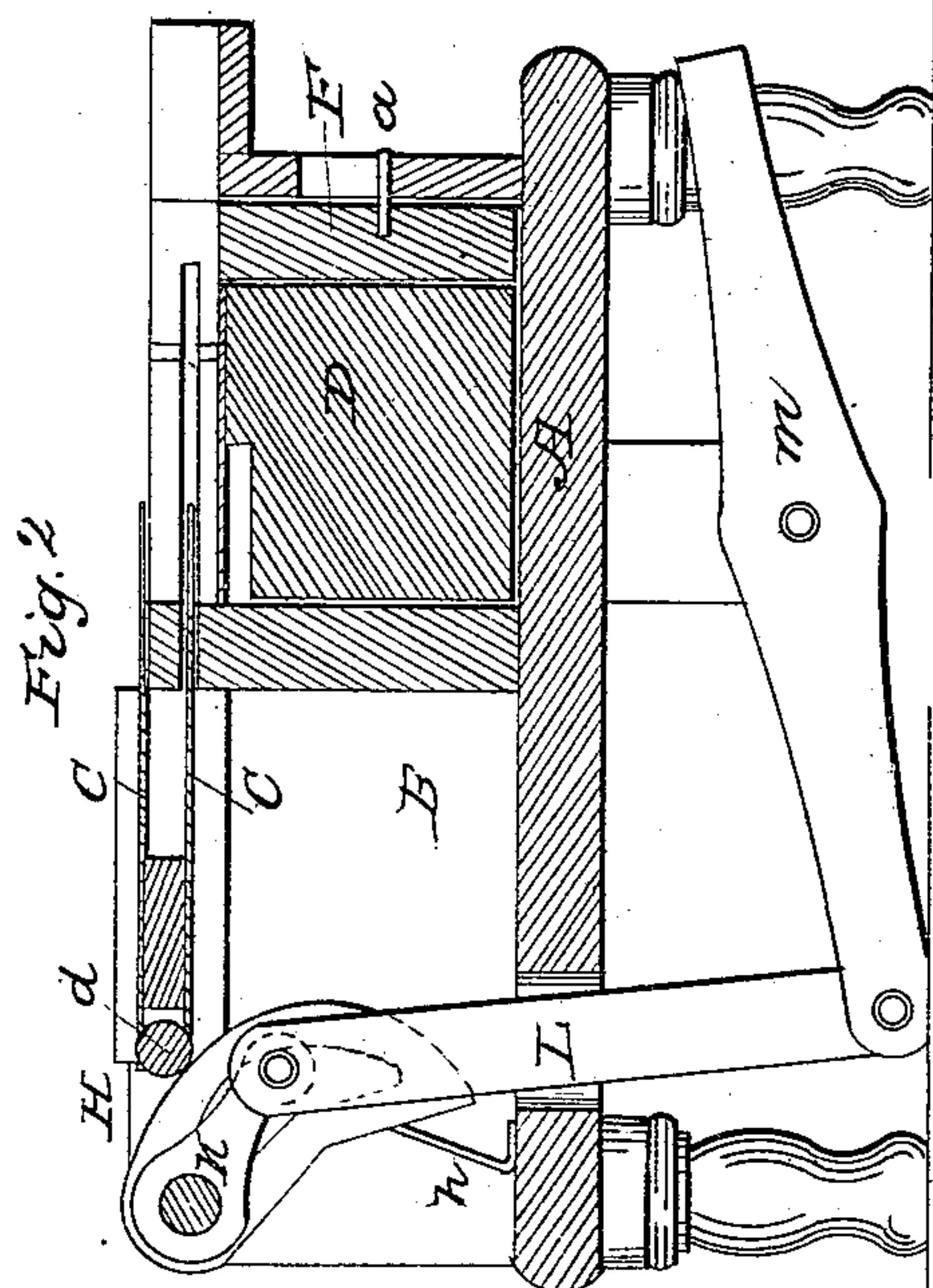
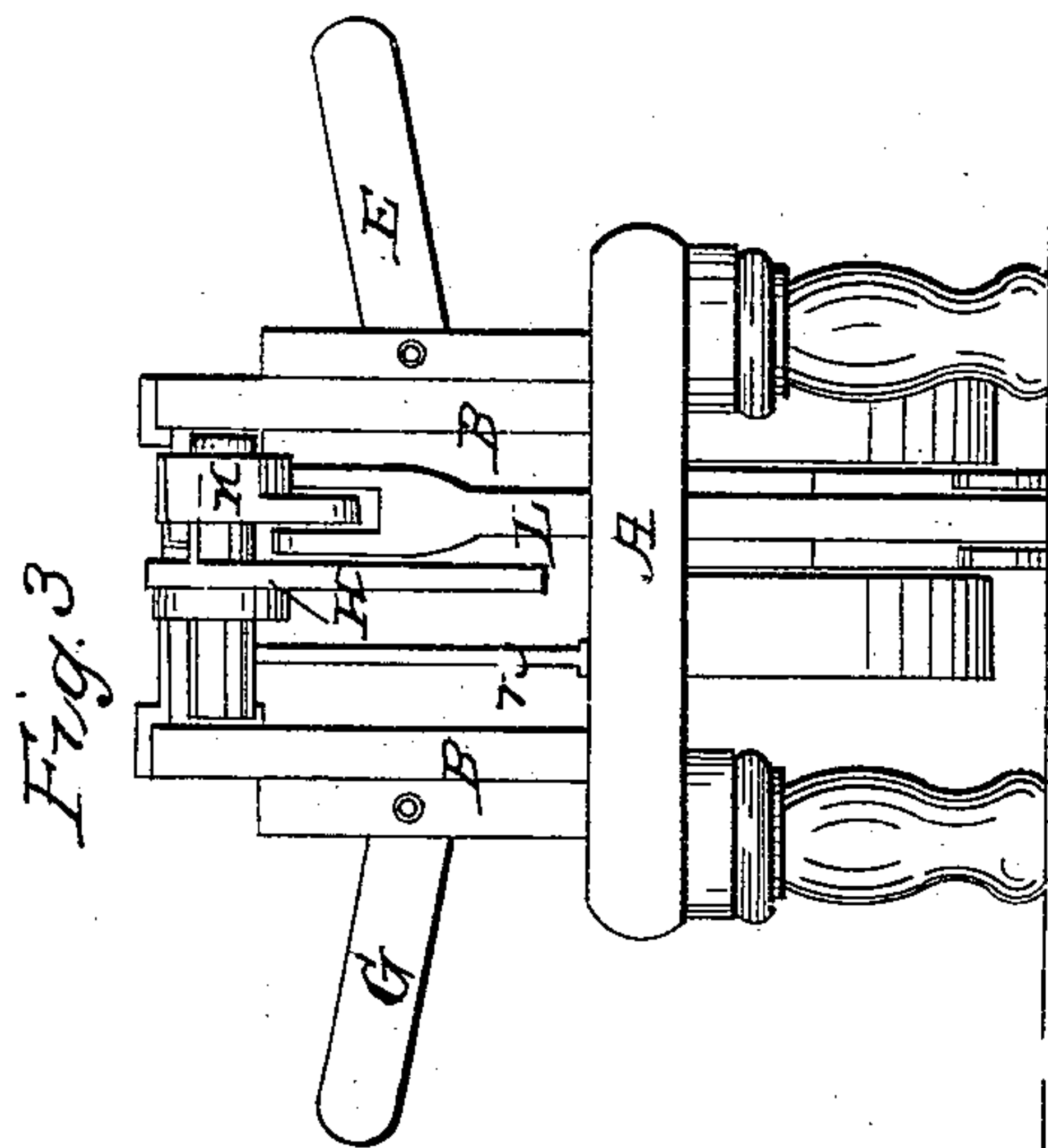


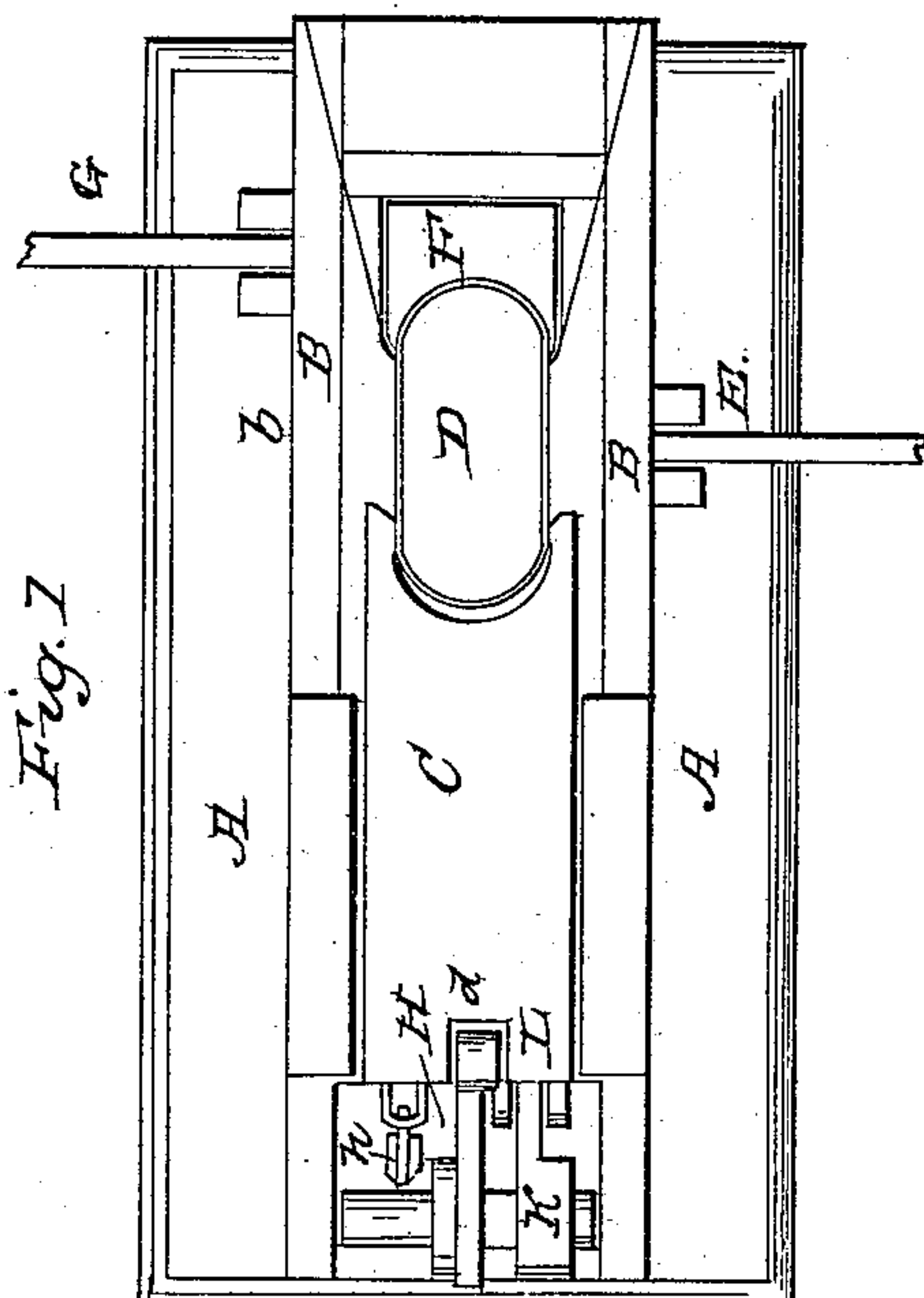
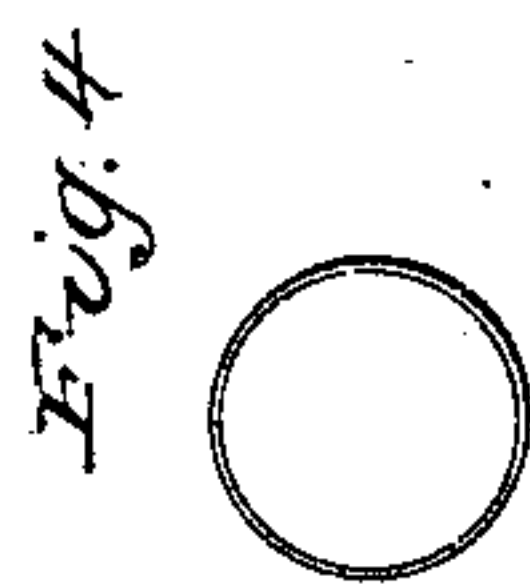
N. H. SPAFFORD.
Machine for Bundling Bristles.

No. 54,033.

Patented April 17, 1866.



WITNESSES
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UNITED STATES PATENT OFFICE.

NATHAN H. SPAFFORD, OF BALTIMORE, MARYLAND.

IMPROVED MACHINE FOR BUNDLING BRISTLES.

Specification forming part of Letters Patent No. 54,033, dated April 17, 1866.

To all whom it may concern:

Be it known that I, NATHAN H. SPAFFORD, of Baltimore, in the county of Baltimore and State of Maryland, have invented a new and useful Improvement in Machines for Bundling Bristles; and I hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, and to the letters of reference marked thereon.

The object of my invention is to provide means whereby bristles may be easily and rapidly bound in bundles ready for market and for use.

To this end I construct a bench, as shown at A, Fig. 1, of the drawings, and place in, upon, and under the same the devices hereinafter described.

Letter B is a box that sits upon the said bench, and to which it is firmly attached. It is constructed with one end open and the other closed, as shown on the drawings, the open end being designed to make room for the machinery placed therein, as hereinafter mentioned. This box at its open end is made flaring on its upper surface, as shown on Fig. 2, so as to furnish an easy and accessible platform upon which to rest the butts of the bristles before they are bundled.

C C are duplicate sliding plates whose front ends are cut out so as to form a half-circle. The object of these plates is to form the bristles, when put into the cavity D with their butts downward, into a bundle and compress them into a circular form. In order that the lower slide C may not be obstructed in its movements when the block D is elevated, a slot or opening is made in said block D, into which said slide passes when forced forward.

D is an oblong block, which is lifted or depressed by means of the lever E, that works on a pivot set in the side of box B, or in ribs or a slotted post on the outside thereof.

F is a block having its inner side constructed in a circular form to fit the outer end of block D, against which it rests and works. Block F is raised or lowered by means of the lever G, which is attached and works in the same manner as lever E, but on the opposite side of the box and connected with a different block. The pins working in slots at *a* and *b* serve

as guides and supports for the blocks D and F, respectively.

Near the top of the open end of box B, I affix a shaft running from side to side of said box, and on which I affix the cam H and lever K, hereinafter described.

The cam H extends inward from the said shaft and rests against a roller placed in the end of the sliding plate C. This roller is marked *d*. The cam H works against said roller and slides said plate inward.

The lever K has its inner end attached to an upright lever, (marked L.) Lever L has its lower end connected, by a tongue-and-groove hinge, with the inner end of the treadle M. This treadle works on a journal or pivot set in posts that extend downward from the main bench of the machine, as shown on Figs. 2 and 3. It is the means by which the cam H is forced upward against the roller *d* and the plate C moved inward. Thus the foot of the operator presses down the outer end of the treadle M. The power is communicated to the levers L and K. The cam H is raised upward and the plate C is forced inward.

N is a spring attached to the top of the main bench and sliding plate C. Its office is to return said plate to its original position after the same has been forced inward by the cam.

Figure 4 is a ring of tin or other suitable material, which I use to hold the bristles in bundles after the machine has done its work.

The mode of operating my machine is as follows, to wit: I place a handful of bristles on the circular platform with the butts downward and push them forward onto the block D. I then press down the lever G, and thereby raise the block F in the rear of the bristles. I then force down the treadle with my foot, and thereby crowd the circular ends of the sliding plates against the bristles. They are now held firmly in a circular bunch. I next wrap the bristles in a suitable paper and pass the ring, Fig. 4, over them. I then press down the lever E. This movement raises the block D and forces the bristles upward. I then crowd the wrapper and ring downward and keep the latter even with the top of the box.

By these means the bristles become firmly and thoroughly bundled, wrapped with paper, and secured in a strong ring.

I do not intend to confine myself to bund-

ling bristles, as described, but may use my machine for adjusting and compressing bristles for paint-brushes and the like, and for other purposes to which it may be adapted.

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

1. The sliding plate C and blocks D and F, constructed and operated substantially as and for the purposes herein specified.

2. In combination with the blocks D and F, the levers E and G, when constructed substantially as and for the purposes set forth.

3. The treadle M, levers L and K, cam H, and roller d, constructed, combined, and arranged substantially as described.

4. The entire machine, with its various devices, constructed, combined, and arranged substantially as and for the purposes expressed.

NATHAN H. SPAFFORD.

Witnesses:

D. E. SOMES,

CHARLES HERRON.