

(No Model.)

J. W. PLUMMER.
RAND TRIMMER.

No. 419,352.

Patented Jan. 14, 1890.

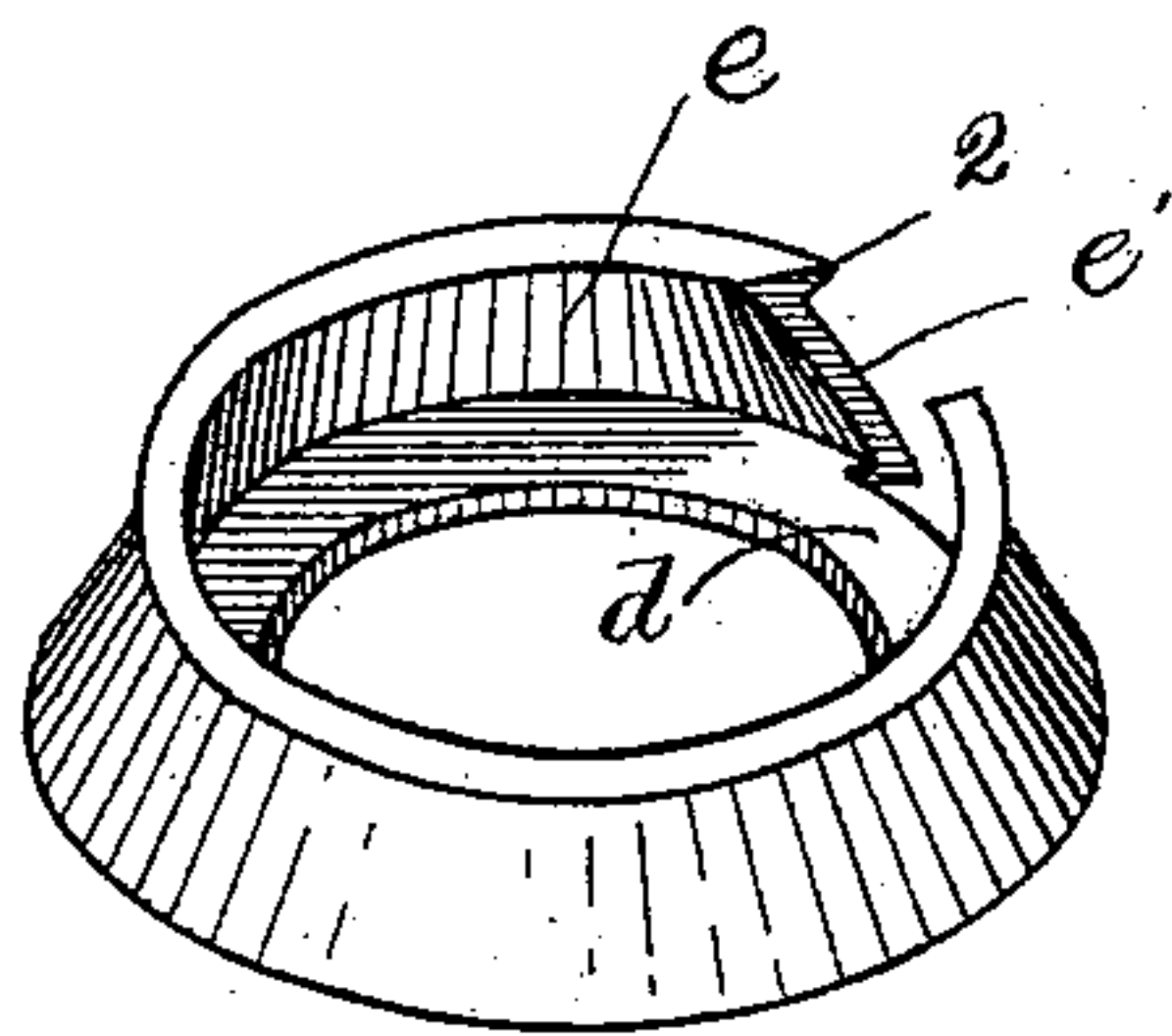


Fig. 5.

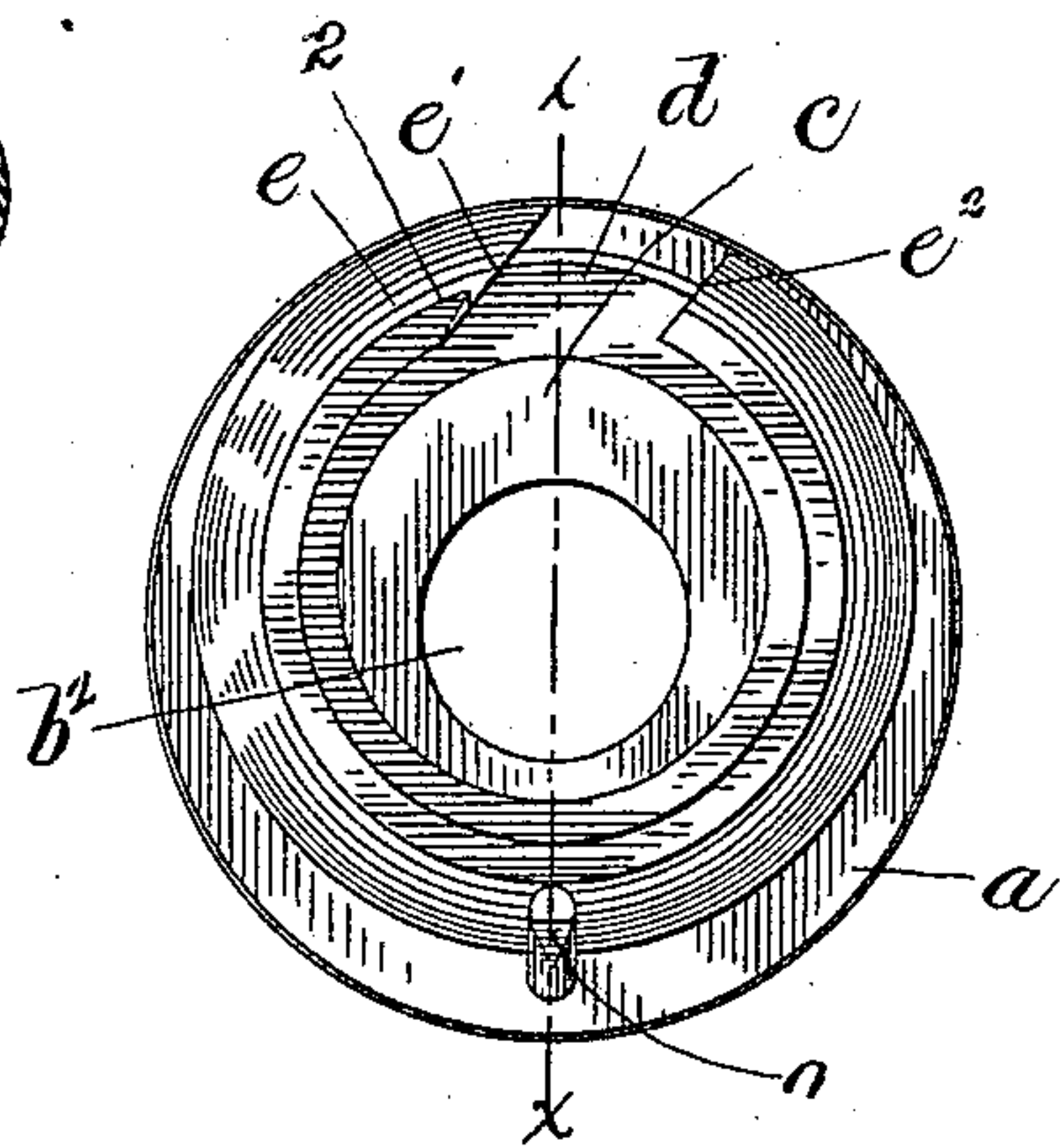


Fig. 1.

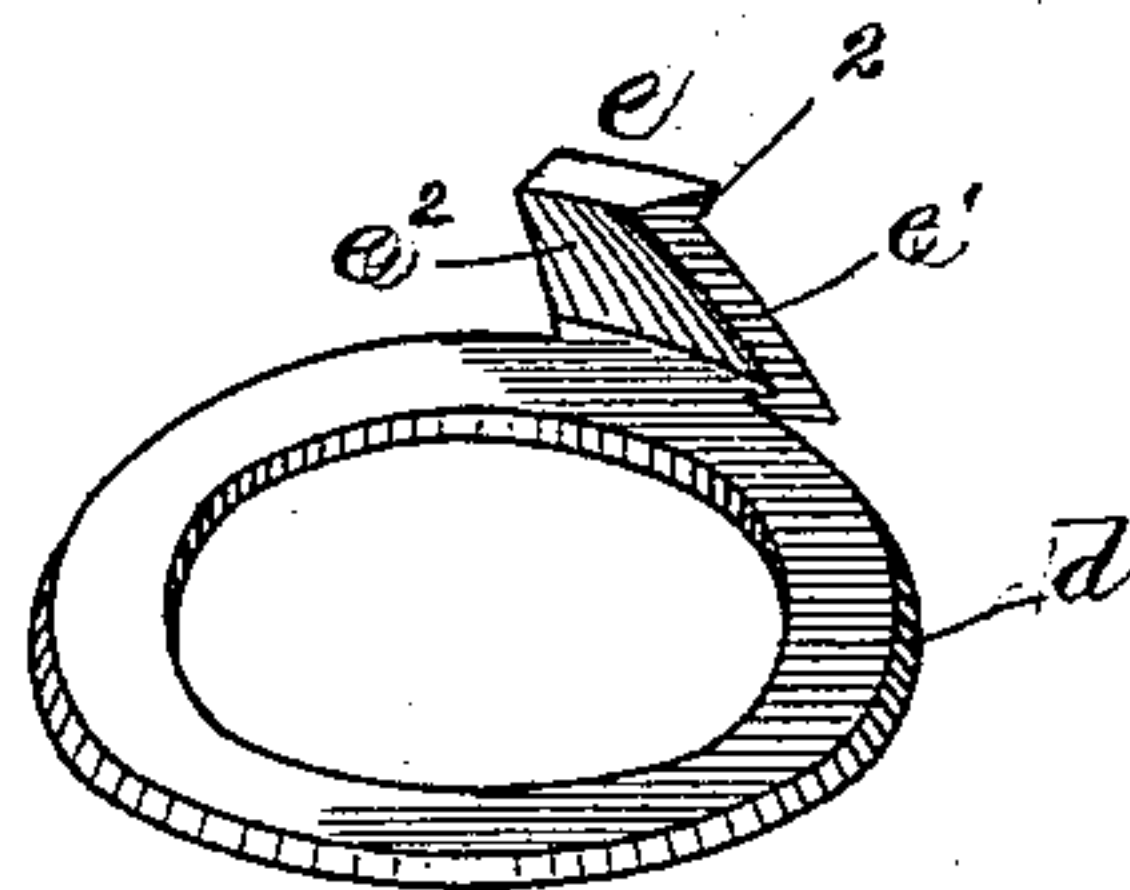


Fig. 7.

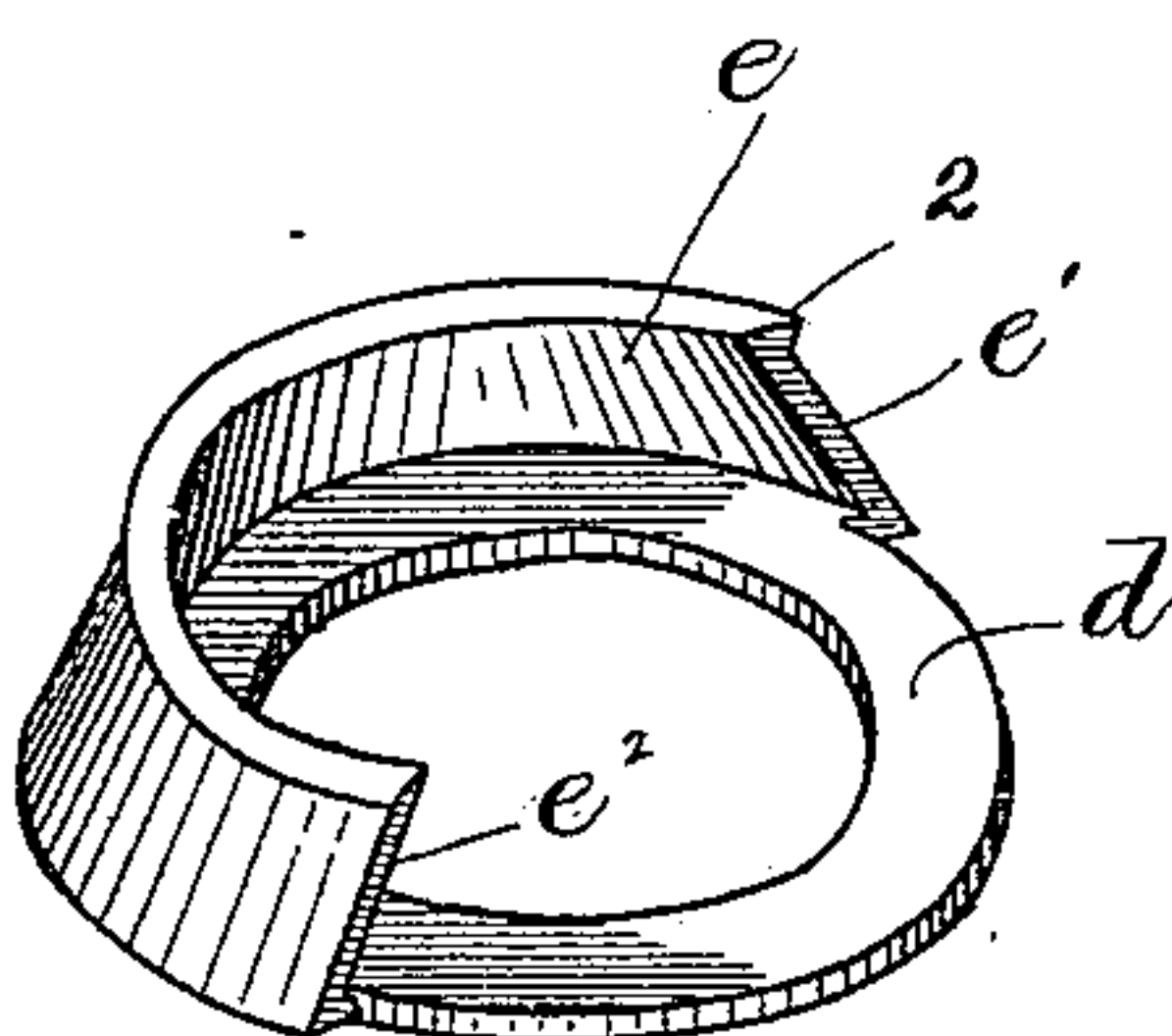


Fig. 6.

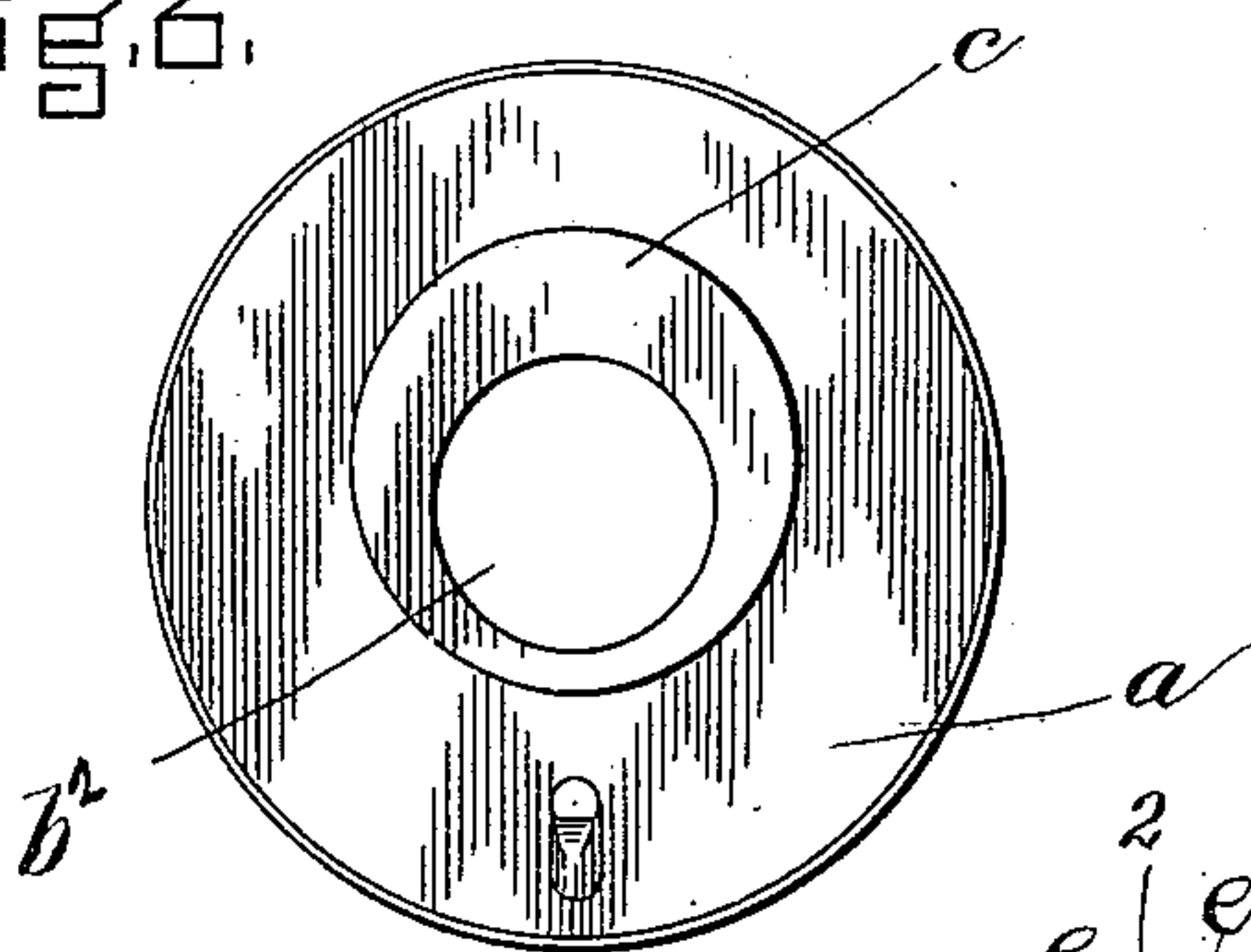


Fig. 2.

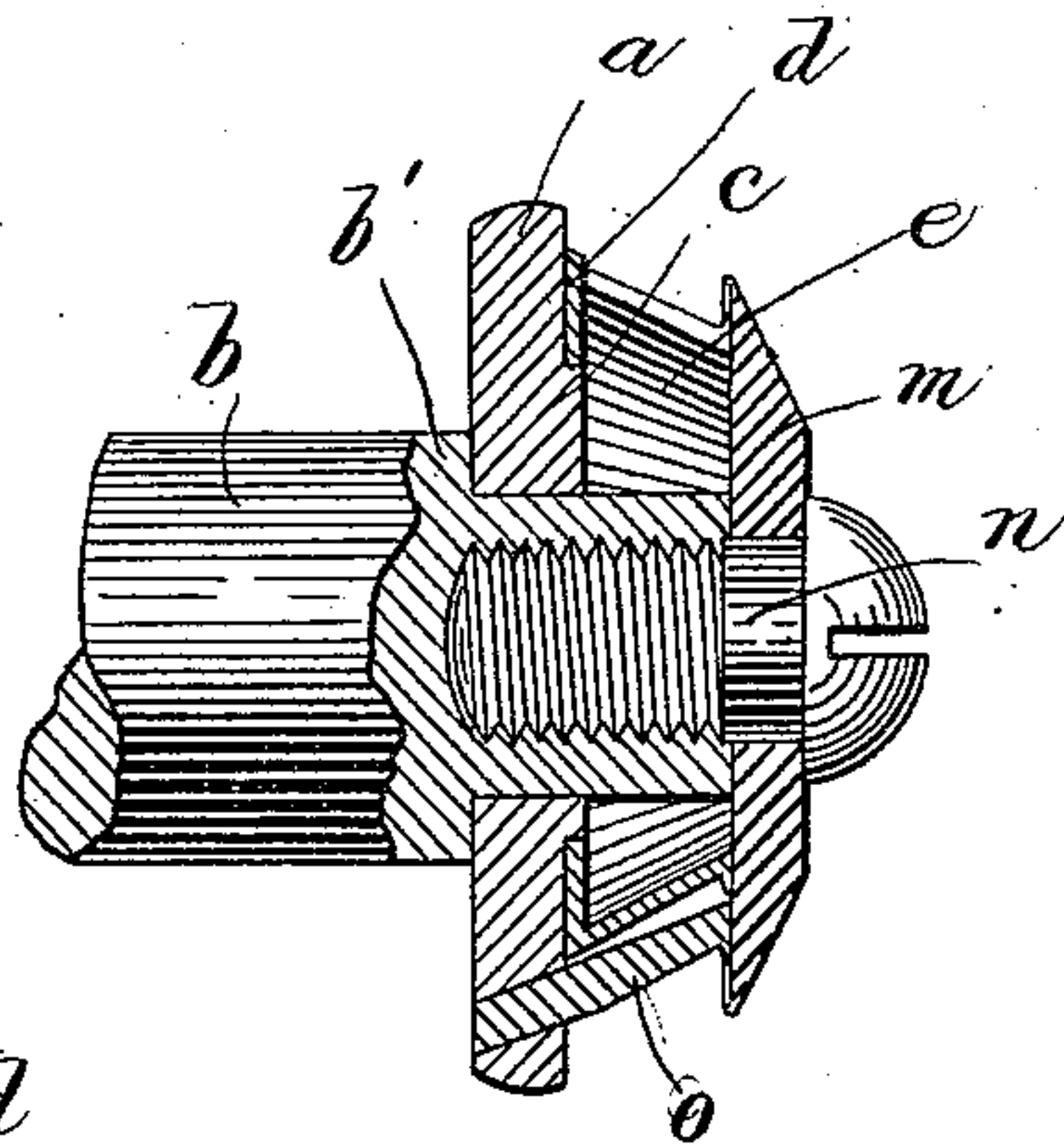


Fig. 3.

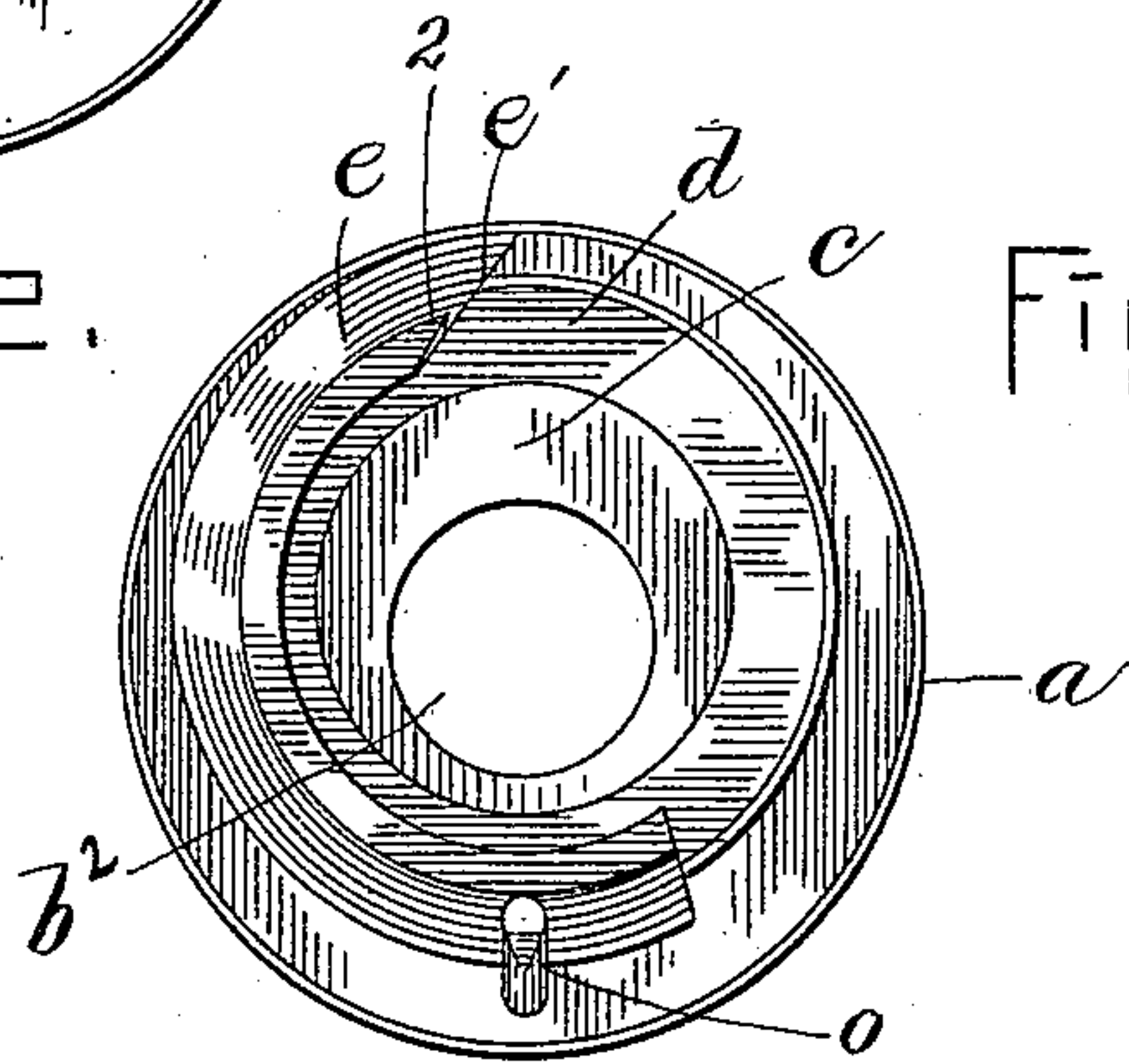


Fig. 4.

WITNESSES.

C. Henry Marsh.
Horace Brown.

INVENTOR

J. W. Plummer
G. M. H. B. H. H. H.
Atty

UNITED STATES PATENT OFFICE.

JOHN W. PLUMMER, OF SOMERVILLE, ASSIGNOR TO ISAAC P. T. EDMANDS,
TRUSTEE, OF BOSTON, MASSACHUSETTS.

RAND-TRIMMER.

SPECIFICATION forming part of Letters Patent No. 419,352, dated January 14, 1890.

Application filed October 7, 1889. Serial No. 326,234. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. PLUMMER, of Somerville, in the county of Middlesex and State of Massachusetts, have invented certain
5 new and useful Improvements in Rand-Trim-
mers for Heel-Trimming Machines, of which
the following is a specification.

This invention has for its object to provide
a rotary cutter adapted to trim the rand-edge
10 and heel-seat portion of a boot or shoe heel;
and it consists in a cutter or trimmer com-
posed of a circular plate adapted for attach-
ment to the end of a shaft in a position con-
centric with and provided on one side with
15 a circular boss, which is eccentric to the pe-
riphery of the plate, said periphery being con-
centric with the shaft to which the plate is
attached; an annular plate or ring having
an orifice closely fitting the said eccentric
20 boss and adapted to rotate thereon; a knife
composed of a beveled segmental flange
formed on said ring and having at its outer
edge a lip, one end of said flange and lip be-
ing sharpened and constituting the heel-seat
25 and rand trimming edge of the knife, and
means for clamping said ring and knife upon
the supporting-plate, the arrangement being
such that one end of the cutting-edge of the
knife stands flush with the periphery of the
30 guard-plate when the knife is properly ad-
justed on the eccentric boss, the knife be-
ing capable of being rotated, so that as its
edge is removed by wear and grinding it can
be adjusted and kept in its proper relation to
35 the periphery of the guard-plate until the
knife is worn out or so far reduced as to be
useless.

Of the accompanying drawings, forming a
part of this specification, Figure 1 represents
40 a side view of the guard-plate and segmental
knife of my improved rand-trimmer. Fig. 2
represents a side view of the guard-plate above.
Fig. 3 represents a sectional view of the rand-
trimmer and a portion of the shaft to which
45 it is attached, the section being on the plane
of line $x x$, Fig. 1. Fig. 4 represents a view
like Fig. 1, showing the knife after it has
been shortened by grinding. Fig. 5 repre-
sents a perspective view of the knife in the
50 condition shown in Fig. 1. Fig. 6 represents

a perspective view of the knife in the condi-
tion shown in Fig. 6. Fig. 7 represents a per-
spective view of the knife still further short-
ened or reduced.

The same letters and figures of reference 55
indicate the same parts in all of the figures.

In the drawings, a represents the guard-
plate, which has a circular periphery and a
central orifice b^2 concentric with said periph-
ery to receive the reduced end of the shaft b , 60
which carries the trimmer, said shaft being
journaled in bearings on the frame of an or-
ganized heel-trimming machine and rotated
by power suitably applied. The rear side of
the plate a bears against a shoulder b' on the 65
shaft, as shown in Fig. 3. On the front side
of the plate a is formed a circular boss c ,
which surrounds the shaft-receiving orifice
 b^2 and is eccentric to said orifice and to the
periphery of the plate. 70

d represents the ring on which the seg-
mental knife e is formed. Said ring has a
central orifice formed to receive the eccentric
boss c , the said orifice fitting closely on the
periphery of the boss. 75

The knife e is a beveled segmental flange
formed on the outer margin of the ring d and
having a lip 2 at its outer edge. Said knife
is sharpened at one end to form the cutting-
edge e' , the sharpened end of the body of the 80
flange constituting the heel-seat-trimming
portion, while the sharpened end of the lip 2
constitutes the rand-trimming portion.

The knife and ring are so proportioned that
when the ring is properly adjusted on the ec- 85
centric boss c the end of the cutting-edge op-
posite the lip 2 is flush with the periphery of
the guard-plate, as shown in Figs. 1 and 4, so
that said periphery constitutes a guard, pre-
venting the end of the cutting-edge that lies 90
against it from cutting into the boot or shoe
heel. When the knife is shortened by wear
and grinding, the ring d is readjusted to com-
pensate for the shortening of the knife and
keep its cutting-edge in the described rela- 95
tion to the periphery of the ring, Fig. 4. When
the knife is new, it constitutes nearly a com-
plete circle, as shown in Figs. 1, 4, and 5,
there being an opening between its cutting-
edge e' and heel e^2 of sufficient width only to 100

admit the grinding-tool used in sharpening the cutting-edge. Fig. 6 shows the knife after it has been shortened by grinding, and Fig. 7 shows it when reduced to about the shortest operative length.

The knife is secured in place by the plate *m*, which constitutes the counter-guard, and is secured to the shaft *b* by a screw *n*. Said counter-guard has a thin edge that enters the crevice between the counter and rand and prevents the rand-trimming portion of the cutting-edge from cutting the counter of the boot or shoe.

When the knife is shortened by grinding, as shown in Fig. 7, it does not support the counter-guard sufficiently, and I therefore provide a stud *o*, which is attached to the plate *a* and is arranged to afford a bearing for the counter-guard *m* at the side of the eccentric boss *c* opposite the point where the cutting-edge of the knife is located. There may be more than one of said studs, if preferred.

I claim—

1. The improved rand-trimmer composed of the plate *a*, having the eccentric boss *c*, the ring *d*, fitted to the periphery of said boss, the segmental knife on said ring formed to be held by the eccentric boss with its cutting-edge flush with the periphery of the plate *a* at one side of said boss and provided with a rand-lip 2, and means for securing the knife at any point to which it may be adjusted, the periphery of the plate *a* constituting a guard for one end of the cutting-edge, as set forth.

2. In a rand trimmer, the combination of the plate *a*, having the eccentric boss *c*, the ring *d*, fitted to the periphery of said boss, the segmental knife on said ring formed to be held by the boss with its cutting-edge in proper relation to the periphery of the plate *a*, the counter-guard bearing on the knife, and means for detachably securing the counter-guard to the shaft that rotates the trimmer, as set forth.

3. In a rand-trimmer, the combination of the plate *a*, having the eccentric boss *c*, the ring *d*, fitted to the periphery of said boss, the segmental knife formed on said ring and held by the boss with its cutting-edge in proper relation to the periphery of the plate, the counter-guard bearing on the knife, means for detachably securing the counter-guard to the shaft that rotates the trimmer, and a stud *o*, attached to the plate *a* as a support for the counter-guard, as set forth.

4. The improved rand-trimming knife composed of the beveled portion *e*, the rand-lip 2, formed on one edge of said beveled portion, and the inwardly-projecting flange or ring *d*, formed on the other edge of said beveled portion and wholly within the periphery of the knife, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 2d day of October, A. D. 1889.

JOHN W. PLUMMER.

Witnesses:

C. F. BROWN,

A. D. HARRISON.