

S. L. HEYWOOD.
Machines for Dressing Hoops.

No. 139,387.

Patented May 27, 1873.

Fig. 1.

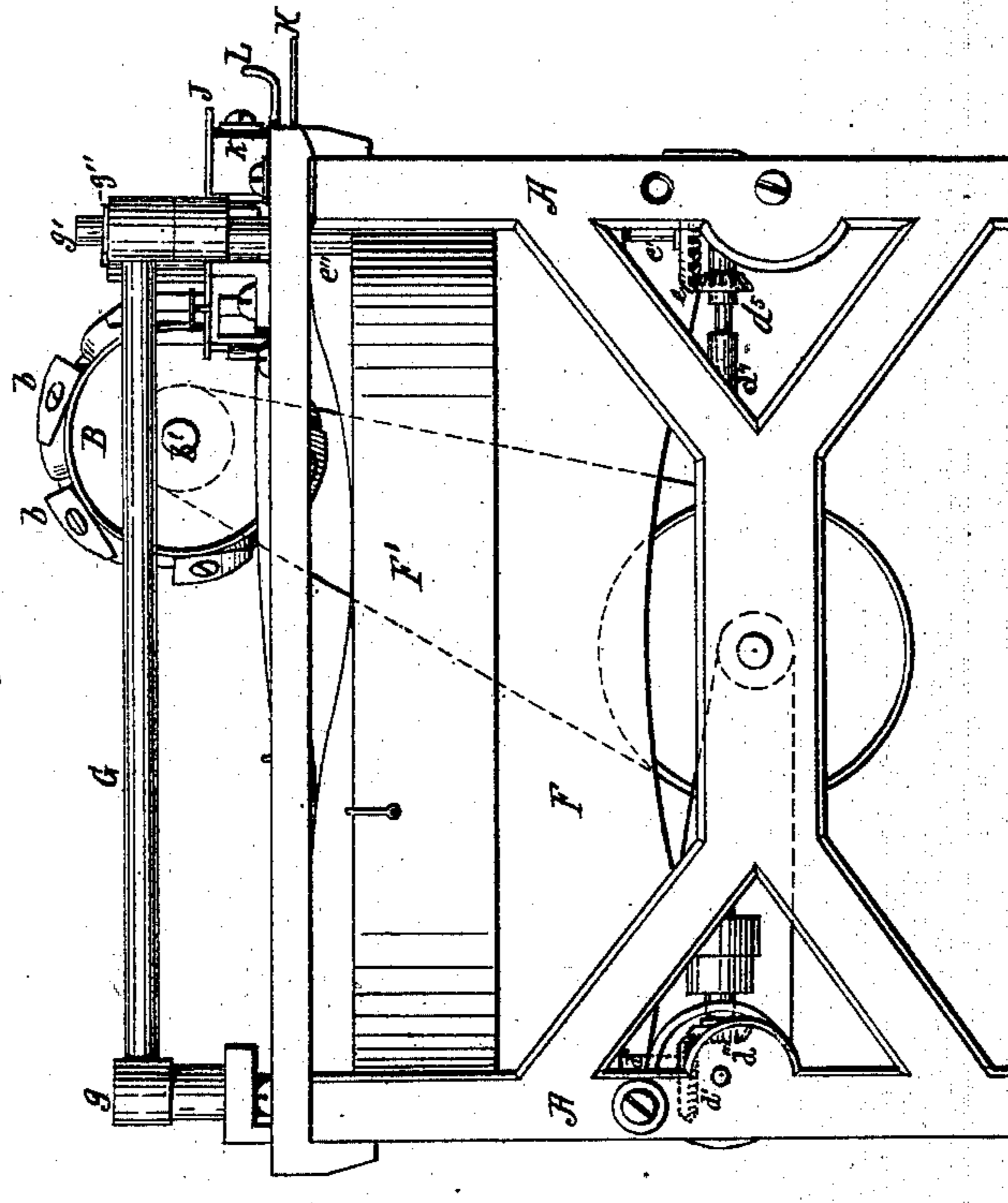
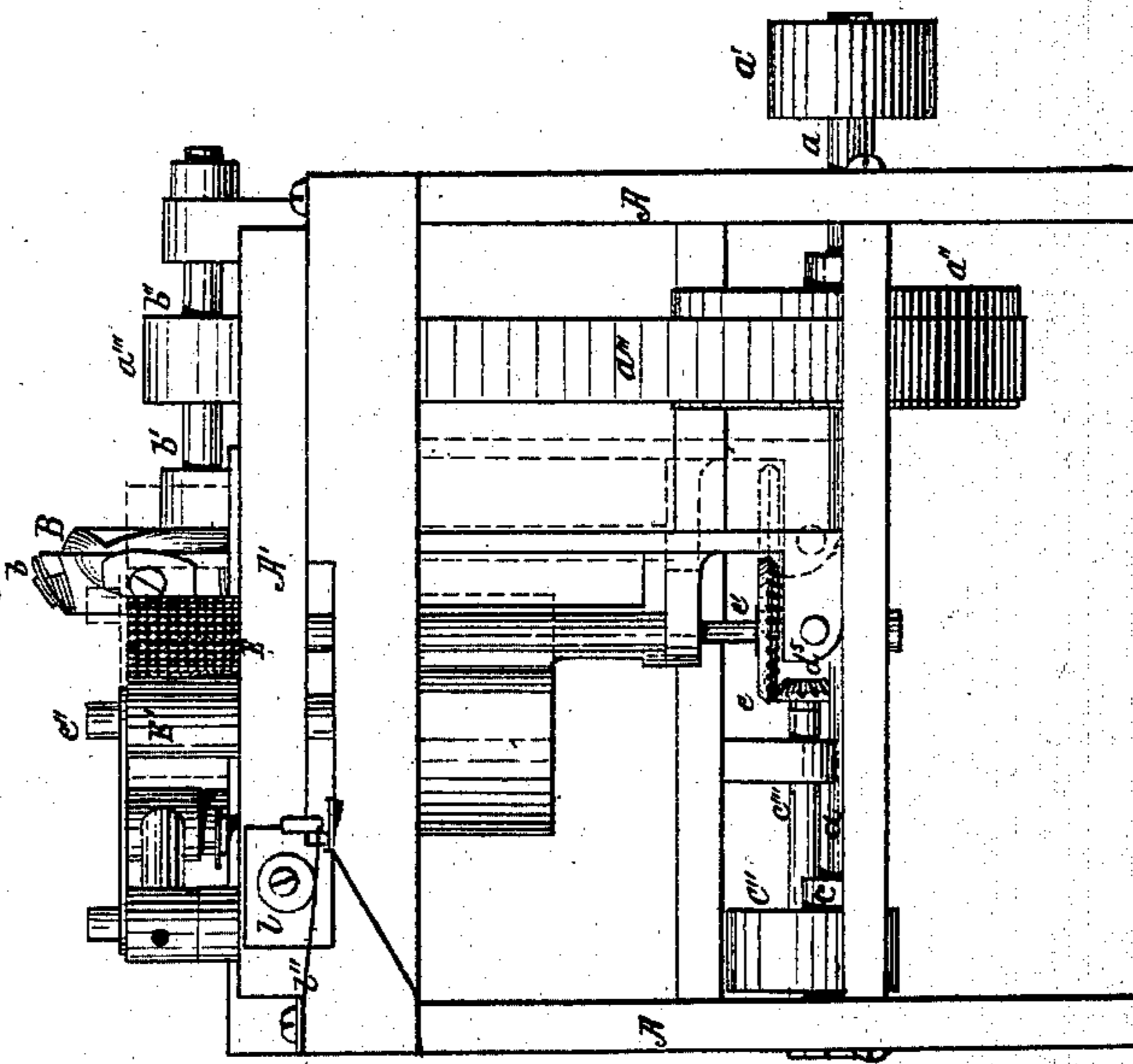


Fig. 2.



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Fig. 4.

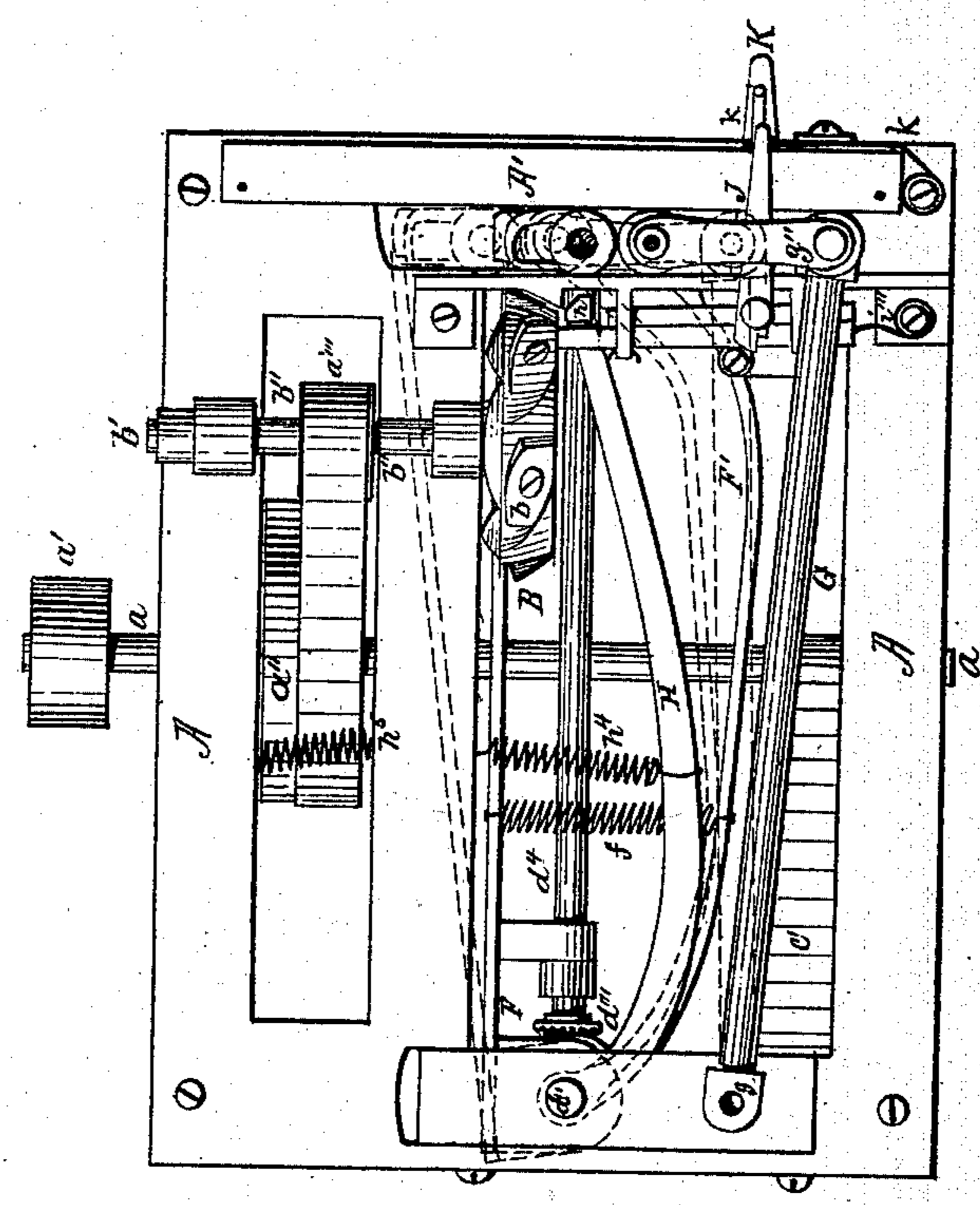
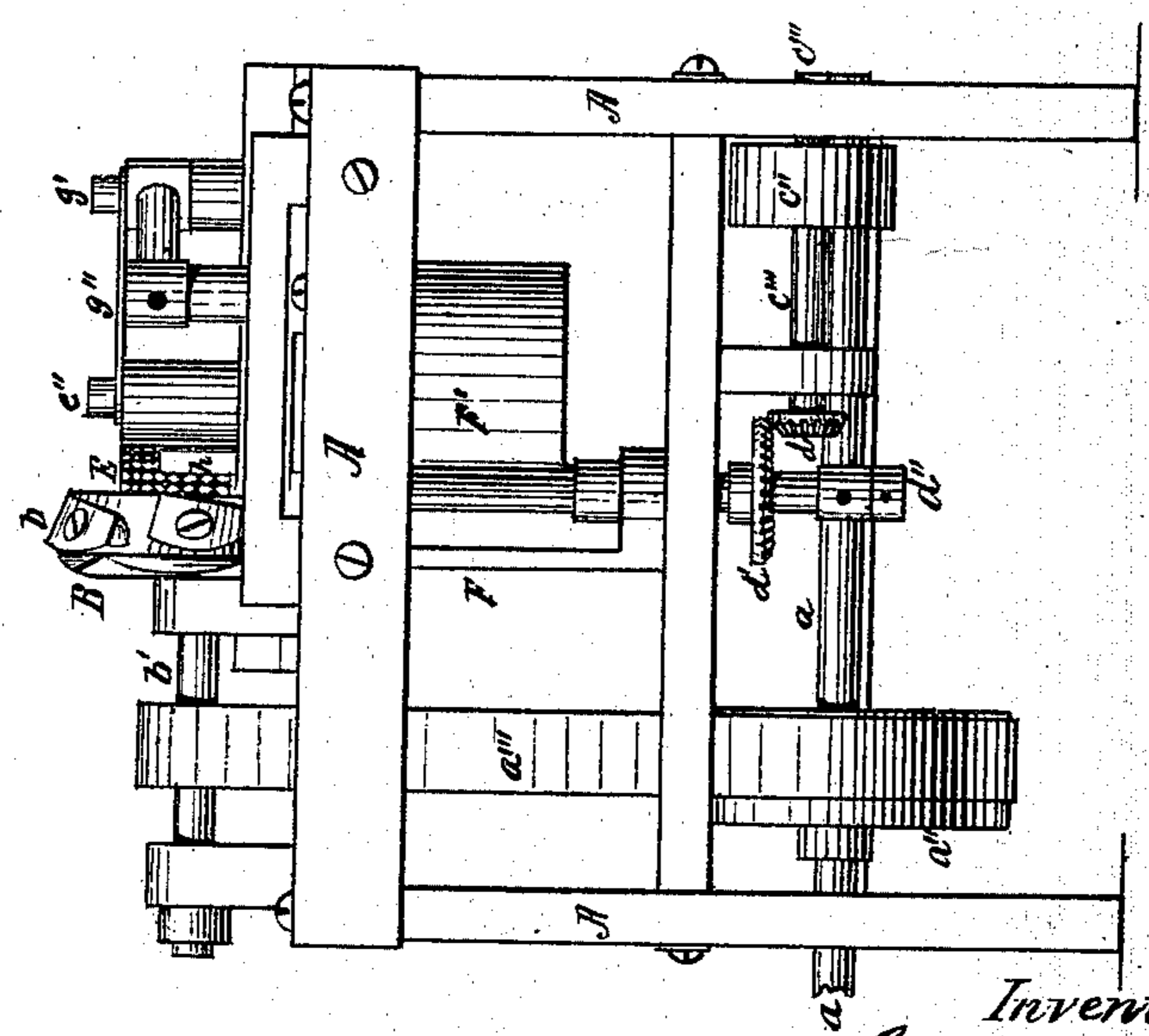


Fig. 3.



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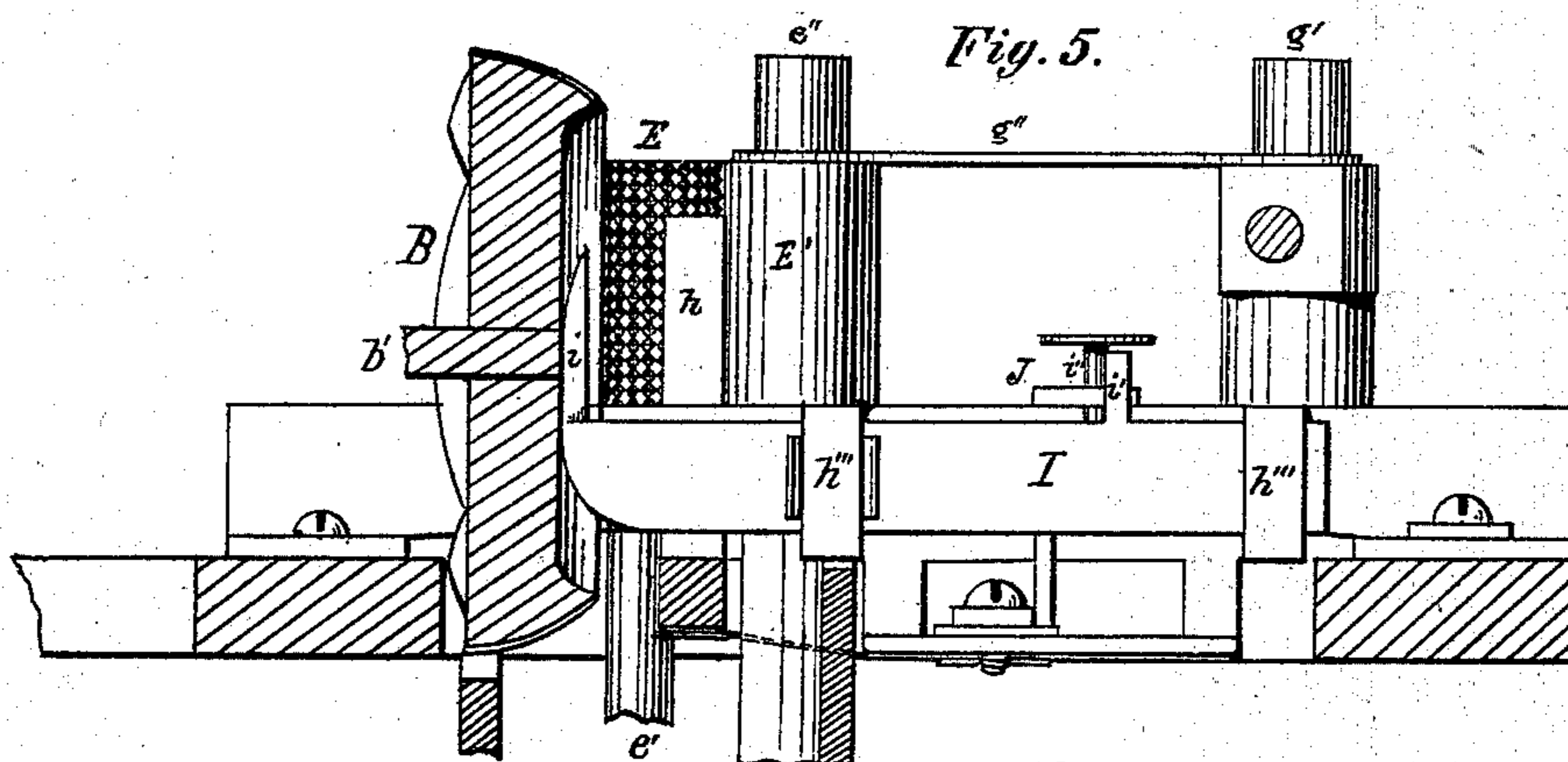


Fig. 6.

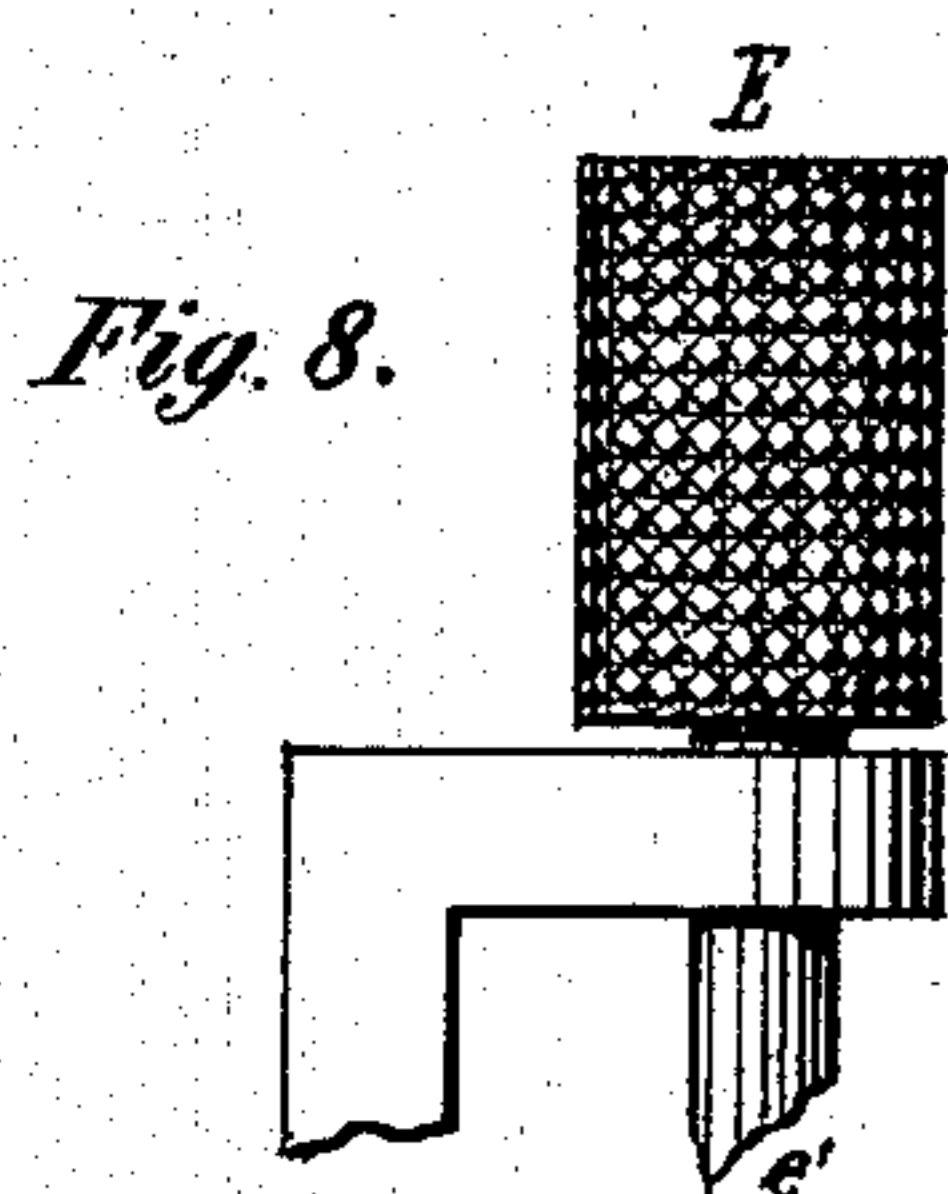
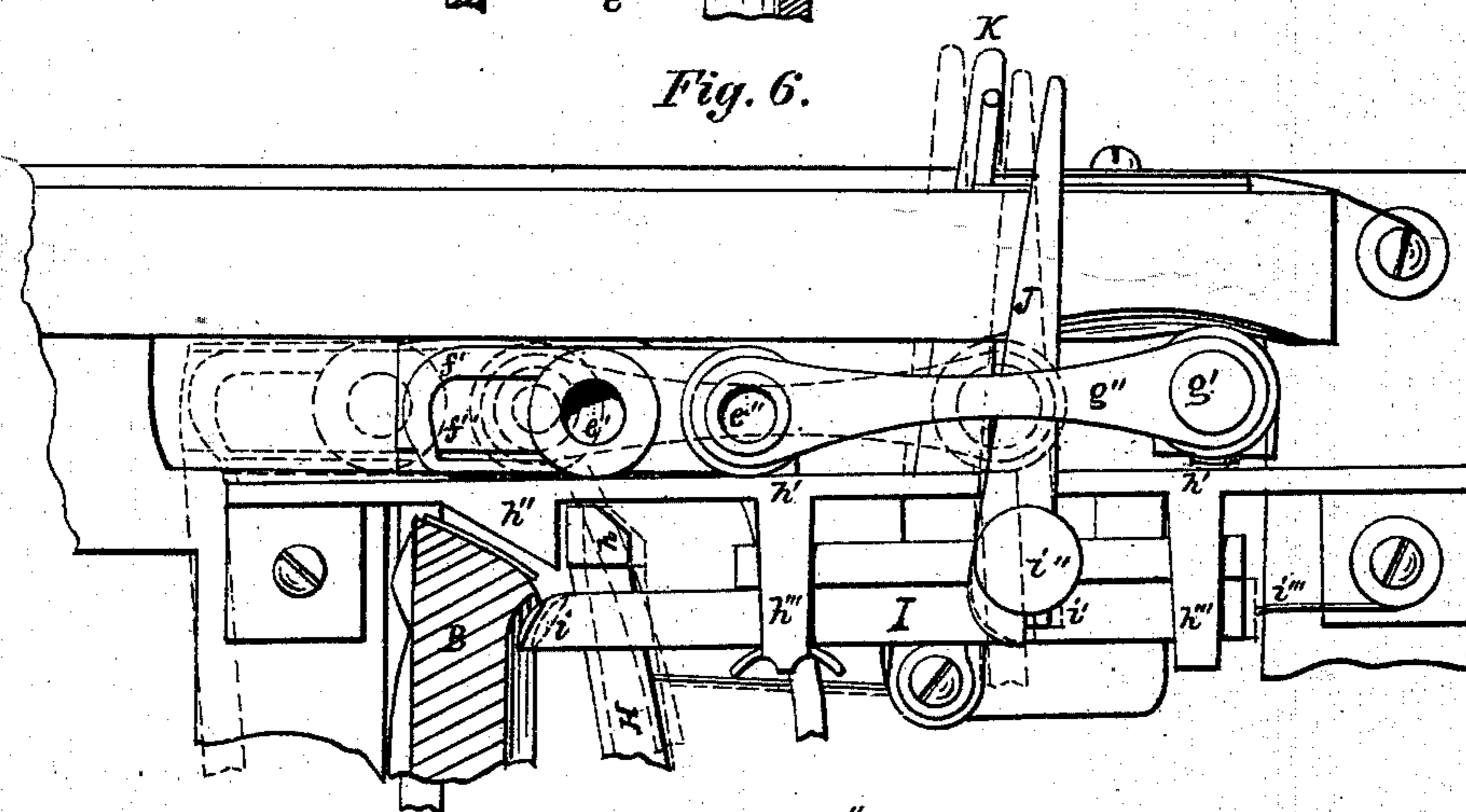


Fig. 8.

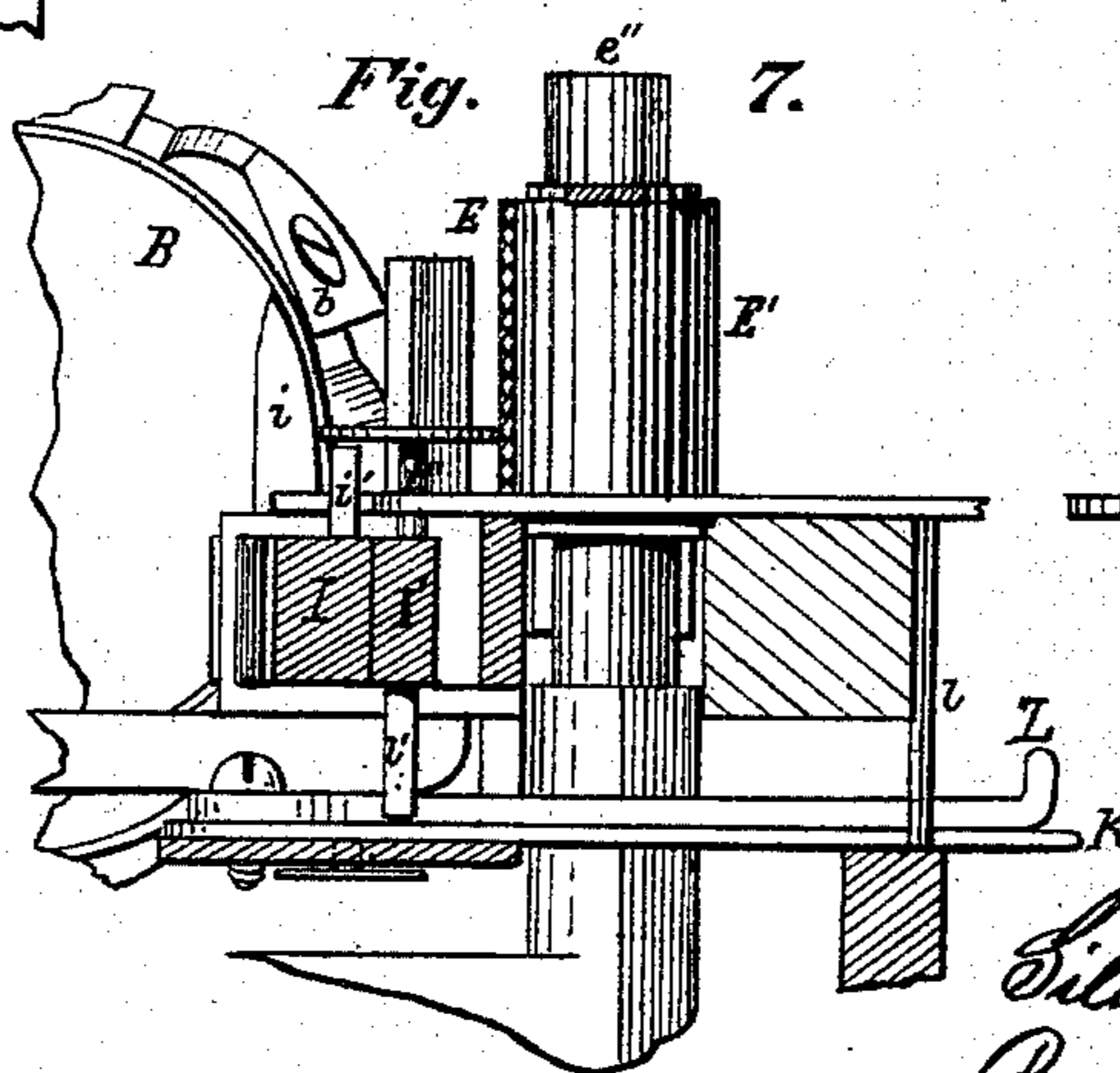


Fig.  *e''* **7.**

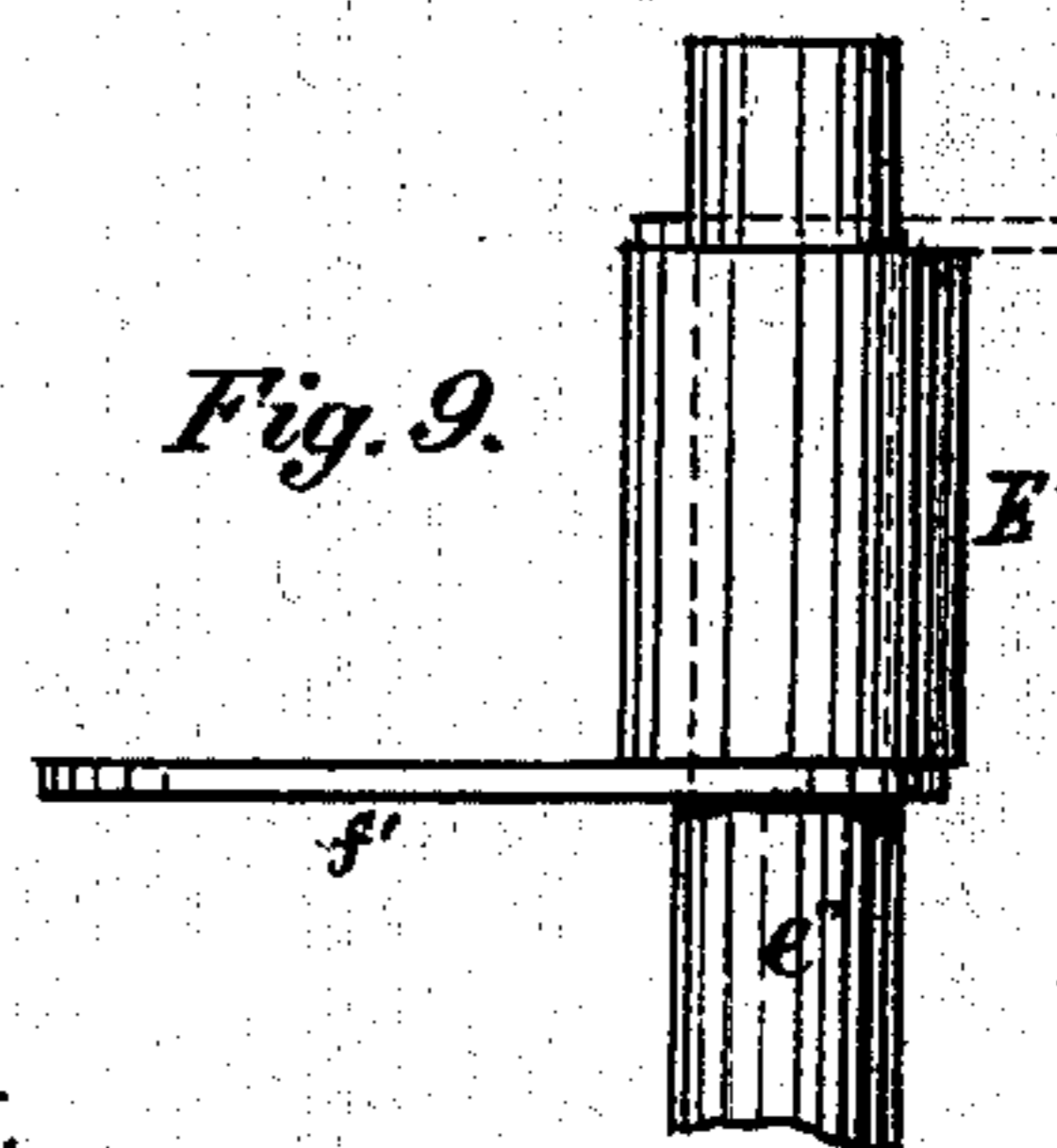


Fig. 9.

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UNITED STATES PATENT OFFICE

SILAS L. HEYWOOD, OF MINNEAPOLIS, MINNESOTA.

IMPROVEMENT IN MACHINES FOR DRESSING HOOPS.

Specification forming part of Letters Patent No. **139,387**, dated May 27, 1873; application filed February 20, 1873.

To all whom it may concern:

Be it known that I, SILAS L. HEYWOOD, of Minneapolis, in the county of Hennepin, in the State of Minnesota, have made certain Improvements in Machines for Dressing Hoops for hooping barrels, of which the following is a specification:

The object of this invention is to produce a machine in which hoops, whether split from small round poles or from other wood, can be quickly and evenly planed upon one side, so that such planed side will fit upon the staves of a barrel or cask; and it consists in the construction and arrangement of the parts that compose the machine as will be more fully hereinafter described.

In the drawings, Figure 1 represents a side view of the machine; Fig. 2, the rear end; Fig. 3, the front end; Fig. 4, a top; and Figs. 5, 6, 7, 8, and 9 details, enlarged.

A represents the frame that supports the machine and all its operating parts. A' is a guide piece fast on the top of the framing A, and serves to hold up and guide the hoop between the feed-rollers. *a* is a transverse horizontal shaft, having driving-pulley *a'* thereon, which is revolved by any convenient power. *a''* is a pulley fast on shaft *a*, and communicates motion to short shaft *b'* by the belt *a'''* and pulley *b''*. B is a cutter-head fast on horizontal shaft *b'*, and is revolved with it. *b b* are adjustable cutters or knives fast on cutter-head B, and revolve therewith. *b'* is a horizontal shaft revolving in suitable bearings supported on frame A, and to which is securely fixed the cutter-head B and pulley *b''*. *c* is a pulley fast on shaft *a*, around which is belt *c'*, which extends around pulley *c''* on short shaft *c'''*. *d* is a bevel or miter gear-wheel on the end of shaft *c'''*, and gears into its fellow gear-wheel *d'* on upright shaft *d''*, which gears into gear-wheel *d'''* on longitudinal horizontal shaft *d⁴*, which has on its end, opposite wheel *d'''*, a like gear-wheel, *d⁵*, gearing into wheel *e* on upright shaft *e'*. Upon the end of shaft *e'* is a toothed upright feed-roller, E, that is revolved through the series of shafts, pulleys, belts, and trains of gear described. Upright shaft *e'* revolves in bearings in a swinging arm, F, that is hinged to upright shaft *d''*, which swings with the arm, as does the horizontal shaft *c'''* which revolves

in bearings in the lower edge of arm F, and vibrates therewith. E' is a smooth upright feed-roller, freely revolving on upright shaft *e''*, that is fast in the rear end of bent swinging arm F', that is pivoted at its forward end around the upright shaft *d''*. *f* is a spiral spring, one end attached to swinging arm F, and the other to swinging arm F', which keeps the feed-rollers E and E' close together when no hoop is between them, but allows them to spring apart sufficiently to receive and bear against the hoop so as to feed it along to the cutter. *f'* is a yoke-plate, fast at one end to the shaft *e''* to which the smooth feed-roller E' is attached, and vibrates therewith, and has slot *f''* therein, which allows the toothed feed-roll to slide in it and be limited in its vibration or separation from the smooth feed-roller. G is a swinging arm pivoted at the forward end of the machine at *g*, then extending back to near the rear, and held to be nearly in horizontal position. At the rear end of this arm is an upright pin, *g'*, that extends both above and below the arm G. *g''* is a yoke with a hole at each end, the hole in one end going on shaft *e''*, and the other onto the pin *g'*, above the swinging arm G, which keeps the pin *g'* and shaft *e''* of the feed-roller E' the same distance apart. H is a curved horizontal arm hinged at its forward end to upright shaft *d''*, and extending toward the rear ends of the machine, and has an upright, *h*, that forms a presser-foot to keep the hoop against the cutter-head while being dressed. *h'* is a guide-bar or way made fast to the top of frame A, on the top of which is a stop, *h''*, that prevents the presser-foot *h* from going nearer the cutter-head than a fixed distance. Spring *h⁴* is attached to arms H and F, and when arm F swings from arm H the spring *h⁴* will hold the presser-foot hard toward the stop *h''*. Spring *h⁵* is also attached at one end to arm H and the other end to the frame A, which also tends to hold the presser-foot *h* to the stop *h'*, except when the hoop is passing between the presser-foot and the cutter-head, and then it forces the presser-foot against the side of the passing hoop and keeps it firmly against the cutter-head or gage that may interpose. Guide-bar *h'* has lugs *h'''*, extending forward with mortises therein to receive a

horizontally-sliding gage, I, which has on its end, next the cutter-head, an upright gage-piece, *i*, and on the upper side of the body of the gage I is an upwardly-projecting pin, *i'*. I' is a sliding bar alongside of the gage I, on the top edge of which is a fulcrum-pin, *i''*, turning on which and engaging pin *i'* on gage-bar I is a hand-lever, J, by which the gage-bar I with its upright gage-piece *i* is moved horizontally or out from the cutter-head so that the amount of dressing on the side of the hoops by the knives on the cutter-head is thereby controlled. *i'''* is a spring applied to the outer end of bar I for the purpose of keeping the gage-piece *i* within the face-line of the cutter-head, unless forced out by the lever J. K is a hand-lever pivoted to the frame A, and engaging a spring or elastic loop, *k*, that is attached to swinging arm H, and by which it and its presser-bar *h* are forced outward from the cutter-head. L is a hand-lever pivoted to the frame the same as lever K. *l* is an adjustable stop fast on frame A, and having a holding-notch in it to retain the lever-handle K, as seen in Fig. 2. Lever L engages a downwardly-projecting pin, *l'*, from the bar I'. *l''* is a spring attached to the handle of lever L, and by which it is held in the notch of the stop *l*.

By adjusting the stop-plate *l* and the handle of lever L, the thickness of the hoop is regulated or changed.

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

1. The combination of the feed-rollers E and E' with the vibrating arms F and F' in which they are sustained and revolve, together with the actuating means for revolving them, and so that they can freely vibrate in either direction laterally, or be separated from each other, substantially as shown.

2. The swinging arm H having the upright presser-foot *h* and springs *h*⁴ and *h*⁵, in combination with the guide-way *h'* having stop *h''*, in the manner substantially as described and shown.

3. The sliding gage I having the upright gage-piece *i*, in combination with the cutter-head B constructed to operate in the manner and for the purpose substantially as described.

4. The combination of the sliding bar I, sliding gage *i* with the cutter-head B, when operating substantially in the manner and for the purpose described.

5. The combination of the adjustable notched stop-plate *l*, lever L with the sliding gage I, and bar I', in the manner substantially as and for the purposes described.

6. The combination of the pivoted arm G and yoke-plate *g''* with the feed-roller E', and slotted plate *f''*, all constructed to operate in the manner substantially as described.

SILAS L. HEYWOOD.

Witnesses:

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GEO. G. HOWE.