J. ORFF, J. C. COOKSON & L. RASTETTER.

MILLSTONE DRESSING MACHINE.

No. 186,869. Patented Jan. 30, 1877.

Fig. 1.

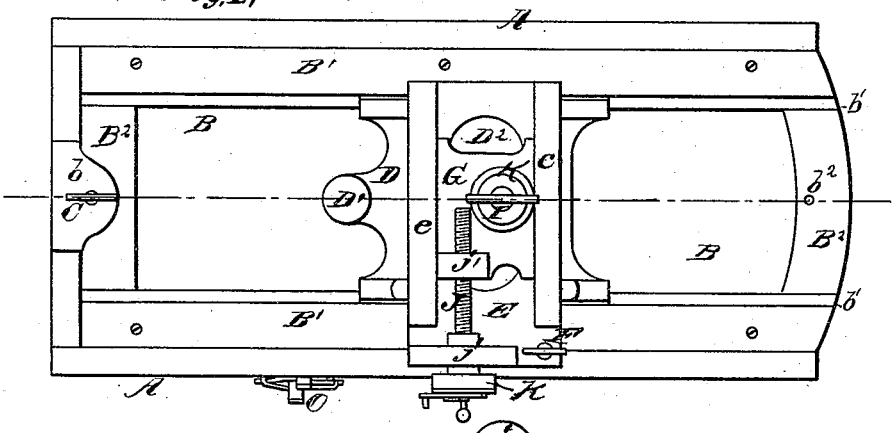


Fig. 2.

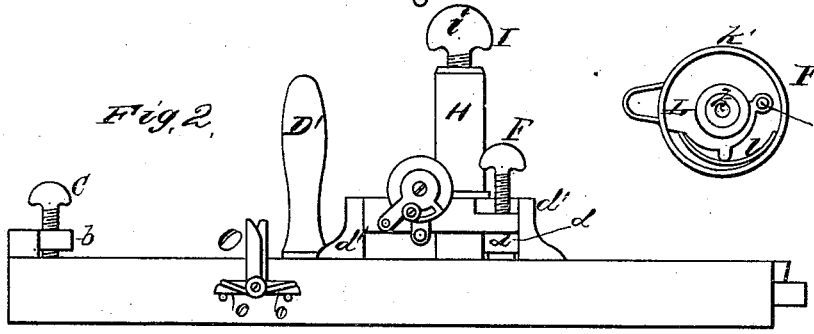


Fig. 3.

Fig. 4.

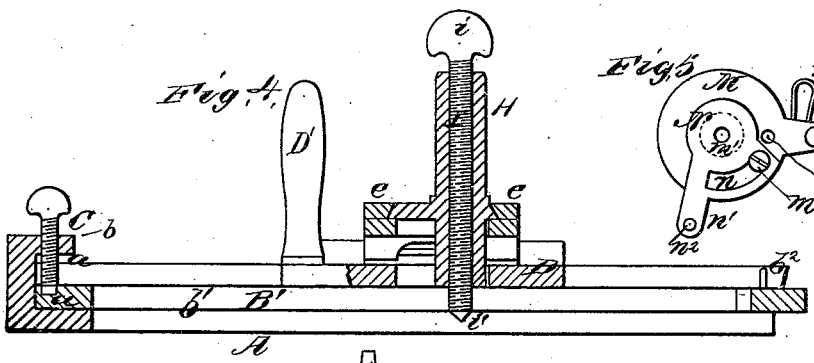
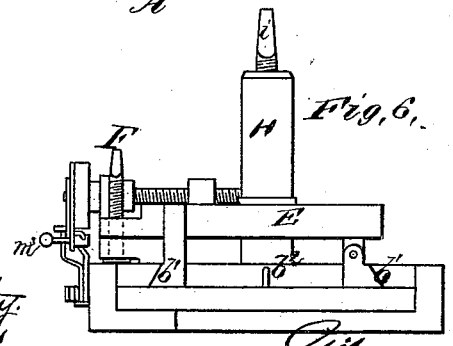


Fig. 5.

Fig. 6.



WITNESSES

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UNITED STATES PATENT OFFICE.

JOHN ORFF, JOHN C. COOKSON, AND LOUIS RASTETTER, OF FORT WAYNE, INDIANA.

IMPROVEMENT IN MILLSTONE-DRESSING MACHINES.

Specification forming part of Letters Patent No. **186,869**, dated January 30, 1877; application filed July 15, 1876.

To all whom it may concern:

Be it known that we, JOHN ORFF, JOHN C. COOKSON and LOUIS RASTETTER, of Fort Wayne, in the county of Allen, and State of Indiana, have invented a new and valuable Improvement in Machine for Dressing Millstones; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a plan view of our machine for dressing millstones, and Fig. 2 is a side view, and Fig. 3 is a detail of the same. Fig. 4 is a central vertical sectional view, and Fig. 5 is a detail thereof. Fig. 6 is an end view.

This invention relates to machines for dressing millstones; and it consists, mainly, in vertical adjusting devices and automatic lateral adjusting devices for the cutting-tool, whereby the various inclinations of the furrows, and the land between them from the skirt to the eye of the stone, may be regulated at will, as hereinafter particularly set forth.

In the annexed drawings, A represents a bed-piece of rectangular form, open at one end and recessed at the other end at *a*, and at the sides, to receive within it a frame, B, which is similar in shape to bed-piece A, and is pivoted to the open end thereof. The other end of frame B is free, and is vertically adjustable by means of a set-screw, C, which works in a screw-tapped horizontal plate or lug, *b*, fast on the rear end of bed-piece A. Frame B is composed of side pieces B^1, which are provided with V-shaped longitudinal grooves b^1 and cross-pieces B^2 B^2. Front cross-piece B^2 is provided with a vertical stud, b^2. D is a carriage provided with side tenons, which work in grooves b^1, allowing said carriage to receive longitudinal motion, while preventing any lateral displacement. Said carriage has a handle, D^1, to facilitate its operation by hand, and is confined to frame B by plate or lug *b* at one end thereof, and by stud b^2 at the other end thereof. Carriage D is also slotted at D^2 to allow the passage of the cutting-tool and the lateral adjustment of the same.

E is a cross-frame, hinged to one side of carriage D, and having its free end vertically adjustable by means of thumb-screw F, which bears against a lug or extension, *d*, attached to carriage D. Cross-frame E is protected from lateral displacement by means of small vertical standards or guides d' d', secured to carriage D. On the upper side of hinged frame E are attached guide rails or strips *e e*, recessed as shown, making a dovetailed connection with cross-slide or carriage G, which is secured between them so as to be incapable of motion except in a direction at right angles to the line of motion of the tool and carriage D. Cross-slide G is perforated to receive tubular stock H, which is screw-tapped to allow the vertical adjustment of screw-threaded rod I, which has on its top a thumb-piece, *i*, and on its bottom a cutting-point, i', of any ordinary construction and material.

Slide G is automatically adjusted laterally by the following devices: A horizontal screw-threaded rod, J, is journaled in a lug or box, *j*, secured to frame E, and engages with screw-tapped lug j', secured to slide G. On the outer end of rod J is secured a flanged disk or drum, K, having a central cylindrical core, *k*. In the annular space between core *k* and outer flange or rim k' of said drum we place a curved eccentric metal piece, L, provided with a curved spring, *l*, loosely secured thereto by one end, and with a projecting pin, l'. Metal piece L is loose within said drum, so that it may be turned freely therein in one direction; but when turned in the other direction the spring *l* and the larger end of piece L bind against the inside of rim k', and turn drum K and rod J, thereby causing slide G to move across the frame of the apparatus in a direction at right angles to the line of draft. As frame E is slotted, slide G will carry tubular stock H and the cutting-tool along with it. Pin l', on metal binding-piece L, passes through a perforation, *m*, in rotating face-plate M, which is also perforated at m^1 (dotted lines) to receive central cylindrical core *k*. Plate M is also provided with an ear, m^2, in

which is journaled a projecting rod, m^3, which is prevented from rotating (except under considerable friction) by pressure-spring m^4. Said plate has also a projecting stud, m^5, which works in a curved slot, n, of a supplemental plate, N, which has also an ear, n^1, extending radially and provided with a projecting rod, n^2. Most of the above-described parts, relating to adjusting slide G laterally, are shown most distinctly in Fig. 5 and 6.

It is evident that whenever either rod m^3 or rod n^2 is struck by any obstacle their plates will both turn, carrying around the loose metal piece L, with the result hereinbefore described. This is effected by one or more tripping rods or pieces, O, which may either be rigidly secured or held in place by springs or weights operating on cross-arms o, and which are arranged so as to engage with one or both of the rods above mentioned. The devices may be varied in many of the details without departing from the spirit of my invention.

By detaching plates M and N from the drum or flanged disk K, or by rigidly securing them thereto, or by removing rods or pieces O, the lateral movement of slide G and rod J may be prevented. The rapidity of this lateral adjustment may also be regulated by substituting longer tripping-rods for shorter ones, or vice versa.

The apparatus above described enables almost any desired dressing to be given to the face of the millstone with ease and precision.

Cross-frame E may be hinged or pivoted at the middle, instead of at one end, as above described. Indeed, it is preferable to pivot it at the middle, as it will not need to be raised so far as in the other case in order to effect a given degree of vertical adjustment of the cutting-tool; but the principle is the same.

What we claim as new, and desire to secure by Letters Patent, is—

1. The combination of frame B, vertically adjustable at one end thereof, and grooved as shown, with longitudinally-sliding carriage D and hinged cross-frame E, vertically adjustable at one end thereof, substantially as and for the purpose set forth.

2. In a millstone-dresser, the combination, with a bed-plate, A, of the adjustable frame B, and the vertically-adjustable cross-frame E, causing a tool-frame, substantially as and for the purpose set forth.

3. The combination of screw-threaded adjusting-rod J, and flanged disk or drum K, with loose binding-piece L, spring l, pin l', face-plate M, rod m^3, and tripping-piece rod or lever O, substantially as and for the purpose set forth.

4. The combination of plate N, having curved slot n, with binding-piece L, connecting devices, drum K, adjusting-rod J, and actuating rods and levers, substantially as and for the purpose set forth.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

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Witnesses:
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