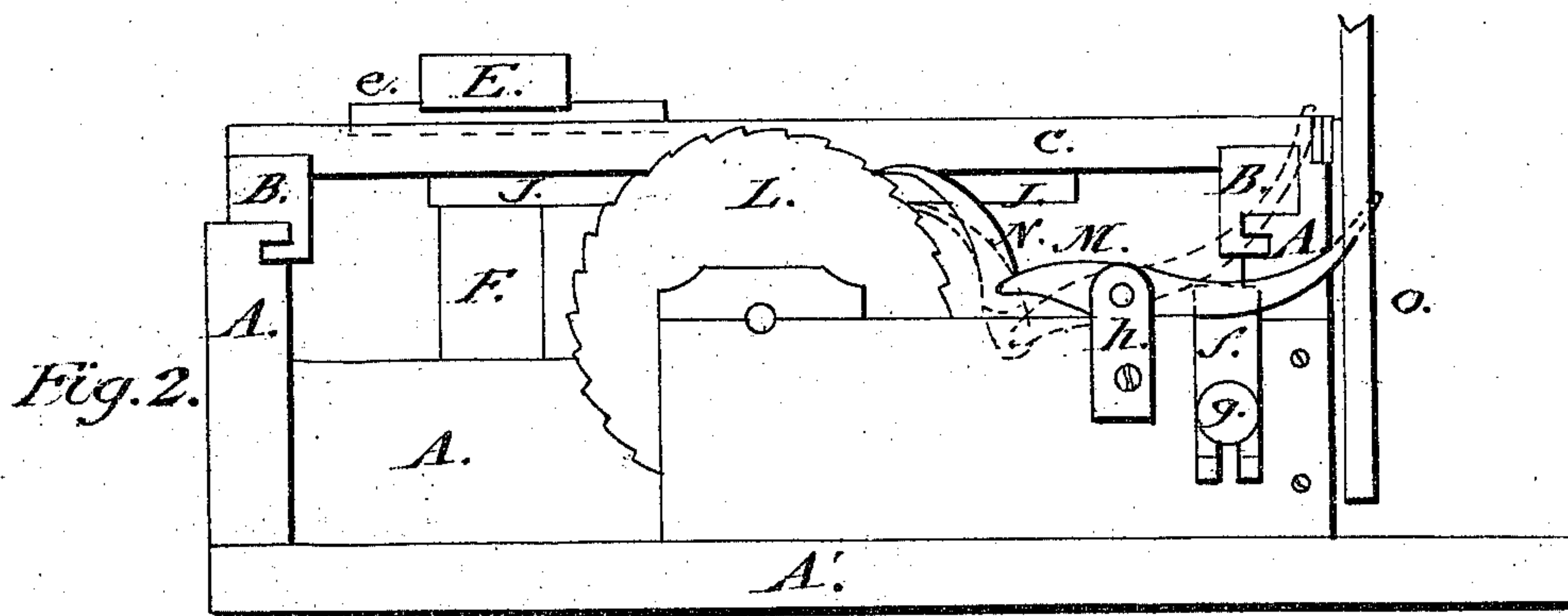
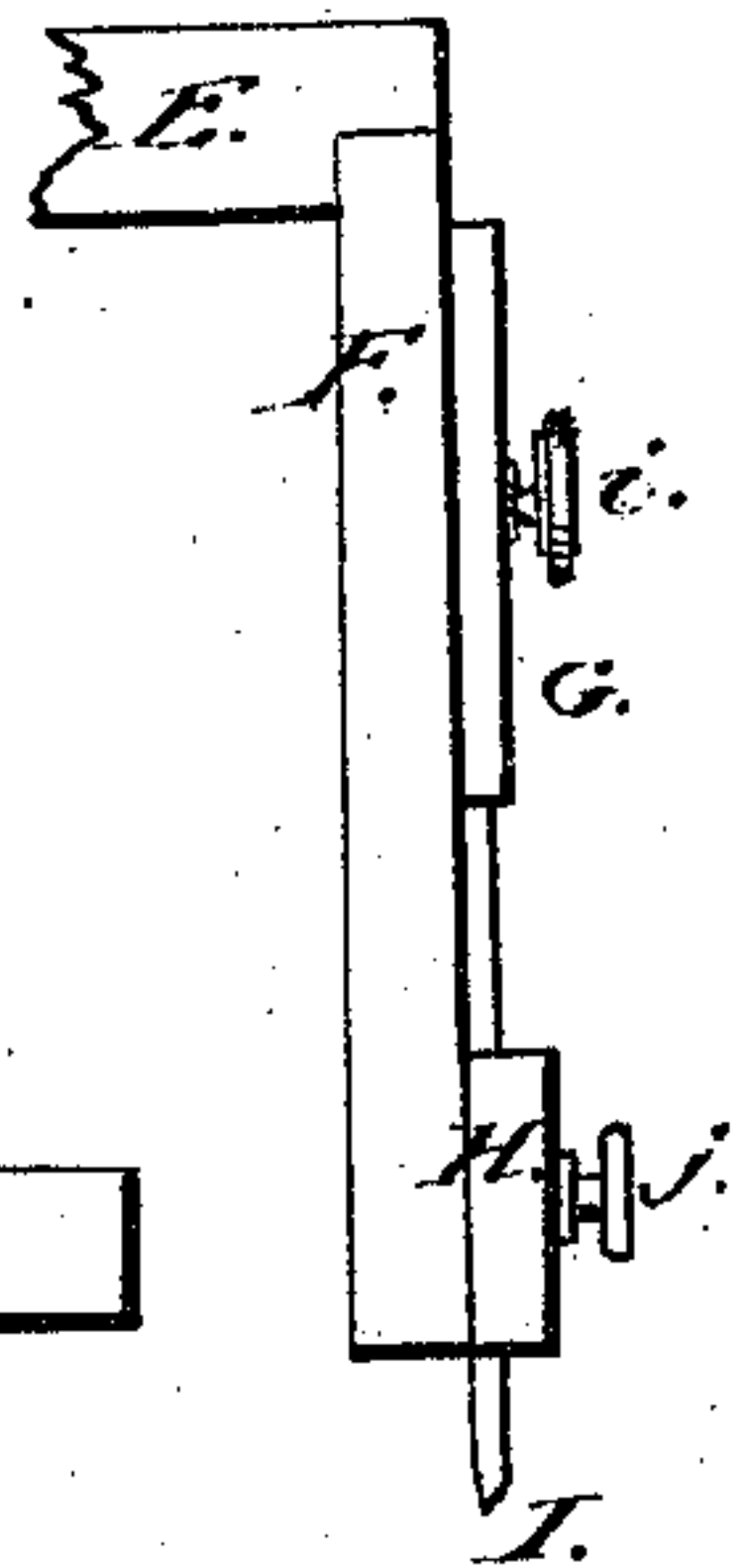
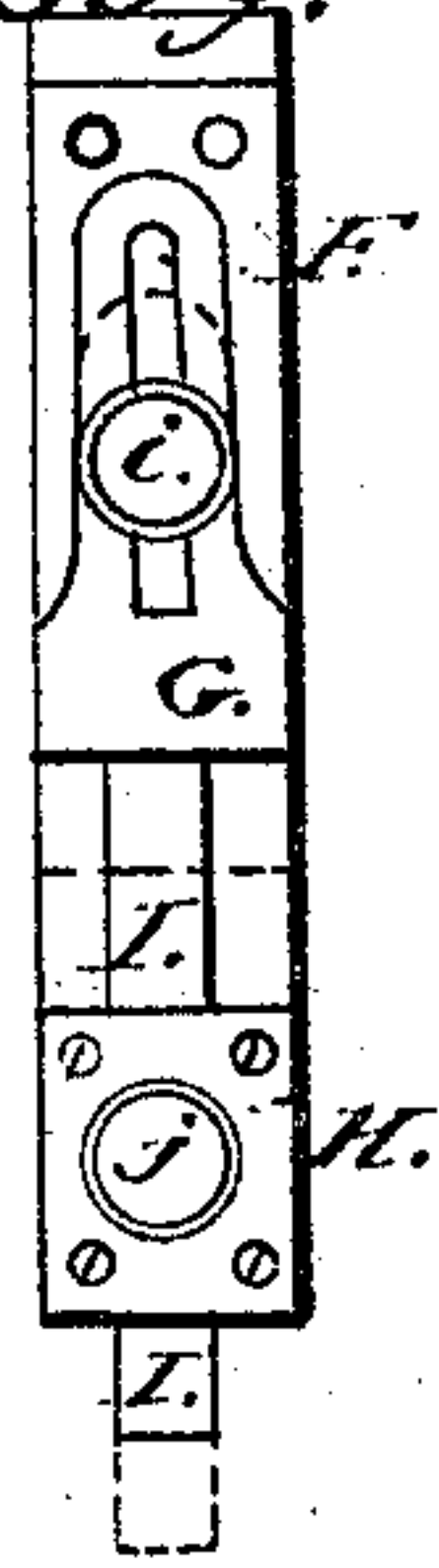
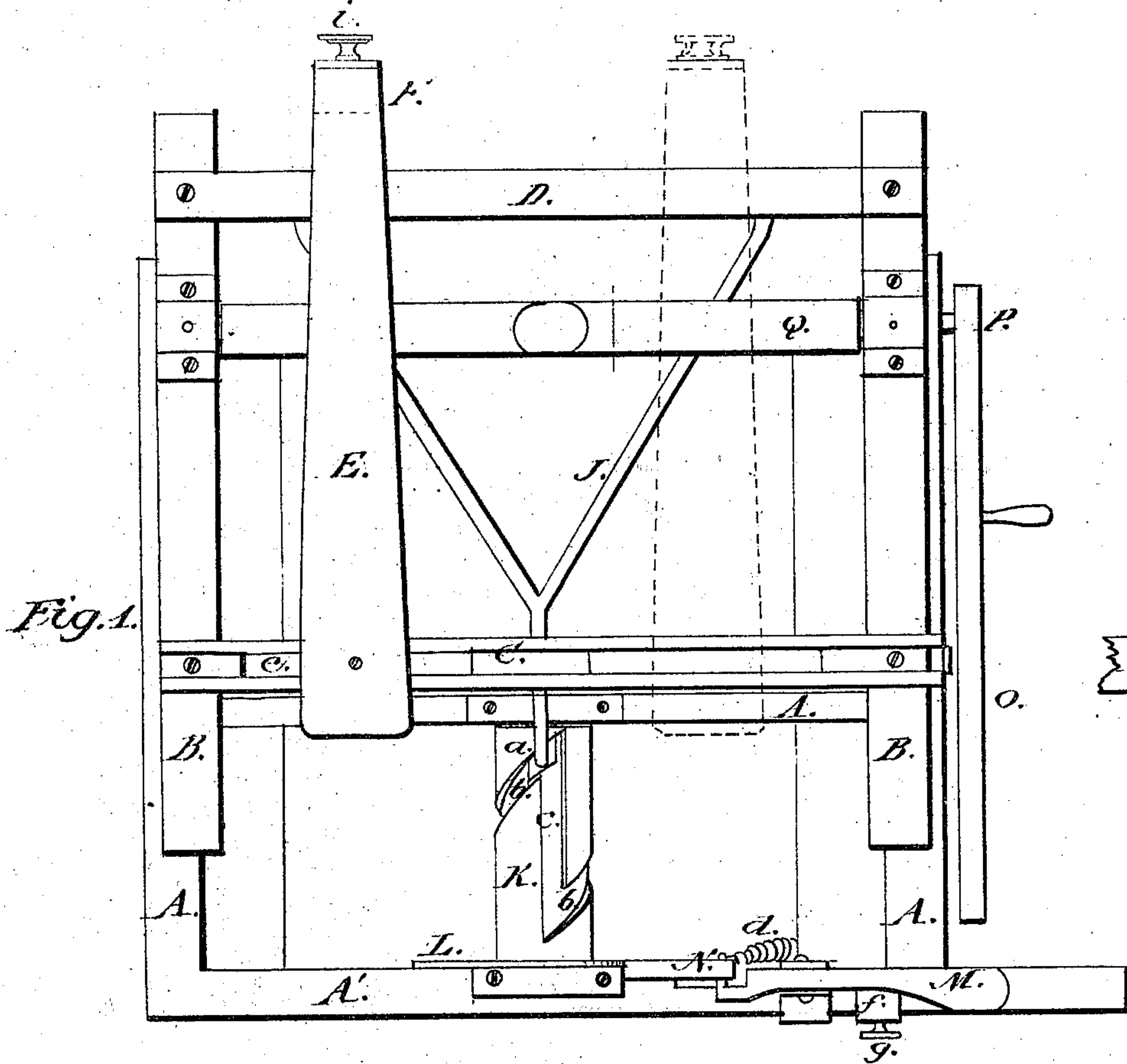


*J. B. Harris,*

*Millstone-Dresser.*

*No. 94,956.*

*Patented Sep. 21. 1869.*



*Fig. 4.*



*Fig. 5.*

*Attest:*  
*A. W. Bond*  
*E. B. Shennan*

*Inventor:*  
*John B. Harris*  
*by M. W. Bond atty*



# United States Patent Office.

JOHN B. HARRIS, OF OTTAWA, ILLINOIS.

Letters Patent No. 94,956, dated September 21, 1869.

## IMPROVEMENT IN MACHINES FOR DRESSING MILLSTONES.

The Schedule referred to in these Letters Patent and making part of the same

*To all whom it may concern:*

Be it known that I, JOHN B. HARRIS, of the city of Ottawa, in the county of La Salle, and State of Illinois, have invented a certain new and improved Millstone-Dresser; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a top or plan view;

Figure 2, an end view;

Figure 3, a front view of the vibrating arm;

Figure 4, a side view; and

Figure 5, a cross-section eccentric shaft.

Like letters refer to same parts in all of the figures.

The nature of my invention consists in constructing a millstone-dressing machine, so that it will have a rapid and accurate action, and be under the complete control of the operator, by means of an adjustable or sliding vibrating arm, to which the chisel or pick is attached; in connecting such arm with a movable frame; in a novel device for changing the movable frame, and for operating the arm; and in the several parts and combinations hereinafter set forth and claimed as new.

To enable others skilled in the art to make and use my machine, I will proceed to describe its construction and operation.

The frame A is made of wood, or other suitable material, and is about sixteen inches square, and seven inches high.

At the back end of this frame, I place a horizontal roller or shaft, K, by suitable bearings, as shown in fig. 1.

This shaft or roller is provided with a spiral groove or slot, *b*, and a longitudinal one, *c*, connecting the ends of *b*.

On the outer end of this shaft K, I attach a ratchet-wheel, L, by means of which, with the pawl N and lever M, the shaft is made to rotate.

Under the lever M, I place an adjustable step or rest *f*, which is adjusted by the set-screw *g*, so that the pawl N will engage each tooth or notch of the ratchet-wheel, or each second or third one, as may be desired.

The lever and pawl are returned by means of the spring *d*, or by their own weight, or other suitable device.

The lever M is pivoted at *h*, as shown at fig. 2, and, when the wheel is to be moved, is depressed by the hand or foot, as may be most convenient.

On the top of frame A, I place an additional frame, B, C, and D, which is connected with the lower frame by tongues and grooves, as shown at fig. 2, or by any other suitable means, and is designed to be moved forward and backward upon such lower frame.

The cross-bar C is grooved on the top, as shown; and at the side near the end of this cross-bar, the gear-wheel O is attached by a suitable axis, which wheel engages the pinion-wheel P, which is secured to and revolves the shaft Q.

I attach a forked arm, J, to the cross-bar D, which extends back to the shaft K, and has at its rear end a projection, *a*, which fits into the groove *b*, as shown at fig. 1.

The shaft Q is attached to this supplementary frame by suitable journal-bearings, and is made oval or eccentric, as shown at fig. 5, or of any other form that will give motion to the arm.

I then make an arm, E, which is not attached to the frame, but may be taken off at any time. At the back end of this arm, I attach a short cross-bar, *e*, which is rounded off at the bottom, and rests in the groove of the cross-bar C, as shown. At the other end, it is carried down by a pendent bar, F. At the lower end of this bar there is a collar, H, through which the pick or chisel I passes, which pick is prevented from sliding out, and is partially held in place, by a set or thumb-screw, *j*.

The pick I is provided with a suitable point, and is made of steel, suitably tempered.

Immediately above the pick, I place a sliding rest or adjustable stop, G, which is pressed against the upper end of the pick proper, and fastened by the screw *i*, which passes through a slot in the rest.

The bar F is made long enough to reach very near the bottom of the frame A, and the pick-point adjusted to go far enough below that frame to form a groove or channel in the stone of the desired depth, so as to make the channels or grooves of the stone even and uniform.

In use, the dresser is placed on the face of the stone to be dressed, and is held in place by placing the foot or knee upon the extended end of A, or upon the machine, as it is designed to be operated by hand; but, under favorable circumstances, other motive-power may be used.

When placed in the proper position, the operator grasps the handle on wheel O with one hand, and places the other on E; the wheel O gives the oval or eccentric shaft Q a rapid motion, which causes the arm E to vibrate with great rapidity, and strikes the pick against the stone. The arm is held in this position until the pick has penetrated the stone to the desired depth, when it is moved sideways, as indicated in red, and kept in place and position by the cross-bar *e*.

When the arm E has been passed across the machine, the lever M is depressed, which moves the shaft K, when the spiral groove *b*, acting upon the head *a* of the shaft or rod J, advances the frame B the proper distance for a new groove in the stone, the distance for it to move having been adjusted by the step



or rest *f*, under the lever *M*. The operation is then repeated, and continued until the spiral groove *b* has been traversed its entire length by the head *a*, when the frame *B* is returned to its original position, the head *a* passing through the longitudinal-groove *c*. The machine is then moved to a new position, or the stone moved under it, ready for a fresh operation, and so on until the entire stone is dressed.

Having thus fully described my millstone-dresser,

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

1. The arm *E*, in combination with eccentric or cam-shaft *Q*, and guide-bar *C*, so that the arm may be moved from side to side, without disturbing its vibrations, substantially as set forth.

2. The bar *J*, in combination with the grooved shaft *K*, for moving the frame *B* upon the base-frame, substantially as specified.

3. The shaft or roller *K*, when provided with the

spiral groove *b* and the longitudinal groove *c*, substantially as and for the purposes described.

4. The adjustable stop or rest *f*, in combination with the lever *M*, pawl *N*, and ratchet-wheel *L*, for adjusting the movement of the frame *B*, substantially as specified.

5. The adjustable stop *G*, provided with the set-screw *i*, in combination with the pick *I*, provided with the set-screw *j* and the arm *E F*, for adjusting the exact distance for the pick to enter the stone, substantially as specified.

6. The combination and arrangement of the frames *A* and *B*, arms *E F*, shaft *Q*, guide *C*, arm or rod *J*, and roller *K*, with the ratchet-wheel *L* and driving-mechanism, substantially as set forth.

JOHN B. HARRIS.

Witnesses:

H. K. BOYLE,  
BIRD BICKFORD.