

NEW PLASTERING MACHINE.

The annexed engraving represents a novel and simple tool which is intended to replace the hawk and trowel ordinarily used for plastering walls, and to facilitate the operation, so that a greater amount of work can be done in a given time than with the ordinary tools.

The mortar receptacle is made in the form of a segment of a cylinder, and has a movable leaf or presser plate, A, pivoted near the gauge bar, B. The tool is grasped by the handle, C, attached to the convex end, and by the handle, D, projecting from the movable plate, A. The edges of the mortar receptacle are rounded at the ends to form runners which guide the tool smoothly over the wall. The gauge bar, B, is made adjustable to regulate the thickness of the coating applied to the wall.

When the presser plate, A, rests against the ledge at the rear edge of the curved end of the tool, the receptacle may be filled with mortar. The machine is then applied to the wall with the gauge bar downward, and, as it is moved upward, pressure is applied to the plate, A, through the handle, D, when the mortar will be forced out of the narrow opening at the bottom.

The inventor informs us that a workman using one of these machines can perform the work of two men using the ordinary tools, and the work will be done with greater uniformity.

Fig. 1, in the engraving, shows the manner of using the tool, while Fig. 2—a transverse section—shows the arrangement of the presser plate, A, and gauge bar, B.

This useful tool was recently patented by Messrs. G. Stevens and E. F. Guild. Any further information may be obtained by addressing Mr. Egbert F. Guild, East Saginaw, Michigan.

IMPROVED STONE POLISHING MACHINE.

Our engraving represents an improved machine for polishing all kinds of stone, but more especially adapted for polishing different varieties of granite and heavy blocks of marble. It is new in design, and combines many valuable improvements which render it very efficient. Beside a vertical movement of the entire machine, which adapts it to stone blocks of different heights, the polishing disk may be moved up or down within certain limits, to increase or diminish the pressure on the face of the stone or to stop the action of the polishing disk altogether, if necessary. The polishing disk is connected with its spindle by a universal joint, so that it may adapt itself to slight inequalities in the surface of the stone or to a variation of the face of the stone from a true level.

The spindle of the polishing disk is provided with cone pulleys, corresponding to the cone pulleys on the countershaft in the joint of the arms, so that the speed of the spindle may be varied to suit polishers of different sizes, and to adapt it to both roughing and finishing.

The journals are provided with heater boxes which do away with a great amount of friction. The polisher works on a half circle of twelve feet and will polish work ten feet long. The work may be arranged so that, while polishing one stone, another can be placed in position. The machine is supported by a single vertical post; and may be very easily set up. It is made wholly of iron and steel, and is well calculated for the work it is intended to perform.

Further information may be obtained by addressing the patentees and manufacturers, Messrs. M. Wright & Son, Montpelier, Vt.

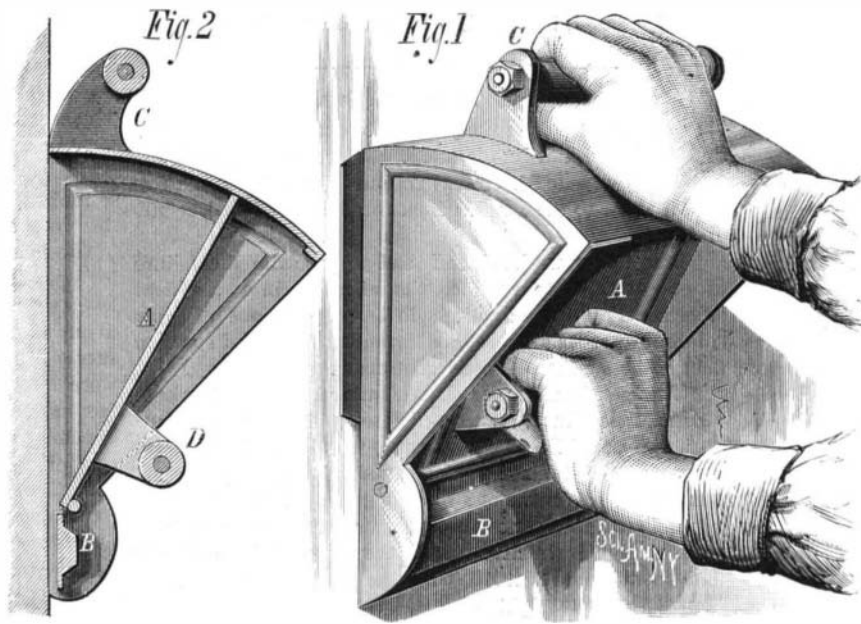
The Buffalo Pipe Line.

The Buffalo Pipe Line Company have secured a right of way from the Bradford District to Buffalo, N. Y., and expect to have the line in operation by June. The main line will be about 65 miles in length, the pipe 4 inches in the clear, and requiring about 7,000 barrels of oil to fill it. The line will begin at a point near the State line, in the town of Allegany, Cattaraugus county, and its route will be through the towns of Allegany, Humphrey, Franklinville, Ellicottville, and Ash-

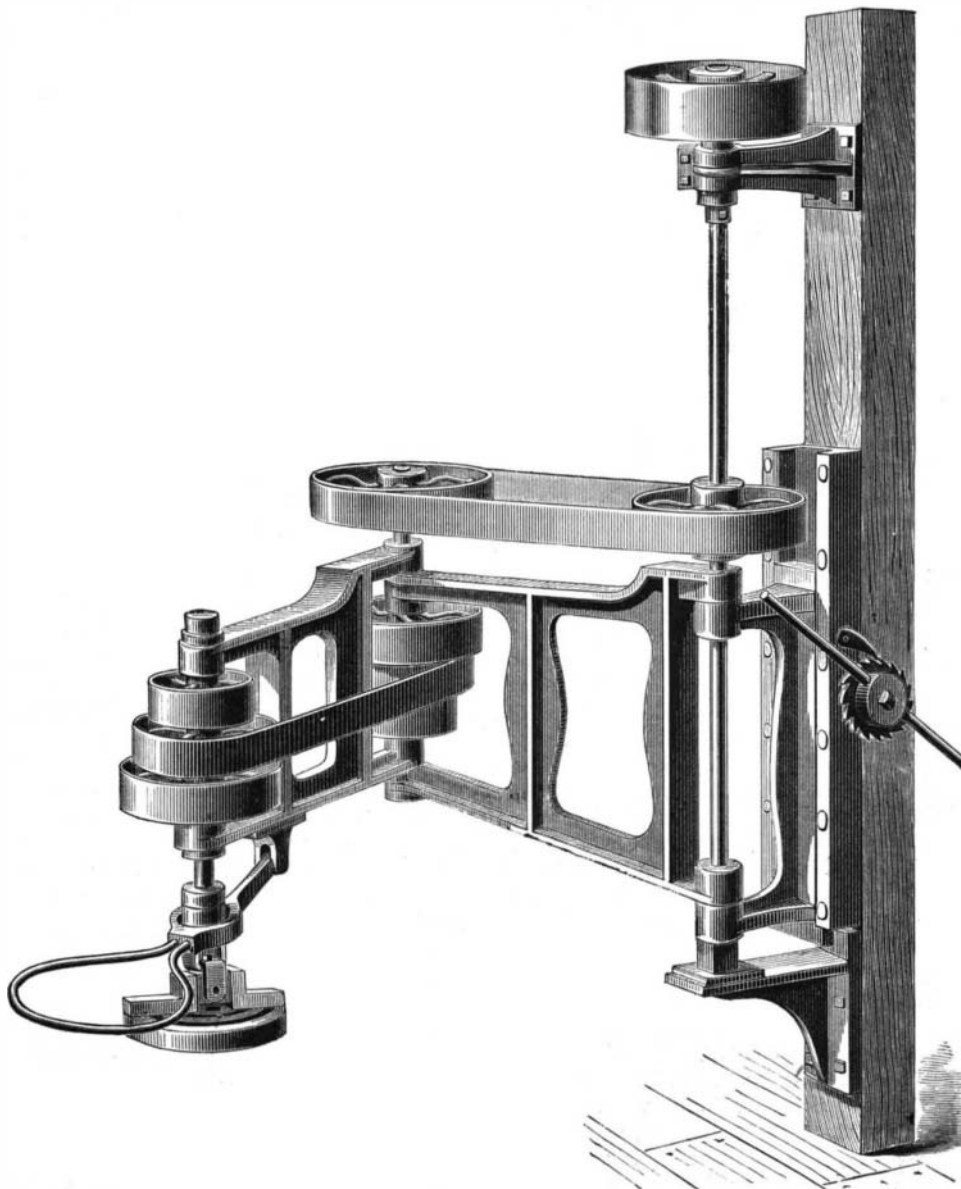
ford, in Cattaraugus county, and Springville, Concord, Boston, East Hamburg, and West Seneca, in Erie county, to Buffalo. There will be two pumping stations, one at the starting point, and the other midway between there and Buffalo. Tankage will be provided at the latter place for the storing of about 1,600,000 barrels crude oil.

Our Lakes.

The latest measurements of American fresh water seas are thus given: The greatest length of Lake Superior is 335

**GUILD'S PLASTERING MACHINE.**

miles; its greatest breadth, 160 miles; mean depth, 688 feet; elevation, 627 feet; area, 82,000 square miles. The greatest length of Lake Michigan is 300 miles; its greatest breadth, 108 miles; mean depth, 690 feet; elevation, 506 feet; area, 20,000 square miles. The greatest length of Lake Huron is 200 miles; its greatest breadth, 169 miles; mean depth, 600 feet; elevation, 274 feet; area, 20,000 square miles. The greatest length of Lake Erie is 250 miles; its greatest breadth is 80 miles; its mean depth is 84 feet; elevation, 555 feet; area, 6,000 square miles. The greatest length of Lake Ontario is 180 miles; its greatest breadth, 65 miles; its mean depth is 500 feet; elevation, 261 feet; area, 6,000 square miles. The length of all five is 1,265 miles, covering an area upward of 135,000 square miles.

**WRIGHT & SON'S STONE POLISHING MACHINE.****The Magnet in Milling.**

Magnets and magnetic separators are a comparatively new thing in milling; but perhaps there is no contrivance employed in our mills, whose utility is so unquestioned, or which has grown into such wide use in so short a time, as the magnet in the forms of gangs and separators. Since they have become a necessity in our mills, many a time when looking over the assortment of iron taken from his wheat, has the miller wondered why people never thought of using magnets before as a means of cleaning wheat.

Millers will remember the commotion which the introduction of the wire binder caused. And there was good reason for the opposition which millers manifested to the use of the wire binder by farmers. Many, who at first sight saw nothing objectionable in wire-bound wheat, were soon loudest in their clamors against it. They had relied upon cleaning machinery of unquestioned excellence to remove what bits of wire should chance to find their way into the wheat; but time soon showed that the crooked little pieces of wire would work their way through the best cleaning machinery, thence go to the burrs, where they were flattened out into saws, and then to the bolts, where they played havoc with the cloth. In some sections, where the wire binder was exclusively used, bits of wire could be traced even into the bread, and be found in an incomprehensible abundance in all mill products. It got into the bran and choked cattle fed on it. It blackened the burrs and destroyed the bolting cloth. In fact, wire in wheat became an unbearable nuisance in spite of every precaution against it—and then came the magnet.

Never did so simple a remedy cure such wide-spread disaffection. Millers' associations had tabooed the wire binder and passed resolutions favoring a discrimination in price against wire-bound wheat. This journal had declaimed against it until it felt hoarse; but the magnet removed every objection to the wire binder by taking out the insidious bits of wire. Every miller who tried the remedy was satisfied, and the clamor ceased. The truth is, that the introduction of magnets as a grain-cleaning agency opened the eyes of millers to a few facts of which they had been ignorant before. They had been perfectly cognizant of the damage done by wire in wheat, but no one expected such a revelation as the use of magnetic separators gave us all. Most of us knew that the magnets would show that wire existed where its presence was never suspected; but who would have looked for such a collection of metallic

odds and ends as these separators bring to light? In the course of a day a large merchant mill will take from its wheat, by means of magnets, a miniature junk shop. You will find everything represented, from tenpenny nails down to bits of iron as small as a pin head. How all of it got into the wheat is a mystery; but one thing is certain, that much of this iron must formerly have gone to the burrs and bolts; and, if the wire binder had never been invented, magnetic separators would find a useful place in every mill. But the wire binder has come to stay. Revolutions do not go backward; and it is not at all likely that the farmer will ever again rely upon "tramp" labor in harvest after once having had his wheat gathered by one of these binders. Therefore we must expect wire in our wheat along with nail heads and other rural products. So far, the magnet is the only effective means discovered, by which the miller can remove wire from his wheat; and, therefore, the magnet and magnetic separators are probably as much of a permanency in milling as the wire binder is in agriculture.—*American Miller.*

INTELLIGENT WORK PAYS: Eight years ago Wisconsin's butter and cheese product was worth \$600,000; in 1879, it was worth \$2,500,000, and during this time the State has advanced from no standing to the first rank in the markets of the world. This profitable progress is justly attributed, by the *Jefferson County Union*, very largely to the educational influence and fostering care of the State Dairymen's Association, and promoting exhibits at the Centennial in Philadelphia, and at the two International Dairy Fairs at New York.