

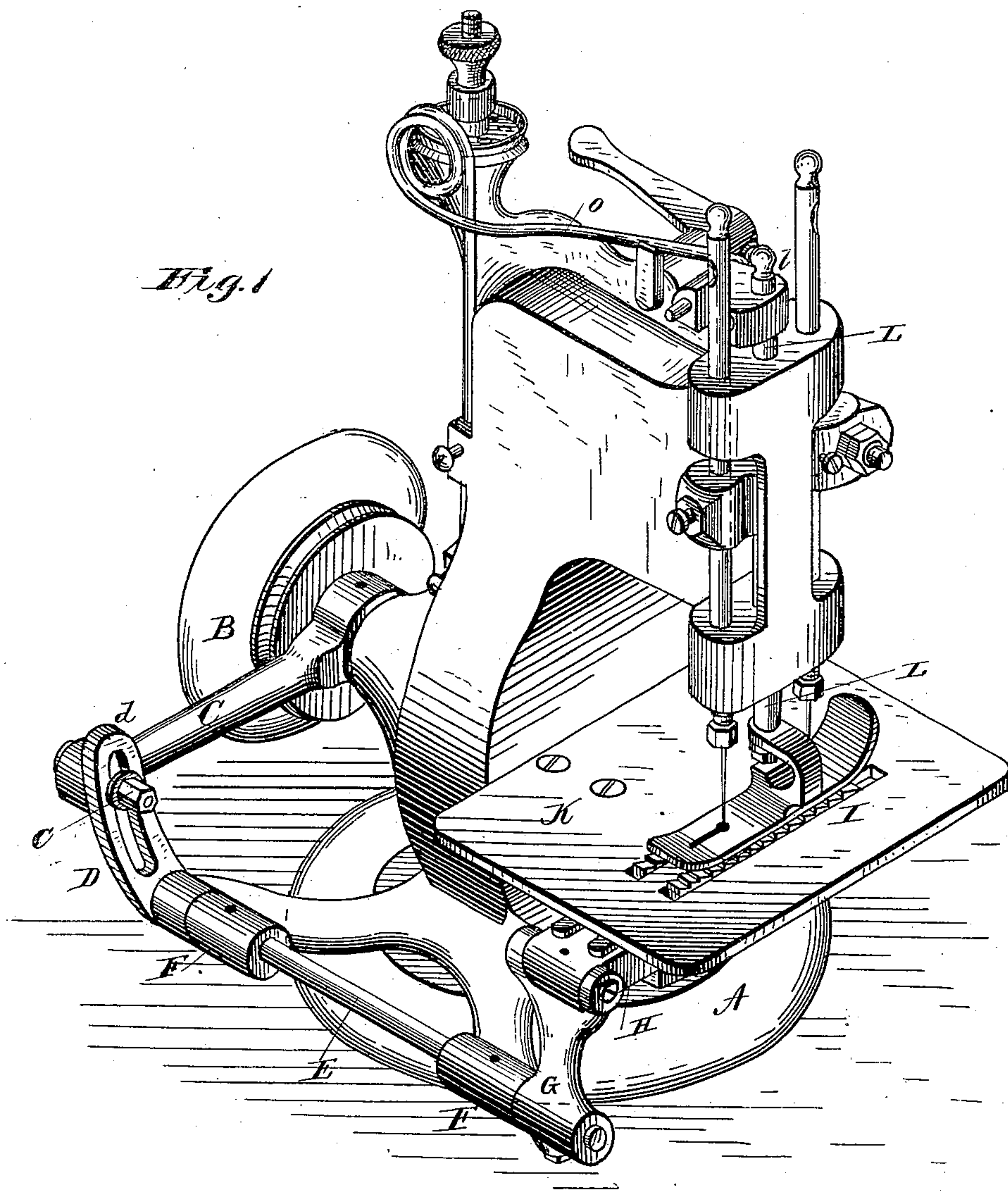
(Model.)

2 Sheets—Sheet 1.

C. M. HINE.
SEWING MACHINE.

No. 246,136.

Patented Aug. 23, 1881.



Witnesses.
Frank L. Curand
A. Robertson

Inventor.
Charles M. Hine
by L. Deane.
His Attorney.

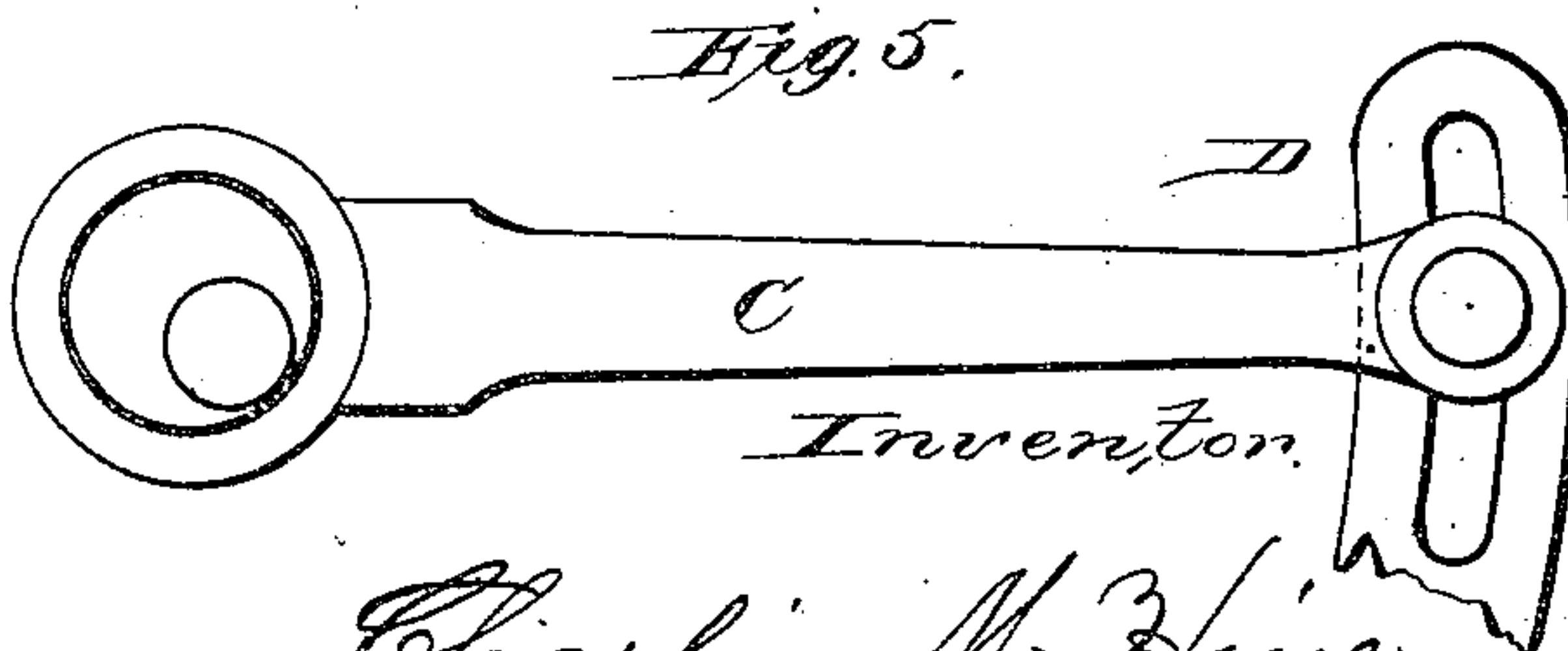
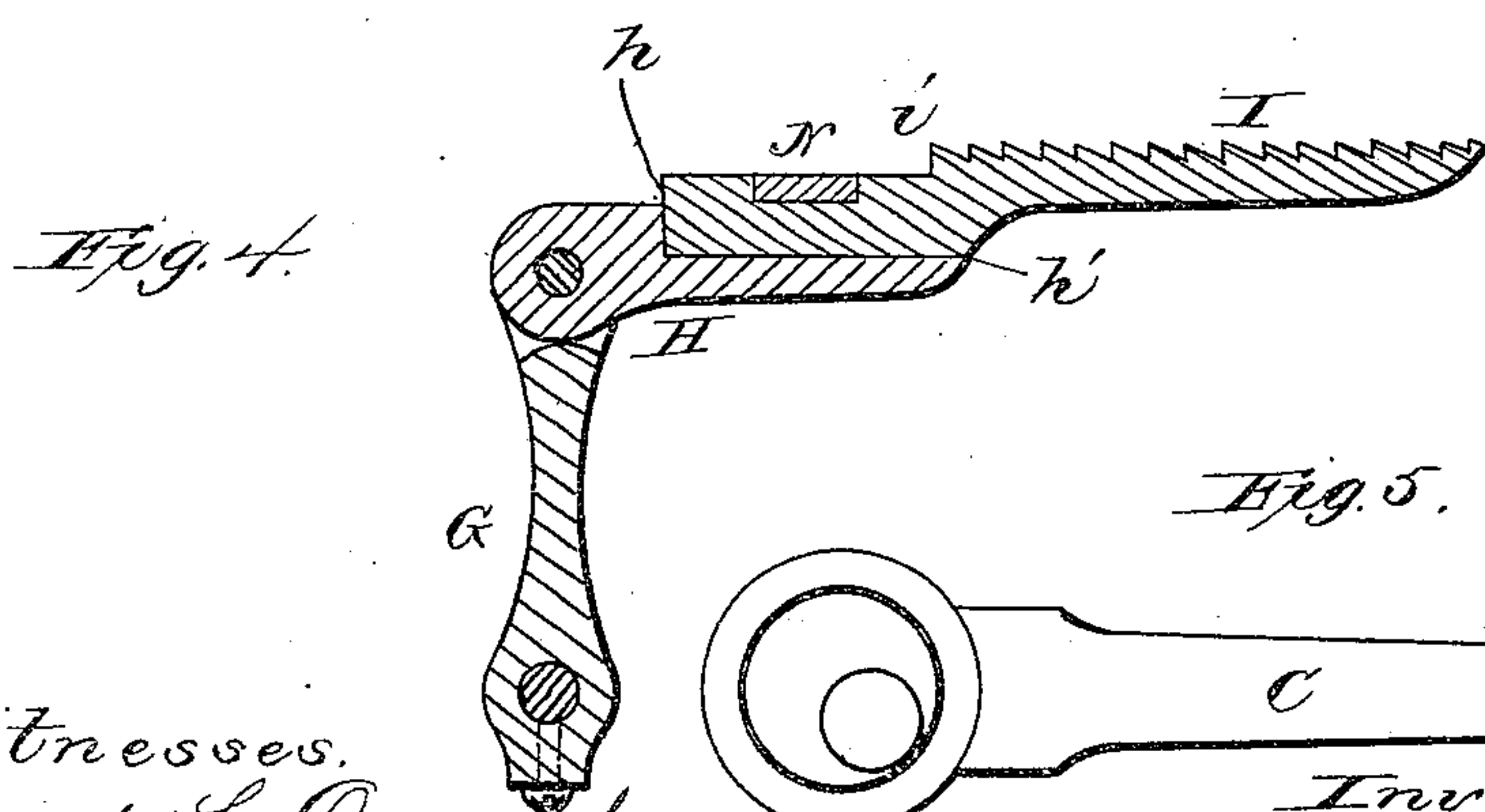
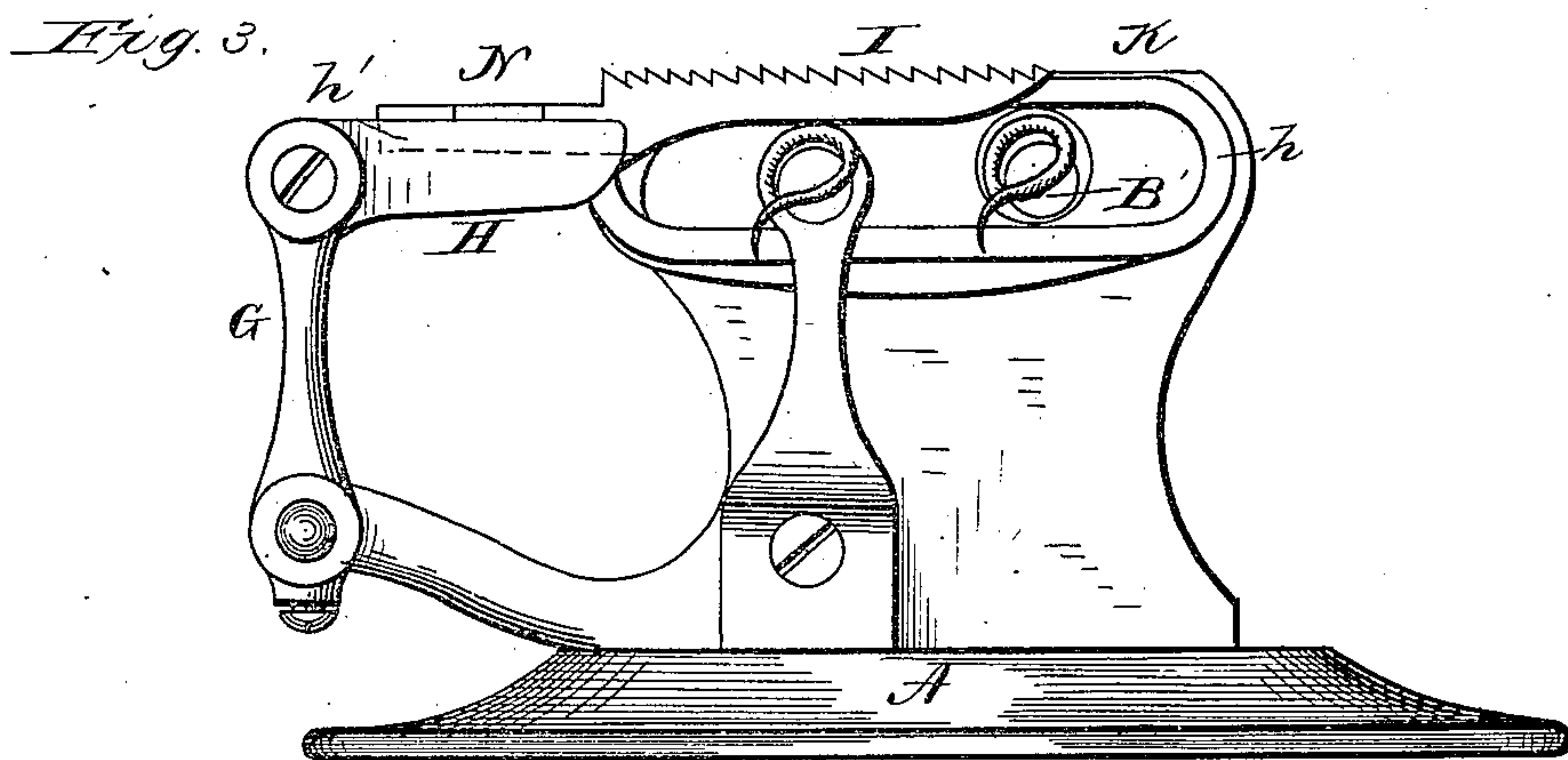
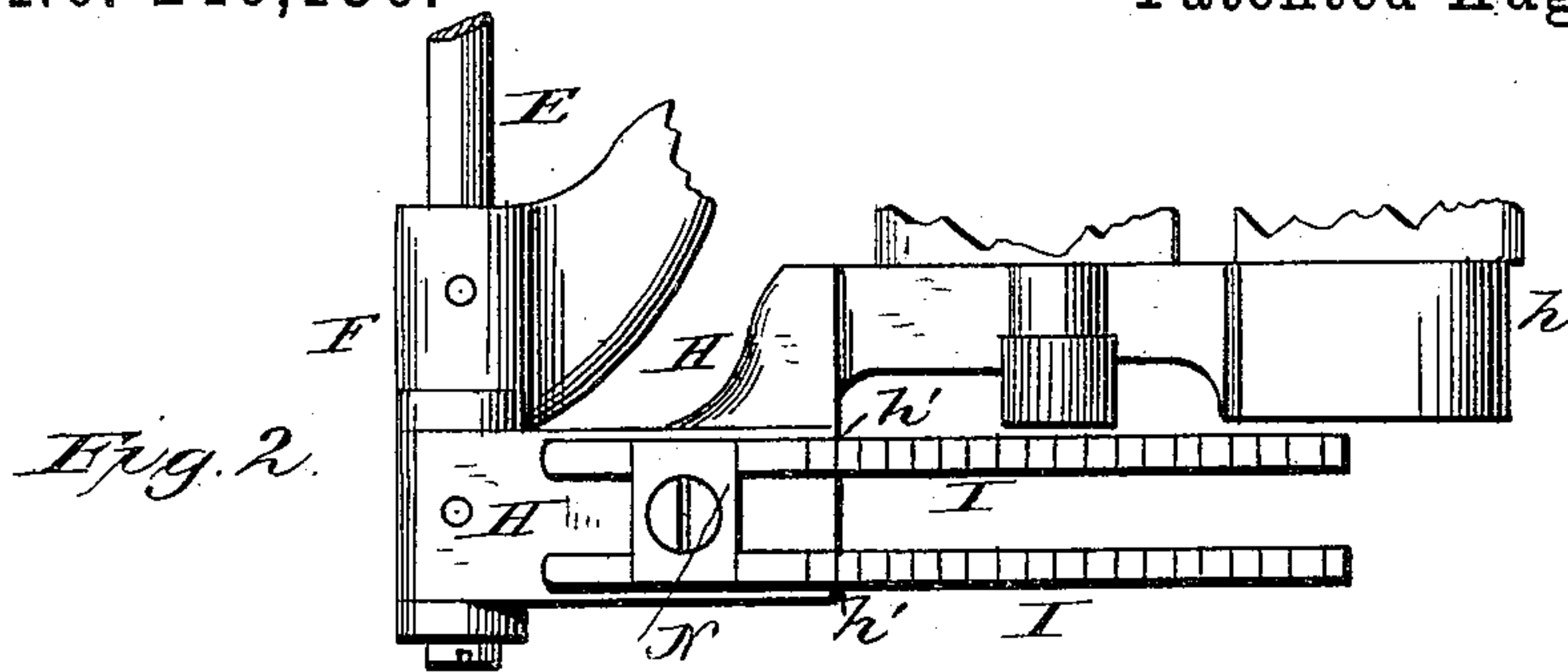
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2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

CHARLIE M. HINE, OF ST. LOUIS, MISSOURI.

SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 246,136, dated August 23, 1881.

Application filed June 21, 1881. (Model.)

To all whom it may concern:

Be it known that I, CHARLIE M. HINE, a citizen of the United States, residing at St. Louis, in the county of St. Louis and State of Missouri, have invented certain new and useful Improvements in Sewing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 is a perspective view of the operative parts of the machine. Fig. 2 is a detail, in plan, with the plate removed, showing the feed and a part of the mechanism by which it is actuated. Fig. 3 is a detail, in front elevation, showing the plate feed, &c. Fig. 4 is a detail, in side elevation, enlarged, showing the application of the feed. Fig. 5 is a detail showing the eccentric connection of rod C.

This invention relates to those improvements in sewing-machines which are designed to produce such a device as can be run at a very high rate of speed; and the novelty in the present instance consists in the special and peculiar structure of the operative parts of the feed mechanism, whereby a positive four-motion feed will be produced, and also the jar, or pounding, or noise by the movements of the mechanism is in a very large degree obviated, and in other details, as indicated by the claims, all as will now be more fully explained.

In the drawings, A represents the base of the machine; B, the band-wheel, mounted on the usual driving-shaft, said wheel having upon its hub an eccentric, to which the rod C is connected. The other end of said rod C is jointed to the bolt *c*, which is adjustably fixed in the curved slot *d* of the arm D, which is fixed to the rod E. This rod is sustained in suitable bearings, F, which are attached to the base A in any desired way or manner. At the opposite end of said rod from the point where the arm D is fixed is secured another arm, G. To the end of this arm is jointed the yoke H, and to and upon this yoke is attached the feed I.

In the elliptically-bent end *h* of the yoke H the eccentric B', actuated in any convenient way by the main shaft, works, so as to impart the necessary rising-and-falling motion to the outer end of the yoke. Upon this yoke H is supported the feed I, which operates in the usual slots of the plate K.

The feed I is shown as made in two pieces, so as to work in the two slots of the plate K. The two pieces are made alike, and are merely strips of metal with the proper teeth suitably made on the upper face. The shank is let into a recess, *h'*, in the top part of the yoke H, near its joint with the arm G. The upper face of this end of the feed-piece is grooved at *i*, so that the lock-plate N can fit into it, and, by means of a screw, be made to hold it fast in place. This construction is equally applicable to one or two feed-pieces.

On the upper part of the machine is the round wire spring *o*, with one or more coils between its ends and adjustably fastened to the arm of the machine, and at its outer end connected with the presser-bar L through the intermediate lug, *l*. This lug is adjustably fixed to the bar L near its top, so that it will afford a long bearing parallel with the presser-foot for the end of the spring *o*, and will thus prevent torsional movement of the presser-bar and keep the presser-foot parallel with the direction of the feed. This spring is not only very certain in its operation in this manner, but is very durable and exceedingly cheap, and admits of being replaced, when necessary, in a very short time.

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

1. In a sewing-machine, the combination, with the driving-shaft and an eccentric thereon, of the connecting-rod C, the rock-shaft E, having the arms D and G, to the former of which the rod C is adjustably and directly connected, the yoke H, the feed I, and the eccentric B', so adapted to said yoke as to impart positive vertical movements to said feed, substantially as described.

2. The combination, with the yoke H, provided with the recesses *h'*, of the feed-dogs I,

consisting of strips of metal, and having their forward ends adapted to said recesses, and the lock-plate N, and its set-screw for securing said feed-dogs to said yoke, substantially as described.

5 3. The combination, with the presser-bar L, of the lug l, secured thereto, and provided with a long bearing parallel with the presser-foot and the direction of the feed, and the spring
10 o, having its bent end fixed in said bearing,

whereby torsional movements of the presser-bar are prevented and the presser-foot held steady and parallel with the feed, substantially as described.

In testimony whereof I affix my signature 15
in presence of two witnesses.

C. M. HINE.

Witnesses:

G. W. BALLOCH,
GEORGE CORNELL.