

BRICK

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The New Jersey Mosaic Tile Co., Matawan, N. J.

It is impossible to enter a large business structure today without noticing the mosaic work on the different floors. It is always clean and, from being a luxury, mosaic is now counted a business necessity. Furthermore, the manufacture of floor and wall tile has increased greatly during the last decade. The modern house, built according to sanitary laws, is always provided with tile in bath and toilet rooms, corridors, vestibules and often the dining rooms and culinary departments are furnished with tile floors. The advantages of such a system of flooring are many. It is quite true that a tile floor costs more than an ordinary floor at the commencement but its life is truly marvelous; its appearance is ever the same and in fact it will endure when the building itself is crumbling to pieces. No

mosaic of the ancients and has found great favor amongst architects and artistically inclined people. It is very beautiful and its minute pieces and great variety of colors offers the best opportunity to the designer. Vitreous tile are either square, hexagonal, octagonal, triangular or oblong.

Plicaro mosaic has lately become quite a favorite for floors of bath rooms as this material can easily be laid on wooden floors, raising them only $\frac{5}{8}$ in. in thickness. This form of mosaic consists of a regular vitreous ceramic tile laid on a flexible base. No preparation of the floor or cutting of the joists is necessary as the plicaro mosaic is not heavier than a hard wood floor.

During our recent visit to New Jersey it was our privilege to see the plant of the New Jersey Mosaic Tile Co. in operation.



THE NEW JERSEY MOSAIC TILE CO'S. PLANT AT MATAWAN, N. J.

better proof of this statement can be found than the condition of the mosaic and clay tile pavements of the Renaissance period, to be found at the present time in the churches and palaces of Italy, France, Germany and England. These are still in good condition, the admiration of all tourists, while the granite and marble pavements of that time have crumbled away.

It must also be remembered that modern tile are better and stronger than the older products and the range in design and color is of far greater extent. The superiority of tile for floors and walls over other materials is further manifested in the laying or placing into position as the fitting can be done more easily and mistakes in measurements do not cause serious complications. The decorative value of mosaic tile has never been questioned. For sanitary floors, Roman ceramic mosaic or vitreous tile are used. The Roman ceramic mosaic consists of $\frac{3}{4}$ -in. square, 1-in. hexagonal, or $\frac{3}{4}$ -in. round tile. Vitreous tile varies in size from 1 to 3 in. The Roman ceramic is closely related to the

Here millions of these small pieces of tile are made yearly and the various processes are exceedingly interesting. This company was incorporated under the laws of New Jersey in April, 1902. Prior to that date its title was the New Jersey Terra Cotta Co., the plant being operated in conjunction with the New Jersey Terra Cotta Co., of Perth Amboy. The plant was acquired by the New Jersey Terra Cotta Co. in the fall of 1895, but it has been in operation for over 50 years, having passed through nearly all stages of clayworking production, commencing with a brick yard, continuing as a pottery, engaging in the manufacture of enamel brick and terra cotta, and now given over to the production of mosaic tile.

Terra cotta is now manufactured exclusively at Perth Amboy instead of at both plants as before. There are four different buildings in this plant, two stories in height, and with abundant cellar room. Two of these buildings are used for kiln protection, one contains the office, storage rooms and laboratory, and

also a room for the sorting of the wares. Another has its lower floor devoted to pressing and the upper floor to drying and blowing. Mixing of the clays is done in the cellar of this build-

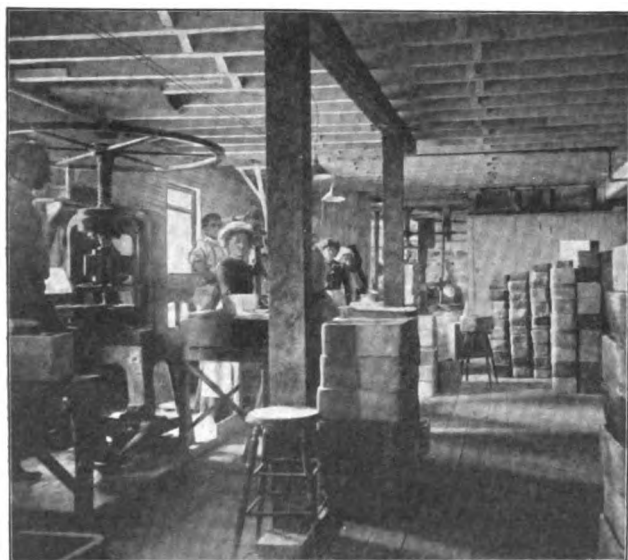


THE SORTING AND BOXING ROOM.

ing. The fourth building is a machine shop. There are also large clay sheds and coal bins.

The blungers and filter presses are in the cellar. Artesian well water is used for mixing purposes and this water is carefully filtered to remove impurities. The slip obtained is pumped to the filter press and the clay after leaving the press proceeds to the drying rooms on the second floor of the pressing building by an elevator. Exhaust steam is used for drying and four large racks in the drying rooms contain ample clay to keep ahead of the demand of the presses below. It usually takes three days to dry the clay.

From the drying room the clay is wheeled on a barrow to a pulverizer and blower. At the end of the blower box is a door



THE PRESS ROOM.

and the clay is shoveled out from that end of the blower on to a screen through which the fine material passes down by a chute to the press floor where it is stored in bins till used.

There are 12 presses in operation on this lower floor, making all classes of tile previously described. The operation of these presses is just like that of ordinary dry presses, differing only in the size and the number of pieces made at one operation. We noted a very ingenious device invented by Messrs. Mueller & Langenbeck, of the Mosaic Tile Co., Zanesville, O., designed to lighten the labor, removing the pieces of tile from the press to the sagger. It has been the custom to remove these by hand and the smallness of the pieces to be handled makes it a very tedious operation. The invention consists of a pallet of similar construction to a photographic plate holder. This pallet follows the plunger in its retrograde movement picking up the tile on the table of the machine by means of a slide which a girl pushes in underneath the tile. These tile are thus virtually encased in the holder. The girl then turns around from the machine and deposits the pieces in a small storage rack and, withdrawing the slide, leaves the pieces in regular rows without any further handling. This operation is repeated until the rack contains



TAKING THE TILE FROM THE PRESS.

piles of mosaic 15 and 20 pieces high. To these comes the girl with the sagger. The sagers employed for this purpose are about 12 in. long, 7 in. wide and 8 in. deep. The operator picks a row of tile from the rack and lays it in the bottom of the sagger. Fine sand is placed between each row and each tier. The sagers are then removed by the men at the kilns where they are set in the same manner as the ordinary potter's sagers. Fire and gases are kept from the products by bands of clay between the top and bottom of each sagger.

The kilns are of the ordinary up-draft type and vary from 9 ft. to 16 ft. in diameter. There is also a small experimental kiln. Burning is effected in four days. The fuel used is soft coal. The sagers are removed from the kilns to the sorting room, where many girls are employed in sorting these small pieces as to color and quality; great accuracy is required in this work and when this sorting is finished the pieces are boxed ready for shipment. The rough edges have to be filed off of these pieces where needed.

One of the most commendable features of this plant is the great economy shown in every department of manufacture. The waste clay from the pieces is all rewashed and the good material is used over again. The sand which has been used once is also refined and used over again. A Le Chatelier pyrometer is used in connection with Seger cones to determine and register the temperature of the kiln at any stage of burning. We reproduce here a sample of the firing sheet. The burner records on this sheet by small dots and connecting lines the rise or fall by degrees of temperature during his shift and thus an accurate record is kept of the conditions during the burn so that comparisons may be instituted and the cause of any deficiency ascertained.

There is an excellent fire installation in the plant. The ship-

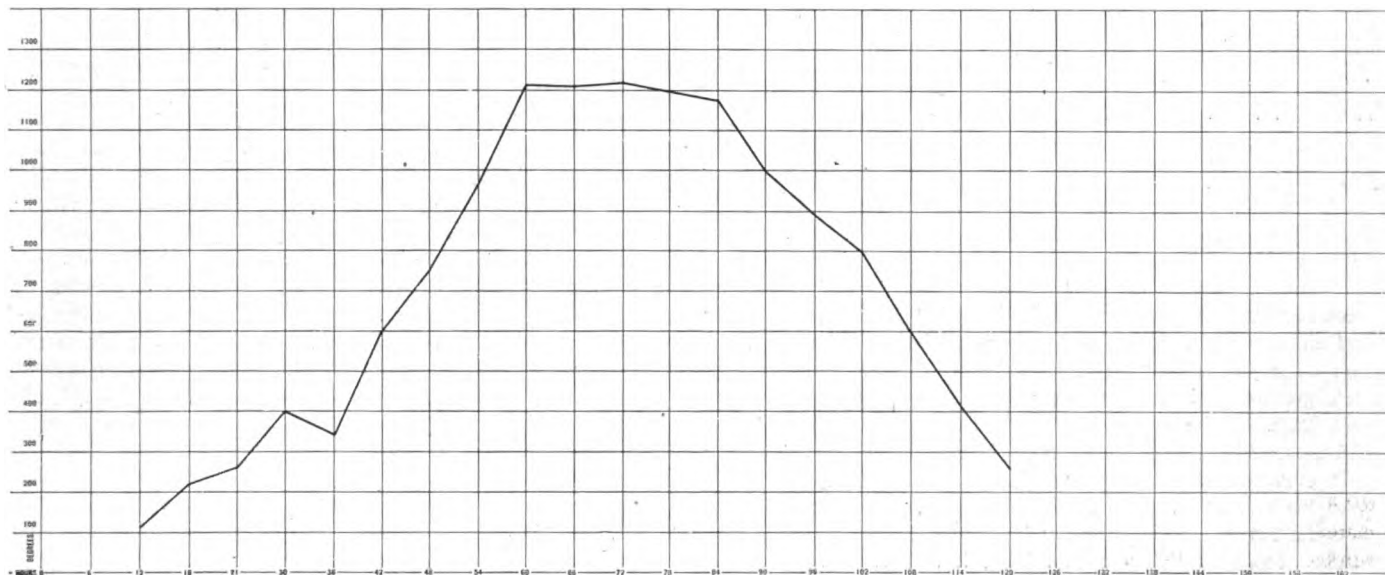
represented at the New Jersey plant by Karl Langenbeck, who superintends the preparation of the clays and the methods of operation. In no branch of the clayworking industry is such care necessary as in the preparation of the material for the manufacture of mosaic tile. No change has been made in the directorate of the New Jersey Mosaic Tile Co. from that of the New Jersey Terra Cotta Co., Perth Amboy, N. J.

Paving Brick Plant Wanted for Peoria.

According to the Peoria Star there is an opportunity in Peoria, Ill., for somebody to put \$100,000 into a brick plant and pull out a

FIRING RECORD.

Kiln No.		FIRING RECORD.														Burning No.					
CROWNING RECORD	Barrows of Egg Coal	Barrows of Soft Coal	Height	PYROMETERS MELTED IN TOP TRIALS				PYROMETERS MELTED IN BOTTOM TRIALS				TILES	PLACING RECORD			SORTING RECORD					
				1	2	3	4	1	2	3	4		Saggers	Recess per Sagger	Sq. Ft. per Sagger	Total Square Feet	First	Second	Ref.	Br.-Feed	TOTAL



FIRING RECORD—NEW JERSEY MOSAIC TILE CO.

ping facilities are very good, switches leading to the Central Railroad of New Jersey and Pennsylvania R. R. tracks. As for the extent of the distance of shipment of the products of this company, there seems to be no limit. The mosaic tile is shipped to every part of the country and abroad. Orders are in sight for many months to come. Everything is prosperous, the employes are all contented and the work is of a most agreeable character. The president of the company is K. Mathiasen, and the secretary and treasurer, E. V. Eskesen; the superintendent at the work is B. K. Eskesen. Thöge Eskesen is in charge of the laboratory and divides his time between the two plants at Matawan and Perth Amboy.

The Mosaic Tile Co., of Zanesville, O., has contracted with the New Jersey Mosaic Tile Co. to take all its product and is

nimble \$1,000,000. Peoria is in the agonies of a paving-brick famine. Paving brick are almost impossible to get either from Springfield or Galesburg. The Purington company of Galesburg turns out 100,000,000 paving brick yearly and has its entire output sold in advance. There is no apparent reason why a good paving brick plant could not be installed at East Peoria where the quality of the shale is excellent.

J. E. Welsh is operating a brick and tile plant at Devall's Bluff,

The Buffalo Sandstone Brick Co., capitalized at \$30,000, has been incorporated to manufacture brick in Buffalo. The directors of the company are John C. Graves, William E. Plummer and Frank Hossenlopp.

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We want our readers to always feel that BRICK is their paper, and that what interests them interests its publishers and subscribers. We will therefore appreciate most highly any communications, questions, experiences or suggestions, or marked copies of local papers containing items of news pertaining to the interests of clayworking.

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The Blackburn Face Brick & Tile Co., of Warren, O., is installing new machinery.

W. J. Turner, who operates the brick yard at Vulcan, Mich., will make fully 2,500,000 brick this season. He has orders from the city of Ishpeming alone for 700,000 brick.

The Gethman Brick Co., of Reinbeck, Ia., is constructing its plant at a cost of \$25,000. Shipping facilities will be obtained over the Chicago Great Western and Rock Island railroads.

The Ft. Scott brick plant, of Paola, Kan., has made its first brick. The shale used is of an excellent quality and the new industry has received cordial welcome by the citizens of Paola.

The American Pressed Brick Co. has opened an office in the new First National Bank building, Laporte, Ind., Geo. L. Smith is general manager, and the plant is nearly ready for operation.

The American Encaustic Tile Co.'s employees will make their annual trip this year to Niagara Falls, 377 miles away. An exceedingly low rate of \$4.00 for the round trip has been secured.

The Burtrum Pressed Brick Co., of Burtrum, Minn., is manufacturing a product of a high grade. Machinery will be installed for making tiling at an early date. N. Haskins and J. U. Hemmy are stockholders in the company.

F. H. Root is leaving Michigan City for Watertown, N. Y., where he will engage in the manufacture of sand-lime brick under the Ohlemacher patent, having purchased the rights of part of the state of New York. Mr. Root has been in Michigan

City for over 11 years as superintendent of the Citizens' Street Railway Co., and the Lake Cities' Electric Railway Co.

The Monmouth Brick Co., of Monmouth, Ill., will erect an extensive hollow brick plant this summer. A rich deposit of soft blue shale has been discovered 12 ft. in thickness. Actual tests of the hollow brick made from this material have shown that the hollow brick will stand over 200,000 lb. pressure as compared with 150,000 lb. sustained by a common building brick.

Matters are still at a standstill in regard to the proposed street car transportation facilities desired for the product of the Iowa Brick Manufacturing Co., Des Moines, Ia. The union teamsters of the city are opposed to the freight grant but the union brickmakers are very much in favor of something which will open up the plant. If these transportation concessions are not secured the plant will be probably removed to Hastie, Ia.

The Portsmouth-Harbison-Walker Co. will completely dismantle its immense plant at South Webster, O. This step is taken owing to the continued strikes at the plant. About 300 men will be thrown out of employment and the removal of this plant will entail a big loss to the citizens of South Webster. The machinery will be moved to the company's various other plants. The employes at present are out on a sympathetic strike.

The Ady-Frerichs Brick Co., of Grundy Center, Ia., has commenced operations at its new plant, which has a capacity of 40,000 daily. The best day's run yet made is over 17,000. A record breaking run of 143 in two minutes has been made and another of 11 bricks in 8 seconds. The brick is of good quality, the clay being of the best in the state. The new kilns will be built shortly and the operative force will be increased as the work progresses.

A quantity of brick sidewalks have been laid at Quincy, Ill., the excellence of which prove the value of the specifications under which they were constructed. The ground is excavated and graded 8¼ in. below the upper surface of the walk. On the earth roadbed thus formed a bottom layer of cinders 4 in. in depth is laid. This is well tamped, the upper surface of the cinders being made parallel with and 4½ in. below the proposed upper surface of the walk.

A large pottery plant will be erected on Reading Road near Cincinnati, O., for the purpose of enabling the women of Cincinnati to carry out their artistic ideas in the molding and decorating of pottery. S. J. Wheatley, one of the pioneers in making artistic pottery, is the prime mover of the enterprise. The building will be about 50 ft. by 200 ft. and will contain work rooms, studios, two large kilns and all modern appliances for making the finest pottery. The buildings and kilns will cost somewhat over \$100,000. Operations are expected to commence by September 1st.

The Fort Wayne Brick & Tile Works, Ft. Wayne, Ind., celebrated the manufacture of its first brick on August 8th. By invitation of the management a large party of contractors and business men visited the plant on the first day of operation. Wm. Geake, president; E. C. Miller, secretary; B. Borkstein, manager, and G. Leonard, superintendent, formed themselves into a reception committee for escorting the visitors over the plant. Refreshments and cigars were provided. The first kiln contained over 130,000 brick and the second and third kilns are being fired. Patent kilns will be built in the fall.