

(No Model.)

J. W. PLUMMER.
RAND TRIMMER.

No. 419,352.

Patented Jan. 14, 1890.

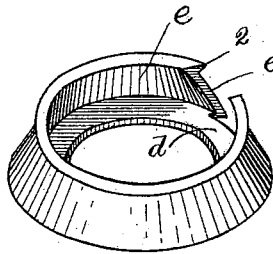


Fig. 5.

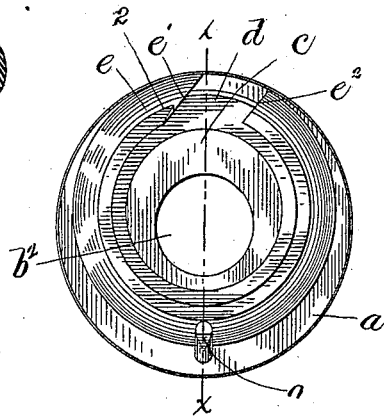


Fig. 1.

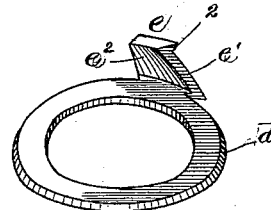


Fig. 7.

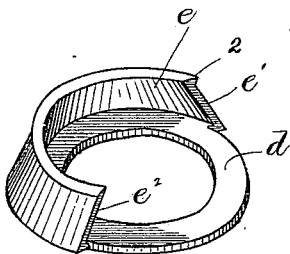


Fig. 6.

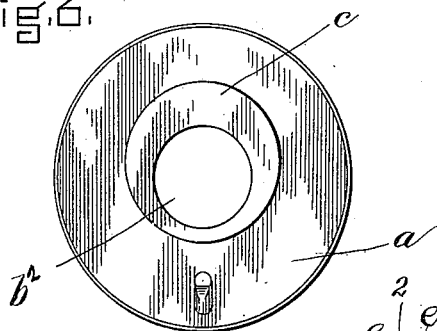


Fig. 2.

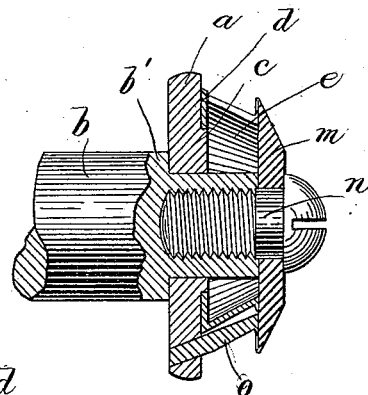


Fig. 3.

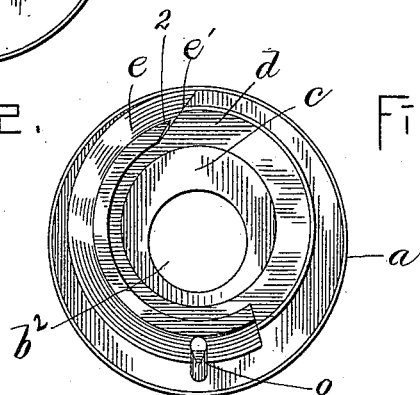


Fig. 4.

WITNESSES.

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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 new and useful Improvements in Rand-Trimmers 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 and heel-seat portion of a boot or shoe heel; and it consists in a cutter or trimmer composed of a circular plate adapted for attachment to the end of a shaft in a position concentric with and provided on one side with a circular boss, which is eccentric to the periphery of the plate, said periphery being concentric with the shaft to which the plate is attached; an annular plate or ring having an orifice closely fitting the said eccentric 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 being sharpened and constituting the heel-seat 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 guard-plate when the knife is properly adjusted on the eccentric boss, the knife being 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 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 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 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 represents a perspective view of the knife in the condition shown in Fig. 1. Fig. 6 represents

a perspective view of the knife in the condition shown in Fig. 6. Fig. 7 represents a perspective view of the knife still further shortened or reduced.

The same letters and figures of reference 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 periphery to receive the reduced end of the shaft *b*, which carries the trimmer, said shaft being journaled in bearings on the frame of an organized heel-trimming machine and rotated by power suitably applied. The rear side of the plate *a* bears against a shoulder *b'* on the 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.

d represents the ring on which the segmental 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.

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 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 eccentric boss *c* the end of the cutting-edge opposite 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, preventing the end of the cutting-edge that lies 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 compensate for the shortening of the knife and keep its cutting-edge in the described relation to the periphery of the ring, Fig. 4. When the knife is new, it constitutes nearly a complete 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

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.