

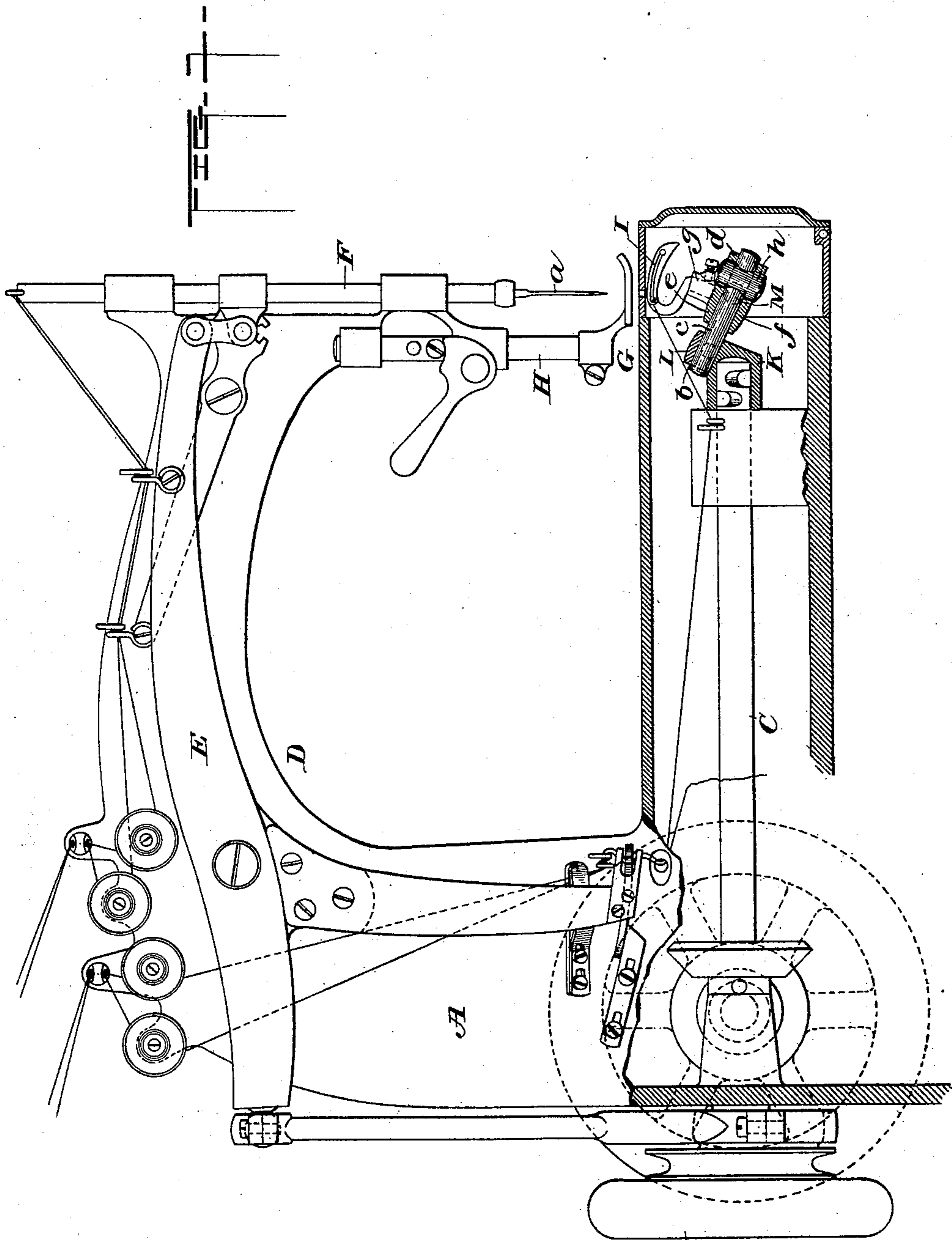
(No Model.)

2 Sheets—Sheet 1.

L. ONDERDONK.  
LOOPER MECHANISM FOR SEWING MACHINES.

No. 591,539.

Patented Oct. 12, 1897.



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Attorney

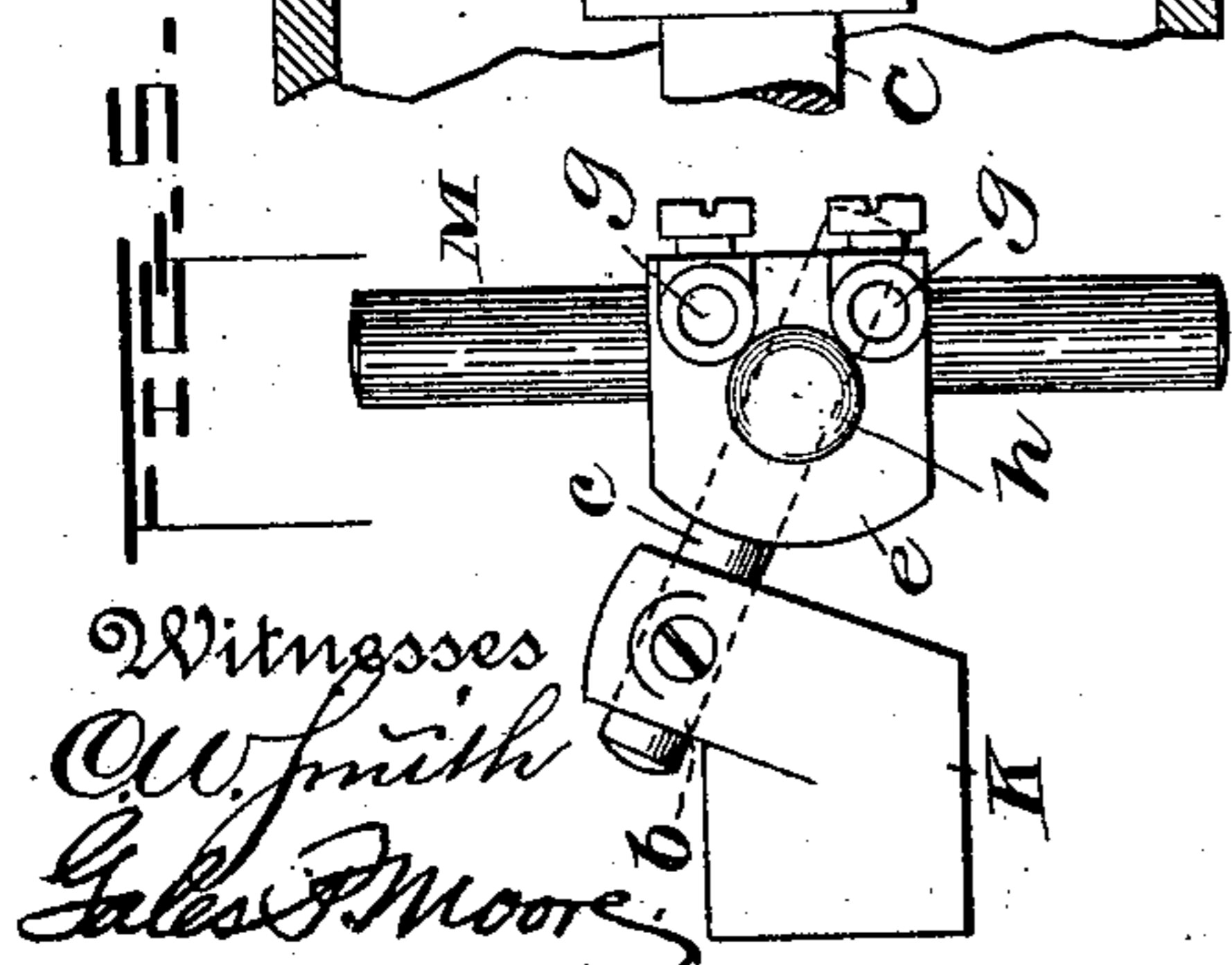
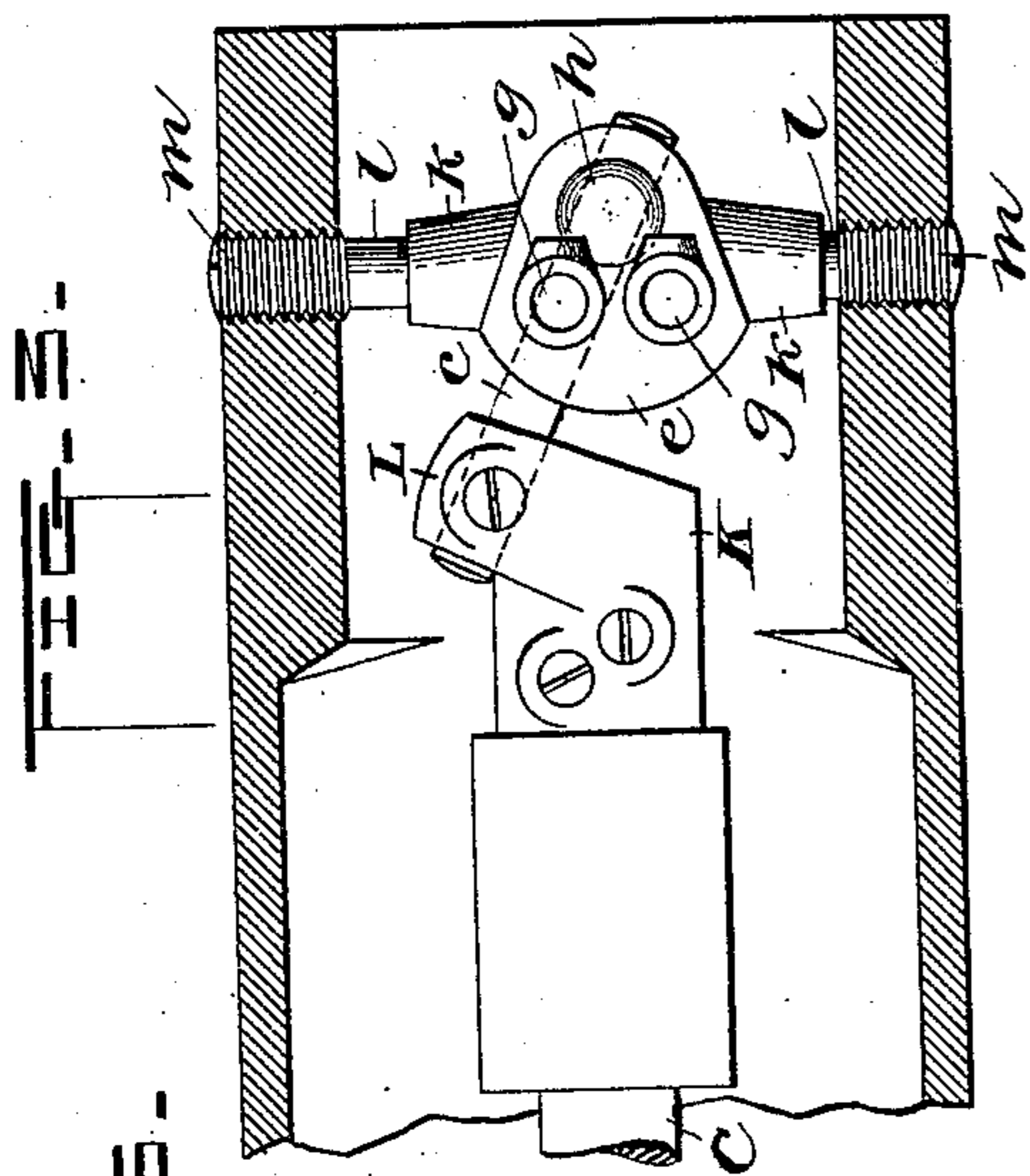
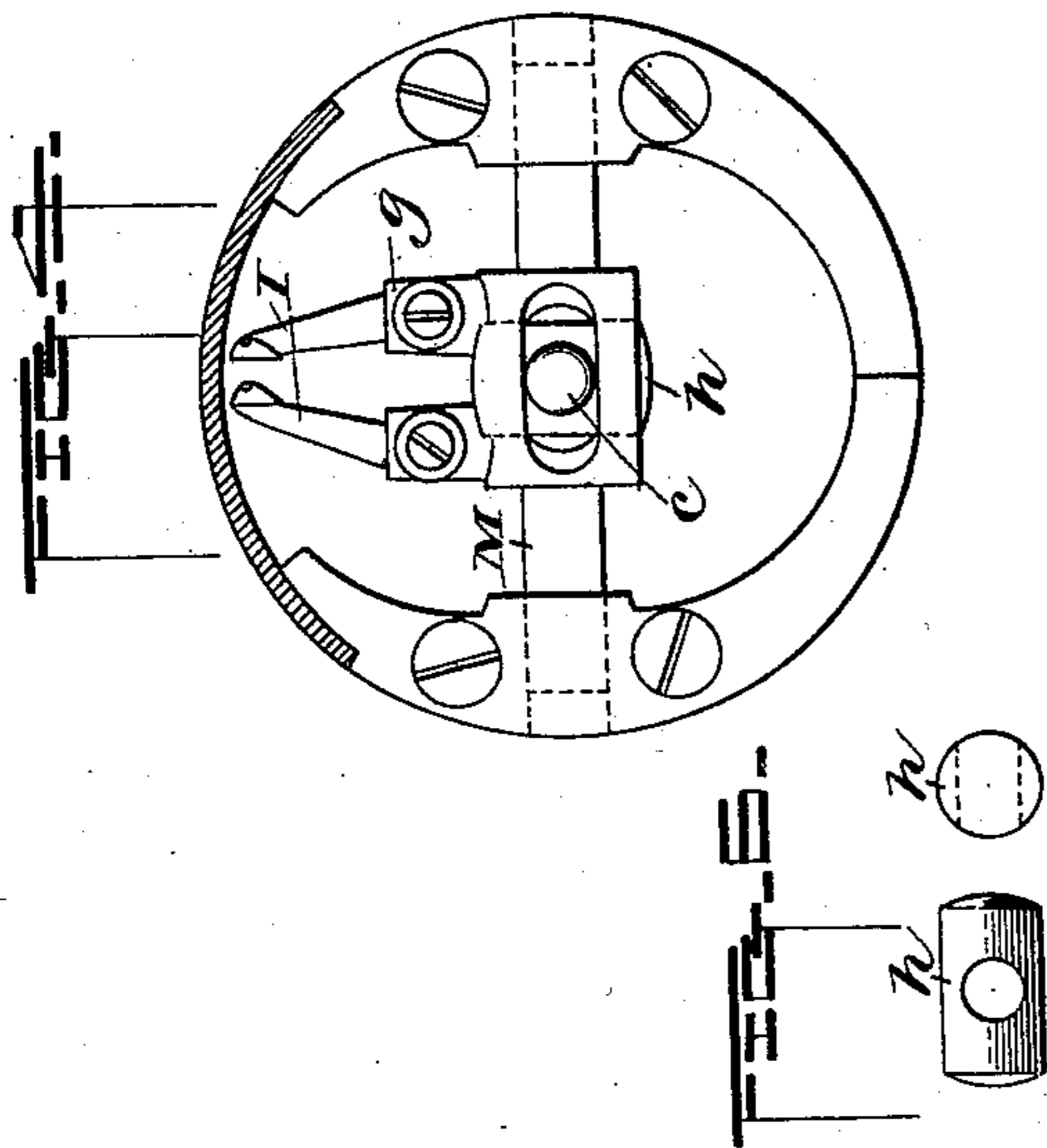
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2 Sheets—Sheet 2.

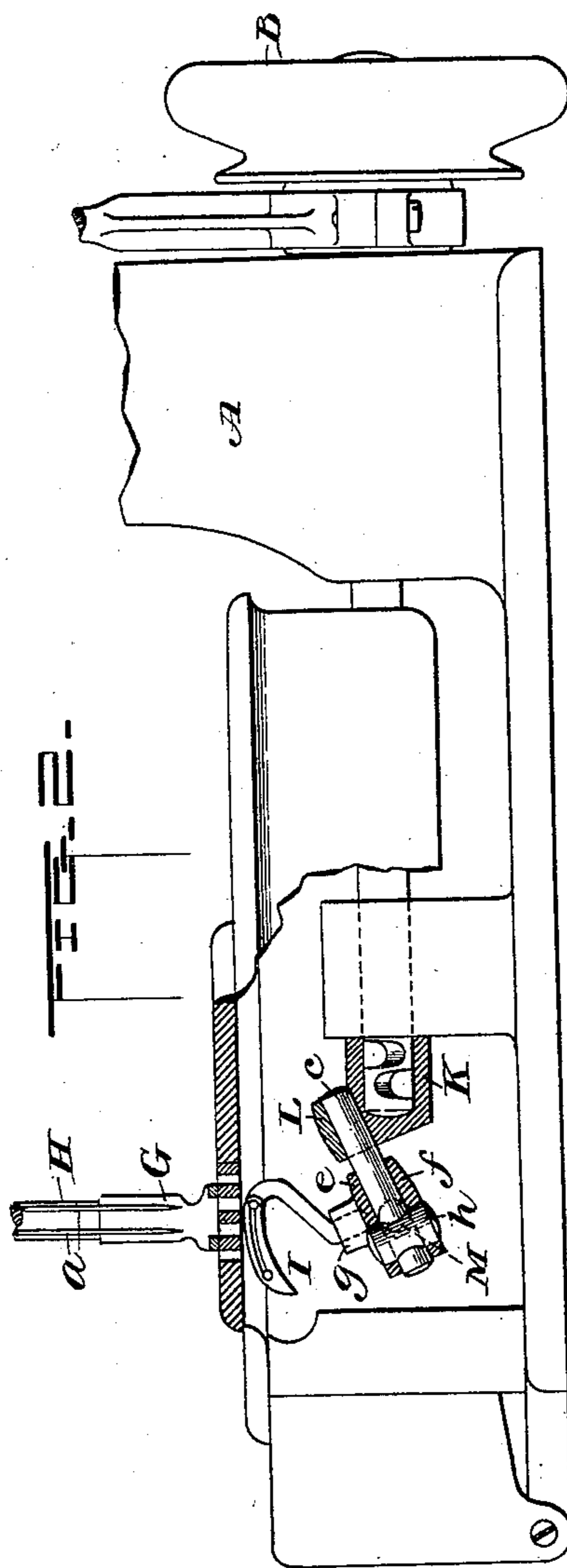
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# UNITED STATES PATENT OFFICE.

LANSING ONDERDONK, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE  
UNION SPECIAL SEWING MACHINE COMPANY, OF CHICAGO, ILLINOIS.

## LOOPER MECHANISM FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 591,539, dated October 12, 1897.

Application filed January 4, 1896. Serial No. 574,381. (No model.)

*To all whom it may concern:*

Be it known that I, LANSING ONDERDONK, a citizen of the United States, residing at Boston, in the county of Suffolk, State of Massachusetts, have invented certain new and useful Improvements in Sewing-Machines, of which the following is a description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to an improvement in sewing-machines, and particularly to mechanism for operating the under looper on a chain-stitch machine whether said looper carries an under thread or not.

The object is to provide a simple and effective device capable of ready removal and insertion, and which may be run at very high speed and adaptable for either manufacturing or family machines.

The invention consists in the matters hereinafter described, and referred to in the appended claims.

In the accompanying drawings, which illustrate the invention, Figure 1 is a side elevation, partly in section, of a sewing-machine embodying my invention, this figure illustrating the machine as having a cylindrical bed-plate. Fig. 2 is a similar view of a portion of a flat-bed machine. Fig. 3 is a plan view of a portion of the machine, showing the looper-operating mechanism. Fig. 4 is an end view of the same. Fig. 5 is a view similar to Fig. 3, but showing the looper-sockets arranged in a different position, and Fig. 6 is a detail view of the looper-pin fulcrum-block.

In the drawings, A represents the frame of the machine, having the usual belt-wheel B, main shaft C, gooseneck D, needle-arm E, needle-bar F, presser-foot G, and presser-bar H, needle or needles *a*, and feeding mechanism. (Not shown.)

In Fig. 1 the invention is shown as applied to a feed-up-the-arm machine, but in Fig. 2 to a feed-around-the-arm machine. The looper is shown at I and the mechanism for operating it forms the subject-matter of the present invention.

The driving-shaft C, herein shown as the main shaft of the machine, is provided on its outer end with a collar K, which may, as shown in Figs. 1 and 2, be adjustable around

the shaft. It has an outwardly-projecting radially-inclined portion L, provided with an opening or socket *b*, in which is rigidly fixed the end of a bar or arm *c*, which extends toward the front of the machine at an angle.

M represents a transverse shaft journaled in fixed bearings on the machine-frame and supporting a looper-carrier *d*, composed of upper and lower plates *e f*, and having a socket or sockets *g* for the reception of the shank of the loopers I. The inclined pin, rod, or bar *c* passes through the looper-carrier between the plates or flanges *e* and *f*, thus forming a fork, and is fulcrumed in the block pin or post *h*, set into the looper-carrier and having an opening through which the pin, bar, or arm *c* extends. This block is pivoted to oscillate on a vertical axis. By arranging this fulcrum-block *h* either forward or back of the plane of the axis of the transverse shaft, as shown respectively in Figs. 3 and 5, forward movement of the looper may be made to take place on one side or the other of the needle. Instead of providing the transverse shaft M, to which the looper-carrier is secured, journaled in the machine-frame, the looper-carrier may have oppositely-extending sleeves *k*, which fit over and slide upon the rods *l*, set into the machine-frame and held therein by the screw-threaded end *m*.

In the claims I have referred to the looper-operating part as a "pin," but by this, of course, I mean that it may be a rod or bar, and so also by the term "block," which I use in the claims as indicating the part *h*, I mean to include the terms "pin," "post," &c.

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

1. A looper-operating mechanism comprising a driving-shaft, a straight looper-pin rigidly fixed eccentrically to the driving-shaft, a looper-carrier mounted to slide and rock in bearings and provided with a fork embracing said pin, and a block supported by said looper-carrier having an opening through which the looper-pin passes; substantially as described.

2. A looper-operating mechanism for sewing-machines comprising a driving-shaft, a pin driven from the main shaft, a looper-car-

rier having oppositely-extending sleeves, journals secured to the machine-frame on opposite sides thereof, over which the sleeves fit and upon which they slide and rock and operative connections between the pin and the carrier; substantially as described.

3. A sewing-machine comprising a bed-plate and a driving-shaft, a looper-carrier supporting a thread-carrying looper journaled in the forward end of the bed-plate, means on the forward end of the driving-shaft for oscillating the looper longitudinally and laterally vibrating the same, said means comprising a rigid straight pin eccentrically connected to the forward end of the driving-shaft and engaging the looper-carrier for oscillating the latter, and a pivoted block secured to said carrier with which said pin also engages whereby the vibratory movement is given the looper, and means for actuating the driving-shaft; substantially as described.

4. A looper-operating mechanism for sewing-machines comprising a driving-shaft, a collar secured to one end thereof, and having an arm projecting from said collar at an angle to the axis of the driving-shaft, an inclined looper-pin connected with said projecting arm, and a looper-carrier having a fork engaged by said pin; substantially as described.

5. A sewing-machine comprising a bed-plate and a driving-shaft, a looper-carrier

supporting a thread-carrying looper journaled in the bed-plate in advance of the forward end of said shaft, and means for oscillating the looper longitudinally, and for positively vibrating the same laterally bodily, said means comprising an arm projecting from the driving-shaft on an incline in a direction away from the central axis thereof, and an inclined pin attached to said projecting arm and extending in a direction toward the plane of the central axis of the driving-shaft and operatively engaging the looper-carrier; substantially as described.

6. In a sewing-machine having a driving-shaft, a looper-carrier with means for supporting it, and means for operating said looper-carrier to give the looper forward and backward movements in the direction of its length and bodily sidewise movements across the line traversed by said looper in its other movements, said means comprising a rigid straight inclined pin mounted on the forward end of the driving-shaft and a fulcrum-block, secured to the looper-carrier with which said pin engages, substantially as described.

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

LANSING ONDERDONK.

Witnesses:

CHAS. L. STURTEVANT,  
HARRY Y. DAVIS.