

Z. G. Hurd,

Dressing Millstones.

N^o 37,097.

Patented Dec 9, 1862.

Fig 1.

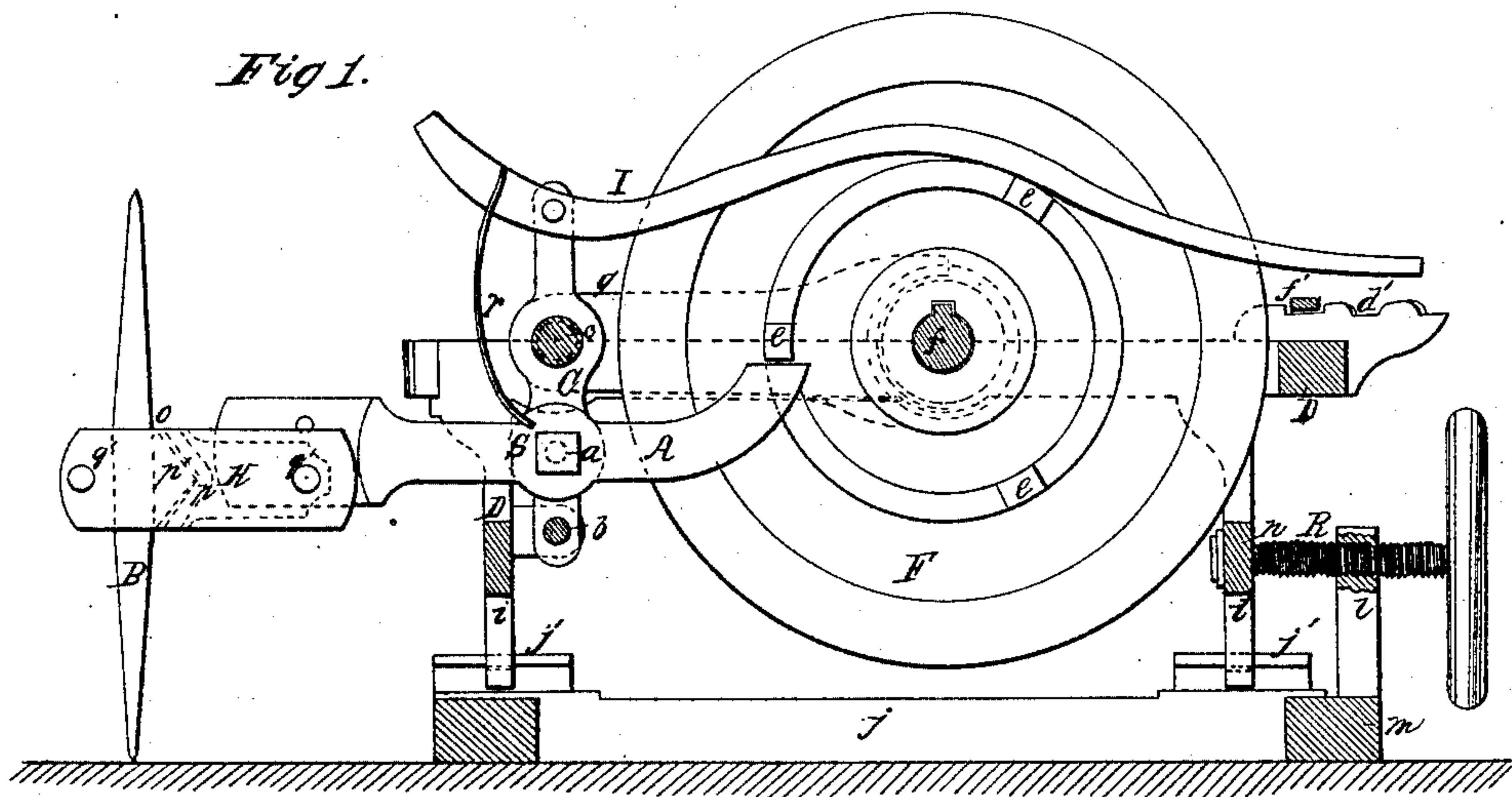


Fig 2.

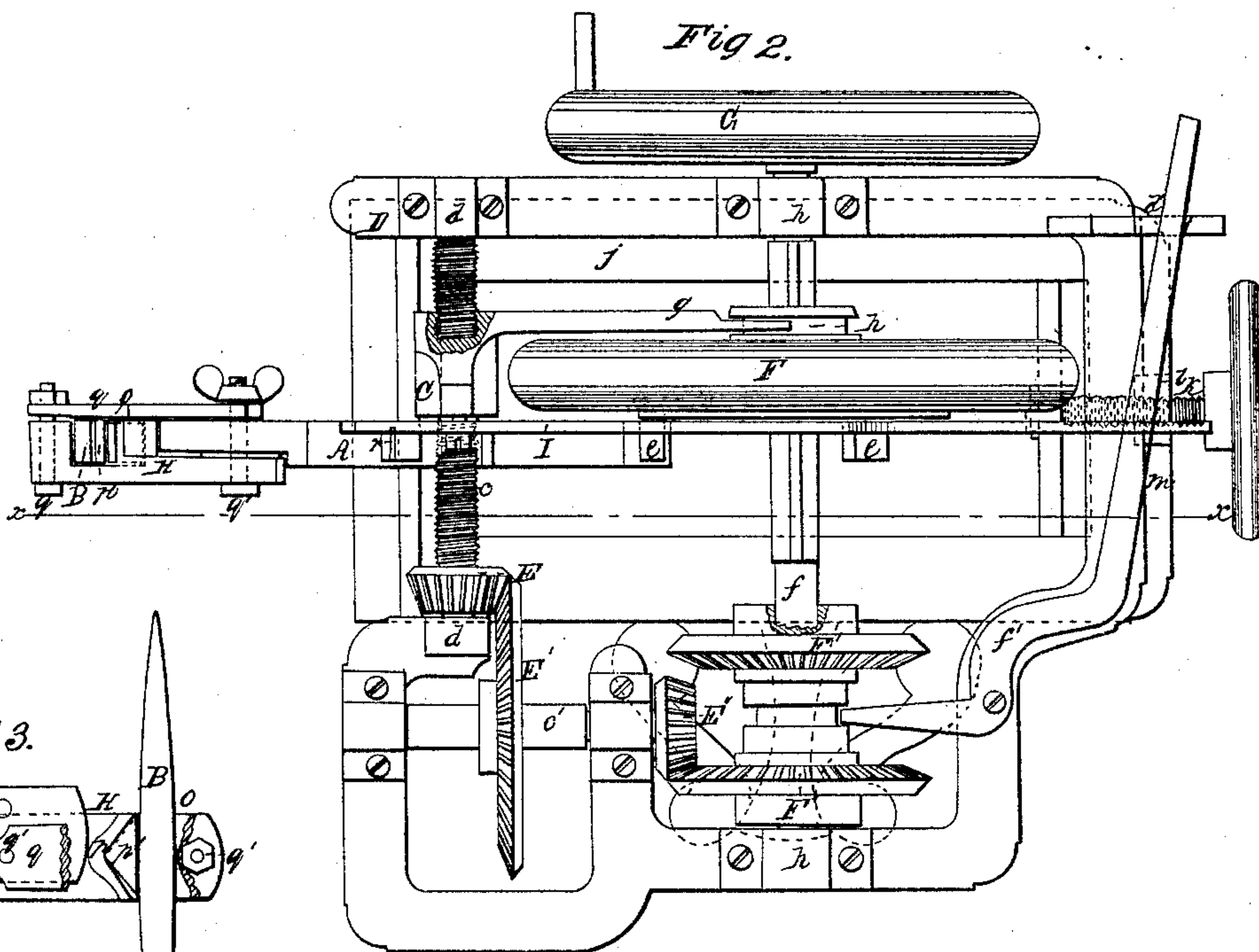
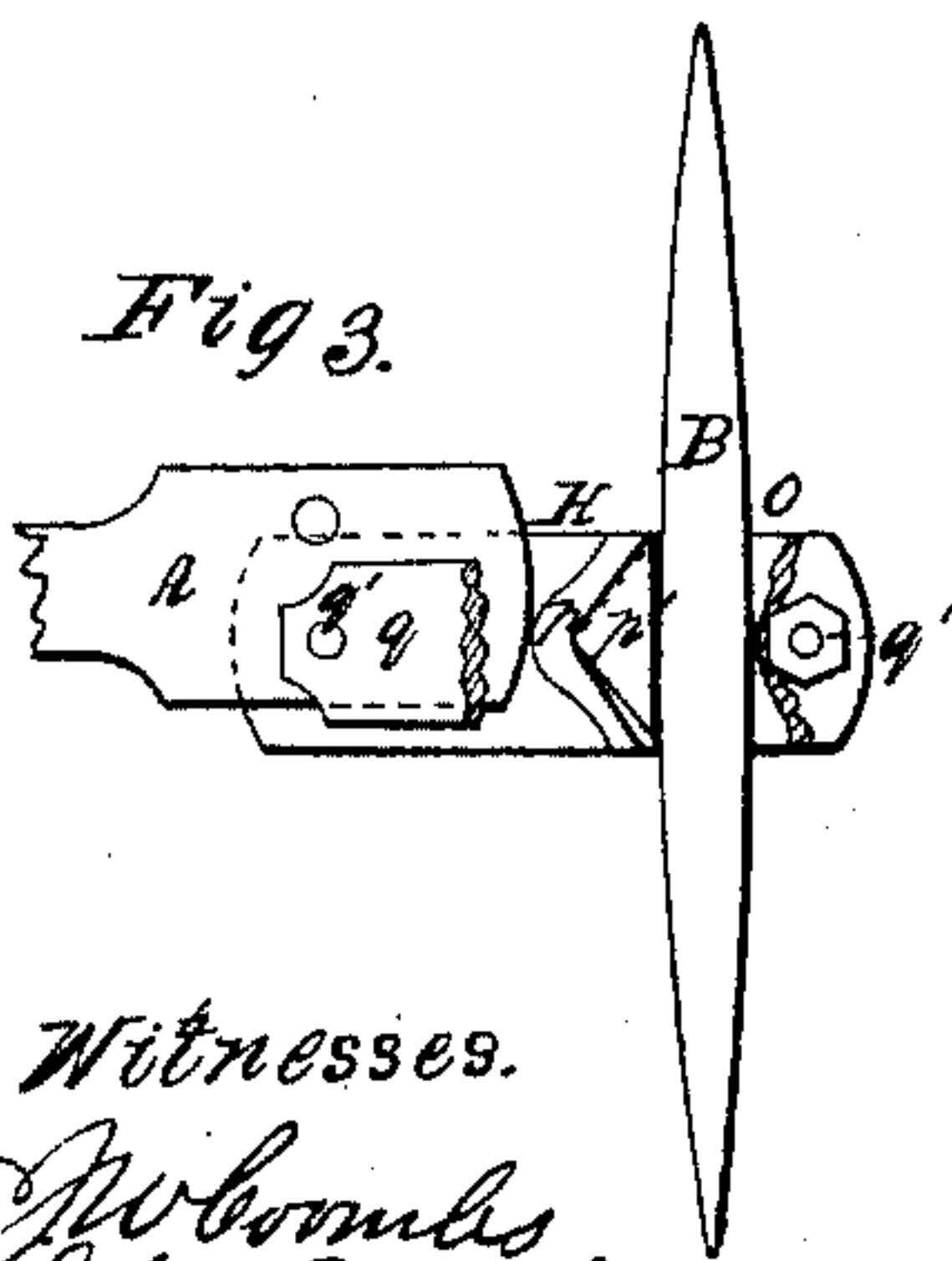


Fig 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

ZENUS G. HURD, OF ELDORADO, IOWA.

IMPROVED MILLSTONE-DRESSER.

Specification forming part of Letters Patent No. 37,097 dated December 9, 1862.

To all whom it may concern:

Be it known that I, ZENUS G. HURD, of Eldorado, in the county of Fayette and State of Iowa, have invented a new and Improved Millstone-Dresser; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specifications, in which—

Figure 1 represents a longitudinal vertical section of my invention, the plane of section being indicated by the line *xx*, Fig. 2. Fig. 2 is a plan or top view of the same. Fig. 3 is a detached sectional elevation of the pick and its eye or socket.

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

This invention consists in the arrangement of a V-shaped seat in the interior of the eye, which is to receive the pick, in combination with a triangular wedge, in such a manner that the eye is fit to accommodate itself to picks of different shape and size.

It consists, also, in the arrangement of a hinged holder in combination with the trip-lever in such a manner that the position of the pick in relation to the surface of the lever or stone can be adjusted at pleasure.

It consists, finally, in the arrangement of a spring-lever in combination with the trip-lever in such a manner that by the action of said spring-lever the force of the blow can be regulated at pleasure.

To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation with reference to the drawings.

The trip-lever A, which carries the pick B, is fulcrated on a pivot, *a*, which is firmly inserted into an arm, C. The lower end of this arm slides on a rod, *b*, which extends transversely across the frame D, and its middle part or hub forms the nut for the screw *c*, which serves to impart to said arm a laterally-sliding motion from one side of the frame to the other. This screw has its bearings in suitable journal-boxes, *d*, on the top of the frame D, and it is operated by a bevel-wheel, E, which is firmly keyed to its end. This bevel-wheel gears into a similar wheel, E', keyed to a shaft, *c'*, that runs at right angles to the screw *c*. This shaft bears a bevel-pinion, E'', and two

wheels, F' F'', which rotate with and slide in a longitudinal direction on the driving-shaft *f*, are alternately thrown in gear with said pinion. By this arrangement the motion of the screw *c*, and with it that of the arm C, is reversed, and the pick can be made to travel over the surface of the stone in either direction. The bevel-wheels F' F'' are connected by a common hub, and their position is governed by a hand-lever, *f'*, the end of which catches into a groove in the hub of the wheels F' F''. This lever is pivoted to the top of the frame D, and it is retained in the desired position by a serrated bar, *d'*, with three notches—one to retain the hand-lever when the wheel F' is in gear with the pinion E'', and one to retain it when the bevel-wheel F'' is in gear with said pinion, and the middle notch to retain the lever when both wheels are thrown out of gear. A vibrating motion is imparted to the trip-lever A by a trip-wheel, F, with three (more or less) tappets, *e*, which are alternately brought in contact with the tail end of the trip-lever. This trip-wheel is secured to the driving-shaft *f* in such a manner that it is compelled to rotate with the same, at the same time being at liberty to slide on it in a direction parallel to its axis. A rod, *g*, the forked end of which catches in a groove, *h*, in the hub of the trip-wheel, extends from the arm C, so that if a laterally-sliding motion is imparted to said arm in either direction by means of the screw *c* the trip-wheel is compelled to partake of this motion and to maintain always its proper working position in relation to the trip-lever A. The shaft E, which carries the trip-wheel F, is rotated by means of a balance wheel or pulley, G, to which motion may be imparted by hand or any other suitable power. Said shaft has its bearings in journal-boxes *h* on the frame D, as clearly shown in Fig. 2 of the drawings. The frame D is supported by legs *i i'*, which rest on sills *j*, and the lower hooked ends of which catch under flanged guides *j'*, so that a longitudinal sliding motion can be imparted to said frame with all its appendages. A screw, *k*, which screws into a standard, *l*, rising from one of the cross-bars *m*, which connects the sills *j*, and which is fastened in a cross-bar, *n*, connecting the legs *i'* at the rear end of the frame, serves to impart to said frame, together with all the

machinery attached to it, a longitudinal motion. By the combined action of the two screws *c* and *h* the pick can be carried over the entire surface of the stone, which at the same time receives the desired oscillating motion by the action of the trip-wheel *F* on the lever *A*. The pick *B* is inserted into a holder, *H*, which is pivoted to the front end of the trip-lever *A*. This holder is provided with an eye, *o*, one side of which forms a V-shaped seat, *p*, for a triangular wedge, *p'*, whereby said eye can be accommodated to the varying shape and size of different picks. A cap, *g*, which is fastened to the lever *A* and holder *H* by means of screws *g'*, and the inner surface of which is made rough and provided with file-teeth, retains the pick firmly in its place. By means of the holder *H* the operator is enabled to bring his pick in the desired position for furrowing or dressing burrs. The force of the plow is regulated by the hand-lever *I*, which is pivoted to the upper end of the arm *C*, and which connects by means of a spring, *r*, with the trip-lever. This spring is rigidly fastened to the hand-lever, and it bears

in a notch, *s*, in the upper surface of the trip-lever. It is obvious that by raising the rear end of the hand-lever *I* the force with which the spring *r* bears down on the trip-lever is increased, and vice versa, so that the operator has it in his power to make the pick strike with whatever force he desires.

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

1. The arrangement of the hinged holder *H* in combination with the trip-lever *A* and pick *B*, constructed and operating substantially as and for the purpose specified.

2. The arrangement of the V-shaped seat *p* and triangular wedge *p'* in combination with the holder *H* and pick *B*, as set forth.

3. The arrangement of the spring-lever *I* in combination with the trip-lever *A*, as and for the purpose described.

ZENUS G. HURD.

Witnesses:

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