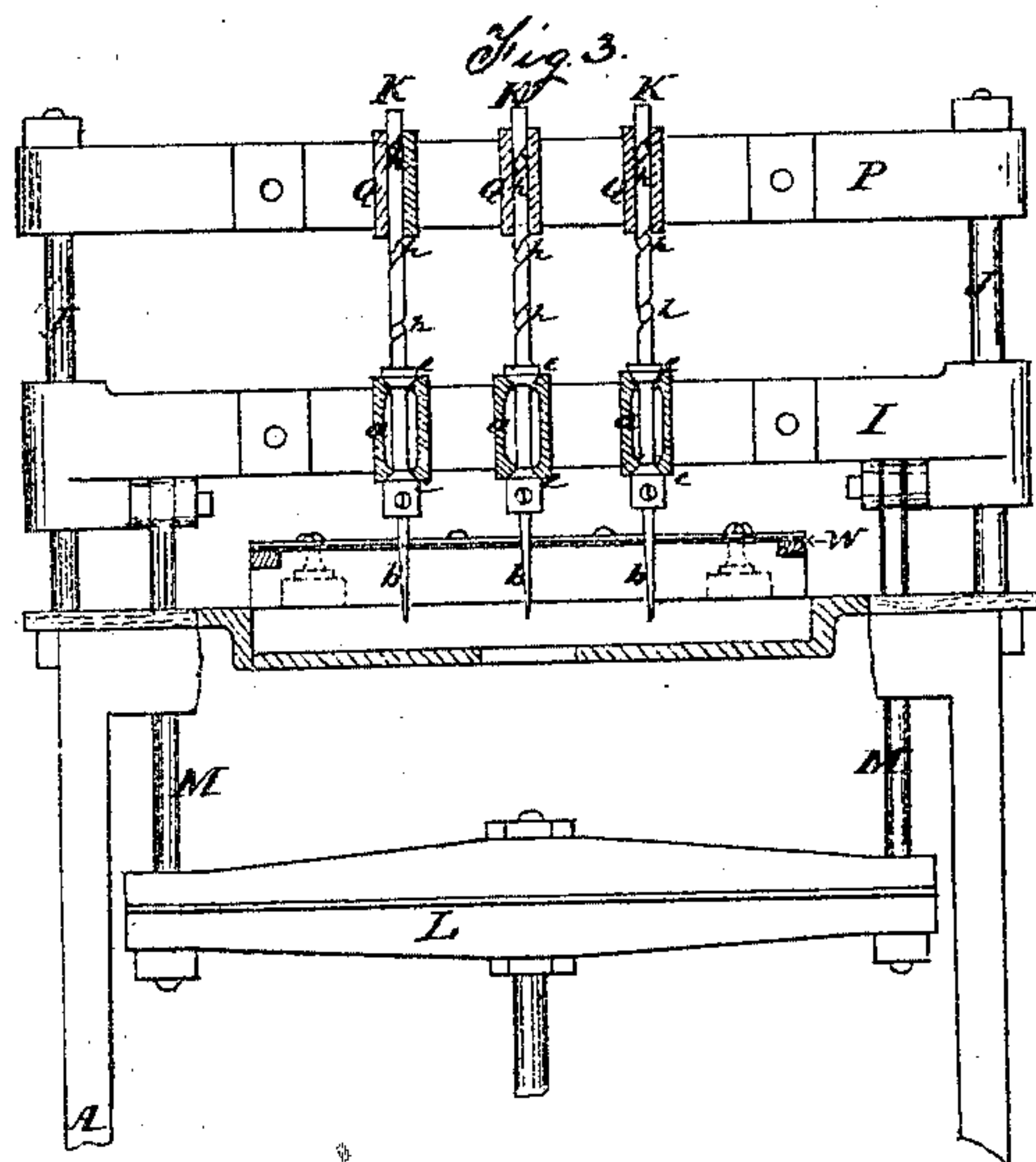
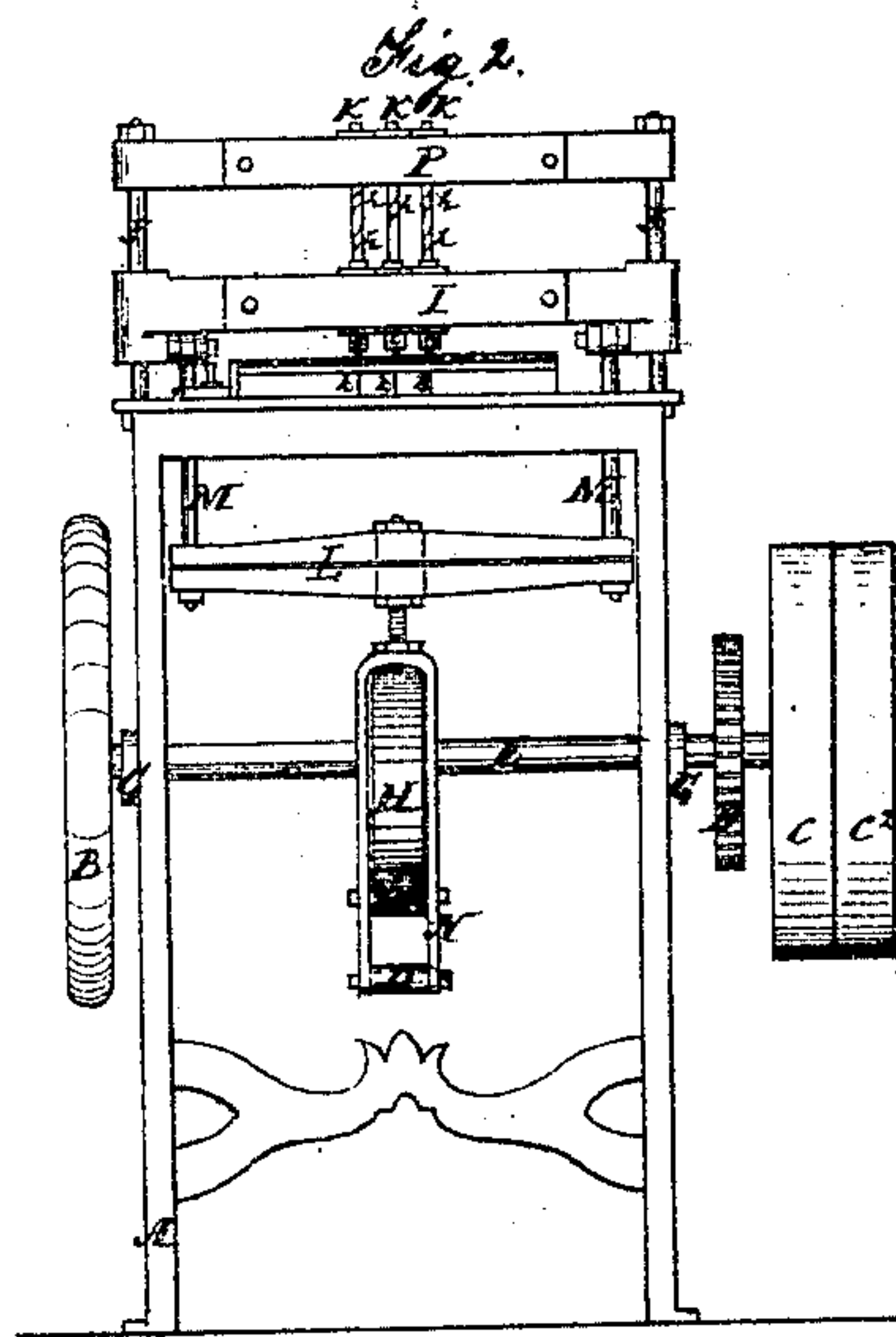
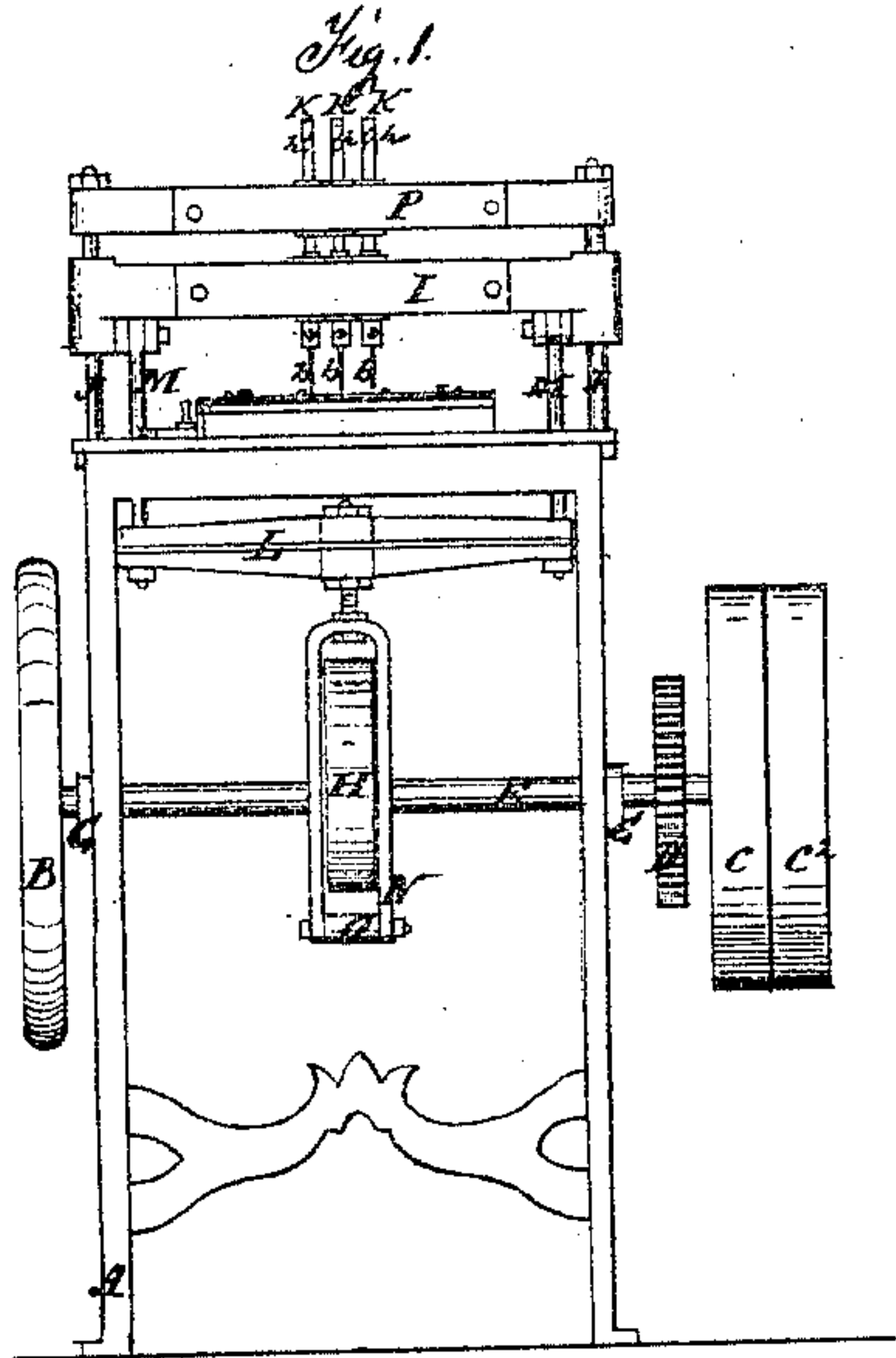


JOHN GLASS.

Improvement in Book-Binding Machines.

No. 114,286.

Patented May 2, 1871.



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John Glass, by Alfred D. Brown, atty

UNITED STATES PATENT OFFICE.

JOHN GLASS, OF GREENPOINT, ASSIGNOR TO GEORGE H. SANBORN, OF
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IMPROVEMENT IN BOOK-BINDING MACHINES.

Specification forming part of Letters Patent No. 114,286, dated May 2, 1871.

To all whom it may concern:

Be it known that I, JOHN GLASS, (assignor to George H. Sanborn,) of Greenpoint, Kings county, New York, have invented, made, and applied to use certain Improvements in the construction of Book-Stabbing Machines, and I do hereby declare that the following is a full, clear, and correct description of my invention, reference being had to the accompanying drawings, making part of this specification, and to the letters of reference marked therein, in which—

Figure 1 is a front view of my improved machine, the stabbing-needles being shown thrown up. Fig. 2 is a front view of the machine, the needles having been thrown down. Fig. 3 is a transverse sectional view of the machine, (upper portion.)

In the drawings, like parts of the invention are designated by similar letters of reference.

The nature of the present invention consists in certain improvements, as more fully hereinafter set forth, in the construction of book-stabbing machines for use among book-binders, the object being the construction of a machine far superior to those at present in use.

Heretofore the stabbing-needles employed to stab or pierce the holes in the sheets of paper to be united by sewing have been confined in rigid shanks or spindles, so that as the needles were thrown down or depressed through the sheets of paper the holes or perforations in the same were made rough and were imperfectly formed.

The first part of my invention consists in giving to the shanks in which the stabbing-needles are secured a rotary motion as the needles are depressed or driven through the sheets of paper to be subsequently united by sewing, so that the needles being thus revolved a much more perfect perforation in the sheets of paper is formed by each needle employed, by which the subsequent work is expedited and more perfectly finished.

The second part of the invention consists in providing a stabbing-machine with an apron (so to speak) of felt or some like material, which, being saturated with oil or any proper material and placed directly beneath the needles, serves to lubricate them as they pass through it on their downward movement.

Heretofore it has been customary to "tallow" the stabbing-needles by hand before pressing them through the sheets of paper.

To enable those skilled in the art to make and use my invention, I will speak of the same.

A shows a frame for supporting the operative parts of the machine.

The machine may be provided with a driving-shaft having upon one end the balance-wheel B, and upon its opposite end the pulleys C C', to connect the machine to any suitable motor. This shaft may also have upon it a pinion going into a cog-wheel D, secured upon the shaft E, held in boxes G in the frame A. Upon this shaft also is secured about centrally a cam, H, employed to operate a movable cross-head, I, moving freely up and down upon the standards J, which rise from the table of the machine. This cross-head I is slotted to receive the boxes *a*, through which the shanks K, in which the stabbing or piercing needles *b* are secured, pass. The cross-head I is attached to a cross-brace, L, by means of the connections M, which brace is connected about centrally to a link, N, connected at its forward end to a rocking arm, O, the rear end of which is hung in the frame A. Connected to this arm are side pieces supporting rollers held upon studs secured in the side pieces, and these rollers play in the cam H, and are governed in their movement by it, so that as the shaft E is revolved the cam H depresses the rollers. The arm O has its forward end depressed, and the cross-head, connected as already stated, is drawn down, carrying with it the shanks, in which are secured the stabbing-needles. Directly above the movable cross-head and secured upon the standards J is a stationary slotted cross-head, P, in which are placed the boxes Q, through which the shanks K' also pass. The shanks K have their lower ends shouldered, in which shoulders the stabbing or piercing needles *b* are secured by means of set-screws, and are also shouldered, as at *e*, the boxes *a* being fitted to receive these shoulders upon the shanks K, so that while the shanks are confined in the boxes they are free to revolve in them. The shanks have formed upon them a short distance above their upper shoulders the spiral grooves *h*, extending very nearly to the upper or top ends of the shanks. The boxes Q have secured upon their interior surfaces a projecting plate of metal corresponding with the spiral grooves in the shanks, so that as the cross-head I is depressed and carries with it the shanks confined in the boxes *a* the projecting plate of metal engaging with the spiral

grooves in the shanks will cause the same to revolve, by which a rotary motion will be given to the needles. Directly below the stabbing-needles, and held in a suitably-constructed frame, is an apron (so to speak) of felt, W, or any suitable material, saturated with oil, so that as the needles are depressed they will be charged with oil or lubricated sufficiently to enable them to form the perforations in the paper readily.

It will be observed from the foregoing description that the needles as they are passed through the sheets of paper which are to be perforated, and are placed upon the table of the machine below the needles, receive a rotary movement, so that the perforations are more expeditiously and perfectly formed, which is of advantage in the subsequent process of uniting the perforated sheets of paper by sewing, and that these needles as they are depressed are passed through the apron of felt and properly lubricated.

The boxes through which the shanks pass are adjustable in the cross-heads so that the needles may be adjusted to different sized sheets of paper.

Having thus set forth my invention, what I claim as new is—

1. The combination of the needles, shanks having spiral grooves cut upon them, movable cross-head I, boxes *a* and *Q*, and connections *M*, and cross-brace *L*, when the same shall be constructed and operated, substantially as described, for the purpose set forth.

2. In combination with the needles of a brake-stabbing machine, an apron of felt, *W*, as and for the purposes fully set forth.

JOHN GLASS.

In presence of—

JOS. S. SAMPSON,
ROBT. GRAHAUR.