the switches shown are spring switches operating automatically, excepting the one that delivers the empty train to first one and then the other of the haulage tracks going back to the quarry.

Crushing Plant:

The crushing plant contains five Allis-Chalmers gyratory crushers. One of these is a No. 21, which is the largest



Section Through Crushers,

gyratory crusher in use at the present time, having a capacity of 1,000 tons per hour. It has two openings, 42 in. across by 8 ft. in length, shown in photo. 779, each opening easily capable of receiving a piece of rock 3 ft. x 5 ft. x 10 ft., weighing 10 tons, which is the limit in size of any single piece that can be leaded by a steam shovel or carried on a single truck.

Almost everything that comes down after a blast in the quarry, can be loaded at once by the steam shovel and sent up to the crusher without further work being done upon same. As hand-sledging, re-drilling and re-blasting of pieces once broken from the quarry face, when smaller primary crushers are used, are always the largest item of expense in quarrying, it can readily be seen that the use of so large a crusher effects a great saving, even if we eliminate consideration of its large capacity. This crusher is made with a double discharge, each discharge spout delivering to a No. 18 bucket elevator and each of the two elevators delivering to a 6-ft. diameter screen, having approximately 234 in. openings, shown in photo. 762. At this point a rough separation of the rock is made and any incidental fines from the first break that pass these openings are delivered to a cross belt conveyer, which in turn delivers them to a short elevator and from this to a rotary screen 24 ft. long over the rock storage bins. These incidental fines in this way by-pass the secondary crushers and are delivered to the bins direct ready for shipment. The rejection or oversize from the 6-ft. diameter screens are delivered to two bins which feed six No. 6 Allis-Chalmers gyratory crushers. One of these bins and four of the crushers, shown in photo. 760, are installed at the present time and a spout 1s arranged to take the oversize from one of these 6-ft. diameter screens and deliver it direct to the present bin. The rock in this bin runs out of the four corners into the four No. 6 crushers automatically, and these crushing continuously reduce this oversize rock to marketable size (21/2 in. and smaller) and all four deliver to a common belt conveyer, from which the recrushed rock is received by a No. 8 elevator, which in turn delivers it to two rotary screens 24 ft. long, duplicates of the one already mentioned, located alongside of it over This crusher, shown in photo. 757, which the finished rock bins. The smallest product from these



Taken Under Construction to Show the Chief Screens on the Top Floors of the Crushing Building.

weighs 225 tons has crushed a piece of rock this size in forty seconds down to pieces the size of a man's head and smaller. The primary object of this large crusher and the great advantage in its use are the elimination entirely, of hand-sledging in the quarry, and almost entirely of the re-drilling and re-blasting of large pieces of rock which may have been broken from the ledge in the quarry by a primary blast. I into a compartment in the storage bins, directly beneath the

three screens consists of rock 34 in. and smaller, which 's divided again upon three shaking screens into dust, 1/6 in. product (which is a fine clean sharp sand), 1/2-in. product and 34-in. product. The remaining sections in the 24-tt. screens separate the crushed rock into 11/4-in., 2-in. and 2¹/₂-in. sizes. Each of the above sizes is spouted directly