

“Channeling ‘Pressure’ Stone”

Mine and Quarry

Sullivan Machine Company, Chicago, Illinois
Vol. VI, No. 3, March 1912, pp. 583-584

This article, which begins on the next page,
is presented on the Stone Quarries and Beyond web site.

<http://quarriesandbeyond.org/>

Peggy B. Perazzo
Email: pbperazzo@comcast.net
November 2015

CHANNELING "PRESSURE" STONE

Operators of stone channeling machines occasionally encounter difficulty in putting down cuts, owing to side pressure or creeping of the rock.

This usually occurs in limestones or sandstones which have been heaved up or through some other disturbance have settled and placed the layers under a lateral strain. An interesting example of this occurs in the sandstone beds in northern Ohio, at Amherst and vicinity. The usual method of opening a quarry in this field is by cutting two parallel channels about six feet apart and removing the key blocks across the end of the quarry. This affords room for the expansion which takes place, and which amounts sometimes to four or five inches. A photograph of one of these large sandstone pits is shown on the next page.

Difficulty from side pressure was encountered by the contractors for the new canal and lock at Sault Ste. Marie, Mich., where the Potsdam sandstone is very hard and in layers of irregular thickness and pitch. On the New York Barge Canal, the Niagara limestone, near the west end of the undertaking, has also given trouble from this source. After a cut has reached a depth of six feet, pressure begins to act and closes up the cut entirely.

Evidence of the pressure is found in

the fact that the rock is badly broken and splintered. To avoid trouble from this source, the contractors have adopted the plan of blasting out a center cut through the length of their section, some 25 to 30 feet in width, before starting to channel. As the canal is 94 feet in width, this leaves a 32-foot bench on each side, and the danger of shattering the permanent side walls, to avoid which channelers are employed, is very small. This center cut relieves the side pressure, so that when the channel cuts are put in, the channel does not close up.



A Sullivan "Z" Channeler on the Barge Canal, Lockport, N. Y.

(photo caption) "A Sullivan 'Z' Channeler on the Barge Canal, Lockport, New York."



Buckeye Quarry of the Ohio Quarries Company, Amherst, Ohio. This company employs 16 Sullivan Channelers

(photo caption) “Buckeye Quarry of the Ohio Quarries Company, Amherst, Ohio. This company employs 16 Sullivan Channelers.”