

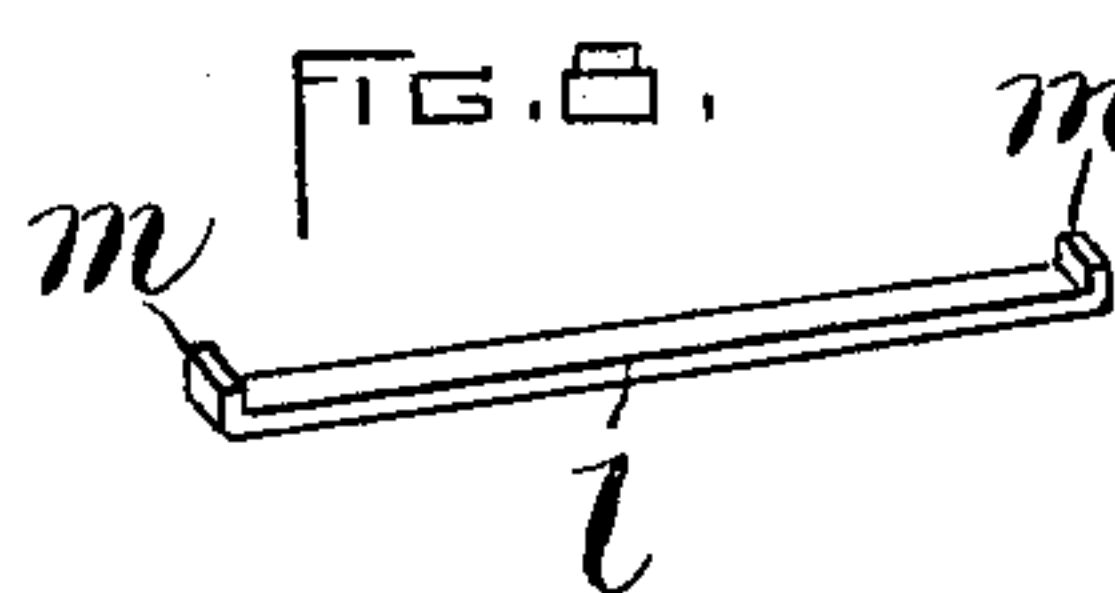
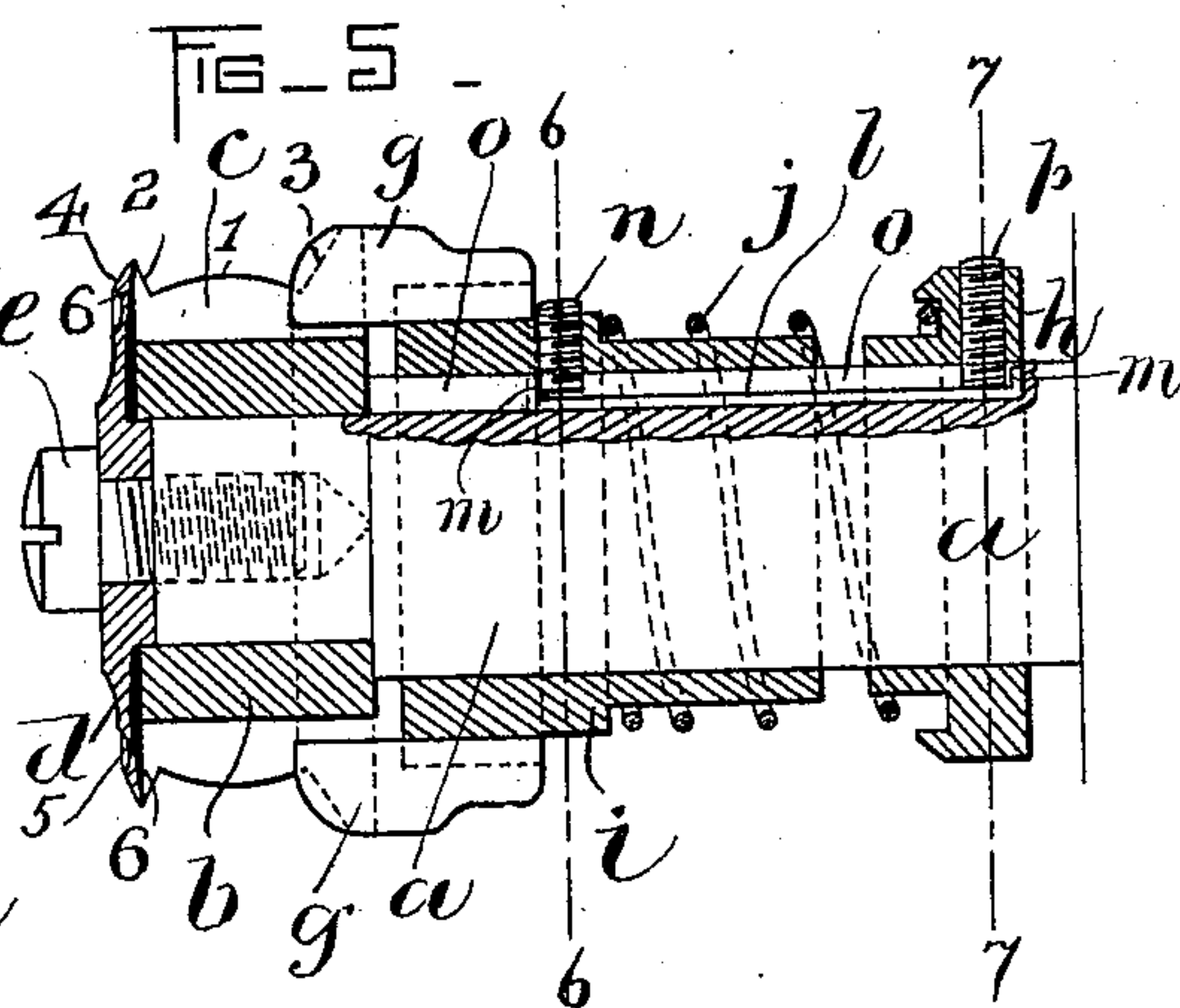
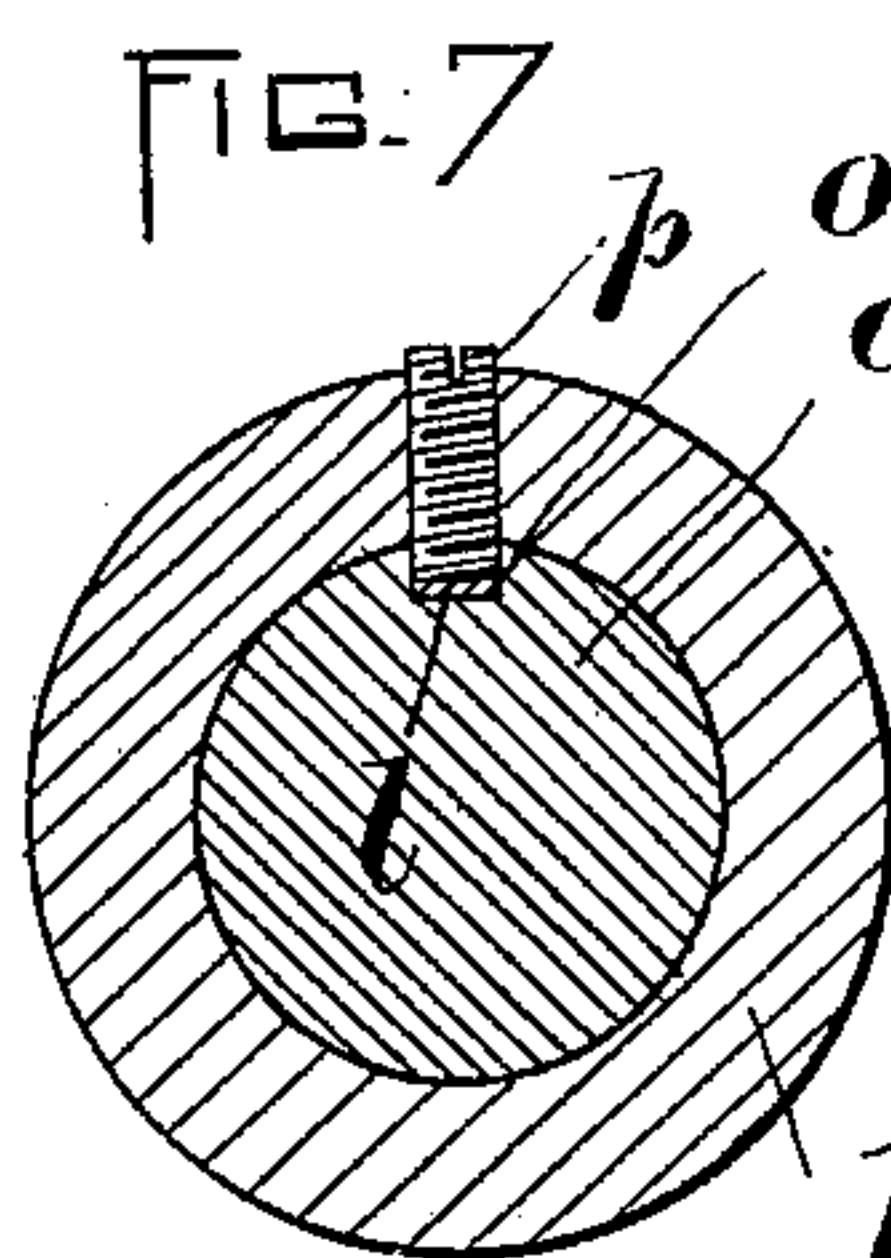
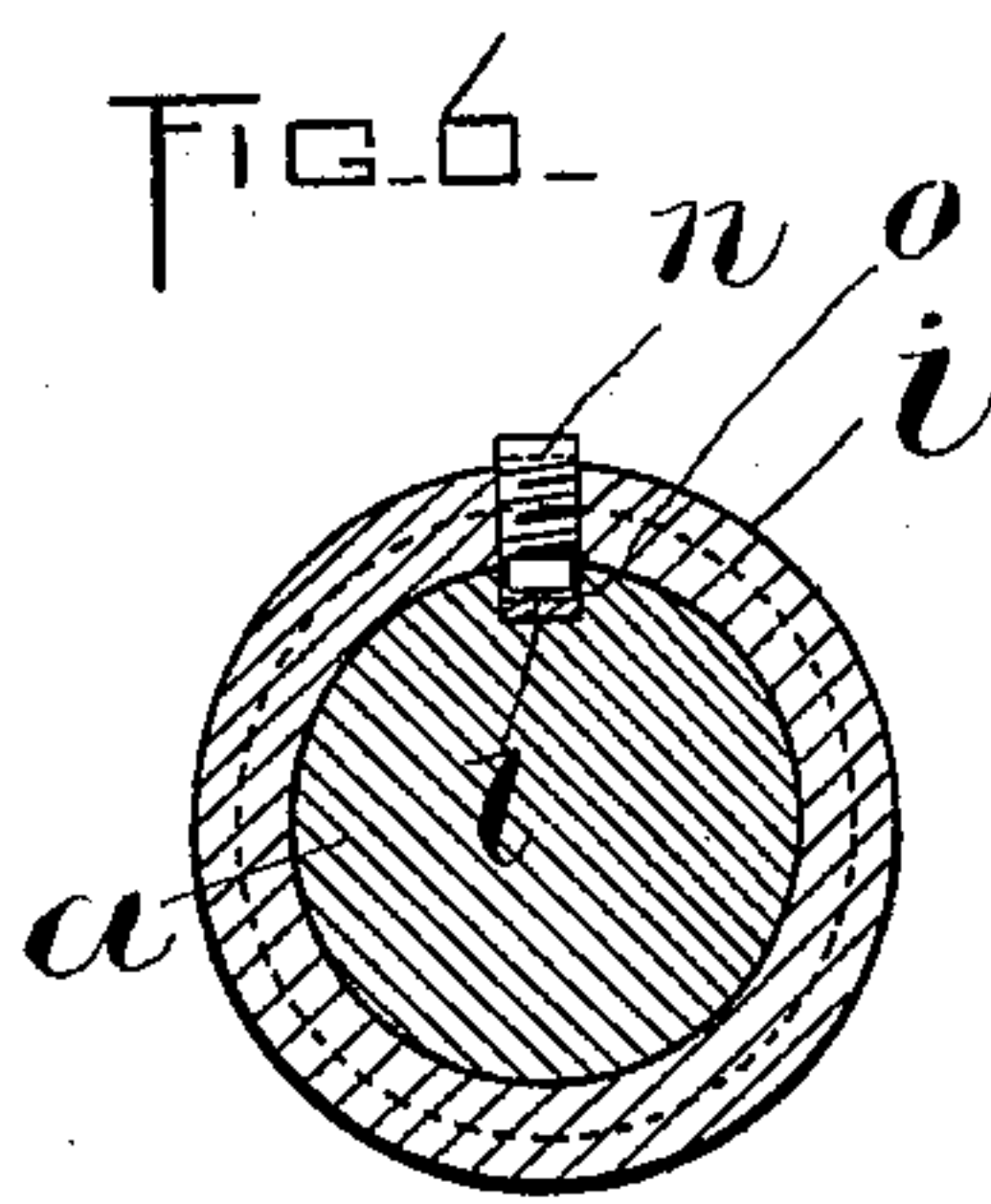
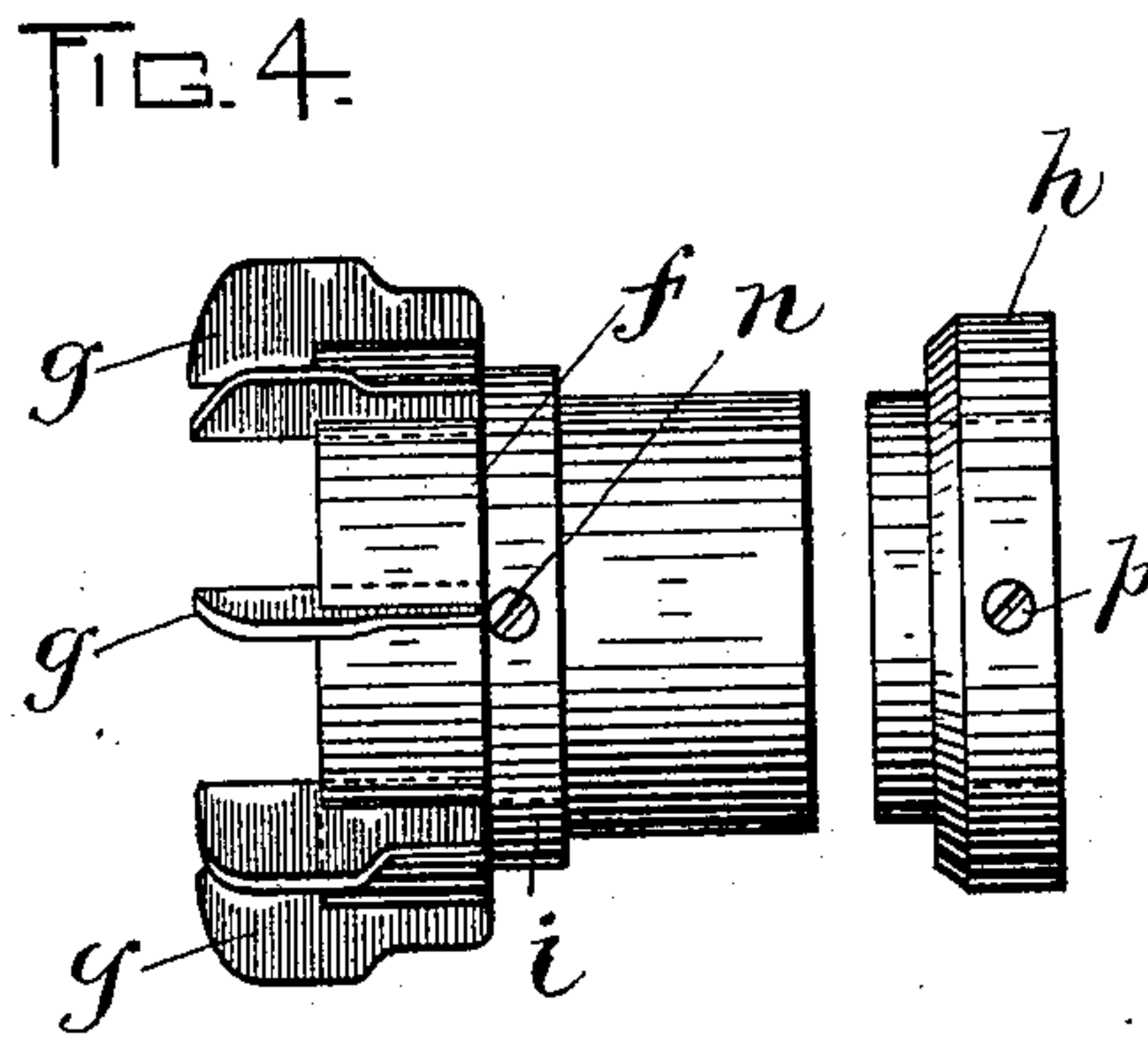
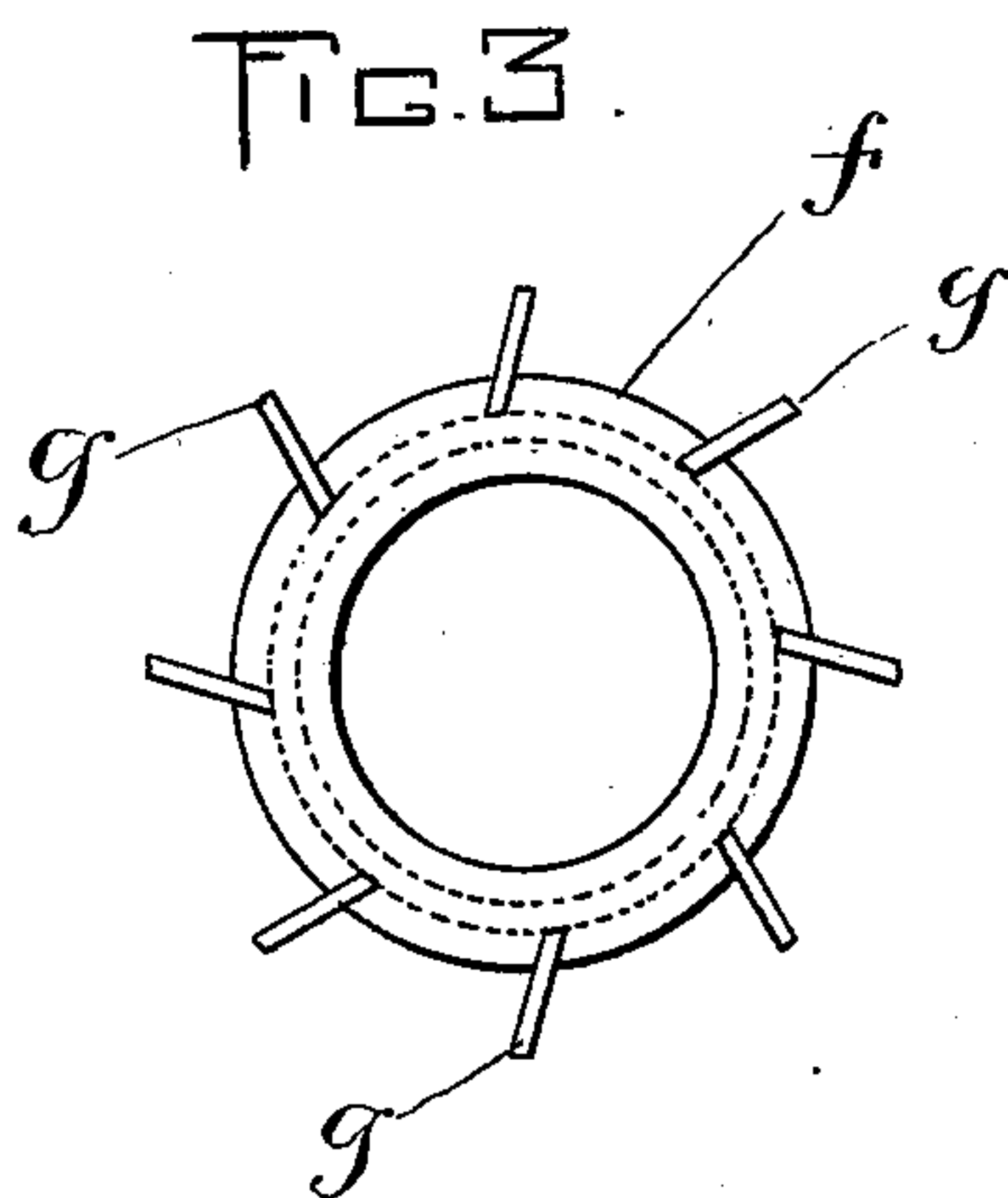
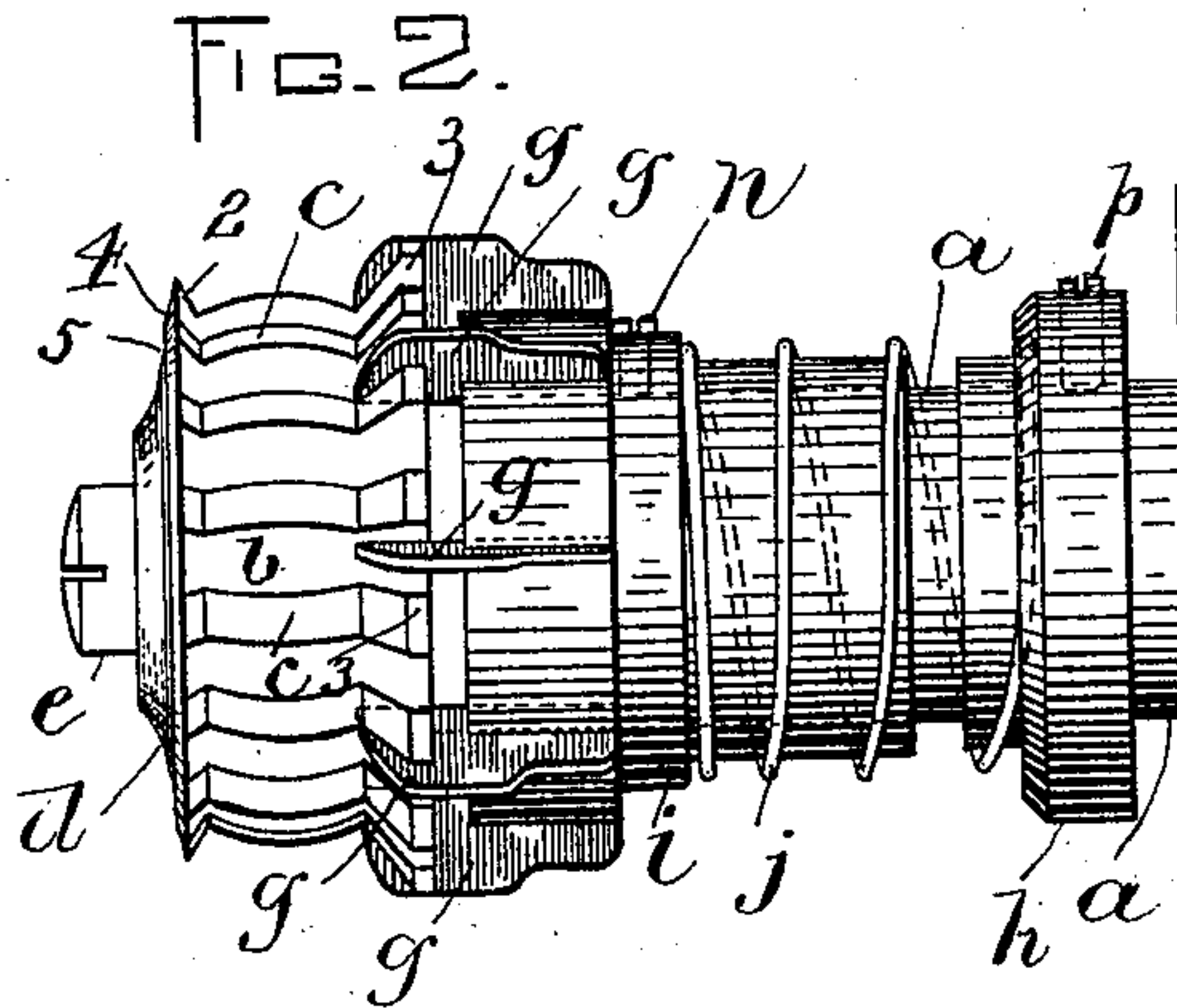
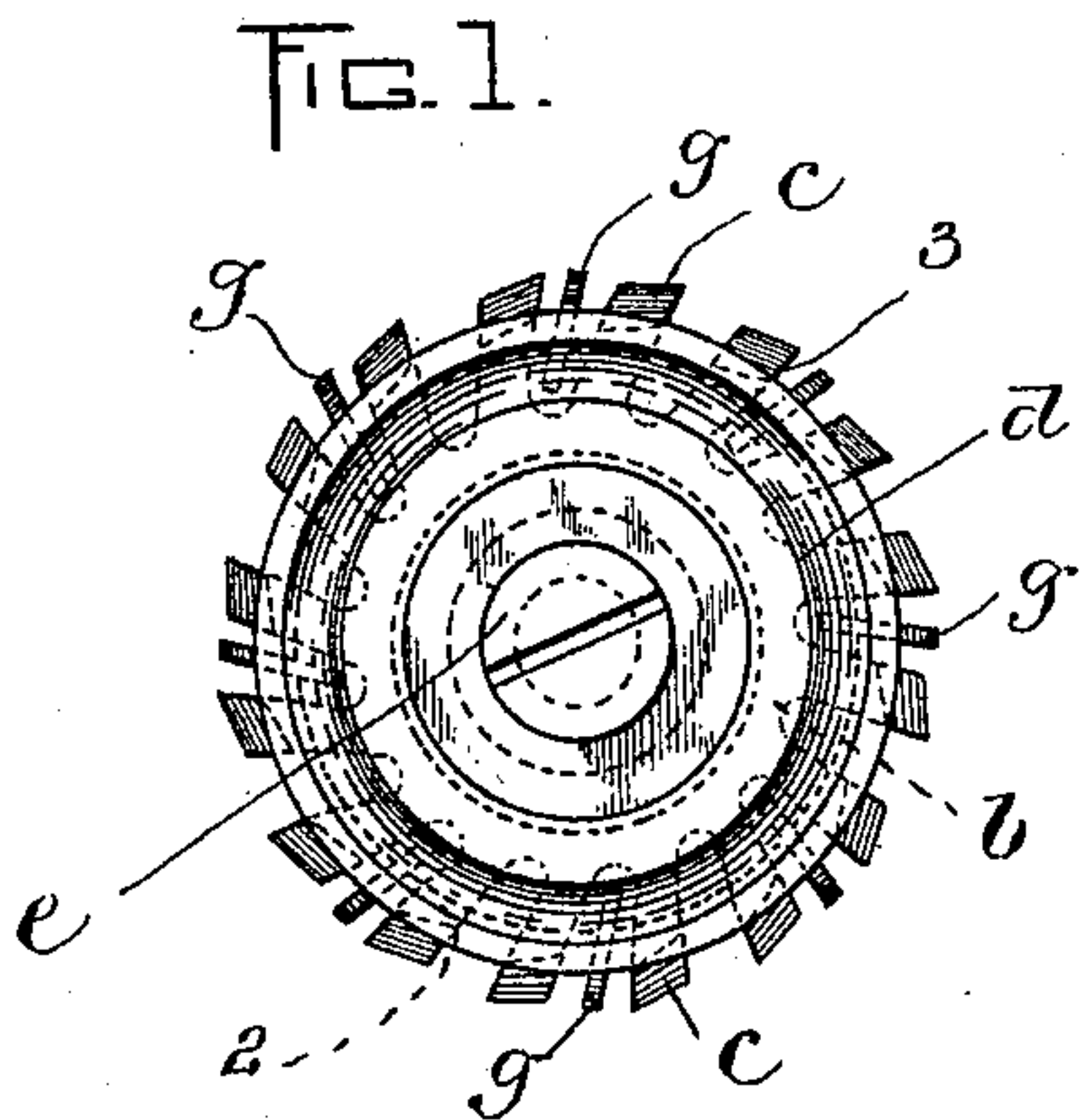
No. 607,391.

Patented July 12, 1898.

C. G. BELMER.
SOLE EDGE TRIMMING TOOL.

(Application filed Nov. 2, 1896.)

(No Model.)



WITNESSES:
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UNITED STATES PATENT OFFICE.

CHARLES G. BELMER, OF REVERE, MASSACHUSETTS.

SOLE-EDGE-TRIMMING TOOL.

SPECIFICATION forming part of Letters Patent No. 607,391, dated July 12, 1898.

Application filed November 2, 1896. Serial No. 610,861. (No model.)

To all whom it may concern:

Be it known that I, CHARLES G. BELMER, of Revere, in the county of Suffolk and State of Massachusetts, have invented certain new and
5 useful Improvements in Sole-Edge-Trimming Tools, of which the following is a specification.

This invention has relation to tools for trimming the edges of soles of the class in which there are a revolving cutter the knives of
10 which are arranged to extend from a rand-guide in such way as to cut the lower edge of the sole and a sleeve having buffer-plates extending between the knives, the sleeve being yielding to permit the buffer-plates to be
15 pushed back for the purpose of allowing the knives to operate against the leather.

The object of the invention is to provide a tool of this class with means for adjusting the position of the buffer blades or plates relatively to the cutter and likewise to change the
20 tension of the spring by means of which the sleeve is held forward in order to have the said buffer-blades held forward at any pressure that may be desired.

The manner in which I attain the object of my invention and in what the invention particularly consists will be fully described in the specification hereto annexed and pointed
25 out in the claims which are also appended.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which like letters and figures of reference indicate the same or similar parts or features,
30 as the case may be, wherever they occur.

Of the drawings, Figure 1 is a front end view of the tool. Fig. 2 is a side elevation of the same. Figs. 3 and 4 are respectively a front view and a side elevation of the sleeve upon which the buffer-blades are mounted.
35 Fig. 5 is a vertical longitudinal section of the tool. Figs. 6 and 7 are cross-sections respectively on the lines 6 6 and 7 7 of Fig. 5. Fig. 8 is a detail view of a bar employed in adjusting the sleeve.

Referring to the drawings, *a* indicates a shaft having upon its end a cutter *b*, with blades *c*, which are of the shape shown in Figs. 1, 2, and 5—that is to say, each blade has a curved cutting portion 1 for the central part
40 of the edge of the sole, a straight portion 2 for cutting the edge of the sole near the rand-

crease, and a straight portion 3 for cutting the lower edge of the sole.

d is a rand-guide secured to the shaft *a* by a screw *e* and enters the crease between the
45 sole and the upper to guide the cutters.

f is a sleeve adapted to slide freely longitudinally of the shaft, and has buffer-blades *g g* rigidly secured thereto which are adapted to extend between the cutter-blades *c* and to
50 project out beyond the portions 3 of the said blades. The buffer-blades *g* are rounded or smoothed, so as to give a smooth finish to the margin of the lower face of the sole after it has been cut by the portions 3 of the said
55 blades.

h is a collar which is fixed upon the shaft *a* and between which and a flange *i* on the sleeve *f* is placed a strong spiral spring *j*. The shaft
60 *a* is slotted longitudinally to receive a bar *l*, having stops *m* at each end. The sleeve *f* is tapped to receive a screw *n*, which passes down into the slot *o* in the shaft to hold the sleeve *f* stationary transversely of the shaft, but to permit it to slide longitudinally thereof. The
65 collar *h* is provided with a similar screw *p*, which is likewise extended down into the slot *o*. The bar *l* is placed in the slot, with its stops *m* extending up on opposite sides of the screws *n* and *p*, so as to limit the movement
70 of the sleeve relatively to the collar. The screw *p* is forced in against the bar *l*, so as to firmly bind it against the shaft to prevent its having any longitudinal movement relatively thereto, and hence when the sleeve *f* is forced
75 back to carry the buffer-blades out of the way of the cutting portions 3 of the knife-blades it will be returned to its original position as soon as pressure is removed therefrom by the spring *j*, the outer stop *m* on the bar *l* limiting its forward movement.
80

From the foregoing it will be seen that I can not only adjust the position of the sleeve *f* and the buffer-blades *g*, but I can increase or diminish the tension of the spring *j*, as I shall
85 now show.

In case it is desired to allow the buffer-blades to move still farther forward the screw *p* may be loosened and the bar *l* moved farther along in the slot. Then when the screw *p* is tightened
90 the sleeve may be moved forward until the screw *n* abuts against the forward stop *m* of

the bar *l*. In case it is desired to increase the tension of the spring *j* the screw *p* is loosened and the collar *h* is moved forward relatively to the sleeve *f* and the bar *l*, thereby com-
 5 pressing the spring *j*, and then the screw *p* is forced down against the bar *l* at some distance from the rear stop *m*. Thus it will be seen that while the sleeve *f* will not be permitted to move any farther forward the tension of
 10 the spring *j* will be greatly increased.

The rand guide or shield *d* is secured to the cutter-shaft and is formed at its margin to enter the crease between the upper and welt and protect the upper, as in other cutter-
 15 heads of this character, as has been stated. It differs, however, from those heretofore employed for this purpose in the following particulars: The guide or shield is made of the same diameter as the welt or rand trimming
 20 end of the cutter-head, the welt-trimming lips of the knives or blades extending out to the margin of the shield, so that the shield does not overhang said lips, but permits all parts of their cutting edges to trim the welt, so that the
 25 trimmed surface extends to the bottom of the crease. The margin of the shield is reduced to a thin edge, one side of which is formed by a beveled inner face 6, while the other side is formed by a beveled outer face 4, the
 30 latter bearing against the upper at the bottom of the crease and forming a thin or knife edge with the inner face 6. Within the beveled face 4 is a concave face 5, forming a part of the outer surface of the shield. The object
 35 of this concave face is to afford room for the increased thickness of the upper caused by the toe-cap in shoes thus provided. The toe-cap is thinner at the bottom of the crease than at the outer side thereof, the variation
 40 in its thickness being due either to the preliminary skiving of its edge or to the pressure to which it is subjected in the operation of leveling the sole or to both causes. The concave face 5 is arranged to receive the toe-cap
 45 at the point where its thinner marginal portion joins its thicker body portion, and thus prevent the thicker portion of the toe-cap from forcing the shoe away from the cutter to the extent of its own thickness.

50 Having now explained my invention and described one way of constructing and using the same, although without attempting to set forth all the forms in which it may be made or all the modes of its use, what I claim is—

1. A tool for cutting the edges of a sole, 55 comprising in its construction a shaft, a cutter on the end of said shaft, a sleeve movable longitudinally of the shaft and having buffer-blades adapted to cover a portion of the cut-
 60 ters, a collar on said shaft, a spring interposed between the sleeve and the collar, means for adjusting the sleeve on the shaft relatively to the collar, and means for adjusting the tension of said spring, for the purposes set forth.

2. A tool for cutting the edges of a sole, 65 comprising in its construction a slotted shaft equipped at its end with a revolving cutter, a sliding sleeve having buffer-blades adapted to cover a portion of the cutter-blades, a collar on said shaft, a spring between the sleeve
 70 and the collar, an adjusting-bar placed in the slot in the shaft and having a stop on its forward end, means extending through the collar for clamping the bar against the shaft, and a projection extending in from the shaft
 75 and adapted to abut against the stop on the said bar.

3. An edge-trimming tool, comprising a shaft, a cutter, a sliding sleeve on the shaft having buffing-blades extending between the
 80 cutter-blades, a spring bearing against the sleeve, and means arranged between the sleeve and the shaft for limiting the sliding movement of the sleeve.

4. An edge-trimming tool, comprising a 85 shaft, a cutter, a sliding sleeve on the shaft having buffing-blades extending between the cutter-blades, a spring bearing against the sleeve, and a bar adjustably secured to the shaft, and arranged between the sleeve and
 90 the shaft, for limiting the sliding movement of the sleeve.

5. An edge-trimming tool, comprising a cutter and a shield having its flat non-recessed, inner face against the cutter and its
 95 margin flush with the extreme ends of the welt-trimming lips of the knives of the cutter, said shield also having on its outer face a beveled portion 4, and a concave portion 5 for the purposes specified. 100

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 28th day of October, A. D. 1896.

CHARLES G. BELMER.

Witnesses:

A. D. HARRISON,
 C. F. BROWN.