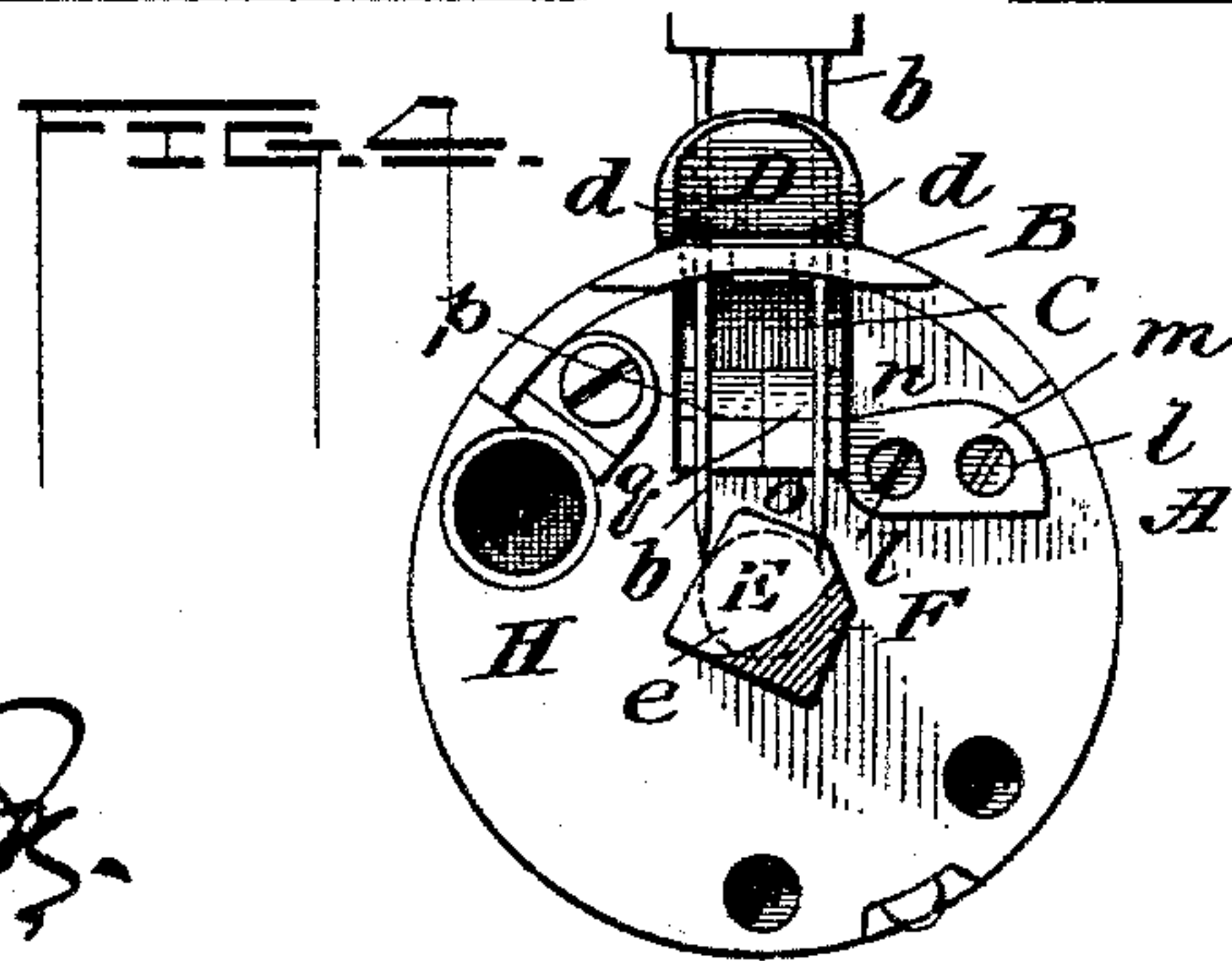
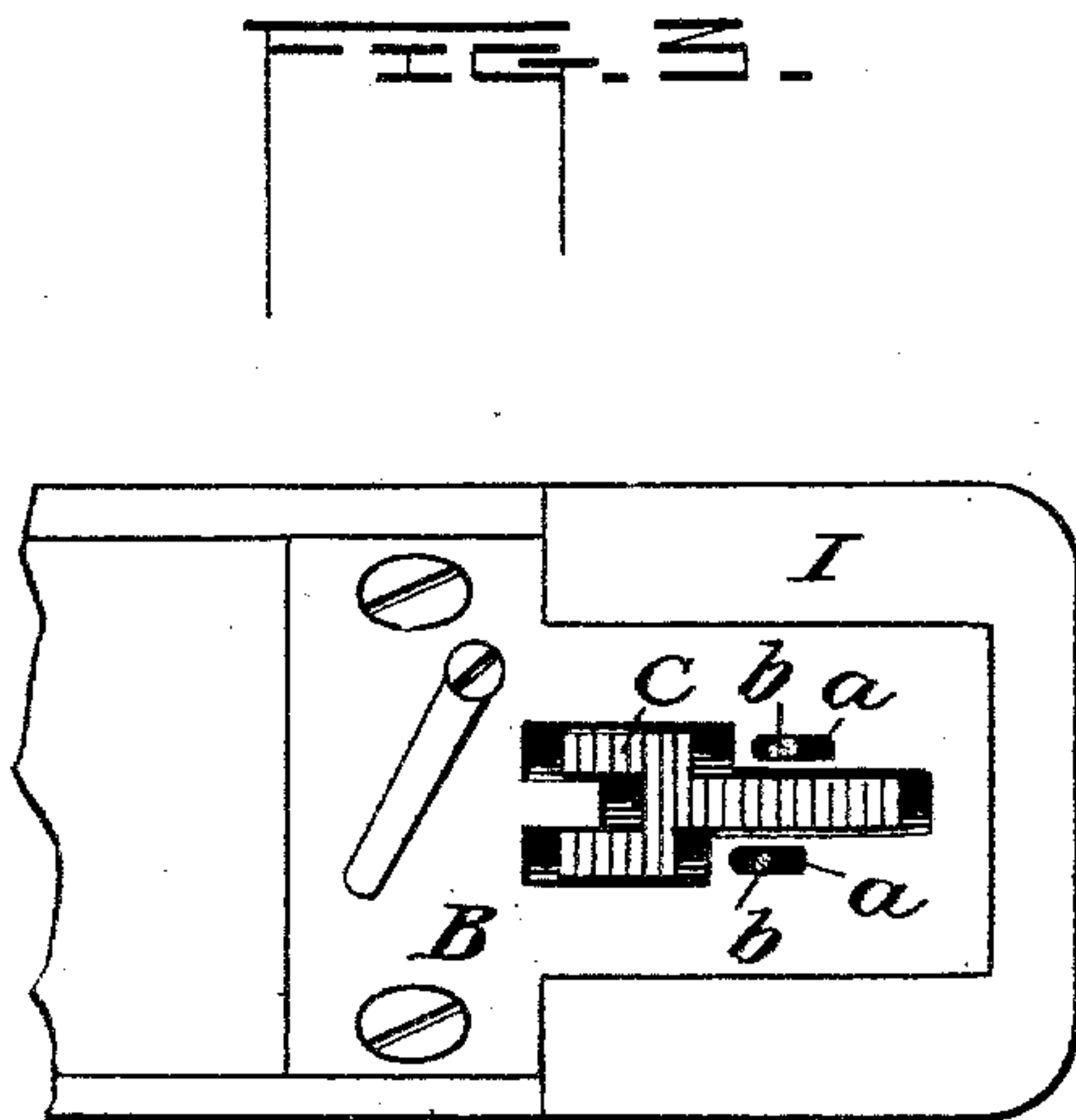
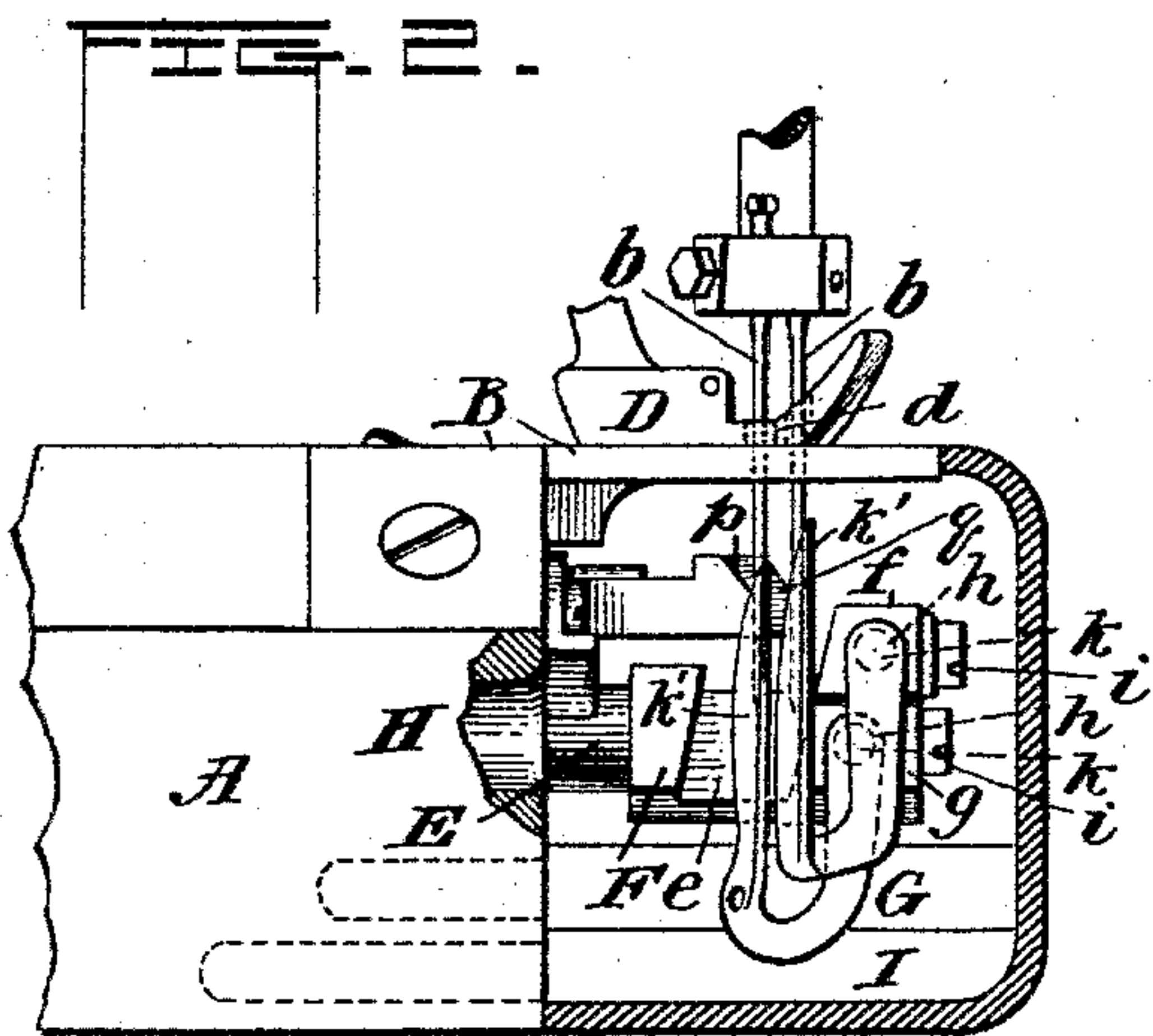
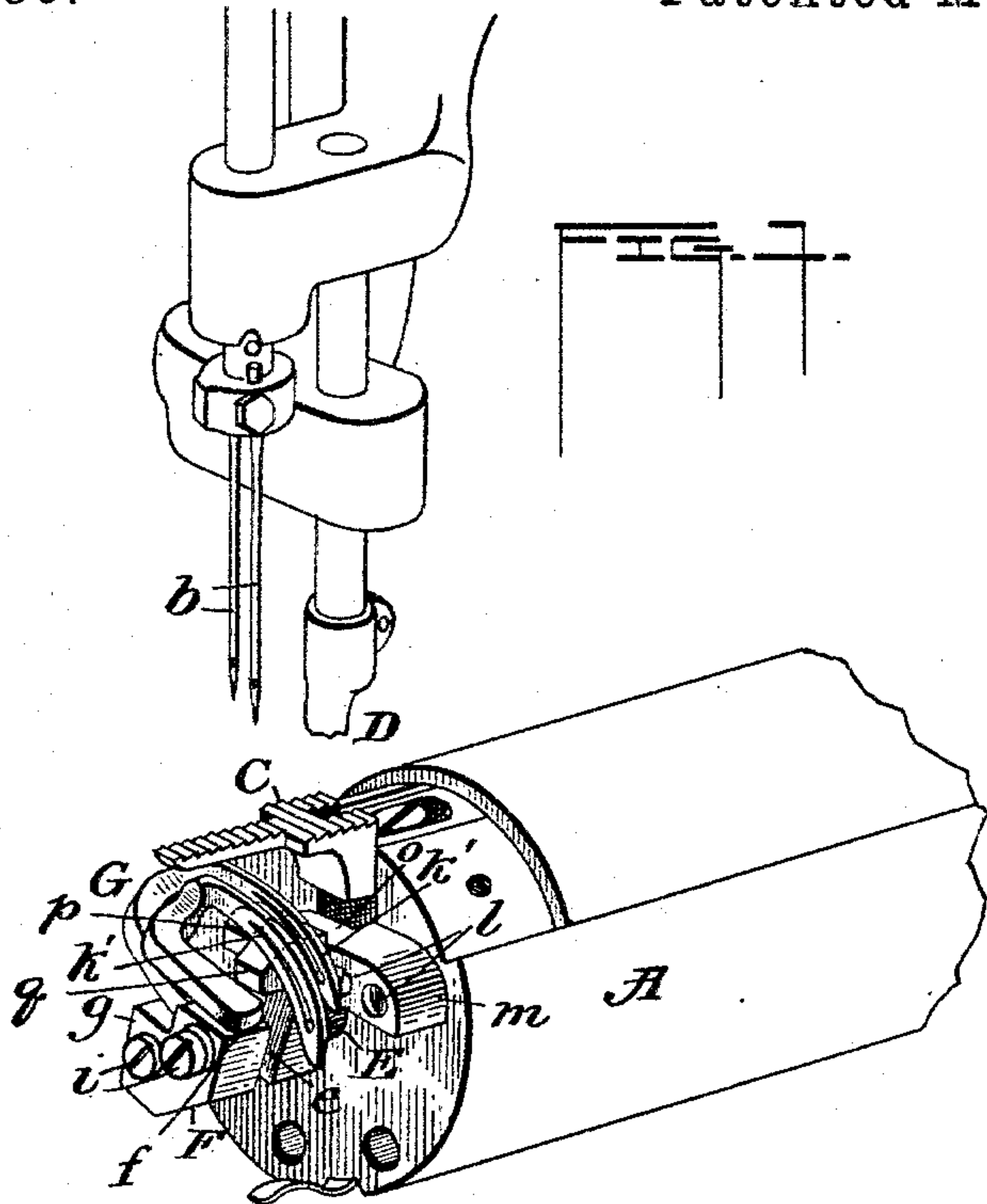


(No Model.)

L. MUTHER.
SEWING MACHINE.

No. 559,786.

Patented May 5, 1896.



Witnesses
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SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 559,786, dated May 5, 1896.

Application filed January 3, 1895. Serial No. 533,758. (No model.)

To all whom it may concern:

Be it known that I, LORENZ MUTHIER, a citizen of the United States, residing at Oak Park, in the county of Cook, State of Illinois, 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 especially to that class of machines in which the work to be sewed is placed upon the horn or cylindrical bed-plate, the feed working longitudinally of said arm, said machines being adapted particularly for sewing tubular articles, such as sleeves and legs of shirts and drawers, and also for sewing up the bodies of shirts and the legs of overalls and the like.

The present invention is designed particularly for application to what is known as the "Union Special Side-Wheel Cylinder-Machine," illustrated in an application filed by Russell G. Woodward, Elias C. Holland, and myself on or about the 5th day of February, 1895, and serially numbered 537,342.

The present invention is designed to be used especially on a machine of the character described, but in which the needles are arranged obliquely to each other respecting the line of feed, there being arranged to cooperate therewith two loopers whereby the stitches are formed; and said present invention consists in the construction and arrangement of certain parts designed to be applied to a machine of that character, but particularly cooperating with obliquely-arranged needles.

In the accompanying drawings, which illustrate the invention, Figure 1 represents in perspective so much of a sewing-machine as is necessary to an understanding of my invention, the needles being shown at the extreme limit of their upward movement and the loopers in their extreme forward movement. Fig. 2 is a side elevation, partly in section, of a portion of a sewing-machine, showing the needles in their lowest position and the loopers in their extreme retracted position. Fig. 3 is a plan view of the end of the

bed-plate and the throat-plate of the machine; and Fig. 4 is an end view, partly in section, showing the arrangement of parts.

In the drawings, A represents the cylindrical bed-plate or horn of the machine, and B the throat-plate secured thereto, having slots for the passage of the feed-dog C and openings *a*, arranged diagonally to each other respecting the line of feed for the passage of the needles *b*, which are supported in the usual way on the needle-bar and arranged so that a line joining the two will be at an angle to the line of feed.

D is the presser-bar presser-foot, which latter has openings *d*, arranged diagonally to each other respecting the line of feed.

E represents the looper-shaft, which has a longitudinal and oscillatory movement in the same manner as described in connection with the application above referred to. This looper-shaft is provided with the irregularly-shaped head F, having the deep diagonally-cut-out slot *e* to give proper clearance to the needles in their downward movement, this head at its outer end having an integral lug *f*, arranged above the main portion *g*. Each of these parts *f g* is provided with an opening *h*, which openings are arranged so that the vertical plane in which they lie is at an oblique angle to the line of feed, and in said openings are secured, by means of screws *i*, the shanks *k* of the loopers G. The body portions or curved parts *k'* of said loopers are arranged side by side, but the forward end of the one in advance of the forward end of the other, whereby they cooperate with the obliquely-set needles to form the stitches.

The end H of the cylindrical casing is provided with the proper openings for the passage therethrough of the looper-threads, the looper-shaft, the feed-dog, and also for the reception of pins on the end cap I. Secured to the end of this casing by means of the two screws *l* is the shank *m* of the needle-guard *n*, which has the longitudinally-extending portion *o*, having the beveled needle-deflectors *p q*, the part *q* projecting in advance of the part *p* and acting in the manner usual with needle-guards.

I am aware that needle-guards have heretofore been used in connection with sewing-machines, and I do not claim the same broadly.

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

1. A sewing-machine comprising a cylindrical casing, feeding mechanism arranged and working longitudinally thereof, a plurality of needles arranged so that a line joining them is at an oblique angle to the line of feed, a reciprocating and oscillating looper-shaft extending lengthwise of and within the casing, and a plurality of thread-carrying loopers secured to said shaft and set so that the vertical plane in which their loop-taking points lie is at an oblique angle to the line of feed; substantially as described.

2. A sewing-machine comprising a cylindrical casing, a feed-dog arranged and working longitudinally thereof, a plurality of needles arranged so that a line joining them is at an oblique angle to the line of feed, a longitudinally-reciprocating and laterally-oscillating looper-shaft arranged within said casing, and having a head at its outer end slotted for the reception of the needles and a plurality of loopers supported on said head having means for carrying a thread and set so that the vertical plane in which they lie is at an oblique angle to the line of feed; substantially as described.

3. A sewing-machine comprising a cylindrical casing and a feed-dog arranged and working longitudinally thereof, suitable stitch-forming mechanism including vertically-reciprocating needles, a needle-guard secured to the vertical front wall of said casing beneath the throat-plate having a guard portion proper which extends longitudinally of the casing parallel to the feed-dog and having beveled portions which are arranged ad-

jacent to the path of the needles; substantially as described.

4. A sewing-machine comprising a cylindrical casing, a feeding mechanism, a plurality of needles so set that a line joining them is at an oblique angle to the line of feed, a shaft extending in a single plane throughout the length of the casing and provided on its forward end with a head having an irregularly-shaped slot to provide clearance for the needles, and a plurality of thread-carrying loopers secured to said head, so that the vertical plane in which they lie is at an oblique angle to the line of feed; substantially as described.

5. The combination in a sewing-machine with suitable stitch-forming mechanism, of a cylindrical casing having at its forward end a practically solid vertical wall, a needle-guard having a shank secured to said wall at one side of the center thereof and having its guard portion arranged in a plane coincident with the central vertical plane of the casing and adjacent the path of reciprocation of the needle of said stitch-forming mechanism; substantially as described.

6. The combination in a sewing-machine, with suitable stitch-forming mechanism comprising a plurality of needles and complementary thread-carrying loopers, of a longitudinally-reciprocating shaft having a head on its outer end, said head having a slot for the reception of the needles and at one side of said slot a plurality of lugs having sockets for the reception of the looper-stems; substantially as described.

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

LORENZ MUTHER.

Witnesses:

CHESTER MCNEIL,
HENRY D. WRIGHT.