

# **“Well Equipped Cut Stone”**

(The H. J. Horner & Sons Cut Stone Plant in Newark, New Jersey)

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Two other articles are included at the end of the scan of the above-entitled article: (1) “Uses of Sand Blast Sand” & “American Institute to Hold Exposition of Inventions” (held Dec. 8-12, 1924, in the Engineering Societies Building in New York City)

This article, which begins on the next page,  
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## Well Equipped Cut Stone Plant

**B**ROADWAY, that main artery of business that extends throughout the length of Manhattan Island, or New York City proper, is known everywhere as the greatest commercial highway in the world, a thoroughfare lined on both sides with skyscrapers, business buildings, with here and there a park, many theaters, apartment hotels, and, in fact, every kind of structure known to building and architecture. In the building of this great highway, for it is the buildings that line its course that make it great, the cut stone industry has taken a leading part and will continue to do so, as old structures are torn down to make way for new, for Broadway is forever changing. To the firm of H. J. Horner & Sons goes the distinction of having cut and set the stone for the exterior of the remodeled Washington Building, now the International Mercantile Marine Company Building at No. 1 Broadway. This structure, standing at the foot of Broadway, also faces on Battery Park, and commands an unobstructed view of the bay. Across Broadway and a few feet north is another famous number, the Standard Oil Building at No. 26, now being refaced with Indiana Limestone to conform to the new and larger building being erected for this company on this and adjoining sites. As it happens, the firm of H. J. Horner & Sons is cutting and setting the stone on this section of the job, which is its second section of this new structure, the first, including the thirty-three story tower, having been completed only a month or so ago. The stone work for these jobs passed through the Horner plant on Lister Avenue, Newark, N. J., one of the largest and best equipped cut stone plants in the metropolitan district.

The name of Horner became identified with the natural cut stone industry in Newark and the New York Metropolitan district in 1887 when Henry J. Horner and the late F. H. McCann formed a partnership and established a plant in East Newark, or what is now Harrison. This plant was removed to the pres-

ent location on Lister Avenue and the Passaic River in 1892, and Mr. McCann retired from the firm in 1904. Associated with the founder of the firm are his three sons, Harry Horner, Louis J. Horner and Pierre Horner. The plant has been enlarged from time to time, its present size being 125 by 400 feet, with a fifty foot crane runway in front uncovered, which is



Interior Main Runway, showing cutting department of the cut stone plant of H. J. Horner & Sons, Newark, N. J.

used for loading trucks and unloading incoming freight cars from a sidetrack of the Central Railroad of New Jersey. Under the main runway section of the building are the cutting and drafting departments and connected to it are the offices. Adjoining it is another runway sixty feet wide. The plant operates by electric power exclusively, although there is a well-equipped power plant on the property. On the main runway are three cranes, two of Shaw and one Shepherd make, each of ten ton capacity. Two gang saws are operated in addition to two Wegner wire saws. In the finishing department are three Carborundum saws of Wegner design, nine Lincoln planers and one Patch planer, one Bedford Foundry Company milling machine, a rubbing bed, a Patch lathe and a Wegner built baluster lathe.

The Horner plant specializes on large contracts, two of which, the Fifth section of the Standard Oil Build-

ing, and the stone work for the new Equitable Building on Seventh Avenue at Thirty-second Street, are now being cut. In order that jobs of this character may be handled without fear of running short of stock the firm keeps in storage a large stock of blocks, frequently to the full capacity of 40,000 cubic feet. There is additional storage for about 80,000 cubic feet of finished stone.

The accompanying engravings show the exterior of the Horner plant.

#### Uses of Sand-Blast Sand

The use of the sand blast has increased rapidly during the past few years, states M. W. Weigel, mineral technologist, Department of the Interior, in Serial 2615 of the Bureau of Mines. It was formerly used almost entirely in the foundry to clean and remove inequalities from rough castings. This is still the most important application, but, in addition, it is now employed for the removal of paint from old surfaces, carving and engraving on stone and marble, glass cutting, cleaning or renovating the walls of stone and brick buildings that have become discolored, preparing the surface of metals for the electrolytic bath, putting the final finish to metal surfaces, and it has even been proposed as a means of channeling or cutting out blocks of stone in the quarry. Some producers, especially those in the Central States, or where only one or two grades are produced, have trade names for the different sizes. In the Eastern States, however, some attempt at standardization has been made and the grades or different sizes are numbered. Those commonly made are Nos. 1, 2, 3 and 4, No. 1 being the finest and No. 4 the largest. Some producers make a No. 0, but this is unusual, while some do not make No. 4, as their sand banks do not contain sufficient material of this size. In general, a No. 2, for example, of one producer is approximately equal in size to a No. 2 of another. Although the same sized screens may be used, differences in their method of operation, slope, and whether wet or dry screening is used, as well as the characteristic shape of the sand grains, will make variations in the finished products.

The main producing centers of sand-blast sand are New Jersey, Ohio and Illinois. New Jersey produces both bank or lake and beach sand. If a pond can be made, the mining is usually done by hydraulic dredging with centrifugal pumps placed on a floating dredge, and discharging to the washing and screening plant through long pipe lines. In some localities, as on the ocean beach, recovery is by locomotive cranes, equipped with clamshell buckets. Washing of the sand is carried on in all cases. This may be only screen washing where the sand is particularly clean. Other methods include the use of sand cones, and helical screw washers. The Ohio and Illinois sands are obtained generally from more or less coherent sandstone. Those in Ohio usually require crushing. The Illinois deposits are less consolidated and, while they require blasting to loosen up the beds, disintegrate and fall to pieces in water sufficiently so that the material can be handled by dredging pumps. Copies of Serial 2615, "Sand-blast sand," may be obtained from the Department of the Interior, Bureau of Mines, Washington, D. C.

#### American Institute to Hold Exposition of Inventions

Manufacturers in every American industry will be interested in the Exposition of Inventions to be held, December 8th to 13th inclusive, 1924, in the Engineering Societies Building, New York City. The American Institute of the City of New York is handling this display through its Inventors' Section, with behind it an experience of ninety-six years in fostering and portraying American industrial life.

A feature of the Exposition will be exhibits from the leading American industries showing developments of various machines, utilities and processing methods. In all fields the ingenuity of the inventor and the part he has played in the progress of America will be emphasized.

Arrangements for the display of working models or actual devices at the Exposition can be arranged through a Committee of the American Institute at 47 West 34th Street, New York City. All proposed displays are subject to approval by the Institute, it being the desire to show only those things of sound worth.



Cut Stone plant of H. J. Horner & Sons, Lister Avenue, Newark, N. J.