

UNITED STATES PATENT OFFICE.

WILLIAM MORSE, OF CORINNA, MAINE.

GRANITE-MACHINE FOR DRESSING OR HAMMERING.

Specification of Letters Patent No. 21, dated September 5, 1836.

To all whom it may concern:

Be it known that I, WILLIAM MORSE, of Corinna, in the county of Penobscot and State of Maine, have invented a new and useful Machine for Hammering Granite, and the following is a full and exact description of the construction and operation of the said improvement as invented by me.

The machine works in an oblong square frame, which for working a piece of granite ten feet in length may be of the following dimensions viz: two sills twenty-two feet in length, eight by ten inches square, placed three feet asunder, and connected at the ends by two cross sills. At the rear end, the cross end or end sill is framed on with the ends flush with the sides of the side sills; but the other end sill projects outward from the side sills about two feet, and on the ends of the last mentioned end sill are framed two other sills about four feet in length and eight by ten inches square, the other ends of these sills are connected by another sill of the same size. The two first mentioned sills serve as bed pieces for a railway which the carriage works, on the upper side of the bed pieces, and near the inward sides are two iron railway pieces extending the whole length of the bed pieces, and projecting or rising one inch above them the upper sides of the railway pieces are brought to an edge by a double bevel. On this railway a number of pieces of cast iron rollers sufficient to sustain the pressure of the load on the carriage, are fitted to work. The rollers are connected in pairs by suitable iron axle trees. The axle trees are kept at their proper distance from each other by a girder which is attached to them at the center of their length. Their carriage is a plank of wood eight to ten feet in length, of suitable thickness, and the width corresponding to the length of the axle trees. To guide the carriage—on the rollers suitable cleats are attached to the under side, and extending the whole length of the plank so as to admit the rollers to work within them—the carriage must not come in contact with the axle trees but then must rest entirely on the rollers. To strengthen the carriage suitable cross cleats are attached to the upper side of it extending the whole width of the plank. The construction of the frame is further effected by erecting two posts on the side sills or bed pieces about ten feet from the rear end, and two other like posts

framed into the end sill which connects the other ends of the bed pieces. These two pair of posts are connected at the top, or upper ends, by framing a beam on each pair. These beams are connected by two plates framed into the beams by suitable tenons on the ends of the plates, and corresponding mortises in the beams. The plates may be about five by seven inches square, and they are supported by the two studs under each, the lower ends of which are framed into the bed pieces, opposite the posts which are connected at the above described projection and on the last described end sill, are erected two other posts which extend about sixteen inches higher than those before described. These posts are connected with the other pairs, by framing in a suitable girth on each side with tenons on the girths, and mortises on the posts, these girths are inserted a little below the beams. Two shafts four inches square, and extending from the last described posts to the rear beam are fitted with gudgeons in the ends that work in the posts, and the beams.

In the center of the space between the high posts, is a tapped wheel four feet in diameter the shaft of which extends horizontally, from one post to the other with gudgeons on the ends that work in boxes which are attached to the outside of the posts at a height corresponding to the elevation of the above named shafts, the area of the wheel is divided into eight square sections by drawing lines direct from the circumference to the center, and the wheel is perforated through at all these lines, about one inch from the circumference. In these perforations suitable pins are inserted projecting out about two inches, half of the projections on one side, and half on the other in regular rotation. The end of the hammer handles are confined in the above described shafts, their number being from two to five on a side according to the width of the piece of granite to be worked. The length of the handles of the first, or rear hammers is such as to bring the hammers in contact when they are both at rest, on the plate. The length of the second hammer handles is three inches or the width of the hammer shorter than the first, and so on through the whole series.

The elevation of the shafts above the plate is such as to allow the hammer handles to fall level on the plates, as the handles of

the first pair of hammers overreach the plates, two timbers are framed into the plates, and beam in the form of braces. The hammers are operated by means of arms, 5 one of which is attached to each of the shafts, and extends to the tappet wheel in such a direction as to embrace the above described pins. As the wheel revolves in the direction from the hammers, the arms 10 are raised by means of the pins, and consequently the hammers are raised, till the arms drop from the pins, and the hammers fall upon the granite.

To move the carriage a shaft is extended 15 from one of the middle posts to the other and on the ends of this shaft are gudgeons, which work in boxes, attached to the sides of the posts, and on the ends of this shaft just within the posts are two ratchet wheels 20 about sixteen inches in diameter which are operated by means of hands that are at-

tached to the ends of two compound double levers the upper end of one part of which is connected by pins to the above described arms, and the other part is connected with 25 the posts, by pins which pass through them at the center of their length into the posts, the last mentioned answering the purpose of fulcrums. The carriage is connected to the last described shaft, by a chain or other 30 suitable connective, and as the ratch wheel shaft winds up the chain the granite on the carriage is passed under the hammers.

What I claim as my invention, and desire to secure by Letters Patent, is— 35

The combination of two rows of hammers placed on opposite sides of the frame operated by one tappet wheel.

WILLIAM MORSE.

Witnesses:

JOHN JOHNSON, 2d,
CHAS. W. DAVIS.