MATERIALS AND METHODS

For almost two years we have been gathering together in one section the "technical" material relating to architecture. At times it is almost impossible to decide whether or not a certain item is primarily technical in its interest; inevitably, one way or another, the products used and their method of application become inseparable elements of finished architecture.

In the magazine, as in architectural practice, it is a matter of choice of emphasis rather than an arbitrary division into "design" and "techniques." The construction system is one of the most important aspects of the design of the Tanglewood Opera Shed in this issue, and the discussion of freezer equipment is for the sole purpose of producing a satisfactory house. In both cases the end sought is integrated architecture.

This issue of PROGRESSIVE ARCHITECTURE indicates also the wide range of tools, not generally considered "materials and methods," with which the designer must work. He cannot depend alone on product information, important as that is; he cannot rely solely on standards pulled from a file and applied to a new job. In the case of the Opera Shed the architects played with the shape of the building to reach an unusually fine acoustic solution. The street of stores in Corning, New York, is important because of a new modular application of materials. The Daytona plan has a good chance of realization because the planner used local publicity and citizen interest as part of his design technique.

We take the materials of design to mean knowledge, investigation, and imagination as well as manufactured products; we include public relations, salesmanship, and civic responsibility in our understanding of the methods which will result in progress in this important period of architectural development. Not only is it true that science and art fuse in progressive architecture; understanding of the sciences and appreciation of the arts are greater than they have been for some time. The designer today who does not take advantage of all available techniques and build from them with the fullest play of his imagination is not doing a complete job.
PC GLASS BLOCKS are being specified more and more frequently for use in swimming pool enclosures. And for good reasons: These modern blocks transmit daylight generously, directed and diffused as desired. They preserve privacy—an essential in such applications. They are exceptionally attractive in appearance. And their excellent insulating properties contribute to uniform, economical heating. Supervising architects: Harold Bush-Brown and J. H. Gailey. Designer: M. L. Jorgensen.

**TWINDOW**, Pittsburgh's new window with built-in insulation, is designed to serve usefully in almost every kind of structure from public buildings to residences. The Twindow unit is made up of 2 or more panes of glass with a sealed-in air space between. The 2-pane Twindow unit cuts heat loss through windows nearly in half. Its insulating effectiveness is even greater when Twindow consists of three or four panes of glass with corresponding air spaces. Twindow minimizes downdrafts, cuts heating costs, helps to prevent steamed windows.
THE GREATLY INCREASED WINDOW AREAS characteristic of most public build­
ings being designed today, make the selection of the proper glazing material
more important than ever before. Many architects to be certain of quality
glass, standardize on Pittsburgh Glass. Pittsburgh Polished Plate Glass for
flawless transparency and maximum surface beauty. Pennvernon Window
Glass to meet all sheet glass requirements. And Twindow, Pittsburgh's new
window with built-in insulation, for applications where insulating efficiency
is desired. Architects: Victorine and Samuel Homsey.

TOILET ROOMS OF DISTINCTION in public buildings throughout America re­
fect the special qualifications of Carrara Structural Glass for the walls, stiles
and partitions of such installations. Carrara is sanitary, good looking, im­
pervious to moisture, chemicals, pencil marks. It won't fade or stain or absorb
odors and won't check or craze. It is easy to keep spotlessly clean and perfectly
reflective. Available in ten pleasing colors.

TRANSPARENT STAIR RAILS offer interesting design possibilities to architects. The use of Herculite Tem­
pered Plate Glass for this purpose has proved com­
pletely satisfactory. Herculite is approximately four
times as strong and flexible as ordinary Plate Glass,
and six times more resistant to impact. Architects:
Reinhard & Hofmeister and Harrison & Foulhoux.

We believe you will find much to interest you in our illustrated booklet of ideas con­
cerning the use of Pittsburgh Glass in building design. Send the coupon for your free copy.

* Design it better with

Pittsburgh Glass

"PITTSBURGH" stands for Quality Glass and Paint
In construction products CECO ENGINEERING
Why Industrial Steel Doors?

In any commercial, industrial, or public building, maintenance costs are a problem. One way to reduce such costs is to use industrial steel doors. That is because the initial cost is the final cost when steel doors are used. You can say "goodbye" to costly repairs. They are built to last and last. Just put the door in place and forget it. Here is another important advantage—steel doors are fire resistant. They are adaptable for service entrances, also suited for fire escapes, factory, office and penthouse entrances.

Why Specify CECO?

1. Accurately constructed of steel for hard usage as "working" doorways.
2. Glazing angles and stops hold glass solidly in place with screws.
3. Bottom panels spot-welded to stiles—no rattling.
4. Stiles and rails formed square. Corners mitred and solidly welded.
5. Accurately machined for easy installation of hardware.

Why CECO Hardware Is Better...

Ceco gives you the finest industrial steel door hardware—specially designed for easy application and strong attachment to the door. All hardware is attached by throughbolting or by use of screws in reinforced tapped holes. No self-tapping screws are used. What is more, CECO uses the best non-ferrous locks—designed to prevent vandalism. There are no lock set screws on the outside.

CECO STEEL PRODUCTS CORPORATION
GENERAL OFFICES: 5701 West 26th Street, Chicago 50, Illinois
Offices, warehouses and fabricating plants in principal cities

CECO STEEL
makes the big difference

Partial list of Ceco Products:
METAL WINDOWS • ALUMINUM FRAME
STORM PANEL FOR METAL CASEMENTS
MEYER STEELFORMS • REINFORCING STEEL • METAL FRAME SCREENS • METAL WEATHERSTRIPS • STEEL JOISTS • METAL LATH AND ACCESSORIES
Thermopane*, the original windowpane that insulates, keeps on gaining in popularity. Its insulating efficiency makes the modern trend to larger windows in architectural design... an efficiency proved through actual use from Iceland to Mexico.

That's why we have expanded our standard sizes to 55—based on American Standards’ Association 4-inch modular construction. This means greater design flexibility for the architect, more opportunity for the use of this time-proved insulating glass unit.

Consult your nearest L.O.F distributor for latest information about delivery dates and the complete range of non-standard sizes. Or write for our latest Thermopane folder. Libbey-Owens-Ford Glass Co., 2737 Nicholas Bldg., Toledo 3, Ohio.

**Hoffman Comfort Control**

Most Essential Factor in Precise Hot Water Control

The Hoffman Series 90 Hot Water System, with its automatic regulatory features, is the ultimate in precise control for any application of hot water heating—whether panels, radiators, convectors or radiant baseboards are employed. The Comfort Controller, or brain of the system, is activated by Outdoor and Water Temperature Bulbs—which transmit temperature changes to its accurate balancing mechanism—automatically opening or closing the Hoffman Control Valve to maintain the desired temperature of continuously circulating water to meet the need for heat.

Zoning of apartments or sections of large residences to suit personal preference or functional activities of the building may be obtained with Series 90 Systems. The diagram below shows the basic operating principle of this system. Thousands of installations now in operation acclaim its merits.

"CONSTANT COMFORT" UNIFORMLY MAINTAINED BY CONTINUOUSLY CIRCULATED HOT WATER

Water circulates continuously through the Hoffman Circulating Pipe and radiation when the Control Valve is closed. When water has lost heat, as noted by the Water Temperature Bulb, the Comfort Controller slowly opens the Control Valve, permitting hot water from the boiler to enter the circulating stream. When sufficient hot water has been admitted to restore the proper temperature to the circulating water, the Valve is closed by the Controller. This cycle repeats automatically in anticipation of weather changes.

**Hoffman**

A STEP AHEAD
Dear Editor:

Thanks for the all too brief description of the Chapel of St. Francis, Pampulha, Brasil, Oscar Niemeyer, architect, which you published in your December 1946 issue.

Of all the modern church designs using concrete as the main building material that have come to my attention, this church stands far out in front, using the new material according to its inherent nature rather than more or less forcing it to follow forms that historically were developed from the use of separate masonry units—stone or brick.

In Notre Dame du Raincy, Paris, 1922, A. and G. Perret, architects, the general composition is essentially Gothic, allied with some classic forms. In the tower the concrete was forced into thin verticals in Gothic imitation. In the nave the columns are Gothic, the barrel vaulted ceiling. The Gothic buttresses have disappeared from the exterior walls, and the stained glass in lead and stone has been replaced by clear glass in concrete in a classic, geometric pattern, but the detail is essentially Gothic.

In St. Therese at Montmagny, 1926, by the same architects, there was almost no change from the above except that the number of vertical lines in the tower was reduced and some classic grille work added.

The Engelbrecht Church, Sweden, Professor Wohlman, architect, and the Cathedral of St. John the Divine, New York, Cram & Ferguson, architects, made use of masonry parabolic arches at the crossing, but the building design remained wholly traditional.

In the Pallatiner Church, Linburg, Germany, J. H. Pinaud, architect, and a church in Nijmegen, Holland, H. Thunissen, architect, the parabolic arch form is used in the nave but the buildings retain their medieval character, liberated in the former and more in the latter.

In the Catholic Church, Bischofshiem, Germany, Professor D. Bohm, architect, the concrete parabolic vault was used for the interior cross section of the nave, the sides pierced with parabolic arches opening into the aisles. The exterior of the building, strangely, is in a simple rectangular classic form in brick. The entire building, although fresh, new, exciting, and modern in many details, remains, like the previously mentioned, essentially medieval.

As distinct from the above mentioned uses of modern engineering forms in a partly modern way, the church in Pampulha seems to have freed itself from medieval form more completely, still keeping the traditional and necessary plan of a Catholic church. It seems to me to be a step ahead in a continuing process. I feel, by the way, that the use of concrete in Brasil, where there is no strongly developed building industry, and where exposed stone or brickwork is not traditional or common, is a very happy choice of construction material.

LOUIS H. FRIEDHEIM
New York, N. Y.

INSPIRATION AND CHURCH DESIGN
Dear Editor:

In your December issue you published a church in South America executed by the prominent South American architect, Oscar Niemeyer. In recent years Niemeyer's work has been of great inspiration to us as younger architects. In that field of architecture which is perhaps one of the most difficult for innovators to conquer—the ecclesiastical field—we find that Niemeyer has broken down the conservative and has pointed the way to new, inspirational thinking. We sincerely feel that PROGRESSIVE ARCHITECTURE has provided an opportunity to highly complimented for publishing this fine, outstanding work. We urge that the very high standards of selection we have seen of late be most strongly continued.

ARCHITECTS ASSOCIATED
New York, N. Y.

A NOD FROM STUDENTS
Dear Editor:

With such swell articles as yours on Niemeyer's St. Francis' Chapel, you have every right to call the magazine PROGRESSIVE ARCHITECTURE. My students and I appreciated it. More power to you!

JAYNE VAN ALSTYNE
Michigan State College
East Lansing, Mich.

NICE AND CLUTTERED
Dear Editor:

We have just received the January issue of PROGRESSIVE ARCHITECTURE and wish to immediately voice our displeasure with same. We read the advertisements in the professional journals but do not believe that any circumstances can justify the scattering of advertisements through the text. Having once read an advertisement we have no further use for it, because if we are interested we write the advertiser for catalogs and detailed data. Imagine binding the text into a nice binding with it cluttered up with advertisements.

PERC BRANDT
Manitowoc, Wis.

IMPATIENT ARCHITECTS
Dear Editor:

In my opinion the January issue "takes the cake" as an extremely original, well conceived, and well executed piece of architectural journalism. Timing this issue for the beginning of the year and what promises to be the beginning of an era is also significant. It assembles under one cover a bird's-eye view of up to the minute, technically important information in the field of materials and methods.

I find that while marginal cataloging is very helpful, the respective texts do not pretend to be exhaustive but rather reflect careful discrimination and inspiring projection of possibilities yet uncovered. This is very stimulating. I find the materials commented on are in many instances regretfully behind what the commentators appear to feel they would really like to have them do. There used to be a time when a material would not even be considered by the architect unless it had ages to recommend it. Today, the architect is impatient with the manufacturers because, being aware of the enormous social need, he demands commensurate technological fulfillment.

ISAAC ROSENFIELD
New York, N. Y.

SELF-IMPOSED YARDSTICK
Dear Editor:

The contents and format of the January issue of PROGRESSIVE ARCHITECTURE suggest that, at long last, someone has tried to produce a professional magazine of practice worth to the working designer. Upon reaching page 172 and reading your account of meeting with the New York Chapter, we learn that the excellent results evidenced in this month's magazine are not just a coincidence but are part of a carefully laid plan.

The subject matter of the January number lends itself very naturally to the form of treatment you have given it. The next eleven issues will be examined with a new interest as they are measured by the yardstick you have set for yourselves. Our wish is that you will be successful in maintaining your established high standards throughout 1947.

PHILIP R. GENTRY
Dansville, N. Y.
RAYMOND CONCRETE PILES are cast-in-place—with a strong steel shell-form left permanently in the ground. After the form is driven and the driving core removed, the interior of the form is inspected by shining or lowering a light into the form. The inspector thus examines the interior to determine that it is undamaged and that a true and perfect pile will result when the concrete is placed. This is the assurance to the engineer that he has secured the foundation he specified. A completed form for every pile.

TIP-TO-TOP INSPECTION assures perfectly formed piles

SCOPE OF RAYMOND’S ACTIVITIES includes every recognized type of pile foundation—concrete, composite, precast, steel, pipe and wood. Also caissons, construction involving shore protection, ship building facilities, harbor and river improvements and borings for soil investigation.

RAYMOND CONCRETE PILE CO.
Branch Offices in Principal Cities of United States and Latin America

140 CEDAR STREET   NEW YORK 6, N. Y.
MEN WANTED


ARCHITECT OR PLANNING ENGINEER—$4,575 to $5,905, 40-hour week. Male, graduate civil or landscape engineer with site planning and/or construction experience, preferably in military air.


PECORA CALKING COMPOUND

-Time-tested for 39 Years

-Permanent, elastic, beneath its tough outer skin

-Adheres to stone, glass, metal and wood

Rain or snow can’t beat through building joints sealed tight with Pecora Calking Compound. Its permanency and adaptability, plus complete reliability, have won for Pecora the responsibility of protecting the more important projects of the foremost architects throughout the country.

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

FECORA PAINT COMPANY, INC.

- Established 1862 by Smith Bowen
- Member of Producers’ Council

SEDGLEY AVENUE & VENANGO STREET • PHILADELPHIA 40, PENNA.

ROOF COATING • WATERPROOFING • DAMPPROOFING • SASH PUTTIES

SEVERAL ARCHITECTURAL DRAFTSMEN, thoroughly experienced, able to prepare preliminaries, working drawings, etc., familiar all phases architectural drafting. Must think, draw along modern trend. Work on postwar theaters and diversified projects. Excellent opportunity for permanent position. Write education, experience, salary, to M. J. DeAngelis, R.A., 1404-1405 Temple Bldg., Rochester, N. Y.

DRAFTSMAN—general experience, all types of industrial, commercial, educational, hospital, and residence work. Charles C. Hartmann, Architect, 120 Jefferson Bldg., Greensboro, N. C.


EXPERIENCED SENIOR DRAFTSMEN—salaries to be commensurate with ability; diversified and high type of work. Tropical experience not necessarily required. Send samples of drafting technique. B. Robert Swartburg, Roney Plaza Bldg., 126 24th St., Miami Beach, Fla.

DESIGNER—opportunity for young architect. Excellent future with progressive firm doing diversified work. Man with imagination. Must be logical thinker, know construction principles. Good draftsman; be able to render desired. State age, experience, salary expected and submit references, samples of work. Grunsfeld, Yerkes, Lichtmann & Koening, 520 N. Michigan Ave., Chicago, Ill.

ARCHITECTURAL PLANNER — Housing Authority of the City of Milwaukee. Salary $414.52 to $464.52 per month. Examination consisting of appraisal of experience and professional record based on questionnaire. Age limit is 45 with exception of veterans. Apply before March 21, 1947, to City Service Commission, City Hall, Milwaukee, Wis.

ARCHITECTURAL DESIGNER—western New York architect, specializing in schools and public buildings, has a permanent opening for an experienced designer with general planning ability. Unusual position offers opportunity of assuming responsibility. Splendid future for the right man. State background, salary, age, etc. Box 358, PROGRESSIVE ARCHITECTURE.

ARCHITECTURAL DRAFTSMAN—25 to 50 years old, share responsibility, take charge of drafting, sketches through working drawings. Office established 50 years in growing city of 15,000. Excellent opportunity for man ambitious to associate and ultimately take over. Good salary and speedy advance to right person. Box 361, PROGRESSIVE ARCHITECTURE.

(Continued on page 12)
What a World of Difference
the Right Finish Makes...

In floors, too...
IT'S THE Finish
THAT COUNTS!

Bruce Finished Floors give these 8 important advantages over ordinary floors finished on the job: (1) Every strip is sanded to perfect smoothness. (2) Finishing starts immediately after sanding—no raised grain. (3) Highest quality silex filler is thoroughly worked in. (4) The finish penetrates the wood, seals the pores, beautifies the grain. (5) Infra-red drying welds finish into tough, even film. (6) High speed buffers burnish finish over and over. (7) Wear-resisting Bruce Floor Wax is applied evenly, polished to perfection. (8) Floor is ready to use when laid. For uniformly beautiful floors—and a real saving of time on the job—standardize on Bruce Finished Floors.

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

BRUCE FINISHED FLOORS
JOBS AND MEN

(Continued from page 10)

ARCHITECTURAL DESIGNER-DRAFTSMAN capable of producing attractive sketches and drawings, mostly contemporary residence work. Must be top-notch man with good experience. Full or part time. Box 359, PROGRESSIVE ARCHITECTURE.

EXPERIENCED ARCHITECTURAL DRAFTSMAN—must be able to develop complete working drawings and details from sketches. All types of construction. Permanent job, annual salary, progressive central Wisconsin city of 30,000. Unfurnished three bedroom apartment available in fine neighborhood. Any children must be ten years or older. Write qualifications. Box 360, PROGRESSIVE ARCHITECTURE.

ARCHITECTURAL DRAFTSMAN AND STRUCTURAL DRAFTSMAN—experience in design and construction of service stations and oil bulk plants preferred. Major petroleum company in Chicago. Give complete details first letter. Box 362, PROGRESSIVE ARCHITECTURE.

DESIGNERS, DRAFTSMEN, Delineators—well established South Florida architectural office has openings for competent men. College degrees required. Minimum of five years' experience. Office does wide general practice involving all types of structures. Send full particulars including sample of work, stating minimum salary. Positions include salary increase, percentage of profits if applicant proves ability. Box 363, PROGRESSIVE ARCHITECTURE.

FIRST-CLASS DRAFTSMAN—needed by well-established firm in Minnesota employing about 6 draftsmen. To be placed in charge of general designing and drafting. Office does not specialize. Will pay top salary. Box 365, PROGRESSIVE ARCHITECTURE.

ARCHITECTURAL ENGINEERING DRAFTSMAN—will work with engineering department making prospective drawings. Good background needed for general plant work including structural steel and reinforced concrete. Give full details covering experience, age, and salary expected. Box 367, PROGRESSIVE ARCHITECTURE.

PIECEWORK DRAFTSMAN—salary, profit-sharing basis, or straight salary expected. Box 368, PROGRESSIVE ARCHITECTURE.

JOBS WANTED


DRAFTING WORK WANTED—structural plans for architects and engineers. Shop plans for steel fabricators; bending details and bar schedules for concrete work; mechanical designs, details, and developments. By competent, registered engineers. Georgia Detailers Association, P. O. Box 191, East Point, Ga.

CONSULTING ENGINEERS—registered New York and New Jersey; civil and structural engineering for design, details, specifications, and supervision of public works, industrial plants, residential, commercial, and public buildings. Reinforced concrete, steel, timber, soil analysis, pile and heavy foundations; fee or percentage basis arranged. Box 364, PROGRESSIVE ARCHITECTURE.

ARCHITECTURAL DRAFTSMAN—39 years old, 20 years' experience including residential, commercial, educational, and industrial buildings. Structural design, squad leader. Salary $125 weekly. Prefer Southwest or Pacific Coast. Box 366, PROGRESSIVE ARCHITECTURE.

CHIEF DRAFTSMAN—designer, checker, estimator, specifications and construction supervisor. 20 years' broad experience. Central and Western; final plans, architectural, structural, mechanical. No perspectives. Can take charge on salary, profit-sharing basis, or straight salary. Location immaterial. Advise type, size of buildings planned. Harvey J. Smith, P. O. Box 784, Louisville, Ky.

STRUCTURAL ENGINEER—registered (Mass., N. H.), M.I.T. graduate, can provide structural design services to architects on hourly (or other) fee basis. All types of structures. Boston and eastern Massachusetts area. Box 368, PROGRESSIVE ARCHITECTURE.

The corrosion-resistance of Duriron drain pipe is as thick as the wall. The acid-carrying ability of this pipe does not depend on a lining which can wear, chip, crack or spall.

Duriron pipe is made entirely of Duriron, a high silicon iron alloy with extreme resistance to practically all corrosives. For instance, 10% sulfuric acid, one of the worst will not eat away more than 1/16" of the 5/16" wall of a 2" Duriron pipe in 900 years.

For complete information on this corrosion-defeating, abrasion-resisting pipe, write for bulletin 702-D.

Where

DURIRON DRAIN PIPE

is used

Laboratories
Kitchens
Photographic Studios
Zink Engraving Plants
Battery Stations
Soda Fountains
Cinder Fills

THE DURIRON CO., INC.
DAYTON 1, OHIO

DURIRON
ACID PROOF
DRAIN PIPE
District Heating simplifies building design, provides more usable space at lower operating and maintenance costs

No ugly stacks mar the beauty of this group of buildings at the University of Pittsburgh. Unhampered by the necessity of allotting space for heating units, fuel delivery and storage, and ash removal, designers enjoyed full freedom of line for beauty, while providing maximum utility for every foot of space in these fully functional structures.

District heating made it possible. Distribution is currently being extended to include a large group of hospital buildings. The system also effects savings in fuel consumption, reduction in required maintenance personnel, and greater protection from fire and explosion. Because it eliminates the production of smoke and soot in the area, cleanliness and lasting beauty are assured for every building in the group.

In this instance, as in hundreds of other major central heating systems, Ric-wil conduit provides efficient, economical heat distribution.
THIS MONTH

The plans for Daytona, Florida, presented this month, starting on page 59, are the work of Arthur D. McVoy, city planner. McVoy is no stranger to Florida, having received his B.S. and M.A. degrees in architecture from the University of Florida. His graduate work consisted of six months' study on a Langley scholarship in the city planning laboratory at Cranbrook Academy under Eliel Saarinen; travel and study in Sweden, Denmark, Holland, Germany, and France; and work (1939-1940) for a Ph.D. in city planning at the University of Buffalo under the late Dr. Walter C. Behrendt. His practice has taken him all over the country. He has worked as chief designer in the office of the architect to the Florida State Board of Control; and as city planner or planning consultant for the Buffalo City Planning Association, the National Resources Planning Board, and the cities of Spokane and Dallesport, Washington; Corvallis, The Dalles, and Portland, Oregon; and Ocala and Daytona Beach, Florida. He was also planner for Tacoma, Washington, one of the three cities chosen by NRPB for experimentation on an accelerated planning method. A member of the A.S.P.O., A.I.A., and A.I.P., McVoy has taught and lectured on planning at the University of Florida, University of Washington, and M.I.T. The association of Kim Hoffmann and Stephen Heidrich, specializing in "designs for contemporary treatment of stores, offices, homes," dates from 1946. Their offices for the Hansen Glove Company, New York, N. Y., appear in this issue on page 66. A native of Bremerhaven, Germany, Kim Hoffmann attended the University of Berlin, where he studied the rare combination of law and modern design simultaneously for three years. His leaning toward design won out, however, and he practiced as a designer in Paris from 1933 to 1937, when he moved to New York and formed an association with Paul Bry that lasted until 1945. He is a member of the American Institute of Decorators. His associate, Stephen Heidrich, was educated in New York where, after winning the Pierre St. Godin Medal for fine draftsmanship, he received a scholarship to Pratt Institute. After three years in service with the A.U.S. came practice with Alfons Bach (1944-1945), and with Dorothy Draper until 1946. "Brought up by a mechanically minded father, I just missed being an engineer (thank God)," says William T. Dreiss, designer of the little house in California presented on page 78. He attended the Art Center School, Los Angeles, Calif., where he came under the influence of such able designers as J. R. Davidson and Harwell Hamilton Harris. After a short period in war service, he worked in the aircraft industry, spending his time building "air (Continued on page 16)

NEXT MONTH

In April we will have the pleasure of presenting for our readers a number of new projects in Brasil, representing work of many of the best known contemporary Brazilian architects, and brought to us by Dr. Louis Parnes, recently returned from a South American trip. A new yacht club, reminiscent of the familiar one in Pampulha, comes from Oscar Niemeyer, as well as a one-floor rural hotel. Work by the Roberto brothers will include a city apartment house of reinforced concrete with interesting sun control devices, and the Casa da Comerciaria, a large residence club for Rio de Janeiro business women. Following the trend of the reinforced concrete work now associated with Brasilian architecture, a 22-story office building designed by Afonso Reidy and J. Moreira Machado for the headquarters of a railroad company will be shown. Another apartment house, this one the work of Henrique Mindlin, will be presented, with dwelling units ingeniously arranged to gain maximum light and air. Concluding the portfolio of Brasilian work will be a public school near Rio by Alvaro Vital Brazil, based on a semi-quadrangular scheme, and Brazil's own house, perched on a steep hillside in a lush setting.

Two interesting houses from the East and West Coasts will appear in April. A wood frame house in Lincoln, Mass., designed by Carl Koch, is built into a gentle slope and brings the outdoors indoors with a piece of the hillside actually enclosed within the house. Anshen & Allen's house for Berkeley, Calif., done in association with John Hans Ostwald, takes full advantage of its typically dramatic San Francisco Bay site.

The April Materials and Methods section will feature an article on broadcasting studio design and the importance of acoustic treatment, by M. A. Smith, acoustical engineer. Part II of Hallock and Stout's article on home freezers will also be presented, and will discuss building and planning for freezers larger than the models commercially available now.
FOR BEAUTY AS WELL AS FOR BTU'S

For clients who want more than heat from a furnace, architects and builders choose MOR-SUN...
The winter air-conditioning furnace that's at home in the most resplendent rumpus room or cellar bar...
The factory-assembled packaged furnace whose installation is negligible and whose long life service is guaranteed...
The pressed steel furnace that heats, conditions, circulates, filters, humidifies and continuously renews the air...
The furnace, in short, for the home owner who wants more than heat!

MORRISON STEEL PRODUCTS, Inc., BUFFALO 7, N. Y.
Morrison's nationwide dealer organization is at your Service. Write us for the address of our representative nearest you.
"The Sun Never Sets with MOR-SUN!"
No. 4703AF INTERNAL GEAR OPERATOR
FOR METAL CASEMENTS

Positive Under Screen Control
for Metal Casements

The No. 4703AF Casement Operator, featuring Getty exclusive internal gear construction, has been developed as the latest in casement window controlling devices. Precision-built to high standards, efficient operation is assured for light, medium and heavy section windows for all types of construction. Its functional refinements and dependable performance are such that it has been preferred by leading architects and specified by metal window manufacturers over a period of years.

High-strength, close-tolerance castings
Factory-lubricated for life
Positive protection for all working parts
Low in cost, long on service
Constant, continued ease of operation

Exclusive internal gear construction
Used without screens, or with wood, metal or roll screens
Made of solid Bronze or Zinc die-cast alloy (Zamak)
Available in all standard finishes

Cut-away view shows the case-hardened steel worm, integral with operating arm, fully engaged at all times with the accurately-machined internal-gear teeth. This exclusive feature, pioneered by Getty, is responsible for the strength and dependability of these operators.

1922
SILVER ANNIVERSARY
1947

Twenty-five Years Service to the Building Industry

H. S. GETTY & CO., INC.
3354 N. 10th STREET, PHILADELPHIA 40, PA.

THE
GETTY

THIS MONTH

(Continued from page 14)

architecture.” With the end of the war, Dreiss resumed his studies at the University of California, while working in the office of Harris. At present he has his own practice in Los Angeles, where he is “back in line, Army style, waiting for the FHA, the CPA, and eventually maybe the WPA, but happy... ‘doing what comes naturally.’”

WILLIAM T. DREISS

Featured in this issue, on page 50, is the small opera shed on the grounds of Tanglewood in the Massachusetts Berkshires, designed by the well known firm of Saarinen, Swanson & Saarinen. From the office of Sanders & Malsin (see biographical notes in January 1947 PROGRESSIVE ARCHITECTURE) comes the design scheme for an entire blockfront of stores in Corning, N. Y., shown on page 68. Also known to our readers is Hugh Stubbins (April 1946 PROGRESSIVE ARCHITECTURE) whose house on a Massachusetts hillside is shown on page 74 of this issue.

The article on “Planning of Home Freezers” which appears in the Materials and Methods section this month—first of two on the subject—is by Philip F. Hallock, who achieved his B.S. and M.S. degrees in architecture at Pennsylvania State College. His early experience was gained in an engineering and construction office in Lancaster, Pa., and after some private practice, like many others he was uprooted in December 1941. Three years of work on the design of hospitals and industrial buildings in the office of Schmidt, Garden & Erikson, Chicago, were followed by service as a naval photographic intelligence officer in the Aleutians where “kindred spirits were found and the neglected water color brushes, always at hand just in case, eagerly sought paint.” In March 1946 Hallock returned home to State College, Pa. (the town, not the school)

(Continued on page 20)
A color arrangement such as this induces a feeling of well-being which aids the enjoyment of good food, well served.

Warm glowing colors in this entrance foyer express a feeling of welcome and create a sense of cheerfulness.

Color Dynamics...

Pittsburgh's exclusive painting system helps you to plan color arrangements that are not only pleasing to the eye but also add to the health, comfort and efficiency of your clientele.

Soft Blue-Green on walls of this private office rests the eyes and draws together colors on furniture and drapes.

NOW... Get the Benefits from the ENERGY IN COLOR... with Scientific Accuracy!

People who work or live in public or semi-public buildings appreciate those things which help to keep them going... with greater mental efficiency... with less physical strain... with greater comfort and restfulness.

Pittsburgh's science of COLOR DYNAMICS enables executives responsible for maintenance to specify with scientific accuracy color arrangements that retard fatigue, stimulate energy, improve morale, increase safety and promote well-being. There is no longer any reason for the depressing monotones found so often in offices, hotels, restaurants and hospitals.

This new method of painting is based on the influence of the energy in color upon normal human beings. Laboratory tests have proved that color can be used to help people relax, feel more cheerful, inspire trust and confidence, create better feeling among employees.

With COLOR DYNAMICS you can also make offices or living quarters seem more spacious and attractive. Rooms can be made to appear longer or wider, ceilings higher or lower, halls lighter and wider.

For a complete explanation of what COLOR DYNAMICS is and how it works, write for a free, profusely illustrated booklet, "COLOR DYNAMICS for Office Buildings, Hotels and Restaurants" Pittsburgh Plate Glass Company, Paint Division, Dept. PA-5, Pittsburgh 22, Pa.
THE DIVIDING LINE BETWEEN TRUE AND FALSE ECONOMY...

IS NOT ALWAYS APPARENT!

Low initial cost should never be the only reason for specifying or recommending a product. True economy considers the service rendered and its replacement cost. A piping system should render efficient and long-lasting service to be a true economy for your client.

Streamline Copper Pipe and Solder Type Fittings are made from copper and bronze which have long been recognized as the most durable of metals for piping and a multitude of other purposes. There are many cases on record where copper has lasted for hundreds of years and, with the exception of a slight tarnish, remain just as serviceable as when first installed.

Streamline Copper Pipe connected with Streamline Solder Fittings cannot rust and is unaffected by vibration. Streamline affords a permanently reliable conducting system with the first cost little, if any, higher than materials that corrode and leak a few years after installation. In the plans which are on your board now, provide efficiency and long life in the piping system by writing in Streamline Copper Pipe and Solder Fittings.

STREAMLINE COPPER PIPE AND FITTINGS

MUELLER BRASS CO.
PORT HURON, MICHIGAN
Rolling Steel Doors

Manually • Mechanically • Power Operated

In addition to the protection afforded, the permanence of steel, and the inherent space-saving advantages of vertically opening Rolling Steel Doors, you will find in Mahon Doors many distinct advantages in operating mechanisms and compactness of design. These advantages are worthy of your investigation . . . see Mahon Insert in Sweet's File for detailed information, specifications and clearance dimensions, or consult a Mahon representative.

THE R. C. MAHON COMPANY
Detroit 11, Michigan • Western Sales Division, Chicago 4, Illinois
Representatives in All Principal Cities
Manufacturers of Rolling Steel Doors, Shutters and Grilles, and Mahon Steel Deck for Roofs, Sidewalls, Partitions, Acoustical Ceilings, Permanent Floor Forms and Oversize Doors.

MAHON

One of Thirty-two Mahon Rolling Steel Doors installed in Terminal No. 2, Port of Vancouver, Washington.
AUTH PROGRAM CLOCK SYSTEMS now available

TO KEEP SCHOOLS RUNNING SMOOTHLY

Class is "in session" automatically as Auth bells and buzzers resound throughout the school promptly at nine. All through the day, the Auth clock system calls classes, recess periods, assemblies, etc. — always right on time with Telechron dependability.

In other ways, too, Auth keeps schools running smoothly. Intercom phone systems — noted for their simplicity—are available for all communication requirements. Auth fire alarm systems are available to meet any state regulations for schools with the utmost in safety.

Every detail of Auth signaling devices means longer life, greater mechanical strength, beauty both in architecture and tone, and easy installation.

FOR INDUSTRIAL PLANTS

Auth program clock systems and elapsed time indicators are ideal for industry. Also, look to Auth for supervisory alarm panels and a complete line of bells, chimes, buzzers, horns and telephones.

AUTH ELECTRIC COMPANY, INC.
34-20 45th STREET  LONG ISLAND CITY 1, N. Y.

(Continued from page 16)

PHILIP F. HALLOCK

and private practice. Registered in Pennsylvania, New York, and Illinois, with a Certificate of the National Council of Architectural Registration Boards, he continues "to promote radiant heating and modern design." G. J. Stout, Ph.D., associated with Mr. Hallock on this article, bringing to the discussion knowledge gained as Food Technologist at Penn State College.

Appearing on page 80 is the second and concluding part of "Standard Specifications for Concrete Construction," by James D. Beacham, architect. The first part of this article was published in the December 1946 issue of PROGRESSIVE ARCHITECTURE.

NOTICES

FRANCIS E. LLOYD has opened his architectural office at 305 Grant Ave., San Francisco 6, Calif.

RAYMOND A. LESTER ASSOCIATES have removed their offices from New York City to 39 E. Prospect Ave., Mount Vernon, N. Y.

MACKIE & KAMRATH have moved their architectural office to 2713 Ferndale Pl., Houston 6, Tex.

ROBERT MCKEAN, formerly associated with the office of Gilbert Rohde, is now located at 165 E. 72 St., New York 21, N. Y.

F. M. OLSTON has resumed his architectural practice at 306 Springer Blvd., Tulsa 3, Okla.

GEORGE H. STONER has opened an office for the practice of architecture and design at 166 Newbury St., Boston, Mass.

R. MARSHALL CHRISTENSEN has opened an office for the practice of architecture under the name of HELMER AND COLE. Their office is at 925 Madison Ave., New York, N. Y.

C. HOOD HELMER AND PRESTON M. COLE have announced their association for the practice of architecture under the name of HELMER AND COLE. Their office is at 30 Pleasant St., Woodstock, Vt.
Fires can't start or spread in noncombustible decorative hangings

Serious fires usually result from the rapid spread of flames through materials that can burn.

Now, replace an inflammable material with one that can't burn — and you eliminate a fire hazard.

Decorative hangings woven from Fiberglas yarns can't burn. They're glass. They're originally and permanently noncombustible. Furthermore, in the midst of fire or searing hot blasts, these fabrics of Fiberglas will not contribute to the further depletion of oxygen, will not give off suffocating smoke and fumes.

In hundreds of places of public assembly from coast to coast—in hotels, restaurants, clubs, schools, hospitals, auditoriums—architects, decorators and owners are designing for safety, including in their plans these decorative, noncombustible fabrics of Fiberglas.

Many attractive weaves and colorful patterns are available—and expert fabric service shops located in principal cities are ready to fashion and hang the draperies you select for your decorative scheme . . . write Owens-Corning Fiberglas Corporation, Dept. 827, Toledo 1, O.

In Canada: Fiberglas Canada Ltd., Toronto, Ontario.

*Listed by Underwriters' Laboratories, Inc., as "Noncombustible Fabric".
Advance in the design of buildings moves rapidly; many bits of information come to us in the course of a month, through conversations, interviews, letters, and press releases that build into an impression of continuing, if faltering, progress. On this page for a time the editors of Progressive Architecture will attempt to pass on to you the items that appear to us most important, with what comment seems appropriate. It will not be a "news" report in the accepted sense; we gave up long ago trying to present timely news in a monthly magazine that is written many weeks before it reaches you. Our aim will be to try to find a pattern in events which may already be familiar to you as spot news, happenings that are not likely to have come to your attention, and isolated reports that reach us from individuals. The result may not always be encouraging; progress reports sometimes report no progress.

For instance, Housing Expediter Frank R. Creedon continues to issue optimistic statements about the quantity of housing to be built during the year, but there is official silence on the price, the quality, or the relation of that housing to town and city plans. Business-minded architects will notice that more nonhousing construction is gradually being allowed, and that individual and group houses in the middle-class brackets are more free to fight for materials. Socially-minded planners and house owners have not wept too copiously over the changes, because they had seen the Wyatt program degenerate into the familiar pattern of a scramble to build and sell bad houses, overpriced, in unplanned communities.

As remnants of last year's program disappear, it becomes apparent that the principal result of that brief flurry was the final birth of an industrialized housing industry. The opposition it will meet became very clear, but the needs—and the market—were also clearly outlined.

Government assistance will still be forthcoming, when nothing else in the economy is interfered with; the Expediter's office has announced that guaranteed market plans for prefabricators are being continued. In fact, the only change in this scheme—which was devised to assure production of low priced houses—is that the houses don't need to be low priced ("the new market guarantee contract will contain no price ceiling") and the production doesn't have to be assured ("benefits of the guarantee will continue even though a producer, through no fault of his own, is unable to meet the production schedule called for in the contract.

However, with or without government assistance, enough industrially produced houses will be on the market this year to be statistically important and, in many localities, physically noticeable.

Proved to exceed local code requirements, this prefabricated house was allowed to remain in its Massachusetts setting.

As distribution of prefabricated houses increases, conflict with out-of-date local building codes becomes more apparent. In Natick, Massachusetts, a Shelter Industries prefabricated plywood house which was being erected by the Solaray Corporation of Boston was ordered removed because it did not comply in exact detail with the local code.

An appeal was made to the State Emergency Housing Commission, and expert testimony was adduced to show that the construction—a stressed skin, box panel system using striated plywood inside and out—exceeded Natick building code requirements in every respect.

The Housing Commission granted a variance, and the house went ahead. However, Massachusetts is the only state which has legal machinery for setting aside local code requirements which may prevent the use of new materials or construction methods. This matter surely concerns not only prefabricators but many designers who are trying to take advantage of available techniques.

A further step toward easing local acceptance of unfamiliar materials and methods is made by the establishment of a Foundation for uniform testing and reporting by the Building Officials Conference of America, a body which has been working for some time on a basic building code. The plan is to establish central testing and research facilities, to which a manufacturer or proprietor can submit his material or method for analysis and report. Products approved will be given a label of acceptance and so noted in a bulletin which will go to the proper officials in all cities of 10,000 population or more. If this were a completely disinterested public body, the end result as well as the aim would be unquestionably good. As it is, skeptics may raise an eyebrow at the fact that the activity is to be partly financed by "fees collected for the servicing and development of tests" and that the controlling Board of Governors is to be composed half of "participating members"—a category including manufacturers, general contractors, financial institutions, and insurance companies.

The technical experts in NHA have drawn a careful distinction between industrialized building (cutting across all the conventional construction processes as a new industry) and prefabrication (a greater degree of pre-assembly than in the past, with no great change in construction system). The Producers' Council has come forward with a third conception in what they call the "industry-engineered" house. Starting from the premise that present methods are acceptable and in many cases economical, and that a complete network of manufacturers, distributors, and erectors now exists, the Producers' Council has joined with the National Association of Retail Lumber Dealers in seeking to prove that standardization and dimensional coordination can effect appreciable savings.

A. Gordon Lorimer, until recently New York City's Chief Architect, is acting as technical consultant to the Producers' Council and is advising on the "industry-engineered" house. The plan, the overall design, and the basic construction are all fairly conventional; there is no attempt to educate or to pioneer in these respects. The advance will lie in the use of standardized products, with the house dimensioned to materials' sizes. A large planning module and the 4 inch dimensional increment are used. Savings will come principally through distribution— Inventories can be more closely keyed to construction needs, and packaging and assembly will be simplified. Basic plans are suggested, with variations, but if the same principles are followed and the same unit materials ordered, savings should be possible in individual designs.

A French artist named Crotti is displaying in this country a new type of stained glass which he calls "gemmaux." It is actually a means of painting with glass; on a sheet of plate glass, colored glass pieces, cut or broken to various shapes, are arranged and built up so that any desired effect is obtained. The subject may be a formal composition or an abstract design. When the picture is finished, a transparent adhesive is used to hold the bits together and another sheet of glass is used as a cover, so that the whole thing is a sandwich. This freedom from the restrictions of lead separators seems to us to move stained glass into the position of a contemporary material which might be used to advantage in several types of buildings.
"PACKAGED" AIR CONDITIONING MEETS A VITAL NEED FOR SMALLER BUSINESS PLACES

Worthington’s Self-Contained Air Conditioners — built in two sizes, 3 and 5 ton refrigeration capacities — are especially designed to suit your small or medium sized place of business. These compact, attractive cabinets are complete, factory-built air conditioning systems, fully tested and proved — assuring you effective, low-cost air conditioning 365 days a year.

With one of Worthington’s Self-Contained Air Conditioners in your store, shop or office, you will be convinced that these amazingly efficient “packaged” units give you real air conditioning at its best — helping further to promote better health and better business in every type of smaller commercial and industrial organization. For full details, write for Bulletin C-1100-B29.

Worthington Pump and Machinery Corporation, Harrison, N. J., Specialists in Air Conditioning and Refrigeration machinery for more than fifty years.

Serving Phoenix — Served By Worthington

Occupied chiefly by the medical and related professions, the Professional Building in Phoenix, Arizona, also houses the prominent Valley National Bank and a capacious basement garage. Since its construction in the early 1930’s, it has maintained practically 100% occupancy — Worthington air conditioning being one of the most important advantages enjoyed by tenants of this popular, up-to-date office building.

Two Good Reasons For Tenant Satisfaction

Two large-volume Worthington Centrifugal Compressors, "heart" of the air conditioning system in the Phoenix Professional Building, described above. While Worthington Centrifugal Systems are used primarily in the air conditioning field, they are ideally suited to many other applications — from cooling water or brine for industrial purposes to producing ultra-low temperatures for technical research.

"Integration" Is A Worthington Specialty

Making more of the “vital innards” of its systems from compressors to fittings, Worthington can supply completely “integrated” air conditioning or refrigeration for maximum efficiency and economy ... another reason why there's more worth in Worthington. See your nearby Worthington Distributor for further information.
MODERN radiant heating is neither luxury-priced nor limited only to larger homes. Smaller homes, too, can feature more healthful, more comfortable, more luxurious winter living with radiant heating, and that means added prestige for home-builder and home-owner.

This highly efficient radiant heating boiler was designed especially for smaller homes. A water insulated base provides extra safety in kitchen or utility room installations, and a copper coil within the boiler may be included to provide plenty of domestic hot water both winter and summer. The "100" Series Heat Extractor is designed for either manual or automatic firing.

For more healthful, comfortable living...
send for your free copy of our booklet—
"PLAN TO BE COMFORTABLE"

The NATIONAL RADIATOR Company
JOHNSTOWN, PENNSYLVANIA
A Screwdriver is all you need
To Adjust
Tru-sized Door Jambs to Variations in a given Door Size!

Only 10 minutes to install!

SHOCK-ABSORBER LEAF SPRINGS
MAKE ACCURATE VERTICAL ALIGNMENT QUICK AND EASY!

Variations in door sizes used to require extra work to make doors and jambs fit accurately. The new Tru-sized Door Jamb eliminates this, because it is quickly and easily adjusted with only a screwdriver!

This variable adjustability is just one of the many advantages of Tru-sized Door Jambs! Add together all its many advantages, and you'll find installation time cut from 1-1½ hours for ordinary jambs to 8-10 minutes for Tru-sized Jambs!

The Shock-Absorber Leaf Springs assure accurate fit for life... and there's no planing, no trimming, no squaring, with Tru-sized Jambs—all this time-consuming work is either eliminated or done at the factory!

Investigate the many advantages of the new Tru-sized Jamb TODAY!

THE WHEELER, OSGOOD COMPANY
Plants and General Office: Tacoma 1, Washington

NEW YORK OFFICE . . . 1326 Empire State Building, New York 1, New York . . . Phone: Penn. 6-2954
CHICAGO OFFICE . . . 134 So. LaSalle Street, Chicago 3, Illinois . . . . Phone: State 5335-67
SAN FRANCISCO OFFICE . . 3065 19th Street, San Francisco, California . . . Phone: Valencia 2241
LOS ANGELES OFFICE . . P. O. Box 7685 Del Valle Station, Los Angeles 15, Calif., . . Phone: Veneida 5326
TACOMA OFFICE . . . . 1216 St. Paul Avenue, Tacoma 1, Washington . . . . Phone: Main 8101

MARCH, 1947 25
Performance of a drawing pencil counts just as much as the performance of any fine instrument or tool. A pencil needs smoothness, strength and accurate grading. KIMBERLY Drawing Pencils have these "built-in-qualities" and there are 22 fine degrees from 6B to 9H—Tracing degrees 1-2-3-4 and Extra B intense black for artists' layout work. Try them—convince yourself that Kimberlys will perform.

Write to Dept. P for a free trial pencil selecting your favorite degree from the 22 Kimberlys. Mention your dealer's name and address.

(Make sure to see the price of this fine pencil in your local dealer.)

Makers of Fine Pencils since 1889

GENERAL PENCIL COMPANY 67-73 FLEET STREET, JERSEY CITY 6, N. J.
"Electro-Sheet"

an outstanding material for concealed flashing applications

Anaconda "Electro-Sheet" is pure copper formed in thin sheets by an exclusive process of electro-deposition. The resultant product has been widely used for water-proofing and damp-proofing because of these salient features:

- Produced in weights of 1, 2 and 3 oz. per square foot.
- Non-porous; water-tight and air-tight.
- Made in wide, continuous lengths, (width up to 60").
- Can be bonded firmly to high-grade building papers; available in this form from several manufacturers.
- Also available coated both sides with special asphaltic compound.
- Flexible, easy to handle, form and apply.
- Moderate in price, since it makes a little copper go a long way.

In addition to the window flashing, illustrated, "Electro-Sheet" is extensively and successfully used for spandrel beam flashing, as a foundation damp course between masonry and sills, as a damp course between sheathing and brick veneer, as a vapor seal for insulation, as flashing for roof ridges, in forming water-tight pans for shower stall floors, and in other concealed flashing applications. Further information in Sweet's, 1946, 8C-1.

Anaconda Copper
THE AMERICAN BRASS COMPANY
General Offices: Waterbury 88, Connecticut
Subsidiary of Anaconda Copper Mining Company
In Canada: ANACONDA AMERICAN BRASS LTD.,
New Toronto, Ont.
America, above all lands, is blessed with Nature's lavish gifts.

And since it was given to man to have "dominion over all the earth," it is fortunate for mankind that Americans are custodians of so great a store of the world's natural resources . . . modern-day giants in the earth. For Americans are not a race but a melt of peoples, combining the wisdom, strength, ingenuity and idealism of many. A people whose blended characteristics act to stimulate the development of natural resources for the uses of all humanity.

So it is that America has become the cornucopia of the world!

For generations the harnessing of Nature's giants was accomplished only by laborious effort. But as American inventiveness expressed itself in better ways to "subdue the earth" the utilization of natural resources was complete.

No single development has contributed more than the plentiful production of durable, reliable steel pipe. Pipe to make the great resource of pure water the available servant of the people, pipe to distribute natural gas, to carry compressed air to quarry hammers, to expel mine water, for use in extracting valuable minerals . . . pipe for a thousand-and-one jobs that multiply and accelerate the utilization of our natural resources.

Just as in other phases of modern American life, the development of natural resources has paralleled the development of steel pipe so that it becomes a truism to say steel pipe makes it possible.

The interesting story of "Pipe in American Life" will be sent upon request.

**Committee on Steel Pipe Research**

OF

AMERICAN IRON AND STEEL INSTITUTE

350 FIFTH AVENUE, NEW YORK 1, N.Y.

**STEEL PIPE MAKES IT POSSIBLE!**

... better living through pipes of steel for plumbing and heating purposes.

"There were giants in the earth..."
The Carlton is one of the many fine hotels and athletic clubs built of Indiana Limestone. Our Technical Division, with a century's experience in all applications of the nation's most frequently specified building stone, offers you personal counsel on questions unanswered by our Sweet's File Catalog.

You are invited to forward plans and specifications to the Institute for competitive cost estimates by our member companies.

**INDIANA LIMESTONE INSTITUTE**

P. O. BOX 471 • BEDFORD, INDIANA
ANOTHER NEW SARGENT PRODUCT

PUSH AND PULL BARS OF EXTRUDED ALUMINUM ALLOY

SARGENT & COMPANY now offers you a modern line of push and pull bars made in two stock sizes—25" center-to-center, and 31" center-to-center—which take care of 90% of your requirements. Stock sizes can be shipped promptly. Other sizes can be furnished to order.

This is in accordance with Sargent's constructive policy of simplification which enables you to carry a reduced inventory devoted to those items most architects want. Sargent thus gives you maximum coverage of the market with minimum stock. This lessens the burden of your investment and assures you of faster turnover at a higher rate of profit.

The new Sargent push and pull bars are of extruded aluminum alloy with an impervious finish. Now available from Sargent Distributors.

SARGENT & COMPANY
NEW YORK • NEW HAVEN, CONN. • CHICAGO
MAKERS OF "LIFETIME LOCKS FOR LIFETIME USE"
A Drug Store Designed to Draw More Customers

A business-minded architect planned it that way. He knew that air conditioned stores get more traffic—that cool, comfortable customers stay longer, buy more, and that employees are more contented, efficient, and that there is less absenteeism.

Chrysler Airtemp Packaged Air Conditioners were chosen because they simplify air conditioning installations in stores large and small. They can be installed singly or in multiples. Each is a complete, self-contained, automatic, "fool-proof" air conditioner. Packaged Air Conditioners are noted for great dependability, long life, low operating and upkeep costs. For details, write Airttemp Division of Chrysler Corporation, Dayton 1, Ohio; in Canada—Therm-O-Rite Products, Ltd., Toronto.

Any Chrysler Airtemp Packaged Air Conditioner can be converted to a year-round air conditioner simply by adding a heating coil.
"The only thing they’ve agreed on so far is Lumite screens."

There’s many a change made ’twixt first sketch and finished house, as architects and builders know. But window screens? Just one answer there from the start: Lumite, the amazing screen cloth that cannot stain!

Yet this is only one of Lumite’s many advantages!

Where are your houses going up? In a coastal area? Biting salt air quickly corrodes ordinary screens, but leaves Lumite unharmed. Factory area? Smoke, soot and acid fumes have no effect on Lumite. Rainy region? Lumite will not rot or rust in any weather from snow to burning sun.

Lumite (woven of Dow’s Saran) is a modern material for you to work with—the screen for every part of the country! When you design or build that “perfect” house, be sure to recommend Lumite screens for windows, doors and porches. Write for our A.I.A. 35P folder and free sample.

Sold through Hardware and Lumber Dealers and Screen Manufacturers

LUMITE DIVISION, Chicopee Manufacturing Corporation
47 Worth St., New York 13, N. Y.

HERE’S WHY
LEADING ARCHITECTS AND BUILDERS SPECIFY LUMITE:

• Cannot stain
• Won’t rust or rot
• Never dents or bulges
• Needs no painting
• Strong! (Lumite is woven of heavy gauge filament—0.015”)
SPECIFY THE QUALITY FLUORESCENT FIXTURES THAT ARE

Complete
PACKAGES OF LIGHT!

CL-440—one of Sylvania’s line of modern, attractive commercial fluorescent fixtures—tops in streamlined-styling—with every part— housings, lamps, ballasts—guaranteed by one manufacturer.

Sylvania’s complete packages of light embody the best in engineering and quality... beautiful lines... an ease of maintenance that’s especially important to every one of your clients! And there’s an ideal fixture for every lighting need.

Specify guaranteed complete packages of light. Less trouble for you... the best in lighting for your clients! Sylvania Electric Products Inc., Salem, Mass.

"Fluorescent at its Finest!"
FOR OFFICE, STORE, HOME, FACTORY
A typical use industrial architects are making of Insulux Glass Block is seen in Rock Island Lines' new Chicago shops. Exterior design is dominated by Insulux panels with continuous windows below. The interior is flooded with diffused daylight. Architects: DeLeuw & Cather.

How an architectural material works for industry

Improved working conditions and low maintenance costs come automatically with Insulux Glass Block—a material of recognized architectural merit.

In key with contemporary architectural thinking for industrial buildings, Insulux has also won enthusiastic industrial approval. Management favors the prevention of rot, rust and corrosion—elimination of painting—the ease of cleaning. High insulating value makes possible economical air conditioning of wide areas. Heat loss in winter and heat gain in summer are materially reduced.

For the many practical uses of Insulux Glass Block in industrial, commercial and residential construction, consult the “Glass” section of Sweet’s Architectural Catalog. You will find technical data, specifications and installation details. Or write Dept. D-27, Owens-Illinois Glass Company, Insulux Products Division, Toledo 1, Ohio.

Ceiling-high Insulux panels distribute daylight across broad work areas, cut off distracting views. Clear windows furnish ventilation and vision out. Insulux Glass Block has proven advantages in all classes of construction.

Insulux Glass Block is a functional building material—not merely a decoration. It is designed to do many things other materials cannot do. Investigate!
Thanks to a far-sighted architect who specified "oversize" pipe

It's cleanup time in this happy home, and that means right now, for everybody! No standing around to wait your turn at the bath. No distressing dribble at Dad's shower while the tub runs for Junior.

It was a far-sighted architect who set the stage for this happy scene—an architect who installed adequately sized steel piping—pipe that some people might call "oversize," big enough to supply all the water all the members of the family want all the time.

Every architect and builder can contribute to situations like this in America's homes, new and remodeled ones alike. A few dollars more, invested in larger diameter steel pipe, will provide amply for the extra shower to go in later, the automatic laundry equipment, the garbage disposal unit, the lawn sprinkler, and those other modern home conveniences that make far more pleasant living.

So do your bit for happier, healthier homes—specify steel piping adequate for tomorrow's needs.
What keeps the lobster laughing can keep your clients happy, too!

The Lobster laughs in crustacean glee at the dangers of life in the briny deep. Nature provided him not only with fierce, offensive claws but also with armored protection.

The Barrett Specification Roof, with its armored wearing surface of gravel or slag, provides comparable protection for building structures. It’s so tough and long-wearing it can be bonded against repairs and maintenance expense for as long as 20 years.

Over 90 years of successful roofing experience has demonstrated the sound value of the gravel or slag wearing surface of a Barrett Specification Roof:

1. It holds in place the heavy-poured (not mopped) top coat of coal-tar pitch—providing a doubly thick waterproof covering.

2. It provides protection against the sun’s actinic rays which otherwise dry out the valuable oils in roofing bitumens.

3. It protects the roof against mechanical damage, hail and wind, wear and tear.

4. It interposes a surface of fireproof rock between the building and flying embers—makes a roof that carries Fire Underwriters’ Class A Rating.

Built up of alternate layers of coal-tar pitch and felt, topped by a thick pouring of pitch to anchor the gravel or slag wearing surface, it is the toughest, longest-lasting built-up roof made. It is waterproof, fire-safe, sun-resistant, and armored against mechanical damage. Provide the best for the buildings you design. Include Barrett Specification Roofs in your building specifications. The Atomic Bomb Plant at Oak Ridge, Tenn., the Chrysler and R.C.A. buildings in New York, the Field Building in Chicago and many other famous American buildings—all Barrett-roofed—will confirm the soundness of your choice.

THE BARRETT DIVISION
Allied Chemical & Dye Corporation
40 Rector Street, New York 6, N. Y.
2800 So. Sacramento Ave. Birmingham
Chicago 23, Ill. Alabama
In Canada: The Barrett Company, Ltd.,
5551 St. Hubert Street, Montreal, Que.
A.W. FABER'S CASTELL LOCKTITE

for drawing sketching retouching

the professional man's refill drawing pencil which embraces 7 exclusive features

CLEAN—No need to touch the lead and get graphite particles or dust on your fingers or smudges on your drawing. Hold point to paper, press button, lead can be adjusted by upward or downward movement of hand.

NON-BREAKAGE—An unusually fine precisioned collet supports the graded lead all the way around and prevents it from breaking or snapping off under greater than normal pressure during the pointing or sanding process or when in actual use.

NON-SLIPPAGE—The same precision collet holds the lead in a bulldog grip. Lead positively cannot slide back into the holder.

QUICK—Just press your thumb on the button release. Eliminates two-hand screwing or turning operation.

STURDY—Finest quality plastic and metal used in every part, exposed metal parts gold plated, all expertly assembled.

BALANCED—Every part is well proportioned giving you a drawing instrument which is perfectly balanced in your hand.

GUARANTEED—If your Castell Locktite does not perform perfectly, return it to your dealer or to us for exchange immediately.

Holds all standard makes of refill graded drawing and retouching leads. We recommend WINNER Techno-TONE 1930.

only $1 at your Art Supply House, Drawing Material Dealer, Blue Printer, Stationer or Photographic Supply Shop.
Only $400 per classroom brings 40% greater educational growth

With the elements pictured above, you can get the correct p/l/f/s* in a schoolroom at about $400 additional per room if done when a 20-room school is under construction. Most existing schoolrooms can be so modernized at a moderate cost.

The benefits of correct p/l/f/s as revealed by accurate tests and measurements in Texas schools are: (a) 10 months educational gains in 6 months, and (b) significant improvements in the physical well-being of the school children.

*Luminall paint is used in these p/l/f/s programs because it combines high light reflection and complete light diffusion. Covers in one coat; dries in 40 minutes; is very economical. Comparable efficiencies to those obtained in schools may be expected in many types of factories, workrooms and offices.

The makers of Luminall will be glad to forward a copy of Dr. Harmon’s "LIGHT ON GROWING CHILDREN," reprinted from Architectural Record. On receipt of sketches showing dimensions and details of schoolroom, specifications will be furnished according to the Harmon Technique without cost or obligation.

NATIONAL CHEMICAL & MFG. CO., 3617 S. May Street, Chicago 9.

* p/l/f/s—the initial letters of the words "painting; lighting; fenestration; seating" which are the essential elements of the Harmon Technique for schoolroom improvements as developed under the supervision of Dr. Darell B. Harmon, Executive Director of the Inter-Professional Commission on Child Development.

Luminall paint is used in these p/l/f/s programs because it combines high light reflection and complete light diffusion. Covers in one coat; dries in 40 minutes; is very economical. Comparable efficiencies to those obtained in schools may be expected in many types of factories, workrooms and offices.

The makers of Luminall will be glad to forward a copy of Dr. Harmon’s "LIGHT ON GROWING CHILDREN," reprinted from Architectural Record. On receipt of sketches showing dimensions and details of schoolroom, specifications will be furnished according to the Harmon Technique without cost or obligation.

NATIONAL CHEMICAL & MFG. CO., 3617 S. May Street, Chicago 9.

Paint New Plaster with Luminall

You can use Luminall over new plaster—the moisture in the plaster will not damage it. Luminall has a porous film that allows moisture to escape through it. No long waiting for plaster to dry before delivering a structure fully decorated! Send for your copy of PAINTING FOR LIGHT AND DECORATION, a useful and comprehensive 24-page book on casein paste paint and specifications for applying Luminall.

LUMINALL the light-reflective paint for interiors
You get these important advantages by specifying "the elevator that's pushed up"
Otis installed the world's first successful electric elevator in 1889...soon after electricity became commercially available. • Hydraulic elevators, currently in use at that time, required bulky, heavy equipment and were expensive to install and operate. • The electric elevator, compact and more simple to install, made elevator service economically practical for buildings of every size. • This important step in the development and improvement of elevator service typifies the basic pioneering which has maintained Otis leadership for nearly a century.

For the latest in vertical transportation call Otis today.
HOPE'S WINDOWS, INC., Jamestown, N.Y.

The finest buildings throughout the world are fitted with Hope's Windows.
Ingenious use of compactly designed Case vitreous china plumbing fixtures turns "problem" space into a powder room—one of the most convenient rooms in a house and one valued highly by owners and buyers. With its 19" overall height, the one-piece Case T/N* water closet offers the flexibility of placement required.

This is a quiet free-standing fixture with positive non-overflow. The Cosmette Lavatory, in overall size as small as 20" x 13½", is a perfect companion to the T/N*. Wall hung or with chrome legs, it features an extra large basin, handy shelf space and concealed front overflow. Case plumbing fixtures are distributed nationally—see your Classified Telephone Directory or write to W. A. Case & Son Mfg. Co., Buffalo 3, N. Y. Founded 1853.

*Patiemt
A Timely Tip for Your Customers!

TURN OFF the Regular Heating System

On Days Like These

CHILLY MORNINGS WARM AFTERNOONS COOL EVENINGS

...and economize with the FUEL SAVING...

CONTROL SWITCHES can be placed anywhere for your convenience, individual or central thermostatic control available, if desired.

Frank Adam Quikheters are excellent for any day on which heat is needed, but they are particularly ideal for days when the weather is extremely variable... damp and chilly mornings, warm afternoons and cool evenings... days when the regular heating plant sends forth an uncomfortable amount of heat, and yet, it is too cool to be without some warmth in the house.

Easy to operate, requiring only the flip of a conveniently-located switch, @ Quikheters send forth billows of warm air that will warm an average room in less time than it takes to build a fire in the regular heating plant. And when the desired temperature has been reached, you simply turn it off. Or should you want it, thermostatic control is available at slight additional cost.

Encourage your customers and clients to install one or more of these attractive, convenient, fuel-saving, comfort-giving units and thus help to insure a balanced heating system.
No matter what type of dwellings you are planning, you will find just the equipment your clients want in the Crane line.

This line includes bathroom groups, kitchen sinks, laundry tubs in a size and style to fit every plan—a price to suit every building budget. The public has always expressed a preference for Crane quality, and in this new Crane line they will find the finest fixtures Crane has ever produced.

The Crane line of quality heating equipment, too, is complete, including boilers and furnaces for coal, coke, oil or gas, radiators, convectors, controls, water specialties, pipe, valves and fittings.

Your Crane Branch will be glad to discuss your needs and help you prepare specifications to suit your requirements, giving approximate delivery dates. If you have not received a copy of the colorful new book, "Presenting the 1947 Crane Plumbing and Heating Line," ask for one.

CRANE CO., GENERAL OFFICES:
836 S. MICHIGAN AVE., CHICAGO 5

VALVES • FITTINGS • PIPE
PLUMBING AND HEATING

NATION-WIDE SERVICE THROUGH BRANCHES, WHOLESALTERS, PLUMBING AND HEATING CONTRACTORS
The Dauphin County Court House at Harrisburg, Pa. is one of the finest examples of court house construction in the country.

In this distinctive, modern building—hollow metal was supplied by Jamestown Metal Corporation.
More Fir Plywood Soon Will Be Available for All Uses

The unusual demands of today's home building program have made the supply of Douglas fir plywood temporarily critical. But more plywood is being manufactured today than in pre-war years, and as controls are lifted an ever-increasing supply will flow into normal trade channels. Keep in touch with your regular source of supply!

These "Grade Trade-Marks" Identify Every Panel of Genuine Douglas Fir Plywood

Every type and grade of Douglas fir plywood is readily identified by one of these "grade trade-marks". Such a mark on a plywood panel is your assurance that rigid standards of quality have been met throughout the manufacturing process — and that the panel has been made especially to meet the particular use for which the grade was originated.

In Countless Applications — in Peace and in War — Douglas Fir Plywood Has Proved Itself

Builders and specifiers have learned to turn to Douglas fir plywood whenever the need is for a material which is durable yet easy to work, light yet strong and rigid, economical yet dependable. This modern "miracle wood" is made in many grades, each engineered for particular jobs. Each is thoroughly tested in the Douglas Fir Plywood Association laboratory and proved in actual use conditions. Douglas fir plywood has served with exceptional performance in home building, in general construction, in industry, in marine work . . . for outdoor sign work, as an all-purpose farm material, and for many types of railroad applications. Choose the type and grade for your particular need—and use it with the knowledge that it has been thoroughly proved through years of use.
EVERYTHING IN WIRING POINTS to—

NATIONAL ELECTRIC—
the COMPLETE line of Raceways, Wire, Cables and Fittings

Sold nationally through electrical wholesalers.

National Electric Products Corporation
Pittsburgh 30, Pa.
When Mr. Mayers specifies PETRO, clients are satisfied!

"I consider oil heating in three terms, quickness in getting results, efficient heat, and a clean building. Oil heating is especially applicable to churches and subsidiary buildings which call for spasmodic heat and oftentimes for heat at a moment's notice. Oil heat results in considerable saving in space over other types of heating and this space can be put to good use in the church basement.

"With the Petro System you get splendid service with less cost in operation. Petro has made a number of installations for me resulting in very satisfied clients."

WHAT Mr. Francis L. S. Mayers says about the never-failing satisfaction Petro Systems are giving his clients has been repeatedly confirmed by other prominent architects and engineers for over forty years.

A Petro Oil Burning System can be counted on for good heating at low-cost. It responds promptly to fluctuating demands . . . assures freedom from drudgery, costly maintenance and annoying interruptions . . . conserves valuable floor-space . . . contributes to building cleanliness . . . promotes occupants' comfort and health.

All of these make for that fine performance which is the architect's best guarantee of client satisfaction.

INDUSTRIAL MODELS: No. 5 or No. 6 fuel oil; manual, semi- or automatic operation; 8 sizes up to 450 bhp. Thermal Viscosity preheating.

DOMESTIC MODELS: No. 3 or lighter oils, "conversion" and combination-unit types, 7 sizes. Patented "Tubular Atomization".

FULL DATA on Petro Industrial Burners are in catalog files of Sweet's and Domestic Engineering. Details on Petro Domestic Burners available in separate catalog. Copy of either sent gladly on request.

PETROLEUM HEAT AND POWER CO. • Makers of Good Oil Burning Equipment Since 1903 • Stamford, Conn.
Stran-Steel is versatile. It gives full scope to architectural planning, asks no compromise of beauty, utility or individuality of design. Its great flexibility is mainly the result of three factors:

The Nailing Groove. This patented feature, found exclusively in Stran-Steel members, permits collateral materials to be nailed directly to the frame. Nails are bent and clenched in a "grip of steel," held 40% more firmly than in wood.

Assembly Methods. Practically any type of joint or connection can be accomplished, simply and efficiently, with Stran-Steel. Members are joined directly by self-threading screws or with the aid of specially designed Stran-Steel fittings. On large construction projects, erection can be further speeded by welding.

Pre-Cut Members. Stran-Steel members are cut to architect's exact specifications, for fast erection at the building site. Designing is simplified because the Stran-Steel system is simplified, utilizing only a few basic members.

Stran-Steel is especially economical for multiple dwelling units . . . highly practical for all light-load buildings. Fire-resistant, rigid and durable, it protects the building investment. For further information, see Sweet's File, Architectural, Sweet's File for Builders, or the January issue of Building Supply News.

BUILD WITH

GREAT LAKES STEEL CORPORATION
Stran-Steel Division • Dept. 37 • Penobscot Building • Detroit 26, Michigan
UNIT OF NATIONAL STEEL CORPORATION
With a radio, the cabinet counts as furniture. But it's what's inside the cabinet that makes the difference in tone, in power, in clarity and trouble-free performance.

With building products, too, it's what's inside that counts. Your eye seldom sees the values that make the important difference.

That's why building-wise people insist on Celotex Building and Insulating Products. They know the raw materials which go into Celotex products are the finest that nature can grow and man can refine.

They know, too, that rigid production controls all along the line guarantee the uniformly high quality of every product bearing the Celotex name.

Tireless laboratory research perfects materials and methods still more... helps to maintain Celotex leadership year after year.

These, plus more than a quarter of a century of building materials "know-how," are the invaluable ingredients in every Celotex product.

They make a big difference in performance... in long life and low cost maintenance. A difference that has proved its value on hundreds of thousands of building jobs of every kind.

There aren't enough of these famous Celotex products to go around now—but our plants throughout the country are working day and night to increase production. Everything possible is being done to speed the time when we can supply you with all the Celotex products you need.

Building Board Celo-Rok Sheathing and Wallboard
Interior Finish Boards Celo-Siding Cemesto
Celo-Rok Anchor Lath and Plaster
Flexcell Rock Wool Insulation Triple Sealed Shingles

THE CELOTEX CORPORATION • CHICAGO 3, ILLINOIS
Rich color in marble, so often believed to be obtainable from foreign lands only, is not missing in the rugged slopes of the Green Mountains. Like the green in other products of nature, it blends in color with a wide variety of ornamental and utilitarian materials.

At the entrance to the Paterson Savings Institution it points the way for a large and busy population to stability and security, and its attractive color and contour make that way pleasing.

A recital of the many uses to which architects are putting Vermont Verde Antique would overrun this page. From doorway to powder room, and from floor, to ceiling, plain or ornamented, either walked upon in your corridor or admired at your fireplace, there is no material that is quite so generally desired.
New York City's Fire Department repairs its own equipment—21,000 repair jobs a year. Replacing old cramped quarters is this new, all-concrete Repair Shop, covering two city blocks in Long Island City. After analyzing various types of construction, final decision was architectural concrete for utmost fire-safety and barrel-arch construction for maximum unobstructed floor space. The repair unit, with elbow room for handling 90 vehicles at a time, is located under the central arch with its 120-ft. clear span. Side and end sections house related facilities.

'INCOR' 24-HOUR CEMENT was used in barrel-arch structures; elsewhere, LONE STAR CEMENT was used. 'INCOR'* saved time waiting for concrete to harden; even in cool weather, safe stripping strengths were obtained within 48 hours. Here is the initial and long-time economy of architectural concrete . . . good functional design at its fire-safe best.


LONE STAR CEMENT CORPORATION
Offices: ALBANY • BETHLEHEM, PA. • BIRMINGHAM • BOSTON • CHICAGO • DALLAS • HOUSTON • INDIANAPOLIS • JACKSON, MISS. • KANSAS CITY, MO. • NEW ORLEANS • NEW YORK • NORFOLK • PHILADELPHIA • ST. LOUIS • WASHINGTON, D. C.

LONE STAR CEMENT, WITH ITS SUBSIDIARIES, IS ONE OF THE WORLD'S LARGEST CEMENT PRODUCERS: 15 MODERN MILLS, 25,300,000 BARRELS ANNUAL CAPACITY
OPER A SHED

SAARINEN, SWANSON and SAARINEN, Architects

THE BERKSHIRE MUSIC CENTER
"TANGLEWOOD," STOCKBRIDGE, MASS.

Charles C. Potwin, Acoustical Consultant
Stanley McCandless, Lighting Consultant
The latest addition to the famous Berkshire Music Center where the Boston Symphony Orchestra, under the direction of Dr. Serge Koussevitzky, holds its summer concert series, the opera shed was designed for a dual purpose—to house productions of small operas and for orchestral concerts.

The plan is worked out in a direct, functional arrangement; the development of the section, with its downsloping ceiling, happily emphasizes good seeing and hearing conditions rather than "packing in the customers"; the frankly expressed rationalized structural system (see pages 57-58) produces a finished design of great vitality; and, in the opinion of Oliver Daniel, of the Music Division of the Columbia Broadcasting System, the acoustics of the shed are "well nigh perfect." All of these elements are fused into an imaginative, integrated design—progressive architecture of a high order.

The auditorium was designed to break up sound waves and distribute them equally. Ventilation handled by slot at ground level and sidewall and ceiling louvers.

THE PLACING OF THE LAMINATED ARCHES above the roof was necessary "to achieve the right volume for the auditorium."
The shape of the plaster cyclorama is a compromise between the best shape for lighting and the best acoustical shape; the sound focus is centered far above the stage floor.
The architects report: "The volume and shape of the auditorium were so designed that no sound-absorbing material had to be added to give it the right reverberation time." The exposed studs placed at random distance apart and of random size are also arranged with acoustical considerations in mind. Bituminous paving, used for flooring, was specified for its acoustical properties as well as its economy.

Mr. Daniel of CBS comments: "One can credit the designers with having achieved next to the impossible." He questions whether the comparative "barniness" may not be a major factor in its success. The "flooring seems to have much the same effect of softening acoustical properties that an audience usually does," he remarks. "The wood floor on the stage adds a definite resonant quality to the orchestral sound." Then, strictly from the broadcaster's point of view, he adds a word of criticism: "The usual failure to provide adequate space for radio equipment naturally is a drawback."
The auditorium is supported by a series of trusses with the laminated-wood arch upper chords exposed above the roof. The step-down roof itself lies in the planes of the bottom chords of the trusses, which also serve as girders. Tension chord members of the bowstrings are steel rods. Incorporation of the roof framing with the truss structure considerably simplifies the roof construction. Louvers were introduced in the risers as part of the ventilation system. As with most louver constructions, difficulties were encountered with water penetration during rainstorms, particularly with water dropping and splashing from higher levels. Addition of gutters alleviated the difficulty somewhat, but even so, it has been found necessary to insert cover panels over a considerable portion of this louvered area.
STRUCTURAL DETAIL
OPERA SHED, STOCKBRIDGE, MASS.
Not the least important part of the story is the success Mr. McVoy has had in winning public interest in the project. Witness the newspaper clippings, a few from the series of 29 presented by the Daytona Beach News-Journal, with introductory summaries by Lillian Davidson, the editor's wife. Lectures and broadcasts have all played their part. And, at time of going to press, we learn that two billboards displaying the plan have been erected, one adjacent to Beach Street; the other, at the beach.

Like most American cities, Daytona Beach has a serious traffic problem, inadequate civic and recreational facilities, and it is growing in a sprawling, unplanned way. In addition, this coastal city, with a population of 26,000, is a resort city, counts on about 25,000 visitors a year to support its main business as a tourist center, and it has a very special interest in seeing that it is as pleasant and inviting as possible. The master plan, therefore, has dual importance. Not only does it solve problems that are familiar to a great many communities, but it is a thoroughgoing plan that takes into account the needs of year-round citizens as well as the rather elaborate provisions required of the "showplace" community. Perhaps most significant of all, the master plan has been approved "in principle" by the City Commission, and some elements are already scheduled for action.

The master plan is a careful integration of the several separate elements of which it is constituted. Most important of these is a basic traffic plan and attack on the problem of parking congestion; a civic and recreational center proposed for the dramatic City Island site; an athletic center at Bethune Point; and shopping center proposals for Beach Street and Main Street.
DAYTONA BEACH MASTER

This Master Plan map shows the integration of all of the remedies proposed for the city's ills and plans for healthy future growth—the traffic plan; the new bridges; the City Island civic and recreational center; the proposals for the Main Street shopping center at the beach; for the reorganization of Beach Street, the mainland's downtown shopping center, just west of the Yacht Basin; for the Bethune Point athletic center; and the remarkable series of self-contained residential neighborhoods, indicated on the map by central park areas designated "P."
TRAFFIC PLAN
Outer Belt Highway System: Canal Road, to the west, named as a trucking route (already approved) and passenger car bypass; Atlantic Avenue, along the beach front; Seabreeze Boulevard-Mason Street east-west highway (to the north) and the Park Avenue-Deland bypass (to the south). With this outer circulatory system, a trip (for instance) from any point on the beach to the airport could be made without entering the mainland downtown district at all; through trucking is kept away from the center, and the two intermediate north-south traffic channels are freed to function properly for their planned uses—Beach Street for one-way local access to downtown shops or as a scenic riverfront drive (see Beach Street plan, page 64), and Ridgewood Avenue for handling heavy local traffic and for travelers' access to lodgings or other local services. Completing this arterial system is the important intermediate east-west highway, starting at Broadway at the beach across the new bridge to Bay Street (skirting the mainland downtown section) and so, by a viaduct, west, toward Deland.

1. CITY ISLAND
The prominent location of City Island, out in the Halifax River, just offshore from Beach Street, the mainland's park-bordered business district, offers an exceptional opportunity to create both a cultural and recreational center for the city and a major tourist attraction. Recommended is removal of the existing ball park to the new athletic center (see page 65) and a development to include: a Memorial Auditorium (location already approved), a city library, a museum, tennis courts, and other sports facilities, a Yacht Club, and sheltered docking facilities. A footbridge from Riverfront Park to the island is provided for pedestrians.
2. MAIN STREET SHOPPING CENTER

The city's No. 1 traffic headache, Main Street (at the beach) accounts for 50 percent of all traffic accidents and is at present snarled with two-way auto traffic, heavy pedestrian movement (the street is essentially an extension of the oceanfront boardwalk), and parking along both curbs. When the new Broadway Bridge from the mainland is constructed (see Master Plan map), motor traffic will be somewhat lessened, but Main Street promises to remain an important commercial-entertainment center.

To solve these extreme problems, Mr. McVoy makes the radical and exciting proposal of converting Main Street (from Hollywood Avenue to the beach) into a pedestrian promenade, completely free from vehicular traffic, with parking space (and secondary shopfronts) provided in planned lots at the rear of the stores. Near the boardwalk exit, as shown in the sketch below, north-south car traffic would be carried on bridges across the promenade.

Since such a development would be costly (but less so than proposals to widen Main Street), a gradual plan is suggested:

1. Make Main Street a one-way traffic street.
2. Provide several carefully placed rear parking lots.
3. Finally, eliminate automobiles entirely, completing the parking facilities, as shown.

PRESENT. Main Street, but 50 feet in width (32 feet of paving), has to support two-way traffic, two curb lanes of parking, and crowds of pedestrians from the boardwalk and beach—a cluttered, noisy jumble.

PROPOSED. Entire beachward end of street closed to vehicular traffic, made into pedestrian promenade (with important north-south traffic streets spanning it); parking lots arranged in back of present shops—a quiet, leisurely, landscaped shopping, entertainment, and recreational center. Shops given new "fronts" facing the rear parking lots.
PRESENT. Interiors of the large business blocks adjoining Beach Street are occupied by a miscellany of frame boarding houses, hotels, and warehouses. Beach Street itself is a jumble of car parking on both curbs, and indiscriminate traffic, including through trucking.

PROPOSED. Complete elimination of interior-block structures, with this space turned into off-street car parking for shoppers, accessible from entrances along Palmetto Avenue (foreground).

3. BEACH STREET SHOPPING CENTER
Along Beach Street, the park and riverfront heart of Daytona Beach’s mainland business district, the chief improvements suggested are for handling traffic and car parking. With traffic for the beach channeled along Bay Street toward the north, Canal Road to the west designated for through truck traffic, and Ridgewood Avenue (two blocks west) available for other north-south traffic, Beach Street is freed for its two planned uses: one-way local access (with diagonal curb parking next to shops) to the stores, and as a two-way, four-lane scenic drive along the park side. These two functions are separated by a 6-foot planting strip placed near the center of the street. To handle the parking problem, McVoy takes advantage of the interior space of the exceptionally large blocks (circa 500’ by 700’) of which this section is composed (see below). The plan also suggests a footbridge from the park across to the City Island civic area.
4. BETHUNE POINT ATHLETIC CENTER

Though numerous lesser recreational facilities are recommended in the overall plan (extension of the boardwalk at the beach, toward the south; small neighborhood parks, certain recreation buildings, etc.), the two major recreational proposals are for City Island (page 61) and Bethune Point, shown here. The proposal is to locate in this major sports center both a new football stadium and a baseball diamond to replace the one at present on City Island. Because of a fairly serious wind condition, a grove of Australian pine is recommended on the Halifax River border of the property. The proposed traffic plan (see Master Plan map) recommends a bypass artery and new bridge across to the beach immediately south of this area, providing a natural location for car parking alongside this highway.

5. NEIGHBORHOOD PLAN

Planned residential neighborhoods throughout the city are an integral part of the master plan. Though the schemes are exceedingly various, the principles are the same: each is an entity, with an elementary school within it. Through-traffic arteries bound the property so that children will not have to cross them to reach school. Intersections are kept to a minimum, protecting the area from invasion of traffic and making the arteries safe and efficient. A park is provided near the center, adjoining the school site. A shopping center occurs near artery intersections. Long blocks and dead-end streets are freely used.
OFFICE-SHOWROOMS

RECEPTION ROOM. Panels of corrugated glass occur in showroom partitions.

RECEPTION ROOM. Placement of showroom walls at 60 degrees to the side wall increases the apparent width of the area, produces a wall long enough to accommodate three desks, and minimizes strictly corridor space. The flush ceiling light fixtures are placed parallel to the angled wall of the showroom.
HANSEN GLOVE CORP., NEW YORK

KIM HOFFMANN & STEPHEN HEIDRICH, Designers

This series of offices and showrooms is schemed within the familiar, alley-like, rental bay of a city office building. The designers have achieved a surprising illusion of space through the plan device of the splayed wall. Glass, integral lighting, and coloring assist the illusion.

Overall dimensions of the space are but 18 by 60 feet, with windows at one end. The need was for a reception room, with space for three salesmen’s desks; two individual showrooms, and an executive office. The area is divided roughly into thirds, the showrooms occupying the middle third, reception room and executive office at the ends.

All design elements are kept extremely simple, so that the cabinets and recesses provided for display of the company’s products are emphasized as much as possible.

EXECUTIVE OFFICE. Flush, fluorescent fixtures combine pink-white and blue-white tubes to produce a natural, bright light. Custom-made walnut furniture and cabinetwork are stained light gray. Wall colorings are off-white tones of blue-green and rose, upholstery fabrics repeating these hues, but in strong values and chromas.

PROGRESS SHOTS. The under-construction photograph is a remarkable illustration of integration—plan, structure, lighting, air conditioning, built-in equipment, and plaster base. Partition walls are plastered cinder block. Complete air conditioning is provided.
Corning, New York, which had just over 16,200 inhabitants in 1940, also has a shopping thoroughfare—East Market Street—like thousands of others throughout the United States. The buildings along East Market Street between Numbers 2 and 48 are—again like thousands of others—substantial yet undistinguished; products of the expansionist era; mostly on deep, narrow lots; outdated in appearance and in their impression on potential customers. They could not be completely rebuilt; local pocketbooks could not stand that. At about this point the firm of Sanders and Malsin found a key to a design solution when they discovered that, disparate as the buildings were, there existed a planning module: each lot was either exactly 21 ft wide (or a multiple), or so close to it that the variation could easily be utilized for necessary tolerances. Application of a new surface seemed indicated rather than any extensive structural change; the modular concept was applied again, and it was found that most sheet materials and windows could be obtained in a uniform size, 3 x 6 ft.

From such considerations developed the prefabricated metal grid or frame designed to cover the entire upper portion of the block front once the dated "ornament" had been cleaned off it. Into the grid can be fitted almost any desired material, from metal lath to plywood to marble or structural glass. If one material isn’t available, another can be used with a minimum of disturbance to the design as a whole.

**PROJECT: 2-48 E. MARKET ST**

**PURPOSE**

**TO INCREASE THE OPERATING EFFICIENCY OF A BLOCK OF STORE FRONTS FROM THE STANDPOINT OF:**

1. **MERCHANT**
2. **OWNER**
3. **CUSTOMER**
4. **COMMUNITY**
A I M S

1. EFFECT CONTINUITY OF DESIGN AND RETAIN INDIVIDUALITY CONSISTENT WITH MERCHANDISING REQUIREMENTS
2. PRESERVE TITULAR CONVENIENCES OF INDIVIDUAL OWNERSHIP, FREE OF ENCUMBERING EASEMENTS
3. INTEGRATE STORE FRONTS SO AS TO EMPHASIZE THE PROMINENCE OF INDIVIDUAL DISPLAYS
4. UTILIZE TO THE MAXIMUM THE EXISTING STRUCTURAL SOUNDNESS OF THE INDIVIDUAL STORE FRONTS
5. PROVIDE FLEXIBILITY OF DESIGN TO MEET THE REQUIREMENTS OF FUNCTION, APPEARANCE, AND COST
6. SIMPLIFY CONSTRUCTION FOR EASE OF ERECTION, ECONOMY, MINIMUM INTERFERENCE WITH NORMAL STORE OPERATION

MEANS

- UTILIZE STANDARDIZED SECTIONS IN THE FORM OF A MODULAR GRID WORK OR FRAME
- DESIGN EACH FRONT AS AN INDEPENDENT UNIT, PERMITTING OF INDIVIDUAL ERECTION AND RESPONSIBILITY
- EMPLOY COMMON LOBBIES, ENTRANCES, AND SET-BACKS TO RELATE COMPLEMENTING STORE FRONTS
- PLAN NEW FRONTS SO AS TO REQUIRE THE MINIMUM OF DEMOLITION AND ONLY MINOR STRUCTURAL CHANGES
- ALLOW SELECTION FROM A WIDE RANGE OF STOCK FACING-MATERIALS THAT MEET MODULAR REQUIREMENTS
- PROVIDE FOR SHOP FABRICATION AND UNIT FIELD-ERECTION OF STANDARDIZED BUILDING SECTIONS

FORMS

1. EXISTING CONDITION
2. MASONRY ALTERATION
3. PREFABRICATED FRAME

MARCH, 1947 69
Photo at top of both pages shows the module which made possible the type of development pictured in the drawings. Five buildings at the left appear at larger scale below.
The next four stores, shown here at larger scale, demonstrate the individuality of treatment possible within the group scheme.
As well as modernization of obsolete buildings, the architects point out, problems of traffic, parking, and service access must be dealt with so that group rehabilitation will not be compromised.

They further state: "On a community basis it is important that the 2-48 East Market Street project, and all future local improvement enterprises, be part of a planned development if the entire community is to benefit and enjoy a continually improved environment."

Although site and community factors were not part of the program handed the architects, they probed existing conditions sufficiently to assure themselves and their clients that nothing in the proposed scheme would conflict with future planning on a larger scale. First came the immediate site. Vehicular traffic on such a street is an abomination during shopping hours. Fortunately the block had an interior alley to which service traffic could be restricted, and a plot across the service alley, next to a block of municipal buildings, on which could be built double-decked parking facilities for customer traffic; a bridge across the alley could connect with the store group. The architects pointed out to their clients the problems confronting other business, industry, and Corning's residential sections; the need for recreational facilities; transportation problems; and flood control requirements.
In addition to the interest that this house holds as a straightforward scheme for a particular family’s needs, the handling of a difficult site condition, and the pleasing domestic character that the architect has achieved are factors that particularly recommend it.

The hillside site consists of an irregular ledge formation. “The fieldstone foundations rest on this ledge,” Mr. Stubbins tells us, “and the main floor is elevated to minimize blasting and excavation, to give ease and privacy of access, and to provide a woodland view from the living-room windows.” Stepping up the house plan to conform to the ledge slope places the bedrooms and studio on a level six steps above the main living room.

This is the home of the Arne Oker family. Mr. Oker is an artist; hence, the studio. At the time the house was being designed, Mr. Oker comments, “Our two children were approaching college age and for that reason we asked Mr. Stubbins to keep dimensions of their bedrooms to a minimum. Our theory on this has proved practical, since the children are now away most of the time.”
KITCHEN WINDOWS, left; BEDROOM WING, at right. The house is of frame on fieldstone foundations. Exterior surface is tongue and groove eastern pine.

GARAGE AND MAIN ENTRANCE occur at the lower level. By having the garage next to the furnace room, Mr. Oker states, "we get enough heat from steam pipes that pass through the garage to keep it at a temperature much higher than in an unheated garage."
From the ground floor entrance, a flight of stairs leads up to a compactly organized "central distribution" point. Directly ahead is the door to the kitchen; in an alcove at right is a curtained coat closet; a six-step flight of stairs leads up from this area to the bedroom wing, and the open side of the space leads directly into the well organized combined living and dining room, with its great windows overlooking the woods on the downslope. Placement of the fireplace at right angles to the back wall of the room produces a sheltered fireside area; a door at the corner of the room opens out to a raised sitting deck.

"Many people have asked us if we find it quite a chore to keep the large windows clean," Mr. Oker remarks. "Our answer is that it is much easier to clean one window of plate glass than it is to clean several small panes in a sash."
THE OWNERS SAY that "the arrangement of living and dining space meets our needs very well. It adapts itself equally well to small groups and large parties." The roof overhang above the big windows not only controls the sun's rays but "we find we can leave our casement windows open during rain storms."
The element that particularly distinguishes this small house from other well planned houses of about its size is the space provided for social entertainment. Otherwise, the plan is notable for its functional organization around a centrally located entrance and the privacy that has been provided for the three major living areas.

Frequent entertaining is a business necessity for this particular client. His wife expressed a desire to restrict this activity to a separate room without seeming to shut guests out of the living-room area. An additional, unusual requirement was for storage space and some sort of stage where the owner could exercise his talent for doing magic tricks. This is also organized in the social room, a small platform folding down from the wall, and a curtain hung from a ceiling track shielding the stage and the closets behind (where magic paraphernalia is stored) from view.
FLOOR PLAN. The social room may be opened by folding doors to the outdoor cooking and dining terrace; service to this terrace from the kitchen is also direct. The bedrooms are organized in a wing of their own. An admirable feature is the amount of storage space—numerous closets within the house as well as a shop and cupboards between the garage and laundry yard. Separate outdoor living areas occur adjacent to the bedrooms, the main living rooms, and the social room.
PART S-8 (Cont'd.)

B) Seal-coating method: When called for in project specification or when authorized, concrete cured by covering exposed surfaces with an approved seal-coat material.

1) Seal-coating material consists of an applicable to normal (standard) Portland cement-

SB-03. CURING PERIODS. - Minimum periods applicable to the project construction. The terms for these periods in the project specification or drawings have been checked by Fred, the author's approval, these specifications have been checked by Fred.

A) Modifications of curing periods: Time periods specified or authorized are increased or decreased to suit conditions existing at the time of placement, such as: (1) High early-strength cement: cement concrete modified thoroughly dry, etc., as above. (2) For structural members in contact with the ground, not exposed to frost or salt water, nor submerged in water:

2) Tie rods removed in manner preventing spalling of the exposed surfaces; tie holes filled solidly with mortar mixture of same composition as that used in construction, the mixture thoroughly compacted into place and finished with a wood float.

3) Time periods specified or authorized, concrete cured by covering exposed surfaces with an approved seal-coat material.

4) If general construction including concrete is not in place, damaged or patched as necessary, leaving the concrete in place; hammering patches. When unlined forms are used, board marks are removed when unlined forms are used; forms removed while concrete is still in place.

5) Wall forms and side forms of beams, 2 days in place, removed, and loose particles removed; all defective areas chipped out to depth of 1", with edges perpendicular to face; area to be patched finished to match adjoining surface.

6) Coarse aggregate: suitable pea gravel, or crushed stone of dense traprock, fine-grained granite, or quartz; material having a large percentage of coarse particles or thin pieces avoided.

7) Preparation: Honeycomb and other defective areas chipped out to depth of 1", with edges perpendicular to face; area to be patched finished to match adjoining surface.

8) Tooled finish: The thoroughly cured surfaces are air-blasted with clean water, heavy-duty or sand-blasting equipment until the aggregate is exposed to the designated finish.

9) Preparation for "separate" topping: Before topping, base slab thoroughly cleaned by use of wire broom, leaving the aggregate sound, smooth, straight-edge and sandblasted.

10) Preparation of base slabs: Slabs struck off in place, removed.

11) Preparation of base slabs: Slabs struck off in place, removed.

12) Concrete aggregate: Suitable pea gravel, or crushed stone of dense traprock, fine-grained granite, or quartz; material having a large percentage of coarse particles or thin pieces avoided.

13) Preparation of base slabs: Slabs struck off in place, removed.

14) Preparation of base slabs: Slabs struck off in place, removed.

15) Preparation of base slabs: Slabs struck off in place, removed.

16) Preparation of base slabs: Slabs struck off in place, removed.

17) Preparation of base slabs: Slabs struck off in place, removed.

18) Preparation of base slabs: Slabs struck off in place, removed.

19) Preparation of base slabs: Slabs struck off in place, removed.

20) Preparation of base slabs: Slabs struck off in place, removed.

21) Preparation of base slabs: Slabs struck off in place, removed.

22) Preparation of base slabs: Slabs struck off in place, removed.

23) Preparation of base slabs: Slabs struck off in place, removed.

24) Preparation of base slabs: Slabs struck off in place, removed.

25) Preparation of base slabs: Slabs struck off in place, removed.

26) Preparation of base slabs: Slabs struck off in place, removed.

27) Preparation of base slabs: Slabs struck off in place, removed.

28) Preparation of base slabs: Slabs struck off in place, removed.

29) Preparation of base slabs: Slabs struck off in place, removed.

30) Preparation of base slabs: Slabs struck off in place, removed.

31) Preparation of base slabs: Slabs struck off in place, removed.

32) Preparation of base slabs: Slabs struck off in place, removed.

33) Preparation of base slabs: Slabs struck off in place, removed.

34) Preparation of base slabs: Slabs struck off in place, removed.

35) Preparation of base slabs: Slabs struck off in place, removed.

36) Preparation of base slabs: Slabs struck off in place, removed.

37) Preparation of base slabs: Slabs struck off in place, removed.

38) Preparation of base slabs: Slabs struck off in place, removed.

39) Preparation of base slabs: Slabs struck off in place, removed.

40) Preparation of base slabs: Slabs struck off in place, removed.

41) Preparation of base slabs: Slabs struck off in place, removed.

42) Preparation of base slabs: Slabs struck off in place, removed.

43) Preparation of base slabs: Slabs struck off in place, removed.

44) Preparation of base slabs: Slabs struck off in place, removed.

45) Preparation of base slabs: Slabs struck off in place, removed.

46) Preparation of base slabs: Slabs struck off in place, removed.

47) Preparation of base slabs: Slabs struck off in place, removed.

48) Preparation of base slabs: Slabs struck off in place, removed.

49) Preparation of base slabs: Slabs struck off in place, removed.

50) Preparation of base slabs: Slabs struck off in place, removed.

51) Preparation of base slabs: Slabs struck off in place, removed.

52) Preparation of base slabs: Slabs struck off in place, removed.

53) Preparation of base slabs: Slabs struck off in place, removed.

54) Preparation of base slabs: Slabs struck off in place, removed.

55) Preparation of base slabs: Slabs struck off in place, removed.

56) Preparation of base slabs: Slabs struck off in place, removed.

57) Preparation of base slabs: Slabs struck off in place, removed.

58) Preparation of base slabs: Slabs struck off in place, removed.

59) Preparation of base slabs: Slabs struck off in place, removed.

60) Preparation of base slabs: Slabs struck off in place, removed.

61) Preparation of base slabs: Slabs struck off in place, removed.

62) Preparation of base slabs: Slabs struck off in place, removed.

63) Preparation of base slabs: Slabs struck off in place, removed.

64) Preparation of base slabs: Slabs struck off in place, removed.

65) Preparation of base slabs: Slabs struck off in place, removed.

66) Preparation of base slabs: Slabs struck off in place, removed.

67) Preparation of base slabs: Slabs struck off in place, removed.

68) Preparation of base slabs: Slabs struck off in place, removed.

69) Preparation of base slabs: Slabs struck off in place, removed.

70) Preparation of base slabs: Slabs struck off in place, removed.

71) Preparation of base slabs: Slabs struck off in place, removed.

72) Preparation of base slabs: Slabs struck off in place, removed.

73) Preparation of base slabs: Slabs struck off in place, removed.

74) Preparation of base slabs: Slabs struck off in place, removed.

75) Preparation of base slabs: Slabs struck off in place, removed.

76) Preparation of base slabs: Slabs struck off in place, removed.

77) Preparation of base slabs: Slabs struck off in place, removed.

78) Preparation of base slabs: Slabs struck off in place, removed.

79) Preparation of base slabs: Slabs struck off in place, removed.

80) Preparation of base slabs: Slabs struck off in place, removed.
2) Troweling: Surfaces troweled to a smooth, hard finish, after topping mixture has hardened, sufficiently excess fine materials from working to the top; no additional materials are supplied to surfaces during finishing operations.

S10-03. TYPE B.—Special topping finish: The best class of concrete floor finish, free from dusting and excessive watered-down durability; dense and water-tight, applied after the concrete has hardened to 1" thick (more if specified); machine floated.

A) Proportions: as specified for Type A finish (S10-02) except that aggregate is used in lieu of 2 parts as in Type A finish.

B) Materials: as specified for Type A finish, except as to coarse aggregate (1/2") to 1" size, which aggregate must be specifically selected for hardness and density; as approved.

C) Minimizing: by suitable, mechanical, batch-type mixer; for not less than 1/2 minutes after all materials, including water, are in the mixer.

D) Preparation of base slabs: as specified for Type A finish, ("separate" topping).

E) Application of topping: Temperature of not less than 50 deg. F. required in area during placing; after mixture is placed and spread, surface is to be removed by alternation with cloth mats or by other effective means. Surfaces are to be covered with either water-retaining float of metal-type deck, or with rollers, or with steam blankets. No additional cement is applied to surfaces during floating.

1) Troweling: Concrete is to be followed as many times as required (but not less than 3) as necessary to obtain a smooth, hard, impervious surface free from all items marked as blemishes. No additional water or cement are to be applied during finishing or troweling operations. Surfaces are troweled by troweling with the aid of warm water. The use of a trowel is not to be made to trowel any surface, producing an audible, ringing sound from the trowel.

S10-04. TYPE C. G. Cement finish: Topping as required for Type A finish applied as specified. When cured, surfaces finished by grinding uniformly with an approved type grinding machine or stone, with free, rapid-cutting carborundum stones; grinding continued until coarse aggregate is exposed; surfaces kept wet during grinding.

S10-05. TYPE D.—Non-slip finishing: Topping mixture as required for Type A finish, applied as specified for topping, with troweling, or other similar grains of aluminum oxide (A103), or chemically bonded abrasive aggregate, (not less than 1/4 lb. per sq. ft.), uniformly over floor surface. Size of aggregate as follows:

1) Ordinary-duty floors, between 0.015" and 0.030"
2) Heavy-duty floors, between 0.020" and 0.050"

A) Application of aggregate: Materials thoroughly dampened before spreading; uniformly spread and tamped flush with surface, using a steel trowel and taking care not to bury the chips. Surface troweled as specified for Type A finish; after curing, floor rubbed with abrasive brick and water sufficiently to slightly expose the abrasive aggregate.

S10-06. TYPE E.—Dusted-on finish: A hard, smooth, integral surface suitable in light-duty locations where a limited amount of dusting or crazing is not objectionable; or as a base for specified requirements for normal-size coarse aggregate apply.

APPENDIX 2. LIGHTWEIGHT CONCRETE

S1A-01. INTENT.—Used in portions of structures where lightness of weight is desirable, where and as called for in the specification or drawings; strong, durable concrete. Requirements, generally, the same as specified for ordinary concrete.

S1A-02. AGGREGATE.—Material, generally, in appropriate sizes and shapes of uniformity, rock, gravel, sand, shell, slag, cinders, pumice, and other approved granular materials, as required for the project.

S1A-03. PROPORTIONING.—As called for in project specification or drawings; in absence of specific proportioning requirements, adequate approved materials furnished, and proportioned and mixed, in quantity and manner insuring lightweight concrete of strength specified, as required in the project specification or drawings. In absence of proportioning requirements, generally the same as specified for ordinary concrete.

S1A-04. PLACING AND CURING.—Mixture placed and compacted, and surfaces protected, in manner specified for lightweight concrete.

APPENDIX 3. CONCRETE FOR FIREPROOFING

S1A-01. INTENT.—Material used for fireproofing structural members, at locations and to extend the fire resistance of the structure in accordance with approved materials and designs for fireproofing; through, reliable protection against injury from heat and fire. Requirements generally the same as specified for ordinary concrete.

S1A-02. AGGREGATES FOR FIREPROOFING.—Material: Specific requirements for aggregates as called for in project specification or drawings. Approved aggregates from Group 1 following used unless Group 2 materials are specified for in project specification or drawings.

S1A-03. PROPORTIONING.—As called for in project specification or drawings; in absence of specific proportioning requirements, adequate approved materials furnished, and proportioned and mixed, in quantity and manner insuring concrete of strength specified, as required in the project specification or drawings. In absence of proportioning requirements, generally the same as specified for ordinary concrete.

S1A-04. CLEANING AND PROTECTION.—General: All work thoroughly cleaned upon its completion and maintained in such condition as adequately protect against staining and other injury.

S1A-07. CURING FLOORS.—Objective: Maximum strength and resistance to wear; water-tightness; prevent early loss of moisture and shrinkage through evaporation.

S1A-08. Curing floor: started as soon as practicable after surface is finished and material has set.

A) Curing method (except for Type B): Finishing the concrete 7 days longer, as directed, in unfavorable weather conditions, by wetting: sawdust, cloth mats, or other approved coverings; or by ponding and spraying.

B) Curing with seal-coat: used only when and as called for in project specification or drawings, as applicable. Seal-coating is not to be used on all types of floor finishes, but not used at any locations where surfaces are exposed to direct rays of sun for period of less than 24 hours after finishing.

Material: An approved, non-staining liquid curing compound with suitable, non-color, colorless, and odorless, which will harden rapidly when applied on a surface, forming an impervious, membrane coating.

2) Application: Material uniformly applied by a brushing, mopping, or spraying method, at an angle of approximately 30 deg. to the surface, with edge pressing vigorously into the base, (by volume) applied to surface at rate 1", for 100 sq. ft. of floor surface, producing an audible, ringing sound from the trowel.

2) Curing started as soon as practicable after the base slab has hardened; full " thick (more as called for in the project specification or drawings. In absence of proportioning requirements, adequate approved materials furnished, and proportioned and mixed, in quantity and manner insuring lightweight concrete of strength specified, as required in the project specification or drawings. In absence of proportioning requirements, generally the same as specified for ordinary concrete.

S1A-05. CURING.—Requirements specified for curing concrete made with normal-size coarse aggregate apply.

APPENDIX 2. LIGHTWEIGHT CONCRETE

S1A-01. INTENT.—Used in portions of structures where lightness of weight is desirable, where and as called for in the specification or drawings; strong, durable concrete. Requirements, generally, the same as specified for ordinary concrete.

S1A-02. AGGREGATE.—Material, generally, in appropriate sizes and shapes of uniformity, rock, gravel, sand, shell, slag, cinders, pumice, and other approved granular materials, as required for the project.

S1A-03. PROPORTIONING.—As called for in project specification or drawings; in absence of specific proportioning requirements, adequate approved materials furnished, and proportioned and mixed, in quantity and manner insuring lightweight concrete of strength specified, as required in the project specification or drawings. In absence of proportioning requirements, generally the same as specified for ordinary concrete.

S1A-04. PLACING AND CURING.—Mixture placed and compacted, and surfaces protected, in manner specified for lightweight concrete.

APPENDIX 3. CONCRETE FOR FIREPROOFING

S1A-01. INTENT.—Material used for fireproofing structural members, at locations and to extend the fire resistance of the structure in accordance with approved materials and designs for fireproofing; through, reliable protection against injury from heat and fire. Requirements generally the same as specified for ordinary concrete.

S1A-02. AGGREGATES FOR FIREPROOFING.—Material: Specific requirements for aggregates as called for in project specification or drawings. Approved aggregates from Group 1 following used unless Group 2 materials are specified for in project specification or drawings.

S1A-03. PROPORTIONING.—As called for in project specification or drawings; in absence of specific proportioning requirements, adequate approved materials furnished, and proportioned and mixed, in quantity and manner insuring concrete of strength specified, as required in the project specification or drawings. In absence of proportioning requirements, generally the same as specified for ordinary concrete.

S1A-04. CLEANING AND PROTECTION.—General: All work thoroughly cleaned upon its completion and maintained in such condition as adequately protect against staining and other injury.

S1A-07. CURING FLOORS.—Objective: Maximum strength and resistance to wear; water-tightness; prevent early loss of moisture and shrinkage through evaporation.

S1A-08. Curing floor: started as soon as practicable after surface is finished and material has set.

A) Curing method (except for Type B): Finishing the concrete 7 days longer, as directed, in unfavorable weather conditions, by wetting: sawdust, cloth mats, or other approved coverings; or by ponding and spraying.

B) Curing with seal-coat: used only when and as called for in project specification or drawings, as applicable. Seal-coating is not to be used on all types of floor finishes, but not used at any locations where surfaces are exposed to direct rays of sun for period of less than 24 hours after finishing.

Material: An approved, non-staining liquid curing compound with suitable, non-color, colorless, and odorless, which will harden rapidly when applied on a surface, forming an impervious, membrane coating.

2) Application: Material uniformly applied by a brushing, mopping, or spraying method, at an angle of approximately 30 deg. to the surface, with edge pressing vigorously into the base, (by volume) applied to surface at rate 1", for 100 sq. ft. of floor surface, producing an audible, ringing sound from the trowel.

A) Scoring: Areas accurately and neatly marked off as indicated or approved, with use of a suitable grooving tool.

B) Division strips: Metal division strips of the kind and size indicated used to extend called for in the project specification or drawings, generating visually into surface, producing an audible, ringing sound from the trowel.

S1A-09. CEMENT BASE.—Used only where and as called for in the project specification or drawings.

A) General: Base installed, preferably, when floor finish is placed, otherwise, prior to installation of any finish on walls or similar surfaces above base. Base is placed and compacted, and surfaces cured, in accordance with A.S.T.M. C130-42; pumice, lava, and resinous varnish, which will be effective as called for in the project specification or drawings. In absence of proportioning requirements, adequate approved materials furnished, and proportioned and mixed, in quantity and manner insuring lightweight concrete of strength specified, as required in the project specification or drawings. In absence of proportioning requirements, generally the same as specified for ordinary concrete.

S1A-10. CURING.—Requirements specified for curing concrete made with normal-size coarse aggregate apply.
CONCRETE SPECIFICATIONS

with the minimum amount of water required to make a workable mix.

SA3-04. REINFORCEMENT.—as called for in the project specification or drawings.

SA3-05. PLACING AND CURING.—Mixture placed and compacted, and surfaces cured, in manner specified for ordinary concrete.

APPENDIX 4.

CONCRETE PLACED UNDER WATER

SA4-01. GENERAL.—At locations called for in project specification or drawings, concrete placed under water; methods, forms, materials, concrete mixture, and equipment as designated or approved by the Architect or Engineer, before any such work is started.

A) Temperature of water not below 35 deg. F., when concrete is placed or if freezing temperature is imminent within 24 hours.

B) Concrete mixture requirements: Not less than 658 lbs. of cement per cu. yd. of concrete.

C) Concrete mixture: by volume or weight, not more than twice that of the fine aggregate.

D) Water: sufficient to produce concrete having a slump between 4" and 7", as approved by the Architect or Engineer.

E) Temperature of concrete mixture: not less than 65 deg. F., nor more than 120 deg. F., when concrete is placed or when deposit is made.

F) Concrete replaced in place, all in the manner recommended by the manufacturer of the reinforcing metal.

G) Adequate moisture applied to concrete surfaces dressed with suitable tools to a uniform texture and even face.

H) Prior to placing concrete, tests made to determine consistency of concrete.

I) Concrete surfaces repaired and aggregate exposed as specified or directed.

J) Final curing of concrete: from 3 to 7 days, or as recommended by the Architect or Engineer.

K) Temperatures of concrete: the temperature ls imminent within 24 hours.

L) Coarse aggregate: by volume or weight, sufficient to prevent loss of mortar through the walls.

M) Bags: capacity of at least 1 cu. ft., made of jute or other coarse cloth, free from deleterious materials.

N) Depositing: Concrete deposited continuously in uniform horizontal layers until required height is reached; concrete disturbed as little as possible while it is being deposited; all laitance removed upon completion of a unit or section of concrete. As designated or approved by the Architect or Engineer, one of the following depositing methods used.

1) Tremie: Equipment water-tight and large enough to allow a free flow of concrete; operated with discharge and submersed in fresh concrete kept filled with fresh concrete at all times; concrete discharged and spread by vibrating and moving the tremie so as to maintain a uniform flow; dropping concrete through the water avoided; held refrilled should charge be lost while depositing.

2) Drop-bottom bucket: an open-top bucket equipped with bottom doors which open freely, downward and outward, when trip­ ped. Buckets shall be closed and slowly lowered, then opened slowly to prevent backwash; dumping de­ layed until bucket rests upon the surface on which concrete is to be placed; bucket shall be withdrawn slowly when charge is placed until it is full of the approved concrete.

3) Bags: capacity of at least 1 cu. ft., made of jute or other coarse cloth, free from deleterious materials. Bags filled about ¾ full of the approved concrete and securely tied; placed carefully in "header" and "stretcher" courses so that the whole mass is interlocked.

APPENDIX 5.

HEAT-CURING OF CONCRETE

SA5-01. HEAT-CURING.—Method used, when specified or authorized, to protect and cure concrete placed when atmospheric temperature is not less than 40 deg. F., and when lower tempera­ tures are imminent; under such conditions, ag­ gregates, water and curing materials shall be pre­ heated to prevent early drying-out of concrete and to produce sufficient to insulate a temperature within the mixture of approximately 65 deg. F., when concrete is placed.

1) Temperature of concrete in place main­ tained at 70 deg. F. (min.) for not less than 5 days, or more as required for ade­ quate curing of the material.

2) Protection: Concrete exposed shall be effectuated by use of sailmaker's, or with steam coils under tarpaulins, or by other approved means; with provisions made for free circu­ lation of air within enclosure; tempera­ ture of concrete determined by use of suitable thermometers placed against the surfaces at points directed.

3) Adequate moisture applied to concrete surfaces during the heating period, or high degree of humidity and maintained by other means, to prevent early drying-out.

APPENDIX 6.

SPECIAL SURFACE FINISHES

SA6-01. TOOLED FINISHED.—The thoroughly cured concrete surfaces are treated with suitable tools in such manner as to produce the finish designated in the project specification or drawings, to a uniform texture and appearance, as follows:

1) Prior to placing concrete, tests made to de­ termine suitability of coarse aggregate for tooled effect specified.

2) Several sample surfaces prepared as di­ rected for approval of the Architect or Engineer.

SA6-02. COLORED AGGREGATE FINISH made by placing not less than ¾" of facing concrete against the form, with finished surface facing concrete, in such manner as to insure its bonding therewith.

1) Facing mixture: 1 part white Portland ce­ ment, 1½ parts fine aggregate, and 2½ parts coarse aggregate.

2) Coarse aggregate: crushed stone, crushed, colored ceramics, or other material designated by the project specification or draw­ ings.

3) Molds used to retain facing mixture against forms while backing is being placed, re­ moved before initial set has taken place; molds jarred frequently and raised at short intervals to prevent formation of seams and air spaces between facing and backing.

4) Finally, upon removal of forms, defective surfaces repaired and aggregate exposed as specified or directed.

SPECIMEN

SPECIFICATION FOR AN OFFICE BUILDING

(A "Project Specification" showing application of the Standard Specification)


1) Method of proportioning: Method A, required throughout.

2) Classes of concrete to be used: Bids shall be based on specifications and conditions under which concrete is to be used; B—1½ for footings and walls; C—2 for window sills, trim and finish (not to be confused with pre­ cast stone, or "architectural masonry") shall be provided at lo­ cations shown on drawings.

3) Mixing: Approved ready-mixed concrete may be used throughout the work.


1) Forms for joist-and-slab construction: remov­ able metal-pan forms and accessories equal to standard steel "Steelforms"; 29", 15", and 10" width forms furnished as required.


3) Placing lath-type reinforcement: Paper­ backed wire fabric reinforcement required for structural steelwork or wide flanges shall be stretched taut over the framing and secured in place, in the manner recommended by the manufacturer of the reinforcing metal.


5) Mechanical vibration is required for all concrete mixtures and placed using the conventional equipment.

6) CONCRETE FLOOR FINISHES.—See Part S-10 of the Standard Specification. Finishes shall be as follows:

- For floors on ground, Tyco A; for floors on concrete slabs or basic floor, Class B-1½; for floors on concrete sub­ strate, Class C-2; for subgrades of architectural masonry, Class B-1½ for footings and walls; C—2 for window sills, trim and finish (not to be confused with pre­ cast stone, or "architectural masonry") shall be provided at locations shown on drawings.

- Porous fill under floors.—See Part S-2 of the Standard Specification, for materials required.

1) Workmanship: The fills shall be well com­ pacted so as to provide unsinkable support for the concrete slabs.

2) ROOF FILL.—Fill material shall consist of vermiculite concrete made by mixing port­ land cement, water and "Zonolite Stabilized Aggregate", proportioned and placed in the manner recommended by the Zonolite Com­ pany.

1) Workmanship: The roof fills shall be com­ pacted and accorded to a true surface at the levels or inclines indicated. Surfaces shall be floated smooth and true; the manufacturer of the specified roofing materials. Roof "cants" shall be provided at walls and similar vertical surfaces.

APPENDIX C.

CONCRETE CONSTRUCTION

C-01. GENERAL REQUIREMENTS

A) SCOPE OF WORK: Concrete construction necessary for the completion of the work shown on the drawings or called for in the specifications.

1) Incidental and related construction included: Concrete forms for structural steelwork, to extent indicated; roof fills: cast-in-place concrete trim.

B) GENERAL CONDITIONS OF THE CONTRACT.—See Division A.

C) STANDARD SPECIFICATION.—The Contractor's attention is directed to the accompanying data entitled "Standard Specification for Con­ crete Construction," of which this shall be a part, and to the provisions made for free cir­ culation of air within enclosure; tempera­ ture of concrete determined by use of suitable thermometers placed against the surfaces at points directed.

1) Intent: Except as may be otherwise specified herein and/or shown on the drawings, or otherwise specifically authorized, materials and workmanship for all concrete construction shall conform to the requirements of the Standard Specification.

2) Modification and/or amplification of the prov­ isions of the Standard Specification shall in­ clude the following specific and miscellaneous requirements.

C-02. SPECIFIC REQUIREMENTS


1) Grade of reinforcing bars: Intermediate.

2) Wire fabric for fireproofing: 3" x 4" mesh; 2½ sq. wires.

- NOTE-

HOME FREEZERS

By PHILIP F. HALLOCK and G. J. STOUT

PART I: PLANNING LOCATION

(Part II, on construction of custom-built equipment, will appear in a future issue.)

Home freezing of foods was given an enormous impetus during the war. This was logical because: freezing provided a simple way to hoard hard-to-get items; it is a simpler, surer method of preservation, for vegetables, than home canning; it is a superior method for storing meats, and the quality of frozen fruits is higher than that of heat-processed fruits; higher storage costs were no deterrent because people generally had money. Equipment and construction materials for storing frozen foods at home were not generally available and locker plants constituted the only important means. Now the trend is very strongly in favor of some kind of home freezing facilities.

Some of the reasons for this are: inconvenience of a home food supply located 2 to 10 or more miles away; home freezing facilities can be used for many purposes for which locker storage is not practical; locker space itself is nearly always inadequate; in many localities entire locker plant facilities are either inadequate or entirely lacking; many people can now afford the extra expense. Once considered a luxury, home freezing facilities, like mechanical refrigerators before them, are becoming a necessity.

Until now, the home freezer has not been an architect's problem, but there are indications that consideration will have to be given to freezers in a large percentage of new houses. Exceptions may be those located in strictly urban areas. It is also probable that apartment houses will be built with a locker unit in the basement for exclusive use of the tenants. The latter is a separate problem, beyond the scope of the present article.

Fig. 1. Three locations for a 40 cubic foot freezer chest in one plan: (A), preferred location for use convenience; windows may remain open for winter economy. (B), if the utility room is preferred for the laundry, the second best location for the freezer is the garage. (C), freezer may be located in boiler room to increase use convenience over "B" but at increased power cost.

Fig. 2. The utility room becomes an ideal location for the freezer chest providing the heating plant is located elsewhere.

---

2 G. J. Stout, Ph.D., Food Technologist, Pennsylvania State College, State College, Pa.
3 All drawings were prepared by Mr. Hallock. Those noted as "From Home Freezer Handbook" are reprinted with permission from that volume, published November 1946 by D. Van Nostand Co., New York, N. Y.
General recommendations are impossible without first considering the problem of freezer size. There are no set rules to follow and information published has been little more than guesses, many of which a.e. already out-of-date because freezer usage has increased so rapidly. The estimates given here are based on the writers' own experience and on personal contacts with freezer users in general, nearly all of whom have found that the equipment they were using was too small. The most serious faults with existing installations result from disregard of future developments or of expansion. In the following table, families have been classified according to their needs for freezer space.

### Cu ft freezer space per person in family

<table>
<thead>
<tr>
<th>Type of Family</th>
<th>Cu ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strictly urban, high income, apartment house tenants</td>
<td>0 — 1</td>
</tr>
<tr>
<td>Ditto, but single dwelling residents</td>
<td>1 — 2</td>
</tr>
<tr>
<td>Strictly urban, medium to low income, single dwelling, producing none of own food</td>
<td>1 — 3</td>
</tr>
<tr>
<td>Suburban, high income, non-producing</td>
<td>3 — 5</td>
</tr>
<tr>
<td>Suburban, medium income, producing part of food supply</td>
<td>5 — 8</td>
</tr>
<tr>
<td>Suburban, low income, producing part of meat supply, some fruit, nearly all vegetables</td>
<td>7 — 10</td>
</tr>
<tr>
<td>Rural families, producing most of garden and meat supplies and other products to be stored</td>
<td>10 — 15</td>
</tr>
</tbody>
</table>

Size requirements are seen to be much higher than has been assumed in the past. For example, a rural family of four persons should have not less than 40 cu ft of freezer storage. In some cases needs have been greater than those listed, particularly in instances where some commercial use was made of the freezer, as for example where fruits, vegetables, meats, or poultry have been frozen and held for later sale. At this point two factors familiar to architects must be considered: first, what kind of equipment meets the needs; and second, what are the requirements as to location?

### Not over 2 cubic feet of space needed

Many new kitchen refrigerators have a separate freezing compartment, which provides about 2 cu ft for holding one or two weeks' supply of frozen food in addition to ice cube trays. When such equipment is available, separate freezer space need not be provided. In some cases the architect will be responsible for specifying equipment for apartment houses or rental subdivisions. This type of kitchen refrigeration is the simplest solution.

### Family requires 4 to 8 cubic feet of freezer space

In this case, the kitchen may be so arranged that the additional space necessary for a small freezer can be provided. Some of the new types provide work space above; that is, they are low cabinets which fit in with the other kitchen equipment. We will very likely have available, fairly soon, combination equipment providing 5 or 6 cu ft of refrigerator space plus an equal amount of freezer storage space. These, if and when they reach the market, will solve another problem for the architect.

If a small freezer is to be located other than in the kitchen, a variety of types and shapes is available. The top-opening (or chest) type and the vertical (or cupboard) type are most important. Of these, the former is less difficult for the manufacturer to fabricate and is likely to be longer-lived and somewhat cheaper to operate. However, it requires more floor space than the vertical for the same capacity. Round or other peculiar shapes are difficult to fit into the planning scheme.

In addition to floor area requirements there are other reasons for planning freezer space in locations other than the kitchen. Inside the kitchen, the temptation is to open the freezer more frequently than is essential, which frosts the interior more quickly and is otherwise objectionable. Also, the kitchen is the warmest part of the house, which places an additional load on the machine.

### Capacity of from 10 to 30 cubic feet needed

These sizes will undoubtedly be most popular among people who produce and freeze at least part of their own home food supply. Commercial models available are similar to the 4 to 8 cu ft sizes, but because they are larger the kitchen is rarely a suitable location. Vertical models require about 0.5 sq ft of floor area per cu ft of capacity, while horizontal freezers require about 0.75 sq ft. Larger machines do not include the condensing unit in the cabinet itself; in this case some space can be saved by installing the condenser either in the basement or in a garage. Possible locations for freezers of these sizes are:

- **House basement.** This is suitable for freezer location under certain conditions. It must be well drained, with no danger of flooding. Side-hill locations are excellent. A good stair, well lighted and safe, is necessary. An outside entrance to the basement is an advantage. There must be sufficient headroom, particularly if a vertical freezer is employed.

- **Utility room.** Many modern houses, with or without basements, have a room on the first floor in which the laundry, water-heating equipment, and sometimes the furnace are located. This is generally reasonably convenient to the kitchen. The floor has to be adequately supported and built of material that will not be affected by condensation from the cabinet or oil from the motor. This room may or may not be cooler than other locations, depending on ventilation and on the type and location of heating equipment. There must be sufficient room for all the utilities.

- **Breeze-way location.** The "breeze-way," a screened-in porch-like area between the house proper and a semi-detached outbuilding such as a garage, is unheated, hence has low year-round temperatures which result in low operating costs for the freezer. The breeze-way is usually on the service side of the house, and so is convenient to the kitchen. It must have...
satisfactory floor construction and finish, and the condensing unit requires protection so that rain or snow cannot blow in on it. The freezer should probably be provided with a lock to forestall theft.

**Attached garage.** By a slight increase, either in length or width, of the garage, sufficient room may be provided for a freezer. If well ventilated, the garage has the same temperature advantages as the breeze-way. It usually has a solid floor, and the condensing unit is protected from weather. The garage is not advisable unless it is attached to the house, or is so near it can be reached by a covered walk. It should contain sufficient space so it isn't necessary to move the car in order to reach the freezer.

**Freezers larger than 30 cubic feet capacity**

Few factory-built freezers are now made in sizes larger than 30 cu ft, though more will undoubtedly become available in the future since the demand is constantly for larger sizes. Some families need 75 to 90 cu ft capacities, or even more. For such amounts two or more smaller freezers may be employed, or one large freezer can be built in place. Some clients will want space provided where the freezer can be installed at a later date. Very probably in the near future it will be part of the architect’s business to design the compartment and oversee its construction just as he now does for any other utility.

Custom-built freezers occupy from 30 to 60 or more sq ft of floor space. Smaller sizes may be only 4 x 8 ft but 4½ x 10 is more common, and 5 x 12 or 5 x 15 may well be common in the future. Locations for bulky equipment of this type are:

**Back porch.** This is probably one of the most desirable locations provided it meets certain requirements. It usually provides the lowest year-round temperatures, hence low operating cost and longer life for the equipment. Porches are generally screened in the South, often glazed in the North, and either in central localities, so the freezer is protected. They are nearly always convenient to the kitchen, and are easily enlarged if more floor area is needed. Poor floor construction must be avoided. A loaded freezer may weigh 3000 lbs or more.

**Utility room** is desirable but rarely adequate in size unless proper provision is made in the original plans. Then the advantages are similar to those outlined in the section on freezers of 10 to 30 cu ft.

**Breeze-way** may be less suitable for custom-built equipment if the space is used for outdoor living because the installation is bulky.*

**House basement.** A large percentage of machines is built here because no other suitable space is available. Precautions given about locating factory-built freezers in basements hold. However, in case of flooding, etc., built-in equipment cannot be moved. If the basement is subject to such hazards it should not be used.

**Attached garage.** The width of custom-built freezers being from 45 to 54 or more inches, a one-car garage would have to be increased about 50% in width, or 25% in length, to accommodate a freezer. Neither of these should increase total costs beyond reason. Increasing the width will provide considerable space for tools or for a workbench in addition to freezer space.

**Combination freezer and cold storage room**

A combination of this type is the ultimate development in refrigerated facilities for suburban and country homes. Indications are that these will be very common in a few years. The small cold storage room is held at a temperature of from 32° to 40° F. It is nearly as important as the freezer for families who slaughter animals for meat and grow apples, potatoes, and other bulky perishable crops for home consumption. While it would be difficult to establish definite rules as to sizes, the cold room should be of a walk-in type, about two or three times the capacity of the freezer. The larger size is necessary because access to the freezer is from the cold room, some of whose space thus becomes unusable for storage. A cold room of 150 cu ft is very nearly the minimum usable size; capacities of from 200 to 400 cu ft are most popular. These will hold from 50 to 100 or more bushels of food.

The freezer to be included in the cold room can be any one of three types. If not more than 75 cu ft of space is needed, either a chest (top-opening) or a side-opening (cupboard) freezer can be built. The former is easier to construct but is less economical of space—some people consider it less convenient. Larger freezers, for which there appears to be increasing preference, should be of walk-in type similar to the cold room itself. An entrance to the freezer through the cold room reduces operating costs and eliminates troubles due to frosting around the freezer-room door. On specialized farms, where it is necessary to freeze and hold some produce for market, a 200 to 500 cu ft freezer may be necessary.

The type of freezer included in the combination has little to do with the location of the equipment except as it affects the overall size and the use to be made of these facilities. The smallest practical size is about 9 x 10 ft by 8 ft high; larger outfits may require 200 or more sq ft of floor space. Both size and usage are important in the selection of a location.

*Editor's Note: As familiarity with home freezer equipment grows, and the ways in which it affects living habits (and hence design requirements) are appreciated, undoubtedly a designer’s approach to the problem of integrating the equipment and the house will progress and this type of problem will disappear. The author’s approach, of considering possible equipment locations by these familiar titles, seems valid under present-day circumstances.*

**Fig. 5.** Freezer room—cold storage combination used primarily in rural locations where increased freezer space is required. Freezer space shown is 273 cubic feet.

**Fig. 6.** Another freezer room—cold storage combination with a common service porch to garage and kitchen.
House basement is the location where space can be spared most readily. On the other hand, drainage problems are often serious.

Basement headroom is generally insufficient; 8 to 12 inches of insulation is required in floor and ceiling. Some space may be saved by excavating, so that floor insulation is installed below basement floor level and finish floor of storage will be even with it. This puts insulation where it is most likely to be affected by damp conditions. The basement should not be used unless there is an outside entrance nearly at ground level. Carrying bushels of produce and quarters of meat up or down a basement stair is inconvenient and may be saved by excavating, so that floor insulation is in houses. The chief objection is the additional floor space will be even with it. This puts insulation where it is most installed below basement floor level and finish floor of storage should not be used unless there is an outside entrance nearly at ground level. This puts insulation where it is most often insufficient; 8 to 12 inches of insulation is required in floor and ceiling. Some space may be saved by excavating, so that floor insulation is installed below basement floor level and finish floor of storage will be even with it. This puts insulation where it is most likely to be affected by damp conditions. The basement should not be used unless there is an outside entrance nearly at ground level. Carrying bushels of produce and quarters of meat up or down a basement stair is inconvenient and may be saved by excavating, so that floor insulation is in houses. The chief objection is the additional floor space will be even with it. This puts insulation where it is most often insufficient; 8 to 12 inches of insulation is required in floor and ceiling. Some space may be saved by excavating, so that floor insulation is installed below basement floor level and finish floor of storage will be even with it. This puts insulation where it is most likely to be affected by damp conditions. The basement should not be used unless there is an outside entrance nearly at ground level. Carrying bushels of produce and quarters of meat up or down a basement stair is inconvenient and may be saved by excavating, so that floor insulation is in houses. The chief objection is the additional floor space will be even with it. This puts insulation where it is most generally at least 10 ft, which is also convenient for the combination cooler-freezer. Garage can be lengthened 10 or more ft and storage put in the end ahead of the car, or a two-car-width garage can be built, using one side for refrigeration equipment and any extra space for tools, etc. This will provide enough space for a large storage and walk-in freezer of ample size. Garage and storage can thus be under one roof and at ground level so floor construction presents no problem. The location is ideal for a condensing unit, but ventilation should be possible in hot weather. If storage-room door is located in outside wall, it should be sheltered by an overhang of eaves or otherwise protected from weather.

Separate building or suitable out-building. If no other arrangement can be made, a separate small building can be constructed to house the cooler-freezer combination. In remodeling, an out-building, such as an old summer kitchen, can be adapted. The building should be near the house and, if possible, accessible by a covered passageway. A condensing unit may be placed outside the structure but must be sheltered and arranged so there is free air circulation over it. An outside door should be protected by overhang or porch. The building should have overall dimensions about 3 ft greater each way than the planned interior. This allows for 6" wall thickness and 12" of insulation.

Kitchen refrigerator

It is a simple matter to arrange for kitchen refrigerator facilities to operate in conjunction with storage and freezing equipment. A separate condensing unit is not required. If the rooms abut, shelves are framed into space in the wall between the kitchen and the cold room. Refrigerator doors are then used on kitchen side, screening on the other.

Refrigerators of 12 to 20 cu ft are readily provided in this way; these sizes are often desirable in country homes. Even larger sizes may be built. The freezer provides ice cubes, and a long coil of copper water tubing through the cold room, with a faucet in the kitchen, provides cold drinking water. The regular walk-in entrance to the cold room should not be from kitchen side; that is too inconvenient for bulky products. If such a close arrangement is impractical, a large separate kitchen refrigerator may be connected to the condensing unit required by other refrigeration equipment.
Air and Temperature Control


1-88. Hydro-Flo Radiant Heating (C-1146), Bell & Gossett Co. Reviewed February.


1-96. Minneapolis-Honeywell Presents the New ’47 Chromotherm, illus. folder on an automatic thermostat with electric clock for time-setting temperatures in heating systems. Minneapolis-Honeywell Regulator Co.

1-97. Panelaire, The Warm Air Panel Heating System, by H. F. Randolph, 36-p. illus. manual on calculation, design, and installation of hot air radiant heating in ceiling panels. Tables on Btu requirements, Btu heat loss for indoor-outdoor temperatures. Construction data and detailed layouts. Suggested specifications. Sheet Metal Publication Co. ($1.00 per copy—make check or money order payable to Sheet Metal Publication Co.)


1-93. “Taco-One” Venturi System (Form 471), Taco Heaters, Inc. Reviewed February.

1-98. Evaporative Condensers (Bulletin 87), 12 pp. illus. Information and specifications on a quiet cooling unit for condensing refrigerants. Selection charts. United States Air Conditioning Corp.


1-100. Steam-Pak, Facts and Figures (No. 1D-46-1), 10-p. illus. booklet. Data on steam generator unit for heating apartments, offices, stores, and for industrial process steam. High or low pressure. York-Shipley, Inc.

Doors and Windows

4-80. Hollow Metal Doors, Jambe and Trim (514-1), 7-p. illus. booklet; details of hollow metal doors, frames, designs, standard types, and construction. Specifications. Aetna Steel Products Corp.

4-79. Allsteel Structural Catalog of Builders Hardware, Allied Hardware Corp. Reviewed February.

4-79. Enter Into Beauty, Curtis Companies Service Bureau, Dept. of Curtis Companies, Inc. Reviewed February.


5-42. Steel Windows and Biltn Sub-Frames in Glass Block (No. 106), 4-p. illus. folder on steel windows used in conjunction with glass block in industrial, commercial, and public buildings. Full-size details, outside elevations, dimensions. Hope's Windows, Inc.


5-43. Revolving Doors (1946 Cat.), AIA 16-G, 18-p. illus. booklet on revolving doors for commercial and public buildings. Features electric-eye revolving door which operates automatically when infra-red beam is crossed; also safety door on which, when too crowded, wings release and doorway is cleared. Installation details, dimensions, master specifications. Revolving Door Div., International Steel Co.


Electrical Equipment and Lighting


5-54. Lighting for the Modern Restaurant, (Y-549), General Electric Co., Lamp Dept. Reviewed February. (5 cents per copy—make money order or check payable to General Electric Co.)

5-55. Colovolt Cold Cathode—Low Voltage Lighting, AIA 31-F-2 ($17), General Luminescent Corp. Reviewed February.


5-60. Lightmore Fluorescents, 16-p. illus. booklet on fluorescent lighting fixtures for commercial, industrial, and residential installation. Order numbers and prices, installation data. Lightmore Appliance Corp.

2 booklets on a fluorescent lamp holder that automatically locks fluorescent tubes in place; grips both sides of lamp pins insuring electrical contact. Installation data, order numbers, and prices. Also features fluorescent starter. Lloyd Products Co.

5-61. “Flex-Loe.”

5-62. Lloyd’s New Flexible Lamp Holder.

5-63. Fluorescent Lighting Fixtures (Cat. 286), 8-p. illus. catalog on fluorescent fixtures in 4- and 2-light units for industrial and commercial use. Brief descriptions, installation and servicing data; order numbers. Mitchell Mfg. Co.

5-64. Hazard Aluminum Building Wire (Tech. Bulletin H107, H107A), on aluminum electrical conductors, Underwriter approved, for ordinary uses. Employs Type R-H heat-resistant insulation. Cost comparable to copper, which is scarce. Tables of capacities, comparative weights; method of determining voltage drop, conductor sizes, circuit length and currents, for both copper and aluminum. Also price list (Bulletin 302-A1). The Okonite Co.

5-57. The Star (Section 5-16), F. W. Wakefield Brass Co. Reviewed February.

Finishes and Protectors

6-55. Wolmanized Lumber, 4-p. illus. folder on “a vacuum-pressure treated lumber, impregnated with an odorless, paintable, non-corrosive, non-leachable preservative for protection against wood-destroying fungi and termites.” Application data, residential construction details. American Lumber & Treating Co.

6-56. Color Harmony Manual. (Large Chip Ed.), 12 handbooks containing 680 movable color chips (with both shiny and dull surface), a work chart, removable gray scale holder, 24-p. illus. text discussing basic Ostwald principles of color order. Serves as a set of standards for gen-
eral use. Container Corp. of America. ($125.00 per copy—make check or money order payable to Container Corp. of America.)

6-87. Termite Control, loose-leaf folder on Hill Termite Sprinkler Systems. "Consists of installing a series of slotted pipes in inaccessible places, at time of construction, into which a perforated pipe is inserted annually and areas are sprayed with a toxic chemical. Installation data, specifications. Hill Termite Control Systems.

6-88. Lignophol Quick Drying, illus. folder on preservative and finish for wood floors in houses, offices, stores. One application needed, satin gloss finish said not to chip or peel. Data on application, coverage. L. Sonneborn Sons, Inc.

Insulation (Thermal, Acoustical)

9-58. ACOUSTI-BOOTH, Model 210 (Bulletin 166).
9-59. ACOUSTI-BOOTH Industrial Model 211 (Bulletin 450).

Load-Bearing Structures


12-104. Structural Details, 35-p. (11½ x 17), binder, of cut stone details. Covers spans, entrance features, window trims and sills, terraces, supports and anchors, jambs and arches, interiors, flashings, stairways, etc. Indiana Limestone Corp.


Materials of Installation
13-149. A New Idea in Metal Trims (Form 114-A), B & T Floor Co. Reviewed February.


Non-Load-Bearing Structures


14-20. Pennmetal Lath and Plastering Accessories, AIA 20-B-1, 18-p. illus. booklet on normal lath plaster base. Types available, dimensions, use; engineering data, specifications, accessories. Penn Metal Co., Inc.


Sanitary Equipment. Water Supply & Drainage


19-92. Water Supply and Booster Systems, AIA 29-D-5 (Bulletin 1500), 16-p. illus. catalog on water supply and booster systems for large commercial and industrial buildings. Data on head and capacity requirements, typical piping and pump installations, engineering data and specifications. Yeomans Brothers Co.

Specialized Equipment
19-93. Laundry Equipment for Hospitals of Every Size (D-2), 12-p. illus. booklet on hospital laundry equipment: washing machines, dryers, ironers, etc.; includes sizes, capacity, use. American Laundry Machinery Co.


19-94. Does Your Home Have A Place for Living? 22-p. illus. (10½ x 13) booklet on residential laundry equipment. Suggested plans and layouts for laundry in kitchens, pantries, breezeways, etc. Brief description of equipment needed, capacities, sizes. General Electric Co., Home Laundry Equipment Div. (10 cents per copy—make check or money order payable to General Electric Co.)

19-95. Duraline, 4-p. illus. folder on all-steel cabinets in bathrooms and kitchens. Brief description of each, order numbers, and sizes. Lennox Metal Mfg. Co.

19-56. Majestic Incinerator (Form 1-2), Majestic Co. Reviewed February.

19-57. Your Kitchen and You (Form 137), St. Charles Mfg. Co. Reviewed February. (10 cents per copy—make check or money order payable to St. Charles Mfg. Co.)

Surfacing Materials
19-96. Arketex, AIA 3-21 (Cat. S-45), 18-p. illus. booklet on ceramic, glazed structural tile and brick for interior and exterior use in store, factories, schools, etc. Sizes and colors available. Standard specifications. Also details of shapes and cuts of units for jambs, corners, etc. Arketex Ceramic Corp.


19-98. Plan With Plymetl (1d-1), 6-p. illus. folder on Plymetl (veneer or plywood core surfaced on one or both sides with sheet metal); can be used for partitions, panels, furniture, etc. Data on bending, molding, and fastening; tables of standard sizes, comparison charts. Haskelite Mfg. Co.

19-99. Architects Floor Manual, AIA 231, 64-p. illus. booklet on conditioning and maintaining all types of floors. Recommends treatment for specific problems. Specifications for each type of floor—wood, terrazzo, rubber tile, asphalt, linoleum, cork, laminate, etc. List of floor maintenance products. Midland Chemical Lab's, Inc.

Traffic Equipment


From Rotary Lift, Co. Reviewed February:

20-34. Levelators, AIA 33-Y (Cat. RE-201).

20-35. Ooldraulic Elevators, AIA 33 (Cat. RE-301).

Note: For "Technical Press" please turn to page 98. Hereafter, it will be found in the "Reviews" section.
Any type of system works better, lasts longer with REVERE COPPER

Revere Copper Water Tube, because of its smooth gun-barrel interior finish and its permanent immunity to rust, makes superior lines for heating and water service. Hot water can circulate freely at high velocity. Steam return lines stay corrosion-resistant. Hot and cold water flows unobstructed to the taps, remains rust-free and clear. Joints made with either soldered or compression fittings help further to minimize friction loss.

Revere Copper Water Tube is made for water supply, heating, air conditioning and other services in all types of buildings. The Revere name and the type, stamped on this tube at regular intervals, are your assurance of full wall thickness and the close gauge tolerances essential for tight sweated joints.

Remember, when you specify this product you are saving money for your clients, because trouble always costs more than Revere Copper Water Tube.

You can also specify such long-lived Revere materials as Red-Brass Pipe; Sheet Copper for tanks, ducts, pans and trays; Dryseal Copper Refrigeration Tube (dehydrated and sealed); Copper oil burner, heat control and capillary tubes... and, of course, Sheet Copper for roofing, flashing and other sheet metal construction.

Revere materials are handled by Revere Distributors in all parts of the country. The Revere Technical Advisory Service, Architectural, is always ready to serve you.

Revere Copper and Brass Incorporated
Founded by Paul Revere in 1801
230 Park Avenue, New York 17, New York
Sales Offices in Principal Cities, Distributors Everywhere.
Here's a suggestion for a low-cost house with a wide awake, down-to-earth look about it! This ad appears in full color in the Saturday Evening Post and is another in the Gold Bond series, now in its second year. Stresses the use of Gold Bond Building Materials, sure, but it also plays up the Pride of Home Ownership angle and really does a job for the whole building industry. Thousands of folks will write us for plans of this home and the answer will be, "See your local architect!" National Gypsum Co., Buffalo 2, N.Y.

You'll build or remodel better with Gold Bond

You can start building sooner if you start planning now. See your local Gold Bond Dealer!

Wonder how many Post readers feel the way I do?

"Someday we're going to have our house, Bill and I. With grass around it, and the blue bowl of the sky over it, and a tree of our own to bear a couple of
carvings on if we want to. We're saving, and planning,
and each day brings us closer to moving in."

The house you will build will be a "wonder
house" too. For, since Dad built, modern science
has taken a hand in new construction materials
and methods. Oyster walls, for example, now add
greater strength and fireproofing when Gold Bond
form sealed gypsum sheathing supplies the base
for outside finish. Inside walls and ceilings will
give years of trouble-free service when they're made
of Gold Bond fireproof gypsum lath and plaster.

Heating costs are reduced as much as 40% in
new and old houses with fireproof high-efficiency
Gold Bond Rock Wool insulation. And summer
comfort is doubled.

You can plan on these scientific building
improvements and many more to give you a house
that is better in every respect than any that has
been built before. A house that will serve for
many long and happy years with the least amount
of repair and upkeep expense.

There are over 150 research produced Gold Bond
products that cost no more to specify and use than
ordinary building materials. Each of them is engi-
neered to do a specific job better. If you want Gold
Bond results, be sure to speak to your architect
and builder about using Gold Bond products!

Today our entire production can't keep up with
demand. But just the same our more than 10,000
Gold Bond lumber and building material dealers
are doing their best, helping veterans to get housed,
helping their customers in every way they can. See
your Gold Bond dealer first whether you plan to
build or remodel. He can help you get what you
want, and get it better. Not always right away but to-
morrow sure! National Gypsum Co., Buffalo 2, N.Y.

Over 150 tried Gold Bond Building Products for new construction or remodeling add greater permanency, beauty and fire protection. These include wallboard, lath, plaster, lime, sheathing, wall paint, insulation, metal and sound control products.
For quick, low-cost installation, freedom from stain, and reduced maintenance, include Alcoa Aluminum Window Sills and Thresholds in the buildings you are designing for future construction.

Years of trouble-free service in hundreds of commercial and industrial buildings in every part of the country have proved their value.

The Alcoa booklet illustrated (A.I.A. File No. 14-B) will give you detailed information. For additional copies write to ALUMINUM COMPANY OF AMERICA, 1868 Gulf Building, Pittsburgh 19, Pa.
"Made of asbestos, each ply is a flexible covering of stone"

BUILT-UP with asbestos felts which are fireproof, rotproof, and weatherproof, Johns-Manville Flexstone Roofs offer the most enduring and reliable protection for your buildings.

Flexstone Roofs are smooth-surfaced, permitting quick and thorough roof drainage. They won’t dry out from the sun... require no periodic coating. Upkeep expense is minimized, as actual roof can be seen—any damage is easily found and repaired.

All Johns-Manville Flexstone Roofs are engineered to the particular requirements of your building—whether it’s new construction or a re-roofing project. To insure skilled application, they are applied by Johns-Manville Approved Roofers.

Three grades are available: Flexstone Super “A”, Flexstone Standard, and Flexstone Service—each the finest that can be specified for its purpose. Write for our brochure BU-51A. Johns-Manville, Box 290, New York 16, N. Y.

Because of unprecedented demand, there may be times when we cannot make immediate delivery of materials. Please anticipate your needs.
first impressions are lasting

The entrance door should create a first impression of friendliness and hospitality . . . expressed in its fine architectural detail and rich, graceful hardware.

Lockwood Entrance Door Handle Sets, in enduring brass and bronze, offer a wide range of choice in authentic design with quality and workmanship insuring lasting security.

Other handles and Lockwood designs are shown in Sweet's Architectural Catalog 1946, Section 17b1. Reprint on request.

LOCKWOOD HARDWARE MANUFACTURING COMPANY
Division of Independent Lock Company • Fitchburg, Massachusetts
Now... a home completely

Greater construction efficiency and year-round comfort made possible by Servel All-Year Gas Air Conditioning

When Howard M. Sloan commissioned architect David S. Barrow to design his new home, he was particularly anxious to maintain an ideal indoor climate the year round.

After careful investigation of every available type of residential air conditioning, Mr. Sloan and Mr. Barrow finally chose the Servel All-Year Gas Air Conditioner. This equipment alone, they discovered, would permit them to build a completely
sealed!

sealed home. One compact unit, it not only provides an ideal indoor climate in summer, but winter heating and humidification as well. And draft-free circulation of cleaned air the year round, too.

Achieving year-round freedom from oppressive weather did not add to the cost of the house. For, Mr. Sloan states, "The use of fixed windows and the elimination of window screens, window hardware, weather stripping, a screened porch, and other economies in design and construction made possible by the Servel All-Year Gas Air Conditioner actually made it cost little, if any, more than an ordinary heating system!"

The Sloan house is one of the first specifically designed and built to take full advantage of the "new quality of living" made possible by Servel All-Year Gas Air Conditioning. Whether or not you plan to build a sealed house, it points the way to greater livability which you can design into any home—without appreciably increasing the cost. For full information about Servel All-Year Gas Air Conditioning get in touch with your local Gas Company, or write to Servel, Inc., 4703 Morton Ave., Evansville 20, Indiana.

LIVING ROOM of Sloan's new home in Glenview, Ill., features indoor-outdoor living with three panes of glass, each seven feet high by nine feet wide, opening on rear terrace.

IN ADDITION to Servel All-Year Gas Air Conditioning and Servel Gas Water Heater, shown above, the Sloan house contains Servel-designed New Freedom Gas Kitchen and Servel Gas Refrigerator.

TRIED ... PROVED ... SUCCESSFUL
From Boston to San Diego
... From Bismarck to Miami

The All-Year Gas Air Conditioner is already operating successfully in hundreds of installations from coast to coast... some for more than four years. It is tried, tested and approved by users everywhere.
MUCH DEPENDS ON THESE DEVICES

Of prime importance in a school, theater, auditorium, church, or industrial building is the safety of the occupants. Without it, beauty and comfort and convenience become valueless.

A vital part of a building's safety is safe exit—the positive assurance that the occupants can get out quickly and easily, no matter what the emergency.

That is a problem which can be settled easily, simply, and at surprisingly low cost. It is merely a matter of insisting that every exit door be equipped with the world's top quality fire and panic exit devices . . . the fast, sure, safe devices of drop-forged bronze which carry the name

Von Duprin

VON DUPRIN DIVISION, VONNEGUT HARDWARE CO., INDIANAPOLIS, IND.
HARDLY A GHOST OF A CHANCE FOR Wind TO GET THROUGH NEW SELF-FITTING SILENTTITE

Wind infiltration—that fuel-eating destroyer of comfort—has hardly a ghost of a chance to get through the new self-fitting Silentite window.

Thanks to scientific engineering, the new Silentite has "floating" weather-stripping. The wood sliding bars, which are seated on full-length bronze weather-strips, press tightly against moving parts of window and keep each in firm contact with the sash, regardless of its position.

Here are some additional reasons why you'll want to specify CURTIS SILENTITE!

* Silentite is a Wood Window—and wood is a natural non-conductor of heat and cold. It is toxic-treated to give it longer life.

* Amazingly easy operation—famous Silentite spring suspension. No weights, cords or pulleys to get out of order.

* New locking safety—new self-fitting Silentite locks in two positions. Window can be left open 6 inches for ventilation and yet be securely locked.

* Easy installation—sash put in with minimum effort. Windows accurately pre-fitted at factory—no fitting required on job.

At the head, a spring leaf is compressed by the top rail when the sash is closed, providing a weather-tight fit. At the meeting rails, interlocking weather-strip members solve an age-old problem. At the sills, another spring leaf weather-strip foils infiltration.

No wonder this new Curtis self-fitting Silentite is 20% more weather-tight even than the original Silentite—which was America's first "insulated" window!

MAIL THE COUPON FOR COMPLETE FACTS ABOUT THIS AMAZING WINDOW IMPROVEMENT

Curtis Woodwork

Silentite

The Insulated Window

CURTIS COMPANIES SERVICE BUREAU
PA-38 Curtis Building
Clinton, Iowa

Gentlemen: Please send me your new book on the new Silentite Window line.

Name:
Address:
City: State:

MARCH, 1947 97
REVIEWS

From the TECHNICAL PRESS

STORE LIGHTING

Functional Store Lighting Development and Application, No. 28. Frederic C. Winkler. A Field Survey of the Practitioners

The first of these papers analyzes present-day luminaires on the basis of specific store requirements and proposes a fluorescent-incandescent design especially for store use: fluorescent direct general illumination with luminous side panels and egg-crate louvers to control brightness contrast, combined with swiveling spotlight incandescent units for "emphasis lighting."

The second paper is a much richer general study of lighting from the merchandising point of view: 1) What do customers look for? 2) What does the merchandise look like? 3) How does the interior look? 4) What related factors affect lighting design? 5) What are the elements of a store lighting system?" 1) From the customers' point of view, "impulse items" (for quick sale) require "punch lighting"; "utility items" (comprising the great variety of merchandise to satisfy everyday needs) require the most natural appearance; while "exclusive items" require a carefully planned atmosphere to enhance their value and appeal. Lighting systems must be designed for great flexibility to allow for changing layouts of departments.

2) "Quality of lighting" must be understood to be a guide. 3) Interiors should employ "non-directional" fixture layouts. Lines of fixtures across traffic lanes are preferred. "Brightness analysis" of display areas as seen by the customer are useful to emphasize the three-dimensional nature of store lighting.

4) Layouts of lighting equipment are controlled by the structure while interior color schemes must have much to do with "atmosphere" in the merchandising setting. Flexibility in lighting effect is the universal demand in department store lighting.

5) The store lighting system must have general illumination, accent lighting, showcase illumination, and wall display lighting to meet today's merchandising demands.

In conclusion, store lighting is primarily a display tool. "Countertop foot-candles" supplemented by "accent lighting" can (in intelligent hands) give the quality of illumination required for the best display of the various types of merchandise.


"Light and Sales" answers the question, "How much can I afford to spend on re-lighting?" This article analyzes in detail a medium sized retail store. General lighting is both fluorescent and incandescent (recessed ceiling fixtures), taking advantage of the qualities of each. Counter case lighting and spotlighting plus perimeter lighting for goods in wall cases complete the lighting environment. Photographs show the effect of each lighting element and various combinations as well as full lighting.

SCHOOL LIGHTING


Aiming at "ideal visual environments in classrooms" the author goes several steps further than the mechanical concept of "amount of illumination" (footcandles at the working level). More important for quality of lighting are "brightness ratios," especially between the visual task and its immediate surroundings and between light sources and their backgrounds. Illuminating studies have been more concerned with analysis of separate categories of data than with the entire visual environment.

The author reports an attempt to realize these ideals in studies made with two nearly identical rooms in the University Park School, Dallas, Texas. One room was unchanged, the other was rearranged and redecorated. In the latter, seats were placed in arcs so that no student has a window within 50 degrees of his normal line of sight. Direct sun was blocked by muslin diffusers placed in front of the upper half of the windows and by opaque ventilating baffles at the sills. With lighter ceiling and walls, including the backboard (and scrubbed floors), the improved room meets nearly all the ideals under daylight conditions. (In new construction prism glass block in the upper half of the window would serve better than the diffusers to direct incoming light to the ceiling.)

Having achieved satisfactory results with natural light, the artificial lighting is not so serious a problem. With six 500-watt incandescent plastic bowl luminous indirect units the lighting comes close to accomplishing the ideals.

The changes made to improve the visual environment are simple and, except for possible rewiring, are inexpensive and could be absorbed in regular maintenance budgets.


This article is a more general discussion of the relationship between visual surroundings and classroom work illustrated by the same studies as "Integrated Lighting for Classrooms" reported above. Functional response to environment is emphasized, particularly the effects of disturbing contrasts in the field of view. The discussion is pertinent to all similar visual work except perhaps that satisfactory results with natural light are not so generally obtainable outside of schools.

(Continued on page 100)
PC GLASS BLOCKS are manufactured in 6", 8" and 12" sizes, which are Standard Coordinated Dimensions. And you know what important savings in time and money accrue—from preliminary planning to final construction—when you use modular products.

This is just one of the reasons why PC Glass Blocks have been so widely specified for light openings in outer walls and for interior partitions. For PC Glass Blocks also transmit daylight generously. They provide excellent insulation. They deaden outside noises, preserve privacy, and are exceptionally attractive in appearance wherever used.

Send for this Free Book
We have recently published a 36-page book in which the many and varied uses of PC Glass Blocks are described and illustrated. The book also contains many detail drawings—such as the one shown here. We shall be glad to send you a free copy. Just mail the convenient coupon to Pittsburgh Corning Corporation, Room 612, 632 Duquesne Way, Pittsburgh 22, Pennsylvania.

- Also makers of PC Foamglas Insulation -

Pittsburgh Corning Corporation
Room 612, 632 Duquesne Way
Please send along my free copy of your new book on the use of PC Glass Blocks for Commercial Buildings. It is understood that I incur no obligation.

Name: ____________________________________________
Address: __________________________________________
City: _____________________________________________ State: ____________________

MARCH, 1947 99
REVIEWS
(Continued from page 98)


Emphasis in this article is entirely on artificial lighting (of course). Excellent illustrations are given of various installations which show especially the value of light finishes for woodwork and luminous fixtures (to reduce brightness contrasts).

Detailed cost analysis tables are given for various systems, both incandescent and fluorescent, for new classrooms and for relighting existing classrooms.

FROM OTHER PUBLICATIONS


The four basic types (air-to-air, air-to-liquid, water-to-water, water-to-air) are diagrammed and discussed in the first article by E. R. Ambrose, Air Conditioning Engineer, American Gas and Electric Service Corp., New York, N. Y.

Economic possibilities are explored in the second article by E. N. Kemler, Southern Research Institute, Birmingham, Ala.

The remaining articles describe the Marvair Unit (water-to-air) produced by Muncie Gear Works, and the Airtopia Unit (air-to-air) by Airtopia Distributors, Los Angeles, Calif.


The New York Chapter, A.I.A., is benefiting from the investigations by its technical committee under the chairmanship of Harold R. Sleeper. Meetings have been addressed by representatives of industry on hardware (standardization of installation), thin setting materials (for tiling, flooring, attachment of accessories, etc.), precast concrete floor construction (Flexicore, a unit slab or beam 6 inches deep), and other subjects.


Greater knowledge and improved techniques of welding developed by extensive uses are being capitalized in design and construction of structural frames of buildings.

Main columns of the same section were butted directly together and connected by simple splice plates on the outside of the flanges. For connections between columns of varying sections a ¾ inch butt plate was welded between the sections. Eccentric floor beam connections at columns permitted utility piping to be carried upon column lines. A force of 10 men kept abreast of the erection. (26 would be required for a riveted job.)

PAMPHLETS, REPORTS

Hardware For the Home. Small Homes Council, University of Illinois Bulletin, Urbana, Ill. 8 pp., illus.

This pamphlet covers door hardware especially, with illustrations of various installations and types.

The Mahogany Book. Mahogany Association, Inc., 75 E. Wacker Drive, Chicago, Ill. 72 pp., 7” x 10”, illus.

This booklet tells the history of mahogany, its characteristics and uses. Though a trifle reluctant about very light finishes it is commendably insistent on “leaving the wood alone”—on finishes for bringing out the natural colors.

BOOKS


A collection of rules governing the installation and, to a certain extent, the use of electrical equipment. Uniform with the other volumes of the National Fire Codes. (Continued on page 102)
This front of L-O-F Polished Plate Glass says "welcome" in clear, bright tones. The view of the interior creates an impression of pleasant efficiency.

Count on this modern business to use up-to-date architectural treatment in its new Chicago ticket office.

Designed by Architects Skidmore, Owings & Merrill of Chicago for Trans World Airline, this beautiful "store" uses glass to let people see in—to invite them in. Its pleasant atmosphere owes much to intelligent use of glass. It is another example of a Visual Front—the "open" type front that puts more appeal, more zest and more selling power into business places. Libbey-Owens-Ford Glass Co., 7137 Nicholas Bldg., Toledo 3, Ohio.

A This stairway is smart in more than appearance. The transparent panels of glass are L-O-F Tuf-flex—plate glass that is tempered for greater resistance to impact.

B Light from the "egg crate" ceiling streams through diffusing panels of Flutex Patterned Glass. Note how the fixtures extend through the front to provide a lighted marquee.

REVIEWS
(Continued from page 100)

HARMONIC'S PLANNING
Georgian London. John Summerson. Charles Scribner's Sons, 597 Fifth Ave., New York, N. Y., 1946. 315 pp., illus. $5.00

John Summerson, the curator of the Soane Museum and the most scholarly of recent English architectural historians, has performed in Georgian London an extraordinary task. He has given us the biography of the outward form of the world's largest city during its most important formative years. He has shown the forces that engendered its growth—the parts played by the court, by great nobles, by land speculators, by architects—so that one realizes not only the changes in appearance, both general and in detail, which the centuries brought, but also much of the causes which lay behind those changes. He gives us the teleology of the form. In the course of his fascinating analysis, he brings alive many important and forgotten or misunderstood individuals—the astonishing seventeenth-century Barbon, real estate speculator, architect, financier; James Burton, brilliant Bloomsbury builder-architect; John Nash, intriguer, courtier, diplomat, but above all a commanding genius in creative large-scale conceptions; and behind so much of the later work the gross figure of the Regent, later George IV, who is here rescued from some of the obloquy which later ages have lavished on him and is seen as the great driving force behind the improvement of London—a builder, a planner, more than a king.

The whole story is set out with perfect clarity in text, line drawing, and carefully selected half-tones. All are presented with an exquisite economy of choice; where the material is so vast in amount, this economy can only be the result of a deep and thorough digesting of the material and of a firm knowledge of what the author wished to convey. An appendix lists a selection of remaining important buildings and streets. The whole book forms a superb introduction, unique in its approach, to the study of the history of town architecture.

There are lessons galore for us in the London story. One lies in the enormous advantages for coherent and harmonious development which arise from the development of large areas under leasehold. Another is the necessity for the kind of large-scale thinking which lay behind Nash's design for Regent's Park and Regent Street, as well as the fact that its quality derived from the simultaneous design of the street and park layout and the structures which bordered it.

One wishes that other authors here in the United States might essay similar histories of our own cities. But only years of patient study in each case could assemble the salient material which Summerson has for the city of London so completely under his command. This is an excellent and readable book; it is a milestone because of its comprehensive and discriminating approach.

TALBOT HAMLIN

REGARDING OUR CITIES

Apparently it is now the vogue to talk glibly of "organic decentralization," "ribbon cities," and "a foot on the soil." All the evils of modern society are ascribed to the cities; the benefits resulting from our urban civilization are glossed over and the remedy is a half-baked proposal to disintegrate ourselves along our major highways and byways in units of some 5,000 to 20,000 souls. This symposium, written by twelve supposedly intelligent citizens, each a top specialist in his own field, is one of the worst bits of tomfoolery ever launched on a gullible public. Filled with engaging catchphrases, it attempts to convince Mr. Average Man that he has a good chance of landing in an asylum, going out on a lost weekend, or losing his reproductive powers if he remains a city dweller.

(Continued on page 104)
Right in Design and Engineering...

The EMPIRE Gas Boiler has all the features essential to perfect performance, including patented pin type cast iron sections—the most effective type of cast iron heat absorbing surface; water filled sections entirely surrounding the combustion chamber to permit locating boiler on same floor as water radiators; and sections joined with gas-tight, metal-to-metal fit to assure maximum combustion efficiency.

Right in Style and Quality...

The NEO-ANGLE Bath in this attractive room is approximately four feet square, yet it provides roomier bathing space than most baths. Two integral seats and broader, flatter bottom bring new convenience, comfort and safety to bathing. The harmonizing COMPANION Lavatory and the MASTER ONE-PIECE Closet are of genuine vitreous china. All three pieces available in white and choice of many colors. Unique details of this bathroom are described and illustrated in your copy of the American-Standard Room of the Month Ideas folder for March.

AMERICAN-Standard

You can put American-Standard Heating Equipment and Plumbing Fixtures in your plans with assurance that they will be right. Right in design...in size...in style...and in quality. And you can be sure of client satisfaction. For these performance-proved and widely advertised products enjoy a public acceptance second to none! Yet, American-Standard products cost no more than others...and they're available for your modernization jobs on a convenient Time Payment Plan. For details, see your Heating and Plumbing Contractor. American Radiator & Standard Sanitary Corporation, P. O. Box 1226, Pittsburgh 30, Pennsylvania.

LOOK FOR THIS MARK OF MERIT—It identifies the world's largest line of Heating and Plumbing Products for every use...including Boilers, Warm Air Furnaces, Winter Air Conditioners, Water Heaters, for all fuels—Radiators, Convector, Enclosures—Gas and Oil Burners—Heating Accessories—Bathtubs, Water Closets, Lavatories, Kitchen Sinks, Laundry Trays, Brass Trim—and specialized products for Hospitals, Hotels, Schools, Ships, and Railroads.
Just as a projectionist uses a white screen...

Concrete craftsmen choose White Cement

The brilliant overtones of a Technicolor movie are brought out best against the white background of a motion picture screen. A darker screen would dull the colors. So, too, a matrix of Atlas White Cement sets off better the color values of pigments and aggregates in Terrazzo, Stucco, Cement Paint and Architectural Concrete Slabs. Such a matrix — rather than a darker one — gives the selected colors, in contrast or blend, a uniform clarity — a life-like sparkle.

In addition, Atlas White, a true portland cement, provides protection against moisture and the wear of weather. Simple cleansing suffices. Maintenance costs are low.

For further information, write the Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Building, New York 17, N. Y.

FOR BEAUTY AND UTILITY

ATLAS WHITE CEMENT

FOR TERRAZZO, PAINT, SLABS, STUCCO

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

REVIEWS

(Continued from page 102)

Mr. Peterson asks: "Empires and commonwealths are born of farms. Must they die of cities?" His statement is so patently erroneous it seems hardly necessary to point out that villages and towns may be born of farms, yes, but certainly not empires. The Roman Empire indeed illustrates the very opposite, having achieved its zenith after Rome had become the largest city of its day and mother to the key (and sizable) cities scattered throughout its domain; its dissolution coincided with the retreat of the gentry to their country estates.

Throughout, the "homestead" or "one foot on the soil" movement is cited as the means by which the American worker can achieve security and a higher living standard. Catherine Bauer in Modern Housing expressed fears about the consequences of an American homestead movement and it seems equally suspect now. When Louis Bromfield quotes Henry Ford as "one of the first to understand the perils and disadvantages of huge industrial-urban concentrations," and comments on how the establishment of factories in small towns and agricultural areas, among its other advantages, made for "a good deal less trouble from strikes and labor disputes," we begin to understand one force behind this decentralization surge. Coupled with this is the unstated fact that cities have always been the seat of liberal movements, incubators for reform. Even Lewis Mumford, who throughout is referred to as a "decentralizationist," points out in his latest book, Values for Survival, that were Germany to be reduced to an agricultural nation, it "would be more primitive in its mentality and more reactionary; for whatever opposition to Germanism existed in the past, came from the radical industrial workers of the big cities, not excluding Berlin." Instead of homesteads, how about giving city workers more social security and higher wages? Mr. Peterson and his contributors have no answer to this.

The sad part is that in jumping so completely overboard on decentralization the authors ignore the positive, constructive role a limited decentralization movement could play. Many sound points might have been made to further their plea. There is need for a more equitable distribution of the nation's industry, and the findings of the McCarran Committee (see the Senate Hearings on Industrialization Centralization and the Graphic Guide to Decentralization) are part of the answer. Furthermore, if the distinction had been made between dispersion and decentralization, as the British are trying to do, the problem of super-metropolitanism could be approached more sensibly. The plans for the London area propose the decentralization of over a million in popula.
Planning apartments with anything but metal casements is unthinkable today. For adaptation to modern design, for low maintenance, for better ventilation, they stand alone.

For your copy of the Mesker Book of Apartment Windows, write to Mesker Brothers, 4340 Geraldine Ave., St. Louis 15, Mo.
tion, which surplus, instead of being turned loose in ribbon cities along the countryside, is to be located in self contained satellite offshoots of the mother city. The British also are thinking in terms of a more rational distribution of the industrial population (witness the Barlow Evidence and Report and the Distribution of Industry legislation) and they plan to relieve excess congestion by controls over business licensing, the establishment of trading estates, and the building of new satellite towns.

Peterson et al are also completely unrealistic. They proudly state that their book is "not concerned with the building of more cities, nor with the salvaging of those that have grown without plan or with plans that came too late . . . ." What about the dollars-and-cents aspect of scrapping existing urban centers (even if we thought it desirable, which is highly questionable)? Communist Russia, which does not work on our bookkeeping system, found it definitely uneconomical to scrap her existing cities and build anew along more rational lines. The Soviet Union has retained its existing cities but have placed maximum population limits on the largest ones, and have established a range of from 50,000 to 500,000 persons as desirable urban size.

The evils of the big cities—stress and strain, crowded unpleasant environment with the concomitant mental disease, lowered birth rate, and general instability—are not irremedial. If upper population limits were clamped on our cities, if urban redevelopment laws were given teeth, if cities were replanned from the living unit on up to provide every family with sufficient space and amenity (and it can be done—the room is there, but we have failed to organize it properly), there would be no need for this talk about cities being abnormal.

Hilberseimer, Wright, and Saarinen, here quoted as the arch proponents of these ribbon cities, have never concerned themselves sufficiently with the economic and political aspects of their civic design schemes. If, as the authors patly claim, "The idea obviously is . . . to eliminate the cities as centers . . . ." there are few in the social sciences who could take their suggestions seriously. To include Lewis Mumford with this group indicates misunderstanding of his criticisms. He may object to megalopolis (and rightfully so) but far from urging the elimination of cities as centers, he sees the cities rebuilt on a neighborhood scale and planned humanely and for human needs.

It is not the cities but the contributors to this symposium who are abnormal. They have obviously failed to grasp the impossibility, and undesirability, of a de-urbanized civilization.

RITA DAVIDSON
(Continued on page 108)
The homes shown below were designed by eight well-known architects, and built on the Ingersoll site at Kalamazoo. Every home contains an Ingersoll Utility Unit.

Conceived BY ARCHITECTS...

Designed BY ARCHITECTS...

Job-tested BY ARCHITECTS!

The Ingersoll Utility Unit was conceived by a well-known architect; it was produced in collaboration with architects; it was job tested in homes specially planned by the architects shown below. These homes differ widely in design. They have been “lived in” for over a year, the units installed have been practical and efficient.

The architects who designed these homes were particularly impressed with the extra cubage this unit afforded them. All plumbing, electrical lines, heating and other utilities were covered in one specification. And the compactness and simplicity of the Ingersoll Utility Unit enabled them to give these homes (shown below) more living space for less money.

You’ll want to incorporate the Ingersoll Utility Unit in your plans for small and medium-sized homes or multiple-unit dwellings. An attractive brochure, giving specifications and details is available. Mail the coupon today.

INGERSOLL STEEL DIVISION
Borg-Warner Corp., Chicago

INGERSOLL STEEL DIVISION
Borg-Warner Corp., Dept. 13
310 S. Michigan Ave., Chicago 4, Ill.

Please send me the illustrated brochure about the Ingersoll Utility Unit.

Name: ____________________________

Firm: ______________________________

Address: ___________________________

City: __________________ State: _______
TRACING CLOTH
for HARD PENCILS

Imperial Pencil Tracing Cloth has the same superbly uniform cloth foundation and transparency as the world famous Imperial Tracing Cloth. But it is distinguished by its special dull drawing surface, on which hard pencils can be used, giving clean, sharp, opaque, non-smudging lines. Erasures are made easily, without damage. It gives sharp, contrasting prints of the finest lines. It resists the effects of time and wear, and does not become brittle or opaque. Imperial Pencil Tracing Cloth is right for ink drawings as well.

IMPERIAL PENCIL TRACING CLOTH
SOLD BY LEADING STATIONERY AND DRAWING MATERIAL DEALERS EVERYWHERE.

REVIEW

(Continued from page 106)

READILY ADAPTABLE

Sunset Western Ranch Houses. The Editorial Staff of Sunset Magazine in collaboration with Cliff May. Lane Publishing Co., 576 Sacramento St., San Francisco, Calif., 1946. 160 pp., illus. $3.00

The old western ranch house form is now generally accepted as especially adapted to the application of modern design principles without distortion of its basic nature. The inherent simplicity of the form, its directness, honest beauty, and freedom of plan are exemplified by most of the plans, sketches, and photographs of this book. These were assembled by the editorial staff of the western magazine, Sunset, and include work of some of the best western architects.

This collection significantly demonstrates the endless possibility of plan arrangement with the ranch type of house. The better designs make no attempt to re-create the sentimental atmosphere of the romantic past but show a straightforward adaptation of the ranch house form to modern living habits and practices. The ranch house style with its spaciousness, corredors, and patios is, of course, indigenous to the West and Southwest and admirably suitable for these regions; its unmodified use elsewhere might not be so easily justified.

The numerous pencil illustrations are examples of good rendering technique and the plans and photographs are well reproduced. In summary, the book is sound, practical—and of particular interest to western home builders.

LAWRENCE E. MAWN

QUESTIONS UNANSWERED


It is anything but astonishing that such a book as Muebles de Estilo Ingles should emerge from Spain at this time of all others in history. The bookshops are full of books on the subject of English furniture of all previous styles. That a Spaniard would go to the trouble Sr. Rubira has obviously taken to compile his book is hard to understand, other than as propaganda aimed for England—a "dove of peace" gesture.

It is regrettable that the same energy, time, and trouble had not been spent compiling a volume on modern Spain, about which we know too little. Is there a new furniture style emerging? What are the materials available for export? What are the materials available for export? What are the laws governing export and import of material for buildings and their

(Continued on page 110)

No small maintenance job! More than 70,000 square feet of roof on this generating plant, one of many big structures protected and maintained with

ABESTO
Roof Adhesives and Coating Materials

Check these features!

✓ Retains elastic surface when cured.
✓ Can be used with any standard brand roll roofing, bonding layers tightly and smoothly.
✓ Is highly resistant to oxidation.

Specify Abesto for new built-up construction . . . for roof maintenance

ABESTO MFG. CORP.
Dept. 24 Michigan City, Indiana
"Here's Your Proof in BLACK and WHITE!"

TURQUOISE LINES REPRODUCE SHARPLY

Take a good look at any black-and-white print (or blueprint) made direct from a TURQUOISE pencil tracing, and believe your own eyes.

EVERY DETAIL IS DISTINCT, for the *Electronic graphite is refined down to particle sizes of 1/25,000" to deposit knife-edge lines of extreme opacity!

EVERY LINE IS UNIFORM, because each degree of TURQUOISE is made from its own separate formula of graphite and clay. Wax is added for smoothness alone... never to change the grading.

Then try a TURQUOISE at your drafting board, and believe your own hand.

THE POINT IS STRONGER, because Eagle's patented super bonding process welds lead to wood for extra resistance to breakage.

THE LEAD IS SMOOTHER, for TURQUOISE leads are steeped in rare waxes until every particle of graphite glides on its own film of lubricant.

For a Free Sample, just write to Ernest Eagle, naming this magazine, your pencil dealer, and the degree you wish to try.


EAGLE PENCIL COMPANY, 703 E. 13th St., New York 9, N.Y.
EAGLE PENCIL COMPANY OF CANADA, LTD., TORONTO

MARCH, 1947 109
Nylons have to get to sales on time. Speed counts. And the speed of Air Express delivers 'em pronto.

Great Britain's reconstruction needed blue prints quickly. International Air Express saved days in their delivery.

Transcribed radio programs can't be late! Speed counts—and that's why radio people use Air Express regularly.

You're in a business where speed counts, and Air Express can serve you well. Today, more and bigger planes are carrying your Air Express shipments at speeds up to five miles a minute. Rates are low. For example: to Air Express a 17-lb. shipment 1149 miles costs $5.74. Heavier weights similarly inexpensive. Investigate!

• Special pick-up and delivery at no extra cost.
• Direct by air to and from principal U. S. towns and cities.
• Air-rail between 23,000 off-airline communities.

Write today for Rate Schedules containing helpful shipping aids. Address Air Express Division, Railway Express Agency, 230 Park Avenue, New York 17. Or ask at any Airl ine or Railway Express office. Air Express Division, Railway Express Agency, representing the Airlines of the United States.

REVIEW

(Continued from page 108)

possible contents? Such a work would be of interest to us here.

I'm afraid those who want to know about English furniture will find better reference books in ample supply. Nor are the drawings included in this book accurately proportioned, which gives a clumsy appearance to the graceful English furniture they mean to portray.

DAN COOPER

INFORMATIVE DISCUSSIONS

Furniture For Your Home. Gladys Miller. M. Barrows & Co., Inc., 114 E. 32 St., New York, N. Y., 1946. 290 pp., illus. $3.50

In contrast with many recent books on home design and decoration, this work contains liberal amounts of sound information on home backgrounds appropriate for modern living. Its pages also offer interesting, informative discussion of the uses and possibilities of various woods, of furniture design and construction, and of color, texture, pattern, form, and line in decoration. A comprehensive glossary of terms commonly used in reference to furniture, furnishings, and fabrics is given.

While much of the material presented is familiar to most architect-readers, the manner and style of presentation invite reading. After a survey of furniture styles which have lived to be reproduced, the text generally favors modern design, and without taking an all-exclusive stand on its side adequately presents the case for functional modern design. Many of the photographic illustrations, however, and most of the pen sketches pictorializing the traditional styles of the past are out of harmony with the modern spirit.

More careful proofreading would have prevented such minor inaccuracies as the persistent misspelling of the name of Marcel Breuer, the use of "abolescence" for "obsolescence."


This is essentially another preceptive book on home decoration. Do's and don'ts are arranged in parallel columns to make up a great part of the text. The information is specific, generous; sound or unsound, it touches most of the facets of home decoration. The range of text and photographs is kept broad enough to allow appeal to readers of many tastes, but some of the arrangements illustrated have little esthetic merit. Advertising releases from merchandising and manufacturing sources furnish most of them; some are from motion picture studios. The result is a heterogeneous collection lacking in consistency and discrimination.

LAWRENCE E. MAWN
DON'T WASTE THE ROOF!

No waiting for some time in the dim future—full utilization of those valuable roof areas is possible and practicable today! Now you can plan hospitals with outdoor decks for convalescents, apartment houses with gardened roofs, department stores with recreational roofs for employees, and factory roofs with husky concrete surfaces for traffic and storage.

The old hampering difficulties that prevented ideal use of roof space need no longer stand in the way. Specifications for these new developments are available to you now. As worked out by Ruberoid engineers, these new roof developments are tested and thoroughly feasible. For full details get in touch with your local Ruberoid Approved Roofer—there's one located in every part of the country. Backed by Ruberoid's years of experience and complete line of materials he can give practical, unbiased help on your roof problems!

The RIGHT roof for any job—from one source!

Remember that Ruberoid makes every type of built-up roof—Smooth Surfaced Asbestos, Coal Tar Pitch with gravel or slag surfacing, or smooth or gravel-and-slag surfaced Asphalt—in specifications to meet any need. Hence a Ruberoid Approved Roofer is not prejudiced in favor of any one type. His services assure you of one source for all materials, centralized responsibility, smoother operation, uniform quality!

"ROOFS OF THE FUTURE"—AVAILABLE TODAY!

Up in the fresh air and sunshine, far above dangerous traffic—this school playground is one of the many new roof developments that Ruberoid specifications now make available for immediate planning.
Good lighting, plus ceilings unlimited
.. one lighting system gives you both

CEILINGS UNLIMITED — a boundless new field for the use of light as a structural aid in interior design is the added benefit offered stores, offices, schools, factories and public buildings through the installation of MILLER FLUORESCENT TROFFER LIGHTING SYSTEMS.

THE MILLER CEILING FURRING HANGER (patented) — which supports structural ceiling and TROFFER lighting system — simplifies installation and makes possible a versatility of lighting applications to form any ceiling pattern desired — CEILINGS UNLIMITED.

More! Installation is simplified. Less than half usual number of supports needed from structural ceiling. Wiring costs cut up to 50% and conduit and conduit fitting costs up to 80%.

Miller Lighting service is all-inclusive. Its 50 and 100 FOOT CANDLERS (Continuous Wireway Fluorescent Lighting Systems) have been established as standard for general factory lighting. And its Incandescent and Mercury Vapor reflector equipment have broad factory and commercial application.

MILLER field engineers and distributors, conveniently located, are at your call.
IT'S human nature to look when there's something to see and a modern, open-view front makes it easy for shoppers to look right into the store. Immediately, the attractive, well-lighted interior is revealed with its friendly atmosphere and tempting array of things to buy.

There's selling power in modern design and the store architect is keenly aware of it. He artfully combines beauty with utility and makes it pay off in increased patronage. We are privileged to work with the country's outstanding designers and to execute their ideas in complete Brasco Construction.

The Brasco line of unified members, in stainless steel or aluminum, blends harmoniously with either new or standard building materials and beautifies the entire front. Engineered for complete safety and expertly fabricated, Brasco meets every demand for modern, trouble-proof store front construction, easily installed.
CEILING OUTLETS

GUARANTEED AIR DISTRIBUTION

Data based on complete tests enables us to recommend exactly the right outlet for any condition and GUARANTEE results. You are assured of uniform, properly diffused air of the desired temperature at specified level, with required air movement and elimination of hot, cold, or drafty areas. Use ENGINEERED AIR DISTRIBUTION — see your Barber-Colman representative. Write for descriptive bulletin.

BARBER-COLMAN COMPANY
1230 ROCK STREET
ROCKFORD • ILLINOIS

That's* for Me!

decides Mrs. Doakes

Trust a good housekeeper to know what's what in smooth-working window hardware... And 134,456,000 magazine readers agree with her.

Forceful advertising in leading home service magazines is now carrying the Grand Rapids "Invisible" story to millions of convenience-conscious home-owners and home-makers. (Also widely advertised in trade journals to architects, builders and dealers.)

* She means the

GRAND RAPIDS

Invisible

SASH BALANCE

The dependable spiral sash balance
Quickest and easiest of all balances to install—three screws do the trick. Performance-tested in the laboratory and in windows of thousands of pre-war homes.

Perfect for large volume building operations because of speed and economy in installation. Simple adjustment without removing sash. Same size balance fits upper and lower sash. 10 standard sizes meet 95% of all your residential installations.

Complete data on specifications and installation
Write today for fully-illustrated, complete information on planning, sizes, installations, etc. for Grand Rapids Invisible Sash Balance.

GRAND RAPIDS HARDWARE COMPANY
Grand Rapids, Michigan

Grand Rapids Sash Pulleys
"The recognized standard of quality for a half century"

No. 103 face plate, cone bearing type and Nos. 125, 125, 110 sawtooth drive type sash Pulleys cover 95% of all sash pulley requirements.
FROM the first design on the drawing board to the manufacture of a machine or the construction of a building, precision tools are essential. Foremost in the design stage is the need for dependable drawing pencils, precision tools in the hands of skilled draftsmen.

VENUS Drawing Pencils are engineered to give you drafting perfection without failure: accurately graded to assure uniformity in all 17 degrees...strong in performance...smooth and clean in action.

VENUS

DRAWING PENCILS

AMERICAN LEAD PENCIL COMPANY, HOBOKEF, NEW JERSEY
The design symmetry and dignity of line which Chromtrim Metal Moulding imparts to modern interior planning is one of the many reasons for its increasing popularity with architects, industrial designers and builders.

Wall paneling and surface covering of any color or texture is enhanced by the functional beauty of this easy to install metal trim. You can specify Chromtrim with complete confidence.

Chromtrim’s fine quality, mechanical specifications, durable finish and ease of handling will contribute to the appearance and durability of every installation and bring equal satisfaction to you, your client and the mechanic who installs it.

80 dimensionally accurate profiles, designed in matching groups to serve every installation requirement. Sold only through a nationwide distributor organization. See insert in Sweet’s Architectural File. Write for Chromtrim Catalog No. 2 today.

FOR STRONGER CAVITY WALLS

...ALWAYS SPECIFY
NON-RUSTING
Copperweld
WALL TIES

- You can be sure of permanent strength and safety in cavity wall construction when you use Copperweld Wall Ties to bond the walls together.

Copperweld Wall Ties give you the high strength of alloy steel—made permanent by a heavy protective covering of non-rusting copper. The two metals, inseparably united by our exclusive Molten-Welding Process, provide a breaking strength of about 2 tons—a breaking strength that remains constant since these ties cannot rust and will not deteriorate in the wall.

These cavity wall ties are available for immediate shipment. They are made in two sizes—6” and 8”—and are packed 500 of one size to a box.

Specification Bulletin mailed on request.

COPPERWELD STEEL COMPANY
GLASSPORT, PA.
SALES OFFICES IN PRINCIPAL CITIES

Time-Tested Copperweld Nails will help you do a better job!
The best "advertising" for functional-minded architects, engineers and contractors is the excellence of their own craftsmanship ... represented by modern structures that make living and working more pleasant. That is why they invariably regard an air-conditioning installation with Anemostat draftless air-diffusion as a job well done. A job that advertises them. A job to be proud of!

Anemostat takes the "raw materials" of air-conditioning and actually "processes" them into COMFORT. There are no draft-producing grilles or registers, for Anemostat air-diffusers distribute the conditioned air in pre-determined, controlled patterns. Result: there are no drafts ... no dead air pockets ... room temperature and humidity are equalized throughout.

Because Anemostat wall or ceiling diffusers permit employment of stepped-up duct velocities and greater temperature differentials, duct sizes and duct outlets may be reduced — an important economy feature. Because Anemostats have no moving parts to wear out, maintenance cost is nil.

Thousands of Anemostat installations throughout the country — in virtually every industry — are putting new comfort into air-conditioning. So, remember to specify Anemostat draftless air-diffusion for an air-conditioning job you'll be proud of!

Write for information.

ANEMOSTAT CORPORATION OF AMERICA
10 East 39th Street, New York 16, N. Y.
REPRESENTATIVES IN PRINCIPAL CITIES

HOW ANEMOSTATS COMPLETE AIR-CONDITIONING

The patented Anemostat distributes air — of any duct velocity — in all directions and in a multiplicity of planes. Simultaneously, counter-currents created by the device siphon into the Anemostat room-air equal to about 35 per cent of the volume of the supply air. This room-air is mixed with the supply-air within the diffuser before the air-mixture is discharged into the room. Furthermore, velocity of the incoming air is instantly reduced within the Anemostat by air-expansion.

In this way, the Anemostat noiselessly diffuse air of any duct velocity throughout the entire room ... eliminates drafts ... closely equalizes temperature and humidity ... prevents air-stratification. There is no substitute for Anemostat air-diffusion!
PROVEN UTILITY, combined with colorful and faithful reproduction of designs and patterns has demonstrated the value of fine TERRAZZO for Hospital installations.

Sanitary, easy to clean and keep clean, economical to install and maintain, TERRAZZO offers permanence and long life under the heaviest foot traffic.

TERRAZZO provides an atmosphere of dignity, rest and quiet that Hospitals require. TERRAZZO in entrances, reception rooms, corridors, wards and private rooms assures durability and fire safety plus easy maintenance and unfading beauty.

Automatically control the lights by opening and closing of doors as in closets, storage and refrigeration chambers, vaults etc. Numbers illustrated here are designed to switch on lights when door is opened; others available for lighting when door is closed. No. 6553 comes complete in an approved box with 23/32" and 1/2" knockouts and clamp for flexible metallic conduit. No. 2022 is mounted in a steel box, porcelain lined. No. 6550 is mounted in a porcelain base; fits all standard door switch boxes. Ratings: 6 Amps., 125 V.; 3 Amps., 250 V. Striker plates furnished with each switch.

Write for specification-data on the complete line.

HART & HEGEMAN DIVISION
ARROW-HART & HEGEMAN ELECTRIC COMPANY, HARTFORD 6, CONN., U.S.A.
### Thermal Resistance Values of Building Materials

<table>
<thead>
<tr>
<th>Material</th>
<th>R-Value (R/ft²°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Balsam-Wool</td>
<td>3.4</td>
</tr>
<tr>
<td>Nu-Wood Insulating Liner</td>
<td>2.8</td>
</tr>
<tr>
<td>Air Space</td>
<td>0.1</td>
</tr>
</tbody>
</table>

### Balsam-Wool Application Data Sheet

**Window and Air Ducts**

- **Standard Balsam-Wool applied against sheathing**
- **Galvanized sheet metal back on cold air return**
- **Balsam-Wool fibre used to caulk cracks at window sill and head**
- **Balsam-Wool fibre used to fit narrow space**

**How to Insulate Masonry Walls**

**...see Balsam-Wool Data Sheets!**

Insulating masonry walls is only one of the many insulation subjects covered by Balsam-Wool Data Sheets. These handy sheets represent years of research in gathering vital facts on insulation application—solving tough insulation problems. The whole set of Balsam-Wool Data Sheets—containing 32 sheets in all—is yours for the asking. Just mail the coupon—no cost or obligation!

---

**Balsam-Wool**

SEALED INSULATION

BALSAM-WOOL • Products of Weyerhaeuser • NU-WOOD

---

**WOOD CONVERSION COMPANY**

Dept. 117-3, First National Bank Building, St. Paul 1, Minnesota

Please send me set of Balsam-Wool Application Data Sheets.

Name

Address

City

State

MARCH, 1947 121
STANDARDIZE ON YOUNG

HEATING-COOLING COILS
and
AIR CONDITIONING UNITS

Heat transfer equipment for heating, cooling and air conditioning systems are "catalog" items with Young. Through a continuous program of engineering and modern manufacturing techniques Young offers advanced designs—high efficiency operation.

Young coils are available in six types: for hot water and steam heating; for water or refrigerant cooling. "Streamaire" Air Conditioning Units are simple to install and take little space. They complete the functions of heating, cooling, cleaning and humidifying, or dehumidifying. It is possible to specify a "Streamaire" Unit to perform one or any combination of these services.

Write today for complete information on Young Heating and Cooling Equipment.

YOUNG

HEAT TRANSFER PRODUCTS

OIL COOLERS • GAS, GASOLINE, DIESEL ENGINE COOLING RADIATORS • HEAT EXCHANGERS
INTERCOOLERS • EVAPORATIVE COOLERS • ENGINE JACKET WATER COOLERS
GAS COOLERS • UNIT HEATERS • CONVECTORS • CONDENSERS • AIR CONDITIONING UNITS • EVAPORATORS • HEATING COILS • COOLING COILS
AND A COMPLETE LINE OF AIRCRAFT HEAT TRANSFER EQUIPMENT

YOUNG RADIATOR CO., Dept. 517-C RACINE, WIS., U.S.A.

Sales and Engineering Offices in All Principal Cities

Complement Your Designs
With The Lustrous Beauty
of
DECORATIVE MICARTA

Bring vivid color and lasting lustre to your interiors.

For walls, display cases, table tops, built-in fixtures... anywhere at all, the gleaming beauty of durable Decorative Micarta* is distinctive and modern. It blends perfectly with any decorative scheme.

Decorative Micarta will not split, chip or warp. Its beauty never fades... cannot be harmed by alcohol, food, grease or fruit juices. The cigarette-proof grade is unharmed by burning cigars or cigarettes.

Choose from a wide range of interesting colors and patterns. Find out how effectively this modern plastic material can brighten up your interiors. Write for full information today.

EXCLUSIVE NEW FEATURE!

Decorative Micarta cannot be scratched or marred in transit! A heavy Kraft paper "beauty mask" protects it at all times... even during machining and fitting... easily removed after installation!


UNITED STATES PLYWOOD CORPORATION
55 West 44th Street, New York 18, N. Y.
The architectural vigor of these concrete arches for long span roofs is revealed in this drawing by Hugh Ferriss. It is fifth in a series of delineations showing the economy and adaptability of Architectural Concrete for firesafe construction of apartments, hotels, hospitals, schools, industrial and commercial buildings.

ARCHITECTURAL CONCRETE

PORTLAND CEMENT ASSOCIATION
DEPT. A3-25, 33 WEST GRAND AVENUE, CHICAGO 10, ILLINOIS

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

A standard type switch with both INSTANT and DELAYED "OFF"

Delay Interval Adjustable up to 3 Minutes!
The light-switching convenience everyone has been looking for! Among many other advantages, TYMZIT makes it easy to "flip the switch and get in bed before the lights go out!" Yet by pressing the TYMZIT toggle all the way down, you turn lights out instantly! The delay interval is adjustable without removing the switch plate. Built to U/L specifications. Rated 10 amps at 125 volts; 5 amps at 250 volts. Single and double pole. A quality product in every detail. Write for details. T. J. Mudon Co., 1240 Merchandise Mart, Chicago 54, Illinois.

FOR PERFECT FIREPLACES
IN MODERN HOMES...

An ordinary fireplace pumps 200 cubic feet (2 to 3 large rooms full) of already warmed air out of the house each minute. In tightly constructed homes, replacement air can't come in from outdoors in sufficient quantity to supply the chimney draft. Result—partial vacuum... back-puffs... smoke.

The Fresh-Aire Fireplace Unit is manufactured to help you—in designing Fireplaces for modern, fully weather-stripped homes with central heating. It draws replacement air from outdoors, into the heating chambers, and circulates it, comfortably warm, through the living quarters. No uneven temperatures, no interference with heat controls—and a net gain in evenly distributed warmth.

Here are four more reasons why so many Bennett Fresh-Aire Fireplace Units are specified:

1. Thoroughly ventilates and "refreshes" the air.
2. Complete freedom to design the mantel... normal brick firebox sidewalls... no floor grilles.
3. A complete form for smoke-free internal proportions of throat, damper, smoke chamber and shelf—assurance that the fireplace will be built as you designed it.
4. Small first cost is quickly offset by savings in construction and fuel.

Bennett Warm-Aire Units—for perfect fireplaces in camps, southern homes, playrooms, etc. Draws cool air from the floor, heats and recirculates it evenly throughout the room, and to adjacent rooms or upstair.

Write to 347 Cedar St. for Catalog—or see Sweet's.

MAKERS OF FLEXSCREEN
This compact arrangement of Kohler fixtures shows interesting economy of space. Dimensions of the longest walls are only 6' x 6'8", yet there is free access to both the fixtures and the convenient, built-in dressing table.

A KOHLER washroom solves many problems

HOME owners are becoming more aware of the value of added sanitary convenience. The appeal of a Kohler washroom is especially pronounced, for it takes little space, yet it answers many needs—reducing through-the-house traffic, providing convenience for guests, and simplifying child training. Permanent value is added to homes where this practical extra convenience is installed.

There is further practical appeal in the fact that the name “Kohler” stands for first quality at reasonable cost. The high standards of construction and excellence of design embodied in Kohler fixtures and fittings assure long satisfactory use.

The fixtures in the washroom above are the Jamestown vitreous china lavatory, with Centra mixer-type fitting made of durable chromium-plated brass; and the quiet, smooth-functioning Bolton closet. Kohler quality is now a 74-year-old tradition, safeguarded by the fact that Kohler production is centered in one great plant, with unity of supervision. Write for latest information on products available.

Sitting all day can be as tiresome and backbreaking as standing all day.

That is why we made a study of the seating requirements of shops and factories—and then designed "HALLOWELL" STOOLS OF STEEL.

These stools combine the utmost in correct seating comfort with sturdy, welded all-steel construction that's wobbleproof. High stools, low stools—stools and chairs with adjustable back rests—stools and chairs that move on casters—with or without foot rests. The "Hallowell" line gives good service and long, long wear.

Be sure your workers are comfortable at their work—on "HALLOWELL" STOOLS AND CHAIRS OF STEEL.

Write for the "Hallowell" Catalog for styles and information.

"Unbraco" and "Hallowell" products are sold entirely through distributors.

OVER 44 YEARS IN BUSINESS

STANDARD PRESSED STEEL CO.
JENKINTOWN, PENNA., BOX 588 • BRANCHES: BOSTON • CHICAGO • DETROIT • INDIANAPOLIS • ST. LOUIS • SAN FRANCISCO

For Every Product Drawing with a Future!

Pencil Speed - Sharp Prints
Permanent Drawings

REFERENCE SECURITY for Revisions, Repairs and Replacements

The Frederick Post Company
3930 N. AYONDALE AVE., CHICAGO 18, ILL.
DETROIT • HOUSTON • CHICAGO • LOS ANGELES • MILWAUKEE

123 WHITEX PENCIL CLOTH
WATER RESISTANT - FRONT AND BACK

PROGRESSIVE ARCHITECTURE
Washrooms are one of the four most important factors in good working conditions—according to workers in 400 plants.

"I can't stand a messy washroom!"

JANE: “It doesn’t take a lot of money—just a little thoughtfulness—to keep a washroom nice like this one.”

ISABEL: “Yes, the management here certainly knows how much good washrooms mean to us.”

EMPLOYEES judge a company a great deal by its washrooms. In a survey of men and women workers at more than 400 plants, they named these factors as the ones they considered most important in good working conditions: good washrooms, adequate lighting, safety devices and proper ventilation.

Besides helping morale, sanitary well-equipped washrooms, with plenty of soap, hot water and good quality individual tissue towels, help reduce the number of absences due to colds and their complications. For they encourage frequent and thorough washing that helps prevent germs from spreading.

Haven’t you yourself been irritated by a poorly planned, badly equipped washroom? Washrooms should be “Health Zones,” not “Germ Exchanges”—“morale-boosters,” not “temper-testers.”

Good Washrooms begin at the Drawing Board

Good washrooms are the result of careful thinking and planning when in the blueprint stage. For practical suggestions on modern washroom layout and design, turn to our four pages in Sweet’s catalog—or call on the Scott Washroom Advisory Service, Scott Paper Company, Chester, Pennsylvania.

SCOTTTISSUE TOWELS

Largest selling tissue towels in America!
"Does a Fine Job"
— SAYS VETERAN PLUMBER

He's speaking about the Wade Sealed Air Chamber. But let's hear directly from Chas. E. Gawne, prominent Chicago plumbing contractor. . . . "We installed a 3½" water line to a high pressure pump used for truck washing operations at the Midwest Transfer Company, Chicago. The 150 lbs. discharge pressure at the spray nozzle backed up in fluctuating pressure surges past the pump into the city water line. This created a dangerous vibration of the entire piping system—so much so that the pipe was torn loose from its hangers. We installed your No. 134 Sealed Air Chamber on this water line and it stopped all vibration. THIS WADE SEALED AIR CHAMBER REALLY DOES A FINE JOB."

More and more plumbers, engineers and architects are learning how the Wade Sealed Air Chamber effectively solves water hammer problems. They cushion the shock created by high surge pressures to prevent stretching and straining of pipes, valves and fittings.

Take a tip from Mr. Gawne and learn more about this modern effective answer to destructive water hammer. Send today for our new Sealed Air Chamber booklet which includes Selector Tables to determine the correct size Air Chamber for each job.

Photo shows the Wade No. 134 Sealed Air Chamber, installed on a ¾" pipe at the Midwest Transfer Company, Chicago. It "stopped all vibration."

W A D E D R A I N S

Wade, makers of the Hydra-Filter grease interceptor and the Sealed Air Chamber manufactures a complete line of floor and shower drains, roof drains, backwater valves and swimming pool equipment. Consult your nearest Wade representative or write direct to us for further information.

W-1100

Rely on ARTGUM BRAND ERASER and CLEANER

Times have changed but "ARTGUM" still comes to you UNCHANGED IN QUALITY, unaffected even by wartime shortages and production difficulties. There is no substitute for "ARTGUM"—the surface cleaner with a light touch.

Insist on the original and standard

THE ROSENTHAL CO.
45 EAST 17TH STREET, NEW YORK 3, N. Y.

Anyone can make blue or black & white prints ON THE SPEE-DEE PRINTER in 30 seconds

SIMPLE... ACCURATE LOW PRICED

Save time and money. Make perfect blue prints, black and white prints or ammonia prints—in 30 seconds. Quickly reproduce drawings, tracings, charts, or letters—at low cost. Works anywhere—on 110 or 230 volts A.C. or D.C. Widely used by industry, government and schools. Capacities: 12" x 18"; 18" x 24". $35.00 and up. Send for FREE Spee-Dee Bulletin.

FEATURES
• Prints in 30 Seconds—at a cost of 2c per sq. ft. or less
• Harvey-Designed
• Anyone Can Operate It
• Oversize Printing Surface
• Plugs in Anywhere

PECK & HARVEY
Mfrs. of Blue Printing & Photographic Equipment
5735 N. Western Ave., Chicago 45, Ill.
Export Agents: Wenham, Inc., 44 Whitehall St., New York 4, N. Y.
THE MODERN WAY IS THE ELECTRUNITE WAY

ELECTRUNITE E.M.T.—THE ORIGINAL LIGHTWEIGHT RIGID RACEWAY—KEEPS INSTALLATION COSTS DOWN

There's positive, lasting safety in wiring that's protected by tough, strong Republic ELECTRUNITE E.M.T.—the modern streamlined wiring raceway. It puts an up-to-date wiring system—adequate for immediate needs plus margin for tomorrow's requirements—within the range of every home builder.

An ELECTRUNITE E.M.T. installation is low in cost because it goes in quickly, efficiently and economically. Modern threadless couplings and box connectors eliminate completely the muss, fuss and bother of old-fashioned thread cutting.

Remember that Republic ELECTRUNITE E.M.T. is the original lightweight rigid steel raceway...inspected by Underwriters' Laboratories...and approved by the National Electrical Code for exposed, concealed and concrete slab construction.

Complete details on request. Write to:

REPUBLIC STEEL CORPORATION
STEEL AND TUBES DIVISION - CLEVELAND 8, OHIO
Export Department: Chrysler Building, New York 17, New York

SEE SWEET'S FILE
or write us for detailed information on these Republic Steel Building Products:
Pipe—Sheets—Roofing
Enduro Stainless Steel
Tuscan Enameling Iron
Electrunite E.M.T.
Frets-Moon Rigid Steel Conduit
Taylor Roofing Terne
Berger Lockers, Bins, Shelving
and Kitchen Cabinets
Truscon Steel Windows, Doors, Joists
and other Building Products

LIGHTWEIGHT THREADLESS RIGID STEEL RACEWAY
An important feature in a shoe store of Distinction

NORTON non-slip ALUNDUM FLOORS

Safety in walking is an important feature in any building where it is desirable to have a wear-resistant surface that is permanently non-slip even when wet. Non-slip flooring is a "natural" for a shoe store. The shoe store illustrated above has been designed to have ALUNDUM aggregate mixed with marble to make the terrazzo flooring in the entry way, on the main floor and on the stairs and mezzanine safe from slipping hazards. Combine beauty with safety and add years of wear-resistant service by using Norton non-slip ALUNDUM floor products: aggregate, stair tile, ceramic mosaic tile. For free color samples and our latest catalog write to:

NORTON COMPANY
WORCESTER 6, MASS.

ALUNDUM - Registered trade-mark for Norton Company's aluminum oxide abrasive.

See our catalog in Sweet's.
ON the job . . . day in and day out . . . Herman Nelson Centrifugal Fans are providing better working conditions in plants, factories and commercial establishments all over America. They are helping to speed up production, to cut down accidents and to reduce absenteeism.

Architects, Engineers and Builders can specify Herman Nelson Centrifugal Fans with confidence. Like all other Herman Nelson Products — these fans provide the maximum in both efficiency and operating economy. Into their design and construction have gone the engineering skill, research developments and exacting manufacturing methods amassed by The Herman Nelson Corporation in 40 years devoted exclusively to the production of quality heating and ventilating equipment.

Consult THE NEAREST HERMAN NELSON PRODUCT APPLICATION ENGINEER OR DISTRIBUTOR. He will provide practical as well as technical assistance in the most satisfactory solution of any heating or ventilating problem.

THE HERMAN NELSON CORPORATION
for 40 years manufacturers of quality heating and ventilating products

MOLINE, ILLINOIS
Architectural TERRA COTTA

When the Merchandise Mart at Chicago, often referred to as the largest building in the world, was designed by Graham, Anderson, Probst & White, the adopted scheme for facing materials, generally, was stone for the plain or ashlar surfaces and architectural terra cotta for extensive ornament; for essential enrichment. Northwestern Terra Cotta was widely used for these decorative motifs which consisted of spandrels, band courses, a number of striking Indian heads in upper stories and other ornamental features including a series of ceramic gold medallions which adorn the facade and reflect their brilliancy in the golden sunlight. The repetition of line ornament in terra cotta distributes the original modeling costs fractionally over many pieces and links high quality with true economy.

Northwestern Terra Cotta Corporation
1750 Wrightwood Ave., Chicago 14, Ill.

When it comes to architecture, we don't know much. You architects can build houses in the treetops or underground, and it's all right with us.

But there's one thing we do know—drawing pens. For years we've made the best pens for every purpose. Another thing we know—it's as much to our interest as to yours to produce enough Gillott's to meet today's abnormal demands. So we're doing our best. It won't be long before all our dealers are fully stocked.

ARCHITECTS . . .
You Need This Catalog

Contains Latest Data
Shows Advantages of Specifying American Bowstring Roof Trusses.

FOR: FACTORIES • GARAGES • BOWLING ALLEYS • WAREHOUSES • STORES and many other Industrial, Commercial and Recreational Buildings. Clear Floor Space . . . Spans 25' to 150'. Exclusive Waddington System of Truss Construction.

25th Anniversary 1922-1947

AMERICAN ROOF TRUSS CO.
CHICAGO, 49 • 6856 Stony Island Avenue • Phone PLaza 1772
LOS ANGELES, 37 • 272 W. Santa Barbara Ave. • Phone ADams 1-4379

132 PROGRESSIVE ARCHITECTURE
GIVE HOME OWNERS what they want

DRY BASEMENTS instead of

BEAUTIFUL STUCCO instead of

DRY INTERIOR WALLS instead of

AT LOW COST by specifying "BUILT-IN WATERPROOFING"

Basements that stay dry the year round . . . stucco that is free of disfiguring cracks and stains . . . concrete, brick, and stucco homes with damp free interior walls. These advantages can be obtained easily and at low cost, when you specify "built-in waterproofing"—the Medusa way.

Medusa Waterproofed Portland Cements—White and Gray—eliminate the capillary action that draws water into concrete or stucco. It lines the pores with water repelling material—locked in for the lifetime of the building. Waterproofing can't chip, peel or crack . . . It's built in—throughout every inch of the mass.

No extra time is required to use Medusa Waterproofed Cements—no extra supervision—no added labor. These cements are mixed and placed exactly as ordinary cements, but they make concrete that is safe from water damage—a bonus for your clients. Specify Medusa Waterproofed Cements®—White or Gray—for mortar, for plaster coats on interior walls, and for scratch and brown coats as well as finish coats in stucco. The slight additional cost of waterproofed construction now is only a fraction of the cost entailed to correct water damage later. Be safe—specify "built-in waterproofing"—the Medusa way.

Send the coupon below for your free books.

*Where Medusa Waterproofed Cements are not available, use Medusa Waterproofing Paste or Powder.

"FIFTY-FIVE YEARS OF CONCRETE PROGRESS"

MEDUSA PORTLAND CEMENT COMPANY
1004 Midland Bldg. • Dept. "I1" • Cleveland 15, Ohio

Gentlemen: Please send me copies of the books, "How To Waterproof Concrete, Stucco and Masonry" and "A Guide To Finer Stucco."

Name ____________________________
Address ____________________________________________
City ____________________________ State ______

Also made by Medusa Products Co. of Canada, Ltd., Paris, Ontario

MARCH, 1947 133
ARCHITECTURAL TERRA COTTA

DESCRIPTIVE LITERATURE • CONSTRUCTION DETAILS • COLOR SAMPLES, AVAILABLE ON REQUEST • PRELIMINARY SKETCHES OR FINISHED DRAWINGS SENT TO US FOR CONSTRUCTION OR COST INFORMATION WILL RECEIVE PROMPT ATTENTION.

FEDERAL SEABOARD TERRA COTTA Corp.
8 E. 40th STREET NEW YORK 16

TRULITE LETTERS tailor-made!

Tailor-made Trulite letters are available in any size, any shape... in porcelain enamel, stainless steel, or combination of both. Made to your specifications, in any style, Trulite letters can be furnished with electrode holes for neon or socket holes for bulb lighting. Trulite letters—the sign of distinction on any building.

B. K. ELLIOTT Co.
MANUFACTURERS OF REPRODUCTION PAPERS
PITTSBURGH — DETROIT — CLEVELAND

Elliot’s LIN-O-BLU Paper
NONE LIKE IT... FOR DIRECT BLUE LINE PRINTS
★ No. 11 Fine Lines
Elliot’s LIN-O-BLU Ammonia developed paper should be used by you. IT is a STAR PERFORMER everyday. Available in thin, medium or heavy weights.
WRITE FOR FREE SAMPLES — Address Dept. V-2

Better Signs for Better Buildings
Choose Your Style
THEN CHOOSE WELDWOOD FOR THE INTERIOR

What are you working on? Public building or private home? Millionaire's mansion or veteran's bungalow? Cape Cod cottage or modern solar house?

Whichever it is, you'll add extra appeal to the interior when you specify Weldwood® plywood walls. Weldwood brings to interiors all the warm, soft, ever-popular beauty of genuine, richly-grained wood.

And there's a wood for every mood...from fine domestic woods such as oak, birch and knotty pine to rich imported de oro, mahogany and prima vera to mention only a few.

Looking for something new and different? Consider Weldtex®. Here is an economical, utilitarian Weldwood panel with which you can achieve innumerable decorative effects. The surface of the panel is attractively striated. It can be installed vertically, horizontally, or in interesting checkerboard, herringbone or other patterns...can be painted, stained or left natural.

Versatility is only one of Weldwood's many virtues. In addition it gives you structural strength and stability, ease of installation, economy.

And it's durable...guaranteed for the life of the building. The Weldwood interiors you design today will be prestige-makers for you for years to come.

Put all these advantages into your homes. Write for full information, and request our Weldwood Installation Booklet. It's yours for the asking.

*Registered Trademarks

WELDWOOD Plywood

Weldwood Plywood and Mengel Flush Doors are products of

UNITED STATES PLYWOOD CORPORATION

New York 18, N. Y.

THE MENGEL COMPANY

Louisville 1, Ky.


Waterproof Weldwood for exterior use is bonded with phenol formaldehyde synthetic resin. Other types of water-resistant Weldwood for interior applications are manufactured with extended resin resins and other approved bonding agents.
CHENEY FLASHING is again being made by the original inventor who pioneered the art of thru-wall flashing eighteen years ago.

No thru-wall flashing can operate successfully unless it has the two very important features that are found in CHENEY FLASHING—proven weep-hole drainage and the three-way bond, vertical as well as longitudinal and lateral.

Remember, the inferior two-way flashings, crimped copper and membranes, have neither the vertical bond nor do they drain moisture from the wall fast enough. Furthermore, their first cost advantage has disappeared because today CHENEY Flashing is no longer a specialty—it's a standard commodity.

Write for Bulletin 631.
C. A. DUNHAM CO.
450 East Ohio Street
Chicago 11, Ill.

The coordinated “Sys­tem” control consists of control panel usually located in the boiler room, room resistance thermometer, heat bal­ancer, selector and control valve.

DUNHAM HEATING MEANS BETTER HEATING

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 thirteen years. Our complete Structural Engineering course well known for thirty-seven years.

Literature without obligation—write TODAY
WILSON ENGINEERING CORPORATION
College House Offices
Harvard Square
CAMBRIDGE, MASSACHUSETTS, U. S. A.

SPRING BACK BINDERS
FOR
PENCIL POINTS
(PROGRESSIVE ARCHITECTURE)
TWO INCH CAPACITY $2.50

REINHOLD PUBLISHING CORP.
330 W. 42nd St. New York 18, N. Y.
THERMAL INSULATION of BUILDINGS
by PAUL DUNHAM CLOSE
Formerly Technical Secretary, American Society of Heating and Ventilating Engineers, New York, and Insulation Board Institute, Chicago.

This book provides information and data on the various economic and comfort advantages of thermal insulating materials, a description of the various types of insulation used in dwellings and many other buildings, and an explanation of how they are applied.

While the book is not intended to be an exhaustive treatise on the thermal insulation of buildings, it is a technically competent but at the same time readily understandable discussion of the subject, well suited to use by architects, engineers, builders, insulation salesmen, students and home owners.

You will want this new book on your shelf for ready reference. It is spiral bound so that it will lie flat thus making it easier to use its charts, graphs, and other descriptive matter.

Price $1.75
REINHOLD PUBLISHING CORP.
330 W. 42nd STREET NEW YORK 18, N. Y.
**Only GATE CITY AWNING WINDOWS offer all these plus advantages**

- Drafts-free, safe ventilation in any weather.
- Adequate circulation without fans or other equipment.
- Indoor installation of screens and storm sash.
- Sun control (when heat-diffusing glass or Thermopane is used).
- Smooth, no-stick worm and gear drive.

For practically any building you design—from office building to small home—you'll find unusual possibilities in Gate City Awning Windows. Designed with worm and gear control, each tier operates as a unit...smoothly, evenly, without sticking.

Complete window unit including frame, sash, hardware installed and bronze wire screen is available from our factory. Where materials and facilities are available locally, the millwork manufacturer can easily construct the windows using our hardware.

For further information, see Sweet's or write to Gate City Sash & Door Co., Dept. P, Fort Lauderdale, Florida.

### INDEX TO ADVERTISERS

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abestro Manufacturing Co.</td>
<td>108</td>
</tr>
<tr>
<td>Adam, Frank, Electric Co.</td>
<td>43</td>
</tr>
<tr>
<td>Airtemp Division of Chrysler Corp.</td>
<td>31</td>
</tr>
<tr>
<td>Air Transportation Association for Railway Express Corp.</td>
<td>110</td>
</tr>
<tr>
<td>Aluminum Co. of America</td>
<td>91</td>
</tr>
<tr>
<td>American Lead Pencil Co.</td>
<td>117</td>
</tr>
<tr>
<td>American Radiator &amp; Standard Sanitary Corp.</td>
<td>103</td>
</tr>
<tr>
<td>American Roof Truss Co.</td>
<td>132</td>
</tr>
<tr>
<td>Anaconda Copper Mining Co.</td>
<td>27</td>
</tr>
<tr>
<td>Annenomast Corp. of America</td>
<td>119</td>
</tr>
<tr>
<td>Arrow-Hart &amp; Hegeman Electric Co.</td>
<td>120</td>
</tr>
<tr>
<td>Associated Projects Co.</td>
<td>124</td>
</tr>
<tr>
<td>Auth Electric Co., Inc.</td>
<td>20</td>
</tr>
<tr>
<td>Barber-Colman Co.</td>
<td>116</td>
</tr>
<tr>
<td>Barrett Division, Allied Chemical &amp; Dye Corp.</td>
<td>36</td>
</tr>
<tr>
<td>Barrows, W. A., Porcelain Enamel Co.</td>
<td>134</td>
</tr>
<tr>
<td>Bennett-Ireland</td>
<td>124</td>
</tr>
<tr>
<td>Berco Mfg. Co.</td>
<td>132</td>
</tr>
<tr>
<td>Bruce, E. L. Co.</td>
<td>11</td>
</tr>
<tr>
<td>Cabot, Samuel, Inc.</td>
<td>130</td>
</tr>
<tr>
<td>Cambridge Tile Mfg. Co.</td>
<td>3rd Cover</td>
</tr>
<tr>
<td>Case, W. A., &amp; Son Mfg. Co.</td>
<td>42</td>
</tr>
<tr>
<td>Coca Cola Bottling Co.</td>
<td>116</td>
</tr>
<tr>
<td>Celotex Corp.</td>
<td>50</td>
</tr>
<tr>
<td>Cheney Industries</td>
<td>136</td>
</tr>
<tr>
<td>Chicago Manufacturing Corp.—lumite Bulletin</td>
<td>32</td>
</tr>
<tr>
<td>Cincinnati Time Recorder Co.</td>
<td>137</td>
</tr>
<tr>
<td>Committee on Steel Pipe Research of American Iron &amp; Steel Institute</td>
<td>28</td>
</tr>
<tr>
<td>Copperweld Steel Co.</td>
<td>118</td>
</tr>
<tr>
<td>Crane Co.</td>
<td>44</td>
</tr>
<tr>
<td>Curtis Cos., Inc.</td>
<td>97</td>
</tr>
<tr>
<td>Detroit Steel Products Co.</td>
<td>112, 113</td>
</tr>
<tr>
<td>Douglas Fir Plywood Association</td>
<td>4</td>
</tr>
<tr>
<td>Dunham, C. A., Co.</td>
<td>136</td>
</tr>
<tr>
<td>Duriron Co., Inc.</td>
<td>12</td>
</tr>
<tr>
<td>Eagle Pencil Co.</td>
<td>109</td>
</tr>
<tr>
<td>Elliott, B. K., Co.</td>
<td>134</td>
</tr>
<tr>
<td>Faber, A. W., Inc.</td>
<td>32</td>
</tr>
<tr>
<td>Federal Seaboard Terra Cotta Corp.</td>
<td>134</td>
</tr>
<tr>
<td>Field, Alfred, &amp; Co., Inc.</td>
<td>33</td>
</tr>
<tr>
<td>Gate City Sash &amp; Door Co.</td>
<td>138</td>
</tr>
<tr>
<td>General Controls Co.</td>
<td>132</td>
</tr>
<tr>
<td>General Pencil Co.</td>
<td>26</td>
</tr>
<tr>
<td>Getty, H. S., &amp; Co., Inc.</td>
<td>16</td>
</tr>
<tr>
<td>Grand Steel Products Co.</td>
<td>116</td>
</tr>
<tr>
<td>Hart &amp; Hegeman Div.</td>
<td>120</td>
</tr>
<tr>
<td>Hillyard Chemical Co.</td>
<td>106</td>
</tr>
<tr>
<td>Hoffman Specialty Co.</td>
<td>7</td>
</tr>
<tr>
<td>Hope's Windows, Inc.</td>
<td>41</td>
</tr>
<tr>
<td>Hunt, C. Howard, Pen Co.</td>
<td>134</td>
</tr>
<tr>
<td>Imperial Tracing Cloth</td>
<td>108</td>
</tr>
<tr>
<td>Indiana Limestone Institute</td>
<td>29</td>
</tr>
<tr>
<td>Ingersoll Steel Div., Borg-Warner Corp.</td>
<td>107</td>
</tr>
<tr>
<td>Insulux Products Division, Owens-Illinois Glass Co.</td>
<td>34</td>
</tr>
<tr>
<td>Jamestown Metal Corp.</td>
<td>45</td>
</tr>
<tr>
<td>Johns-Manville Corp.</td>
<td>49</td>
</tr>
<tr>
<td>Koh-I-Noor Pencil Co., Inc.</td>
<td>137</td>
</tr>
<tr>
<td>Kohler Co.</td>
<td>125</td>
</tr>
<tr>
<td>Libbey-Owens-Ford Glass Co.</td>
<td>6, 101</td>
</tr>
<tr>
<td>Lockwood Hardware Mfg. Co.</td>
<td>93</td>
</tr>
<tr>
<td>Long Star Cement Corp.</td>
<td>52</td>
</tr>
<tr>
<td>Mahon, R. C., Co., The</td>
<td>19</td>
</tr>
<tr>
<td>Medusa Portland Cement Co.</td>
<td>133</td>
</tr>
<tr>
<td>Mengel Co., Inc.</td>
<td>122, 135</td>
</tr>
<tr>
<td>Mesker Brothers</td>
<td>105</td>
</tr>
<tr>
<td>Milcor Steel Co.</td>
<td>2nd Cover</td>
</tr>
<tr>
<td>Miller Co., The</td>
<td>114</td>
</tr>
<tr>
<td>Mudon, T. J., Co.</td>
<td>124</td>
</tr>
<tr>
<td>Mueller Brass Co.</td>
<td>17</td>
</tr>
<tr>
<td>Morrison Steel Products, Inc.</td>
<td>15</td>
</tr>
<tr>
<td>National Chemical Mfg. Co.</td>
<td>38</td>
</tr>
<tr>
<td>National Electric Products Corp.</td>
<td>47</td>
</tr>
<tr>
<td>National Gypsum Co.</td>
<td>90</td>
</tr>
<tr>
<td>National Radiator Co.</td>
<td>24</td>
</tr>
<tr>
<td>National Terra Cotta &amp; Marble Association, Inc.</td>
<td>120</td>
</tr>
<tr>
<td>Nelson, Herman, Corp.</td>
<td>131</td>
</tr>
<tr>
<td>Northwestern Terra Cotta Corp.</td>
<td>132</td>
</tr>
<tr>
<td>Norton Co.</td>
<td>130</td>
</tr>
<tr>
<td>Ohio Chemical &amp; Mfg. Co.</td>
<td>139</td>
</tr>
<tr>
<td>Otis Elevator Co.</td>
<td>40</td>
</tr>
<tr>
<td>Owens-Corning Fiberglas Corp.</td>
<td>21</td>
</tr>
<tr>
<td>Owens-Illinois-Glass Co., Insulux Products Div.</td>
<td>34</td>
</tr>
<tr>
<td>Peck &amp; Harvey</td>
<td>128</td>
</tr>
<tr>
<td>Pecora Paint Co.</td>
<td>10</td>
</tr>
<tr>
<td>Petroleum Heat &amp; Power Co.</td>
<td>48</td>
</tr>
<tr>
<td>Pittsburgh Cement Corp.</td>
<td>99</td>
</tr>
<tr>
<td>Pittsburgh Plate Glass Co.</td>
<td>2, 3, 17</td>
</tr>
<tr>
<td>Portland Cement Association</td>
<td>123</td>
</tr>
<tr>
<td>Post, Frederick, Co.</td>
<td>126</td>
</tr>
<tr>
<td>Raymond Concrete Pile Co.</td>
<td>9</td>
</tr>
<tr>
<td>Reinhold Publishing Corp.</td>
<td>136, 137</td>
</tr>
<tr>
<td>Republic Steel Corp., Steel Tubing Div.</td>
<td>129</td>
</tr>
<tr>
<td>Revere Copper &amp; Brass, Inc.</td>
<td>89</td>
</tr>
<tr>
<td>Ric-Wil Co.</td>
<td>13</td>
</tr>
<tr>
<td>Rosenthal Co.</td>
<td>124</td>
</tr>
<tr>
<td>Rotary Lift Co.</td>
<td>39</td>
</tr>
<tr>
<td>Rutherford Co.</td>
<td>111</td>
</tr>
<tr>
<td>Samson Cordage Works</td>
<td>136</td>
</tr>
<tr>
<td>Sargent &amp; Co.</td>
<td>30</td>
</tr>
<tr>
<td>Schlagel Lock Co.</td>
<td>100</td>
</tr>
<tr>
<td>Scott Paper Co.</td>
<td>127</td>
</tr>
<tr>
<td>Serral, Inc.</td>
<td>94, 95</td>
</tr>
<tr>
<td>Spencer Turbine Co.</td>
<td>102</td>
</tr>
<tr>
<td>Staedtler, J. S., Inc.</td>
<td>106</td>
</tr>
<tr>
<td>Standard Pressed Steel Co.</td>
<td>126</td>
</tr>
<tr>
<td>Stewart-Jackson Instrument Co.</td>
<td>137</td>
</tr>
<tr>
<td>Stran-Steel Division of Great Lakes Steel Corp.</td>
<td>49</td>
</tr>
<tr>
<td>Streamline Pipe &amp; Fittings Div.</td>
<td>18</td>
</tr>
<tr>
<td>Sylvania Electric Products, Inc.</td>
<td>33</td>
</tr>
<tr>
<td>U. S. Plywood Corp.</td>
<td>122, 135</td>
</tr>
<tr>
<td>Universal Atlas Cement Co.</td>
<td>104</td>
</tr>
<tr>
<td>Vermont Marble Co.</td>
<td>51</td>
</tr>
<tr>
<td>Vonnegut Hardware Co.</td>
<td>96</td>
</tr>
<tr>
<td>Wade Manufacturing Co.</td>
<td>128</td>
</tr>
<tr>
<td>Weldon Roberts Rubber Co.</td>
<td>130</td>
</tr>
<tr>
<td>Werner, R. D., Co.</td>
<td>118</td>
</tr>
<tr>
<td>Westinghouse Electric Corp., Back Cover Wheeler-Opcoo Co., The</td>
<td>25</td>
</tr>
<tr>
<td>Wilson Engineering Corp.</td>
<td>136</td>
</tr>
<tr>
<td>Wood Conversion</td>
<td>121</td>
</tr>
<tr>
<td>Worthington Pump &amp; Machinery Corp.</td>
<td>23</td>
</tr>
<tr>
<td>Young Radiator Co.</td>
<td>122</td>
</tr>
<tr>
<td>Youngstown Sheet &amp; Tube Co.</td>
<td>35</td>
</tr>
</tbody>
</table>

*Advertising and Executive Offices*  
330 West Forty-Second Street, New York 18, N. Y.  
JOHN G. BELCHER,  
Publishing Director  
FRANK J. ARMEIT,  
Production Manager  
JOHN ANDREWS, Promotion Manager  

*Advertising Representatives*  
DOUGLAS E. PILKINGTON,  
District Manager, 22 West Monroe St., Chicago 3, Ill.  
RUSSELL H. ALVIS,  
District Manager, 1133 Leader Building, Cleveland 14, Ohio  
EDWARD D. BOYER, Jr.,  
District Manager, 330 West 42nd St., New York 18, N. Y.  
HAROLD D. MACE, Jr.,  
District Manager, 330 West 42nd St., New York 18, N. Y.  
DUNCAN A. SCOTT & CO., Mills Building, San Francisco, Calif.  
448 South Hill St., Los Angeles 13, Calif.
AUTHENTIC DATA and CONSTRUCTIVE ASSISTANCE for Hospital Architects

Many prominent hospitals, both large and small, are equipped with Scanlan-Morris sterilizers, surgical lights and recessed custom-built metal cabinets, as well as other Ohio Chemical equipment. Years of experience in manufacturing and equipping hospitals and clinics, and the direct personal contact with architects, superintendents, surgeons and engineers, qualify our Technical Sales Service Department to give valuable assistance and authentic guidance in the planning of hospital facilities. Architects are invited to write for Scanlan-Morris illustrated catalogs and planning manuals on: (1) Surgical Sterilizers and Bedpan Apparatus; (2) Operay Surgical Lights, and (3) Recessed Custom-Built Metal Cabinets. Our Technical Sales Service Department will be glad to supply suggested layouts and recommendations for the most efficient and economical installations to meet requirements.

THE OHIO CHEMICAL & MFG. COMPANY
1400 East Washington Ave., Madison 3, Wisconsin
Represented in Canada by Oxygen Company of Canada Limited, and Internationally by Airco Export Corporation, 33 West 42nd Street, New York

Ohio Chemical
MANUFACTURERS OF MEDICAL APPARATUS, GASES AND SUPPLIES FOR THE PROFESSION, HOSPITALS AND RESEARCH LABORATORIES

BRANCH OFFICES IN PRINCIPAL CITIES
HENRY KAMPHOEFNER OF THE UNIVERSITY OF OKLAHOMA TOLD US OF A VISIT TO THE CAMPUS BY FRANK LLOYD WRIGHT. The editor of a student paper interviewing Wright asked him his favorite building. He said that question couldn't be answered, and he countered with, "What's your favorite tree?"

The girl wasn't stumped. "I live in the southern part of the state," she said, "and my favorite tree is the local pine. I'm familiar with it and I like it."

"That answer's disallowed on the grounds of prejudice," Wright decided. Then he looked at her and said, "... and furthermore, young lady, you're going to grow up to be a very conservative woman."

SPEAKING OF PREJUDICE, WE LIKE A REMARK IN THE JURY REPORT FOR THE HONOR AWARDS PROGRAM OF THE SOUTHERN CALIFORNIA CHAPTER OF THE A.L.A. In an admirably critical report the jury (Pietro Belluschi, Ernest Born, and John Root, chairman) says, "The jury had prejudices... Complete freedom from prejudice can only result in the inability to make a decision... The popular fallacy that prejudice is an evil and its absence is desirable has to be re-evaluated. What is really meant is that we must be selective in our prejudices; prejudice must be in accord with current thinking or generally accepted ethical standards of culture for our time."

Thus prejudiced, the jury gave Distinguished Honor Awards to Richard Neutra for the Nesbitt house, and to Reginald D. Johnson, Wilson, Merrill and Alexander for Baldwin Hills Village.

A NEW ENGLAND ARCHITECT RUSHED INTO THE OFFICE AND ASKED IF WE KNEW OF ANY EXAMPLES OF A LARGE AUDITORIUM which can also be used with acoustical success for occasional small musical gatherings. As we sat studiously thinking, he rushed out again, saying, "That's fine. Now I can tell the client that intensive research on a national scale indicates that it has never been done successfully. They'll have to build two buildings." Prejudiced, that guy.

A NUMBER OF READERS HAVE EXPRESSED ANNOYANCE AT THE CLASSIFICATION CARDS SENT OUT BY OUR CIRCULATION DEPARTMENT, asking subscribers to identify themselves as to professional status. To many people this seems an unnecessary prying into their personal affairs, and some few flatly refuse to answer. If you will excuse me for talking business, I'd like to explain several aspects of this annoying practice of ours.

Not so many years ago, the magazine publishing business was very poorly self-organized. Claims as to circulation could be wild and wooly, and there was no way any reader or any advertiser could verify them. The situation was similar to that in the architectural profession before state examination and registration became established, when any individual could call himself an architect or an engineer and no one could check his claims.

The solution to this was a cooperative, non-profit public accounting organization called the Audit Bureau of Circulation (known generally as A.B.C.) of which all reputable publications now are members. Twice each year tough, experienced A.B.C. auditors visit our offices and make an exhaustive investigation and audit of the circulation. The results are published, and you can find out, for instance, these certified facts for the period ending June 30, 1946 (the December audit is not yet available as we go to press):

<table>
<thead>
<tr>
<th>Publication</th>
<th>Total Net Paid Circulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROGRESSIVE ARCHITECTURE</td>
<td>26,466</td>
</tr>
<tr>
<td>Architectural Record</td>
<td>24,394</td>
</tr>
<tr>
<td>Architectural Forum</td>
<td>49,669</td>
</tr>
</tbody>
</table>

You can find readers classified by business and industry, such as:

Architectural, Architectural Engineering Firms & Architects and Architects-Engineers in Private Practice:

<table>
<thead>
<tr>
<th>Publication</th>
<th>Number of Subscribers</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROGRESSIVE ARCHITECTURE</td>
<td>9,685</td>
</tr>
<tr>
<td>Architectural Record</td>
<td>9,126</td>
</tr>
<tr>
<td>Architectural Forum</td>
<td>8,403</td>
</tr>
</tbody>
</table>

And you can find classification by title and occupation, such as:

Draftsmen:

<table>
<thead>
<tr>
<th>Publication</th>
<th>Number of Subscribers</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROGRESSIVE ARCHITECTURE</td>
<td>2,929</td>
</tr>
<tr>
<td>Architectural Record</td>
<td>799</td>
</tr>
<tr>
<td>Architectural Forum</td>
<td>2,259</td>
</tr>
</tbody>
</table>

You can see trends in circulation, like this:

Contractors & Builders:

<table>
<thead>
<tr>
<th>Publication</th>
<th>Number of Subscribers</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROGRESSIVE ARCHITECTURE</td>
<td>1,518</td>
</tr>
<tr>
<td>Architectural Record</td>
<td>2,427</td>
</tr>
<tr>
<td>Architectural Forum</td>
<td>7,710</td>
</tr>
</tbody>
</table>

And so on through the various categories. Obviously, to audit our circulation in this complete manner, A.B.C. must have complete facts. I may know that John Jones is a practicing architect—he may be one of my good friends—but that doesn't help in the cold-blooded audit that takes place twice a year. John has to fill out the required card, unfortunately.

Julian Elfenbein, in his book on Business Journalism published by Harper, says, "The A.B.C. is an important example of industrial self-government and the will to conduct business honestly and aboveboard." I hope that makes as much sense to you as it does to me.

THE OTHER ASPECT OF OUR CIRCULATION POLICY WHICH HAS BEEN ANNOYING SOME PEOPLE IS OUR DESIRE TO RESTRICT CIRCULATION TO THOSE WORKING IN THE PROFESSIONS CONCERNED WITH BUILDING DESIGN. The June 1946 A.B.C. audit showed that we had a total of unclassified and miscellaneous subscriptions going to 4,128 people. We didn't like that for three reasons:

1. Paper is still scarce, and we can't afford to use it to print magazines for people who are interested, but not professionally interested, in architecture. We hate to keep repeating it, but we are a professional magazine.

2. Subscriptions, unfortunately, don't begin to pay for the editing and the publishing of the magazine. We must sell advertising to continue in business. We can't sell advertising on unidentified subscriptions; that's one of the peculiar aspects of a professional magazine. Hence we lose about ten dollars a year on each one of those 4,128 unclassified subscriptions. It sounds fantastic, and maybe I'm being undiplomatic in bringing the subject up, but frankly, we can't afford that; it restricts our operating budget too greatly.

3. As editor, I have insisted that we address ourselves to a technically educated group on a professional level. Non-professional readers should not benefit from our treatment of material; if they do, we are not doing properly our self-appointed job. The very existence of a large block of readers who are presumably lay persons is a temptation to water down our editorial policy.

That's why some people have been told they can't have the magazine any more. If any of them can classify themselves in a professional category, we wish they would do so, quickly. We'll break our necks doing the best possible job we can for the professionals, but we aren't going to run into the red, financially or in an editorial sense, to service others. It's a pretty drastic policy, and it's subject to reinterpretation, but we think it's honest.