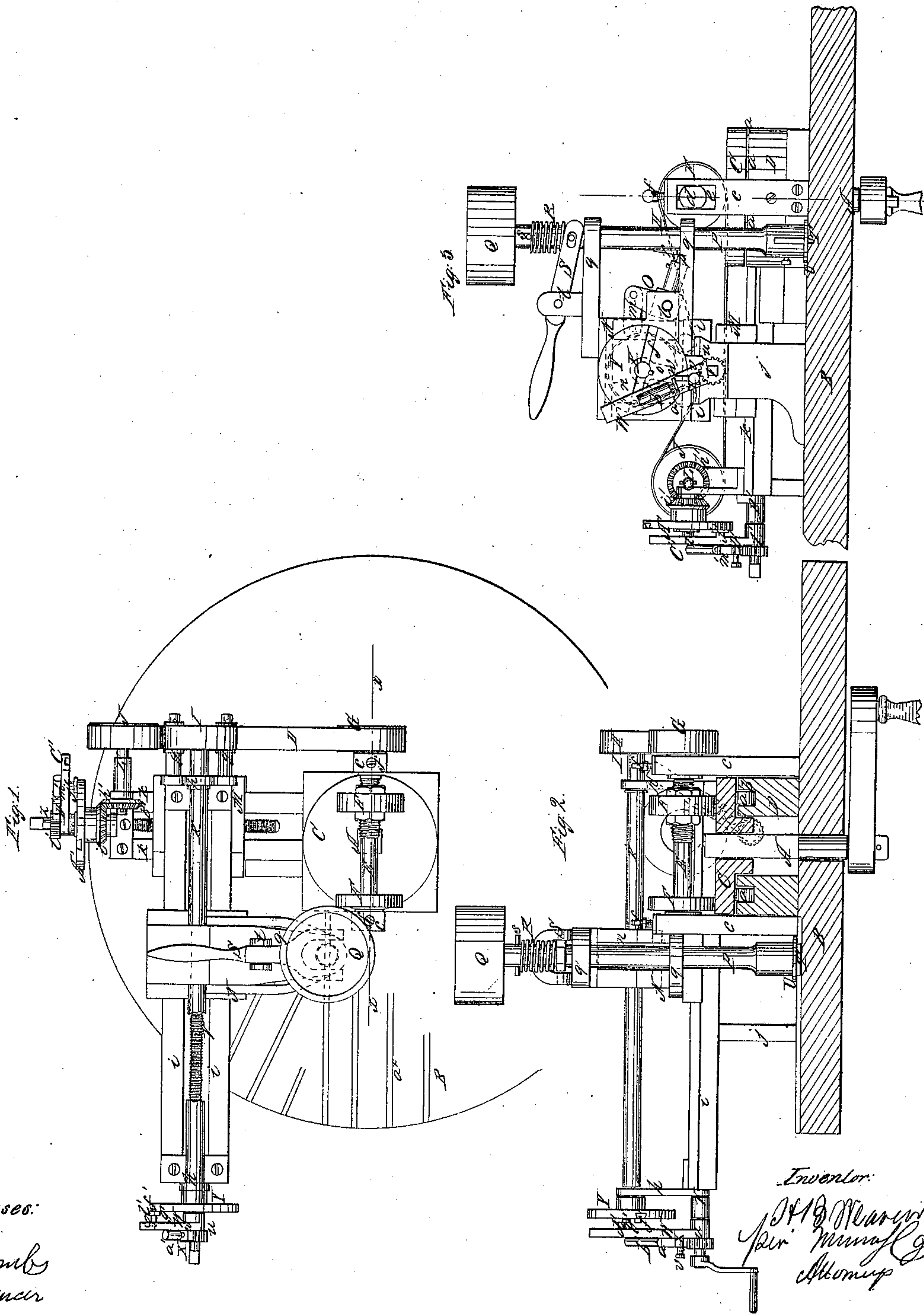


H. B. Nearer,
Dressing Millstones.

N^o 31,142.

Patented Jan. 15, 1861.



Witnesses:

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UNITED STATES PATENT OFFICE.

H. B. WEAVER, OF SOUTH WINDHAM, CONNECTICUT, ASSIGNOR TO HIMSELF, AND W. H. STRONG, OF NORWICH, CONNECTICUT.

MACHINE FOR DRESSING MILLSTONES.

Specification of Letters Patent No. 31,142, dated January 15, 1861.

To all whom it may concern:

Be it known that I, H. B. WEAVER, of South Windham, in the county of Windham and State of Connecticut, have invented
5 a new and Improved Machine for Dressing Millstones, the machine being also applicable for dressing other stones for building and other purposes; and I do hereby declare
10 that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a plan or top view of my invention. Fig. 2, a side sectional view of
15 the same, taken in the line x, x , Fig. 1. Fig. 3, a side view of the same.

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

To enable those skilled in the art to fully
20 understand and construct my invention I will proceed to describe it.

A, represents the arbor or spindle of a millstone, and B, is the under or bed stone through which the spindle passes centrally.
25 On the upper part of the spindle A, there is placed a horizontal circular disk C, which rests on friction rollers a , placed in an annular groove b , in the upper surface of a block D, as shown in Fig. 2.

30 To opposite sides of the block D, there are attached uprights c, c , in the upper parts of which there are placed the journals d , of a shaft E. The journals d , are placed in oblong slots e , in the uprights and
35 by means of screws f , may be pressed downward so that wheels F, on the shaft E, may be made to press more or less on the disk C, to create sufficient friction to drive the machinery.

40 To one end of the shaft E, there is attached a pulley G, around which a belt H, passes, said belt passing under friction or guide pulleys g, g , and around pulleys I, J, which are at the ends of shafts K, L. The
45 shaft K, has its bearings in uprights h, h , which are attached to the ends of two parallel guides or ways i, i . These guides or ways are supported at one end by an upright j , and they are secured at their opposite
50 ends to a block M, which is fitted on two parallel guides or ways k, k , having a position at right angles to the guides or ways i, i , as shown clearly in Fig. 1.

On the guides or ways i, i , there is placed
55 a sliding block N. The shaft K, passes

loosely through this block and in the front end of this block there is placed a right angular bar O, which works on journals l , and has a link m , attached to its upper end, said link being connected to a slide or yoke
60 n , in the block and actuated by a tappet o , on shaft K, see dotted lines in Fig. 3. The lower part of the bar O, is tubular and a slide catch p , is fitted therein. To the block
65 N, at its front end there are attached two projecting plates q, q , which form guides for a vertical arbor or pick shaft P, which has an oblique or beveled projection r , attached to it for the catch p , of the bar O, to operate upon as hereinafter described. 70

On the upper end of the shaft P, there is placed a receptacle Q, to receive weights to load the pick shaft as may be required, and there is placed on the pick shaft P, a
75 spiral spring R, the upper end of which bears against a pin s , in the shaft and the lower end against a hand lever S, which has its fulcrum at t , on the block N.

To the lower end of the shaft P, the pick
80 T, is attached. This pick may be of the usual form. To the lower end of the shaft P, there is also secured a circular disk U, of india rubber or other suitable elastic substance. This disk U, serves as a gage for
85 the pick and insures an equal penetration of the same into the stone under blows of equal force.

V, is a screw which is placed between the guides or ways i, i , and parallel with them. This screw works in a nut at the bottom of
90 the block N, and to one end of this screw a ratchet n , is attached.

W, is an arm which is placed loosely on the screw V, adjoining the ratchet n , and X,
95 is a reversible pawl which is attached to the arm W, by a pin v , and may have either of its ends in gear with the ratchet n , the pawl being kept in gear with said ratchet by a spring or pressure plate w , attached to the
100 arm W, said plate w , being at the lower end of a rod a' , which is fitted in a tube b' , having a spiral spring within it. The arm W, is grooved longitudinally at its inner side and into this groove a pin d' , fits said pin
105 being attached to a slide which is placed in a groove f' , made centrally in the outer side of a circular disk Y, at the end of the shaft K. The slide e' , is adjustable in the groove
110 f' , and may be secured at any desired point in it by a nut g' .

The shaft L, has a bevel pinion h' , on its inner end, and this pinion gears into a corresponding pinion i' , which is on a short shaft Z, the outer end of which has a circular disk A', on it, grooved and provided with an adjustable pin j' . This disk A', and pin j' , are precisely the same as the disk Y, and pin d' .

B', is a screw which is placed between the guides or ways k, k , and passes through a nut at the bottom of block M. On the outer end of the screw B', there is a ratchet l' , and there is also placed loosely on said screw adjoining the ratchet an arm C' the inner side of which is slotted longitudinally to receive the pin j' . To the outer side of the arm C', there is attached a reversible pawl D', which has a pressure plate m' , bearing against it. These parts are precisely the same as the ratchet and pawl arrangement connected with the shaft K, and screw V.

The operation of the machine is as follows: When it is designed to pick or dress the stone from the center outward and in lines parallel with the red furrows a^* , shown in Fig. 1, the shaft K, is continually rotated and the pick shaft P, is raised by the action of the bar O, the catch p , passing under the projection r , on shaft P, as the lower part of bar O, reaches the lowest point of its descent. The shaft P, descends by its own gravity in addition to that of the load in Q, which load may be greater or less according to the force the pick should have. In cases where it is necessary to ease the blows of the pick temporarily, as for instance when it passes over soft places in the stone, the operator depresses the back end of lever S, to a certain extent, and the spring R, will ease the force of the blow, and to a greater or less degree according as the spring R, is more or less compressed. By

depressing fully the back end of lever S, the pick shaft P, may be elevated above the action of the bar O, and the pick consequently rendered inoperative. At every revolution of the shaft K, the screw V, is turned a certain distance by the pawl X, which is operated through the medium of the disk Y, pin d' , and arm W. The rotation of the screw V, feeds the block N, along on the ways i, i , in either direction according to the position in which the pawl X, is placed. This therefore it will be seen feeds the pick in one direction, and when the pick reaches the extent of its movement, the pawl X, is reversed in position to give the return movement to the pick. A feed movement at right angles to the other is given the pick by the screw B', which is turned one revolution by hand at the end of each movement of the pick so that the latter may cut in parallel rows. The length of each feed movement at each revolution of the shaft may be regulated by adjusting the pins d', j' , in the slots of the disks Y, A'. When it is desired to work the pick in a direction at right angles to the furrows a^* , the screw V, is disconnected from the disk Y, and the screw B', rotated continually, the screw V, being rotated one revolution by hand at the termination of each movement of the pick.

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

The arrangement of the feed screws V, B', with the disks Y, A', arms W, C', pawls X, D', and sliding blocks M, N, all arranged essentially as and for the purpose specified.

H. B. WEAVER.

Witnesses:

F. B. WEAVER,
H. FREEMAN.