

UNITED STATES PATENT OFFICE.

EDWIN E. ANGELL, OF SOMERVILLE, MASSACHUSETTS, ASSIGNOR TO THE AMERICAN SHOE MACHINERY COMPANY, OF PORTLAND, MAINE, A CORPORATION OF MAINE.

BOOT OR SHOE TRIMMING MACHINE.

SPECIFICATION forming part of Letters Patent No. 688,816, dated December 17, 1901.

Application filed February 23, 1899. Serial No. 706,564. (No model.)

To all whom it may concern:

Be it known that I, EDWIN E. ANGELL, of Somerville, in the county of Middlesex and State of Massachusetts, have invented certain
5 new and useful Improvements in Boot or Shoe Trimming Machines, of which the following is a specification.

This invention relates to improvements in boot and shoe trimming machines, and especially to that class of such machines illustrated in the patents to A. S. Vose, No. 560,825,
10 dated May 26, 1896, and No. 547,098, dated October 1, 1895.

My improvement consists of a new and especially-designed cutter-shield which is provided with an annular lip for the protection
5 of the randing-lips of the cutters and with annular lips on the inside which extend out over the cutter-head for the purpose of centering the shield on the cutter-head.
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My invention consists of certain novel features hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, which illustrate a construction embodying my invention,
25 Figure 1 is a side view of a portion of a trimming-machine and showing the position of the cutter, cutter-shield, and counter-guard, the counter-guard being moved slightly away from its normal position to show the cutter-shield. Fig. 2 is a cross-sectional view through
30 the counter-guard and cutter-shield and showing in full lines the cutter and operating-shaft. Fig. 3 is a detail sectional view of a portion of the counter-guard, showing the spokes and the annular protecting-lip for the
35 cutter-shield and illustrating the shape of the outer surface of the counter-guard adapted to engage with the counter of the shoe. Figs. 4 and 5 represent, respectively, side and end
40 views of one of the cutters. Figs. 6 and 7 represent, respectively, plan and sectional views of the cutter-shield reducing-nut. Figs. 8 and 9 represent, respectively, sectional and
45 inside views of the cutter-shield.

Like letters of reference refer to like parts throughout the several views.

A represents a portion of a yoke-casting of a trimming-machine which supports at its

upper end the hollow bearing A', in which revolves the cutter-shaft B. 50

On the outer end of the cutter-shaft B is mounted the cutter-head C, provided with a series of blades D, which are secured in the cutter-head, and said blades are each provided with a randing-lip D'. Arranged in relation to the cutter head and blades is a cutter-shield E, which is provided on its outer edge with a protecting-lip E', which, as shown in Fig. 2, projects over the edge of the randing-lip D' of the blades D, and said shield is also provided with four protecting-lips E², which extend over a portion of the cutter-head and center the said cutter-shield with relation to the cutter-head. For the reception of the lips E² the cutter-head is recessed or shouldered at E²¹, as shown in Fig. 2. In the spaces E³ between said lips the front edges D² of the blades D are set in for the purpose of bringing the randing-lip D' under the protecting-lip E' of the cutter-shield E. 70

In the center of the cutter-shield E there is a screw-threaded opening F, into which is screwed the reducing screw-threaded nut F', provided with a suitable opening F² for the reception of the attaching-screw E⁴, which
75 secures the cutter-head and cutter-shield to the cutter-shaft B. In opposite sides of the nut F' are two slots F³, into which a spanner-wrench is placed in order to secure the nut to the cutter-shield. The object of making this cutter-shield with the large threaded opening and a reducing-nut is for convenience of manufacture. By a "reducing-nut" is meant a nut which reduces the opening F,
80 and a smaller opening F² is provided through which the attaching-screw is passed and holds the cutter-shield in its proper place.

The counter-guard G is mounted on the counter-guard spindle G' and by means of the screw G² and shoulder G³ is held in position as shown in Fig. 2. The said counter-guard is moved into and out of position with relation to the cutter-shield in the manner illustrated in the Vose Patent No. 560,825, and the counter-guard is provided with the openings H, through which the chips pass out,
95 and thereby avoid clogging the machine. The

annular lip H' of the counter-guard G extends out over and protects the cutter-shield E. Said counter-guard is also formed with a groove H², which conforms in shape to the
5 counter of the shoe, so as to give a proper bearing and gage to the counter of the shoe while being trimmed.

I do not limit myself to the arrangement and construction shown, as the same may be
10 varied without departing from the spirit of my invention.

Having thus ascertained the nature of my invention and set forth a construction embodying the same, what I claim as new, and
15 desire to secure by Letters Patent of the United States, is—

In a boot and shoe trimming machine, a cutter-shaft, a cutter-head mounted on said shaft carrying blades provided with randing-lips,

a shield projecting over said randing-lips 20 and provided with a series of segmental concentric ribs extending over a portion of said cutter-head to center said shield with relation to said head and with the spaces between
25 said ribs registering with said blades, a nut turned into the center of said shield, a screw passing through said nut into the end of said shaft for holding said shield in place, and a counter-guard adjustable relatively to said
30 shield and adapted to project over the same.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 15th day of February, A. D. 1899.

EDWIN E. ANGELL.

Witnesses:

A. L. MESSER,
C. A. STEWART.