

(No Model.)

2 Sheets—Sheet 2.

J. A. GARDEN.

STONE CUTTING, DRESSING, AND FINISHING MACHINE.

No. 565,892.

Patented Aug. 18, 1896.

Fig. 3.

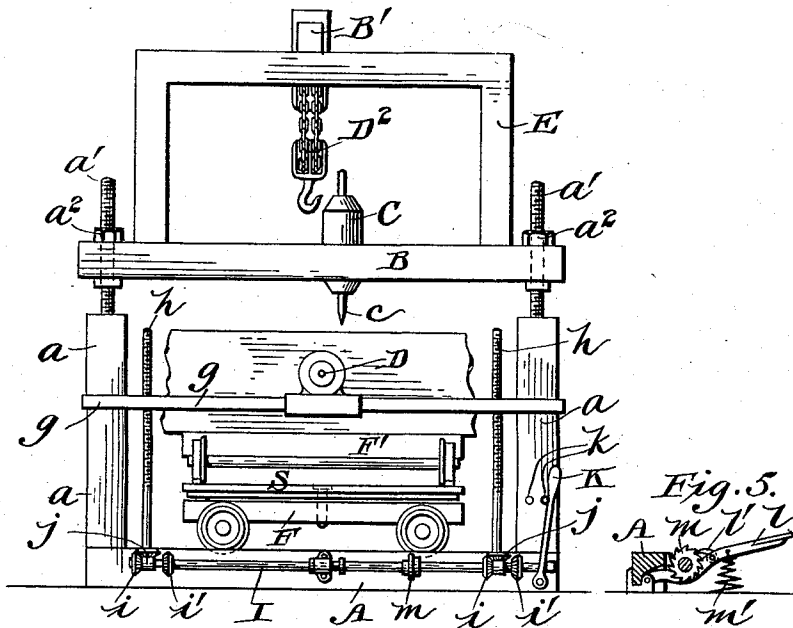
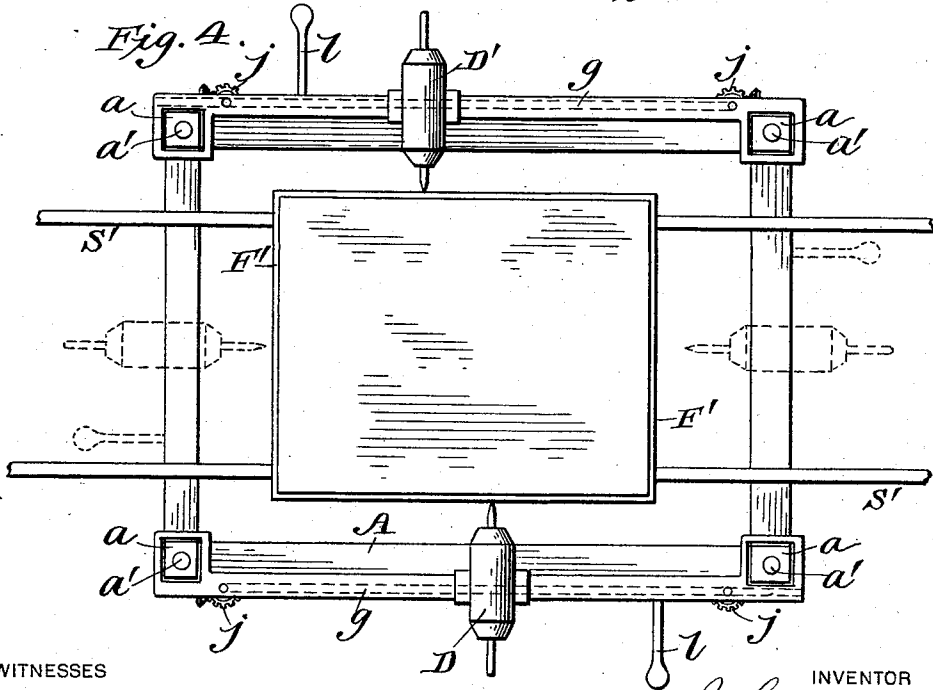


Fig. 5.



Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

JOHN A. GARDEN, OF ROMEOVILLE, ILLINOIS.

STONE CUTTING, DRESSING, AND FINISHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 565,892, dated August 18, 1896.

Application filed January 14, 1896. Serial No. 575,525. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. GARDEN, a citizen of the United States, residing at Romeoville, in the county of Will and State of Illinois, have invented certain new and useful Improvements in Stone Cutting, Dressing, and Finishing Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in stone cutting or finishing machines; and it consists in certain novel constructions, combinations, and arrangements of parts, as will be hereinafter more particularly set forth and claimed.

In the accompanying drawings, Figure 1 represents a side elevation of the devices embodying my invention. Fig. 2 represents a top plan view of the same. Fig. 3 represents an end elevation of said devices. Fig. 4 represents a top plan view of said devices with the upper adjustable frame removed and the stone-working devices applied at the sides of the machine, and Fig. 5 represents a detail side elevation of the devices for adjusting the stone-working drills that are mounted on the stationary frame.

A in the drawings represents the stationary or main frame of the machine; B, the auxiliary or vertically-adjustable frame; C C', the stone-working engines or motors for operating the drills or brushes mounted on said adjustable frame; D D', similar motors mounted on the stationary frame; E, the tackle-supporting frame mounted on the adjustable frame; F, the turn-table carriage, and F' the stone-supporting carriage mounted on said turn-table.

The base A is composed of a base proper and four upright standards *aa*, each of which is provided at its upper end with a vertically-extending screw *a' a'*, said screws being adapted to pass through the frame B and adjustably support the same by means of nuts *a''*. This frame B supports the engines or motors C C', that operate top drills *c c*, by means of cross-bars *b b*, attached to blocks *b' b'*, that slide upon the frame B. The blocks B' also support the ends of screw-threaded rods *d d*,

that respectively pass through a portion of the engines C C', and when turned by handles *d'*, attached to the ends thereof, the engines are moved from side to side.

I contemplate using some suitable connection from each engine to its respective rod *d*, whereby said engines will be moved automatically back and forth while dressing the stone. A rod *e* passes through each of the bars *b* and is provided at one end with a handle *e'* and at the other with a gear-wheel *e''*. A similar gear-wheel is mounted on each rod *e* near the handle, and said gear-wheels mesh, respectively, with racks *f f'* on the sides of the frame B, and thus the engines C C' are moved backward and forward, but independently of one another. It will thus be seen that the drills operated by engines C C' can be moved to any portion of the top of the stone. The engines D D' are similar to engines C C', but are only adjustable vertically. This adjustment is best illustrated in Fig. 3.

The engines are mounted on cross-bars *g g*, which are so formed at each end as to slide over the uprights *a* and be guided by them in their vertical movements. Screws *h* are mounted in frame A and engage the bars *g*, so that as said screws are rotated the bars are raised or lowered according to the direction of rotation. This rotation is caused by gears *i i'*, mounted upon a horizontal shaft I, engaging gears *j*, mounted on the lower ends of the screws, the engagement of the gears *i* with the gears *j* causing screws *h* to revolve in one direction and raise the bars *g* and the engagement of the gears *i'* with the gears *j* causing the opposite movement. These gears are shifted by means of a pivoted lever K, which is adapted to move the shaft I longitudinally, stops *k* being provided to keep said lever in the desired position. The shaft I is rotated by means of the foot-pedal device shown in Fig. 5. This consists of a pivoted foot-lever *l*, provided with a pawl *l'*, that engages a ratchet-wheel *m* on shaft I, a spring *m'* forcing the lever *l* up and revolving the ratchet after said lever has been depressed by the foot.

The engines D D', as shown in Fig. 3, are attached to the end of the frame, but in Fig. 4 they are shown as operating on the sides of

the machine and dressing the sides of the stone, or they may be attached to both the sides and the ends at the same time.

The stone is supported upon the carriage 5 F', which in turn is supported by the turn-table S, mounted upon the carriage F.

The carriage F' is provided with leveling-bolts h^2 , by means of which the stone can be leveled and held firmly on the carriage with- 10 out being trimmed at all for that purpose.

Platforms S' S' are provided at each side of the machine and extend to just the height of the top of the turn-table S, so that the carriage F' may be rolled thereon, if necessary.

15 It is sometimes necessary to shift the stone on the carriage, and to accomplish this I provide a supplemental frame B' upon the frame B, and from this frame is suspended any suitable tackle D² by which the stone can be lifted 20 bodily from the carriage F'.

The rods b and g may be arranged so that they can be rocked axially, so as to permit the drills to work at an angle. The engines or motors are connected to any suitable source 25 of steam or electric supply and the drills are thereby operated.

The carriage F is mounted on any suitable rails in the machine.

It will be seen from the foregoing that the 30 stone is mounted on carriages that permit it to be moved in all directions except up and down, and as the drills can be moved in this direction all the necessary adjustment is secured.

35 Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a stone-working machine, the combination of a stationary frame, another frame 40 adjustable vertically upon the same and provided with racks, stone-working devices mounted on said adjustable frame for dressing the top of the stone and provided with gear-wheels and adjusting-screws adapted to 45 be operated by hand, whereby said devices are capable of adjustment forward and backward and from side to side, stone-working devices mounted on sliding bars on the stationary frame, a foot-lever mechanism and screws 50 revolved thereby for moving said bars up and down and means for supporting the stone being dressed, substantially as described.

2. In a stone-working machine, the combination of a stationary frame, another frame 55 adjustably mounted upon the same, stone-working devices mounted upon said adjustable frame, vertically-adjustable stone-working devices mounted upon the stationary frame, a rotatable and horizontally-moving 60 carriage provided with leveling-bolts for supporting the stone being dressed, and a hori-

zontally-moving carriage carrying a turn-table upon which the upper carriage is supported, substantially as described.

3. In a stone-working machine, the combination of a stationary frame, a vertically-ad- 65 justable frame mounted upon the same, stone-working devices movably mounted on the adjustable frame for dressing the top of the stone, hand-operated gearing for moving the 70 same separately and at will, stone-working devices mounted on the stationary frame for dressing the sides of the stone, vertical screws for raising and lowering said latter stone-working devices, a shaft carrying oppositely- 75 faced gears adapted to mesh with gears on said screws, a foot-lever mechanism for revolving said shaft and a hand-lever for moving said shaft longitudinally so as to bring the oppositely-faced gears respectively into 80 gear with the screw-gears, substantially as described.

4. In a stone-working machine, the combination of a stationary frame having rigid vertical screws at its corners, a frame mounted 85 on said screws and adjustable thereon by nuts stone-working devices, sliding bars for carrying the same mounted on the adjustable frame; said bars being provided with hand- 90 operated gearing for moving them on the frame and screws passed through the stone-working devices to move them on said bars, stone-working devices mounted on bars which 95 slide vertically on the stationary frame, and means for moving said bars up and down on the stationary frame by the movement of a foot-lever mechanism, substantially as described.

5. In a stone-working machine, the combination of a stationary frame, a vertically-ad- 100 justable frame mounted on the same, stone-working devices mounted on the adjustable frame to dress the top of the stone, gearing for moving the same separately and at will, stone-working devices mounted on the bars 105 which are adapted to slide vertically on the stationary frame means for moving said bars up and down on the stationary frame by means of the movement of a foot-lever mechanism, a carriage for supporting the stone being 110 worked and capable of being worked in all directions to the sides, front and rear, and means mounted on the adjustable frame whereby the stone may be lifted from the carriage or shifted thereon, substantially as 115 described.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

JOHN A. GARDEN.

Witnesses:

J. S. LUNFEAR,
WM. M. STONE.