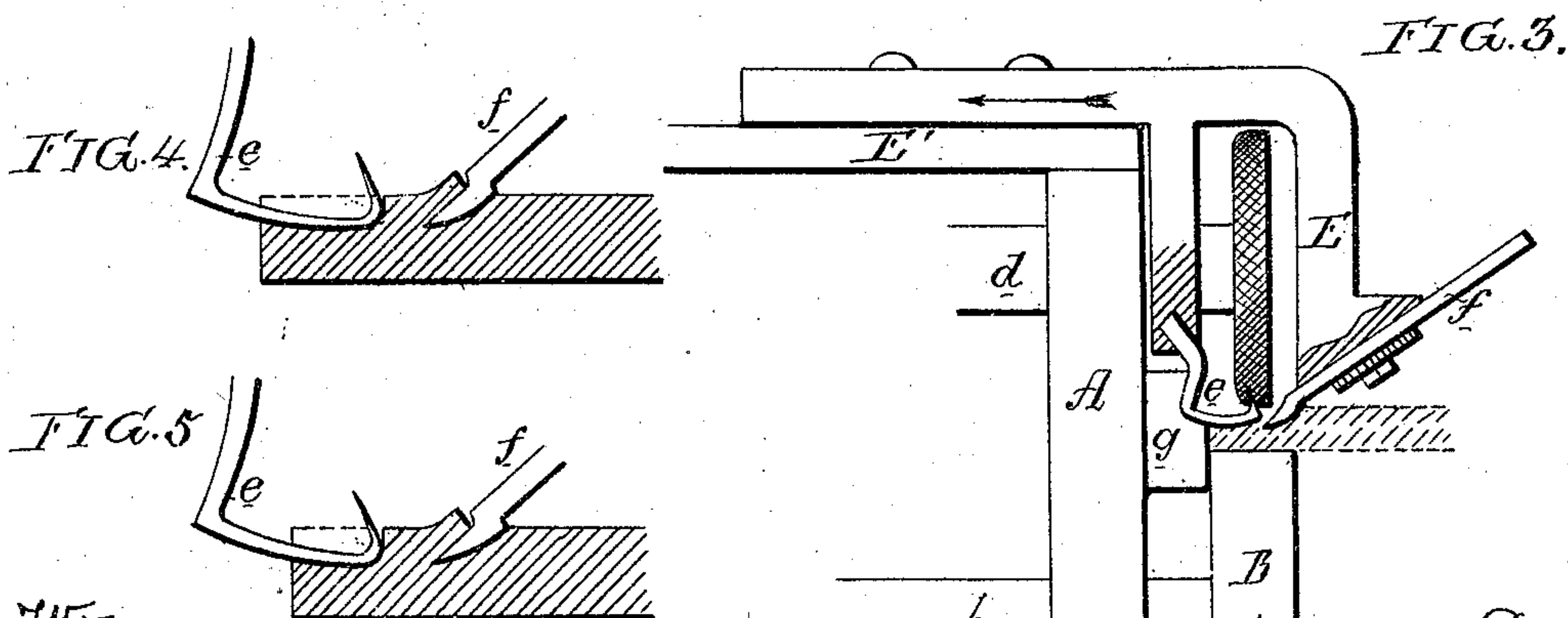
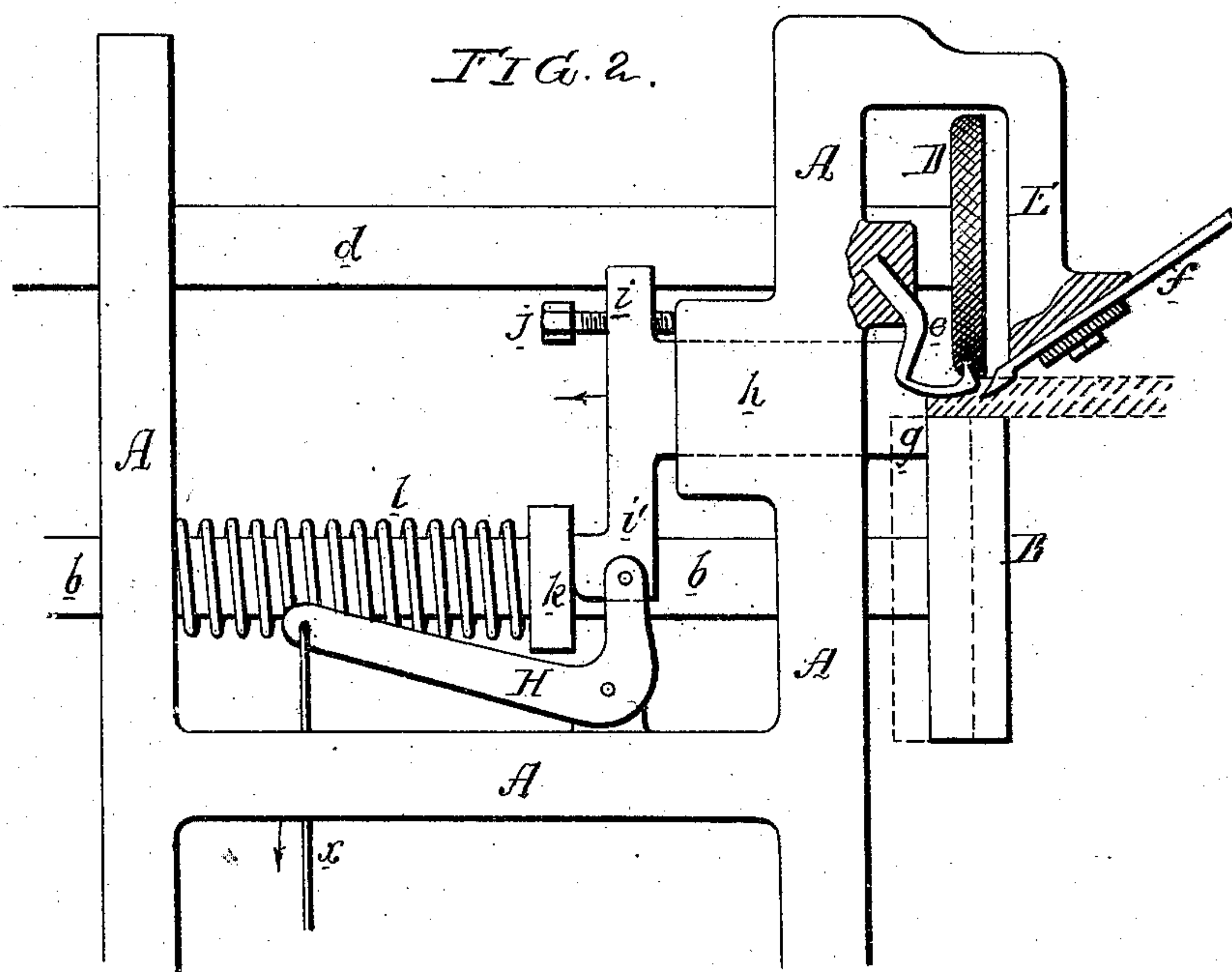
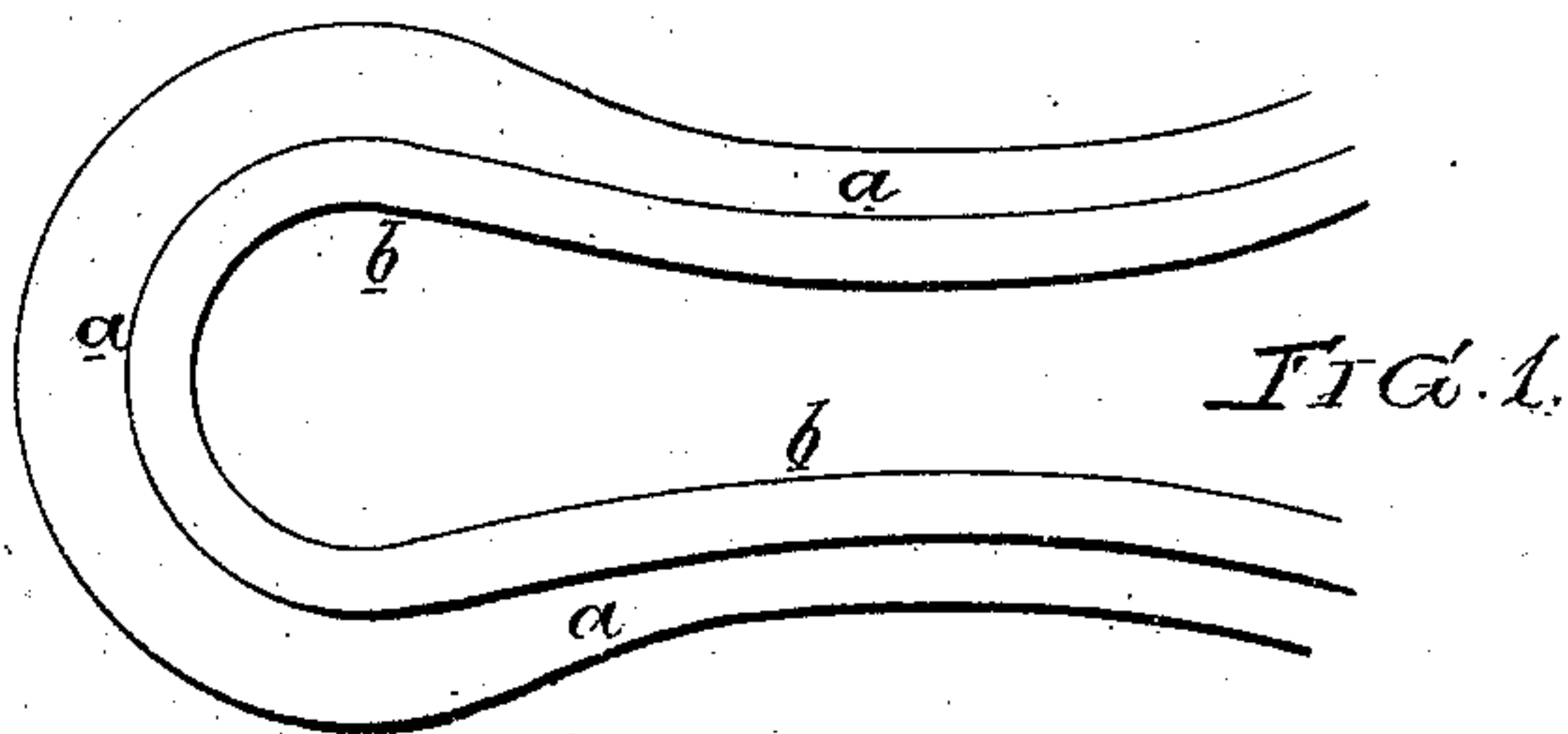


S. T. GATES.

CHANNELING-MACHINE FOR BOOTS AND SHOES.

No. 173,614.

Patented Feb. 15, 1876.



Witnesses,
 Ellwood Deetz
 Hubert Howson

Selden T. Gates
 by his Attorneys,
 Stron and son

UNITED STATES PATENT OFFICE.

SELDEN T. GATES, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
GEORGE C. LEIDY, OF SAME PLACE.

IMPROVEMENT IN CHANNELING-MACHINES FOR BOOTS AND SHOES.

Specification forming part of Letters Patent No. **173,614**, dated February 15, 1876; application filed July 30, 1875.

To all whom it may concern:

Be it known that I, SELDEN T. GATES, of Philadelphia, Pennsylvania, have invented certain Improvements in Channeling-Machines, of which the following is a specification:

The object of my invention is to construct a simple and efficient machine for cutting in the edge of a boot or shoe sole a channel, the width of which can be varied at pleasure without stopping the machine; and this object I attain in the manner which I will now proceed to describe, reference being had to the accompanying drawing, in which—

Figure 1 is a diagram illustrating the work which my invention is intended to perform; Fig. 2, a side view of a portion of my improved channeling-machine; Fig. 3, a view of a modification; and Figs. 4 and 5, diagrams illustrating the operation of the same.

On reference to Fig. 1, it will be observed that the channel *a* cut at the edge of the sole varies in width, the width increasing in the present instance as the channel approaches and is continued round the heel. The object of thus increasing the width of the channel at this point is to allow room for the increased thickness of the upper, caused by the introduction of the stiffening in the heel of the said upper, and which, when the channel is of uniform width, causes an objectionable overlapping of the upper at this point.

In some cases, such, for instance, as when the employment of a stiffening-piece at the toe is required, it may be desirable to increase the width of the channel at points other than that above mentioned.

The machine with which I effect the variable cutting of the channel is shown in Fig. 2, A representing part of the frame of a channeling-machine, in which turn two shafts, *b* and *d*, the shaft *b* carrying at its outer end a disk, B, and the shaft *d* a disk, D, the edge of the sole being confined between and moved by the said disks.

The cutting of the channel is effected by the knife *e*, secured to the frame A, while the knife *f*, secured to an arm, E, projecting from said frame, cuts the slit *b*, through which the sewing-threads are passed.

The sole is held in the hand of the operator, and its edge is pressed firmly against the

edge of a guide, *g*, which is arranged to slide in the frame A, and is provided at its inner end with two arms, *i i'*, the upper arm carrying a regulating-screw, *j*, and the lower arm being forked, so as to embrace the shaft *b*, and being attached to the short arm of a bell-crank lever, H, pivoted to the frame of the machine, the long arm being connected to a treadle. A set-screw may also be employed to prevent the guide *g* from being drawn beyond the required distance in the direction of the arrow, Fig. 2. Against the forked end of the arm *i'* bears a collar, *k*, on the shaft *b*, which is acted upon by a coiled spring, *l*, the tendency of the latter being to maintain the guide *g* at its extreme outward position.

It will thus be seen that the position of the guide *g* is under the complete control of the operator, who, by depressing the treadle which is connected to the long arm of the lever H, can cause said guide *g* to be advanced or retracted, as desired, and as the edge of the sole is held closely against this plate, the movement must necessarily result in a variation in the width of the channel cut by the knife *e* around the edge of the sole.

In the modification, Fig. 3, another mode is shown of effecting the variation in the width of the channel *a*. The arm E, in this instance, carries both knives *e* and *f*, and is arranged to slide horizontally on the frame A under the control of a bell-crank lever, as in the case of the guide *g*.

By operating this lever, the knives *e* and *f* can be moved to and fro horizontally, so that the knife *e* may cut a wide or narrow channel, while the inner edge of the latter and the slit *b* maintain the same relative position, as shown in the diagrams, Figs. 4 and 5.

I claim as my invention—

The combination, in a channeling-machine, of the movable guide *g* or movable knife-carrying arm E, with the set-screw *j*, bell-crank lever H, shaft *b*, collar *k*, and spring *l*, all substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SELDEN T. GATES.

Witnesses:

ELLWOOD DEETZ,
HUBERT HOWSON.