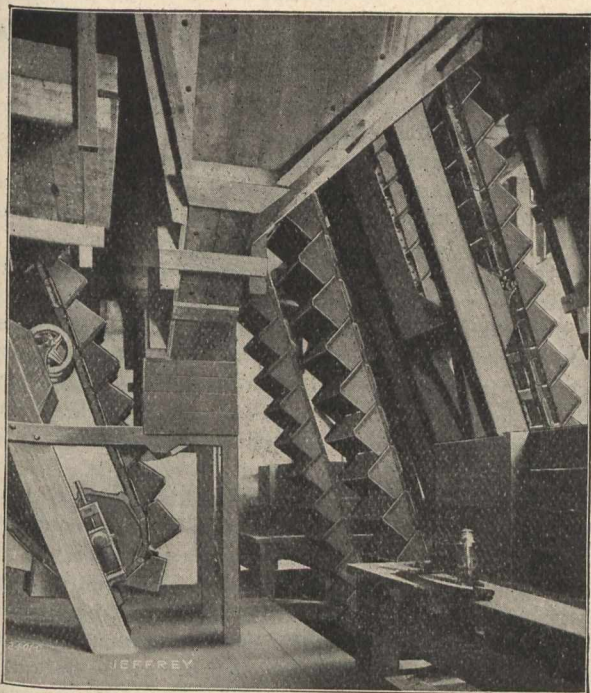


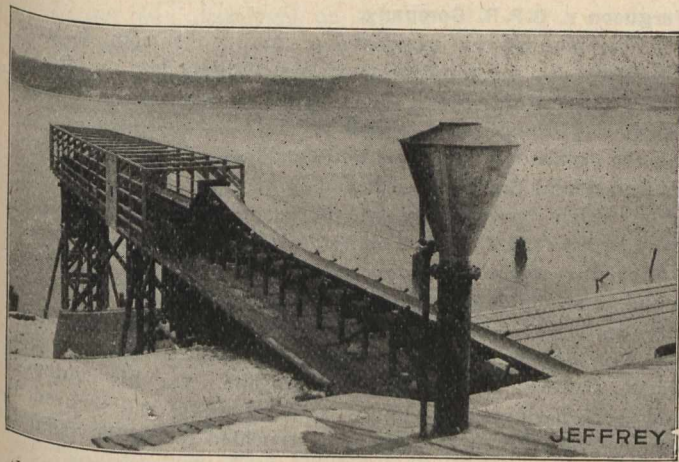
## ROCK CRUSHING PLANT.

One of the largest and best equipped stone crushing and shipping plants in America has recently been completed by the Cedarcliff Stone Company at its works near Cedarcliff, N.Y.

An exceedingly interesting and important feature of this plant is the very complete system of elevators and conveyors by which the stone is handled throughout the numerous processes of preparation and shipment. This system may be divided into two parts;—First, the series of elevators and con-



veyors which takes the stone from the crushers to the revolving screens and from thence to the storage grounds, and second, the series which delivers the sized product from the storage grounds to cars or vessels as the case may be. The first system consists of three elevators and two belt conveyors. Each of these elevators is 65 feet high from centre to centre of wheels. They all are of the general types illustrated and are the same in construction and dimension of parts. Two of these elevators stand side by side and are so located that they handle the product of a No. 9 Gates Crushed and four No. 6's. The stone from each elevator is delivered into a revolving screen from which the tailings go back to two 6's on each side and are re-crushed. Everything which passes



through the screens is received by the third elevator which stands directly in the rear of the other two, and which delivers it to the finishing screen in the top of the building.

The finishing screen separates the stone into 2-inch and  $\frac{3}{4}$ -inch products, and the screenings which pass a  $\frac{3}{8}$ -inch hole. The screenings are carried by a 14-inch Century Belt conveyor to the north of the building, a distance of 100 feet.

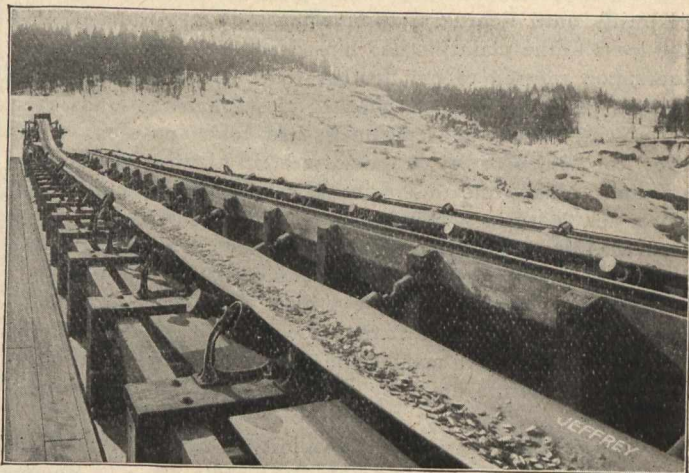
The 2-inch and  $\frac{3}{4}$ -inch products are conveyed to the storage grounds at the south of the building by two separate belt conveyors, the belt for the concrete stone being 24-inch

and the other 18-inch in width. These conveyors to the storage ground discharge the stone by means of an automatic tripper into the proper compartments for each class.

The plan of ground storage adopted by the Cedarcliff Stone Company is something unique in stone crushing plants and is, so far as we know, the first in which this arrangement has been adopted. Most stone crushing plants, as is well-known, deposit the stone in large bins, which are not only costly to erect but must be maintained at heavy expense. This ground storage plan is precisely the scheme commonly used for storing coal. The storage ground is 160 feet long by 100 feet wide, and the distributing conveyors are placed at an elevation of 35 feet, so that the storage capacity is about 8,000 cubic yards.

The distributing conveyors over these grounds rest on concrete columns placed 35 feet from centre to centre, each column being 12 feet by 7 feet in plan, and having a ventilating shaft 8 feet by 3 feet in its centre from top to bottom. Underneath the column in the centre and running the entire length of the storage ground there is a conduit or tunnel cut out of the solid rock. The cross-section of this tunnel is 8 feet by 8 feet inside measurements and its length is 160 feet. The walls and floors are of concrete, while the roof of the tunnel is formed of 12-inch I-beams set 2 feet apart and filled in with concrete. In this roof bin-gates are located six or eight feet apart the entire length. Over the tunnel, stone will be piled to a height of 35 feet.

For conveying this crushed stone to railway cars or barges, a 36-inch belt conveyor travels the entire length of



the tunnel. By opening one of the bin gates described, the stone from above falls on to the belt conveyor which delivers it to an elevator, 45-foot centres. This discharges into another belt conveyor 36 inches wide by 200 feet long, which carries it over the railway tracks to the wharf at the river's edge. The stone from this conveyor is discharged by a tripper either at the wharf for loading vessels or into a small pocket over-hanging the side tracks of the West Shore Railroad Company, where it is loaded on to railway cars.

This system of loading conveyors is designed for a capacity of about 400 tons per hour, and is operated by an independent engine so that the barges or cars can be loaded without reference to the operation of the main plant.

A conspicuous feature of this elevating and conveying scheme is the great strength of the elevators. The buckets of all are 30 inches in length, and are sustained by two parallel chains especially designed and made up for the heaviest possible work. The chains are the "Michigan" type of the Jeffrey Climax Steel Chain, except that they are made in double width in order to give greater bearing surface on the head and foot wheels. They are designed to carry a steady load of from six to seven tons and as a factor of safety in strength of about 15 is allowed, it is reasonable to suppose that there will never be any serious trouble, even though the conditions under which they work are necessarily severe.

The entire elevating and conveying system was installed by the Jeffrey Manufacturing Company, of Columbus, Ohio. It works with great smoothness and efficiency, and the management of the Cedarcliff Stone Company express themselves as being highly pleased with the installation.