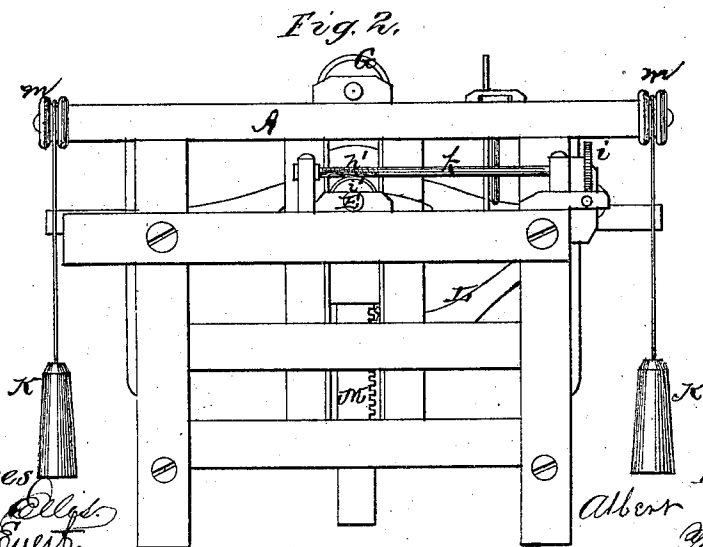
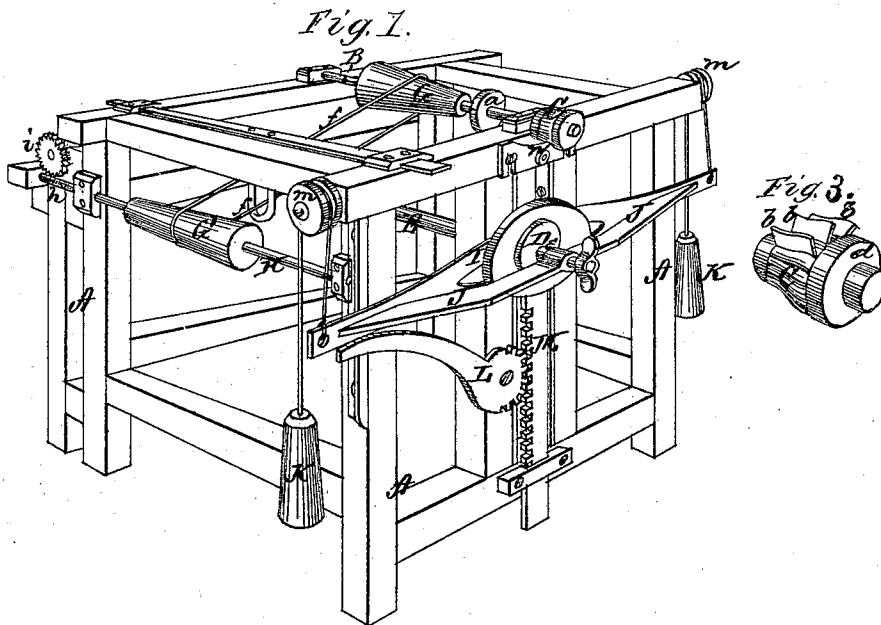


A. F. DAVIS.

Improvement in Machines for Finishing Stone.

No. 131,602.

Patented Sep. 24, 1872.



Witnesses
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UNITED STATES PATENT OFFICE.

ALBERT F. DAVIS, OF RUTLAND, VERMONT.

IMPROVEMENT IN MACHINES FOR FINISHING STONE.

Specification forming part of Letters Patent No. **131,602**, dated September 24, 1872.

To all whom it may concern:

Be it known that I, A. F. DAVIS, of Rutland, in the county of Rutland and State of Vermont, have invented certain new and useful Improvements in Stone-Finishing Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon which form a part of this specification.

The nature of my invention consists in the construction and arrangement of a stone-cutting machine, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a perspective view; Fig. 2, a side elevation of my machine; and Fig. 3 shows the cutter-head with the knives inserted.

A represents the frame-work of my machine, constructed in any suitable manner to contain the various parts of which the machine is composed. Across the center, on top of the frame A, is a horizontal cutter-shaft, B, run by a belt around the pulley *a* on the same. On the front end of this shaft is the cutter-head C to hold the knives *b b*. The cutter-head C is solid, cut through from the circumference so as to let the knives *b b* fit in and set in a notch in the shaft, with a cap, *d*, on the end to hold them firmly, said cap being fastened by a nut on the extreme end of the shaft. The knives are swaged a little at the corners so as to be firmly held. The marble or stone to be cut is fastened to or between two face-plates, D, with a pattern, of the shape wanted to cut the stone, next to the inner face-plate. Through the center of the outer face-plate is an arm or shaft, *e*, with a screw, upon which said face-plate turns; and from the inside face-plate are dowel-pins extending through the pattern into the stone to keep the stone in place. This inner face-plate is attached to a jointed shaft, E, which is revolved by the following means: On the cutter-shaft B is a tapering pulley, G, connected, by a belt, *f*, with a similar but reversed pulley, G', on a shaft, H, on the side of the machine. On the rear

end of this shaft is a screw or worm, *h*, which gears with a pinion, *i*, on the end of a shaft, *k*, on the rear side of the frame; and this shaft is, in turn, provided with a screw or worm, *h'*, which gears with a pinion, *i'*, on the rear end of the jointed shaft E; and by this means the slow motion required for the stone is obtained. The jointed shaft E extends through a solid box, I, next to the inner face-plate, which box moves perpendicularly up and down directly under the cutter-shaft. The arms J J, which hold the outer face-plate by the screw-shaft *e* passing through said arms, are firmly attached to the movable or sliding box, with a weight, K, suspended over a pulley, *m*, at each end, thereby raising and keeping the marble or stone up to the cutters. Springs of any suitable description, and properly arranged, may be substituted for these weights. Directly under the cutter-head is a collar or small pulley, *n*, against which the pattern travels, so that the marble or stone will be cut the shape of the pattern as it revolves. Attached to the sliding box I is a rack-bar, M, operated by means of a lever-ratchet, L, for the purpose of raising or lowering the stone if desired to change the cut. For the purpose of removing the heavy jarring I place rubber cloth or other suitable substance or material between the stone and the clamps or face-plates.

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

1. The solid cutter-head C, with grooves cut to hold the knives *b b* which fit in notches on the shaft B and are fastened by a cap, *d*, and nut, as herein set forth.
2. The jointed shaft E, in combination with a movable box, I, and suitable holding mechanism for turning and feeding the stone, substantially as and for the purpose set forth.
3. The arrangement of the tapering pulleys and screw or worm gearing for revolving the jointed shaft that moves the stone, as herein shown and described.
4. The movable box I and arms J, holding the face-plates and stone, and raised up to the cutter by means of weights or springs, substantially as herein set forth.
5. In combination with the movable box I

and arms J, the rack-bar M and lever-ratchet L, substantially as and for the purposes herein set forth.

6. The guide-roller *n* arranged under the cutter-head, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing as

my own I affix my signature in presence of two witnesses.

ALBERT F. DAVIS.

Witnesses:

ENOS C. FISH, Jr.,

B. W. MARSHALL.