Copper Tubes
for forced circulation

Heating Lines
offer important advantages

Anaconda Copper Tubes are phosphorus—deoxidized to increase corrosion resistance. Anaconda Fittings have long cups to give longer and stronger solder bond and more support for tubes.

Here's the best value in piping, not only for hot and cold water and air conditioning lines, but for the heating system as well. For heating lines, Anaconda Copper Tubes mean a lower heat loss. On most jobs, insulation is unnecessary. And smaller sizes can almost always be used because the smoother inside walls of copper tubes permit a higher rate of water flow. More heat is delivered—faster! Yet these non-rust tubes cost little more installed than the home-builder would pay for piping that rusts.

Soldered joints eliminate pipe threading, making possible lighter weight, lower cost tubes. No wonder this modern rustproof piping is being used in houses costing as little as $4,000 and $5,000!

It is genuinely economical to use Anaconda Copper Tubes, as well as other Anaconda products for rustproofing the home.

Anaconda DEOXIDIZED Copper Tubes

THE AMERICAN BRASS COMPANY

Offices and Agencies in Principal Cities

GENERAL OFFICES: WATERBURY, CONNECTICUT

In Canada: ANACONDA AMERICAN BRASS LTD., New Toronto, Ontario
Rugged construction, high efficiencies, maintained economy, and the fact that they are available in types for any fuel, have been reasons for the selection of Fitzgibbons Boilers in many Federal Building projects.

Fitzgibbons' reputation has been fifty years in the making. An unbroken half century devoted exclusively to the successful manufacturing of steel boilers has inevitably developed in Fitzgibbons Boilers every refinement of design and of production.

Fitzgibbons engineers are prepared to aid in the selection of the right boiler for any set of conditions.

Full details and catalogs upon request.

Fitzgibbons Boiler Company, Inc.

General Offices:
ARCHITECTS BLDG., 101 PARK AVENUE, NEW YORK, N.Y.
Works: OSWEGO, N. Y.

Branches and Representatives in Principal Cities
Let a "CORROSION STUDY" tell you where to use WROUGHT IRON

Examples by WYATT C. HEDRICK, Inc. Fort Worth Architect

• Byers Genuine Wrought Iron specified in Texas and Pacific Passenger Station, Fort Worth, for all water pipe above ground, all steam piping below first floor and in tunnels, and all steam return piping below fourth floor.

• Byers Genuine Wrought Iron specified in Texas and Pacific Terminal Warehouse, Fort Worth, for all water piping above ground, and all steam return piping below first floor.

• Byers Genuine Wrought Iron specified in the Riverside Junior-Senior High School, Fort Worth, for heated piping and water lines leading from mains to water locations.

Let us aid you in analyzing pipe, tank and smokestack services to determine the corrosive conditions that will be encountered. On the basis of this information and the records of the materials that have served under similar conditions, plus your own experience, you can select with assurance the proper material for each type of service.

Note the examples illustrated. Wrought Iron has been specified for those services where a study of the conditions, plus experience, proves it longer lived and more economical.


BYERS GENUINE WROUGHT IRON
Tubular and Flat Rolled Products

Specify Byers Genuine Wrought Iron Pipe for corrosive services and Byers Steel Pipe for your other requirements.
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GIANT EMPIRE FLYING-BOAT
First of the Atlantic Fleet
started with a pencil

THE EMPIRE FLYING-BOAT
28 ARE NOW BEING BUILT FOR IMPERIAL AIRWAYS
Length, 199ft.; Height from water line, 46ft.; Speed, 200 m.p.h. (approx.); Span, 114ft.; Weight fully loaded, nearly 18 tons; Crew, 5; Accommodation, 24 passengers on day stages and 16 on night journeys.

With the recent launching of the mighty "Cavalier" the New York-Bermuda service now becomes a reality! From the pressing pace of the world's largest city to the leisurely life of semi-tropical British Isle will be only a matter of hours. But even more significant, the New York-Bermuda hop forms the first link in the proposed transatlantic service!

As with all such great achievements, this one started with pencil and paper. From the original sketch to the precise, finished specification drawing, pencils were used.

The makers of Venus Drawing Pencils are proud of their share in making possible today's outstanding engineering and architectural feats. For, in the drafting rooms of leading firms in America, England and throughout the world, the preferred pencil is Venus.

Venus Pencils are as precise as are the professional men who use them. There are 17 shades of black, for example. Each is accurately graded and tested—triple-checked to be sure every pencil in each grade is always identical. The famous Colloidal* process used in making Venus Pencils guarantees smooth, even lines.

If you are not already using Venus Drawing Pencils it will pay you to try them.

* U.S. Pat. No. 1,738,888

AMERICAN PENCIL COMPANY • Hoboken, New Jersey

Try Venus Coloring Pencils. Thin lead. Stronger. Longer-lasting, 26 colors.
Specify Welding for simplified piping installations

Oxy-Acetylene welding simplifies every step in the installation of pipe. Blueprints are simplified. Costly fittings are eliminated. Pipe is bought in random lengths at a considerable saving. Weight is reduced, and heavy supports and scaffolding are unnecessary. Tool expense is cut in half. The welded joint requires less time and labor. The cost of covering the welded system is less. The welded system is permanently tight— it minimizes expensive leaks and servicing.


The welds, "W", are smooth inside and flush with the pipe wall on the outside. Each weld is inherently more simple than any other joint can possibly be.
NOW YOU CAN give apartment buildings and homes the advantages of windows in bronze or aluminum—at prices below those formerly paid for windows of much lower efficiency and quality.

Permatite Windows—casement or double hung—assure the satisfaction of your clients. Their lines emphasize the beauty of the interior decoration. Their simplicity enhances the attractiveness of the exterior. Their wide vision makes for more light and cheer.

Many features of these new, patented windows appeal immediately to practical clients. The new, built-in metal weatherstripping forms a virtually airtight seal—keeps out moisture, dust and dirt—stops heat loss at the windows—and reduces fuel costs.
Exhaustive tests indicated—for both casement and double hung windows—an unprecedented resistance to air infiltration. That's why they aid the efficiency of insulation and air-conditioning—in both homes and public buildings.

Permatite Windows are sturdily built and airtight—yet they operate with surprising ease. They will not warp, stick—or rust. No painting is required—maintenance cost is negligible. Contractors appreciate their easy handling and installation. For construction details and specifications, consult Sweet's or write us for a fully illustrated catalog.
THOSE WHO HAVE FOLLOWED THE PRESIDENT'S TECHNIQUE of setting his projects in motion are familiar with the publicity build-up which usually precedes a ringing message to his lieutenants to start work on another objective. It might be well, therefore, to note a rather obscure item which came over the AP's wire from Washington on July 14th. According to this dispatch, Mr. Roosevelt has his heart set on another objective. It might be that if landlords don't watch out they're going to be in the Administration's already crowded doghouse along with our friends the Princes of Privilege.

CONSTRUCTION

BACK IN 1928—nine long years ago revisions in New York City's building code were begun. Changes in the existing statute were indicated because of technological progress in the construction industry, which had outmoded some of the stringent requirements of New York's building code. After a checkered career, the new code was finally approved on July 20th, with Father Knickerbocker's aldermen registering their thumbs-up approval to the tune of a 45 to 9 vote. All along, aldermen had admitted that the many technicalities of the bill were incomprehensible to the average legislator. "The public does not expect aldermen to be Leonardo da Vincis," said Alderman John Cashmore, while Murray W. Stand made the endearing remark that "I'm only an alderman and probably a dumb one at that." Such candor was refreshing indeed.

Most debate was caused by the steel welding provision. But there was also argument over the bill's allowing of steel in place of three. Mayor F. H. LaGuardia's approval of the bill's allowing of steel and七artments for rent. From the President's remarks it was gathered that he favored the old practice of allotting 20% of a family's income for rent.

All of which might be just another indication that Mr. Roosevelt has his heart set on low-cost, low-rent housing, and—perhaps—that if landlords don't watch out they're going to be put in the Administration's already crowded doghouse along with our friends the Princes of Privilege.

THE TWENTY-NINTH SEMI-ANNUAL SURVEY OF REAL ESTATE CONDITIONS throughout the country by the National Association of Real Estate Boards discloses that realty prices are higher in 84% of the leading cities than was the case one year ago. In 63% of the cities advances of 10% are reported, and the survey says that in a few instances increases of 15% to 20% were found. An increasing scarcity of single-family homes is revealed in all cities, regardless of population, whereas an adequate or superfluous supply of business space is reported for practically all cities over 200,000. Incidentally, one part of the survey shows that the number of home sites purchased during the first four months of this year was approximately double the rate of home production. So either there's a lag in construction reports or else there's a lot of speculative realty buying going on.

AND THEN, IN A RECENT ISSUE OF PRINTER'S INK, we come across Mr. L. Seth Schmitman in a doleful mood. "The rise in construction costs," he says, "is up to 30% to 50% over 1932 lows, is a menace, and if recovery's insecure, finger-nail grip is loosened by mounting costs, the effect on construction industries may toss the country back into the gaping jaws of another depression's wolves." Mr. Schmitman says that we're being asked to absorb near-peak construction costs on a per-capita national income at least 25% below peak levels.

IF THIS DOESN'T GIVE YOU THE WILLIES, just glance at a recent issue of News and Opinion, the bulletin published by the Building Trades Employers Association of the City of New York. The new union scales of wages and hours is given, and after looking it over you may decide to go buy a trowel and join the Union. We are strongly tempted ourselves, the only drawback being that we wouldn't know what to do with all the resulting spare time if we did.

Here's part of the aforementioned scale (just enough to make you feel underprivileged):

<table>
<thead>
<tr>
<th>TRADES</th>
<th>HOURS PER HOURLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bricklayers</td>
<td>7</td>
</tr>
<tr>
<td>Bricklayers' Helpers</td>
<td>7</td>
</tr>
<tr>
<td>Carpenters</td>
<td>7</td>
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<tr>
<td>Cement Masons</td>
<td>7</td>
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<tr>
<td>Hoisting Engineers</td>
<td>7</td>
</tr>
<tr>
<td>Plasterers</td>
<td>6</td>
</tr>
<tr>
<td>Plumbers</td>
<td>7</td>
</tr>
</tbody>
</table>

Needless to say, News and Opinion has an editorial caption fit over all this, and wonders how it'll end. Trouble is, says N. & O., it is not real collective bargaining which establishes these scales. Why should there be twenty or more separate wage negotiations, wage scales and conditions of work, it wants to know. The already definite signs of a building slump, it is predicted, will give Union officials, who had a share in causing it,
GENERAL ELECTRIC IN THE FOREFRONT OF THE ADEQUATE WIRING PARADE

OFFERING ARCHITECTS EVERY AID TO BETTER HOME WIRING

Today, the public is becoming more and more interested in the electrical wiring of the homes they buy. Everybody wants to use electrical appliances, and experience has shown them that appliances can't be used satisfactorily and conveniently unless the wiring is adequate.

Therefore, let General Electric, an old veteran in developing adequate wiring help you with the wiring in the homes you design.

For years General Electric has advocated adequate wiring. New materials have been developed as the need for them arose. Wiring methods and wiring systems have been designed by G-E engineers.

The line of General Electric wiring materials is complete. G-E wiring materials are all of the same uniform high quality, and are designed to be used together.

Find out more about G-E Wiring Materials and G-E Home Wiring. G-E Home Wiring may be installed in 101 different ways and is suitable for any type or size of house. With it, wire sizes are large enough and outlets plentiful enough. The layout is simple and direct. G-E Home Wiring is adequate and assures satisfied clients.

For further information on G-E Wiring Materials or G-E Home Wiring, write to Section CDW-718, Appliance and Merchandise Department, General Electric Company, Bridgeport, Connecticut.

GENERAL ELECTRIC WIRING MATERIALS

AMERICAN ARCHITECT AND ARCHITECTURE, AUGUST 1937
THE FOURTH IN A SERIES OF INTERESTING WINDOW TREATMENTS
Architect . . . The late Pliny Rogers

For greatest utility and beauty, the window glass with which a window opening is glazed should have the following qualities: Clarity. Freedom from distorting defects. Brilliance of finish . . . on both sides of the sheet. Accurate reflection. And a dense, abrasion-resistant surface texture. Pennvernon Window Glass possesses these essential characteristics to an unusually high degree.

THE Pittsburgh Plate Glass Company maintains a staff of special architectural representatives. The whole duty of these men consists in rendering the architect every assistance within their power in connection with the use of glass and paint. We urge you to call upon us at any time when a visit from one of our architectural representatives would be helpful to you.

A complete line of Pittsburgh Products of the following types is available throughout 74 branches in leading cities:

PITTSBURGH GLASS PRODUCTS
Polished Plate Glass
Pennvernon Window Glass
Carrara Structural Glass
Ornamental Glass
Pittsburgh Mirrors

PITTSBURGH PAINTS
Sun-Proof Paint
Wallhide Paint
Waterspar Enamel
Waterspar Varnish
Florhide Enamel

PITTCO STORE FRONT METAL

See Sweet’s for complete specifications and for addresses of Pittsburgh Plate Glass Company branches.
Permanently Efficient and Economical

USG RED TOP INSULATING WOOL

FIREPROOF...MOISTURE RESISTANT...DOES NOT DECAY

A Proved 4-inch Conductivity Coefficient of .066

A FORM OF RED TOP INSULATING WOOL FOR BOTH NEW AND OLD HOUSES

Specify this unique Insulating Wool that never has to be replaced!

You can specify Red Top Insulating Wool® with full confidence that it will supply efficient, economical insulation. Made from the same chemically stable mineral base as glass, spun to a fluffy, resilient, long-fibered wool as light in weight as cotton, it has these important characteristics:

FIREPROOF — Red Top Wool will not burn or support combustion. It is approved by Underwriters Laboratories.

MOISTURE RESISTANT — It is inherently moisture resistant, which means that it maintains its insulating efficiency under all atmospheric conditions.

DOES NOT DECAY — Unaffected by air, water, acids or gases, it never crumbles or rots. Will not harbor vermin.

EFFICIENT — Independent laboratory and university tests show that a 4-inch thickness of Red Top Wool has a conductivity coefficient of .066 BTUs per sq. ft., per hour, per degree temperature difference.

ECONOMICAL — Because of its high insulating value, low first cost and long life, we believe you will agree that Red Top Insulating Wool is the most economical insulation your client’s dollar can buy.


ONLY RED TOP INSULATING WOOL GIVES YOUR CLIENTS SO MANY OUTSTANDING ADVANTAGES: ONLY USG DEALERS AND APPROVED APPLICATORS SUPPLY RED TOP WOOL!

UNIVERSITY OF CALIFORNIA

URGENT MEDIA COMPANY

AMERICAN ARCHITECT AND ARCHITECTURE, AUGUST 1937
a headache for which aspirin will be of no avail.

As a grim sort of prognostication of things to come, X. & O. tells what has happened to building in France, where high wages, taxes and governmental labor policies are causing stagnation. Compared to the upward trend in other large countries, France—according to this account—presents a dismal picture indeed. It almost makes us ashamed of America for nagging France about those War Debts when we read:

"... building construction in France has steadily declined during the past three years until in December, 1936, the number of permits was 35% less than in December, 1933, and the entire year averaged only about 65% of the year 1933. In Paris, a city of five million population, permits for only 35 single-family dwellings were asked in 1936, and for two-family and upward houses, permits totaled only 134, covering less than 2,000 families. In 1936 New York City permits provided for more than 33,000 families."

**THIS IS THE KIND OF TALK** Mr. Thomas G. Grace, New York State Director of the Federal Housing Administration, doesn't like to hear. Recently Mr. Grace deplored even the discussion of higher building costs as tending to discourage perfectly solvent persons from entering into home building investments.

**BUT, AH,** says the Federal Home Loan Bank Board, anyway increased buying power and higher rentals are spurring residential building activity. The volume of residential units constructed in April, 1937, was 68% higher than in April, 1936. And then the FHLLB goes on to say that employment and wages, which outstripped the increase in cost of living, were responsible for the rise.

**SO LET'S CON A COUPLE OF SUNSHINY ITEMS.** Writing in the Review of the Society of Residential Appraisers, Frank J. Hallauer, principal engineer of the Department of Agriculture, looks into the crystal and sees 1941 as the peak of the current building cycle. In that year, says he, housings for about 700,000 will be constructed; this year—1937—Mr. Hallauer estimates production will run around 500,000 housing units. Conditions will continue good until 1951, according to Mr. Hallauer, whose predictions are based on study of previous building cycles and the size of America's families. This latter factor does not usually receive great

---

**THE MOST BEAUTIFUL BRIDGES OF 1936,** according to the American Institute of Steel Construction, are: Class A (above)—East River Crossing of the Triborough Bridge, New York (O. H. Ammann, chief engineer, Allston Dana, engineer of design, Aymar Embury II, architect); Class B (below)—Hurricane Deck Bridge, Lake of the Ozarks, Mo. (Sverdrup & Parcel, engineers); Class C (left)—Astoria Boulevard over Grand Central Parkway Extension, New York (L. I. State Park Commission and Triborough Bridge Authority, engineers).
Floors of Today for The "House of Tomorrow"

Can an architect anticipate future style trends in floors? You may find your answer in the fact that for the "House of Tomorrow," sponsored by the Ladies' Home Journal at the North American Homes Exposition, Sloane-Blabon Linoleum was selected. In this breath-taking residence of glass, steel, and marble with vanishing bedrooms, walls that sink out of sight, and indoor rooms that become outdoor terraces at the touch of a button, modern Sloane-Blabon Floors enhance the beauty of "tomorrow's" living room and dining alcove, stress the practical character of the smart kitchen. So, whether you are planning something futuristic or being very practical in a modern way, please remember that the advanced floor styles in Sloane-Blabon Linoleum can assist, even suggest, your decorative ideas.

In lovely "House of Tomorrow" living room, Sloane-Blabon Clear White Linoleum harmonizes softly with white rugs, blue-white color scheme.

Sloane-Blabon FLOOR COVERINGS

TRENTON, N. J. • PHILADELPHIA, PA. • NEW YORK, N. Y.

Sloane-Blabon, Selling Agents Division • 295 Fifth Avenue, New York

AMERICAN ARCHITECT AND ARCHITECTURE, AUGUST 1937
This neat hook-up for radio connections provides for Aerial, Ground and Power connections from a one-gang outlet. Or in 2-gang type (first above) with extra opening for appliances. As easily installed as any convenience outlet; fits any standard-depth wall box. Gets rid of straggling surface wires; serves equally well for old buildings or new work; completes the electrical conveniences.

Aerial, Ground and Power connections are plainly indicated on receptacle. The aerial and ground plug has blades set at angle to prevent insertion in the power slots. Receptacles and plates come in brown Bakelite and cream-tinted white IVORYLITE. (These units are designed for separate aerials. For 2-to-20 outlets from one aerial, use the Multicoupler Antenna System — instruction-sheets on request).
Here is Veneer Construction Reinforced like Concrete!

... and these walls are thoroughly protected against penetration of air and moisture because the architect specified J-M STEELTEX

The brick wall of this well-designed, well-built house boasts a reinforcement, moisture-resistance and firesafety heretofore unmatched in ordinary brick or stone-veneer construction.

The use of J-M Steeltex makes possible a reinforced, monolithic construction—no sheathing is required. Flue-like air space is eliminated. Properly filled mortar joints assured. Further protection against wind and moisture is supplied by the double-ply, heavy waterproof backing of J-M Steeltex.

Hence, Steeltex provides a thoroughly modern brick-veneer construction that shields your clients' houses with a solid slab of cement, brick and steel. And therefore assures them of greater year-round protection at virtually no maintenance.

There are also Steeltex products designed for plaster, stucco, and concrete floors. For full details on these products or any other J-M Building Materials, write Johns-Manville, 22 E. 40th St., N.Y.C.
emphasis: the number of persons to a family has been declining at the rate of 5% a decade for the last fifty years, and Mr. Hallauer believes that this increase in family units will play just as important a part in stimulating building as growth in population. Sir Raymond Unwin recently stressed the same phenomenon.

MYRON L. MATTHEWS, WRITING FOR THE DOW SERVICE, breaks down the cost of constructing an average American home. Also, allocation of non-residential expenses is given. The residential building construction dollar is spent: 27.5¢ for carpentry, 14.8¢ for brickwork, 11.7¢ for concrete work,
You can satisfy both with this reinforced rubber tile...

Armsrong-Sledman Reinforced Rubber Tile with field of Verde Antique and fre of Sea Green White, Light Jade, and While Sea Green.

FINE, interwoven fibres make Armstrong-Stedman Reinforced Rubber Tile durable and attractive.

This reinforcing—an exclusive Armstrong feature—prevents buckling or crazing. It makes the tile more resistant to denting and abrasion. It also improves coloring and graining by preventing the pigments from "flowing" during the manufacturing process. These important advantages add nothing to the cost of Armstrong-Stedman Reinforced Rubber Tile—the aristocrat of floors.

Forty colors and three gauges are available in marble, paisley, and two-tone effects. See Swoelt's or write now for file-sized New Beauty and Comfort in Floors, Armstrong Cork Products Co., 1401 State Street, Lancaster, Pa.

ARMSTRONG'S Linoleum and RESILIENT TILE FLOORS

LINOTILE • ACCOTILE • CORK TILE • RUBBER TILE • LINOWALL • ACOUSTICAL CEILINGS
1934
They drove in my last nail today. And then the painters came. Feel pretty proud decked out in three coats of gleaming Eagle White Lead. Every one who passes by says, "Wouldn't you like to be living there!"

Diary of a house painted with...

EAGLE pure WHITE LEAD

1935
Just went through a tough winter. And now the sun's trying to parboil my hide. The joke is on him. Eagle Pure White Lead gives an elastic paint film. Even though the wood I'm made of expands and contracts, my paint film won't crack or scale.

1936
Still looking fine—thank you! My mistress has a facial every week but I won't need one for years. Eagle Pure White Lead can sure take a lot of punishment from the weatherman. Paint chemists say it's because Eagle White Lead is chemically active—it anchors deep in the surface it is applied to.

1937
This is getting monotonous—but my 1934 complexion is still practically good as new! Eagle White Lead is surely a good investment. Now I know what the architect meant when he said it costs less per square foot per year.

Camera shows why Eagle White Lead gives better paint protection

1938

EAGLE pure WHITE LEAD

THE EAGLE-PICHER LEAD COMPANY • CINCINNATI, OHIO
10.1¢ for plumbing, 8.2¢ for plastering and lathing, 6.6¢ for heating and ventilating, 4.5¢ for electric fixtures and wiring, 4.2¢ for painting, 3.5¢ for tile work, 1.8¢ for roofing, 1.3¢ for excavating and grading, .2¢ for papering and 5.5¢ for miscellaneous items such as hardware, glazing, etc.

The non-residential construction dollar goes the way of all flesh like this: 20.7¢ for concrete work, 17.2¢ for brickwork, 8.7¢ for structural steel, 7.0¢ for elevators, 6.6¢ for heating and ventilating, 6.6¢ for electric wiring and fixtures, 6.4¢ for carpenter work, 5.2¢ for plumbing, 4.3¢ for plastering and lathing, 2.5¢ for excavation and grading, 1.7¢ for tile work, 1.6¢ for painting, 1.3¢ for roofing, 1.5¢ for glass and glazing and 8.5¢ for miscellaneous.

These are national statistics based on investigation in more than a dozen cities, of costs accruing from the time excavation is started. The figures do not include overhead expenses, profits, cost of land, finance charges, or that pitifully minor item—architects’ fees.

AND FROM CHICAGO comes word of interest in connection with lower cost construction work. Some laudable gentleman has invented a new kind of cold rivet, which is being diligently investigated by engineers and builders. If the inventor’s claim stands scrutiny, cost of putting the new rivet in place will be 3¢ as opposed to 15¢ for the present hot rivet. One effect of this new development might be to make possible steel frames for houses—thus eliminating plaster cracks.

SCHOOLS

DEAN LEOPOLD ARNAUD, of the Columbia School of Architecture, announces that at the opening of the new academic year in the fall a laboratory will be established for research in design correlation—"a new and different development in architectural training. Says Dean Arnaud: ‘Designs for furniture and other mobile equipment will be correlated to the requirements of the human being and his environment. They will then be constructed for actual tests and the theoretical research will be followed by practical study of methods of production.

‘An Italian chair of the sixteenth century, for instance, is not outmoded on account of its style, but because today people have adopted different methods of sitting, and the Italian chair no longer provides comfort. In many other ways esthetic factors or styles have changed and at the same time human beings have changed in their viewpoint in respect to design and conveniences."

Frederick J. Kiesler of New York will be director of the laboratory, and during the Summer session at Columbia will give a course in training for art in industry, which will be in the nature of a preparatory course for the research laboratory work.

LABOR

During the past few years Seattle has earned for itself a reputation as a hot-spot of labor unrest. Not surprising, therefore, is the outcropping of organized draftsmen talk recently heard there.

Attention was first called to the situation when Seattle architects received notice their draftsmen were to be organized. Accompanying this notice was an intimation that after a certain date the Seattle Building Trades Council will refuse to have its members work on a structure for which plans were produced after a definite date, unless the union stamp appears on the blue prints. Such action, it was predicted, would be subject to court restraint, since interference of this kind with an individual’s practice of his profession is illegal. . . . especially where employees do not desire organized collective bargaining.

In reporting on this situation to the Board of Directors of the American Institute of Architects, Mr. William Stanley Parker, of Boston, declared that most, if not all, architects and their draftsmen will find the underlying idea of this move quite offensive to their conception of the relationship which should exist between professional co-workers. “Draftsmen may appropriately ask whether they should be denied the protection of such organized bargaining if the professional relationship fails to secure for them what they consider to be fair conditions of employment. If they ask such a question, as they appear to be asking in Seattle, the architects and their draftsmen as a group must answer it. The answer may lie in a new form of relationship between draftsmen and the Institute which, after all, is their national professional organization.”

Mr. Parker pointed out that draftsmen may join the chapters of the American Institute of Architects as junior associates, but they have no right to hold office or vote on chapter business. When a draftsman is deemed qualified by the chapter he may be advanced to full association, but he still has no power to hold office, no voice in chapter business. “The present situation,” continues Mr. Parker, “suggests a fresh analysis of the relationship of draftsmen to the Institute in an effort to find a formula that will be satisfactory to the draftsmen and will bring about the affiliation with the Institute of a very substantial proportion of draftsmen. If this can be accomplished, it will be the surest answer to those draftsmen who feel they need the protection of an outside unionized organization with national union affiliations.

“If this problem cannot be successfully solved, we may, with some reason, look forward to some form of draftsmen’s unions in the larger cities. It does not appear likely that they will be found needed in smaller communities in which there are no large architectural offices.”

That the Institute will soon announce some revised set-up to meet this situation seems likely from the report.

COMPETITIONS

IN A COMPETITION SPONSORED BY THE PITTSBURGH GLASS INSTITUTE for the best use of glass as an architectural and decorative medium, Abel Faidy, Chicago designer, won first prize of $1,000. Through courtesy of the American Federation of Arts, Mr. Faidy’s prize-winning design will be shown next winter in museums throughout the country. Winner Faidy, whose wife is a sister of famed sculptor Guton Borghun, resides in Chicago, where he gives lectures on modern architecture and conducts classes in design.

FAIRS

AFTER PREVIOUSLY VETOING AS TOO GENEROUS the $5,000,000 appropriation to aid New York’s World Fair of 1939, a couple of weeks ago President Roosevelt signed a bill providing $3,000,000. At the same time he signed a bill tossing $1,500,000 into the hopper of San Francisco’s Golden Gate Exposition. In connection with New York’s Fair, President Grover Whalen’s decision to enter his city’s mayoralty contest evoked much interest, since this step came soon after a statement by Mr. Whalen that he did not choose to run. Mr. Whalen has severed all his corporate ties to make the race, retaining only his presidency of the World’s Fair. Incidentally, in his first statement to the press Mr. Whalen said he would make housing one of the chief issues of his campaign.

A few days prior to this development it was announced that U. S. Steel, Metropolitan Life and the YMCA had taken space for the coming Fair. Walter Dorwin Teague, industrial designer, has been retained by Big Steel as consultant in preparing its exhibit, while the preliminary plans for the Y’s one-story service center are now being drawn up by Dwight James Baun, architect of the West Side YMCA.
All good heating systems today have automatic controls, air conditioning, and other modern features—but only Norge has developed an all-steel, spiral heat transfer unit that extracts the most heat from every dollar's worth of fuel. The hot gases of combustion are carried spirally upward over 36 lineal feet of boiler-plate steel. Overall efficiencies are as much as 80% and up!

The Norge Fine-Air Furnace is a complete winter air-conditioning system. For summer, complete cooling equipment powered by the famous Norge Rollator compression unit may be added. No matter what kind of heating you may be considering, be sure to see the Norge before you buy!

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NORGE WHIRLATOR OIL BURNER... operates on the exclusive Whirlator principle—clean, quiet, economical. For use in the Norge Fine-Air Furnace or in modernizing your present heating plant.

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See the sensational new Rollator Refrigerators and Norge Concentrator Gas and Electric Ranges today!

Norge Autobuilt Washers and Duotrol Ironers are this year's style and performance leaders. Investigate!
These "modulating attachments" are applied, in the Johnson factory, to various standard makes of thermostatic expansion valves, forming a complete unit that is controlled by a distant thermostat as well as by the usual bulb on the outlet of the evaporator. The bulb operates the expansion valve in the usual way. When maximum cooling is not required, the controlling instrument, sensing room or duct temperature or humidity, gradually "throttles" the expansion valve, regardless of the action of the bulb, reduces the flow of refrigerant. Actually two automatic control valves, combined in one!

The superiority of this combined action is evident, as compared with the practise of starting and stopping the compressor or operating an automatic stop valve in the liquid line. Less labor during installation. Reduced maintenance costs. Annoying delays minimized . . . One more of the "specially-tailored" devices for air conditioning control that are available only in Johnson Systems.
H. J. Maxwell Grylls of Smith, Hinchman & Grylls, Inc., says that he doesn't usually putt with his driver.

Talmage C. Hughes, whose chief occupation seems to be editorial work. His hand is usually visible in the Michigan Society Bulletin, and he served as executive editor for the Detroit guest editors in this issue of our own magazine.

Some Detroit Architects and Their Avocations

Richard H. Marr divides his spare time between swimming, sailing, and gardening.

Left, Robert O. Derrick, of Derrick & Gamber, Inc., gets his exercise in several ways, one of them on the tennis court.

Right, Branson V. Gamber, the other half of Derrick & Gamber, Inc., was caught illustrating the working of the stocks at Williamsburg.

J. Ivan Dise, who is not only a golfer himself, but is rearing his to be another.
In one Operation...
NEW FIRE-PROTECTION
NEW INSULATING VALUE
NEW BEAUTY OF TEXTURE
NEW BEAUTY OF LINE
and Reduced Maintenance Costs

We are constantly hearing of new reasons for using Eternit Timbertex Sidings. Rarely does modernization show so clearly how well Eternit Timbertex Sidings can be used to emphasize the important architectural features of a building.

Many different factors led to the selection of Eternit Timbertex Colonial Siding, in this case. 345 squares were used. Greater fire-protection and lower maintenance costs were particularly important considerations. As originally built, the costs for painting, repairs and maintenance were tremendous items. Today they are at a minimum. No paint or stain will ever again be required. Moreover, this Timbertex Siding provided additional insulation for the sidewalls—with resulting economy in winter fuel and greater comfort in the summer months.

In the wide range of Eternit Timbertex Shingles and Sidings, you can find the exact color, texture or line to help you put extra beauty, extra refinement, into almost every job. We would welcome the opportunity to tell you about any or all of the Ruberoid Architectural Products. They are up-to-the-minute in quality and design; they are money-savers. Please let us know your interests. Write Dept. A.A.-8
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THAT'S how you can stop traffic for your client with a brilliant store front of USS Stainless Steel.

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Cost need be no problem. Point out to your client that USS Stainless Steel will cost him not a cent for polishing. Nor painting. Nor lacquering. Nor replacements. Per year of service, USS Stainless Steel is one of the least expensive materials he can use.

Our nearest district sales office will gladly recommend local fabricators, skilled in making USS Stainless Steel store fronts and architectural trim at moderate cost.
CONSTRUCTION seemed almost to be on its way toward a new boom in the early part of the year, but its trend has changed and the curve leveled off. Construction figures used in charting the progress or retrogression of building activity are such that it is not always possible to determine the true meaning of the curve, as far as architectural interest in the picture is concerned. By and large, a curve showing the amount of residential construction contracts would be an indication of the architectural activity throughout the country. The other figures which entered into the usual statistics involved large industrial expansion and government projects which hardly will affect the rank and file of the profession.

The incipient boom has been nipped by rising costs, both of materials and labor. Many architects, whose clients were ready to go ahead, have been discouraged by these high costs since the bids coming back were so much higher than original estimates that owners decided to shelve the projects for the time being. Of course, it is impossible to tell at this point whether costs will be stabilized, will drop or will rise, but it is doubtful if we can count on very substantial reductions the rest of this year. The architect's only recourse is to persuade the prospective builder—

1. That even at present prices he is still getting more for his money than in the 1927-1929 era.
2. That investment in such a tangible as real estate and a home is wise.
3. That the plans and specifications can be revised downward to meet the original budget.

Again the architect is affected by conditions beyond his control.

A ray of sunshine in the building picture is that a recent real estate survey shows a great increase in the purchase of building lots. This, of course, indicates either potential home builders or investors hoping for appreciation in real estate values. New owners of lots are potential architectural clients and an upswing in lot ownership will mean an increase in home building. This is true especially at the present, when rentals are still increasing, and the shortage of houses is becoming more and more acute.

There may also be more work for the architect if the plan of the Federal Home Loan Bank Board can be made to work successfully. The plan contemplates, among other things, the requirement of competent architectural aid in designing the homes, in the specification of materials, and also in the supervision of construction. The owner of a home so constructed with architectural supervision will receive a "Federal Certificate of Registration," which, it is hoped, will be not only a personal satisfaction, but a seal which will strengthen the investment security in the case of re-sale or foreclosure.

Small homes need architectural supervision, but fees will probably have to be very low both actually and in relation to the time involved. Will the most competent architects be available for this exacting and time-consuming service for small fees? If fees are inadequate, either the quantity or the quality of the service rendered in supervising construction may suffer. The plan should prove to be a long step forward in eliminating jerry building. If it should develop that unworthy structures receive this Federal Certificate, a black mark will be chalked up against the architectural profession, for it is the architect who will be responsible for the supervision as well as for the design and specifications.

Some speculative builders, interested in profit, may need to cut corners to make sure of their profits, and it is naive to expect a minimum of supervision to guarantee first-class materials or workmanship. And speculative builders are also going to realize the value of the government bureau certificate as a selling point. Put these two things together and you'll see what it means in architectural responsibility. If the architect can choose contractors he knows to be reliable, who are honest in their construction whether he is there or not, then undoubtedly there will be better construction in this low-price field.

The F. H. L. B., in its very commendable efforts to achieve better building and safer loans, is offering to place on the architectural profession a heavy responsibility. Whether or not the profession is willing to accept this burden wholeheartedly still remains to be seen.

Upon the competency and integrity of the architects engaged in this work depends the success or failure of the plan, from a professional as well as a financial point of view.

Editor
THE RIVER ROUGE PLANT OF THE FORD MOTOR COMPANY. PHOTOGRAPHED BY CHARLES SHEELE
EROY schoolboy knows that Canada is north of the United States. But in Detroit you travel due south to go to Windsor, Ontario.

Of course there is a scientific explanation of this phenomenon. Detroit river bends sharply as it passes the two cities, making Canada, for a short distance, south of the United States. Never, I scorn such an obvious explanation; it seems quite keeping with the known contrariness of Detroit that Detroiters should insist on locating Canada south of the United States while all the rest of us are convinced that it's north. Detroit is like that.

Detroit is the city to end all cities. It has grown fabulously on an industry designed to make the city—every city—famous of the past. Its tremendous centralization of industrial power comes from the production of a machine that will do, has done, more than any other invention in the world's history to hasten the de-centralization of urban civilization.

The motor car is the best known medium for getting away from wherever you are. Since most Americans are filled with a burning desire to go somewhere else, principally for pleasure of coming back almost immediately, the automobile is an answer to a nation's prayers. Distance having thus been annihilated, there is now no reason whatever why workers should live in the city in which they toil. And now that it has made possible to break up a man's home merely by running into his trailer (a clear gain in time and directness over older and more devious methods) it is triumphantly clear that the city, as such, is on the way out, thanks to Detroit.

Here is a faintly inhuman atmosphere about Detroit. Anything that happened yesterday might as well have happened in Pleistocene age. If you see a business man sitting at a bar in the Motor Bar and staring into space, five dollars will you ten that he is not considering the events of the dear past; no, he is figuring out how to tell the public that the 0 model of the Skidless coupe (pronounced coop) is definitely superior to the 1939 model, which the public will not see until the new building is completed.

It has done, more than any other invention in the world's history, to cause the shade of John Ruskin to regret that he had to pass from this vale of tears without beholding them, yet by and large the new buildings are better than the old. They had to be.

To make room on city streets for ever more and more traffic lanes, the streets have been widened and in the process it has been the delightful task of the modernizer to retire permanently from view some of the choicest examples of the Pointed Ironic style of architecture that bloomed when Rutherford B. Hayes ruled this land. Frankly admitting that some of the new buildings that replaced them are not of such exceptional beauty as to cause the shade of John Ruskin to regret that he had to pass from this vale of tears without beholding them, yet by and large the new buildings are better than the old. They had to be.

To say that the effect of Detroit's No. 1 product upon American architecture is not beneficial is to argue that an automobile show room is not more pleasing to the eye (and to the nose) than was the old time livery stable, an assertion that would encounter considerable eyebrow-lifting. A whole new class of buildings, both for manufacturing and retailing, came into use with the automobile. These, added to the still more numerous and important replacements made necessary by street-widenings, have made the American city a better place at which to look than it would have been had not Henry Ford and his compeers made gasoline good for something besides kindling recalcitrant fires. I like to think that some Newton of the motor world, sitting under a tree in the back yard, witnessed an explosion that blew a cook through the wall of the kitchen immediately after the cook had touched a match to the gasoline-saturated kindling in the range, and mused, "It would be a far, far better thing if this explosive power could be harnessed to permit the cook to travel, more slowly it is true, but with more control of direction." and then instantly inventing the internal combustion engine. If it did not happen that way, it should have.

So indirectly we get our architecture f.o.b. Detroit. Cities are being deserted, to the profit of their suburbs and the countryside, because the automobile has made the city a place to work in, not to live in. It may be argued that Detroit is destroying itself in the process. If that were true, I doubt if Detroit would care, having more important fish to fry. But I think that long before the decentralizing process attains much headway in Detroit, the gentlemen of that city will have figured out something else that will operate to keep that eager stream of immigrants from less dynamic sections pouring into Wayne county. Probably they have figured it out already; it wouldn't surprise me. Nothing that could happen in Detroit would surprise me, or surprise Detroit.
DELI STUDIES, SCHOOL OF GRADUATE STUDIES, UNIVERSITY OF MICHIGAN

SMITH, HINCHMAN & GRYLLS, ARCHITECTS
ON THE STUDY OF ARCHITECTURE

BY WELLS BENNETT
Director, College of Architecture, University of Michigan

THE history of architecture in Michigan, as far as work of any significance is concerned, extends over a span of about one hundred years. The history of architectural education in the state of Michigan as represented at the University extends over a period of thirty years. Most people would agree that in these last three decades there has been such an acceleration of the nation's development in what are called the refinements of civilization that more of the strenuous life, as well as more of strenuous architecture, has been packed into this period than in the other two-thirds of the century. A world war, several economic booms, and a world-wide depression have come and gone within these thirty years, leaving their high water marks and their scars.

Architecture, faithfully reflecting civilization, has had its dull and good moments in these thirty years. When the first students began to study architecture at the University of Michigan they found that the architect spoke to the world through such variations as he might ring on two themes: Classicism or Romanticism as expressed by the Gothic, Spanish or other variation. The steel frame structure was just winning acceptance and the development of reinforced concrete was just at its beginning. Both were suspect as being dully utilitarian and a bit difficult to reconcile with tradition. It was still thought necessary to make this reconciliation. The tempo of life for the client with whom the architect had to deal was gradually being stepped up, but as yet there was no perceptible break with the long tradition in thought about architecture.

It was wood frame or masonry wall for honest construction and always the outward appearances must follow tradition. Industrialization was indeed well established, the great cities had long been on the make, but the automobile was not yet a factor in transportation for business and pleasure, and the meaning of mass production as we accept it today was hardly dreamed of. This was the world upon which the first graduates of our architectural schools entered to play their part, and is the point of departure from which our present generation of mature practitioners have made such adjustments as they might.

What is the state of the profession of architecture as the student of today enters into it? Those who intend to take up the profession are invariably told that architecture is a fine art, that it also comprises the art of building well, and that, in brief, the architect must combine among his talents a keen sense of the esthetically creative, such as is expected of the sculptor and painter, and at the same time, that he must master construction and all the practical details of making his fine conception permanent in wood, stone, or metal. This is a possible combination of qualities, as the careers of men as far apart in time and thought as Leonardo da Vinci and Frank Lloyd Wright both attest. Young architects, however, having been advised of the scope of their field, have always gone blithely on their way, in the majority of the cases leaning heavily on design and managing with construction as best they might. However, like profession's heroes of the Renaissance and the Gothic period, the more competent men have rarely been able to combine these qualities.

In the professional world today we realize that even the prospectus for the architect is no longer adequate. The idea just mentioned above have become much more complicated, as in medicine, though the individual may get the general vi he cannot specialize in all the details. Furthermore, there is a fourth dimension, so to speak, in which the architect, if he is to continue to exist, must maintain himself. With the young hopeful in architecture let us glance at these present-day facts.

In the techniques of architecture we are now faced with and constantly developing materials offered for structure or surface. Moreover, through extension of the mass product idea, there are appearing numerous and various fabrics of these materials. New forms in structural framing are constantly in process of evolution. Now that we have broken with the old masonry tradition, we hold nothing sacred in any new. Neither the rolled steel section nor the reinforced ccrete beam is necessarily the complete answer. The combination of flexibility in structural design with standardization of unit effecting economy in the use of time and materials, seems likely to come into building as it has made its way into other industries.

Experiments with new surfacing materials have parallel developments in framing. Here the changes imposed by synthetic materials and the machine as fabricator enter the f of esthetics with new form, new textures, and new use of co. Now the long period of adjustment of appearance to the fact of modern construction is ending, and co-ordination of struct with form and finish is a natural process as never before since the break with simple masonry construction. The student sets on these new materials and on the idea of co-ordination with avidity instinctive if sometimes superficial. Of his own tt and akin in spirit to the automobile, the radio, and cellophane packaging, he considers novel architecture to be contemporay architecture and sometimes forgets about stability and permanence. The cantilever seems the logical answer for all struc problems and the corner window the solution of all ftration. Where a young man thirty years ago envisioned his flowering to “the song and dance of the Renaissance,” student of today revels in “the International Style,” in both cases, fears, with more zest than reason. It is likely, however, that in the techniques of architecture, in the co-ordination of the esthetic and structural, the student will always grapple with this problem.

Then there is the matter of technical equipment. Once accessory to the work of architecture, mechanical elements today insistent on recognition as part of the fundamental
organization of every building. Every person who accepts the world of today must agree that this co-ordination is not only inevitable but highly desirable. It is not necessary to bow down to the machine but it would be silly not to accept it as our servant and make it completely at home. Heating, vertical transportation, electrical and related mechanical equipment are of increasing importance and they meet the architect upon the threshold of every planning problem. Here the average student of architecture is only restrained from accepting as gospel the "house as machine" by his lack of knowledge of machinery. By disposition he is rarely a machinist.

So architectural education on the technical side alone meets a highly complex situation today. The architectural school is certainly no longer a temple for the worship of tradition. In the College of Architecture at Michigan there is no interest whatever in the battle of the styles. Modern demands as to beauty and utility in plan, form, construction, and equipment are recognized as the substance of architecture. These elements transcend any style. The student, as has been said, is enthusiastic, but often superficial. After all, ramps and escalators must have head room. Even the most modernistic chimney may properly begin at the level of the heating unit and extend through the roof in a generally vertical direction. Even the most daring structural scheme must somehow attain stability. To be a good designer or a good structural man is not enough. Tomorrow's architect must be on speaking terms and preferably working terms with the whole technological field as regards architecture. It would be humanly impossible for him to miss all the details but he must see the whole picture. Most important of all, he must if possible sense, not the gimmicks, a superficial "modernism," but the universal principles of architecture pervading both changing physical forms and changing human needs.

With all the training in the world and with all the experience which the good office can give to the hopeful youth just coming from college, there is still something wanting. The young man has had professional training, but, in the interest of his success and the advancement of the profession, there remains the extension into another dimension. The most complete architect, the most brilliant planner and technician, may fail of a plan in the sun and may indeed shrink to the status of a hired man for interests and individuals more powerful than he, with narrow intensive technical training, is prepared to withstand. Busied with the creative side of the profession alone, the peripatetic artist might count the world lost. Not from an ivory tower but from the contact with the current of today's needs must the architect deliver his message. Our profession can only maintain itself as its members represent it. Through a broad vision of modern life combined with a mastery of technical problems, the architectural profession will not only justify its existence but will prove its service indispensable.

Some men have naturally an adjustment to environment, just as the occasional genius is a natural as an architect in the technical sense. For the general student, however, adjustment to the modern world can best be achieved through the acquisition of a broad cultural background in college, preferably preceding the professional courses. Training in salesmanship or in business methods in the narrow sense is beside the point, for these are mere gadgets of a professional man's education. History, modern languages, economics, sociology, and philosophy, however, set a discipline for the mind and at the same time open it the ultimate freedom.

To sum up our problem objectively, the student about to enter the profession of architecture should distinguish between being a draftsman and being an architect. If he has the capacity and the desire he should look forward to being an architect. To understand architecture and to effectively practice it, he should obtain first a general education including at least two years of college. The ensuing period, spent in a good architectural school, will be followed by an internship in an architect's office. With this introduction our student may hope to find for himself a complete professional life whose responsibilities in service and the satisfactions that come from creative work are unsurpassed.
HOUSE OF C. GILBERT WALDO
IVAN DISE, ARCHITECT

HOUSE OF RICHARD JORDAN
HERBERT AND FRANCES SCHMITZ, ARCHITECTS
BOY'S BEDROOM,
HOUSE OF LARRY HUME
D. ALLEN WRIGHT, ARCHITECT

34
SHORT CUTS IN LINEAR PERSPECTIVE

By FREDERICK CROWTHER

Note: The author of this article, Mr. Frederick Crowther, is in the forefront of America's architectural illustration artists in perspective and water-color. He states herein in simple terms some of the things he has learned over a long period, and offers some short cuts to perspective methods. "It is probably true," says Mr. Crowther, "that many have for years held to perspective methods that are untrue." Only by long experience has Mr. Crowther met and corrected these false impressions, which he here passes on to his confreres.

1. To establish stationary point in relation to the plan of the building.

Five times out of ten a satisfactory point can be obtained by combining the extreme corners of the building within an angle of 30°. This apex of the angle becomes the stationary point. (Fig. A.)

There is nothing arbitrary in this method of establishing the stationary point, but it has proved quite successful in pictures of buildings of two to four stories in height and of average width. For tall buildings it is generally more pleasing to diminish the angle of 30°. For any building of unusual height or width the best method of all is to make a few simple block perspectives at a very small scale until a satisfactory stationary point has been found. The little time and trouble involved are well worth while.

2. To establish picture plane, vanishing points, and vertical measuring line.

Bisect the angle of 30°, which gives the center line. At an angle of 90° to center line draw line through near corner of plan. This determines the picture plane, and the point of intersection of picture plane with the visible vertical planes of the building determines the vertical measuring line at the same scale as the plan of the building. To establish the vanishing points draw lines from the stationary point parallel with the front and side of the building until they intersect with picture plane. These intersections determine the vanishing points for all horizontal lines on the front and side of the building. (Fig. B)

3. To put the building into perspective elevation.

Take a sheet of paper and pin to a drafting-board a board wider than the width of the two vanishing points as determined by Fig. B. With the head of the T-square working from lower edge of the drafting-board draw a vertical line corresponding to center line in Fig. B. At right angles to this, and the full width of the board, draw a line well down towards the lower edge of paper. This establishes the horizontal plane. Having established the center line and horizontal plane, measure the distances of the two vanishing points on either side of the center line as shown on Fig. B, and place a pin at each of these two points. Now measure the three corners of the building as projected from the plan to picture plane, and establish these in relation to the center line, erecting verticals. Using the nearest corner as a vertical measuring line, mark off the grade line of the building, to the same scale as the plan, approximately 5'-0" below the horizontal plane, and the full height of the building above grade. Draw line from these points towards the two vanishing points to where they intersect with the corners of the building already established and we have the building in perspective (Fig. C).

The foregoing presents the elements of perspective generally familiar to all architectural draftsmen. From this we go to the lesser known principles, stunts or short-cuts whatever you please to call them.

It is not claimed that these stunts make necessarily for greater speed, but they certainly eliminate a great deal of drudge and labor in drawing all door and window openings, cornices, roofs, bay window dormers, etc., on the plan and projecting from there to the picture plane, as well as removing the hazard caused by the multiplicity of lines.

4. To establish a third or diagonal vanishing point.

This is most useful, and but rarely practiced. Having established the two usual vanishing points as shown in Fig. B, bisect the angle of 90° formed by the stationary point and the two vanishing points and carry the line until it intersects with picture plane. This establishes a third or diagonal vanishing point (Fig. D). The purposes of this diagonal vanishing point will be explained later.

5. To establish a plain gable roof in perspective.

We now add a gable, in a sketch which is self-explanatory (Fig. E). Note the method of determining center of end gable in perspective by use of diagonals. Also remember that the true height of ridge is erected on the
vertical measuring line and projected towards vanishing point until it intersects with near corner of gable thus established. The vanishing point for roof plane is determined by carrying the near edge of the pitch on until it intersects with a vertical line erected from a vanishing point, as shown. This vanishing point is very useful where a number of vertical surfaces, such as dormers, chimneys, or other vertical masses, intersect the roof.

To establish a plain hip roof in perspective. This involves the use of the diagonal vanishing point shown in Fig. D. Proceed to draw a plain gable roof in the manner shown in Fig. E, with the diagonal vanishing point determined in addition to the two usual vanishing points. At a point above the established roof line draw a vertical line from the nearest corner of the building to the face of the building below, which is now divided into five equal parts in perspective. Using a diagonal from the third unit point on the side elevation and continuing in the same manner, gives us three equal parts in perspective. It will readily be seen that it is equally simple to divide a given distance into unequal parts such as door and window openings as desired, or to tick off on our measuring line all the important horizontal dimensions.

The following is another method of handling the same problem (Fig. I). Draw a line from top line of building to right of nearest corner, parallel with horizontal plane. Divide into five equal units. Connect end of line with far corner of building at roof line and continue until line intersects horizontal plane. Put a pin at point of intersection and, with pin as center, draw lines from each of the five dimensions until they intersect top line of building.

8. For the purpose of this article we will assume that the five equal parts assumed in Fig. I are bays of, say, 16”, in the centers of which we wish to establish window openings, say 7’ wide (Fig. J). Having established the vertical lines representing bays, mark off on nearest vertical, 00, 4’-6”, 11’-6”, 16’-6”, to any scale. Draw a line from 00 towards vanishing point until it intersects with next vertical. Draw a diagonal from 16’-6” to this intersection. Then draw lines towards vanishing point from 4’-6” and 11’-6” until they intersect with diagonal, and this will give a 7’-0” window in the center of 16’-6” bay in the perspective.

9. In Fig. K we show an elementary geometric diagram in which everybody is familiar. With its aid and a given horizontal dimension already determined, we may readily establish any second horizontal line of any special length. Fig. L shows the above diagram in perspective. Referring back to Fig. J, we find that the distance of 4’-6” from nearest corner to window heading has been established in true perspective. We now wish to establish in perspective a flat roof slab projecting 2’-0” from the face of building (Fig. M). Establish the nearest corner and window as indicated in Fig. J. We know this width to be 4’-6”, and so we mark off on the nearest vertical, to any scale, 0, 4’-6”, and 6’-6”, and draw a line from 0 towards the vanishing point until it intersects with vertical line of window heading. From this intersection draw a diagonal through point 4’-6” and continue until it intersects with a line drawn from vanishing point through and beyond point 4’-6”. The point of intersection gives the slab projection of 2’-0”, in the form of a profile flush with the face of the building.

To determine the mitred corner of the slab in perspective, draw a line from the diagonal vanishing point (Fig. N) through the intersection of underside of slab with nearest corner, and carry through. Now, from the lefthand vanishing point draw a line towards the diagonal vanishing point until it intersects with the diagonal line and then top down to divide up the horizontal line to the desired five equal parts. (Fig. G)
line through the lower edge of the profile of slab until it intersects with the line from diagonal vanishing point. This intersection establishes the position of the mitred corner of the slab in true perspective.

10. To draw a bay window in perspective where the distance of, say, 16'-0" between bays has already been established as in Fig. J. Plan of bay is shown in Fig. O.

On the nearest vertical line of the 16' bay already established in perspective, mark off (Fig. P) to our scale, 0, 2'-6", 5'-6", 10'-6", 13'-6" and 16'-0". Draw line from 0 towards vanishing point until it intersects with second vertical line of 16' bay. Draw diagonal line from point of intersection to 16'-0" mark of nearest vertical. Draw lines from the intervening dimensions between 0 and 16'-0" towards vanishing point until they intersect with diagonal line. Erect vertical lines from these intersections until they meet the topmost line (16'-0"). From the lefthand vanishing point draw lines through points a, b, c, and d. From the diagonal vanishing point draw a line through point d until it intersects with the line projected from point a, which gives the depth of the bay window in perspective plan reflected. It then becomes a simple matter to complete the plan in perspective, giving the four corners of the bay.

11. Short method of establishing vanishing points on a drafting-board of limited size.

The establishment of vanishing points for a drawing of even moderate size was at one time considered quite a problem, necessitating the use of the office floor and the moving around of the furniture. One method was to pin the plan on a wall, with a nail for a stationary point and use long straight-edges to determine the intersection of the lines of the 90° angle with the picture plane. Actually, all that is necessary is a drafting-board large enough to hold the plan and the stationary point. Place the plan any place on the board which will give the necessary distance below for the stationary point, and the plan need not necessarily be parallel with the edges of the board. Having determined the position of center line and picture plane as shown in Fig. B, measure the actual distance in inches along the center line from the stationary point to the picture plane. Assuming this distance to be, say, 30", now measure off along the center line away from the picture plane towards the stationary point thirty units of any size, say eighths or quarter inches (point A in Fig. Q). From point A draw lines parallel with the front and side of the building until they intersect the picture plane.

In the same units as used to determine point A on center line, measure from center line left and right to these intersections and the resulting number of units will give the actual distance in inches of vanishing points from center of picture. The same method of course would be used in determining the position of diagonal vanishing point. Distance C, measured in the same units, gives the actual measurement in inches from center line to vanishing point. The shorter vanishing point is likewise readily established in inches.

12. To establish vanishing points on a board of limited size.

The first things required are two T-squares, one for right hand and one for left hand, with the lower portion of the head cut off so that upper edge of blade is exactly in the center between top and bottom of the T-square head (Fig. R). Next, we require a number of pieces of common yardstick (given away by paint stores) cut to the exact length of the T-square heads. Having already determined the distances of the vanishing points on either side of center line as described in Figs. B and Q, we will assume the distance of the longer vanishing point to be on the right hand, 60" from center line (Fig. S). The 60" vanishing point is way off the board, but the shorter vanishing point, which we will assume has been found to be 13" away, is well on the board. Having established the center line and horizontal plane, we now draw some dimension which will divide evenly into 60", let us say 15" which is one-fourth of the distance from center line to the 60" vanishing point, and becomes point A in Fig. T.

On the center line of picture measure out above the horizontal plane any dimension which will again divide evenly by four (just as the 60" was divided by four). In the instance we'll say 20", establishing the point B. Now on this perpendicular draw a line one-fourth of the 20" to 15", which establishes point C, and a line drawn from point B through the point C, if continued through, would eventually meet the horizontal plane at a point exactly 60", the center line of picture.

Now place the blade of the T-square along what we may call the top line of picture (Fig. U) and nail a piece of the yardstick to the board along the inside edge of the T-square head. Now bring the T-square blade down to a line along the horizontal plane, with the upper inner corner of the head touching the piece of yardstick nailed to the board. Then take another piece of yardstick and touching with it the lower edge of the stick already nailed in place secure it in position crossing the lower inner edge of the T-square head as in Fig. V. With the head of the T-square, working off these two tangents, a line from any point on the upper edge of the blade will lead to the vanishing point.

13. In the preparation of a finished drawing it has been found good practice to place a sheet of tracing paper over the paper on which the finished drawing is to be made and a hole made in the center of the tracing paper a little larger than the size of the building. All calculations in perspective can then be made on the tracing paper either above or below the hole.

Grateful acknowledgment are here made to Arthur Coyle Hanifin of Oakland, California, a master of lines perspective.

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[Diagram and text as shown in the image]
PUMPING STATION, SPRINGWELLS STATION
JOHN C. THORNTON, ARCHITECT

WESTOWN THEATRE
CHARLES N. AGREE, ARCHITECT
SECTION EDITED BY THE ARCHITECTS OF DETROI

MACHINE SHOP, AMERICAN BLOWER CORPORATION
ALBERT KAHN, INC., ARCHITECTS

PRESS SHOP, DE SOTO FACTORY
ALBERT KAHN, INC., ARCHITECTS
THE house trailer or mobile home unit is definitely here to stay. Its development and world wide use may not be so rapid when compared with the history of the automobile; nevertheless, it is not difficult to conceive of thousands of trailer colonies scattered throughout the nation, their population shifting with the seasons and with industrial labor demands.

The house trailer, as we know it today, has probably been developed from the use of the camp trailer. These outfits were folding tent-shaped affairs so arranged as to be portable by being constructed around a two-wheeled trailer attachment. Their use never assumed great proportions probably because the limited conveniences and comforts afforded were not commensurate with the original cost or the time involved in preparing them for casual overnight parking. In comparison with the camp trailer, the modern house trailer is a palace. It is not difficult to understand why the house trailer has increased in popularity among those of our population who enjoy travel and recreation in the “great open spaces.”

Although the house trailer today is probably used by the greater majority of owners as a convenient camping unit, there are some people who occupy them as home units throughout the entire year.

Due to the mobility and the various uses to which the trailer is seemingly adaptable, it is certain that the house trailer is destined to play an important role in our modern era.

The advent of the house trailer has not been without accompanying problems of considerable social, sanitary and economic significance. It has been conceded that the home is the very foundation of our government. If this is true, can one imagine a government functioning with any degree of certainty and solidity when the majority of its citizens live in houses on wheels? Although some may predict a roving citizenry, one must not overlook the fact that the American ideal has been, and probably always will be, a tangible something, such as a piece of land that a man may call his own, with a comfortable shelter thereon. If the trailer is to be considered a permanent dwelling and can be proved suitable as such, our future American home would be constructed on the basis of accommodations made available within a floor area of not to exceed two hundred and eighty (280) square feet. The history of small home units does not support the contention that the one-room development is in any measure satisfactory as a permanent place of abode for the average American family. It is obviously doubtful, even if it were possible under existing housing and building laws, that the time has arrived where the camp or house trailer, even those of elaborate proportions, can properly be classed as a permanent home or dwelling.

If house trailer influx is not restricted and controlled to some degree the trend may be expected to increase continually. Such regulations as may be adopted must be basically sound from the standpoint of health and safety, and justly equitable from the real property owner’s point of view. Irrespective of the type of government, taxes are essential for its support. A municipal corporation is now, and undoubtedly always will be supported chiefly by a tax levy upon real property. A mobile home unit is obviously not real property.

The trailer owner or user naturally has certain rights which cannot and should not be abrogated. On the other hand the owner of real property has rights and basic inherent value which it is the duty of organized government to protect.

As a house trailer is basically a vehicle, no other classification is possible. As a vehicle its permanency of location is not controlled by the factors affecting real property. It is movable at the will and whim and caprice of the owner or operator. On a given location a house trailer cannot be considered a permanent structure, and its use as a dwelling, so far as a particular location is concerned, is therefore temporary.

The regulations proposed are founded upon three basic premises:

First: The house trailer is a vehicle designed and intended for temporary parking at given locations and as such cannot legally or logically enjoy the unrestricted use of land either public or private.

Second: Inasmuch as there are no methods of taxing house trailers for the support of municipal governments, a limitation of parking to such periods as may appear reasonable and proper for any given municipality is deemed to be a constitutional home rule legislative procedure.

Third: For the health and safety of the trailer occupants, as well as the protection of the public in general, regulatory measures for the control of parking sites and camp areas are valid and may be enforced.

The proposed ordinances were drafted by representatives of the Board of Health, Police Department, City Plan Commission and the Department of Buildings and Safety Engineering. The first deals with the trailer proper and is an ordinance to regulate the parking of occupied and unoccupied trailers within the city limits; to require the registration of occupants of trailers, and to fix penalties for the violation thereof. The second deals with trailer camps and is an ordinance to license and regulate the location, maintenance and operation of trailer camps within the city limits; to establish rules and regulations relating to the management, operation and inspection thereof; and to fix penalties for violation.

SECTION EDITED BY THE ARCHITECTS OF DETROIT
THOMAS HART BENTON came naturally by his desire to record on the walls of the State Capitol the history of Missouri with which his illustrious name is synonymous. These latest examples of his work show a freedom from the artist’s earlier convolutionary manner of painting.

WHEN George Biddle proposed to the Government that it employ artists to decorate walls at a plumber’s wage it indicated two things. First, that one of the most important branches of the fine arts was in a sorry state and, second, that most artists in America very sensibly thought of themselves as no more and no less than skilled workmen. The latter idea must have come as a great shock to the group of artists who thought of their work in a more Olympian light. The result of Mr. Biddle’s proposal has been tremendously important to American art and to the American artist. Younger men who might have hidden their light under a bushel for years were discovered practically overnight. And, even more than this, the American people were made conscious of mural painting—and probably will continue to be for a long time to come.

ARCHITECTURAL OVERTONES . . . RECENT MURALS BY EIGHT AMERICAN PAINTERS
LEON KROLL was an important and honored American painter long before he was commissioned to paint these lunettes in the Attorney General's private office in the new Department of Justice Building in Washington. That above represents the "Triumph of Justice" and that on the opposite page the "Defeat of Justice." They are painted in Kroll's usual careful style, clear in color and drawn with a fine regard for firm, plastic modeling.
FRANK A. MECHAU is one of the discoveries that has come out of the Treasury Department Painting Program. Only thirty-three years old, his work had included but one previous mural, "Horses at Night," for the Fine Arts Department of the Denver Public Library as a PWA project, until he was selected to do these two for the Colorado Springs Post Office. Since these were completed he has won a competition for murals in the Post Office Department Building in Washington.
FRED DANA MARSH has always been expert in obtaining interesting technical effects in his decorative mural work. This panel commemorating the conquest of Florida in the Palm Beach home of E. H. Hutton shows an unusual combination of painted surface with applied metal relief by DEAN CORNWELL not only painted the brilliant murals but he also designed their background for the new Raleigh Room of the Warwick Hotel in New York. Included among many unusual features are the carved and painted circular glass dance floor lighted from below, and amusing seals representing the work and hobbies of many a prominent contemporary.
D. PUTNAM BRINLEY, faced with a definitely circumscribed area, behind the altar of St. George's Church in Bridgeport, Conn., developed the Gospel Story. Mr. Brinley, as in some of his previous works, follows the naïveté of many primitives in ignoring such dogmas as diminishing the size of figures and buildings in receding planes, playing with pattern somewhat in the manner of the tapestry weavers.
LOUIS FERSTADT designed this electro-mural as part of a proposed community center. It is to be executed in various colored electric lights against a dark blue background and is to have synchronized sound effects. The entire project was developed by the Architects, Painters and Sculptors Collaborative, consisting of one architect, six sculptors and fifteen mural painters. The lone architect is Oscar Stonorov.
HE accompanying reproductions of photographs show some recent designs of federal buildings constructed under the jurisdiction of the Procurement Division of the United States Treasury Department. In some respects they are illustrative of the decided change that has come into architectural expression generally, both in public and private buildings.

Since architecture has demonstrated a purpose sufficiently serious to have perpetuated its practice through centuries of history, and since in its more worthy examples, expression varies with materials, climate, tradition and standards of cultured thought, there is significance and there is interest in the architectural trends that thrust forward in any particular country and sometimes are especially marked in only one or two phases of that country's community life. An opportunity to observe such trends occurs in the design of some hundreds of buildings of the United States Government.

When all is said and done, architecture creates environment, and it does so by expressing some dominant idea—it may be force and strength, of light playfulness, of restrained and sober dignity or florid exuberance of spirit. And even for any particular building, the determining factor of this that we will architectural design, may easily waver on the one hand between nothing more tangible than a designer's mood, or may be dominated, on the other hand, by a regard for strict and sometimes previously unsuspected principles of aesthetics. Design is indeed a subtle process, a thing of analytical searchings, and highly emotional at the same time. And what kind of a design such searchings and such emotions may start on its course in any particular time, no man can tell—the tides rise and set, and the moon rides serenely on undisturbed by the ripples below. But the point is that there is serious purpose here, that ideals to offset a certain free-for-all libertine quality that is owned on or landed, according to the observer's point of view.

Obviously, in our social system with all its ramifications, we are in the midst of stupendous changes that are difficult to measure. That the United States Government is rising to its opportunities in many fields, calls for no argument. We have moved into a consciousness of new relationships to our fellowmen, and that the mass of our countrymen are ready for change has been unhesitatingly shown. The history-making of our epoch carries architecture with it, and while architectural traditions have not been wrecked, incidents are not lacking to show that they have received some visible dents on the surface. And so far as the arts are affected, among the complex and elemental forces that shape our destinies the desire for novelty may not be overlooked; it is something that has a real place in the scheme of things, and the human mind welcomes it.

It is startling to awaken to the fact that there are now even some words which architects could formerly use with impunity anywhere, but which now must be reserved for private conversations where they may be still held current. Such words as art, beauty, symmetry, harmony, and rhythm need a strong text if they are to be relieved of the charge of being saccharine twaddle. Whereas austere, stark, utilitarian and functional with a new emphasis cry out for a tempered and more liberal view of modern architectural performance. For the conservative-progressive, whose arteries have remained sufficiently pliant to yield to the possibility of ordered change, but who still values the sailor's maxim, "never to let go with one hand until you get hold with the other," there is peace and comfort still to be found. The passing of the extravagancies of exaggerated formalism brings to the surface the possibilities of a living architecture not based on its disregard of precedent but on a different, more subtle and more creative way of using and reflecting that part of tradition which is universal—giving to inherited forms a power of adaptation to new materials, structure and processes.

And if, as a whole, the designs of a Government's public buildings are shaped by the composite efforts of that country's architectural ability, be the result what it may, it is at least a logical expression of the time; and to that extent it possesses the spark of enduring life.
U. S. Post Office, Petersburg, Virginia
Donald Anderson, Designing Architect, Procurement Division

Claud Beelman; Allison & Allison, Associate Architects

SOME RECENT BUILDINGS...
In Park Postal Station, Chicago, Illinois.

I. L. Cheney, Designing Architect, Procurement Division

U. S. Post Office, Liberal, Kansas.

Supervising Architect's Office
Roseland Postal Station, Chicago, Illinois.
John C. Bollenbacher, Designing Architect, Procurement Div.

Perspective of U. S. Post Office, Wilmington, North Carolina.
Rudolph Stanley-Brown, Designing Architect, Procurement Div.

U. S. Post Office, Kerrville, Texas.
Atlee B. & Robert M. Ayres, Architects

SOME RECENT BUILDINGS
Perspective of U. S. Post Office, Gary, Indiana.

William L. Cheney, Designing Architect, Procurement Division

U. S. Post Office, Storm Lake, Iowa.

Supervising Architect's Office

U. S. Post Office, Rutherford, New Jersey.

I. Williams, Designing Architect, Procurement Division

UNITED STATES GOVERNMENT
SOME RECENT BUILDINGS OF THE UNITED STATES GOVERNMENT
Originally a private yacht club, the addition of a large auditorium and the redecorating of the old club house converted building into a night club. The location proved so desirable the club so popular, that two additions have been necessary since. In every case, materials were selected for their ability to a semi-tropical climate, and the comfort of the rooms considered from both a visual and physical standpoint.
Latest additions included the covered approach and new entrance foyer. Glass block was used extensively not only for the admission of light, but for the decorative quality it lends the interior treatment.
OBERT LAW WEED, ARCHITECT

Nals of a spirited, light nature abound throughout the building, and do much overcome the feeling of severity usually associated with this style of architecture.

The remodeled bar room has been made accessible from both the main entrance and the dining room.
THE RACQUET CLUB, PALM SPRINGS, CALIFORNIA
SPENCER & LANDON, ARCHITECTS
A popular resort for movie stars, this private club for swimming and tennis has been added to, over a period of three years. The original buildings, Lounge and Locker Room are of frame and stucco. The new Entrance and new Dining Room are of reinforced Grout Lock brick.
Natural bamboo and green leather are used as finish in the cocktail bar. The floor is of stone. Exposed brick walls painted white and colored canvas ceiling lend a gay touch to the dining room. Colored cement is used for the floor and linoleum for the dance floor.
Occasionally an architect is fortunate enough to find a client who is uninhibited by considerations of resale value and similar bugaboos that restrict individualistic design. This house is the result of the architect's having that type client and the excellence of the result is obvious. Constructed of Haydite concrete masonry with concrete floors, joists and roof, the house has been treated with two coats of white silica cement paint which allows the texture of the concrete blocks to be shown. Deep brown trim on copings, windows—terrace entrance and awnings accents the whiteness of the walls.

OUSE OF D. S. COLBURN

IGHLAND PARK, ILLINOIS

ILMER V. BLACK, ARCHITECT

ER ICA N ARCHITECT AND ARCHITECTURE, AUGUST 1937
use the problem was so individualistic, the plan naturally has many unusual features. Since basement, for storage only, is small, the heating and laundry spaces are on the first floor. Though it is built on a corner lot, heavy traffic on the fronting avenue dictated placing entrance and garage on the side street and the main living areas to the rear. Projecting walls assure a sense of privacy. (Opposite page top): A peach bloom colored mirror on the fireplace wall and the large window areas give a gracious sense of outdoor living. Over)—The glass screen partition between the entrance hall and living room creates an added feeling of spaciousness. A color scheme of brown walls, eggshell rug, ceiling and furniture upholstered in brown, flamingo pink, eggshell and gold, contributes an air of quietness. (Right) A view of the circular stair with its glass block area for light

USE OF D. S. COLBURN, HIGHLAND PARK, ILLINOIS
MER V. BLACK, ARCHITECT

ERICAN ARCHITECT AND ARCHITECTURE, AUGUST 1937
Particular attention has been paid to the proper design of all utility areas throughout the house. Closets and cabinets have been carefully studied in relation to the sizes of the various things that will be stored in them. Glass block has been skillfully handled in both the kitchen and master bathroom. In the rooms bright color is again well used. The bath is dove grey, black and flamingo pink, and the kitchen is soft robin's-egg blue, lime yellow, black and white.

HOUSE OF D. S. COLBURN
HIGHLAND PARK, ILLINOIS
GILMER V. BLACK, ARCHITECT
PORTFOLIOS IN PREPARATION—Wall-face Dormers, September . . . Door Steps, October . . . Doorway Side-lights, November . . . Resilient Floors, December

The Editors welcome photographs of these subjects . . .

Forms close eight weeks in advance of publication. A list of the subjects that have appeared will be sent upon request. Certain of these past Portfolios are available to subscribers at 25 cents each; or five subjects for one dollar

Brookville, N. Y.
Roger H. Bullard

NUMBER 130 IN A SERIES OF COLLECTIONS OF PHOTOGRAPHS ILLUSTRATING VARIOUS MINOR ARCHITECTURAL DETAILS

AMERICAN ARCHITECT AND ARCHITECTURE, AUGUST 1937
Above, Bayside, N. Y.
James W. O'Connor

Upper right, Locust Valley, N. Y.
Coffin & Coffin

Lower right, Barnwell, S. C.,
in the public square
Upper left, Haverford, Pa.
W. Pope Barney; Edith Emerson

Above, Maplewood, N. J.
Office of John Russell Pope

Lower left, Art Center, Cleveland, Ohio
Hubbell & Benes; F. L. Jirouch
Detroit, Mich.
Richard H. Marr

Leonia, N. J.
J. Ernest G. Yalden

Glen Head, N. Y.
Roger H. Bullard

© AMEMYA
Formor Madison Square Garden,
New York, N.Y.
McKim, Mead & White

Munsey Park, N.Y.
H. Lawrence Coggin

Portchester, N.Y.
Dwight James Baum
Double-faced angle sun dial in the Cotswolds, England
Santa Barbara, Calif.
Winsor Soule and John Frederic Murphy

Southbury, Conn.
Paul G. Darrot

Chipping Campden (1480)
Gloucestershire, England
THIS SINGING TOWER
WITH ITS ADJACENT SANCTUARY
WAS DEDICATED
AND PRESENTED FOR VISITATION
TO THE AMERICAN PEOPLE
BY CALVIN COolidge
PRESIDENT OF THE UNITED STATES
FEBRUARY THE FIRST
NINETEEN THOUSAND AND TWENTY-NINE
One of the most elaborate sun dials in America is that on the Bok Singing Tower, Mountain Lake, Fla., designed by Milton B. Medary, architect, and Lee Lawrie, sculptor. The signs of the zodiac, incorporated in a border around the dial proper, were modeled by an associate of Lee Lawrie's—Robert C. Wakeman.
Forest Hills, N. Y.
William E. Haugaard

Pepperidge
Oakdale, N.

Studio of Arthur S. Covey
Torrington, Conn.

J. Ernest G. Yalden;
Arthur S. Covey
FAVORITE FEATURES

Common problems of design in everyday practice—how the results look and how the drafting-room detailed them

Masonry Finials...

Front
End

Scale 1/8" = 1'-0"

1
Stone

Brick

Ridge line

Scale 1/8" = 1'-0"

2

Section

Cram & Ferguson
Plan

Scale 1/8" = 1'-0"

CRAM & FERGUSON

A
B
C

Stair well

YORK & SAWYER

Scale 1/4" = 1'-0"

Wall line

End

joint
Comparatively undocumented, this house might fairly be called desert style. The white exterior and use of modern materials in a simple, unadorned way results in a restful freshness. Since no color could compete with the color of the environment, white is used almost exclusively in this area.
The enclosed terrace (above) opens on a small patio and swimming pool... The living room (below) has walls painted a deep beige. Upholstery is green and beige, and all trim and furniture of natural bleached wood.

HOUSE OF W. T. WALK
Palm Springs, Calif.
CHARLES O. MATCHETT
ARCHITECT
THE DIARY

Friday, July 9.—George B. Cushing of the A. M. Byers Company, tells me of a rather striking change in buying habits since the untainted depression. During those dark days, purchasing agents of industrial plants and the like had been instructed to make only necessary repairs, and to keep the cost of those down to the irreducible minimum. The fruits of that policy are already becoming evident in more rapid obsolescence and the necessity for new repairs. Cushing says that the whole attitude of these big buyers has changed radically now. Thankful that the necessity for such false economy actually is past, they are once more insisting upon high quality materials, particularly in view of the fact that the element of labor cost is growing more rapidly than the cost of material.

Monday, July 12.—In lunching with a group of men at the League today, the question of the Jefferson Memorial was discussed in some detail. One fact that seems not generally understood, judging from the controversy opinions, is that there are really two distinct questions at issue. One is this: Is the L'Enfant plan for Washington, as further developed by the McMillan Park Commission, still so eminently suited to the conditions that it should be carried out to the extent of keeping the kite form? The second is this: If the first question is answered affirmatively, then is the proposed form of the Jefferson Memorial the best that could be devised?

If those who want to argue about the matter at all would keep these two points separated, their contentions might be more easily understood.

The latest news from Washington is that the plan, in so far as it concerned the shore line of the Tidal Basin, is being restudied in an attempt to leave the cherry trees undisturbed.

Tuesday, July 13.—Laloux is dead. For a generation, at least, the name of Victor Alexandre Frederic Laloux has been a mighty one among the patrons of the Paris ateliers. From his magnificent and inspiring personality, America has profited in the training of Arthur Brown, Jr., Charles Butler, Jacques Carlu, John W. Cross, William A. Delano, William Emerson, Carl F. Goud, Frederic C. Hiron, Jean Labatut, William E. Parsons, Henry R. Shepley, Clarence S. Stein, and others. Not so much through his own work, such as the Hotel de Ville in Tours, and his Gare de Quai d'Orsay, but in the work of his pupils, Laloux's influence upon the architecture of today is immeasurable.

Wednesday, July 14.—Professor Harold F. Clark of Columbia University, has been doing some research to find out the average earnings in the various professional and business activities. Architecture falls below medicine, law, dentistry, and engineering. In a working life span of forty-three years, the present value of the average architects earnings for that period is $82,500. The doctor's life span is a year less, and he earns $108,000. Apparently the longer you live the less you earn. Farm labor has the longest working life span—fifty-one years—but it only averages $10,400. In the ministry, a man may look forward to a forty-four year working span, and in that time he earns just about half as much as an architect.

Thursday, July 15.—Lunched with Thomas Stapleton, who has one of those jobs that architects dream about—the design of a whole new community center for Princeton, including an inn, shops, apartments, offices, all carried out in the traditional style flavor of the locality.

Saturday, July 17.—We frequently seize the opportunity of poking fun at the British architects' ideas of house planning. They
apparently do not agree with some of the things we do over here. A writer in the *Architect's Journal*, London, says, "For example, we like fresh air; we also like at appropriate times the good old English custom of a fog; we like open fires; we do not like enormous spaces of window which betray to the outside world the inner secrets of our domestic life; and we don't enjoy communal arrangements for eating. It should be recognized that although the English climate does not suffer from extremes, it demands continuous access to some comfortable refuge, and that to design a house that makes the most of the few bright days of summer is not enough."

Monday, July 19.—I see that the Chicago Chapter has given up the house it has been occupying, designed by Henry Hobson Richardson. The house had been given to the Chapter by the John J. Glessner estate in 1924. The Chapter finds itself unable to finance the project in compliance with the donor's wishes.

Wednesday, July 21.—The increasing complexity of building costs and the difficulty of estimating these in advance is brought out rather clearly by one of the Dow Service reports. In Toronto, brick at $27.50 per thousand is the highest for all forty-six cities from which reports are obtainable. Yet in the aggregate, construction costs are 25% less than in New York. On the other hand, brick is cheapest in Chicago, yet the building costs there are slightly above New York at present. In addition to the sale prices on materials, costs must take into account availability of supply, of labor, the efficiency of labor, the over-supply or scarcity of projects, and all these things must be weighted in accordance with their relative importance.

Friday, July 23.—One hears plenty of talk these days of new building materials, and the *Architect and Building News* of London muses over the possibilities. For instance, the aid of air in motion as an effective substitute for glass has been used by French locomotive engineers. They introduce an ingenious baffle in the design of the cab to eliminate the glazed opening and the danger of its becoming obscured by rain and dirt. When the locomotive is in motion, a thin plane of air is driven across the window, flicking away rain and grit. If we carry this idea a little further, we might have a house with walls and roof consisting entirely of thin planes of rapidly moving air. Turn off the air, and where are you? In the garden.

Saturday, July 24.—Speaking of the architect's relationship to the public, as we were a month or so ago, here's a bit of heresy from an active practitioner. He apparently puts a good deal of stock in that Bible story of the note and the beam in one's eye.

"After all, it seems to me, the profession has tried to look out for itself and has not tried to look out for its clients, and I do not blame the building public at all for its discovery of this deplorable situation! It seems to me that architecture should be approached as any other art should be, with the full knowledge that its devotees should be willing to be the instrument of the art, modestly doing his part to solve its problems, in collaboration with many others. I cannot see that the present assumption that a man who has had some academic schooling, and a few years' experience as a draftsman, can be metamorphosed into an architect by the acquisition of a client. Our present position, it seems to me, is due to that assumption.

"Would not the profession as a whole be a great deal better off if its members were recruited from boys and girls who not only showed a better than average ability to draw, but who were willing from school days on to learn enough of one or more of the building crafts—such as plumbing or bricklaying—so that they could get a certificate of proficiency there, and then realize that practice over the drawing-table must be supplemented by business training? Having had that preparation, surely a very salutary feeling of the modest part that the architect plays in the ultimate production of a building will have been borne in upon the student, and he will expect to do his part as a collaborator and not as a self-appointed Czar. Naturally owners feel they are entitled to a little credit for their own creative ideas and so are exasperated by many of our fellows' assumption of importance.

"When a man discovers that he can hire an architect as he does a lawyer to do a particular job, and will find that he pays him what that job is worth regardless of any predetermined percentage charge, I feel sure that our profession will never find it necessary to combat any such laws as were recently being discussed by the New York State legislature."

Is there any bright young man present who would like to stand up and say a few words for the architectural profession?

Monday, July 26.—Charles F. Lewis, director of the Buhl Foundation, Pittsburgh, whose success in the building and administration of Chatham Village surely gives him the right to be heard, thinks that private capital could do a lot more in housing than it generally is expected of it. It is popular today to say that private capital can do nothing in low-cost housing, and that the job must be turned over to the Government. Mr. Lewis suggests a four-fold program: 1. Let business encourage more adequate legislation; 2. Let the Government federal, state, and municipal—destroy slums; 3. Let FHA be strengthened as agency for research, for stimulation, and financing large-scale operations; 4. Build large-scale planned communities signed to be managed as income-producing properties which are inherently as nongluttion-proof as is possible to contemplate.

One of the obvious hurdles to the above to induce private capital to think of housing in a new way. It has in the past thought of housing as a speculative gamble, to be purchased and sold at once or produced for sale of the unearned increment in the rural appreciation of real estate values. stead, in England, housing is looked upon long-time carefully produced investment to bring a modest, but regular return.

Wednesday, July 28.—Robert D. Kohn thinks it will be a shame if we cannot find some way to keep alive the impulse to do a more widespread training in design as has been offered by work relief activities. If it is true that prosperity is rapidly overtaking us, does this mean that we shall no longer be able to afford the "extra" of offering training to ordinary everyday people in line, form, color, music, drama, organized play and the dance? If not, is it true that prosperity is to take the place of the training so essential in the community at large? Mr. Kohn lies that the way to keep alive the general elements of this depression effort is to incorporate and coordinate the many educational organizations in the wide field of the trying them in some way to the public educational system.

Friday, July 30.—Carleton W. Adams, president of the West Texas Chapter, got his chest recently a few thoughts on the contractor: "Contractors are men that know the meaning of the word 'contract.' They are always extending, reaching out, and building up and up. They never make small contracts, sometimes do expand and bust; but they never do expand and bust; but they never by any chance contract. "Contractors' special words are 'extension,' 'expansion,' and best of all, the very very special word, 'extra.' If they were called 'extractors,' it would be more appropriate."

Saturday, July 31.—I see that another woman architect of London has come through as winner of a competition—Mrs. Drew, who with Mr. Allison won the Dawlish Competition. It is the second feminine victory since Miss Scott's win of the Shakespeare Theatre at Stratford.
WITHIN the past few years swimming pools have become almost standard equipment for residences in the higher price range. Their design and treatment has resulted in many and varied solutions, from the most formal to the informal, from remodeled greenhouses to abandoned gas storage tanks. When made an integral part of the residence, their treatment is frankly that of swimming pools, depending little on landscaping. In instances where the pool is isolated from the main house, placed in natural surroundings, its treatment demands the combined efforts of architect and landscape architect. The following four pages present a variety of successful solutions of the swimming pool problem.
ESTATE OF S. FULLERTON WEAVER,
EAST HAMPTON, LONG ISLAND
SCHULTZE & WEAVER, ARCHITECTS
JACOB JOHN SPOON, LANDSCAPE
ARCHITECT

ESTATE OF COL. A. E. PIERCE,
WARRENTON, VIRGINIA
VITALE & GEIFFERT, LANDSCAPE
ARCHITECTS

PHOTOS: SAMUEL GOTTSCHE
ESTATE OF PHILIP D. LAIRD,
NEW CASTLE, DELAWARE

ESTATE OF MARSHALL FIELD,
HUNTINGTON, LONG ISLAND
TREANOR & FATIO, ARCHITECTS

PHOTO: SAMUEL GOTTSHO

SWIMMING POOL

PHOTO: HUBBARD
Community Pool, Miami, Florida

Community Pool, Miami, Pennsylvania

Liam H. Thompson, Architect

Swimming Pools

Photo: Hubbard

SAMUEL GOTTSCHE

Community Pool, Miami, Florida

ANOR & FATIO, ARCHITECTS

American Architect and Architecture, August 1937
This, the second of two sheets on swimming pools, contains data on sanitation and other pool equipment. For planning and construction data see T-S.S. Serial No. 86, "Swimming Pools—1—Design Data."

SANITATION

Some form of water purification is required in all swimming pools. Most sanitary codes have definite regulations; consult local authorities.

Bathing load. Pool capacity should be checked to insure compliance with data in diagram, "Sanitation—Recirculation System." If intermittent rather than continuous sterilization of pool water is used, allow approximately 1,000 gal. per 7 persons between sterilizations (see plumbing diagram below).

Bacterial quality is usually specified in state or local sanitary codes.

Methods of operation are three: fill-and-draw, continuous flow and recirculation, the names being self-explanatory. In fill-and-draw systems disinfectant is usually omitted; method is uneconomical, tends to become unsanitary and should be condemned. Continuous flow method usually employs disinfectant, added intermittently or continuously; is expensive unless a constant source of cheap water is available, and can be entirely satisfactory as to sanitation. Recirculation method is most common. Pool water is circulated through filters (with or without addition of make-up water), disinfected, and returned to pool. Operation may be continuous or intermittent depending on bathing load.

Sterilization should be done after filtering and is accomplished by one of four methods shown in the diagram. Chlorine method: Any one of several forms of chlorine is added to filtered water bypassed through a chlorinator and back into the pool supply. Chlorine should not be added by hand directly to pool water as thorough distribution is necessary. Continuous automatic operation is preferred. Colloidal silver: Operated by ionizing pure silver electrodes by means of direct electric current and adding the resultant colloidal silver to by-passed water similarly to chlorine method. Intermittent operation is possible as silver remains effective in suspension in water for several weeks. Ozone and ultra-violet methods are not commonly used commercially in U. S.

Equipment necessary for pressure filter systems is shown in its proper order in the diagram. Additional items not always required include: one additional filter (for greater flexibility); sight glasses to be set into line from filter to sewer for observing cleanliness of filter discharge; recirculation pumps for "back-washing" filters and thus cleansing them; rate of flow indicators and controllers for filters. An alternate to the pressure filter is the gravity system, which may be more satisfactory when water level is higher than filter level. A swimming pool (or sanitary) engineer should be consulted. Built-in vacuum cleaners may be omitted if portable equipment is provided. Heaters for tempering the pool water are usually of the indirect type, steam operated, set into the discharge line between the sterilizer and the pool inlet. Many different types of equipment are manufactured, both as units and as complete systems.

LIGHTING

Pools, particularly commercial and indoor types, may be lighted for night use by overhead or submerged reflectors, or both. Overhead lighting is satisfactory alone if pool lining is highly reflective. Submerged lighting provides greatest safety for swimmers and permits use of colored special effects. Several kinds of overhead standards and "wet" or "dry" niche submerged projectors, as shown in the lighting diagram, are available.

TYPES OF STERILIZERS

1. Chlorine gas, liquid or hypochlorite (most common)
2. Colloidal Silver (see text)
3. Ozone
4. Ultra-violet ray

FILTERS

Generally batteries of 3 to permit cleaning 1 while 2 are operating. Solid matter must be coagulated by adding alum or other chemicals before water enters filters. Soda ash added to preserve alkalinity; copper sulphate to kill algae.

To determine size and no. of filters, allow 3 gal per sq. ft of filter area per minute.

BATHING LOAD

Desirable Max. = 20 persons per load gallons of clear water

DAILY TURN-OVER (complete replacement of pool water with clean water)

<table>
<thead>
<tr>
<th>Type of Pool</th>
<th>Daily Turn-Over</th>
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<tbody>
<tr>
<td>Private pools</td>
<td>1 per day</td>
</tr>
<tr>
<td>Semiprivate</td>
<td>2 per day</td>
</tr>
<tr>
<td>Public pools</td>
<td>3 per day</td>
</tr>
</tbody>
</table>
SWIMMING POOLS—2—Equipment

AMUSEMENT EQUIPMENT

Diving boards for competitive sport should measure 1 meter (3'-3") and 3 meters (10'-0") from water line to free end of board, and should be 16'-0" long. High platforms for competition should be immovable, should measure 5 meters by 2 meters (minima), and should be erected in three heights: 10 meters, 8 meters and 5 meters, variations of 10% being permitted. Each platform should project 1 meter beyond platform (or pool edge) immediately below it. Unofficial boards, and clearances for all types, are shown in the diagrams. Surface of boards, platforms and racing take-off should be covered with cocoa-fiber matting.

Slides may be provided in connection with swimming pools; and sand beaches or boxes with wading pools only.

BATH HOUSE EQUIPMENT

In large public pools all possible sanitary precautions should be taken. Bathhouses should be equipped with showers and sterilizing foot-baths, and possibly with straddle-showers located so as to make their use compulsory before entering the pool. The practice of providing "wet" toilets for bathers and "dry" toilets for non-bathers, is recommended.

- Projector
- Projector
- Open
- Ornamental

OVERHEAD LIGHTS

SWIMMING POOL LIGHTING

(Not to Scale)
This sheet, one of two on swimming pools, gives planning and structural data on various types of pools. Equipment is discussed on T-S.S. Serial No. 87, "Swimming Pools—2—Equipment."

PLANNING FACTORS

Control of bathers is necessary in all types of pools to assure sanitary conditions and for safety. Public pools (commercial or institutional) are preferably fenced or otherwise enclosed and separated from all adjacent areas. In semi-private pools (as for clubs) where patronage is limited, enclosures may be omitted depending on the degree of privacy. In both above types opportunity should be provided for inspection and routing of bathers. Completely private pools may be more free in design. Access to all types should be at shallow end.

Segregated areas within the swimming pool, or in separate pools, should be provided for diving and swimming. Wading pools should be entirely separate. Wading pools should be from 8 in. to 1 ft. deep and inlets should be above water level.

Size of swimming pool should be first computed from methods given in the diagrams on this sheet. Surface area thus obtained should be checked with bathing load per 1000 gals. of water as shown on T-S.S. Serial No. 87. A.A.U. recommendations for the maximum commercial pool are: 165 ft. x 70 ft.; minimum depth 3 ft. at sides, greatest depth at center; if greater capacity is required, additional pools should be built for economical operation, maintenance and control.

Surrounding areas. Walkways are preferably masonry. Recommended sizes are shown in diagrams. Beaches or grass plots are not recommended inside swimming pool enclosures.

DESIGN AND CONSTRUCTION

Sidewalks and bottom. A competent engineer should be retained to insure proper structural design and reinforcing. Material should be reinforced masonry. Indoor pools may consist of steel shells lined with thin reinforced masonry.

Expansion joints should be provided 50 to 60 ft. (max.) on centers in walls and bottom. Structural joints should be reinforced to permit transmission of loads without settling.

Watertightness may be obtained in concrete or concrete-backed pools by proper specification and supervision of concrete. Reinforced unit masonry and masonry supported by steel shells should be provided with membrane waterproofing. Indoor pools located over occupied spaces should be provided with insulated drip pans and condensation gutters.

Drains from pool should be multiplied or protected by baffles if drainage system causes uncomfortable "vortex" currents. Water from walkways should not be permitted to flow into pool. Sub-surface drains with open joints should be provided spacing depending on soil conditions.

Curb and gutter details vary, the "goose-neck" safety gutter. Curb or "starting platform" dimensions for racing must be maintained as noted in diagrams.

Projections into swimming space should be avoided. Ladders should be flush or removable bronze type if possible; hand holes or rails should not project beyond curb-face unless removable.

Finish of pool interior should be smooth and light in color for cleanliness. Satisfactory finishes are: Tile, terra-cotta-enameled brick or white cement trowelled smooth or painted with specially prepared materials. Non-slip finish of walkways, curb-tops and treads of ladders is essential.
**SWIMMING POOLS—1—Design Data**

**TYPICAL PLAN**

1. **Diving Boards** preferably 10'-0" c.c. to and 5'-0" from sidewalls
2. **Depth in feet** may be marked on curb
3. **Diving Board**—Built-in type preferred
4. **Floor and Gutter drains** 10'-0" o.c.
5. **Vacuum cleaner outlets** about 1/4 length of pool from each end
6. **Multiple drains prevent "Vortex currents"**
7. **Optional drain at center, or use two drains if pool is more than 40' wide**
8. **Line markings** in contrasting color, approx. 3" wide
9. **Pipe trench** all around pool
10. **Jack Knife mark**
11. **Alternate turning mark**
12. **Hand holds**
13. **Mark "DEEP WATER" on end here**
14. **Mark "SHALLOW WATER" on end here**
15. **Distances may be marked on face**

**TYPICAL SECTION**

To Compute Pool Area:
1. Estimate probable peak attendance
2. Allow 27 people per person for swimmers and waders in "Swimming Area" including patrons resting outside pool
3. Allow 12 persons per diving board, including those waiting and resting

Water Inlets: May be spray type or subsurface. Inlets at both ends desirable

**RECOMMENDED DIMENSIONS**—Rectangular Pools

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<th>B</th>
<th>C</th>
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<td>A.A.U. Metric Standards</td>
<td>82'6&quot;</td>
<td>10'</td>
<td>81'6&quot;</td>
<td>44'</td>
<td>20'</td>
<td>40'</td>
<td>80'</td>
<td>10'</td>
<td>10'</td>
<td>4'</td>
<td>3'</td>
<td>10'</td>
</tr>
<tr>
<td>Typical Public or Semi-Private</td>
<td>60'</td>
<td>15'</td>
<td>35&quot;</td>
<td>25'</td>
<td>20'</td>
<td>7'</td>
<td>*</td>
<td>5'</td>
<td>3'</td>
<td>10'</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Depends on diving board height: see "Swimming Pools—2—Equipment"

Note that A.A.U. will recognize records made in pools of similar though not identical dimensions

For commercial pools: Experience shows that approx. 80% of pool should be swimming (including waiting) area.
BOOKS FOR THE ARCHITECT’S LIBRARY

MEMOIRS OF THE AMERICAN ACADEMY IN ROME. Vol. XIV.
Preface by George K. Boysen. 112 pages of text; 41 pages of plates, 10 by 14 inches. Illustrations from photographs and drawings, Printed in Austria. Paper binding. New York: 1937; American Academy in Rome. $5.

This latest volume in a notable series recording some of the more advanced work of the American Academy deals with the Corpus of the Lararia of Pompeii. The Lararia is adopted as a convenient term for describing the house shrines of Pompeii through which becomes possible the study of the ancient Roman domestic religion.


Here is a volume marking the beginning of a new era in America. Certainly heretofore there has been no such official recognition of art as an essential part of our public buildings. Neither has there heretofore been such a democratic method of selecting the artists and the art that is to embellish our post offices, city halls, and court houses. The system of anonymous competition developed by the Treasury Department Art Project, under Edward Bruce, is one that not only marks a new epoch in the discovery of talent among the younger artists, but has also been suggested as a model for competitions in the architectural field.

Here are excellent reproductions of a wide variety of murals as produced in two years. An appendix showing simple architectural details of the settings for these paintings is a valuable addition. Forbes Watson contributes an excellent section in which the relation of the murals to the settings and decorations of the Federal buildings is discussed.

INTERIOR DECORATING. "How To Do It Series." By Duncan Miller. 80 pages, 8½ by 11 inches. Illustrations from photographs and drawings. Printed in Great Britain. New York: 1937; The Studio Publications, Inc. $3.50.

After laying the elementary foundations of design in interior decoration, the author comes at once to the practical technique of achievement. The reader will be shown what brushes and other tools to use, a great deal about fabrics and their cutting, practical rules for color harmony, modern lighting technique, and the like.


A book that has been compiled after careful study and deliberation by a representative committee of the electric wiring and equipment industry. This is no mere boiling down of a series of specifications for residential, commercial, and other use, but rather a concise list of practical requirements and suggestions for the best practice, accompanied by an outline of the ways and means of insuring these. The booklet is sponsored by many of the larger associations and institutions concerned with the use of electricity.


The author is in the Department of Physics and General Mechanics, Stout Institute, Menomonie, Wis., and has prepared this little volume particularly for the use of students in wood working.


An elementary handbook prepared for the electrician, his helper, and his apprentice.


This is a carefully detailed presentation of joinery methods used in handcraft furniture. The text is in German.

PROFILES OF GREEK MOULDINGS. Two volumes—one of text and one of plates. By Lucy T. Shoe. Preface by Gorham Phillips Stevens. 188 pages of text; 15 by 21¼ inches. Illustrated by line drawings; 79 plates with illustrations from drawings and photographs. Published for The American School of Classical Studies at Athens by Cambridge, Mass.; Harvard University Press. $10.

Here is a beautifully presented collection representing the most extensive assemblage of molding profiles from the Greek world of the various periods. The profiles have been made with painstaking accuracy, and are clearly shown at full size. Any architect interested in reclaiming the exquisite subtlety of the Greek moldings in modern work will find these volumes practically indispensable. The enormous amount of research and labor involved was made possible through the fact that it represents Miss Shoe’s offering for her doctor’s degree.


No one should shy at this book because of its title. It is by no means an argument for doing without an architect. Rather is it a strongly implied argument to show that any one who is foolish enough to undertake such a course is laying up for himself troubles to an extent of which he has no conception. Mr. Peters is an architect himself. He writes well, and, if somewhat dogmatically, it is the more convincing.

REAL PROPERTY INVENTORY OF ALLEGHENY COUNTY. Preface by Ralph J. Watkins. 312 pages, 8½ by 11 inches. Illustrations from maps, with folding map of the City of Pittsburgh, 1936. Pittsburgh: 1937; Bureau of Business Research, University of Pittsburgh. $5.50.

A survey of housing and related conditions conducted, with Federal Work-Relief Funds, in co-operation with the Federal Civil Works Administration of Pennsylvania, the State Emergency Relief Board of Pennsylvania, the United States Department of Commerce, and the Federal Works Progress Administration.


Probably the best way to get a detached and impartial view point of a city is through the eyes of a foreigner. Stein Rasmussen is a Dane from Copenhagen, who has found in London an appeal that has drawn him to visit that city year after year. The reason why London is a scattered city rather than a concentrated city, such as Paris and Vienna, are matters of concern to him and take him far back into history. Rasmussen ends the volume with a passionate appeal that London shall not sell its birthright, the cottage, for a block of flats, such as are, in Rasmussen’s opinion, “constructed slums.”


England has its Incorporated Church Building Society, founded 1818, which aids financially and otherwise in the building, enlarging, and repairing of church buildings. Here is a collection of churches that have been built in the last ten years, brought together in photographs and floor plans from their previous publication in various English architectural journals. The date of erection, cost of structure and of furniture and fittings, the type of construction, and number of sittings, are given in connection with each example illustrated.

At the left are shown seven ways in which Medusa White Portland Cement (Plain or Waterproofed) can be used to improve construction.

**STUCCO** Medusa White Portland Cement stucco gives an almost unlimited variety of color and texture combinations with which to create individuality, charm and character in stucco homes. Waterproofed Medusa White Portland Cement repels all moisture, protecting the stucco against staining and the deteriorating action of frost and freezing of absorbed water.

**CAST STONE** Medusa White is internationally used in cast stone building trim. This use of Medusa White gives the architect or builder almost unlimited possibilities for ornamenting brick, stone, concrete or stucco buildings because it can be cast to meet specifications. Medusa White cast stone is also used as a veneer for houses or buildings.

**TERRAZZO** Many of the most colorful and magnificent terrazzo floors in this and other countries are made with Medusa White Portland Cement (Plain or Waterproofed) white or tinted, used as a matrix for beautiful colored marble chips. No matter how colorful or how intricate the design, a terrazzo contractor using Medusa White, Plain or Waterproofed, can meet the requirements.

**SCULPTURING, ROAD MARKERS, CURBS AND SWIMMING POOLS** Medusa White is widely used for making magnificent pieces of sculpturing, for white road markers and curbs and for the finishing coat in outdoor swimming pools.

Send the coupon below for complete specifications.
TECHNICAL DIGEST

KEY TO PRESENTATION

Typical reference: 15 N36i4-26 gptv
This indicates: Issue of November 15, 1936, pages 14 to 26 inclusive, presented according to the following key:
d—detail drawing  g—graph  p—plan
s—section  f—test  v—photo view
Accordingly, gptv means graph(s), plan(s),—

This Indicates: Issue of November 15, 1936,
Bettor Theaters. 29 My'37:41-42

ACOUSTICS

Theater acoustics today, (C. C. Polwin). Better Theaters. 29 My'37:41-42 pt

Part I: Auditorium Form Factors. Basic nature of acoustics in theater design—even extends to lot selection.
Size and shape of the auditorium. Essential to maintain low cubage per seat for best results with reproduced sound.
Best room proportions for distribution of sound energy and control of reflections have been found to be:
Length = 2½ times height.
Width = 1½ times height.
The article also describes defects and correction of long auditoriums by splays to avoid parallel walls.


Description of new acoustical features of station KFWB in Hollywood.
The now familiar theory of live and dead ends of room was discarded for (1) selective absorption by use of a variety of materials, and (2) use of carefully designed contour ceilings and wall splays.
In one studio the latter elements resemble the bellows of an accordion, surfaced with wood, well-braced and backed up with a variety of acoustic absorbents.
Another room uses six different wall materials. There are also notes on measures taken for sound insulation.

AIR CONDITIONING & HEATING

Air ducts of metal lath with treated plasterboard soffits, (H. J. Hagen). The Plastering Craft. 15 My'37:18-19 & 4 p. dtv

This installment deals with ducts finished on outside with plaster, with duct construction of metallated rocklath (plaster finish), and with thermal insulation. There are illustrations of corridor ducts, ducts in angles of rooms, curves, dips and suspended ducts.


Calculation of economic values of nine different stages of thermal insulation as applied to an eight-room house. Final type consists of storm sash and doors and four-inch insulation on ceiling and walls.

Cost tables include total heat loss, percent saving, square feet of hot water radiation, oil per season, oil cost, fuel saving, cost of construction, interest and depreciation, net saving, years return on investment, years for net fuel saving to pay off investment, cost of heating plant necessary, and reduction in plant cost.


Discussion in Italian of technical articles and correspondence, giving details, graphs, and views of panel heating installations under construction.

CO, CO₂ & Draft. (G. W. Bohn, from Oil Heat), Real Estate & Bldg. Management Digest, Je'37:20 pt

Every cubic foot of excess air or draft in a furnace decreases the heat delivered. Complete combustion of one gallon of oil is secured with about 1900 cubic feet of air.
The stagg gas then analyzes 14-15% CO₂ and a trace of the dangerous CO.
Less air than this increases CO and also decreases heat.
The facts are advanced in support of the wider use of automatic draft regulators.

What will the fuel dollar buy? (D. H. Clary, from The Coal Dealer). R. E. & Bldg. Management Digest, Je'37:20 pt

Tests of coal from 500 American fields by the U. S. Bureau of Mines show an average overall efficiency of 58% (ratio of heat developed to total contained heat of fuel). Anthracite rates highest up to 71%, semi-bituminous lowest down to 51%. Eastern bituminous high was 65%.
Stokers give highest efficiencies, and hot water is 3% more efficient than steam.

Fans & decibels. (From Power), R. E. & Bldg. Management Digest. Je'37:26 pt

The average ear does not hear sounds below 22 decibels in intensity and fans with a noise level of 40-50 decibels are considered quiet. Blade noise is proportional to the square of the velocity, and low speed fans are consequently quieter.
The rest of the mechanism, through research, is also becoming more quiet.

CONSTRUCTION

Notes on inspection of structures in Europe, (A. L. Boase), American Concrete Institute Journal. My'37:521-540 dsv

Description and details of Freyssinet methods and applications (including Marine Station at Le Havre, supported by 100-ft. hydraulically-molded hollow piles). Notes on long span hollow-membered concrete bridges, continuity in buildings (Highgate Apartments, London; Hotel Astoria, Copenhagen), architectural concrete, industrial and commercial buildings (including examples of railroad stations, shops, piers and hangars).


A review of what has been written on this type of construction. This is in extended, annotated bibliography form really constituting a history and summary of technical progress in all countries.
The great engineer Brunel was perhaps the first to use R. B. M. (Reinforced Brick Masonry), in the Thames River Tunnel (1825), but the real pioneer was A. Brebner, who had nearly three million square feet of reinforced brick in India (1920-1923), and who subsequently wrote a two-volume treatise on its use.

Sheathing with plywood, (N. S. Perkins) American Builder. Je'37:42, 144 pt

Brief notes on recent U. S. Forest Products Laboratory tests on thin fir plywood which indicate that 5/16-inch thickness is stronger and cheaper than other methods. The 4 x 8-ft. pine cost only 40-60% as much as diagonal sheathing to erect. There is no cutting except for openings, no 30% waste, fewer nails are required. Even the ¾-inch thickness was found to be 40% more rigid than diagonal sheathing when nailed, and much more rigid when glued to studs.
Plywood has also been found high in satisfactory as a shingle base, being strong, wind-proof and yet permitting "breathing" of water vapor necessary to keep wooden shingles from rotting.


Brief Italian text. Twenty-five views and sections of industrial construction types, mostly steel trusses and beams.


Considers provisions which should be in specifications to insure safety and also describes the welding technique necessary to meet these requirements. Analysis of photos and diagrams of both good and bad welds.

See also Structural welding mistakes, (M. P. Korn). 15-16 df

Welding symbols and instructions for their use, Welding Journal Je'37: 9 supplement df

The standard symbols developed by the American Welding Society revised and now recommended to the American
Cork helps deliver conditioned air in Buffalo's largest installation

Atop Sattler's Buffalo store, this engine room supplies conditioned air to floors below. All ammonia piping, shell and tube vessels are insulated with Armstrong's Cork Covering. Consulting Engineer: Edward C. Ashley, New York City.

Sattler's big Buffalo store boasts the city's largest air conditioning installation. 480 tons of refrigeration is supplied by machinery, located in a penthouse on the roof. Conditioning units deliver 165,000 cubic feet of air a minute throughout the store. Efficient operation is assured by insulation with Armstrong's Cork Covering, specified by Edward C. Ashley, consulting engineer, New York City. This cork insulated equipment serves for both summer cooling and winter heating use.

Cork presents a definite barrier to the passage of heat, and keeps refrigeration loss at a minimum. And its natural resistance to moisture assures long life, with continued efficiency in service. Let Armstrong work with you in planning insulation for air conditioning jobs. Write for complete information about Armstrong's Cork Covering and Corkboard Insulation to Armstrong Cork Products Co., Building Materials Division, 926 Concord St., Lancaster, Pennsylvania.

Vibracork quiets machinery

Although this 120 tons of air conditioning machinery is in constant operation, noise and vibration are not transmitted to the store floors beneath it. This nuisance is avoided by a vibration-absorbing cushion of Armstrong's Vibracork installed under compressors, pumps, and other equipment. The Mollenberg-Betz Machine Company made the installation of Buffalo Forge Company air conditioning units and Frick compressors.
Standards Association for adoption as American Standards. In addition to the descriptive text and symbols there is a typical machine drawing showing their use.

**DESIGN & PLANNING**


Analysis of what the writer terms "assembly objective" and "government of design by a dominant dimension." The former relates to the need for dimensional correlation of the various units and equipment which go into a building; the latter is our old friend unit- or modular-design. This article puts forward an interesting argument for a factor of seven as the basis of all dimensioning.


A discussion in French of several mathematical bases of design and proportion, including crystallography (crystals illustrate the division of dimensions into exact whole numbers), the concept of the incommensurable as a basis for art, the mathematics of rhythm, the module, and relations gained by use of the compass. Numerous examples are given from historic buildings.

**LIGHTING**

Modern forms and materials for theater lighting schemes. (F. M. Feige). Better Theatres. 29 My 137:9-10, 32-33

A review of new devices and their application to theater lighting problems. New reflecting and translucent elements are described, illustrated and definite applications listed for each item.

Lighting the theater. (W. D. Riddle). Better Theatres. 29 My 137:11-18

Pictures and captions to describe several features of theater lighting. There are schemes suggested for a front, for a lobby, an auditorium and foyer, using coffered, troughs, lavoires and translucent marble. There are also eight views of actual theater lighting solutions.

Economy and effectiveness in lighting methods and maintenance. (J. T. Knight, Jr.) Better Theatres. 29 My 137:23-26

Discussion of elements of illumination. Definitions of terms and methods of lighting. Notes on maintenance and reconditioning of lighting elements with emphasis on theater illumination types.

Windows and room-lighting. (E. W. Hummel), Der Baumeister. (Munich). Je 37:121-123

Brief German text with nine three-dimensional graphs of lighting intensities with various window shapes, in corner and interior rooms. There are other graphs of intensities, diagrams showing the amount of light cut off by differing schemes of muntins, and a short table of reflection factors for colored surfaces.


Abstract of an article on the danger due to heat of recessed illumination. Since temperature may reach 320°F, with a single 100-watt lamp, and since dust accumulations are often ignited at lower temperatures, it is imperative to take precautions.

It is recommended that the metal of enclosed be not less than 22 gauge (Nat'l. Board of Fire Underwriters), and that for lamps larger than 25 watts all sides of the box be covered with 3/4-inch asbestos board or one inch of rockwood. No rubber covered wire should be closer than four inches, and soldering is taboo.


Ten percent more light output from incandescent lamps without additional current is now possible through the use of a new high efficiency filament. This new lighting element is the culmination of 24 years of continuous research. It consists of doubly coiled wire, 19/0000 of an inch in diameter. Some idea of the precision necessary is found in the fact that from an original length of 20 inches the filament is reduced to a coiled coil 3/4-inch long. If the coils touched the lamp would short and fail.

The theory of this type of filament is that the greater the concentration of filament the lower the heat loss due to convection currents of the gas charge in the lamp. The gases are necessary to reduce filament evaporation and consequent thickening of bulb.

**MATERIALS & FINISHES**

The atoms that make up metals. (L. R. von Wart). Science Digest. Jl37:59-52

Clear discussion, condensed from a radio talk, of the elements of metallurgy, revealing the inner magic of atomic arrangements which distinguish various metals.

"Metals deform when they are worked by a process of internal crystalline slip." Hardening is effected by increasing the resistance to slip. One method is to alloy a certain amount of another metal, the two kinds of atoms forming a stronger bond. Another way is by chemical combination of metals which "some of the dispersed parts find their way along the potential path of slip and there ... inhibit free movement" by friction.


Recently developed by Prof. C. G. F. (Head of Division of Electrochemist Columbia University), this latest form of steel has high corrosion resistance and aluminum and the tensile strength of steel. It is said that it will displace tin plate and galvanized iron since it is more resistant to corrosion, acids and high temperatures. (It has withstood 1800°F, 1000 hours. Tin melts at 450°F, 25°F higher.)

The new material will be useful in airplanes, automobiles, vibrating machines of all kinds, and for bridge construction.

Windmills protect pipe from corrosion. (K. E. Folger). Heating, Piping & Air Conditioning. My 37:293+

Buried steel corrodes at the rate of 1 pound per year per ampere of electrolyte current. Long pipe lines are now protected by reversing the current flow which impressing upon them low-voltage D.C. from wind power. The pipe becomes the cathode (negative) instead of the corroding anode (positive), thus away by the electrolytic chemistry of the soil. A pile of scrap iron, buried near by, preferably in rock salt, is used as the anode and it corrodes rapidly in place of the pipeline. It is suggested that this method of counteracting corrosion might be applied to other objects of steel subject to electrolysis.


Under efflorescence the following is discussed: nature and mode of formation, external and internal sources of water soluble efflorescing salts, tests for liability of brick to effloresce, avoidance and treatment in new structures, ingredients in mortars.

Corrodfible metals, pigments, lime and metallic substances which leach out of oxide, and vegetable growths, are all considered under staining. The distribution is made that stains are permanent without treatment while efflorescence dissolves and disappears when the work is wetted.

(Continued on page 119)
QUESTIONS
your clients are asking
about Automatic Heating

The following questions are among those most frequently asked of Delco-Frigidaire representatives in the field

1. What kind of heat should I install in a new house?
The present trend is toward automatic forced warm air heating, combined with winter air conditioning. The problem of supplying this kind of heat at reasonable cost—and to fit houses of any size—is perfectly met by the Delco Conditionair, an automatic heating plant, burning either gas or oil, which also provides winter air conditioning as it heats. It circulates a fresh supply of warm, filtered and humidified air to every room in the house. Yet, due to the economies of the Thin-Mix Fuel Control and the Multi-Path method of heat transfer, the average operating cost of Delco Conditionair is little more than that of ordinary automatic heat. And it can be purchased already equipped with cooling apparatus for summer air conditioning—all in one convenient package; or, the cooling equipment can be added later provided properly designed ducts have been installed.

2. I prefer radiator heat. What kind should I investigate?
The Delco Automatic Furnace, equipped with the money-saving Thin-Mix Fuel Control, provides fully automatic heat for hot water, steam or vapor systems at remarkably low cost. Its principle of construction prevents heat waste up the chimney. It is available for gas as well as oil—and with new, smaller models it offers sizes that are an economy in houses with any number of rooms.

3. Who is Delco-Frigidaire?
Delco-Frigidaire is the air conditioning division of General Motors. It offers equipment for the automatic heating, cooling and conditioning of air... in homes both large and small—in stores and other commercial establishments—for winter, for summer and for year 'round use. A most complete line of dependable and economical equipment for every use.

4. Is my architect informed as to these General Motors Products?
Delco-Frigidaire is delighted to cooperate with architects in any possible way and for this purpose maintains a Consultation Service.

It Pays to Talk to
DELCO-FRIGIDAIRE
The Air Conditioning Division of General Motors

AUTOMATIC COOLING, HEATING AND CONDITIONING OF AIR
Despite war scares, falling francs and falling cabinets the still uncompleted 1937 Paris Fair opened only one year late. Government bigwigs shined silk hats to be impressive at the opening ceremonies. The building is Belgium's

It takes a certain kind of genius to make life's unessential seem like downright necessities. The French have an extraordinary capacity for doing this. Chic and charm are sold to the public by means of fairs and a clever use of the word silhouetted above.

It may have been a coincidence that the world's largest stainless steel figures on the U. S. S. R. building (left) flaunted a hammer and sickle directly in the face of the eagle atop the German Pavilion directly opposite.

The German Pavilion (right) after a summer under foreign skies will be shipped piece-meal to Nuremberg where it will be used as a war memorial.

An exhibition of sculpture adorns the fore-courts of the permanent art museum designed by Jacques Carlu.
You’ll Never Need to Tiptoe

On AZROCK covered floors

There is a gentle resilience created by the random interlacing of cotton and asbestos fibers in this modern mastic tile that makes Azrock Tile an ideal floor covering wherever the reduction of sound is important: in large offices where disturbance would thwart efficiency, in apartments and hotels, restful homes, on theater aisles, library floors, down miles of quiet halls and corridors and—of course—as the floor covering for hospitals and sanitariums. Absorbing and minimizing noise to a great degree, the resilience of Azrock also gives a very comfortable walking surface for the relief of foot-exhaustion and its attendant nerve strain.

And Azrock, with its wide array of colors from which to choose (both plain and marbleized), and the different available sizes, makes such a beautiful floor! It’s durable, too—manufactured to stand up staunchly under gruelling wear and long service. Moisture proof, fire-resistant, sanitary, easily maintained, moderate in cost, Azrock is hard to beat!

Write to Uvalde Rock Asphalt Co., San Antonio, Tex., for name of your nearest distributing contractor.

An innovation is the new Micro-cut Azrock Tile! Joints are tighter, smoother than ever before obtainable in asphalt and mastic tile floor coverings. The tile now fits micro-close, free from dust-catching cracks and rough edged joints.

AZROCK CARPET TILE

Other Azrock Products:
Azrock Industrial Tile . . . Azrock Planktile
ELECTRIC SPIGOTS

Of interest to garden lovers, landscape designers and others is the new Electric Spigot designed by the National Electric Products Corporation, Pittsburgh, Pa., to supply electric current for use outside of houses. This electric spigot places a waterproof hood and a cover hinged with a heavy spring over the outlet. It keeps out rain, snow and ice, yet can be lifted with the flick of a finger. It may be placed on a garage, garden or house wall. Installation is simple. Drill a 1½" hole in the wall, pull the cable through the opening, attach it to the self-binder in armored or non-metallic cable that the spigot features, and secure it to the wall with two screws.

MERCURY VAPOR LAMP TRANSFORMER

A new high intensity mercury vapor lamp transformer, which when used with the proper high intensity lamp is said to provide much greater lighting efficiency and better seeing illumination, has recently been placed on the market. Special core manufacturing methods were created which included the use of extremely thin laminations of high silicon steel and the use of oversize wire for all coils. In addition, coils are precision impregnated. A notable feature of these transformers is the universal mounting feature. Removable mounting legs make it suitable for either wall, ceiling or pendant mounting. A thread coupling at the end of the end plate is ready for pendant mounting simply by removing end plate cover. Two positive contact universal terminal panels are mounted in a large compartment with ample space for making connections, another feature. All connections to line lamp are made at the terminal panels. All connections to line connections may be made from either or both ends of transformers. A new product of the Acme Electric & Mfg. Company, Cleveland.

THE PLANNED LAUNDRY

Step by step, engineers and home economists have perfected equipment and processes to emancipate the housewife from household drudgery—and now comes the complete electric planned laundry. A logical arrangement of the equipment the planned laundry gives a production line for the clothes follow. From the time the clothes come down the chute, enter the laundry, they follow logical steps of progression through to the ironers. The planned laundry is divided into four groups, collecting and sorting, washing, drying, and ironing center. Each center has a definite function to perform and while each division is dependent on the others, they can be treated separately for operation and classification procedure. These plans laundries may be adapted to conditions and equipment already existing in the home. Many contributions, such as movable b

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373 Fourth Avenue, New York

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PRODUCE GOOD BLUE PRINTS

TECHNIQUES

METHODS . . . MATERIALS . . . RESEARCH PRACTICE

SPEED!

SPEED!

SPEED!

The architect, anxious to please his client, meets this demand by utilizing every short cut possible.

Today, many drawings are made directly on tracing paper. The drawing is then rushed to modern, high-speed blue print machines, so that prints may be delivered to the estimator, the contractor and the builder at the earliest possible moment.

To produce a clear, legible print, pencil lines must "cover," or in other words, the deposit of graphite must be such that light rays of the blue print machine cannot penetrate them.

This is effectively accomplished with a Koh-I-Noor drawing pencil—the same pencil which, through its qualities of materials and workmanship, gained the confidence of architects many years ago. These same high qualities today, make Koh-I-Noor the unanimous choice of discriminating draftsmen.

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AMERICAN ARCHITECT AND ARCHITECTURE, AUGUST 1934
Today's home-buyers are definitely interested in fire-safe first-floor construction. They recognize it not only as a protection for their property and investment, but also as a means of reducing insurance costs. Bethlehem Open-Web Steel Joists provide an economical and practical basis for this type of floor construction.

Bethlehem Open-Web Steel Joists combine high strength with light weight. As used in residences and other light-occupancy structures of average size, they weigh only 50 or 60 lbs. and require no special handling equipment. In combination with a solid floor slab, such as concrete, and a plaster basement ceiling, they form a floor structure with a fire-resistance rating of better than two hours and will confine the fire to the basement for that period of time, preventing its spread to other parts of the house.

In addition to fire-safety, floors built with Bethlehem Open-Web Steel Joists bring other major advantages. They are more rigid than floors built with conventional members and materials. They will not sag away from baseboards or woodwork. They help eliminate unsightly plaster cracks and put an end to annoying creaks. They are immune to termite attack. Yet Bethlehem Open-Web Steel Joists increase the original cost of the structure only very slightly.

Basis FOR FIRE-SAFE, RIGID FLOOR CONSTRUCTION

BETHLEHEM STEEL COMPANY
Here the Conversion Boiler is burning oil. A change in the base and it can be switched over to coal—either hand or stoker fired.

A Two Way Boiler

With a Three Way Economy

(Either Oil or Stoker Fired)

YOU say there's no need of a two-way (two-fuel) boiler. But what does your client say? There are many cases where folks haven't liked oil, and would have switched to coal, if it hadn't meant buying an entirely new boiler. There are likewise not a few cases, where after a while folks who had stoker-fired boilers, wished they had an oil burning one.

With the battle of fuels on, why clamp your client down to the necessity of using exclusively coal or oil? Why not use a Burnham Two-Way Conversion Boiler? One that performs, with equal satisfaction and economy, with either fuel. One that can be changed from one to the other with comparatively little cost. A boiler with a three-way, back and forth economy fire travel. A long fire travel that makes a short fuel bill.

Send for the full facts about this Burnham Two-Way Conversion Boiler.

Burnham Boiler Corporation

Irvington, N. Y. Zanesville, Ohio

Representatives in all Principal Cities of the United States and Canada
ARCHITECTS will welcome Barrett's entrance into the insulation field. They know the Barrett name is assurance of dependable materials—products that are accepted readily by engineers, builders and the public. When you specify Barrett Rock Wool you specify the product-quality that Barrett has always represented—quality that means client satisfaction. Write for details.

COMPLETE LINE . . . ALL TYPES
BLOWING FIBER . . . BATTs . . . LOOSE WOOL

THE BARRETT COMPANY
40 Rector Street, New York, N.Y.
2300 So. Sacramento Ave., Chicago, Illinois   Birmingham, Alabama

NOW MORE THAN EVER, IT'S BARRETT "BETWEEN THE WORLD AND THE WEATHER SINCE 1854"

AMERICAN ARCHITECT AND ARCHITECTURE, AUGUST 1937
PROTECT YOUR

...with Air Conditioning

1. CLIENTS WILL THANK YOU FOR THE EXTRA COMFORT

2. CLIENTS WILL THANK YOU FOR A BETTER BUILT HOME

Radiant Heat from radiators — Conditioned Air from ducts — provide every necessity of P. C.*

Your homes are judged by the comfort they provide when comfort is most essential — during the winter heating season. That is when the independent systems of Sun-like Radiant Heat from radiators and Conditioned Air from ducts provide the accurate control and equal distribution of warmth so necessary to complete P. C.*

Featured in the new American Radiator Conditioning Systems are new-style Radiant Convectors, completely concealed beneath windows, there they halt cold drafts, make window areas warm and cozy, send out from their radiant panels the Sun-like rays of living warmth at living level ... give rooms an extra attractiveness for living and looking that make home more desirable.

Radiator piping and simplified ducts do not weaken structural members — avoid undue settling

The simplified ducts of an American Radiator Conditioning System (simple because the heating load is carried independently) do not weaken floor plates — leave structural members strong, not cut away — keep the building sturdier with less chance of cracked walls and ceilings.

Other minor annoyances, too frequently encountered, are also eliminated by the American Radiator Conditioning Systems. Bedrooms and other rooms are assured privacy; there is no "telephone effect" through ducts. Ventilation and circulation may be had when needed, even when the thermostat says "no heat!" Changing winds or open windows will not affect heat distribution. These little things, important when they happen, protect your reputation by their absence.

*PERSONAL COMFORT

New AMERICAN RADIATOR

BRING IN FRESH AIR. ADD HUMIDITY. CLEAN THE AIR. CIRCULATE THE AIR. GIVE SUN-LIKE RADIANT HEAT. WARM EVERY ROOM EVENLY. SUPPLY YEAR-ROUND DOMESTIC HOT WATER.

108 AMERICAN ARCHITECT AND ARCHITECTURE, AUGUST 1937
There is nothing untried about American Radiator Conditioning Systems. All parts are made to work together; are backed by engineering research; by the responsibility of the best known name in heating; and by a half century’s experience in making a complete line of American Ideal Boilers.

Installation principles too, are proved. Heat distribution, balance, correct layout are no problems to the Heating and Plumbing Contractor. He is skilled in supplying comfort — has been for many years. Not experiment, but experience dictates the method of installation and assures trouble-free operation through the years.

Two savings are represented by American Radiator Conditioning Systems. A saving in hot water; it comes from the heating boiler. And a saving over the years, in efficient performance, in more heat from less fuel, in repair and replacement. Ideal Boilers are made of time-tested, corrosion resistant cast iron.

Year after year, your reputation is enhanced by the comfort, the quality, the performance and the economy of the American Radiator Conditioning Systems in your homes.

American Radiator Company

Easily installed without weakening framework of two-story houses. Summer cooling when desired. Arco air-conditioning can be added to any good radiator heating system.
It’s summer wood which makes it important to specify White-Lead

You’ve met brothers who look and act so different that you’d never think they were sons of the same father and mother. Spring wood and summer wood are like that. They grow up side by side, but what a contrast in appearance and behavior!

Summer wood is the bad-acting brother. It is divided into small, compact cells. The walls of these cells are thicker, harder and considerably less porous than the cell walls of spring wood. Consequently certain paints have difficulty adhering to summer wood. After a short term of service, they “lose their grip” and start to scale off.

But not Dutch Boy White-Lead. This paint gets a good firm hold on both spring and summer wood. It does not “let go” but continues to present an unbroken surface to the weather.

Still another point to be considered is wood’s incurable habit of expanding and contracting. Some paints haven’t enough elasticity. They crack under the strain. But not Dutch Boy White-Lead. This paint is highly elastic when first applied. And it stays that way through years of service.

Every Dutch Boy White-Lead application is a tailor-made paint job—mixed to suit the special requirements of the surface to be painted—tinted to the exact shade you and your client desire. By specifying Dutch Boy White-Lead, you secure that combination of beauty and durability which is a fundamental objective of good architecture.

NATIONAL LEAD COMPANY
111 Broadway, New York; 116 Oak St., Buffalo; 900 West 18th St., Chicago; 509 Freeman Ave., Cincinnati; 1215 West Third St., Cleveland; 722 Chestnut St., St. Louis; 2260 24th St., San Francisco; National-Boston Lead Co., 800 Albany St., Boston; National Lead & Oil Co. of Denver, 336 Fourth Ave., Pittsburgh; John T. Lewis & Bros. Co., Widener Bldg., Philadelphia.

DUTCH BOY WHITE-LEAD
Good Paint’s Other Name

AMERICAN ARCHITECT AND ARCHITECTURE, AUGUST 1937
YOU GAIN TWO WAYS

When you Specify

GENERAL ELECTRIC EQUIPMENT

• FIRST—READY ACCEPTANCE. General Electric products are valued for inherent qualities of worth and leadership. These same qualities are to be found in G-E Heating and Air Conditioning equipment. Like anything bearing the famous G-E monogram, it must be better—or General Electric would not stamp that symbol on it. It must make—and keep satisfied users. It must protect the reputation of the one who sells and recommends it.

Those facts are well known. That's why there is never any question regarding the acceptance of a General Electric product.

• SECOND—ASSURED PERFORMANCE. General Electric Heating and Air Conditioning equipment is designed, built and warranted by one company—General Electric. It is backed by the world's finest engineering and research organization.

That's why there is never any question regarding the performance of a General Electric Heating or Air Conditioning System.

For information regarding G-E Automatic Heating units or G-E Air Conditioning equipment consult with the General Electric Distributor in your neighborhood. If you have trouble locating our representative, write us direct. Address—General Electric Company, Air Conditioning Department, Div. 81015, Bloomfield, New Jersey.

GENERAL ELECTRIC

AUTOMATIC HEATING • AIR CONDITIONING
VENTILATOR FAN

The Emerson Electric Mfg. Company, St. Louis, Mo., has announced the addition of the 12-inch Seabreeze Ventilator to its present line of Seabreeze Fans. This ventilator is available in a built-in wall box for permanent installations or with portable metal panel. It is suitable for home or office and has an air moving capacity of 875 cubic feet of air per minute. The wall box can readily be installed in new homes at the time of construction or in modernized homes.

SELF-CONTAINED ROOM CONDITIONER

Designed to furnish a high degree of summer comfort in single rooms of a home or office suite without requiring a water connection, a new unit room conditioner has been developed by the General Electric Company, Bloomfield, N. J. Designed as Type AF-1 the unit has a built-in air-cooled condenser. Air from outdoors is brought in through a window duct by a separate fan to cool the refrigerant in the condenser. After performing this function it is said to absorb moisture condensed by the cooling coils and is discharged out the window. The unit is semi-portable and has a cooling rating of about two-thirds of a ton. This can be increased to about one ton by supplying a very small water line and making minor changes in the mechanism. No drain connection is required under either conditions. The unit must necessarily be mounted at a window. It has a laminated window duct 18 inches in length which is adjustable to a shorter length if necessary. The enclosing cabinet is of birch walnut with slotted moldings through which air return and delivery passes. There are no grilles.

RESIDENTIAL STEEL MAGAZINE BOILER

The Anthra-Heat Magazine Feed Steel Boiler for the five or six room house is a product developed in the laboratories of Anthracite Industries, Inc. The Fitzgibbons Boiler Company, Inc., New York, is one of two manufacturers licensed to produce and sell this boiler. It has been specifically designed to provide semi-automatic heat for from twenty-four to forty-eight hours with minimum attention. It is claimed that it will heat the average five to six room house with an annual fuel consumption of from five to six tons of Pennsylvania anthracite. Automatic thermostatic control is a built-in feature and fuel is admitted through a large port on the top of the boiler. Constructed in one size—30 square feet of standing hot water column radiation—it is only 53 inches high and 26 inches in diameter. Ash is deposited in an enclosed container large enough to hold a week's supply.

Refrigeration

Is used in conditioning 30,000 cu. ft. of air per minute at the Woodward & Tiernan Printing Company, St. Louis, Mo. The refrigerating load is carried by the 8½ in by 6 in. Frick Freon-12 compressor shown.

Printers, restaurateurs, hotel owners, theatre operators, funeral directors—they and a score of others all use Frick Dependable Refrigeration. Ask for literature and estimates today.
THE PLANNING AND EQUIPPING OF

Public Toilet Areas

NEXT month AMERICAN ARCHITECT AND ARCHITECTURE offers what is believed to be the first compilation on public toilet areas which sets forth the best method of finding the type of equipment to be used, the amount of equipment to be used, and the space to be allocated once the occupancy of the structure is determined.

The material will cover railroad stations, theaters, restaurants, etc., and will be presented as the subject of two Time-Saver Standard sheets and the Unit Planning article.

ALSO IN THE SEPTEMBER ISSUE, AMERICAN ARCHITECT AND ARCHITECTURE

CONTEMPORARY ARCHITECTURE IN ITALY—by Bruno Funaro and Seymour Saltis. Youthful, vital, and inspired by Romanesque simplicity, today's Italian structures embody a proper application of materials and one of the few modern decorative motifs of real significance.

W. P. INMAN PLANTATION, GEORGETOWN, S.C.—by Wyeth & King, Architects. A splendid example of the larger house designed in the tradition of the locality.

RESIDENCE, MIAMI BEACH—by Russell T. Pancoast, Architect.

RESIDENCE, EVANSTON, ILL.—by White and Weber, Architects.

RESIDENCE, STATE COLLEGE, PENN.—by H. W. Loman, Architect.

RESIDENCE, CALIFORNIA—by F. L. Confer, Architect, and James H. Anderson, Jr., Associate.

EXPOSITION ARCHITECTURE—by Walter Dorwin Teague, famed designer of Fair buildings (notably for Ford) at Chicago, San Diego, and Dallas, and now on the Board of Design of the New York Fair. Based on a report he made recently to the New York Directors, his article points up the many problems confronting architects who must stimulate Fair audiences notorious for their low I.Q.

ARCHITECTURAL OVERTONES—old Pennsylvania barns and other farm buildings.

PORTFOLIO—devoted to Wall Face Dormers.

FAVORITE FEATURES—Wall-face Dormers.

ILLINOIS TITLE & TRUST CO., WAUKEGAN, ILL.—by Holabird & Root, Architects.

MARGARET'S FLOWER SHOP, LOS ANGELES—by Morgan, Walls, and Clements, Architects.

Don't Miss the September Issue of

AMERICAN ARCHITECT AND ARCHITECTURE

AMERICAN ARCHITECT AND ARCHITECTURE, AUGUST 1937

115
only ONE quality

SAMSON SPOT SASH CORD

MADE of extra quality uniform fine yarn, spun in our own mills. Firmly braided, smoothly finished, carefully inspected and guaranteed free from imperfections which cause inferior sash cord to wear out quickly. Specified by leading architects everywhere. Send for sample.

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BOSTON, MASS.

DNE

NEW HEATING SYSTEM

The Anchor Stove Range Co., New Albany, Indiana, announces a new Anchor Kolstoker Heating System, a complete warm air unit with automatic stoke feed. Both furnace and stoker were designed to work together. Full heating efficiency at all times is said to be obtained by reason of self-cleaning radiator. Extra heavy cast iron construction and asbestos lining allow for more uniform heat. The furnace has a removable plate for installation of fan and filter unit desired. A special coil is available for hot water in warm weather. Shifting position of a reversible lower section permits stoker installation from front or either side. The design also offers four different smoke pipe positions.

DIRECT READING RULE

The new Stanley No. 6386 “Pull-Push” rule has a direct reading feature for inside measurements. When the case and blade butt against the work, a red indicator on the case points to the exact inside measurement. The flexible-rigid steel blade has a white baked enamel surface against which the black graduations stand out. Manufactured by Stanley Tools, New Britain, Conn.

Your Goal—and Ours

Architects, everywhere, acknowledge the fine art of accommodating tradition to modern usage. Designers of today and for tomorrow, Danersk Craftsmen join their efforts to the desire of the architect, to produce distinction.

Today, Danersk furniture is in a score of famous American Colleges (including the beautiful Sterling Memorial Library at Yale), many important banks in New York and elsewhere; numerous great hospitals; some of the best clubs and in many executive offices throughout the land.

In the interests of better design, we have developed certain styles particularly appropriate for these purposes. We welcome opportunity to design and make furnishings which complement the architect’s accomplishment.

The DANERSK CRAFTSMEN, Inc.
Stamford, Conn.
Post Road at Noroton

DIRECT READING RULE

The new Stanley No. 6386 “Pull-Push” rule has a direct reading feature for inside measurements. When the case and blade butt against the work, a red indicator on the case points to the exact inside measurement. The flexible-rigid steel blade has a white baked enamel surface against which the black graduations stand out. Manufactured by Stanley Tools, New Britain, Conn.

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The DANERSK CRAFTSMEN, Inc.
Stamford, Conn.
Post Road at Noroton
FREED DATA SHEETS

On New Holland
OIL-FURNACE AIR CONDITIONER
COMPLETE IN ONE UNIT

Now Ready... SET of 7... Prepared Especially for Architects and Draughtsmen!

- Every architect who takes pride in giving clients the greatest possible value will want a set of these new data sheets on the Holland Furnace Company's remarkable new Oil-Furnace Air Conditioner. They have been carefully and accurately prepared by the well known Don Graf, B. S., M. Arch., for the express purpose of making, specifying and detailing as rapid and as easy as possible. Technical facts have been boiled down to bare essentials and have been skilfully arranged for quick reference. They conform in size and perforation to the popular Pencil Point series and will fit the standard binders. The coupon will bring you your set at once.

LOCAL HOLLAND ENGINEER IS AT YOUR SERVICE

There is a competent factory-trained Holland engineer in your locality who will gladly cooperate with you in every way possible. See "Holland Furnace Company" in your phone book.

HOLLAND FURNACE COMPANY
HOLLAND, MICHIGAN

World's Largest Installers of Home Heating and Air Conditioning Systems

HOLLAND FURNACE COMPANY
Dept. AA-3, Holland, Michigan

Mail me FREE data sheets on Oil-Furnace Air Conditioner and other information indicated:

☐ Holland Oil Burners ☐ Holland Furnaces
☐ Holland Automatic Coal Burner ☐ Have Engineer call

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Address
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PYRAMID

Snap-On

Stainless Steel MOULDINGS

IN LONDON, the Cocktail Lounge of the Regent Palace Hotel is distinctively trimmed in Pyramid SNAP-ON Mouldings. Here is truly modern impressiveness with restrained dignity.

The Pyramid SNAP-ON feature conceals all nails or screws in the track which firmly holds the cover moulding. The SNAP-ON installation method often affords a labor saving of fifty per cent.

Pyramid SNAP-ON Mouldings are quickly and easily applied on top of wallboard, plaster or other materials after all other work is finished. They may be placed where good decoration indicates. It is not necessary that they fit between joints or over edges.

Pyramid SNAP-ON Stainless Steel Mouldings will not rust, tarnish, or corrode. Stainless Steel, Bronze, Copper, Brass or Aluminum Mouldings are available in Satin or Mirror finishes.

Send today for the new folder which illustrates Pyramid SNAP-ON Mouldings in typical modern use.

A LETTER TO THE EDITORS

AMERICAN ARCHITECT AND ARCHITECTURE:

Your valuable magazine by both its announced policy and choice of subject matter in monthly range of contents has gone far in the past two years to present the architectural "trends" of today, and to point the way in pictured and printed word to "building the world of tomorrow." I am encouraged to suggest an additional aspect of the architectural field not yet touched upon. This is the education of the men in the ranks of the mechanical and building trade called "skilled labor."

A recent news item (N. Y. Times) related that President William M. Lewis, of Lafayette College, Easton, Pa., has proposed that a central educational exhibit be made at the N. Y. World's Fair of 1939. This exhibit would present the history of higher education in the United States in central building with the cooperation of high schools, preparatory schools, colleges, and universities and by foundations and the educational committee of the Fair.

This suggestion of President Lewis to be all-embracing should include the education of skilled labor in all the trades which has been completely neglected for many years, and now progressing so slowly and spasmodically as to warrant widely expressed fears for a scarcity in all the large centers.

The public schools in many of our largest industrial centers have made advances toward a primary trade education under the generic term of "vocational training" and, along with the old German "continuation schools," develop the tendencies of pupils, whose usual aims were the desires of their parents to put them to work as soon as possible. The age required by work certificates in most of the States is sixteen years, which has resulted in the common habit of pupils in and above secondary schools and in our colleges to abandon their education before graduation.

You have made an excellent beginning by publishing the clearly reasoned and informative article by Dr. Walter Grisius of Harvard, entitled "Education Toward Creative Design." This essay, as well as his recently published book, "The New Architecture and the Bauhaus," deals with education in the crafts and design elements of mechanical production, but accents the true fundamentals of work over the drafting board, as well as holding the tools.

I suggest that it would be timely and appropriate for your magazine to advocate the establishment of a system of trade or craft training, involving both theory and practice in all divisions of the building and machine trades for both beginners and those well advanced but not yet up to the standards required by skilled competition. I would propose that such systems be made a co-ordinate branch of public education with separate courses of instruction and separate teachers, and that their fitness and selection be participated in and approved by competent authorities in the labor unions and by the education boards governing in their jurisdiction.

The United States, the State, and the Municipal Housing Authority could be petitioned to provide a fund for one such unit at the coming N. Y. World's Fair of 1939, making an integral part of the planned exhibit suggested by Dr. Lewis. No time should be lost, however, as construction on many parts of the Fair is already underway.

I trust that this suggestion will meet your approval, and that your readers may be stirred to comment upon this vitally important topic.

(Signed) Frederick W. Moore,
New method of bonding porcelain enameled architectural panels to masonry. The American Enameler. My 37:5-7

Illustrated description of the new Pem-box method, a sprayed and baked porous bonding coat on the back of the standard porcelain enamel metal sheets.


Fourteen views showing the great variety of uses of tempered glass suggested by a recent European competition.

See also: Domus (Milan) Ap 37: Supplement.

Nearly sixty photo views and drawings of entries in this competition with ideas for use of hardened glass in furniture and other details.


Not only interception of solar infra-red rays (heat) but excessive glare and objectionable color effects must be avoided in industrial buildings.

This paper is published as a cross-section of experience and includes several simple tests to assist users of the material. It is followed by a nine-page discussion by members of the Society.


The three main reasons for the general public's preference for white oak flooring are stated to be: (1) For many years the source of almost all oak lumber was limited to white oak districts; (2) Only white oak is suitable for cooperage (because of tannic acid in red oak). This raised cost and the popular idea of quality followed. (3) Quartered white oak has a larger and more pronounced figure than red oak.

On the other hand, red oak grows to larger sizes, yielding greater average lengths for economy in millwork and laying. If anything, red oak is more uniform in color and takes a better finish than white oak. It is claimed that any oak floor, white or red, when properly finished and maintained will last the life of the building in which it is laid.


The high tannic acid content of red oak flooring may combine with particles of iron from brush ferrules or old containers to gray or blacken white shellac over sap wood.

It is suggested that only fresh shellac be used for oak floors. Such discoloration may be removed by brushing with two-pound-cut fresh white shellac containing four ounces oxalic acid crystals per gallon.

PLUMBING


Question, answer and diagram analysis of an important sanitary defect in plumbing installations. Describes both direct cross-connections (actual pipe connection) and indirect (due to siphonage, etc.) Notes on tests for possibility of siphonage.

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ARCHITECTURAL
EFFECT

ANY combinations of color effects may be obtained with Columbia Venetian BLINDS. The possibilities are almost limitless. To do this effectively, color consideration should be made in the preliminary specifications and certainly incorporated in the final drawings. Our Architectural Plan Department has prepared color charts showing varied combinations of tapes and slats. Columbia BLINDS can be used on any type window, skylight, transom or glass door. Special detailed drawings have been prepared to assist the architect with unusual installations giving dimensions for needed bundle space and other important designing data. We invite architectural consultation.

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4. A designer, supervising architect or engineer for a financial or educational institution, large property owner or developer.

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Garden Decoration
and Ornament
for Smaller Houses

by G. A. Jellicoe

The author, who is well known as a town-planner and designer of houses and gardens, analyzes in this profusely illustrated volume the structural features and ornaments of gardens for small country houses, suburban and town houses. The London Times Literary Supplement praised it for its “beautifullv chosen illustrations” and spoke of it as “of a quality rare in modern garden books . . . full of stimulating ideas.” Country Life says “it should be of great value to home and estate owners and garden lovers all over the world.”

$6.00

The Supervision of Construction

by W. W. Beach

This book is perhaps the first comprehensive treatment of the supervision of construction to be published and is indispensable to architects, engineers, construction superintendents, technical libraries, students and all interested in architecture and engineering. Written by one of the best-known architect-engineers in the Middle West, it is an authentic, up-to-date handbook that fills a long-felt need. Within its 488 pages are included all the details of the superintendent’s work; there are appendices, 20 diagrams and illustrations.

$6.00

Charles Scribner's Sons

122

American Architect and Architecture, August 1937
TRENDS—(Continued from page 19)

COSTS

DOCUMENTING ITS BRIEF with well-stated argument, the Morton C. Tuttle Company, of Boston, issued a pamphlet not so long ago which declared that costs are due to rise even more during the last half of this year. Why? Mainly because there’s a severe shortage of skilled labor, a bequest of the Time of the Great Weep. Further, studies made by the Tuttle Company some years back showed that during boom building periods labor efficiency of all skilled mechanics decreased about 20%, below what could be expected when building demands were subnormal. Therefore, building operations will be slowed up—more time and expense to figure on the ledger.

A very helpful part of this pamphlet is a chart illustrating one method of computing building costs. Because much of the material and many of the subcontracts are bought in the early stages of building, the cost of any particular construction job will more nearly correspond with the index figure of building costs at the beginning of the project than with the index at time of completion.

The following example of how to use a building cost index is given:

Assuming that the cost is known of a building constructed during the first nine months of 1936 and that a duplicate of this building is to be built beginning April 1, 1937, the construction period of which will continue for nine months thereafter, the method of calculating the index cost for this second structure is illustrated on this graph:

### TODAY'S MOST VERSATILE TILE

**NO. 310 GOLDEN PHEASANT**

Yesterday, 1" white hex for more than fifty percent of floor tiling. Today, with the wide use of colored walls and tiles, the answer is Sparta No. 310 "Golden Pheasant." It blends well with any color and with adjoining hardwood. High in quality, low in cost, and easily set. Let us save your time by offering helpful suggestions for your specifications.

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Specification of proper materials and a check on these materials;
Supervision of construction;
A Federal Certificate of Registration, stating that his home has been built under the Plan—thereby strengthening investment security and resale value.
It is stated that the services of architects can be obtained at moderate costs because of the development of quantity supervision in a field where their services have been utilized but seldom. Further, that economies on the homeowner's investment will more than compensate the homeowner for the "modified" technical fee included in construction costs. Groups of architects have already been or are being formed in all parts of the country to do this work.
It is most sincerely hoped that this thorough and well-designed plan will supply the link between financing and construction in the small home field . . . a link which has long been sorely needed.

ART
TO SERVE AS LIAISON between a group of modern artists and architects desiring to incorporate their work in public or industrial building, an agency—the first of its kind—has been formed by Edith Gregor Halpert at 113 West 13th Street, New York City. Called the "Bureau for Architectural Sculpture and Murals," the new body, which hopes to meet the demand for creative art decoration in buildings of all kinds, divides its list of artists into two groups.
The first list is composed of older, established artists whose work is represented in major museums and private collections; the second group is made up of younger artists, all of whom were represented in the "New Horizons in American Art" exhibition held at the Museum of Modern Art last September.
Artists in the first group: Robert Laurent, sculptor, and the painters Bernard Karfiol, Yasuo Kuniyoshi, Georgia O'Keeffe, Charles Sheeler, Niles Spencer, Nicolai Cikovsky, and Anne Goldthwaite; and Carl Walters, ceramicist.
The second group consists of Rainey Bennett, Raymond Breinin, Louis Giacometti, David Fredenthal, Hester Miller Murray, Joseph Pandolfini, Gregorio Prestopino, Mitchell Simpson, and John Stenwall—all painters—and Duncan Ferguson, sculptor.

ELECTED . . .
ARTHUR LOOMIS HARMON, designer of public buildings and monuments, as president of the New York Chapter of the American Institute of Architects to succeed Hobart B. Upjohn. Other officers chosen: Eric Kebbon, vice president; Frederick G. Frost, secretary; Cornelius J. White, treasurer, and Harvey Stevenson, recorder.

President Harmon is a partner of the firm Shreve, Lamb & Harmon. He studied at the Chicago Art Institute and was graduated from the Columbia University School of Architecture in 1901. He has received gold medals for his design of the Hotel Shelton, New York, and for his collaboration in the design of the Empire State and Hollender buildings. Mr. Harmon lives at Irvington-on-Hudson, N.Y., is a fellow of the American Institute of Architects, an associate of the National Academy of Design, and an honorary member of Zeitschrift des Bundes Deutscher Architekten. He is a past president of the Architectural League of New York, and a member of the Beaux Arts Institute of Design.

EDUCATION
DR. JOHN F. CLARK, in charge of the Department of Educational Economics at Columbia University, has just completed an eight-year study undertaken to determine the average life earnings of those engaged in sixteen different vocations . . . among which architecture is included. One finding which will occasion little or no lifting of architectural supercilia: of all the professions for whose pursuit specific training is required, architecture pays least. Dr. Clark's modus operandi was to arrive at the average annual income of men in each field—according to the number of years employed. Thus he established the amount received for each successive year of work.
Here's Dr. Clark's lifetime table . . .
PRESENT VALUE OF AVERAGE EARNINGS FOR A WORKING LIFETIME

<table>
<thead>
<tr>
<th>OCCUPATION</th>
<th>LIFE SPAN</th>
<th>LIFETIME EARNINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicine</td>
<td>42 years</td>
<td>$108,000</td>
</tr>
<tr>
<td>Law</td>
<td>43 years</td>
<td>106,000</td>
</tr>
<tr>
<td>Dentistry</td>
<td>45 years</td>
<td>95,400</td>
</tr>
<tr>
<td>Engineering</td>
<td>43 years</td>
<td>95,300</td>
</tr>
<tr>
<td>Architecture</td>
<td>43 years</td>
<td>82,500</td>
</tr>
<tr>
<td>College Teaching</td>
<td>44 years</td>
<td>69,300</td>
</tr>
<tr>
<td>Social Work</td>
<td>45 years</td>
<td>51,000</td>
</tr>
<tr>
<td>Journalism</td>
<td>46 years</td>
<td>41,500</td>
</tr>
<tr>
<td>Ministry</td>
<td>44 years</td>
<td>41,000</td>
</tr>
<tr>
<td>Library Work</td>
<td>46 years</td>
<td>35,000</td>
</tr>
<tr>
<td>Teaching</td>
<td>45 years</td>
<td>29,700</td>
</tr>
<tr>
<td>Skilled Trades</td>
<td>44 years</td>
<td>28,600</td>
</tr>
<tr>
<td>Nursing</td>
<td>40 years</td>
<td>23,300</td>
</tr>
<tr>
<td>Unskilled Labor</td>
<td>44 years</td>
<td>15,200</td>
</tr>
<tr>
<td>Farming</td>
<td>51 years</td>
<td>12,500</td>
</tr>
<tr>
<td>Farm Labor</td>
<td>51 years</td>
<td>10,400</td>
</tr>
</tbody>
</table>

Dr. Clark's figures, we gather, are not the gross life earnings of these vocations but rather the total net earnings. After looking them over, we've just about decided against retiring to that little farm we've been thinking about.
YES, AND BETTER INSULATION, TOO!

RED TOP Insulating Wool, one of the newest products made by Corning Glass Works, is a startling result of scientific research in glass. Here is a new insulating material . . . fireproof, resilient, moisture resistant. Snowy white as surgical cotton. Made from highly refined minerals in standard glass furnaces. Spun into threads as light as eiderdown! Yet as permanent and as chemically stable as glass itself.

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RED TOP Wool is also made in bats with or without waterproof backing and in granulated form for blowing into the walls of old buildings. Samples and complete information will be gladly furnished. Write U.S. Gypsum Company, Chicago, or direct to Fibre Products Division, Corning Glass Works, Corning, New York.

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American Architect and Architecture, August 1937

128
The new United States Post Office at Peoria will be heated by 3 Kewanee Smokeless Boilers weighing 16,000 pounds each, with a rated capacity of 400 square feet ... approximately 25 tons of Steel Kewanee Boilers. Each of the three boilers was lifted to the edge of the excavation by truck. A crane with "terrapillar" tread moved up beside the boiler and placed it on a new position over the boiler. By repeating this operation several times the boilers were safely moved a distance of about 100 feet.

Of the Government-owned post offices mentioned editorially in this issue the following 7 are heated with Kewanee Boilers:

- U.S. Post Office, LIBERAL, KANSAS
- U.S. Post Office, SO. PASADENA, CALIF.
- U.S. Post Office, WILMINGTON, N. C.
- U.S. Post Office, KERRVILLE, TEXAS
- U.S. Post Office, SANTA BARBARA, CALIF.
- U.S. Post Office, BLACKFOOT, IDAHO
- U.S. Post Office, GARY, INDIANA

When Uncle Sam specifies mechanical equipment he has the benefit of the brains and experience of the greatest engineering staff ever assembled. The substantial percentage of all Government-owned post office buildings that are heated with Kewanee Boilers indicates their ability to provide dependable heat at low cost.
Smartness in style combined with every practical construction advantage has made Milcor & Richsto Metal Trim the specified line for Hiawatha passenger car equipment. Milwaukee Road designers know that every part of this high-speed train — carrying capacity loads daily—is subject to unusual strain and wear. Their recognition of the time-defying properties and construction qualities of Milcor and Richsto metal trim is in keeping with the established reputation of this most frequently specified line. Where permanent utility and enduring beauty are a consideration in your designs, you and your client will find complete satisfaction in Milcor and Richsto. See Sweets or write for a copy of the Milcor and Richsto Metal Trim Manual.
BRIXMENT IS PLASTIC!

WITH the possible exception of slaked lime putty, Brixment makes a more plastic, more easy-working mortar than any other materials you can use.

★ ★ But along with this plasticity, Brixment mortar also has strength greater than that of the brick itself! ★ ★ Bonds perfectly with the brick. Won't cause efflorescence. Won't fade mortar colors. Waterproofed during manufacture. ★ ★ One part Brixment, three parts sand. Five bags will lay approximately 1000 brick. Louisville Cement Company, Incorporated, Louisville, Kentucky. ★ ★
Sheds Water "... like the proverbial Duck's Back," says builder of this home. "Exposed to nearly 4 inches of rain... and I cannot see any change or swelling!"

Weather Side: Vapor-seal is waterproofed Celotex—sealed on both sides and all edges by a continuous coating of special asphalt. It looks right on the building... sheds water "like the proverbial Duck's Back!"

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Celotex Insulating Lath: Replaces ordinary lath. Nails direct to framework in large sheets that go up fast. Provides a strong, unbroken plaster foundation securely locked by patented beveled and shiplapped joints. Bonds plaster securely. Guards against cracks and permanently prevents lath marks. Assures beautiful walls and ceilings and provides the lasting insulation your clients want. Protected against termites and dry rot by the Ferox Process.

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4. Not an "extra"—replaces ordinary materials of the same thickness

5. Marked for nailing to assure proper application and fast installation—fits tight and stops wind infiltration, even in pulley pockets!

6. Protected against termites and dry rot by the exclusive, patented Ferox Process!

7. Only Celotex is backed by the Celotex Written Life-of-Building Guarantee!* 

*The Celotex Written Life-of-Building Guarantee applies only within Continental United States.