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ERIC MENDELSONH, A.I.A., ARCHITECT, SAN FRANCISCO, CALIF.
CHARLES C. COLMAN, A.I.A., SUPERVISING ARCHITECT, CLEVELAND, OHIO
Some of the Construction Problems of Park Synagogue

By CHARLES C. COLMAN, A.I.A. Supervising Architect, Cleveland*

Illustrations by ROBERT C. GADE, A.I.A. Cleveland†

With the main portion of Park Synagogue nearing completion, it might be of interest to analyze some of the problems of construction which received consideration during the design and the building of this outstanding modern edifice. Park Synagogue was designed by Eric Mendelsohn, A.I.A., Architect of San Francisco, California. It is located in the center of twenty-eight acres of park land on the south side of Mayfield Road, Cleveland Heights, Ohio, between Lee and Taylor Roads, on a portion of the original John D. Rockefeller estate. Set back one thousand feet from the thoroughfare, at the high point of the property and along side of a deep ravine, the building has an expanding plan which was influenced by the peninsula on which it stands and the topography of the adjacent area. The main building houses the ceremonial activities. To it, around a sizeable open court in L shape will be attached the Administration and School wings. Construction has begun on this section and when completed next year, it will afford facilities for all adult and children's activities.

Architectural studies were started on this project in 1946. Actual building operations have been in progress for two years. During these four years many construction problems were considered, various building details and materials proposed and discarded, with the result that numerous features, including unusual use of materials, were incorporated in the building.

Although presenting difficulties, soil conditions were ideal. Rock formations in the building area made excavation a tedious process. However, blasting was used effectively, even though the building is located in a residential district, since the plot of land is so extensive that the houses are at considerable distances from the site. The rock afforded a splendid base for the columns which support the large concrete dome. The weight of the dome is concentrated entirely on six columns. These columns, as well as the walls, floor and roof slabs, and dome are all of reinforced concrete.

Wide spans for roofing the large assembly rooms created the greatest problems. The fan shape Assembly Hall, with its flat ceiling and roof, was bridged in clear spans with flat steel trusses, the longest of which was 93'-0". The Temple, itself, in the center of the building was to be the dominant feature. Here a seating capacity of one thousand on the main floor, without the use of balconies, produced an area 100'-0" in diameter. The Architect's concept was to cover this with a semi-spherical dome. This has been carried out according to the original design. The spring line was established 15'-0" above the floor and as the center of the dome is a full semi-circle, the height at the center is 65'-0". Desirous of maintaining the same form on the outside, reinforced Gunite concrete engineering design and construction method was selected. This design was handled ably by I. Thompson, Structural Engineer of San Francisco.

The description of the dome, with all its engineering details and construction would make too long an article. Only a few items will be mentioned, although the consideration of these involved much discussion for almost two years even after design and before the award of contracts. Many methods of construction and materials were considered, and several of these changed. However, the original structural concrete design was followed, except for the ring expansion joint between the (Continued on page 24)
Time now for you architects to start lining up the material you want to enter in the competition at the ASO convention at Toledo this fall. The Toledo crowd plans to give the exhibition wide publicity in northwestern Ohio. Showings of architects' work are all too few. You owe it to yourself and to the profession to get up a good entry and help make this an outstanding show.

The scope of this year's competition has intentionally been limited to three classifications instead of ten or more as in previous years. It is hoped that this may stimulate greater interest, more entries and more competition in the three classes exhibited.

Here is the program. Copies will be available soon, distributed through your local chapter.

ARCHITECTS SOCIETY OF OHIO, INC.
Associate Member of The American Institute of Architects
1950 - COMPETITION PROGRAM - 1950

General

The Competition Committee of the Architects Society of Ohio, Inc., announces a competition to be held in connection with the Annual Meeting of the Society to be held this year in Toledo on Thursday, the 12th, and Friday, the 13th of October, 1950. Architects residing in Ohio eligible to compete under the rules and regulations of the competition are invited to submit illustrations of completed work.

All entries will be judged by a jury of three architects not residing in Ohio, the ASO reserving the right to withhold award in any class which in the opinion of the jury is not represented by an outstanding building.

The classification of entries shall be as follows:

Class No. 1 - RESIDENTIAL - Single Family, Multi-Residential, Hotels, Apartments, etc.
Class No. 2 - EDUCATIONAL - Schools, libraries and museums.
Class No. 3 - COMMERCIAL - Office buildings, stores, bank buildings, theatres, garages, etc.

All entries in each class will be judged as a group, and one in each class permitted. In addition, one award will be made to the most outstanding design submitted in the entire competition.

The awards will be announced following the dinner at the Commodore Perry Hotel on the evening of October 13, 1950. Certificates of award will be presented to the architects of the designs receiving such awards, with copies to the building owners.

Rules and Regulations of the Contest

1. All entries which comply with the following conditions will be publicly displayed at the meeting.
2. Architectural firms all members of which are registered architects residing in Ohio, and individuals residing in and registered as architects in Ohio, are eligible to compete. The latter classification includes individual registered architects employed on a wage or salary basis by firms or partnerships of registered architects.
3. Entries shall be confined to photographs of buildings designed by the registered architects or firms submitting, and completed since 1940. No building shall be submitted in this competition which has received a prize or mention in a previous State Convention competition conducted by this Society.
4. Entries are restricted to one in each classification for each individual or firm as described in paragraph 2.
5. Entries will be judged on the basis of originality of conception and general excellence of design. Contestants shall agree that the decisions of the judges be accepted as final.
6. No entry will be exhibited or considered for judgment unless the competitor submits it in the following manner:
   (a) The competitor shall submit a sufficient number of mounted photographs to adequately explain the project illustrated. At least one 8" x 10" photograph shall show a general view. The size and number of other photographs are left to the discretion of exhibitors, except that no photograph shall be larger than 8" x 10". All prints shall be glossy.
   (b) Black line drawings on white paper, photostats or black line prints may be used to illustrate floor plans, each of which shall bear a graphic scale.
   (c) Competitors shall submit photographs and floor plans mounted in vertical composition on one 20" x 30" mount.
   (d) The competitor shall plainly mark the front of the mount with a nom-de-plume or symbol.
   (e) Accompanying each entry shall be a sealed envelope bearing on its face the competitor's nom-de-plume and containing on the inside his typewritten name and address and a repetition of his nom-de-plume. The competitor shall also indicate on the face of the envelope the classification in which the entry is to be made.
7. All entries must be mailed, postage prepaid, or delivered with the words "Architectural Competition 1950" clearly printed on the package so as to arrive at the Commodore Perry Hotel not later than Tuesday, October 10th, directed to Karl B. Hoke in care of the hotel.
8. No risks are assumed in handling the entries at Toledo, except that reasonable care will be exercised. The sponsors, unless otherwise instructed, will pack and return all entries C.O.D. to the respective competitors after the exhibition.

Convention Exhibit Committee (In Charge of Hanging)
Karl B. Hoke, Chairman, Toledo; T. Y. Hewlett, Toledo; Thaddeus B. Hurst, Toledo.
Architecture and the Allied Arts Theme for A.S.O. Convention This Fall

An architects’ convention about architecture! Carl Britsch and his committees are swinging the emphasis for the ASO Convention at Toledo this fall to the basic fundamentals. Yes, architectural practice is technical these days, but above it all still rule those principles that make architecture more than planning efficiency or construction economy or sales appeal!

Architecture is still an art, and it's still the “Mother Art.” To remind ourselves of this occasionally is good. The Toledo crowd is planning a program around those things that made you want to be an architect, the intangibles that we sometimes don’t have time to remember, with special emphasis on the related arts that reach their best under architecture’s protecting wing. Here's a partial list of the subjects and the speakers who will discuss them:

Sculpture—Marshall Fredericks, Birmingham, Michigan Mr. Fredericks is one of the best known young sculptors in the United States. He studied under Karl Milles at Cranbrook, Michigan. He has recently completed the architectural sculpture for the Veterans Building at Detroit, and he is presently working on the Cleveland Civic Fountain Group.

Landscape Architecture—Lawrence G. Linnard, Maumee, Ohio Mr. Linnard is a Fellow of his professional organization, and is nationally known as a site planner. He has been involved in the site planning and landscape development of several housing projects in Detroit and Toledo and of numerous residences in various parts of the country. His subject will be “Site Planning and Landscape Architecture.”

INTERIORS—Mrs. Florence Knoll, New York City Mrs. Knoll attended Cranbrook Academy and has worked with Mr. Eliel Saarinen. She has studied in England and has worked in architectural offices in Boston and New York. She and her husband Hans Knoll are directing the business of Knoll Associates Inc. designers and manufacturers of contemporary furniture in New York City. Mrs. Knoll is in charge of the Planning Unit. She has an exceedingly keen appreciation for the design of interiors and furniture in the contemporary manner.

And as for architecture, who has a keener eye for the art than our top-notch architectural photographers? So the committee announces as subject and speaker:

ARCHITECTURAL PHOTOGRAPHY—Kenneth Hedrick, Chicago, Illinois Mr. Hedrick and his firm—Hedrick-Blessing Studios, Chicago, Illinois—are well known and perhaps the leading photographers of architecture in the United States. He will explain photography as it may be related to buildings, their exteriors and interiors, and how photographs of architects’ projects may be used for publication.

To welcome you to Toledo at the Thursday luncheon will be the genial and beloved Grove Patterson, editor of the Toledo Blade, whose daily column, “The Way of the World,” spells out for his myriad readers the things that make life worth while.

Make your plans now to take in the convention. Make a note of the dates, Thursday and Friday, October 12th and 13th, 1950. Come and join your fellow architects in visible support of our worthy profession. The Toledo Chapter extends a friendly hand in the sincere belief that the biggest thing to all of us is that we're architects.

A New Home for The Progressive Mutual Insurance Company

The only automobile and casualty insurance firm with home offices in Cleveland, The Progressive Mutual Insurance Company, has started construction of a modern one-story, air-conditioned office building at the southwest corner of Euclid Avenue and East 36th Street.

The project will represent an investment in excess of $150,000 and will provide convenient and much needed space for home office records and personnel of the company, which has had its present headquarters in the Auditorium Building. It will also serve as operating headquarters for Northern Ohio, where the company’s automobile insurance and bonding business has expanded rapidly during the past few years.

The structure, which is scheduled for completion in December, was designed by Irving D. Robinson, architect, and Howard L. Smith, Inc. is the contractor. It will be L-shaped, with 82 feet along Euclid Avenue and 127 feet on East 36th Street, and will be set back from the street, with attractive landscaping. The site includes 122 feet of frontage on Euclid and 232 feet on East 36th Street, and will be developed with a paved parking area behind the building to accommodate as many as 75 cars.

J. M. Lewis is President and J. H. Green is secretary-treasurer of the company, which was organized in 1937 as an Ohio mutual insurance company and has always had its home office in Cleveland.
New 1½” Partition Proves Effective 1 Hour Fire Barrier

Signalizing a major milestone in modern fire-resistive construction, a newly-developed 1½” solid partition for nonbearing walls of buildings that qualifies as an effective one-hour barrier against fire was introduced for the first time to the nation’s building and construction industries in Washington, D. C., recently.

The partition comprises lightweight aggregate plaster applied on metal lath.

Never before in history has a building partition so thin as this one served adequately as a fire barrier, according to W. B. Turner, commissioner of the Metal Lath Association. “Up to now,” he said, “the 2” solid plaster partition has been the thinnest ever constructed to withstand successfully the destructive effects imposed by severe fire-endurance and hose-stream tests conducted under standards set by the American Society for Testing Materials.”

Equally significant, this 1½” non-combustible partition, weighing only about 5-lb. per square foot, is specially designed and developed to save substantial space and cut deadweight appreciably in building construction—sizeable savings which, in turn, are directly reflected in economies ultimately possible in the overall cost of constructing and erecting many buildings.

These important objectives can now be secured, without sacrifice in safety, due to the reduction in thickness of wall panels made possible by this newer type of metal and perlite-gypsum plaster partition as compared with the older, conventional type of wall construction.

This achievement is expected to prove particularly useful as a space-saver and weight-reducer in future construction or modernization of hotels, hospitals, institutions, schools, apartment dwellings, commercial office buildings and other structures where total floor area is considerably subdivided into rooms of relatively small occupancy.

Panels Pass Fire-Endurance and Hose-Stream Tests

A sample model of the partition, built by journeymen lathers and plasterers under the direction of a representative of the Metal Lath Manufacturers Association, first qualified for a 1-hour fire-resistive rating last summer, when it was subjected to fire-endurance tests conducted in conformance to ASTM Standard Specifications for Tests of Building Construction and Materials (ASTM Designation E-119-47). A second panel was subsequently subjected to a hose-stream test. These tests were carried out by the engineering experiment station of a leading mid-western university.

The metal lath and perlite-gypsum plaster wall panel was exposed directly to flame for one hour continuously in the fire test. At the end of this period, when the temperature was raised progressively to 1750° F., the plaster, including the top white finish coat, showed no signs of spalling whatever. Neither was there any evidence that any smoke or fire had penetrated the partition through to its unexposed face.

In the hose-stream test, a duplicate panel was again exposed directly to fire for 30 minutes during which time the furnace temperature reached approximately 1600° F. and then the white-hot panel was subjected to a fire-hose stream under 30-lb. pressure for a minimum period of one minute. There was no penetration of water through the partition.

Fig. 2—Time and temperature curve of fire-endurance test for 1 ½” partition. Note average furnace temperature through 1-hr. test exceeded the standard temperature. Because of this, proper correction factor was applied to increase the end point of highest reading couple from 59 to 62 minutes. End Point of 59 minutes was adjusted to 62 minutes by the laboratory because of the excessive furnace temperature. Adjustment made as per convection factor specified by A.S.T.M.
Westinghouse Proposal Ranks No. 1 in
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ARCHITECT

[July, 1950] 11
The Salvation Army
Toledo Corps Building

By HORACE W. WACHTER, A.I.A., Toledo, Ohio

The Salvation Army Corps Building in Toledo, Ohio, might be considered the "New Look" in Corps Buildings' design and construction. It is built along the lines of the newest type of Architectural design developed in this area.

It is a complete building providing for the many needs of welfare work, including a gymnasium, with showers and dressing room accommodations, Hobby Rooms for Teen Age Boys and Girls, Boy Scouts and Girl Scouts' meeting rooms, Youth Chapel, and class rooms, and Adult Chapel for religious programs. It also provides emergency housing for victims of disaster, such as for a family whose house has burned down.

It is a building utilizing light directional glass block which brings daylight within the rooms throughout the day. It is designed to eliminate the use of window shades to obtain the maximum light within the rooms without the discomfort of sun glare.

The Corps Building is fireproof in character, utilizing ordinary cinder block for all partition work with a glazed brick tile wainscot to reduce the maintenance to a minimum.

All rooms have acoustically treated ceilings. The lighting system is a fluorescent type of lighting known as cold cathode. All interior decorations are selected with the highest light reflectivity and are pastel colors.

The heating system is a low pressure steam system with exterior wall radiation to pick up the outside heat loss, with baseboard heating elements in the Adult Chapel and convectors in the other rooms. One boiler is fired with a gas industrial burner and a second boiler is coal hand fired.

Ventilation is provided to furnish not less than six changes of air per hour. All temperatures are automatically regulated by thermostats maintaining constant temperature throughout the year.

The floors are selected with a view to long service with resilient floors used where ordinary traffic occurs.

The total cost of this building when fully complete will be $300,000.00 including equipment.

The Adult Chapel seats 250 persons and when fully complete will be equipped with ultra modern equipment — flood lights, spot lights, stage lights, FM radios, Filmstrip and 2" x 2" for strip film, movie projectors, both silent and with sound, and opaque projector, recorder and a portable public address system for radio work.

Upstairs is an apartment for the caretaker, a convenient, comfortable and modern living suite with kitchen, bath, etc.

The office has space for a secretary as well as the Corps officers with a separate interviewing room. A vault and closet for keeping records are provided and a convenient conversation opening and shelf on door to protect the office worker from undesirable characters when on duty alone in the information office.

Note the Vitrolite spandrels around the main en-

(Continued on page 17)
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Urge Reform in British Construction

In an official report, the British Building Team of 17 men who visited the United States last summer, asks for sweeping reforms in British building practices. This report which contrasts the efficiency of the American builders with the glaring inefficiencies and lack of production in Britain, also urges the relaxation of government controls.

Citing the initiative, efficiency, economy and productivity of American builders, the report asks "responsible authorities" of the British Labor Government "to ease or remove existing onerous restrictions on private enterprise house building."

"The speed with which American buildings of all sizes are erected remains one of the Team's deepest impressions," the report stated.

"The outstanding lesson to be learned (from the U. S. tour)," the report concluded, "is that the British building industry must be mobilized to eliminate everything which stands in the way of greater efficiency—be it inadequate preparation of work, bad organization by architect or contractor, or the continuance of unnecessary or restrictive controls or practices—so that each member of the industry can, in his own sphere, perform the best work of which he is capable."

Extolling the American free enterprise system, the introduction to the report said: "Every member of the Team was greatly impressed by the spirit of initiative and cooperation which appears to characterize each section of the American industry, and which is shown in the attitude of all towards the work in hand...direct material incentives to self-advancement, coupled with penalties for failure to keep abreast of the times—these are factors reflected in the speed and efficiency of construction in the U. S."

Pointing out that the great preponderance of U. S. building is privately financed and that this factor stimulates the spirit of initiative, the report added: "The operatives (craftsmen) no less than the employers realize that if the industry prices itself out of the market there will be hardship for all."

Impressed by the high level of productivity of American building craftsmen and their general attitude toward their job, the report said:

"From a comparison of work—the Team concludes that the output per man-hour on similar site operations is about 50% higher in America than it is in Britain. This is primarily due to the greater speed at which the operatives work and the ready supply of materials to craftsmen."

"It is recognized that the American craftsman has many advantages—in better organization of the job, the supply of unskilled labor, breaking down of craft operations, easier travel to work (generally in his own car) and better food—but a large part of the difference...can be accounted for only by the individual attitude towards work...The whole American way of life is a challenge to the individual to give of his best...The British operative must, like the American, realize that his standard of living is linked to the efficiency of the industry and depends on his personal contribution."

Pointing out that the average hourly wage of building craftsmen in America is more than four times that of Britain, the report disputes the argument that the high wages here are made necessary by the high cost of living.

"The proportion of wages spent on necessities is lower and the general standard of living considerably higher in America than in Britain," it said. The report presented a detailed table, comparing the length of time a building craftsman in London and one in New York has to work to earn the price of essential articles. As an example, the table revealed that a New York craftsman works 13 hours and 43 minutes to purchase a $40.75 suit of clothes. A comparable London craftsman works 81 hours and 8 minutes for the same article, an increase of 591 percent.

Impressed with the effective pre-construction planning of work by contractors, architects and engineers and the efficient administrative organization which directs a construction project, the British Team commented: "The efficiency of the American building contractor can be simply explained. Operating in a free and competitive market and being supplied at the earliest possible date with full information of the work to be done, he has both the incentive and the opportunity to organize the constructional work and carry it out with speed and economy...Effective coordination and correlation of the work of sub-contractors is one of the most striking features of American contract organization."

Based on its observations, the British Team concluded its report with 21 specific recommendations for improving efficiency and productivity in Britain. Emphasized in the recommendations were administrative organization; cooperation between architect and contractors with resulting effective pre-construction planning; increased mechanization of the building industry and more energy-giving foods for craftsmen.

Metropolitan Brick Ups Production

Adds Flue Liners, Structural Clay Tile to Line and Increases Ceramic-Glazed Capacity

Production capacity of 190,000,000 brick equivalents a year and the addition of flue liners and structural clay tile to the Metropolitan line are announced by D. J. Renkert, president of Metropolitan Brick, Inc.

This increase of 70 million units annually results from the recent purchase of the Malvern Fireproofing Corp., of West Darlington, Pa., and the Malvern Clay Company of Malvern, Ohio. Sales of all products and administration will be handled from Metropolitan's general offices in Canton, Ohio.

Heavy Increase in Glazed Tile

Operations at West Darlington for the present will concentrate on ceramic-glazed structural facing tile, supplementing the 5,000 ton output of glazedware from Minerva. However, an enlargement program will double the capacity at West Darlington and eventually the production will be divided equally between facing tile and bull and grey face brick. At nearby Bessemer, Pa., Metropolitan produces architectural brick and paving brick in the world's largest plant of its kind.

Present plans also call for continued manufacture of flue liners and structural clay tile at their newest Ohio plant just southeast of Canton. Other Ohio operations include Canton Royal, where face and common brick are produced, and Minerva which is devoted exclusively to ceramic glazedware in a full line of "Sight-Styled" colors.

Emphasize Engineering Service

Because of the expanded production capacity and increased raw materials sources, it will not be necessary to build the new light-color products plant considered earlier this year. No changes in personnel or overall policy are being contemplated. Emphasis on engineering service to architects and builders and dealer distribution will be continued, according to Mr. Renkert who is president of the Ohio Region—SCPI, vice chairman of the National Structural Clay Products Research Foundation, and a member of the promotional committee of SCPI—Washington, D. C.
INDIVIDUAL ROOM AIR CONDITIONERS

Air conditioning is a pleasant subject to write about during these hot July days.

It is no longer necessary to equip a home or other building with an air conditioning equipment to serve all rooms when only certain rooms require cooling.

Individual air conditioning units have been brought to a state of perfection where they can be depended upon to cool a bedroom, living room or office to a satisfactory degree of comfort, by plugging in to an average light socket.

Illustrated here are the Philco 75-F in two-tone tan and the 75 FL in ivory, for rooms up to 400 square feet (20 x 20 ft. maximum) with ceiling of normal 9 ft. height. This model cools, filters and circulates up to 300 cubic feet of room air per minute and removes one quart of water per hour. It brings in up to 250 cubic feet of outside air per minute and exhausts up to 50 cubic feet of stale air per minute. (Continued on page 16)
INDUSTRIAL ROOM AIR CONDITIONERS

(Continued from page 15)

No plumbing is required and the units fit into an average window frame without too much loss of room space.

Also illustrated is Philco Console Model 75-F.C. which is ideal for rooms up to 440 square feet. It also requires no plumbing and uses a 3/4 H. P. Sealed Power System, 115 volts, 60 cycles A. C. (also available for 230 volts). The cabinet is a rich Walnut Veneer with a top of Philcoleather with gold tooling.

In the Philco line is also heavy duty water cooled models, the 150-FCW with 1 1/2 H. P. for rooms up to 900 sq. ft. (25 x 36 maximum and 9 ft. ceilings) and 200-PCW with 2-H. P. designed for rooms up to 1200 sq. ft. 30 x 40 maximum and 9 ft. ceilings).

All Philco models feature hermetically sealed in oil power units and are quiet and vibrationless.

Architects with a cooling problem of small proportions can utilize these units to provide maximum comfort without the installation and unit cost of complete building conditioners, providing the utmost in comfort even on the hottest days and nights.

The Philco units are designed and built to provide cooling and dehumidification and provide “controlled weather” in rooms which require such service and they cool and dehumidify the air and provide air circulation. All incoming air is filtered, removing air-borne pollens and dust, a boon to Hay fever sufferers, as well as exhausting the stale, smoky odorous air through their “pump out controls.”

They will be glad to help architects select the proper models to provide the utmost service to their clients.

STARTING THE GRADUATE

From a talk by GEORGE W. SPRAU, Vice-President, Western Michigan Chapter, A.I.A.

“If education does not stop with a diploma, what shall we do to start the young graduates in the direction of being capable practitioners?”

In many architectural offices, especially the larger ones, newly employed graduates of the Architectural Schools are trained in only one department because in this way they are more immediately productive, having only one phase of the work to learn. In other smaller offices the work may not be varied enough to provide experience in all types of architectural work.

Supplementary experience for these graduates in the types of architectural work which they do not perform in the offices where they are employed should be a responsibility of the profession which could be discharged by the various chapters of the A. I. A.

Perhaps these young graduates (and other draftsmen who are unable to attend architectural schools but wish to broaden their training) should meet periodically with a “mentor” appointed by the A.I.A. chapter. These meetings could precede the regular monthly meetings of the Chapter. Discussions, field trips, demonstrations, etc. could be arranged to cover the various problems and aspects of conducting an architectural office. Members of the Chapter, technicians, manufacturers' representatives and others could be called in to provide additional information and background for discussion.

The mentor should be paid for the time he spends on this program so that it is not a financial burden. Funds for this payment could be raised through Associate membership dues from the men attending the meetings and supplemented by appropriations from the Chapter funds.

It was done in PORCELAIN ENAMEL

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Robert L. Smith and Fred A. Dathe have recently been named sales engineers for the Kaylo Division, Owens-Illinois Glass Company, W. M. Hankins, Jr., division general sales manager, has announced.

Mr. Smith has been assigned the Cincinnati territory, which includes southern Ohio, Indiana and West Virginia, as well as Kentucky as far west as Owensboro. He was vice president and sales engineer of Reardon Industries, Cincinnati, before joining Owens-Illinois early this year.

Mr. Dathe will assist J. D. Hailey, working from the company's general office in Toledo and covering a territory which includes northern Ohio and Indiana and the entire state of Michigan. He was formerly with National Gypsum Company.

Kaylo Division manufactures heat insulation, pipe covering, insulating roof tile, firedoors and laminated panels with cement-asbestos, wood and metal faces.

SALVATION ARMY TOLEDO CORPS BUILDING
(Continued from page 12)

entrance woo with emblem etched in head spandrel in beautiful colors, modern clear-vue doors, and variegated special glass in chapel windows, the glastile acoustical ceilings, cinder block walls painted, ribbon striped mahogany woodwork on rostrum, all metal doors and frames on interior, also Modern Fold doors—the latest in 1950 building materials.

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ARCHITECT [July, 1950] 17
PASSSED STATE BOARD OF EXAMINERS

The State Board of Examiners of Architects announces that the following individuals recently were granted registration as Architects, having passed the State examinations for certificate of qualification to practice the profession of architecture in the State of Ohio, Certificate Nos. 1801 to 1838.

Anderson, Wallie, 6426 Canterbury Rd., Cleveland 9, Ohio (Parma); Bail, George H., P. O. Box 310, Fort Myers, Fla.; Burdick, John A., 1140 Hackberry Ave., Cincinnati 6, Ohio; Canute, Gordon W., 8719 Broadview Hts., Ohio (Akron), Brecksville, P. O.; Cowden, Craighead, 58 Spirea Drive, Dayton 9, Ohio; Crawler, Donald James, 314 Beaver Ave., New Philadelphia, Ohio; Cuneo, Laurence J., 31 Myrtle St., Malden, Mass.; Duke, George R., 1187 Oregon Ave., Columbus 1, Ohio; Fisher, Robert D., 2437 Clifton Ave., Cincinnati 19, Ohio; Gleason, William J., 433 Norwood Ave., Youngstown 4, Ohio; Hodell, Jack Edward, 4009 Rowan Hill Drive, Cincinnati 27, Ohio, (Mariemont); Howard, Warren C., 267 Atlantic St., N. W., Warren, Ohio; Huston, Bruce C., 263 E. 337th St., Eastlake, Ohio (W. Loughby P. O.); Kelly, John E., 313 Hillcrest Pl., Rossford, Ohio; Kelly, John T., 500 Park Ave., Elyria, Ohio; Langhorst, Delbert A., 6900 River Rd., Cincinnati 33, Ohio; Lowman, Bruce C., 2365 Kensington Rd., Columbus 12, Ohio; Madison, Robert P., 10713 Orville Ave., Cleveland 6, Ohio; Makarius, Robert J., Jr., 1443 N. Euclid Ave., Dayton 6, Ohio; McDonald, William R., 3111 Kenlawn St., Columbus 11, Ohio; Patterson, Clyde A., Jr., 3561 Lytle Rd., Cleveland 22, Ohio (Shaker Hts.); Porter, James N., 506 E. Fifth St., East Liverpool, Ohio; Poseler, Frank E., 527 S. Wood St., Fremont, Ohio; Rukin, Marvin J., 1720 East 115th St., Cleveland 6, Ohio; Ruzza, Francis L., 3210 W. 86th St., Cleveland 30, Ohio; Schmidt, Elmer H., 6023 Cambridge Ave., Cincinnati 30, O.; Steiner, Chas. F., Jr., 387 Home wood Ave., S. E., Warren, Ohio; Snyder, Philip D., 414 South Belmont St., Springfield, Ohio; Tewksbury, Hillis A., 810 Seborn Ave., Zanesville, Ohio; Troxell, Robert R., 132 W. Lincoln Ave., Worthington, Ohio; Van Der Meer, W. J. Jr., 70 S. May St., Aurora, Ill.; Wherley, Richard C., 23318 Williams Ave., Euclid, Cleveland 23, Ohio; Wiedelhman, Wm. H., Jr., 4227 Golfway Rd., South Euclid, Cleveland 21, Ohio; Wilson, Kenneth L., 11835 Lake Ave., Lakewood, Ohio; Yager, Gordon A., Westwood Drive, Strongsville, Ohio; Zeager, Michael L., 408½ East Rich St., Columbus 15, Ohio; Zimmerman, Ralph W., 3214 Sherbrooke Rd., Toledo 6, Ohio; Zwetschke, Erich H., 569 Rosemont Ave., Cincinnati 5, Ohio.

The next examination is scheduled for September 25th to 29th, in Columbus, Ohio.

MOVIE AVAILABLE FOR MEETINGS

More than a dozen ways to cut building costs are shown in an 18-minute color sound movie, "Split-second Fastening," just completed for the Nelson Stud Welding Division of the Morton Gregory Corporation, Lorain, Ohio. In addition to animated sequences which explain this speedy method of end-welding fasteners to steel, the film shows how stud welding is being used to reduce the cost and improve the application of all types of corrugated roofing and siding materials and steel roof decks, as well as for the installation of piping, electrical equipment and other building materials.

Architectural, engineering and contractors' organizations, and other interested groups can arrange for bookings through Nelson Stud Welding engineers or distributors in their localities, or by writing to Nelson Stud Welding Division, Lorain, Ohio.
NEWS OF THE COLUMBUS CHAPTER

For news of the Columbus Chapter, it can of course be reported that everyone is so busy that the June meeting held at the South Side Park in Columbus, was not too well attended. The Park consists of some 35 acres, having been laid out some 7 miles South of Columbus, and is made of a large, old wooden-pin barn which has been moved and made into a very nice boy’s lodge. Several of the cabins were made from the original logs obtained from log houses which had to be torn down due to the proximity to Lockbourne Air Base.

Several members of the Chapter have been showing signs of the fatal malady known as the “Call of the North,” so sometime this fall, we should have some fine truthful fish stories. As truthful at least as the one Harry Riechard tells of the Black Bass that bit him in the seat of the pants.

The prospect of an all out war has not yet shown up on the drawing boards of the officers here but any prolonged activities such as are now being carried out in Korea may be expected to have some real effect on the starting of long time projects.

COMMENTS FROM INDIANA

“Architecture has taken a peculiar trend. Architects are apologizing for executed work. Who has control of this execution of the work? The Contractor? Hell, no! The architect sits on his dead rump after he has completed plans and specifications—sits and waits for a miracle to happen. Steel, glass, wood, concrete, bricks and toilet fixtures can be molded into an idea on paper. One man, the Architect, does this but later on he does not care enough about it to execute his thinking in terms of the actual construction. This designer is either sitting in some cocktail bar spending his fee or wrestling out a new job to get in some more shekels.

“The most important part of architecture is following up the design placed on paper. Once Architects did this. How, in the name of Old Ned, does a brick layer from the south side of Chicago know or recognize the modern ‘message’ hidden in the blueprints of an Architect of the contemporary Cliche Period? Uninstructed, how does he know how to give you ‘floating ceilings free to extend beyond walls to echo into outer space’?

“If you do not watch a mechanic on a job of yours he will always contrive an artistic expression all his own, bearing small resemblance to your inspired intention. Furthermore, if you are an Architect at all why in the Old Harry do you have guts enough to tear out a piece of work and have it replaced by a reasonable facsimile of your own thinking on the subject? Your mason probably goes around his pub on Saturday night saying, ‘Come on the job sometime, boys. I’ll show you a wall built my way.’

“Never relax after construction starts. The mechanics on the job are generally a bunch of guys who want to cooperate but if there is nobody around to give them a hint about the ‘message’ they will take a look at the clock and start doing things on their own. Sometimes this becomes important, like with masonry. The same materials, without any difference in costs, can be handled with quite a wide range of results and it is nice to know that both the Architect and the mason have the same convictions about which result is to be achieved.

“This you know. Why blow Architectural opportunities when you have them in the palm of your hands? Why this professional relaxation after the plans go to

ARCHITECT
the blueprinter’s? You are not the only guilty one. It is being done out here on the Coast.

"The general contractors are outboxing the Architects by getting construction in fast and playing percentage by getting approval because the Architect is too weak to condemn the work or because his contract documents are loose and flimsy."

"Are not your specs mighty enough? Have you slipped up on your notations? Maybe some of your specs are copied from old specs of an Architect who used to run his own job and not be run off it."

—Bulletin, Indiana Society of Architects

NEW OUTDOOR FIREPLACE BOOKLET

A very interesting and informative booklet, "Outdoor Fireplaces and How to Build Them" is available to interested architects. It may be obtained by writing The Donley Bros. Co., 13900 Miles Ave., Cleveland, Ohio.

The booklet discusses types and sizes of installations, where to locate, smoke control, materials used, choice of fuels and costs. It is a valuable piece of data for the architect’s files.

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NO LEGISLATIVE PROGRAM THIS YEAR

In accordance with the schedule established at the joint meeting in Columbus in May, the members of the State Board of Examiners of Architects and the Legislative Committee of the Architects Society of Ohio met in Columbus on July 14th to review the reports and suggestions regarding any legislative program which might be decided upon for the 1951 session of the State legislature that meets next January.

The meeting opened with Chairman Carl C. Britsch, 1st Vice President of the Architects Society of Ohio presiding, who read the reports he had received in reply to a questionnaire he had sent out inquiring as to whether our legislative program should be all inclusive or set up on "one thing at a time basis." Both programs had proponents but the weight of opinion seemed to lean toward a "step by step" program, if any.

Each suggestion was fully and widely discussed bringing out such points as the volume of work on the boards of the architects now and for some time to come, the uncertainty of business affairs and especially construction work in the event of all out hostilities and that perhaps our law might be better than we knew. The last conclusion was reached upon the basis of a report which was made showing that the effectiveness of a lot of laws was best established (or not established) by a series of court actions.

With regard to a priority rating for amendments, it was the opinion of the Board that amendments having to do with improving the examination requirements and procedure should be first. The question of having a definition in the law was favored by most of those present, but all admitted that this would undoubtedly be a controversial subject as it had in the past. The deletion of one or two paragraphs, which have caused a lot of controversial discussions was given considerable attention.

The manner and extent by which properly drawn amendments might make it necessary for the various plan inspection and permit issuing agencies to require the professional seals of architects or professional engineers were received with the conclusion that any amendment program should keep this matter definitely in mind.

The extent and nature of the buildings that might or should be exemptions under the statute were considered. In this discussion, Chas. E. Firestone, Presi-
dent of the Board of Examiners presented the results of a survey which had been made by the Board, with information from 29 of the 44 states on this and several relating subjects. Twelve of the states reporting do not have any exemptions, but that fact can only have full weight when considered with the laws in question. Two of the states reporting, stated the opinion that while some amendments might be desirable, the risk of getting some undesirable changes was too great for them to take the chance by going into the legislature.

From past experience it could be safely stated that any amendments other than those covering the examinations would most certainly have to include exemptions. These exemptions usually run from $7,500 to $15,000.00 with volume exemptions of 20,000 cu. ft. or more and would apply most particularly to residential work.

When reviewing the subject of increasing the per diem compensation of the Board members from $10.00 to $15.00 it was agreed that while such an increase would be entirely in order, it was the opinion of the Board members present that this was not of itself of sufficient importance to justify the expense and labor that an amendment would most certainly cost.

During this discussion involving fiscal matters it was brought out that the $8.00 renewal as at present in force was, with other sources of revenue keeping even with the "boards" by economies and limitations of activities here and there as circumstances dictate. As provided by the amendments to our law adopted in 1941 one dollar of each renewal fee ($1211 for 7-11-49 to 6-30-50) goes into the general fund of the state of Ohio as compensation (partial at least) for the costs this law entails to the State of Ohio. This is all that goes into the General Fund and seems to be an equitable arrangement.

After reviewing the situation as hereinbefore briefly described, it was the agreed conclusion of all those present that no amendments be prepared for presentation to the next legislature meeting in 1951 and that the provisions of the existing law be thoroughly tested to determine wherein it was faulty or weak and thus our future efforts can be properly guided in preparing better and more practical amendments.

Every discussion of legislative programs in the past has always brought out the inadequacy of "the architects" in the field of "public relations." It was felt that this period of legislative inactivity would be an excel-

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TOLEDO .........1605 Hoag Ave. ............FA 7402
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The building block, Dooley stated, resembles cut stone, granite or marble, and is made in a patented tongue and groove design within tolerances of one five-thousandths of an inch. When laid, these molded stones lock snugly into each other to form a wall of extremely high strength. In order to insulate against seepage of moisture, a mastic material, applied with a hand-operated gun is spread on the grooves as the blocks are assembled.

Hydro-Forged Stone molds the tongues and grooves into the building blocks as they are formed on a specially designed hydraulic press under 150-ton pressure, which was designed by Hydro-Forged Stone Associates and built by Baldwin Locomotive Works of Philadelphia. The accuracy and uniformity with which the blocks are made make it possible for an unskilled worker to build a perfect wall merely by laying one block into another.

The standard block, which measures eight inches wide, four inches high and 16 inches long, is hollow in lent time for something to be done about this situation, and that the proper place to start was at the chapter level.

The status and objectives of the Committee for a new state building code and the Board of Building Standards were discussed, with the idea that the Architects Society of Ohio might quite justifiably give these two state agencies a lot of help and support.

It is quite fair and proper to state that these two joint meetings inspired and promoted by Chairman Britsch and his Committee have accomplished a lot towards setting up a spirit of team work between the Society and the Board. With such interest in the mutual problems involved, the “momentum” of these two meetings will not be allowed to die, and more results of this team work can be expected at the 1950 A.S.O. Convention to be held in Toledo in October.

NEW BUILDING BLOCK

A slash of almost 75% in cost of construction is promised with a newly perfected interlocking building block by Hydro-Forged Stone Associates, Inc., of Cleveland, Ohio.

The new building block can be made entirely from waste materials and eliminates mortar in constructing homes, commercial buildings or frame structures.

Prime movers in this development are a group of young business men who have just organized Hydro-Forged Stone Associates, Inc. in Cleveland to furnish machinery and license manufacturers of the building block world-wide.

The four men responsible for developing the blocks are G. P. Dooley, president, Gerson B. Curtiss, vice president, William J. Blum, secretary and treasurer, and Sanford N. Curtiss, chairman of the board.
the center. That provides about 75% of the volume of the block as dead air space for insulation.

Dooley declared that Hydro-Forged Stone has turned out its block from scores of material, most of them normally considered waste. These have included sand, oyster shells, iron ore waste, crushed brick, coal mine tailings, stone dust, flue ash and pumice. As a matter of fact, the company recommends whatever type of material is most plentiful to a manufacturer in his area.

The material is fed into a continuous mixer and loader, manufactured by Kent Machine Co. of Cuyahoga Falls, Ohio, for Hydro-Forged. This mix is fed automatically into a press which pops out formed blocks at the rate of 720 per hour ready for drying. Solid colors or veined marble appearance may be achieved through the process of mixing the ingredients.

Dooley pointed out that although any unskilled person is capable of laying his company's blocks, a union worker and a helper will lay 600 Hydro-Forged stones per day, equivalent to 311 square feet of eight-inch-thick wall. This compares with 400 conventional bricks, or 40 square feet of eight-inch wall.

He explained further that 300 square feet of eight-inch wall can be erected of Hydro-Forged stone for $153 including materials and union labor, compared with $639 for conventional brick; 5% less than the latter for lumber; and $156 for concrete block. In the case of concrete block, further finishing would be required and its appearance would not make it adaptable to residential or store-front use.

"I will guarantee that with this new block," Dooley said, "a 28 x 28 foot five-room house, including plumbing, electrical work, etc. but not including cost of the lot, can be built for $3,500 with union labor. A similar house in brick would cost $12,000 to $14,000 and in lumber 5% less than brick."

The newly formed company is now prepared to grant franchises throughout the country and abroad for the purpose of manufacturing the patented stone blocks. The machines will become the property of the owner and his territory will be on an exclusive basis only.

**ELIEL SAARINEN**

Elie Saarinen, world-renowned architect and city planner and President of Cranbrook Academy of Art, died suddenly of a cerebral hemorrhage at his home in Bloomfield Hills, Michigan, on July 1, at the age of 76.

Only a few days before Mr. Saarinen had been examined by his physician, who reported favorably on his physical condition. He had been in his office the day before his passing.

The funeral was held in Christ Church, Cranbrook on July 5. In accordance with Mr. Saarinen's wishes his ashes were sent to Finland. The family asked that no flowers be sent, but instead suggested contributions to the Elie Saarinen Memorial Scholarship Fund, to further the education of one of "Pappy's" pupils.
Offices of State Auto Mutual Insurance Company, Columbus
Charles W. Cloud, Architect

The machine in foreground automatically sets four screws in the Acousti-Celotex perforated tile. Tiles are then properly placed on the ceiling and securely erected on gypsum board by an electrically driven screw driver and patented screw jig. Ceiling suspension, backing and finish by

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PARK SYNAGOGUE PROBLEMS
(Continued from page 7)

horizontal roofs. This horizontal beam and the lower section of the dome, which produced a vertical beam, started at a $8\frac{1}{2}$ inch thickness of concrete, but all of the rest of the dome is only 4 inches thick.

The building of the scaffolding, shores, and forms for the concrete work was an engineering problem in itself. The erection of these forms consumed 180,000 feet of lumber and took eleven weeks to put in place. Heavy timbers were used for columns and lintels to the spring of the dome. The curvature was produced by dimensioned ribs held in place by horizontal rings made of pipe with welded joints. The bents were covered with 1" x 4" boards spaced 2 inches apart and laid diagonally. The diagonal direction was changed about every square to stiffen the forms. The boards were spaced as they were covered with a 2-inch thickness of cork. The cork was to afford the insulation. The original intention was to use a loose type of insulation placed between steel channels on top of the concrete, but this idea was discarded because of the difficulty of keeping it in place until the nailcrete could be applied. The cork served as the form for the reinforcing steel and the Gunite concrete. Satisfactory adhesion was obtained because of the pressure method. The placing of the concrete for the dome was accomplished in four weeks. After the concrete of the dome was set it was covered with felt and preformed copper sheets laid by the Overly method. This roofing took seven weeks. Treatment of the copper was considered but abandoned. Discoloration has advanced during the year of exposure.

One more problem to be solved in the completion of the dome was the matter of acoustic treatment. Originally it was intended to plaster the inside of the dome, (even considering acoustic plaster) or to cover the plaster with acoustic tile. These were ruled out by Vern O. Knudsen, Consultant on Acoustics, of Los Angeles, California. It was finally decided to apply acoustic tile directly to the concrete. The next problem
was to determine the sizes of the tiles and the patterns. Squares and herringbone patterns were discarded because of the great difficulty of maintaining them on spherical surfaces. The choice was 12" x 6" tile (with the bevels cut off) and laid horizontally with staggered joints. This produced an interesting floating cloud effect.

The large majority of interior walls were finished with plywoods, maple, birch, and mahogany, ¼" thick in 4 foot by 8 foot sheets, with butted joints. In preparation, the rough walls were grounded, rough plastered and covered with ⅛" fir plywood. The finished plywood was put in place with electric wood welders, after being cemented and nailed at edges. It might be mentioned in small type that some buckling did occur with the change of temperature and moisture, but this was overcome with pressure and open joints.

Because of the difficulty in bending plywood to fit warped areas, it was discarded in favor of Flexwood as a covering for the large curved surfaces in the Temple. This was furnished by DeWees and Roper, 6501 Euclid Avenue, Cleveland, Ohio.

Of additional interest, are the large movable doors between different assembly places, which were installed so that these areas can be used effectively to handle larger gatherings. One set is the curved doors of mahogany between the Temple and the Foyer, which slide and disappear into pockets between the two rooms. The folding doors between the Foyer and the Assembly, (which have not been installed as yet) will jackknife into two wall pockets. With the opening of these two sets of doors the three spaces can be used together with a combined seating capacity of over eighteen hundred. The largest doors are between the Assembly and the exterior court, which are a pair made of stainless steel and plate glass. The doors are 58'-0" wide and 19'-0" high, divide in the center and are motor operated. Each half weighs two tons.

Many contractors and craftsmen have contributed to the splendid workmanship in this structure, but special credit is due to the untiring efforts of William D. Mason, the able job Superintendent of The Leonard H. Krill Co., Inc., General Contractors. It is interesting that in the two years of construction not a full work day was lost. As mentioned before, the construction of the Administration and School wings have just been begun. Not until these are well along will the extensive landscape program be started. When the project has been completed man will have built another monument to the Almighty in the interest of peace on earth and the brotherhood of man.

* CHARLES C. COLMAN BIOGRAPHY

Graduated—Cornell University, College of Architecture, 1912.

Employed by Frank B. Meade, architect, Cleveland, 1909 and 1912-1917, specializing in high-grade residence and club work.

Employed by Olmsted Brothers, landscape architects, Brookline, Mass., 1916-1917, and superintendent of construction, Mountain Lake, Florida

Served as Lieutenant, Engineers, U. S. A. Ist World War,

Graduated—The Cleveland Institute of Art, 1921.

Awards: The Cleveland Museum of Art; and Cleveland Chamber of Commerce Awards for Design, 1930 and 1936.

Established own office for practice of architecture, in Cleveland in 1919 and has continued such in own name.

Practice includes all types of buildings, with a large number of residences, and commercial buildings, offices, recreation camps, indoor and outdoor theatres, etc.

Federal Housing Administration: 1935-1943, Des Moines, Iowa, 1935; and Chief Architect, Northern Ohio District, Cleveland Office into 1943.


Mayor's Building Code Committee, Cleveland, initiating new building code. Advisor in preparation of codes Cuyahoga County Township and Canton, Ohio.

(Continued on page 26)
John Noble Richards Honored

One of the outstanding members of the Ohio Society of Architects, John Noble Richards has been elected Regional Director, Great Lakes District of The American Institute of Architects.

This honor also reflects on our organization as John Richards has been one of the active members of the Toledo Chapter in the affairs of the A.S.O.

John Noble Richards was born in Warren, Ohio, April 23, 1904, coming to Toledo, Ohio in 1910.

Attracted Toledo Public Schools and graduated from Scott High School in 1922. Entered the University of Pennsylvania, Philadelphia, in 1924, receiving certificate for completing the two year special course in Architecture in 1926. Continued on at Pennsylvania, receiving the Degree of Bachelor of Architecture in 1930. Awarded Cre Medal at Pennsylvania in 1928.

Awarded Stewardson Traveling Scholarship in 1928 and 1929.

1929 to 1933, employed in the Philadelphia offices of Ritter and Shay; Zantzinger, Borie and Medary; Thomas, Martin and Kirkpatrick; and G. Edwin Brumbaugh.

Returned to Toledo, Ohio as designer for the Toledo Firm of Mills, Rhines, Bellman & Nordhoff. Became partner of this firm in 1940. Firm name changed to Bellman, Gillet & Richards in 1944.

President of the Junior Chamber of Commerce in 1938-39. Awarded Toledo Junior Chamber of Commerce Achievement Award in 1940. Director, Toledo Chamber of Commerce 1946-47.


Charter member of Toledo Building Congress 1940. Member of School Board, Maumee, Ohio, 1946-1952 (serving second 3-year term). Member of Board of Directors, Toledo Regional Planning Association. Secretary, Toledo Club of Toledo, Ohio, President Downtown Exchange Club 1944. District Governor, National Exchange Club 1945. Member of Toledo Zoological Board, Toledo, Ohio. Active for over 10 years on the Board and as Art Director of the Toledo Repertoire Theater. Member of Tile Club, Toledo.
NEW 1½" WALL PROVES FIRE BARRIER
(Continued from page 10)

...to the unexposed face—result clearly indicating the "built-in" dependable quality of protection provided by partition construction of this type under even the most severe fire conditions.

Materials and Details of Panel Construction

Measuring 10' 2" wide by 10' 3" high, the 1½"-thick panel was built into a regular concrete frame used in conjunction with the engineering experiment station's full-size fire-test furnace. Ceiling runner, consisting of a 2"-high angle form of perforated 20-gage sheet steel painted black, was attached to frame top with ½" hardened steel concrete nails spaced 12" on centers. At the bottom, special 1½" double base clips were fastened with the same type nails and spaced 24" on centers; end ones were spaced about 3" from frame sides. Also of 18-gage steel and painted black, metal base was attached firmly to these clips.

Studs consisted of ¾" cold-rolled steel channels formed from 16-gage steel (and weighing 300-lb. per thousand linear feet) spaced 24" on centers, with wire tied to ceiling runner at top and metal base clips at bottom. Studs were placed with their webs parallel to the plane of the panel and so located that the metal lath would be centered in the finished panel.

Metal lath, of the flat expanded type weighing 2.5-lb. per square yard, painted black and conforming to U. S. Department of Commerce Simplified Practice Recommendation R5-44, was attached to web side of channels, the long dimension of the sheets running across the studs. It was fastened to channels with No. 18 W&M gage galvanized soft annealed tie wires spaced 6" on centers. Successive sheets of lath were lapped over the upper ones at least 1½". Side clips were tied twice between studs about 8" on centers and end joints of lath lapped at least 1". These end joints, occurring only at the studs, were staggered from course to course.

Lath was butted at frame top and cornerite applied to the side of the channel along the top and both sides of the frame. The cornerite was attached to the metal lath by means of wire ties spaced 6" on centers and to the concrete frame with ½" concrete nails spaced 8" on centers.

Grounds at panel bottom consisted of a flush metal base, while those at the top of the panel comprised a plaster screed sufficient in thickness to allow a panel fully 1½" total thickness, including white coat of plaster. Steel studs and attached metal lath were braced
in the center on the channel or stud side for the full width. This brace, in turn, was braced by a diagonal 2 x 4 nailed to the floor. Tied to the studs with wire ties, the temporary cross brace was left in place during the application of scratch and brown plaster coats to unbraced sides of the panel.

Five coats of plaster were applied to the partition in the following manner:

**Scratch Coat**—Metal base was well grouted with plaster, then scratch coat applied to as uniform thickness as possible on unbraced side with sufficient material and pressure to form good, heavy “keys” on far side of lath. Surface was scratched in two directions, providing 1/8"-deep grooves, which afforded good mechanical bond for brown coat.

**Brown Coat**—Following setting of scratch coat, a plaster screed was placed in the top third of the panel and brown coat rocked and darbied and the surface floated to smooth finish. Scratch coat re-wetted lightly before brown coat application.

**Back-up Coat**—After brown coat had dried, bracing on steel channel stud side was removed and a plaster screed placed horizontally in top third of panel. Key side of scratch coat re-wet lightly, then back-up coat applied in one coat and brought out to previously applied plaster screed.

**Finish Coat**—White coat (steps four and five) was applied to 1/16" average thickness to both faces after drying, then finished flush with metal base. All assembly work required for installation of channel studs and metal lath and all plastering operations were performed by regular journeymen.

Plaster for scratch, brown, and back-up coats consisted of 100-lb. sisal fibered gypsum plaster to 2½ cu. ft. of expanded perlite. Plaster was measured and mixed as panel construction progressed, and the mixture cut into the mixing water and turned sufficiently to provide a uniformly textured, easily applied mix. Quantity of mixing water used was limited to minimum
peniiissil)le without impairing good workability. Total thickness of finished wall was 1½".

Upon completion, the panel was allowed to dry and age for five weeks in a normally heated laboratory, where it was placed to permit free circulation of air around all surfaces. Test panel was then placed into steel restraining frame of the furnace so that the panel formed one side of the combustion chamber, with the steel channel stud side of panel exposed to flame.

Interior (furnace) temperature and exterior (unexposed face) temperature of panel were taken with thermocouples arranged as required by ASTM specifications (E-119-47).

Deflection (bowing of panel) was measured from a point at center to a taut wire suspended from, and attached to, steel frame of furnace.

![Fig. 5—Condition of exposed (fire side) face of panel after fire-endurance test.](image)

**Fire Endurance Test Observations**

As indicated earlier, this test was carried out so that average furnace temperature conformed as closely as possible to ASTM Specifications for Tests of Building Construction and Materials (ASTM Designation E-119-47). Points on the curve determining its characteristics are:

- 1000° F. at 5 minutes
- 1300° F. at 10 minutes
- 1550° F. at 30 minutes
- 1700° F. at 60 minutes

For the first 16 minutes, the only cracks which developed in the panel were "fine-hair" in nature. From then on until the end of the test, cracks of the usual type appeared, becoming quite evident near the close of the test. However, at no time was there any falling of plaster—even of the finish coat—from either face of the partition.

At 65 minutes, the gas was turned off. One thermocouple had exceeded the temperature rise permissible just before the 61-minute reading was taken.

At various time intervals during the test, panel deflection was measured from panel center to a taut wire hung from, and attached to, the steel restraining frame. Panel started to bow outward—away from the fire—at 8 minutes, and had expanded a total of 4.13" at 60 min-
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utes. However, at no time throughout the test did plaster fall from either face of the panel.

Average furnace temperature was above the standard curve throughout the test. As plotting of data indicates, a single high reading couple reached the permissible end point of 398° (starting temperature 73° F. + 250° F. + (30% of permissible rise = 750° F.) = 398° F.) at 59 minutes. On the basis of this figure, together with application of the correction factor as developed by Sub-Committee 1 of ASTM, Committee E-5 (ASTM Designation E-119-47), end point is increased from 59 minutes to 62 minutes.

Identical Panel Passes Hose-Stream Test

Two months later, an identical 1½" panel was subjected to a hose-stream test at the same engineering experiment station where the first 1½" panel had been tested for its fire-restrictive quality.

This second panel, like the first one, was constructed by journeymen lathers and plasterers under supervision of a representative of the Metal Lath Manufacturers Association; the same materials were used, and the same specifications followed. Again, it was allowed to dry and age for the same period.

Interior furnace temperature was taken from thermocouples, which again were placed symmetrically within the furnace proper. No surface temperatures nor deflections were recorded, however. And as with the fire-endurance test, this test was conducted so that average furnace temperatures conformed, as closely as possible, to the ASTM Standard Time-Temperature Curve (Designation E-119-47).

Hose-Stream Test Observations

Exposed face of panel showed no signs of fire effect during first 8½ minutes, when dark spots appeared in upper portion of center. Crazing first appeared at 21 minutes, but entire exposed surface remained generally intact at 30 minutes.

Numerous miscellaneous cracks developed in the panel during its exposure to flame, but none were of a serious nature. Consequently, when the gas was turned off, there had been no falling of plaster from the panel and no passage through it of flame or smoke.

Gas was turned off at 31 minutes and the hose stream applied to exposed face of panel 58 seconds later. It was applied for 60 seconds, following which inspection revealed approximately 50% of the white coat and about one square foot of plaster had been removed by the water, exposing the metal lath. This square foot area was divided up into 4 or 5 small spots.
Unexposed face of panel, according to the test report, "showed no effects of the hose stream except for a few small flakes of the white coat approximately 1/10 square inch in area. No water from the hose stream came through the panel."

Having passed these two exacting destructive tests "with flying colors," this 1 1/2" lightweight aggregate plaster and metal lath partition for nonbearing walls is expected to find accelerated usage in many building programs and construction projects from now on, the Metal Lath Manufacturers Association strongly believes.

"It should be welcomed by architects, engineers and designers who are seeking a newer, more economical way to save space and slash deadweight in buildings, and at the same time provide them with greater fire protection," Commissioner Turner said.

ARCHITECTS DESIGN

A chap we know recently spent a fabulous weekend at the fabulous Texas ranch of W. C. Hedrick, the architect who designed Glenn McCarthy's celebrated Shamrock Hotel. Hedrick owns three large ranches now and we were interested to learn how this simple Chicago boy wound up as the architectural darling of Texas' millionaires. "Did you find out what other famous buildings Hedrick has designed?" we asked our friend. And his reply was strictly from Texas. "He gave me a list of them, all typed out," said our informer. "They added up to $500,000,000. That's all I remember."

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Exceptionally lightweight, good insulating properties, effective fire-retardant characteristics, improved workability, and chemical inertness are qualities which make perlite or vermiculite especially suitable as a plaster ingredient. Gypsum plaster incorporating either one of these new lightweight aggregates lightens the load on structural framing of single-story and multi-story buildings.
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“'But I’m not loafing, Madam, I’m a cement-sitter. I sit till it sets.”

WINS NATIONAL OFFICE

Herbert A. Erf, president of the H. A. Erf Acoustical Co., was elected treasurer of the Acoustical Society of America at the 39th annual meeting of the national organization at Pennsylvania State College, State College, Pa., it was announced recently.

A graduate of Case Institute of Technology, Erf is a director of the Case Alumni Association.

Erf also was named to the joint committee of the American Institute of Architects and the Acoustical Society for the study of architectural acoustics.

KERNs, VETERAN OHIO
EX-AIDE, DIES

Thomas P. Kearns, 78, former chief of the Safety and Hygiene Division of the State Industrial Commission, died recently in St. Francis Hospital, at Hartford, Conn.

Retired since 1944, Kearns had made his home with a son, Thomas Kearns, jr., in Brecksville, Ohio. He suffered a cerebral hemorrhage while visiting at the home of another son, James Kearns, in Hartford.

Mr. Kearns came to Columbus from Dayton in June of 1910 to serve as chief of the Division of Factory and Building Inspection in the Department of Industrial Relations. He was named head of the Division of Safety and Hygiene when the post was created in the mid-twenties.

He was a member of the Knights of Columbus and the Immaculate Conception Church in Columbus. Four grandchildren survive in addition to the two sons.

Funeral services were held in Dayton.
ADDITION TO OCTAGON STAFF

Washington, D. C.—William Demarest, Jr., New York, has been appointed Secretary for Modular Coordination in the Department of Education and Research of The American Institute of Architects in Washington.

In making the announcement of the recent appointment, Edmund R. Purves, Executive Director of The A.I.A., said that Mr. Demarest, through contacts with architects, schools of architecture, builders, manufacturers of building materials, and Housing and Home Finance Agency, will provide a much-needed unifying factor for the further development of modular standards and the more general acceptance and adoption of the principles of modular coordination. Creation of this new position is a main feature of a plan to promote the further advancement of modular coordination which was drawn up by the Joint Committee of The A.I.A. and the Producers' Council.

Mr. Demarest will serve as coordinator and center of promotion, education, and service in the modular movement. He will work closely with Committee A-62 of the American Standards Association and the Housing and Home Finance Agency, which is promoting standardized dimensions on all building materials. Other construction industry groups and the architectural profession will be further encouraged to adopt modular coordination, which is the use of materials based on a four-inch unit.

Mr. Demarest may be addressed at the offices of The American Institute of Architects in Washington, D. C.

$2,500,000 CHRIST HOSPITAL ADDITION TO START IN ’50

Christ Hospital of Cincinnati will start construction on a 10-story addition this year, according to Tietig and Lee, Cincinnati Architects.

In announcing the plans for the new, hospital addition, before the 1950 nurses’ graduating class in Wilson Memorial Auditorium, Alfred K. Nippert, chairman of the hospital board, stated before a capacity audience that work on the addition, in a four year building program, would be started in 1950.

The new addition according to Mr. Nippert, will adjoin the present north wing, to extend to the Mt. Auburn Christian Church, Auburn Avenue, Cincinnati. According to Mr. Nippert the first improvement to be started will be the addition to the cafeteria, kitchen and expansion of the

ARCHITECT

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"KEEP OHIO GREEN" CAMPAIGN AIMED AT FOREST FIRES

Community leaders from every county in the state met recently in Columbus to launch a "Keep Ohio Green" forest fire prevention campaign.

Governor Frank Lausche, who is honorary "Keep Green" chairman, had sent letters of invitation to 750 persons advising them that "forest fire prevention is the business of every good citizen of Ohio."

A. W. Marion, director of the Department of Natural Resources, and O. A. Alderman, state forester and chairman of the planning committee, spoke at the meeting. Presiding was Horatio Ford, Cleveland attorney, who is president of the Ohio Forestry Association.

Ohio will be the 27th state to adopt a "Keep Green" program. The project is encouraged nationally by American Forest Products Industries, a non-profit forestry organization of wood-using industries.

According to latest available U. S. Forest Service statistics, Ohio held its 1948 forest fire losses to 7,141 acres burned, a reduction of 44 per cent from the previous year. "That's a near-record low," Ford commented, "but we can still do a lot to improve our statistics. All but one of those fires in 1948 were man-caused and therefore could have been prevented."

Ford pointed out that one-fourth of the fires were caused by careless debris burners. Smokers caused many of the others.

A little man came into the office of a psychiatrist.

"I was wondering," the little man said timidly, "if you couldn't split my personality for me."

The doctor looked puzzled. "Split your personality? Why would you want that done?"

Tears tumbled down the little man's face. "Oh Doctor," he wailed, "I'm so lonesome!"

"A little girl's Christmas thank-you notes "Thank you for your nice present. I always wanted a pin cushion, although not very much."
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