

(No Model.)

2 Sheets—Sheet 1.

I. B. BAKER.
MACHINE FOR DRESSING MILLSTONES.

No. 314,776.

Patented Mar. 31, 1885.

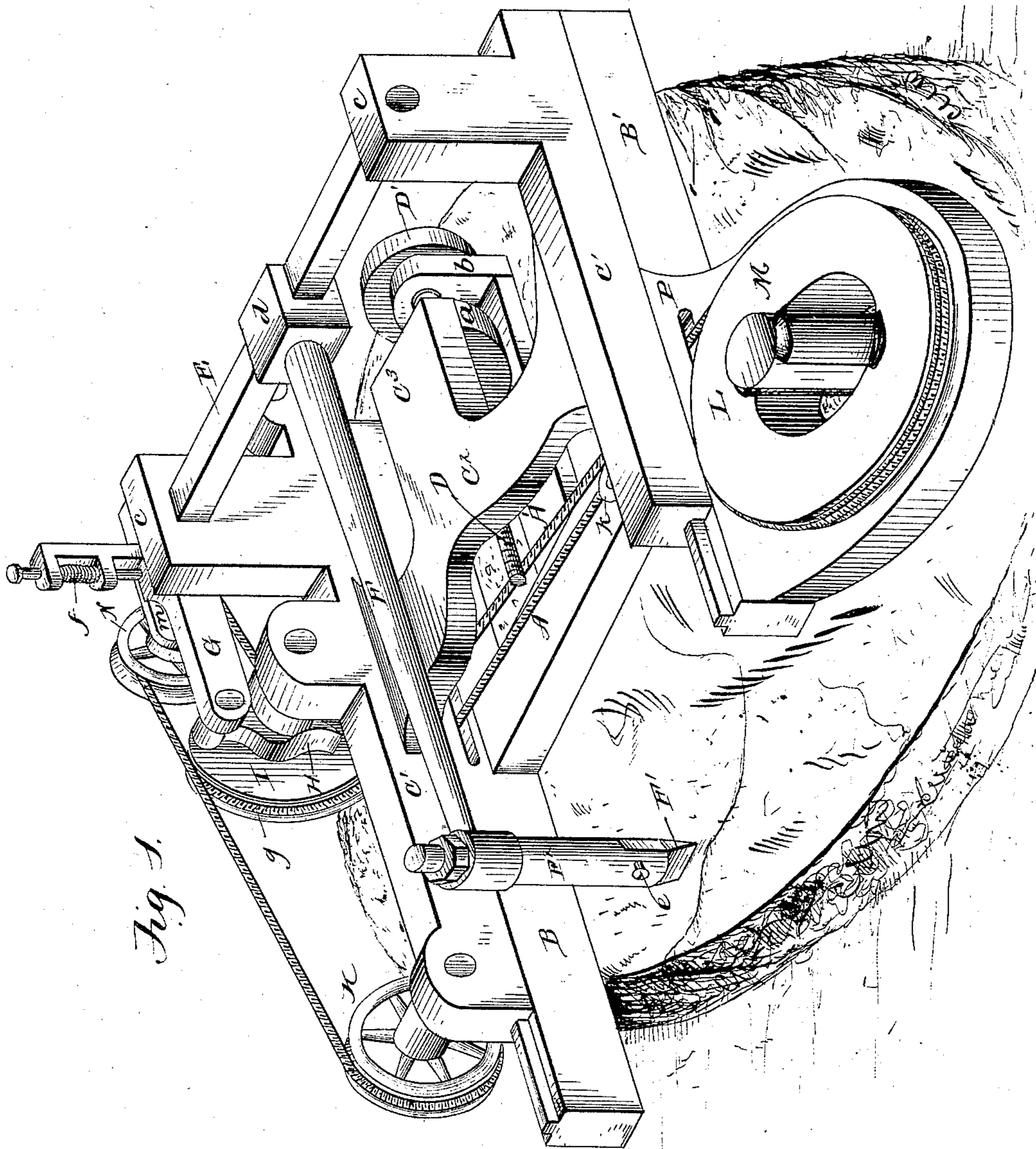
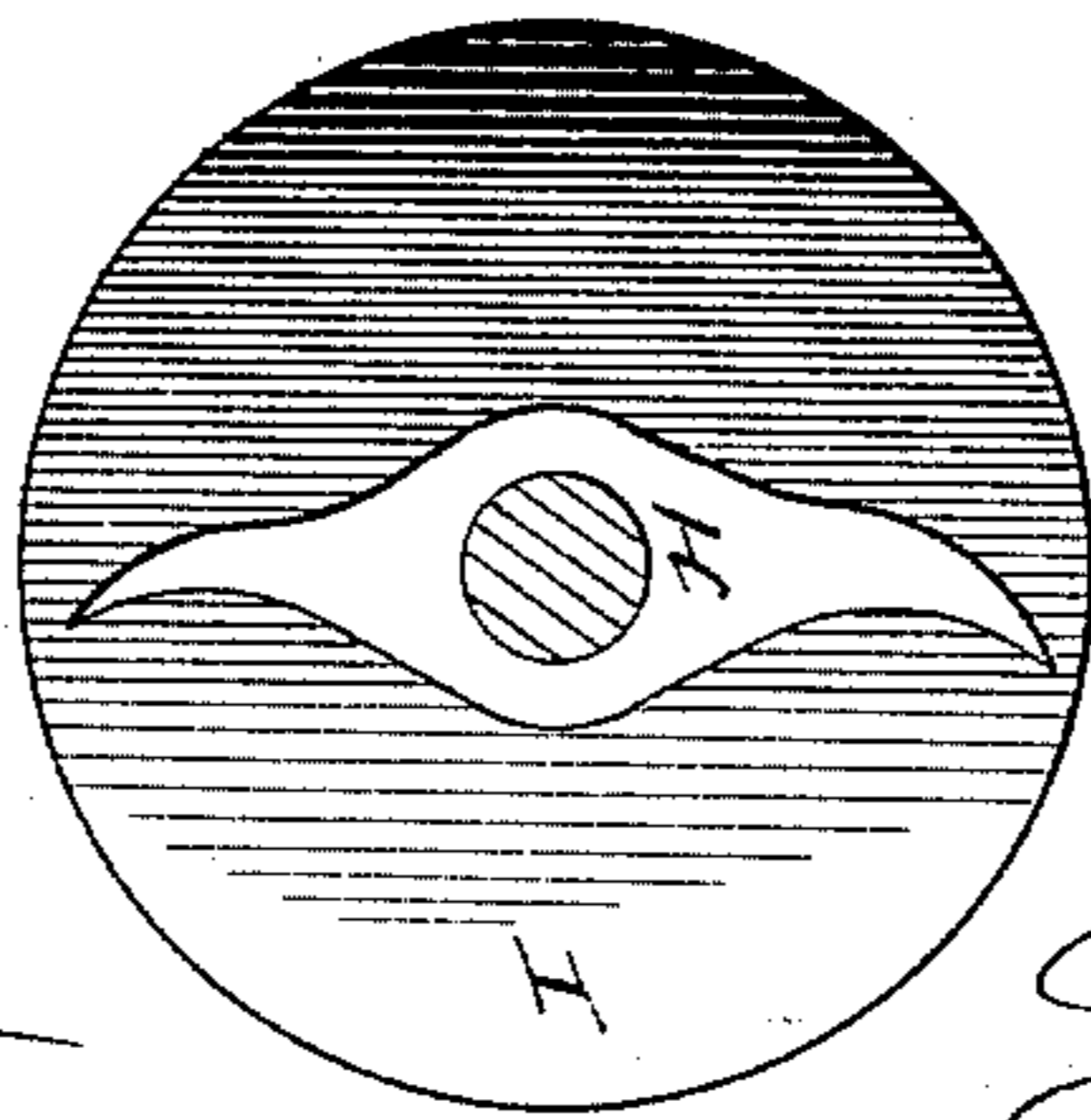


Fig. 1.

Fig. 2.



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Inventor:

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(No Model.)

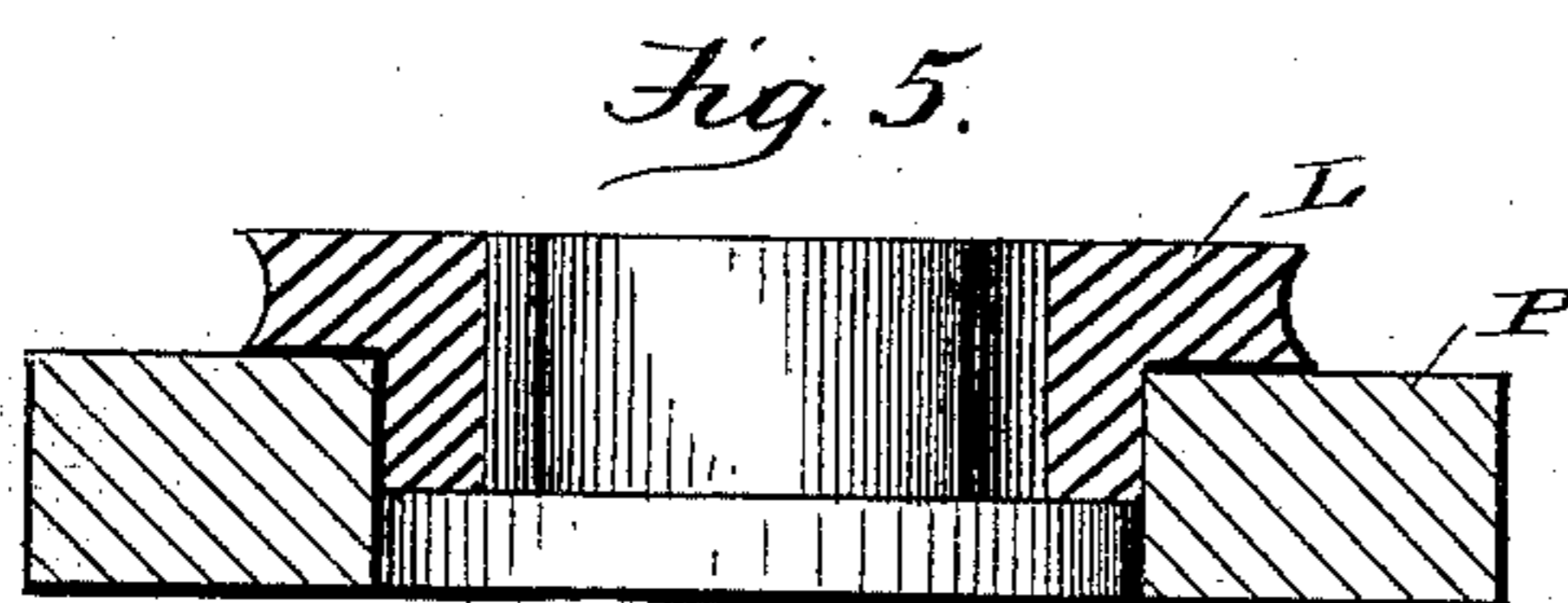
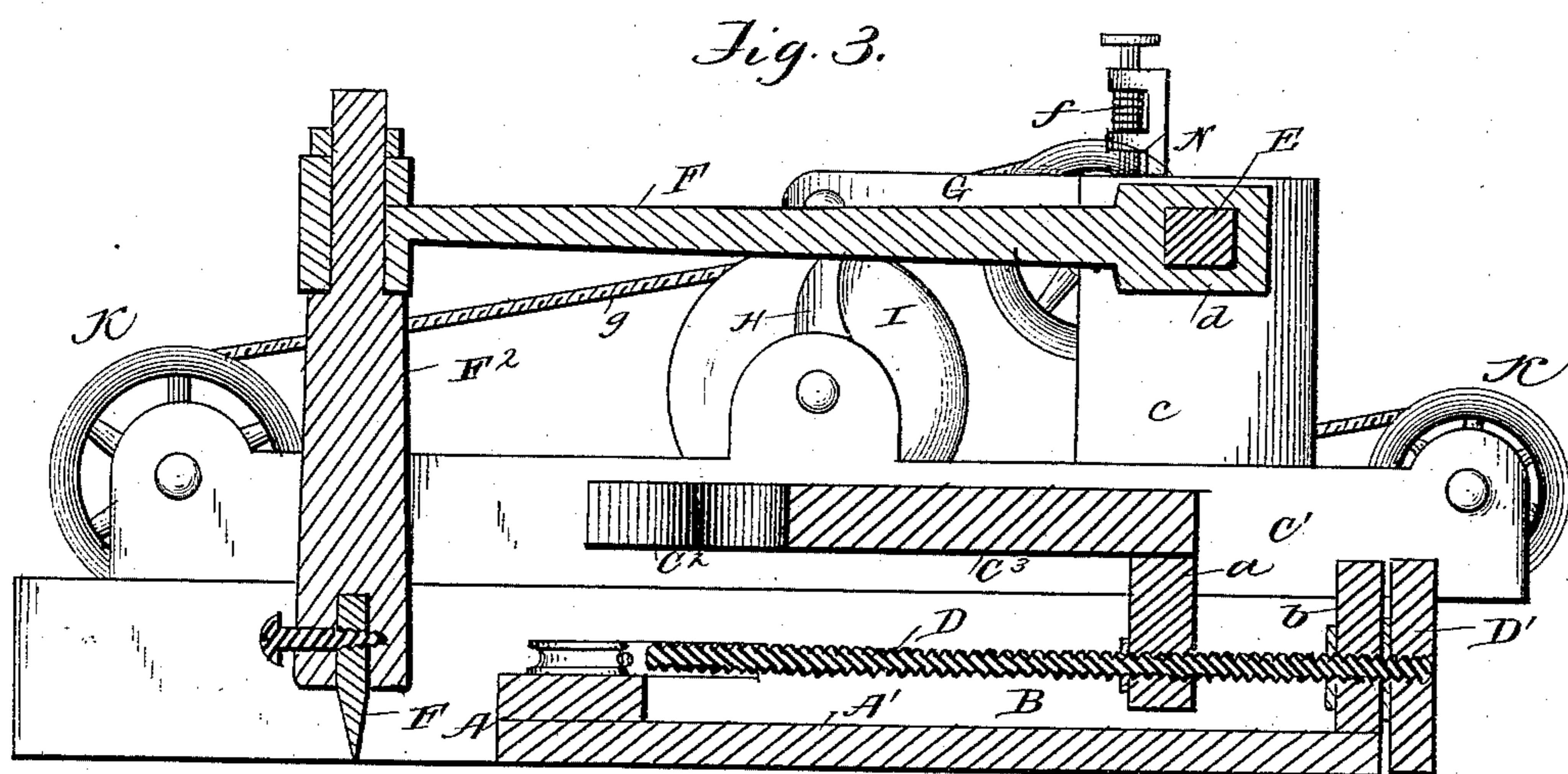
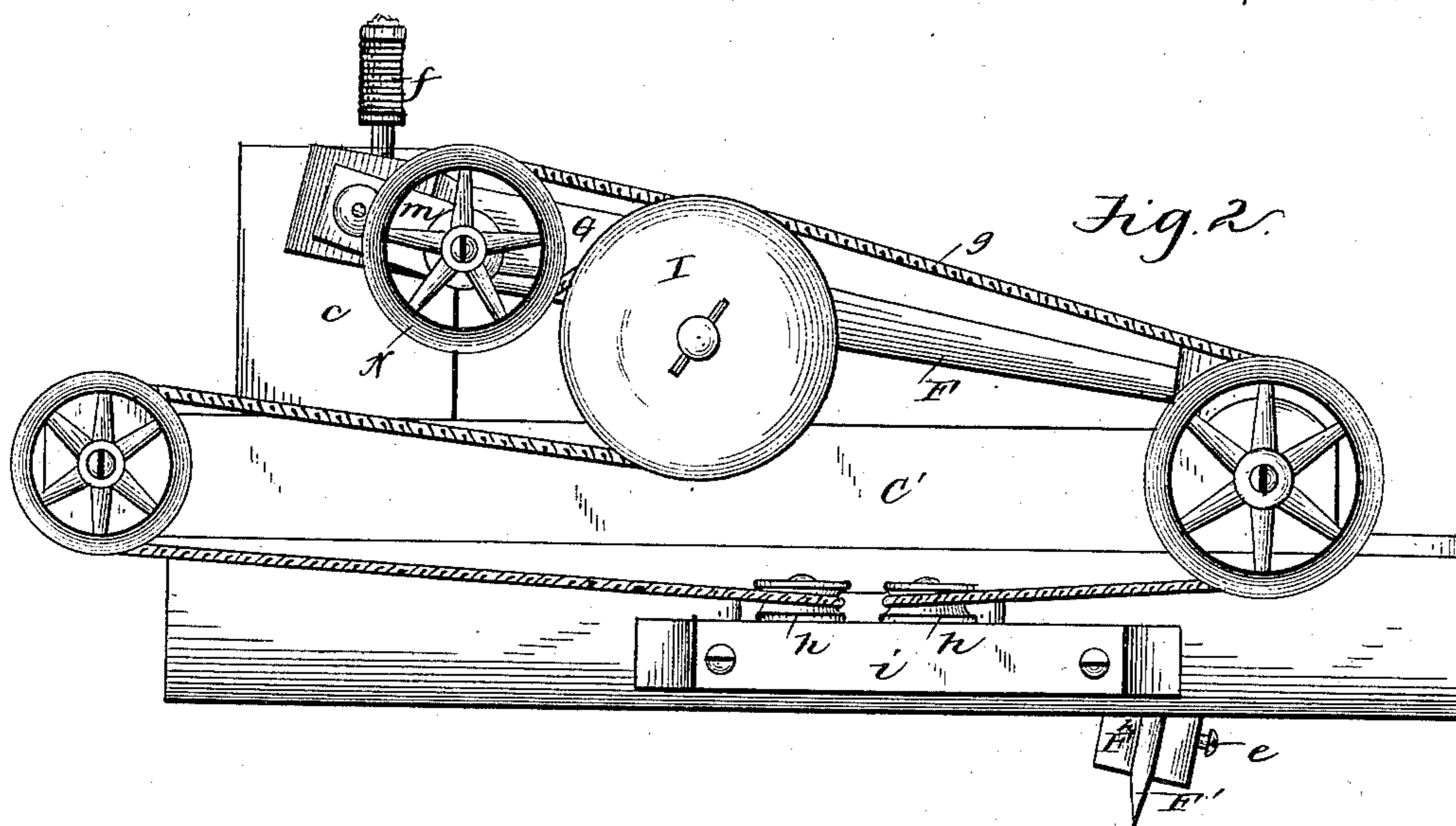
2 Sheets—Sheet 2.

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WITNESSES

WITNESSES
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UNITED STATES PATENT OFFICE.

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MACHINE FOR DRESSING MILLSTONES.

SPECIFICATION forming part of Letters Patent No. 314,776, dated March 31, 1885.

Application filed August 30, 1884. (No model.)

To all whom it may concern:

Be it known that I, ISAAC B. BAKER, a citizen of the United States, residing at Port Allegheny, in the county of McKean and State of Pennsylvania, have invented a new and useful Improvement in Machines for Dressing Millstones, of which the following is a specification, reference being had to the accompanying drawings.

Figure 1 is a perspective view of my improved machine for dressing millstones. Fig. 2 is a side elevation of the machine, showing a portion of the driving mechanism. Fig. 3 is a longitudinal section of the machine. Fig. 4 is a detail view of the cam-wheel, and Fig. 5 is a sectional view through the driving-pulley.

Corresponding parts are indicated by like letters in the several views.

This invention relates to machines for dressing the faces of French burr millstones, the object being to provide a simple and compact machine that will be adapted to crack-face and furrow either right-hand or left-hand stones, and so arranged as to be under the complete control of the operator.

The invention consists in certain peculiarities in the construction and combination of the parts of a millstone-dressing machine, as will be hereinafter more fully described, and distinctly specified in the claim.

The supporting frame or base of the machine consists of a cross-bar, A, that connects the side bars or rails, B B', on which the carriage is supported. This carriage is composed of side pieces, C' C', that have a tongue-and-groove connection with the rails B B', so as to slide readily thereon for providing the necessary forward and back adjustment, as will be readily understood. The side pieces, C' C', of the carriage are connected by a cross-piece, C², having a rearwardly-projecting arm, C³, at the end of which is a depending lug or bearing, a, for a screw-shaft, D, that also has a bearing in a lug, b, at the rear end of an arm, A', which projects back from the connecting cross-bar A of the main frame. The rear end of the screw-shaft D carries a hand-wheel, D', by which the shaft is rotated for the purpose of adjusting the carriage forward or back. At the rear end of the carriage are journal-boxes c c, for a rock-shaft, E, to which the handle of the pick-

tool is connected. This shaft is preferably rectangular in cross-section, and the handle F of the pick or dressing-tool is connected to the shaft by a clip, yoke, or collar, d, that is socketed to correspond with the contour of said shaft, on which it is arranged to slide freely under the manipulation of the operator. The pick or dressing-tool F' is detachably connected by means of a set-screw, e, to a pick-head, F², that is carried by the forward end of the handle F in the usual manner.

To one end of the rock-shaft E is rigidly secured an arm, G, that is lifted at intervals by a cam, H, on a grooved wheel, I, which is journaled or pivoted to a suitable bearing on one side of the carriage. By the action of the cam H against the arm G the rock-shaft E receives a partial rotation at intervals, thereby raising the pick or dressing-tool, so that in its fall against the face of the millstone the requisite dress will be imparted thereto under the guidance of the operator.

In order to regulate or increase the intensity of the blows delivered by the pick or tool F', an adjustable spring, f, may be arranged to exert a downward pressure on the arm G of the rock-shaft. This spring may, however, be dispensed with, as the weight of the pick is ordinarily sufficient to produce the desired impression on the stone. The grooved cam wheel or pulley I is actuated by a belt or cord, g, that nearly encircles said wheel or pulley, and also passes over pulleys K K on the carriage. From the pulleys K K the belt, cord, or chain g passes around guiding-pulleys h h, that are pivoted in a horizontal position to a ledge, i, of the rail B at one side of the machine. The belt or cord g is then passed through a slot or opening in the rail B, and is extended across the machine and through a slot in the rail B', at the outer side of which it is passed around a driving-pulley, L, that is keyed to the spindle M of the mill or other vertical rotary shaft, one portion of the belt or driving-cord g being carried in contact with a guiding-pulley or idler, k, at the inner side of the slotted opening in the rail B'. A belt or cord tightening pulley, N, is pivoted to an arm or bracket, m, that is loosely journaled to the end of the rock-shaft E, and the cord g is passed around said pulley, so that the tension can be regulated as required.

It will be observed that the pick or dressing-tool is actuated from the mill-spindle or other vertical rotary shaft through the rock-shaft E and intermediate mechanism, as described. The operator can thus give his entire attention to the adjustment of the machine and guidance of the pick in performing its work.

The driving-pulley L, as before remarked, is keyed to the mill-spindle, if convenient; otherwise any vertical rotary shaft may be substituted for said spindle.

In dressing the under stone power can be conveniently taken from the spindle, as described; but in order to dress the upper stone or runner it will be necessary to unship said stone and support it in a reversed position. Any vertical rotary shaft can then be stepped in the bail of the reversed runner, and the pulley L be keyed to said shaft. The under side of this pulley L is provided with a rim that fits into a circular opening formed in a horizontal plate, P, which is attached to the forward part of the rail B' at the side of the machine. The circular opening in the plate P is made to loosely surround the mill-spindle or other vertical rotary shaft, which thus forms a pivot on which the machine is rotated, as required, while dressing the surface of a millstone.

The manner of using the machine to crack-face or furrow the surface of a millstone will be readily understood by those acquainted with the art of millstone dressing, and therefore need not be further explained.

It may be remarked that the machine is under the perfect control of the operator, who

stands at the back end and with one hand moves the tool laterally along the rock-shaft E, as required, while with the other hand he adjusts the forward movement of the carriage or turns the whole machine on its pivotal point.

It is obvious that with this machine the high and hard spots in the stone can be dressed as much and the low and soft spots as little as may be desired, the requisite dressing being done with great accuracy and ease and without requiring more than ordinary skill.

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

The combination of the supporting base or frame having the plate P extending from one of its side rails, the driving-pulley L, fitting and working loosely within an opening in the plate, said pulley being adapted to be keyed to the mill-spindle, the sliding carriage which is fitted with a tongue-and-groove connection to the base, rock-shaft E, sliding arm F, for the dressing-tool, arm G, attached to one end of the rock-shaft, arm m, pivoted also thereto, pulley N, on arm m, pulley I, having cam H, for actuating the rock-shaft, pulley K, sheaves h and k, band g, for connecting the pulleys, and screw D, for moving the sliding carriage, all combined and arranged to operate substantially as shown and described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

ISAAC BRAYTON BAKER.

Witnesses:

C. W. FARR,
B. F. BARTLE.