

F. OGDEN & F. A. GILBERT.

Improvement in Machines for Dressing Mill-Stones.

No. 128,419.

Patented June 25, 1872.

Fig. 1

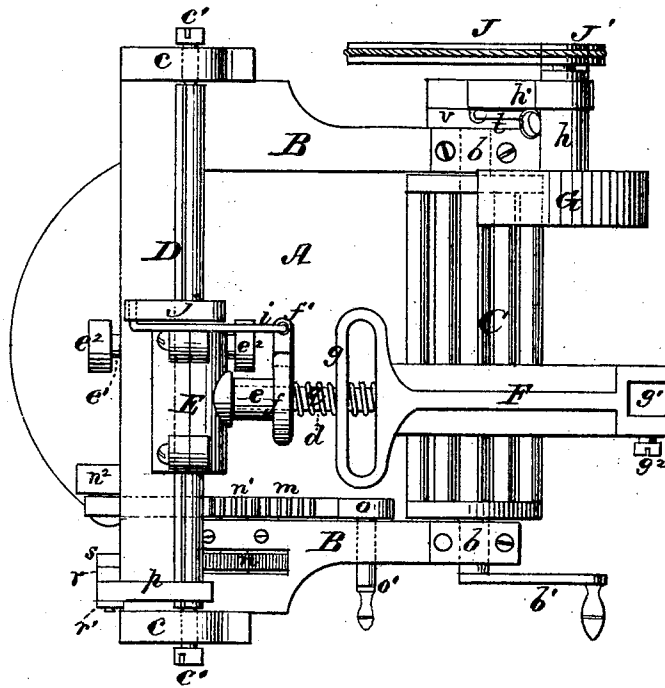
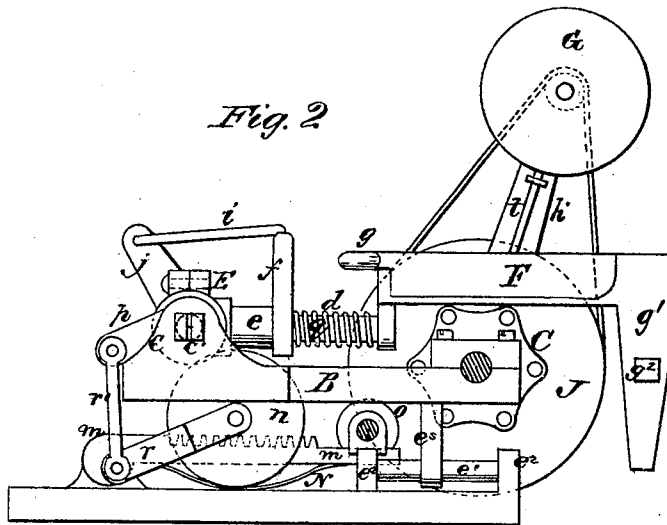


Fig. 2



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 J. A. Campbell

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 Ferris Ogden
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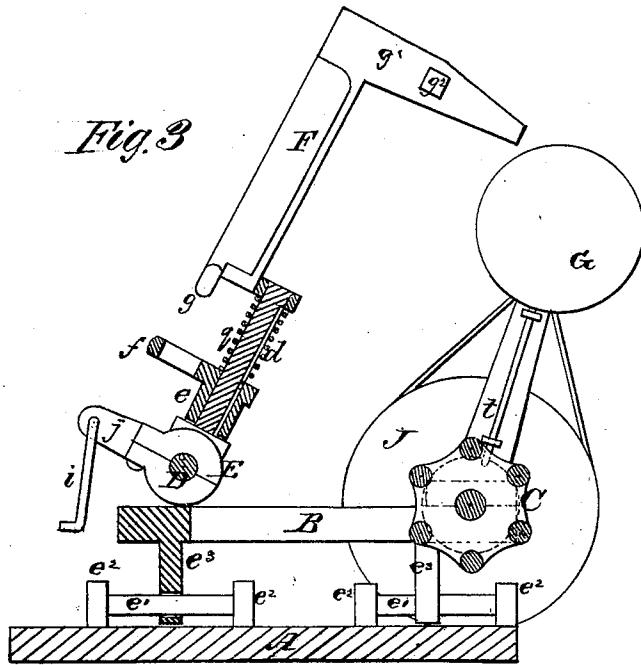


Fig. 3

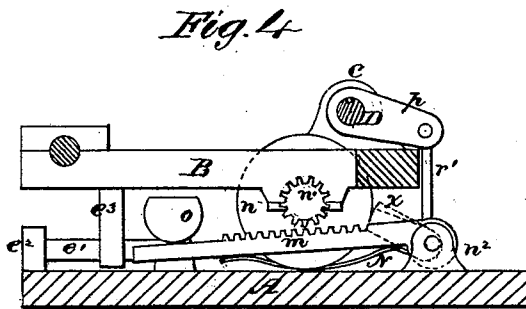


Fig. 4

Witnesses.
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 Frank A. Gilbert
 by
 Marion Blair & Co.

UNITED STATES PATENT OFFICE.

FERRIS OGDEN AND FRANK A. GILBERT, OF MANSFIELD, OHIO, ASSIGNORS OF ONE-THIRD OF THEIR RIGHT TO JUSTIN M. WAUGH, OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR DRESSING MILLSTONES.

Specification forming part of Letters Patent No. 128,419, dated June 25, 1872.

To all whom it may concern:

Be it known that we, FERRIS OGDEN and FRANK A. GILBERT, of Mansfield, in the county of Richland and State of Ohio, have invented certain novel Improvements in Machinery for Dressing Millstones; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1, Plate 1, is a top view of the machine. Fig. 2, Plate 1, is a view of the right-hand side of the machine. Fig. 3, Plate 2, is a section taken vertically and longitudinally through the machine, indicating the pick thrown up for grinding its point. Fig. 4, Plate 2, is a section taken longitudinally through the machine, looking toward the right hand thereof.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to certain novel improvements on machines for dressing millstones, wherein the pick is mounted upon a longitudinally-movable frame, and vibrated by a long trundle-wheel, over which it is caused to traverse, as will be hereinafter explained.

The following description of our improvements will enable others skilled in the art to understand it:

In the accompanying drawing, A represents the bed-plate of the machine, which rests upon the stone during the dressing operation. Above this plate A and parallel to it is a frame, B, which is supported by vertical standards e^1 e^2 and horizontal rods e^1 . The rods e^1 allow the said frame to be moved longitudinally, and they serve as guides for it in adjusting the pick from one furrow to another. There are three of these guides e^1 represented in the drawing, but a greater number may be used. C represents a trundle, which may be provided with any number of tappet-bars, and which is supported by the frame B, its shaft turning in bearings b b and carrying on one end a large pulley, J, and on the other end a hand-crank, b' . The belt which is applied to pulley J passes around a small pulley, J', which is on the shaft of a grinding-wheel, G, which shaft

has its bearing in a box, h . The box h is applied to the upper end of a vertically-vibrating arm, h' , which turns about a hub, u , rigid with the cap of journal-box b . The axis of motion of arm h' thus coincides with the axis of the trundle-shaft. On the inner side of arm h' a spring-latch, t , is applied, which enters one or more holes in the periphery of the hub u and locks the arm in the position indicated in Figs. 1, 2, and 3, or in any other position desired. By raising the latch t the arm h' can be adjusted at any desired angle forward or backward. Transversely across the front end of frame B, and supported by points e' e' that are tapped through elevated bearings c c , is a rock-shaft, D, on which is applied loosely a sleeve, E, which is made of two halves bolted together. This sleeve is allowed to oscillate about its shaft, D, and also to be moved in a direction with respect to the length thereof. To this movable sleeve E rod d is rigidly secured, which rod extends forward and has secured to it the pick-holder stock F, the forward end of which latter has formed on it the slotted pick-holder g' . The rod d is at right angles to the sleeve E, and the pick-holder g' is at right angles to its stock F. On the rod d is a sliding sleeve, e , having a thumb-ring rising from it, and between the sleeve e and the rear end of the stock F a spring, g , is coiled around the rod d , which spring acts to keep the thumb-ring sleeve e against a boss on the sleeve E. The sleeve e is connected to its rod by means of a feather and groove, which prevent it from turning in to move longitudinally thereon. The ring f is designed for receiving the left-hand thumb of the operator of the machine, his fingers of the same hand being applied to an elliptical handle, g , which is formed on the rear end of the stock F. By this means the sleeve e and its thumb-ring f can be made to approach the rear end of the stock F more or less as circumstances require. On one side of the thumb-ring f an eye-piece, f' , is formed, which receives the forward bent end of a rod, i , the rear end of which is pivoted to an arm, j . This arm j is connected to one end of the sleeve by a groove-tenon, E, so as to slide with it, and it is also connected to the rock-shaft D

by a feather and groove, so as to oscillate this shaft when a reciprocating motion is given to the thumb-ring sleeve E by the thumb and fingers and the spring *g*, acting alternately. The object of these movements is to feed the frame B forward during the operation of the trundle-bars on the pick-stock, and this feed-motion is produced by the devices which I will now describe.

On the right-hand end of the grooved rock-shaft D an arm, *p*, is keyed, which is connected to the axle of a ratchet or friction-wheel, *n*, by means of a connecting-rod, *r'*, and a vibrating arm, *r*, shown clearly in Fig. 2. To the arm *r* a gravitating pawl or dog, *x*, is pivoted, which acts on the wheel *n* at every upward stroke of the arms *p r*. On the shaft of wheel *n*, which shaft has its bearing on frame B, a pinion, *n'*, is keyed, which engages with a rack, *m*, and moves the frame B and its attachments forward. The rack *m* is pivoted at its front end to an elevated bearing, *n²*, on the base-plate A, and it is held into gear with the said pinion *n'* by means of a spring, N, applied beneath it. Near the free end of the rack, where there are no teeth formed on it, is a cam, *o*, which is applied to a shaft carrying on its outer end a crank, *o'*. By turning the crank slightly the cam *o* will depress the free end of the rack *m* sufficiently to disengage its teeth from the pinion *n*; thus the frame B will be released, and may be quickly moved forward or backward without oscillating the shaft D.

It will be seen from the above description that I employ the well-known trundle-bars for giving the vibrating movements to the pick-stock; that I utilize the shaft of said trundle for actuating a grinding device for sharpening the picking-tool; that I employ a device so actuated, which is adjustable for grinding both sides of the pick, and which is not in the way of the pick while operating on the stone; that I am enabled to give the pick-stock a greater or less movement forward or backward by a simple movement of the hand which grasps the ring *f* and loop *g*, such movement regulating the length of stroke of the arm *j*, which actuates the ratchet-wheel *n*. Also, that by slightly turning the cam *o* the frame or carriage B, with its trundle-wheel and pick, are free to be moved back to commence the picking of a new furrow.

For the purpose of regulating the forward

movements of the frame B and its attachments an adjustable collar or back-stop may be applied between the sliding sleeve *e* on the rod *d* and the sleeve *e*. By setting such collar forward or backward the movement of the thumb-sleeve *e* may be positively shortened or lengthened at pleasure, which will, of course, regulate the forward movements of the frame B and its attachments. To sharpen the pick the forward end of the rod *i* is disconnected from the eye *f'*, which allows the pick to be raised, as shown in Fig. 3, and its point adjusted upon the grinding-wheel G. The wheel G is also adjusted forward or backward, so as to bring it into proper relation to the upper or the lower beveled edges of the pick-point.

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The frame B, movable upon guide-rods *e'* on a bed-plate, A, and carrying a trundle, C, and a pick-holder, which is allowed to receive a vibrating as well as lateral reciprocating motion on a rock-shaft, D, in combination with devices, substantially as described, for feeding said frame forward.

2. The grinding-wheel G, mounted on the end of an arm, *h'*, whose motion is concentric to the axis of the trundle-wheel shaft, in combination with belt-wheels J J', a spring-latch, *t*, and a pick-holder, which is movable vertically and horizontally, substantially as described.

3. The longitudinally-moving thumb-ring sleeve *e*, applied on rod *d* and acted on by a spring, *g*, in combination with the loop *g*, the rod *i*, cam *j*, rock-shaft D, arms *p r*, pawl *x*, ratchet-wheel *n*, pinion *n'*, and a rack, *m*, for allowing the forward feed motion to be given to the frame B, substantially as described.

4. The rod *i*, detachable from the eye *f'* on the thumb-ring *f*, in combination with the vibrating pick-holder, the arm *j*, and rock-shaft D, substantially as and for the purposes described.

5. The pivoted rack *m*, cam *o*, and spring N, combined with the feed mechanism on frame B, substantially as described.

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FRANK A. GILBERT.

Witnesses:

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T. C. WOOD.