

PREFABRICATION FOR ARCHITECTS

Joseph Earley's polychromed mosaic concrete home enters the field; house No. 1 is finished in a suburb of Washington.

TOWARDS the endlessly debated subject of prefabricated houses, the architect's attitude is either one of fear or ridicule. Few hold the notion that therein lies an opportunity. One of the few is John Joseph Earley,



Prefabricator Earley

who last month threw open to the public of Washington, D. C., a five-room house that was fabricated in his studio and assembled on a lot in a swank Washington suburb.

What his house offered primarily was comparatively low cost with no structural maintenance. Using the system of construction which he himself perfected he was ready to show the architectural profession that instead of jeopardizing their small house practice, prefabrication would be a boon.

Earley. John Joseph Earley was born in New York 45 years ago, son of Sculptor James Farrington Earley. Something of a prodigy, he entered college at 14, was graduated at 18; and at 21, under his father's tutelage, he was a skilled artist. In 1906 he invented the architectural concrete and plastic mosaic process which bears his name; it is an adaptation of this process which is the base of his system of prefabrication.

In Washington, where he has lived since 1904, no less than 20 buildings harbor one or more of his mosaics, and in 13 other cities throughout the U.S. there are creditable examples of his work. Perhaps the finest,

and certainly the largest of all his designs is the ceiling of the new Department of Justice Building, where there are 11,000 sq. ft. of vivid-colored mosaic ceiling. Impressed by the amount of concrete as well as by the beauty of the mosaic, the American Concrete Institute last year gave him the Turner Gold Medal for "making concrete an architectural medium."

The House. It was for the Department of Justice ceiling that Earley developed a precast reinforced concrete panel 2 in. thick with an exposed mosaic surface. Suspended from the girders of the ceiling, the panels were used as forms against which the ceilings were poured. If so usable, Mr. Earley asked himself, why not for other kinds of construction? And why not particularly for prefabricated houses?

Collaborating with his engineer, Basil G. Taylor, Mr. Earley devised a system of construction that apart from the precast panels is not much of a departure from present wood framing methods. To anchor the panels he used a small structural concrete column cast in place at each joint. The anchoring device prevents actual union between the panels and the columns, thereby allowing for expansion and contraction, and at the same time making a good waterproof joint.

Thirty-two panels, each 9 ft. high and varying in width from 4 to 8 ft., were used in building the house. Window and door frames were imbedded in the panels before casting (see cut, page 188).

The design of the house could not be

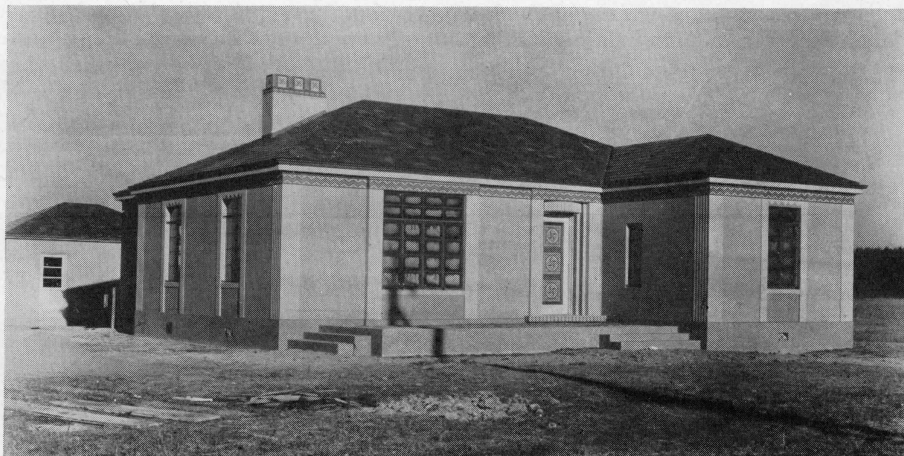
injected with 100 per cent justification in any type of architecture. Dictated entirely by the characteristics of the material itself, it comes as close to modern, except for the conventional dark slate roof, as anything else.

The main color of the building is like that of a pink granite, the result of making the surface of the slabs chiefly out of exposed



Converted Publicist Schuette

aggregates of red jasperite, a form of quartz. The corner pilasters and the window trims are made of buff-colored quartz, and the



Polychromed House No. 1

other ornamentations are chiefly a deep cobalt blue. A polychrome cornice surrounds the entire building, giving a rather aristocratic setting to an exposed copper gutter. Under the cornice is a blue line about an inch wide to accentuate the shadow of the cornice, and below it is a twelve-inch mosaic frieze in red and black, in detail, which if it had to have a name, might be called Hittite.

The most striking ornament of the building is a doorway with fluted columns of buff and blue, surmounted by an elliptical slab of carved buff quartz, covering a ceiling lamp, and a buff lintel decorated in a design of red and blue. As an innovation, the wooden door has three insets of red and black mosaic concrete.

Mosaic ornamentation is carried right into the interior with a band of blue mosaic concrete for the trim of each window. A ceiling-high mantel in the living room is another adaptation. It was precast in the Earley studios in a single casting—fireplace and all—in a light buff ceramic aggregate, with a border design in red and blue, and a solid black fireback outlined in red.

The house is also crowned with a precast chimney—made in one piece—with a mosaic design of red and black.

Not so elaborately designed, a garage was built in the same manner on the back of the lot. Some visitors, unaccustomed to polychrome effects, thought the garage of more significance than the house itself. They liked its simplicity and thought it more adaptable to the market of mass produced homes.

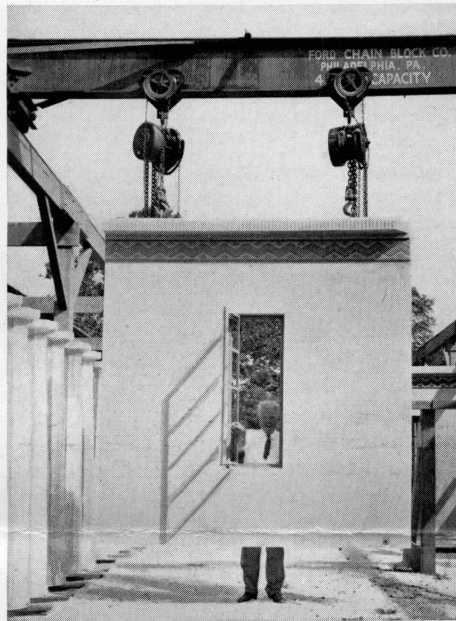
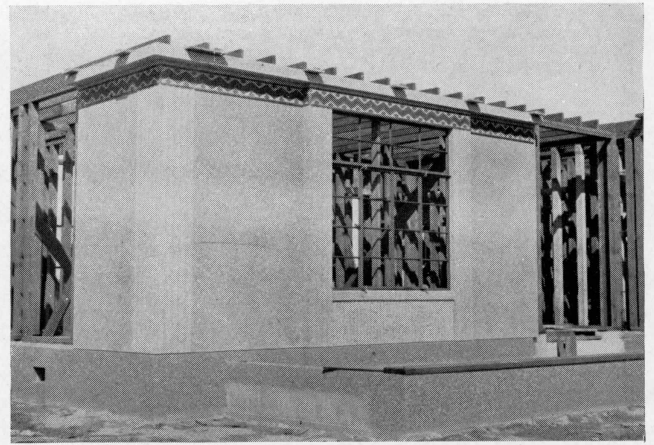
Selling. When the house and garage were finished, Architect-Sculptor Earley looked on it and found it good. So too, did Oswald F. Schuette, famed war correspondent and political writer. A close friend of Mr. Earley's for more than fifteen years, he had long been architectural concrete's best lay booster.

With Basil Taylor as vice president, Mr. Earley as president and Mr. Schuette as secretary-treasurer, the Earley Process Corporation was formed to handle the nationwide prefabrication business they hope will result. What was once a sculptor's studio at Rosslyn, Va., has become a prefabrication plant. There will be poured the panels that will go into similar houses in the Washington area.

Though the details of the sales plan are still to be thought out, the Earley Company hopes to license crushing and casting plants in all sections of the U. S. One crushing plant will supply a radius of 500 miles and a casting plant 50 miles.

The house in Washington is not regarded as the only method to build Earley houses. Steel framing may be just as appropriately used as wood framing, and in the Washington house no attempt was made to prefabricate interiors. More than one manufacturer of insulating board sent its engineers to examine the house and to develop pre-

Ordinary wood frame construction encased in mosaic concrete panels. Five units comprise the length of wall shown here, three regular units, one window unit and a corner.

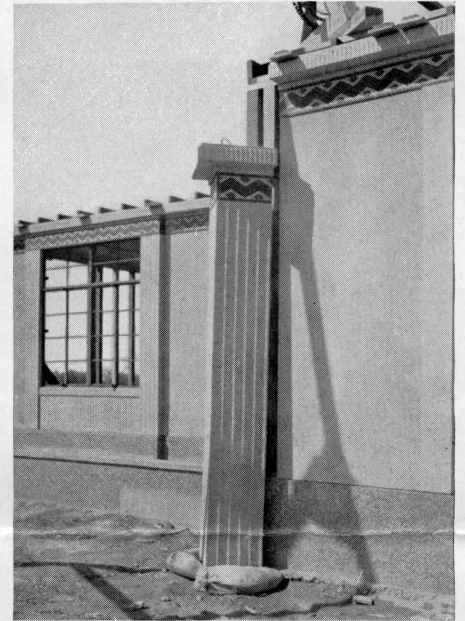


Hoisting a Panel

fabricated interiors that will dovetail into the Earley system.

Cost. In explaining the cost of the house, Mr. Earley shied away from direct comparison with similar houses built by old methods. Said he, "This house was built just as if it were to be finished as a frame house on a concrete foundation. Even the studding is of wood, so that it could just as easily have been finished as a frame house.

"But instead of finishing in wood, these precast panels were applied to the wooden framework. They, therefore, replaced diagonal sheathing, building paper, weather boarding, four coats of paint, and the extra labor necessary to set window frames and to build cornices. The panels will replace the labor and material necessary to form cornices, window trims, inside and out, and any other form of decoration that might have been called for by the exterior design of a wooden house. On such a basis of comparison, the walls of this house represent a cost of less than \$300 in excess of what it would have cost to complete this house as a frame structure.



A Corner Reposes

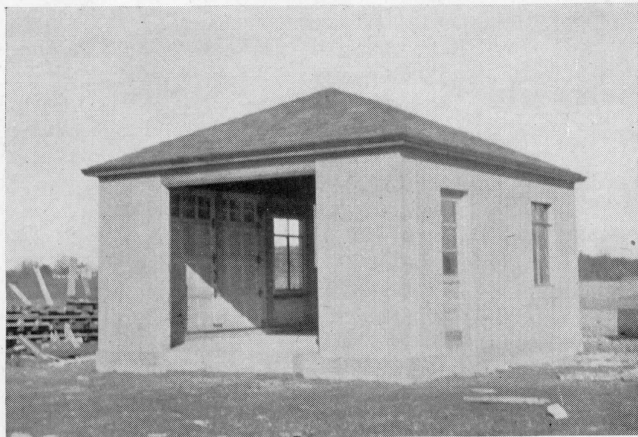
"Or we might put it another way: If we were to add to the original cost of the frame building, the cost of the first repainting—which must be done within three years—we would about equal the cost of building the house of precast panels in the first place.

"As these precast walls require no maintenance throughout the life of the building, they constitute a major economy.

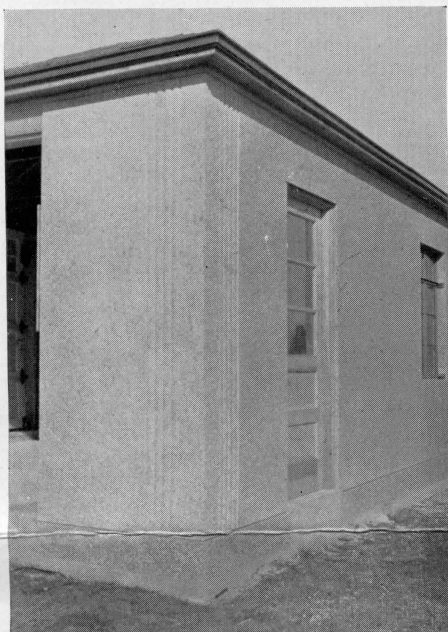
"Or, if the building in the first place is built without ornamentation and is constructed of plain slabs such as were used in the garage, it should be possible to build it for a price comparable to that of a wooden structure. These plain slabs are identical with the ornamental slabs in every way except that of ornamentation."

Architects. An architect himself, Mr. Earley will not seek to sell his system by going behind the architect's back. Rather, he will encourage architects to put themselves in a competitive position with non-architectural prefabricators by using his material.

"Correct styling and design is more important to houses that result from mass production than to individual houses. In



Some visitors to Earley's lot in suburban Washington find the unornamented garage of more significance to prefabrication, and some find it more beautiful as well.



A Fluted Garage Corner

the case of automobiles, for instance, mass production has contributed greatly to emphasize the importance of appearance and more money is spent on designing than ever could have been spent for the styling of individually built cars. Prefabrication of small houses really offers an opportunity for architectural initiative, such as individual houses in that field rarely give.

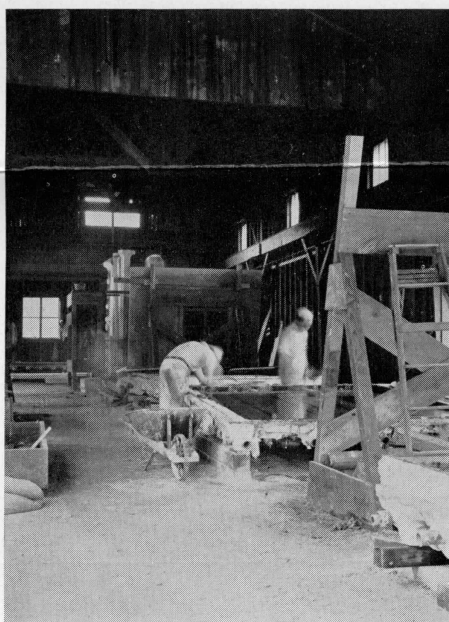
"The contribution which our studio hopes to make in the construction of small houses is that of making possible fine architectural design by means of the facilities of this material and of its natural economy. It was to demonstrate this principle that we built this house and built it carefully to carry out the ideas of the architect who designed it and put into it all the artistry and craftsmanship of which our studio was capable. It has been built for a price which permits it to be sold in competition with the usual speculatively built house.

"The precasting molds are so constructed that they are subject to unlimited variation. First, a great degree of individuality can be obtained by changing the color of the house. This is made exceedingly simple by the

fact that the change in the colored aggregates which make up the surface of the molds, can be varied at slight expense.

"Second, the appearance of the house can be radically altered by varying the disposition of the parts of the house, and this is made particularly easy by the flexibility of the molds. Again this entails but small additional cost.

"Third, the appearance can be changed by varying the ornamentation of the house. Here again, both the variety available in



Earley's Casting Plant

the color of the material and the flexibility of the molds themselves make such variations a simple item in the preparation of the individual slabs."

Feeling as he does about the necessity of individual design, Mr. Earley plans no building company to erect whole communities of standard Earley houses in Washington or elsewhere. Later perhaps, if financing is available, he may experiment with a community of prefabricated houses, each designed individually to prove that mass production of units is just as much the key to low cost as mass production of complete houses.

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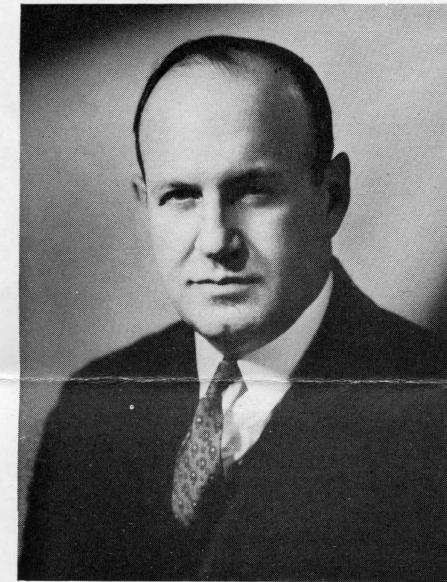
PRIVATE AND U. S. FUNDS POOLED

in the First Federal Savings and Loan Association of New York, and an example is set for the rest of the country.

DEVELOPMENTS in New Deal legislation come so thick and fast that events of more than a year ago seem way back in the Coolidge Administration. Yet it was not much more than a year ago that a Roosevelt Congress passed an amendment to the Home Loan Act permitting the establishment of Federal savings and loan associations in cities where adequate mortgage money for home building was not available.

Gist of the legislation was that whenever two, three, or more were gathered to-

gether in the name of home financing with \$25,000 capital, they could apply for a Federal charter. If it was granted they could call on the U. S. Treasury for stock subscriptions up to an amount equal to three times the ante of private capital. Original and subsequent legislation provides: share dividends exempt from normal Federal income taxes, insurance of investments up to \$5,000 per shareholder, rediscount facilities with the Federal Home Loan Bank up to 50 per cent of the funds loaned on houses.



First Federal's Taylor

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Bitterly fought by existing building and loan associations as being semi-government competition, the growth of Federals was slow until a Minnesota decision cleared the way for establishing a Federal almost anywhere. Then applications began to pour into Washington. At the close of business December 31, 1934, the number of Federals had reached 639, of which 481 were new institutions, and 158 were converted

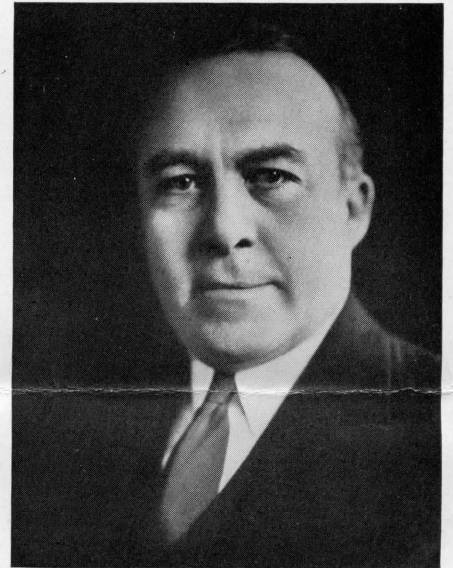
from old building and loan associations (see table).
Dayton. Most celebrated of all the Federals is the First Federal Savings and Loan Association of Dayton, result of a cooperative finance scheme engineered last year by the RFC and the Federal Home Loan Bank Board to save the investments of shareholders in seven closed Dayton b. & l. associations. The plan, heralded by Dayton newspapers in type as large as ever spelled Hauptmann's name, called for the lending by the RFC of \$20,574,832.31 to the seven closed associations to pay off old loans totaling approximately \$8,000,000, and to pay off the remaining \$12,000,000 to shareholders. The shareholders in turn were required to reinvest 30 per cent of the money that was coming to them in the new Federal Savings & Loan Association, which together with funds subscribed by local business men and the U. S. Treasury gave the new Federal about \$9,000,000 fresh capital. The new institution took over none of the mortgages held by the closed associations; they were exchanged for HOLC bonds.

In this fashion the greatest of all building and loan rescues was pulled out of the hat by the RFC. The details of the scheme, here only briefly outlined, took up five full pages in a Dayton *Herald* extra.

New York. No such wad of publicity marked another Federal savings and loan development, which, although far less spectacular, was considered by the Federal Home Loan Bank Board to be far more significant. Despite the protests of New York building and loan associations that ample mortgage

money was available for all reasonable needs, a Federal charter was granted early last Spring to the First Federal Savings and Loan Association of New York, an institution born in the minds of a half dozen metropolitan lumber men. Chief among them was Gardner W. Taylor, one-time owner of a string of Eastern lumber yards, and now owner of a wholesale lumber company and several scattered allied businesses.

Schooled in building and loan work through active participation in the Bronxville Savings and Loan Association, Lumberman Taylor was wide awake to the then unseen possibilities of Federal associations. But he was also awake to the futility of launching a mortgage lending association in New York with only \$25,000 private capital and \$75,000 subscribed by the Treasury. To do any good at all he realized



Building Material Man Reynolds

that he must have at least \$1,000,000. But how quickly to raise the initial \$250,000 in order to get that million was a problem

	Number	Assets
Charters Approved		
A. New Federals.....	481	\$3,410,482
B. Converted from State Institutions.....	158	135,417,264
Total Charters.....	639	\$138,827,746
Applications Pending		
A. Approved applications for permission to organize new associations.....	160
B. Applications for Charter—new associations.....	12
C. Preliminary applications for conversion.....	207	\$221,375,275
D. Applications for charter—conversions.....	28	28,235,671
Total Pending.....	407	\$249,610,946
The status of Treasury Calls as of December 31, 1934, was as follows:		
	Number	Amount
Received.....	696	\$14,383,100
Disbursed by Treasury.....	536	10,725,400

Growth of the Federals