

D. HINMAN.
Mill Spindle.

No. 29,375.

Patented July 31, 1860.

Fig. 2.

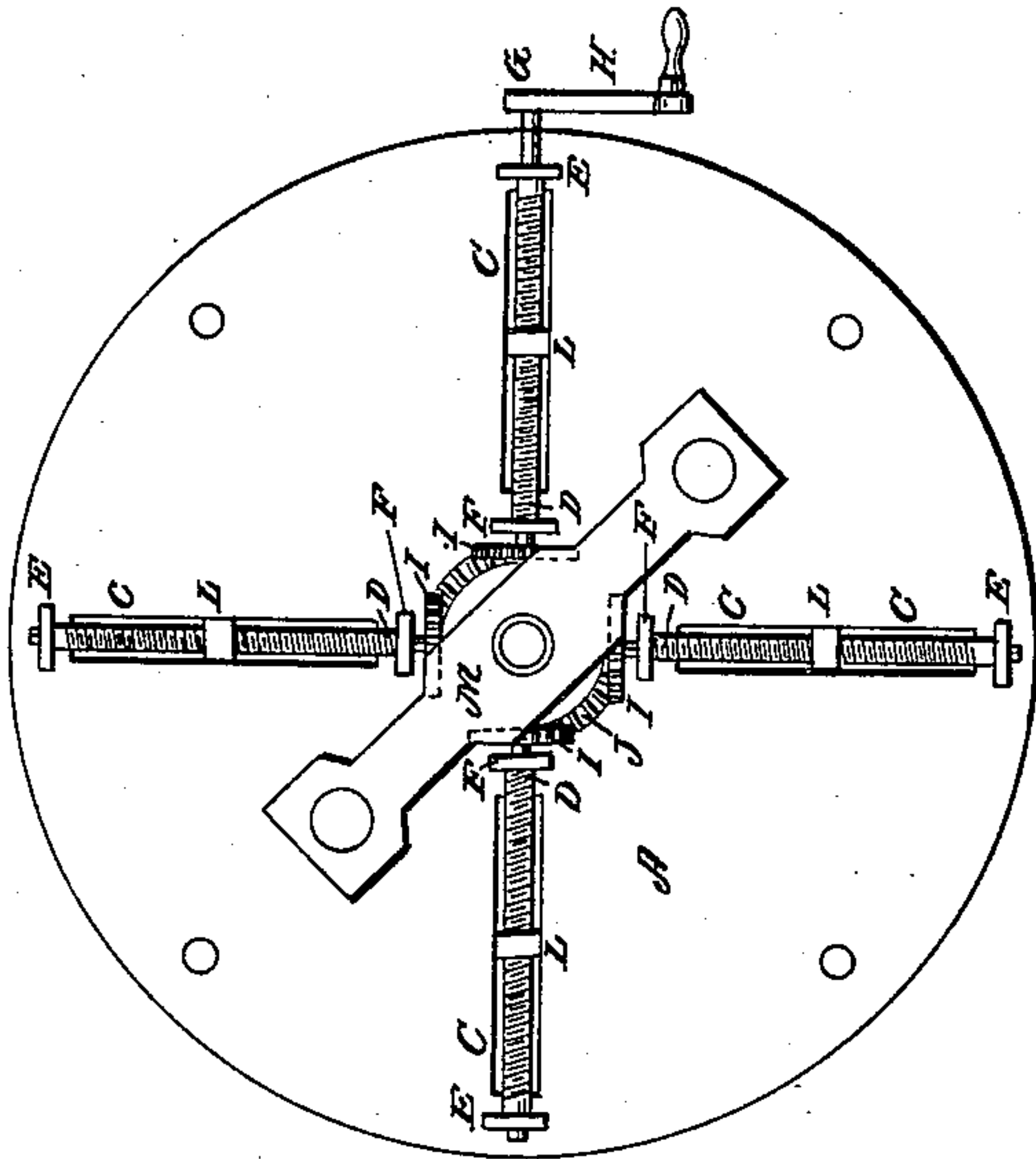


Fig. 3.

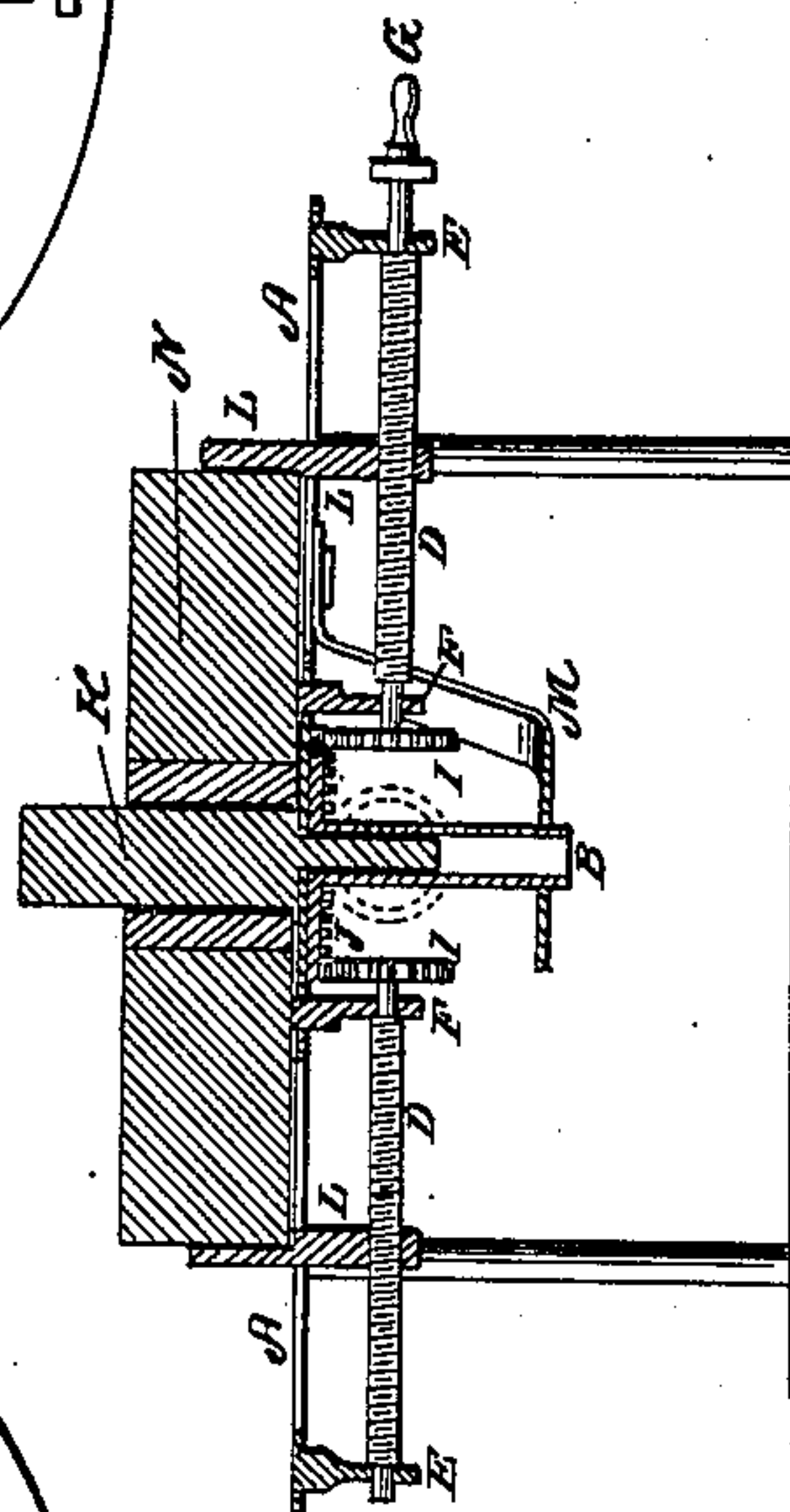
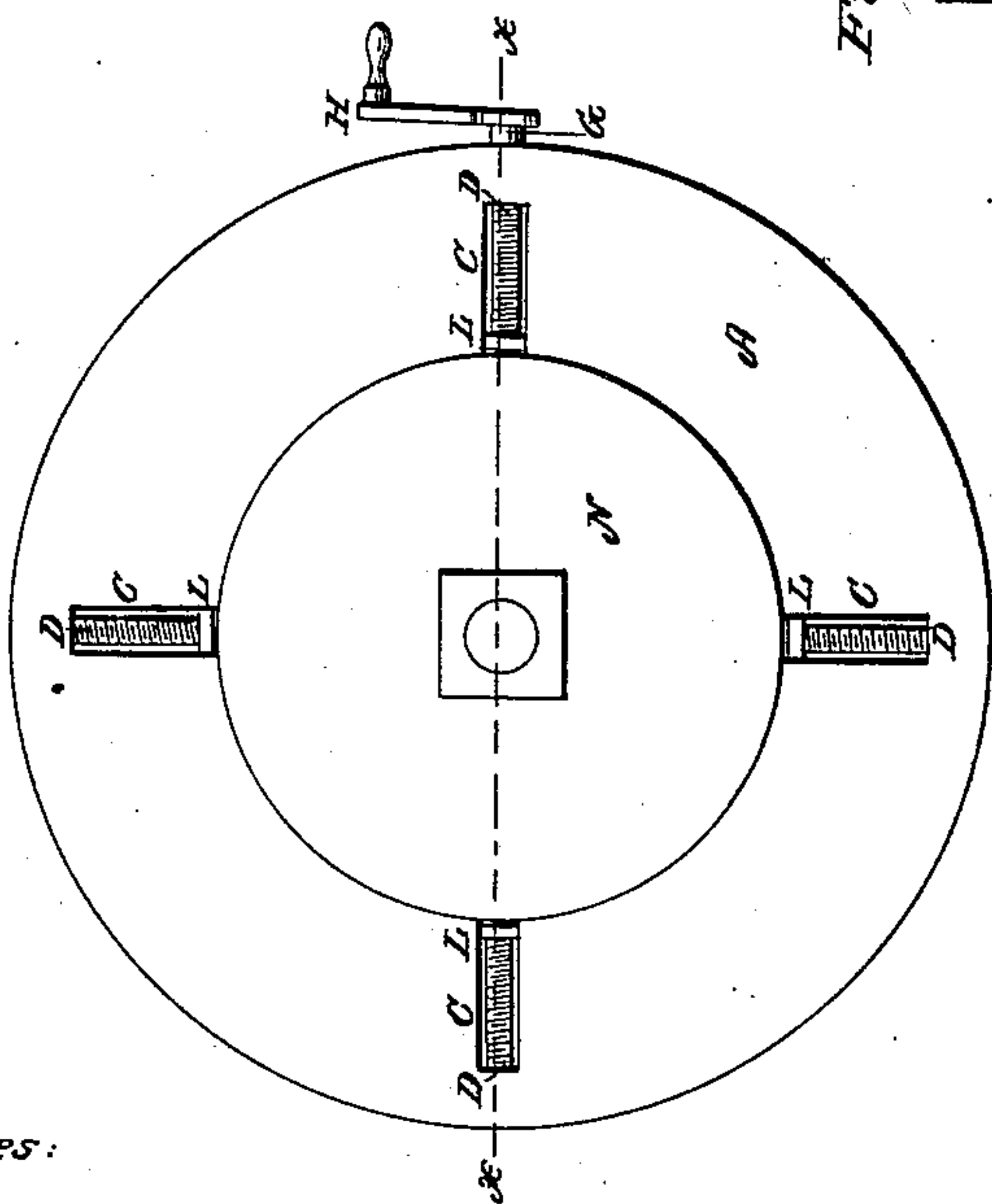


Fig. 1.



Witnesses:

W. H. Burdick.
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Inventor:

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UNITED STATES PATENT OFFICE.

DAVID HINMAN, OF BEREA, OHIO.

MODE OF FORMING THE CENTERS FOR THE SHAFTS OF GRINDSTONES.

Specification of Letters Patent No. 29,375, dated July 31, 1860.

To all whom it may concern:

Be it known that I, DAVID HINMAN, of Berea, in the county of Cuyahoga and State of Ohio, have invented new and useful Improvements in the Mode of Centering and Truing Up Grindstones; and I do hereby declare that the following is a full and complete description of the construction and operation of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a top view, Fig. 2 is a view of the under side of the machine, and Fig. 3 is a view in the direction of the line X X, in Fig. 1.

The nature of my invention relates to the mode of forming the eye through which the crank shaft passes, exactly in the center of the stone, or at equal distance from its periphery, and at right angles to the sides, by means of filling the rough eye (which is usually made of a square form and used in the process of manufacturing) with some plastic cement which becomes hard, around a center pin so placed and adjusted, as to secure the aforesaid object, as hereinafter set forth.

The ordinary mode of putting in a crank is first, to drive a piece of wood into the rough eye of the stone, (this eye being two or more inches in diameter;) second, to bore a hole about the size of the crank shaft, as near the center as can be ascertained, by careful measurement; third, the shaft is put into the hole, and wedges are driven around it until it is made tight; fourth, in revolving the stone, if it does not turn true, the wedges must be changed, and this often requires to be several times repeated before the object is attained. From frequent wetting and drying the wood swells and shrinks, and the concentricity of the stone is lost.

In Figs. 1, 2, and 3, A, represents the face plate. This may be made of metal, or other material that will not warp or change its figure. Its diameter should be greater than the stone to be centered. The center of the plate A, is pierced with a round hole, to admit the hollow journal B, Fig. 3, the uses of which will be hereafter described. The plate A, is also provided with four radial slots, C, C, C, C, which are situated at right angles from each other. Immediately beneath each of these slots, is placed a screw D, which is secured to the face plate A, by means of the boxes E and F. One of these

screws, as seen at G, extends beyond the circumference of the face plate A, and to which, a crank H, is attached. The inner ends of the screw D, are each provided with a cog gear, I, of the same diameter and number of teeth all of which work into a horizontal wheel J, which lies exactly below the center of the plate A. This horizontal wheel J, has a hollow shaft B, into the bore of which is inserted from the upper side of the face plate A, the pin K. The upper end of this pin, is turned to a true taper, the part above the plate A, being of the diameter of the crank shaft, to be inserted into the hole left by the pin, which crank shaft should be turned to the same diameter and taper of the pin K. The pin K, being tapering, as above stated, can be withdrawn from the plaster cement that is poured into the eye of the stone, after it has become "set" or hardened.

Upon each of the screws D, is placed a moving stud L, the lower end of the stud forming a nut through which the screw passes. The upper end of the stud L, rises through the slot C, some three or four inches, above the top of the face plate, the position of the four studs, being exactly concentric with the center of the hollow shaft B. The screws having all the same lead, and the wheels I on their inner ends being all of the same diameter, and number of teeth, it follows that if one of the screws is revolved, all the others will revolve in concert with it, and hence, by turning the crank H, the studs L, will all be moved the same distance in the same direction, either from or toward the center of the face plate A. The lower end of the hollow shaft B, is supported by a brace M, attached to the under side of the plate A, as seen in Figs. 2 and 3. The whole apparatus thus formed, may be mounted upon legs of convenient height, as seen in Fig. 3.

The manner of using this invention is as follows. The studs are run out toward the edge of the plate A. A grindstone N, with its rough and imperfect "eye" is placed nearly in the center of the plate. The crank H, being now turned to the left, the studs L, are moved inward, and are caused to embrace the stone at four points, at right angles from each other; the periphery of the stone is thus brought into a position that is exactly concentric with the center of the plate A and hollow shaft B. I now insert

the pin K as seen in Fig. 3, and fill the eye of the stone with gypsum or other suitable cement. When this becomes set, and hard, the pin K is removed and the crank shaft introduced in its place, and secured in the usual manner by means of face plates upon each side of the stone, one of which is fixed to the shaft, and the other pressed against the stone by means of a screw and nut upon the shaft.

What I claim as my improvement and desire to secure by Letters Patent is—

An apparatus for making the eye of a grind stone concentric with its periphery,

by means of the screws D, studs L, and the pin K, which pin is placed in the rough eye of the stone, and in the center of the circle formed or bounded by the circumference of the stone, and filling the rough eye around the pin K, with some plastic cement through which the crank shaft is subsequently inserted, substantially as described, and for the purpose specified.

DAVID HINMAN.

Witnesses:

W. H. BUNIDGE,
HENRY VOTH.