimate.

International OIL BURNER CO.
SAINT LOUIS
3810 Park Ave. • St. Louis 10, Mo.
"The immunizer against the disease of communism is a certain feeling..."

It is the feeling of a man who owns a home, a bank account, an insurance policy. It is the feeling that an employee on the Payroll Savings Plan has when he gazes at his accumulation of Savings Bonds and realizes that here is palpable evidence that he has made a profit on his job—that the profit system works for him as well as for his employer."

Mr. Gifford has believed in—and worked for—payroll savings plans for thirty-seven years—since 1913, when, as Statistician of the A. T. & T., Mr. Gifford developed a payroll savings plan for the purchase of A. T. & T. stock.

In 1938, A. T. & T. employees were offered a Payroll Savings Plan for the purchase of U. S. Savings Bonds. To date, Bell System employees have invested more than half a billion dollars in savings bonds—with a maturity value in excess of $675,000,000.

In upwards of 21,000 large companies, more than 8 million Americans are investing $150,000,000 in U. S. Savings Bonds every month. To the systematic saving of these men and women—and the whole-hearted co-operation of executives like Mr. Gifford—is due in no small measure the important feeling of ownership shared by the Americans who own 56 billion dollars in U. S. Savings Bonds (against 45 billions at the end of the war!).

Every Payroll Savings Plan is a reflection of the vision and enthusiasm of the top executive of the company. If he gets behind it, personally, employee participation is high—to the benefit of the country, the company and the employee. If the interest of the Big Boss is active—participation may very well exceed the 50% mark. The top man is the key man in a Payroll Savings Plan.

Get in touch with your State Director, Savings Bond Division, U. S. Treasury Department. He will help you put in a plan... or he will show you how to increase employee participation—without undue effort or high pressure tactics.

The U. S. Government does not pay for this advertising. The Treasury Department thanks, for their patriotic donation, the G. M. Basford Company and PROGRESSIVE ARCHITECTURE.
Grant Wilson

**DUX-SULATION**

**ASBESTOS PROTECTED**

- Insulates Ducts
- Absorbs Sound
- Saves Fuel
- Stops Condensation
- Reduces Power Costs

141 W. JACKSON BLVD. • DEPT. P • CHICAGO 4, ILL.

---

**Perspective Charts**

By PHILIP J. LAWSON

The accurate construction of instrumental perspective drawings of architecture, furniture, pieces of merchandise and the like often requires so much drudgery that many designers doing such work will say "Welcome!" to this set of eight labor-saving charts. One merely lays tracing paper over the chart which suits his purpose and, following the directions given, proceeds at once with his work, tracing such lines or utilizing such measurements as his problem demands. By eliminating the necessity of establishing distant vanishing points these charts save drawing board space, at the same time keeping every line in its true perspective direction. And if you desire, the charts can be used backwards: Design your subject on the chart in perspective, then use it to analyze the dimensions.

8 charts ... 21 x 24 with detailed instructions, per set ... $3.50

Mail This Coupon Today

REINHOLD PUBLISHING CORP.  
Dept. M-263, 330 W. 42nd St., New York 18, N. Y.

Send for 10 days' FREE EXAMINATION one set of Lawson PERSPECTIVE CHARTS (printed in RED) to:

Name 
Address 
City 
Zone State

FREE EXAMINATION!


...now available to Architects

Here, for the first time, is a new, fully illustrated Weldwood manual especially prepared for architects. It provides a wealth of valuable reference information in a single easy-to-use source — virtually a complete "short course" in the types, characteristics and uses of architectural grades of plywood.

The following is a partial list of contents...

TYPES OF PLYWOOD
Sequence Matched Sets, Algoma grade, Custom Matched Sets.

TYPES OF VENEER CUTS
Quarter Round, Half Round, Sliced, Rotary Cut . . . Butt, Crotch, Fiddleback, Swirl, Blister, Burl, Stumpwood, etc.

CHART OF VENEER CHARACTERISTICS
Texture, Color Figure, Origin, Veneer Length, etc., for 36 Woods.

CHANGE IN SPECIFICATIONS
As another step in our policy of standardization and simplification, all stock panels of Weldwood Lumber Core Hardwood Plywood are now being manufactured in 3/4" thickness instead of 13/16". This permits interchangeability with Weldwood veneer core panels which have always been made in 3/4" thickness.

United States Plywood Corporation
55 West 44th Street, New York 18, N.Y.

Gentlemen:
Please send me a free copy of the illustrated manual, "Construction Details and Specifications of Architectural Grade Weldwood Plywood."

Name: ____________________________
Address: _________________________
City: ___________________ State: ________

United States Plywood Corporation
New York 18, N.Y.

and U.S.-Mengel Plywoods, Inc., Louisville 1, Ky.

Branches in Principal Cities  •  Distributing Units in Chief Trading Areas  •  Dealers Everywhere

February 1961
**DIRECTORY OF PRODUCT ADVERTISERS**

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Devices, Inc.</td>
<td>160</td>
</tr>
<tr>
<td>Aluminum Company of America</td>
<td>110, 111</td>
</tr>
<tr>
<td>American-Olean Tile Co.</td>
<td>125</td>
</tr>
<tr>
<td>American Steel &amp; Wire Co.</td>
<td>112</td>
</tr>
<tr>
<td>American Structural Products Co.</td>
<td>46</td>
</tr>
<tr>
<td>American Telephone and Telegraph Co.</td>
<td>34</td>
</tr>
<tr>
<td>Anaconda Copper Mining Co.</td>
<td>21</td>
</tr>
<tr>
<td>Andersen Corp.</td>
<td>155</td>
</tr>
<tr>
<td>Anemosat Corp. of America</td>
<td>168</td>
</tr>
<tr>
<td>Arkwright Finishing Co.</td>
<td>132</td>
</tr>
<tr>
<td>Armstrong Cork Co.</td>
<td>100</td>
</tr>
<tr>
<td>Arrow-Hart &amp; Hegeman Electric Co.</td>
<td>22</td>
</tr>
<tr>
<td>Art Metal Co.</td>
<td>42</td>
</tr>
<tr>
<td>Auth Electric Co.</td>
<td>127</td>
</tr>
<tr>
<td>Bakelite Division Union Carbide &amp; Carbon Corp.</td>
<td>133</td>
</tr>
<tr>
<td>Beckley-Cordy Co.</td>
<td>162</td>
</tr>
<tr>
<td>Bergen Cabinet Mfg. Co.</td>
<td>16</td>
</tr>
<tr>
<td>Berger Mfg. Div.</td>
<td>28</td>
</tr>
<tr>
<td>Berns Mfg. Corp.</td>
<td>164</td>
</tr>
<tr>
<td>Brasco Mfg. Co.</td>
<td>44</td>
</tr>
<tr>
<td>Brownell Co., The</td>
<td>166</td>
</tr>
<tr>
<td>Bruce, E. L., Co.</td>
<td>162</td>
</tr>
<tr>
<td>Cabot, Samuel, Inc.</td>
<td>118</td>
</tr>
<tr>
<td>Cannon Electric Development Co.</td>
<td>148</td>
</tr>
<tr>
<td>Carrier Corp.</td>
<td>31</td>
</tr>
<tr>
<td>Case, W. A., &amp; Son Mfg. Co.</td>
<td>27</td>
</tr>
<tr>
<td>Ceca Steel Products Corp.</td>
<td>6, 7</td>
</tr>
<tr>
<td>Celotex Corp.</td>
<td>115</td>
</tr>
<tr>
<td>Church, C. F., Mfg. Co.</td>
<td>151</td>
</tr>
<tr>
<td>Connor, W. B., Engineering Corp.</td>
<td>41</td>
</tr>
<tr>
<td>Couch, S. H., Co.</td>
<td>154</td>
</tr>
<tr>
<td>Crane Co.</td>
<td>48</td>
</tr>
<tr>
<td>Durant Insulated Pipe Co.</td>
<td>160</td>
</tr>
<tr>
<td>Duriron Co., Inc.</td>
<td>120</td>
</tr>
<tr>
<td>Ellision Bronze Co.</td>
<td>122</td>
</tr>
<tr>
<td>Facing Tile Institute</td>
<td>117</td>
</tr>
<tr>
<td>Federal Seaboard Terra Cotta Corp.</td>
<td>137</td>
</tr>
<tr>
<td>Gate City Sash &amp; Door Co.</td>
<td>158</td>
</tr>
<tr>
<td>Granco Steel Products Co.</td>
<td>142</td>
</tr>
<tr>
<td>Hort &amp; Hegeman Div., Arrow-Hart &amp; Hegeman Electric Co.</td>
<td>22</td>
</tr>
<tr>
<td>Hauserman, E. F., Co.</td>
<td>131</td>
</tr>
<tr>
<td>Heatilator, Inc.</td>
<td>139</td>
</tr>
<tr>
<td>Henschel, John, &amp; Co., Inc.</td>
<td>148</td>
</tr>
<tr>
<td>Hilliard Sales Co.</td>
<td>154</td>
</tr>
<tr>
<td>Hinzlone &amp; Waldmann, Inc.</td>
<td>124</td>
</tr>
<tr>
<td>Homosote Co.</td>
<td>26</td>
</tr>
<tr>
<td>Hook Rubber Co.</td>
<td>157</td>
</tr>
<tr>
<td>Horn Brothers Co.</td>
<td>16</td>
</tr>
<tr>
<td>Hunt, C. Howard, Pen Co.</td>
<td>162</td>
</tr>
<tr>
<td>Infra Insulation, Inc.</td>
<td>14</td>
</tr>
<tr>
<td>Insulite Div., Minnesota &amp; Ontario Paper Co.</td>
<td>35</td>
</tr>
<tr>
<td>International Nickel Co.</td>
<td>165</td>
</tr>
<tr>
<td>International Oil Burner Co.</td>
<td>166</td>
</tr>
<tr>
<td>Johns-Manville Corp.</td>
<td>32</td>
</tr>
<tr>
<td>Josam Mfg. Co.</td>
<td>4, 5</td>
</tr>
<tr>
<td>Kaufmann &amp; Fabry Co.</td>
<td>168</td>
</tr>
<tr>
<td>Kayline Co., The</td>
<td>104</td>
</tr>
<tr>
<td>Kentile, Inc.</td>
<td>35, 141</td>
</tr>
<tr>
<td>Kewance Boiler Corp.</td>
<td>104</td>
</tr>
<tr>
<td>Kewaukee Mfg. Co.</td>
<td>138</td>
</tr>
<tr>
<td>Koh-I-Noor Pencil Co., Inc.</td>
<td>164</td>
</tr>
<tr>
<td>Kwisket Locks, Inc.</td>
<td>8</td>
</tr>
<tr>
<td>LCN Closers, Inc.</td>
<td>37</td>
</tr>
<tr>
<td>Libbey-Owens-Ford Glass Co.</td>
<td>24, 134</td>
</tr>
<tr>
<td>Lockwood Hardware Mfg. Co.</td>
<td>52</td>
</tr>
<tr>
<td>LoXit Systems, Inc.</td>
<td>113</td>
</tr>
<tr>
<td>Ludman Corp.</td>
<td>143</td>
</tr>
<tr>
<td>Macomer, Inc.</td>
<td>161</td>
</tr>
<tr>
<td>Mahon, R. G., Inc.</td>
<td>140</td>
</tr>
<tr>
<td>Marble Institute of America, Inc.</td>
<td>159</td>
</tr>
<tr>
<td>Master Builders Co.</td>
<td>43</td>
</tr>
<tr>
<td>Mastic Tile Corp.</td>
<td>47, 158</td>
</tr>
<tr>
<td>Mengel Co., The</td>
<td>47</td>
</tr>
<tr>
<td>Merrill, Chapman &amp; Scott Corp.</td>
<td>140</td>
</tr>
<tr>
<td>Metal Products Corp.</td>
<td>156</td>
</tr>
<tr>
<td>Minneapolis-Honeywell Regulator Co., 12, 13</td>
<td>13</td>
</tr>
<tr>
<td>Mississippi Glass Co.</td>
<td>156</td>
</tr>
<tr>
<td>Mosaic Tile Co.</td>
<td>50, 51</td>
</tr>
<tr>
<td>National Fireproofing Corp.</td>
<td>23</td>
</tr>
<tr>
<td>National Gypsum Co.</td>
<td>145</td>
</tr>
<tr>
<td>Nelson, Herman, Division American Air Filter Co., Inc.</td>
<td>25</td>
</tr>
<tr>
<td>Niagara BLOWER Co.</td>
<td>136</td>
</tr>
<tr>
<td>Norton Co.</td>
<td>144</td>
</tr>
<tr>
<td>Northwestern Terra Cotta Corp.</td>
<td>121</td>
</tr>
<tr>
<td>Otis Elevator Co.</td>
<td>147</td>
</tr>
<tr>
<td>Owens-Illinois Glass Co.</td>
<td>123</td>
</tr>
<tr>
<td>Pecora Paint Co., Inc.</td>
<td>18</td>
</tr>
<tr>
<td>Pittsburgh Plate Glass Co.</td>
<td>149</td>
</tr>
<tr>
<td>Pittsburgh Reflector Co.</td>
<td>171</td>
</tr>
<tr>
<td>Pittsburgh Steel Products Co.</td>
<td>19</td>
</tr>
<tr>
<td>Powers Regulator Co.</td>
<td>166</td>
</tr>
<tr>
<td>Proxetal Corp.</td>
<td>10</td>
</tr>
<tr>
<td>Reinhold Publishing Corp.</td>
<td>168</td>
</tr>
<tr>
<td>Revere Copper and Brass, Inc.</td>
<td>3rd Cover</td>
</tr>
<tr>
<td>Richards-Wilcox Mfg. Co.</td>
<td>150</td>
</tr>
<tr>
<td>Richmond Fireproof Door Co.</td>
<td>163</td>
</tr>
<tr>
<td>Rixson, Oscar C., Co.</td>
<td>162</td>
</tr>
<tr>
<td>Roberts, Weldon, Rubber Co.</td>
<td>166</td>
</tr>
<tr>
<td>Robertson, H. H., Co.</td>
<td>40</td>
</tr>
<tr>
<td>Roodis Plywood Corp.</td>
<td>135</td>
</tr>
<tr>
<td>Roe, Justus, &amp; Sons</td>
<td>114</td>
</tr>
<tr>
<td>Rosenthal Co., The</td>
<td>164</td>
</tr>
<tr>
<td>Rubberoid Co., The</td>
<td>11</td>
</tr>
<tr>
<td>Rust-Oleum Corp.</td>
<td>38</td>
</tr>
<tr>
<td>Schieber Mfg. Co.</td>
<td>45</td>
</tr>
<tr>
<td>Schlag Lock Co.</td>
<td>121</td>
</tr>
<tr>
<td>Scott Paper Co.</td>
<td>153</td>
</tr>
<tr>
<td>Sika Chemical Corp.</td>
<td>114</td>
</tr>
<tr>
<td>Sponge Rubber Products Corp.</td>
<td>162</td>
</tr>
<tr>
<td>Staedtler, J. S., Inc.</td>
<td>146</td>
</tr>
<tr>
<td>Stanley Works, The</td>
<td>146</td>
</tr>
<tr>
<td>Sylvania Electric Products, Inc.</td>
<td>33</td>
</tr>
<tr>
<td>Taylor, Halsey W., Co., The</td>
<td>160</td>
</tr>
<tr>
<td>Tile Council of America</td>
<td>17</td>
</tr>
<tr>
<td>Tran Co.</td>
<td>108, 109</td>
</tr>
<tr>
<td>Tremco Mfg. Co., The</td>
<td>164</td>
</tr>
<tr>
<td>Trinity Portland Cement Div., General Portland Cement Co.</td>
<td>Back Cover</td>
</tr>
<tr>
<td>Truscon Steel Co.</td>
<td>30</td>
</tr>
<tr>
<td>Union Carbide &amp; Carbon Corp., Bakelite Div.</td>
<td>133</td>
</tr>
<tr>
<td>United States Gypsum Co.</td>
<td>106</td>
</tr>
<tr>
<td>United States Plywood Corp.</td>
<td>20, 169</td>
</tr>
<tr>
<td>United States Treasury Bonds</td>
<td>167</td>
</tr>
<tr>
<td>Universal Atlas Cement Co.</td>
<td>128</td>
</tr>
<tr>
<td>Waylite Co.</td>
<td>130</td>
</tr>
<tr>
<td>West Coast Lumberman's Assoc.</td>
<td>119</td>
</tr>
<tr>
<td>Westinghouse Electric Corp.</td>
<td>129</td>
</tr>
<tr>
<td>Wilson Engineering Corp.</td>
<td>152</td>
</tr>
<tr>
<td>Wilson, Grant, Inc.</td>
<td>168</td>
</tr>
<tr>
<td>Wood Conversion Co.</td>
<td>36</td>
</tr>
<tr>
<td>Young Radiator Co.</td>
<td>48</td>
</tr>
<tr>
<td>Youngstown Sheet &amp; Tube Co.</td>
<td>102</td>
</tr>
</tbody>
</table>

**ADVERTISING AND EXECUTIVE OFFICES**

330 West Forty-Second Street, New York 18, N. Y. Bryant 9-4430

JOHN G. BELCHER, Vice President & Publisher

FRANK J. ARMIT, Production Manager

JOHN CUNNINGHAM, Promotion Manager

**NEW YORK OFFICE:**


**COLUMBUS OFFICE:**

630 Terminal Tower, Cleve. 13. PB. 1-5583

BRAD WILKIN, Branch Manager

JOHN W. BATTLES, Distri. Mgr.

**CHICAGO OFFICE:**

111 W. Washington St., Chicago 2. RA 6-8497

DAVID R. HAGENBUSCH, Distri. Mgr.

R. J. CLAUSEN, Distri. Mgr.

**WEST COAST ADVERTISING REPRESENTATIVES**

San Francisco, Calif.—Duncan Scott & Co., Mills Building, Garfield 1-7950

Los Angeles, Calif.—Duncan Scott & Co., 2978 Wilshire Blvd., Dunkirk 8-4151
The efficiency and flexibility of standard Pittsburgh Permaflector Lighting Equipment make possible made-to-order illumination at foot-candle levels required for each particular job.

There are units designed for overall fluorescent or incandescent illumination, for spotlighting and floodlighting, and for special effects and accents.

You'll be way ahead by planning your installation to utilize the full benefits of Pittsburgh Permaflector Lighting Equipment . . . and you'll see the difference!

A PERMAFLECTOR PORTRAIT
Bettendorf's Market
Clayton, Missouri
Architect: Wischmeyer & Lorenz
Consult Engr.: George E. March

PITTSBURGH REFLECTOR COMPANY
421 OLIVER BUILDING • PITTSBURGH 22, PENNSYLVANIA
MANUFACTURERS OF FLUORESCENT & INCANDESCENT LIGHTING EQUIPMENT
Permaflector Lighting Engineers in All Principal Cities

WANT TO SEE MORE?
Write for the booklet "Planned Lighting For Modern Stores." It's the picture story of how to put light to work in showrooms and windows.
WHAT SHOULD BE THE ATTITUDE OF the architectural profession during this disturbed period in man's history? How does the architect advise his client: the man in the street, the man in the business office, even the man in the seat of governmental authority?

Shall we urge him to go ahead with the planning and building of necessary facilities in as logical and orderly a way as possible—pointing out that if we all acted as normal human beings this might be a logical, orderly world? Or shall we become hysterically afraid that the regular practice of architecture will vanish, and spend our time designing underground caves for the atomic fugitive? Is it best to become opportunistic, desert what remains of normal business and rush to Washington for a future seat of governmental authority?

Should we try to become experts in the design of environment based on the destructive aspects of modern power rather than the constructive possibilities?

It is possible, you know, to take advantage of the horror of a frightening situation in various ways. I have a release from the Plumbing and Heating Industries Bureau which points out that "a thorough bath or shower as soon as possible after a nearby atomic explosion will increase your chances of survival . . ." (Preferably in a magenta bathtub, I presume.) Our profession might make the same sort of appeal, I suppose. "Use an architect to have your house checked for safety against atomic blast." (With a schedule of fees based on the possibility of studying hydrogen blast effect as well.)

REMAINS IS NOT AN EASY TIME in which to remain calm and sober and give objective professional advice. Any suggestion that we should continue to concern ourselves with health care and education and recreation and creative production seems almost unpatriotic. Scare headlines and frightening articles are what get readership; fantastic suggestions for defense and protection are what keep Commissioners of Public Works in office. The plea that we keep the United States healthy and reasonably cultured was not the featured paragraph in President Truman's State of the Union message.

The architecturally trained person must, of course, do what he can with his special abilities to help his less technically minded fellow-citizens face up to undeniably nasty possibilities. Some architectural and engineering groups are making sober surveys of their towns to see what the possibilities of blast damage are and to advise on the best means of protection. P/ A will report on one of these studies soon. A number of capable engineers are studying the matter of structural effects of blasts on various types of structures. McGraw-Hill has published a book on the subject, and Reinhold has one in preparation; as soon as there is something useful to report, P/A will pass this information along to you also.

ONE OF THE MOST CONSTRUCTIVE THINGS that has been done recently is the publication of a special issue of the Journal of the American Institute of Architects on the subject of New Towns. I wish the issue had not been called "New Towns for Defense" because, aside from an introductory article by Albert Mayer, the discussion is entirely of the feasibility and the technique of planning new communities for constructive long-term growth. When reasonable, logical planning and building can be related to the present emergency, that makes much better architectural and social sense than the opportunistic scattering of haphazard housing and community facilities over that part of the landscape that happens to be classified as a "defense" area.

As Albert Mayer says in the Journal, "Wouldn't it be marvelous, for once, to do the right thing in time, to grasp the emergency mood and turn it into positive action instead of accentuating its distortions."

I HAVE JUST BEEN READING an interesting footnote to American architectural history. It is entitled "The Navy Builds a Medical Center," and it appeared in the October, 1950, issue of The Military Surgeon. The author is Lucius W. Johnson, Rear Admiral (MC), USN. It deals with the design of the Naval Medical Center in Bethesda, Md., for which the late Paul Cret and, apparently, Franklin D. Roosevelt, were architects.

I have often seen the building and speculated on the logic of a great tower rising in the center of acres of open land, but for some reason the resemblance to the Nebraska State Capitol had not occurred to me. Admiral Johnson, however, says that the President, on one of his tours, "was said to have been greatly impressed by seeing, at a distance across the prairies, the capitol of one of the mid-western states ... He was quoted as saying, 'Some day I will build a government building like that.' He did. In December, 1937, he had drawn for Surgeon General Rossiter an elevation and ground plan of the building he visualized for the medical center, and this became our guide."

There was trouble with the President's plans for the tower. Says the Admiral, "When the necessary space was taken out for stairs, elevators, pipe chase, water tanks and other requirements, there would be only room on each floor for two 2-bed and two 1-bed rooms." It was evidently difficult to get Architect Roosevelt to budge an inch. "At last Mr. Cret was chosen to fill this particular chestnut from the fire. His national eminence and assured position were considered to make a firm foundation from which suggestions could be made." Mr. Cret's eminence (and alternative drawings) finally resulted in an extension of the 40-foot square tower the President wanted to one 88 by 104 feet. Still this was criticized by some functionally minded individuals, and even on the grounds of esthetics. The Admiral says, "Mr. Delano, uncle of the President and head of the Parks and Planning Commission, spoke strongly in condemnation of the high tower ... As late as April 5, 1939, Mr. Delano wrote to the Surgeon General, describing the plan as 'even more monstrous than it was in the beginning.'"

The building with its tower was built even though, "Function had constantly to be sacrificed because of architectural requirements."

SO MUCH FOR BASIC ARCHITECTURAL history. In the same article a minor episode is related that I thought was even more fascinating. There was discussion of planting and fencing the grounds on which the building was to be erected. The President visited the site and discussed the matter with Marshal Finnan, of National Park Service, and Frederick Southworth, representative of the Bureau of Yards and Docks. The Admiral describes subsequent events as follows:

"He (the President) told Mr. Finnan and Mr. Southworth, 'I think an Old English sheep fence would be ideal.' They agreed and Southworth immediately set a couple of his bright young men to work on it. 'What is an Old English sheep fence?' they demanded. 'Go look it up,' he answered. Several days later they returned. 'We have searched the textbooks, the manuals, the encyclopedias, everything in the art and architectural libraries. We can't find anything about an Old English sheep fence.'

"'Then draw me something that would look like an Old English sheep fence if there were such a thing.' They did and when the President saw it he said, 'That is exactly it.'"

See what you miss by just reading the architectural magazines?