

show what three years of operation has done to verify the judgment of the designers and builders in their solution of the various engineering problems which were presented to them.

GENERAL DESCRIPTION.

The ship-building plant of the Wm. Skinner & Sons Co., is located at the foot of East Cross St., in Baltimore, Md. At the time of building the new dry dock, this plant consisted of several work shops equipped with compressed air machinery, and a marine railway for the docking of small vessels.

The port of Baltimore could boast of several such plants and in addition a timber dry-dock of small size, constructed some 20 years ago and at this time in a bad state of repair.

The size and tonnage of the larger vessels entering this port had long since exceeded the limits of its docking facilities, and whenever repairs were needed upon such ships they were compelled to seek the larger docks at Newport News, or New York.

The "William Skinner & Sons Ship-Building & Dry Dock Co, of Baltimore Md.," was organized. The newly organized company then secured additional property adjoining that of the old company, and had plans prepared for a modern timber dry dock of large dimensions. The proposed site of the new dock was covered by old brick warehouses and an old pier. It was impossible to secure sufficient property so that the proposed dock could be constructed within the then existing shore line, and it was therefore necessary to plan for building the entrance and about 175 ft., of the dock body, in the open waters of the harbor. The average rise and fall of the tides at this point is about 18 inches, though the maximum has been known to greatly exceed this amount, when both tide and wind are favorable for extreme conditions. The water is brackish.

Borings were made to ascertain the probable character of the foundations, and soundings taken in the harbor, after which the plans and specifications were prepared by Messrs. Ritchie & Ruple, Consulting Engineers of Cleveland, O. As finally agreed upon, the plans called for a dock body built of timber, supported upon piles, an entrance composed of concrete faced with granite masonry, and a steel caisson gate.

The work was divided into four parts as regards the letting of contracts as follows: 1st. Dredging and removing the old structures and piers. 2nd. Construction of the protection bulk-heads and cofferdam. 3rd. Construction of the concrete and