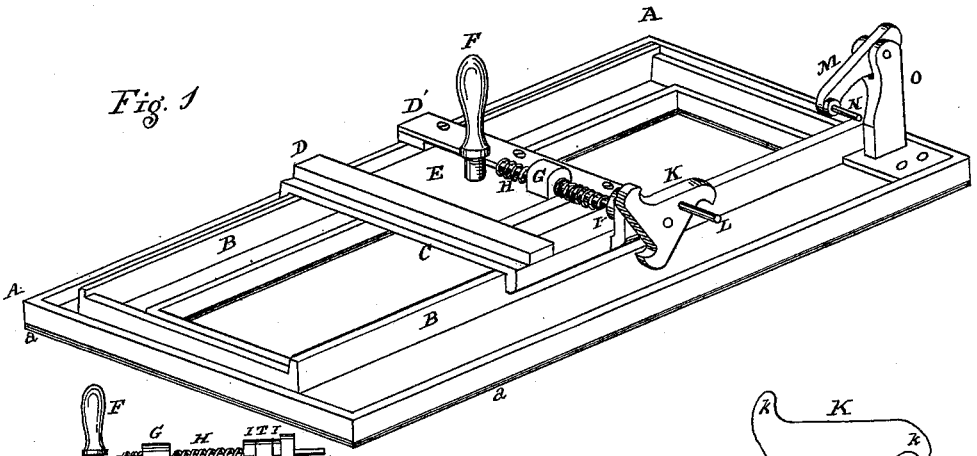
C. S. HOOVER.

Diamond Millstone-Dressing Machine.

No. 220,242. Patented Oct. 7, 1879.

Fig. 1



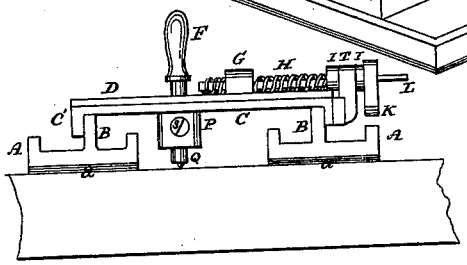
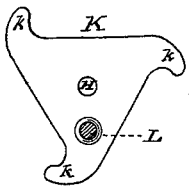


Fig. 3



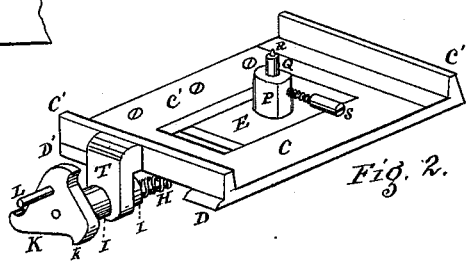


Fig. 2.

WITNESSES.

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CORNELIUS S. HOOVER, OF FARMINGDALE, NEW JERSEY.

IMPROVEMENT IN DIAMOND MILLSTONE-DRESSING MACHINES.

Specification forming part of Letters Patent No. **220,242**, dated October 7, 1879; application filed April 15, 1879.

To all whom it may concern:

Be it known that I, CORNELIUS S. HOOVER, of Farmingdale, in Monmouth county, in the State of New Jersey, have invented certain Improvements in Diamond Millstone-Dressing Machines, of which the following is a specification.

This invention relates to millstone-dressing machines which have a longitudinally-moving slide supporting a transversely-moving diamond-carrier operated automatically.

The chief object of this invention is to allow the upward movement of the cutting-tool when the diamond encounters a hard obstacle em bedded in the stone. This object is accomplished by making the slides move over guides which are constructed so as not to prevent vertical motion.

In the accompanying drawings, Figure 1 represents a perspective view of my improved millstone-dressing machine. Fig. 2 represents a bottom view of my slide and diamond-holder with operating devices attached; and Fig. 3 represents an end view of the machine with the end pieces removed.

The bed-plate A is provided with an india-rubber bottom packing, *a*, and has on its top two parallel longitudinal guide ridges or flanges, B B, between which is the open space where the diamond works on the face of the stone.

C designates the carriage-frame or slide, which is provided with downwardly-extending flanges *c' c'*, which fit over the guide-flanges B B. The inner faces of these flanges *c' c'* on the carriage and the outer faces of the flanges B B are smooth, so as to offer no impediment to the upward movement of said slide or carriage-frame C when said movement becomes desirable. Said carriage-frame or slide C ordinarily moves, however, horizontally and longitudinally over the surface of bed-plate A.

Slide or carriage-frame C is provided with cross-bars D D', which serve as guides for diamond carrier or holder E. This holder is gradually moved across slide C by the action of a feed-screw, H, on a screw-tapped lug, G, attached to said carrier or holder. This screw is automatically operated by the engagement of a star-shaped cam, K, carried on the outward extension of said screw, with a pin, N, on a hanging arm, M, pivoted in the top of a standard, O, at one corner of the machine. This pin N operates to turn the screw a certain distance every time that slide or carriage C reaches that end of the machine.

Star-shaped cam K is provided with a handle L, which allows it to be turned back so as to set the diamond in position to begin dressing again after having completed its transverse motion.

The shaft of said screw H turns in bearings T, and is provided with washers I, which keep it in place.

F designates a handle set vertically into the middle of holder E, and provided with a downward extension, P, which is expanded and recessed to receive vertical tool-stock Q, which has diamond R at its lower end. Clamp-screw S holds said stock Q in place.

Slide C may be moved forward in any convenient manner.

During this movement the operator's hand grasps handle F, and his weight and muscular force hold the diamond down to its work.

When any specially large or hard pebble is encountered by the diamond this pressure will naturally yield.

In returning the slide C to the end of the machine farthest from standard O said slide or carriage C is lifted by said handle F so as to hold the diamond R out of engagement with the face of the stone.

In like manner the said slide or carriage is raised when handle L is operated for returning said diamond to its proper position for beginning transverse motion. Thus a great amount of useless wear on the tool will be avoided.

I do not claim, broadly, the combination of a bed-plate with a longitudinally-moving slide and a transversely-moving holder automatically operated by a screw, a cam, and a device for engaging said cam; but

What I do claim is—

The combination, in a millstone-dressing machine, of a bed-plate or frame, A, having vertical face-guide flanges B, a horizontally-moving slide or carriage, C, having vertical face-guide flanges *c' c'*, and a transversely-moving diamond-holder, E, the said parts being constructed and arranged in such manner as to allow slide C to have automatic vertical motion independent of said guide-flanges B, substantially as set forth.

C. S. HOOVER.

Witnesses:

LEVI K. LANDIS,

JACOB STAUFFER.