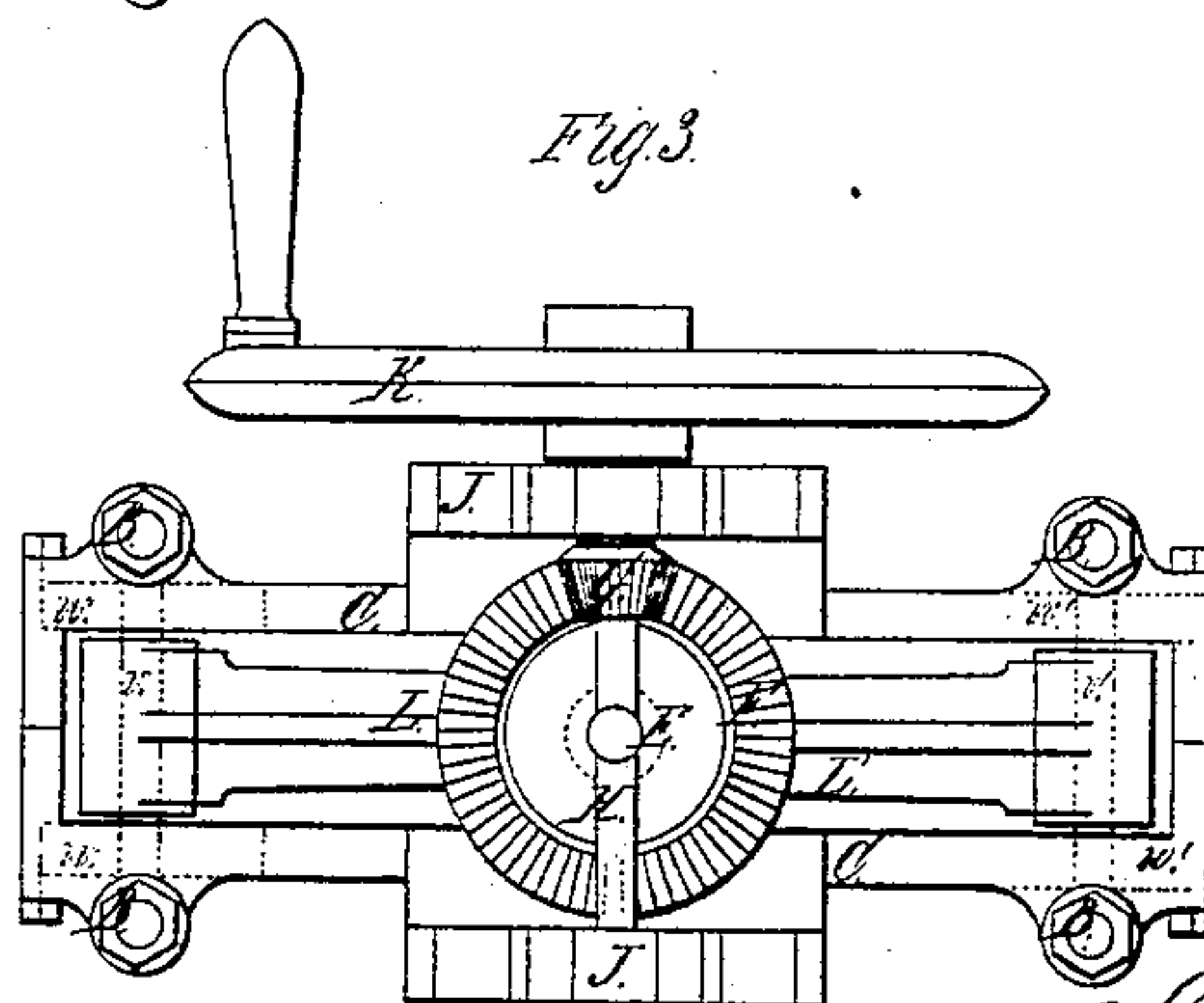
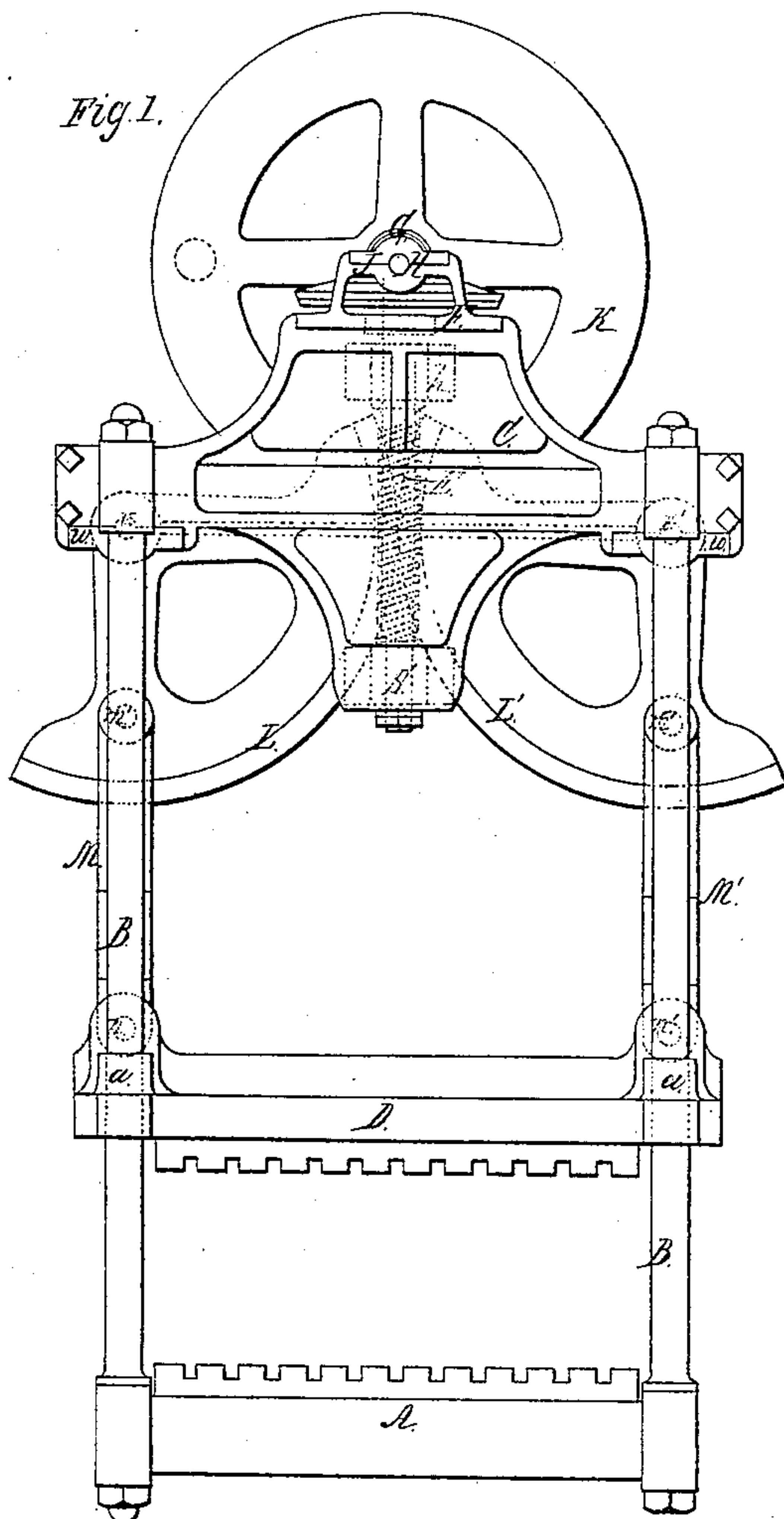
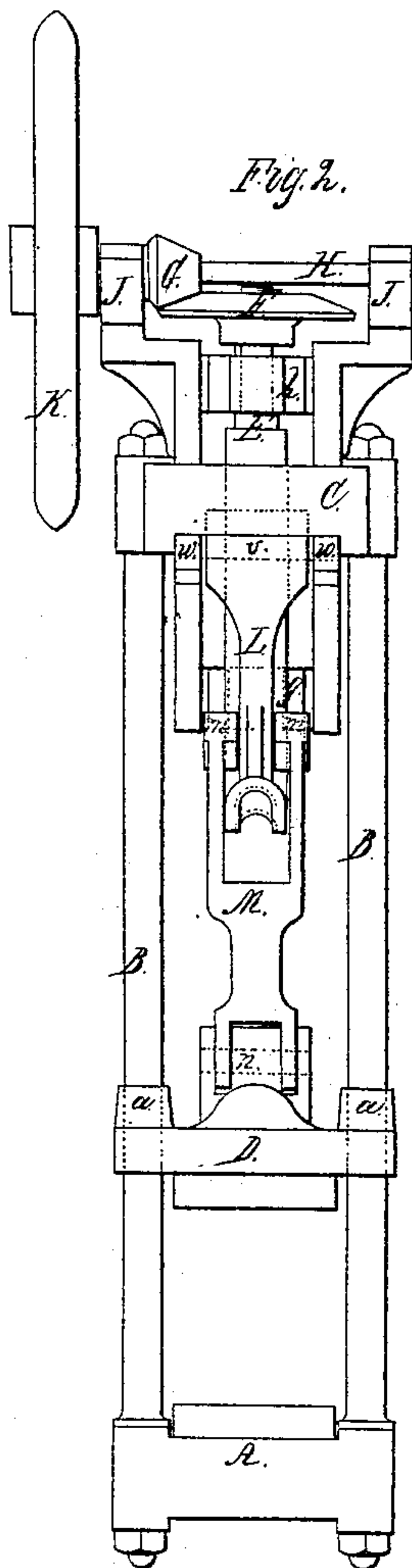


P. G. Gardiner,

Cotton Press.

N^o 30,473.

Patented Oct. 23, 1860.



Witnesses;
Henry C. Smith
James H. Evans

Inventor;
P. G. Gardiner

UNITED STATES PATENT OFFICE.

PERRY G. GARDINER, OF NEW YORK, N. Y.

IMPROVEMENT IN COTTON PRESSES.

Specification forming part of Letters Patent No. 20,473, dated October 23, 1860.

To all whom it may concern:

Be it known that I, PERRY G. GARDINER, of New York, in the county and State of New York, have invented a new and Improved Cotton-Press; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure I represents a front view of my improved press. Fig. II shows a side view; and Fig. III a top view or plan of the same.

Similar letters represent similar parts.

The nature of my invention consists in the arrangement of toggle-joints to work the top platen, in combination with segments acting on the center joints of said toggle-joints, said segments being situated on opposite sides and directly opposite to each other on an upright screw or worm shaft, acting simultaneously together; further, in the arrangement and construction of the top frame, connected by means of upright bolts with the lower or stationary platen or frame, said bolts acting at the same time as guides to the movable top platen, and forming the frame-work of the press.

In the accompanying drawings, A is the lower and stationary platen or frame, to which four upright bolts, B, are firmly secured. On the upper ends of these bolts a frame or cross-piece, C, is securely fastened. This top frame, C, is so constructed that the whole strain of the press shall be sustained by the same, and is made open in the middle parts, to give room for the necessary gearing.

D is the upper or movable platen of the press, provided near its ends with suitable lugs or bosses, *a a*, passing around the upright bolts B. By this arrangement these bolts B, which connect the lower platen or frame, A, with the top frame or cross-piece, C, and form thereby the frame of the press, act likewise as guides for the movable platen D in the up or down motion of the same. On the top frame, C, bearings *h* and *g* are provided, into which an upright shaft, E, (shown in dotted lines in Fig. I,) is fitted, capable of turning. This shaft is provided with large collars, one of them bearing against the under side of the bearing *h*, and the other collar fitting against the top surface of the bearing *g*, so as to pre-

vent said shaft from moving upward or downward without preventing the free turning around of said shaft. That part of this shaft E situated between the collars or between the bearings *h* and *g*, has a screw-thread cut on it, or may be provided with a worm and securely fastened to said shaft. This shaft E projects above the bearing *h*, and has there a bevel-wheel, F, fastened on, into which a pinion, G, works. The pinion G is fast on a shaft, H, running in suitable bearings, J J, provided on the top frame, C, and on the end of said shaft H a fly-wheel, K, is fastened, provided with a handle to turn the same by; or a pulley may be attached to said shaft H, if it is desired to turn the same by power.

L L' are two segments attached to shafts *v v'*, turning in suitable bearings, *w w'*, likewise arranged on the top frame, C, and close to the connection of the upright bolts B with this top frame, C. These segments L L' are situated directly opposite each other on each side of the upright shaft E, and are provided with suitable teeth, corresponding and working in the screw-thread or worm made on the upright shaft E, as above described, thus forming together a nut for the screw-thread. To the lower arm of these segments, and near the outer end or periphery of the same, rods M M' are attached by means of bolts or pins *m m'*. The other end of said rods are fastened to the top of the movable platen D by means of bolts *n n'*. These rods M M', together with the arms of the segments L L', form toggle-joints, The upper ends of which are attached to the top frame, C, by means of the shafts *v v'*, capable of turning in the bearings *w w'*, provided in said top frame, C, as above described, while the lower ends are attached to the movable platen D by means of the bolts or pins *n n'*. The central joints, *m m'*, attached to the segments L L', are acted upon by said segments, operated, through the screw-thread made on the upright shaft E. Motion being communicated to the shaft H, the upright shaft E will be turned around so as to work, by means of the screw-thread or worm provided on said shaft, the segments L L' either in one or in the other direction, and as said segments are in connection and close to the central joints, *m m'*, of the toggle-joints, and are worked by means of said screw-thread simultaneously

and at a uniform speed, the same will act on said central joints, *m m'*, and by this means raise or lower the top platen, D, to compress the cotton-bale placed between the two platens D and A, or to open the press for the introduction of a new bale. The connection of the top ends of the toggle-joints, as well as of the bottom ends of the same, are in a direct plane with the centers of the bolts B, bringing thereby the strain in a line with said bolts, which, as above described, guide the top platen, D, and form at the same time the frame-work of the press. By this arrangement I dispense with any extra framing, as is required in the construction of presses as heretofore made, lessening thereby the expense of the machine, as well as the liability of derangements by the diminution of the parts, at the same time giving greater facility and easy access to all sides of the cotton-bale, for the purpose of tying the same or of sewing the same together.

I am aware that segments have been attached to the central joints of toggle-joints, and do not claim this, broadly; but

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

1. The arrangement of toggle-joints, in combination with segments situated opposite each other, forming together a nut, and operated simultaneously together by a screw or worm fast on an upright shaft, in the manner and for the purpose substantially as specified.

2. The arrangement and construction of the top frame, C, in combination with the upright shaft E and segments L L', and so arranged that said top frame shall receive the whole strain of the press and contain all the mechanism which operates the top platen, D, substantially as described.

3. The arrangement and combination of the different parts, constructed and operating together in the manner set forth, and for the purpose substantially as specified.

P. G. GARDINER.

Witnesses:

HENRY E. ROEDER,
JAMES F. EVANS.