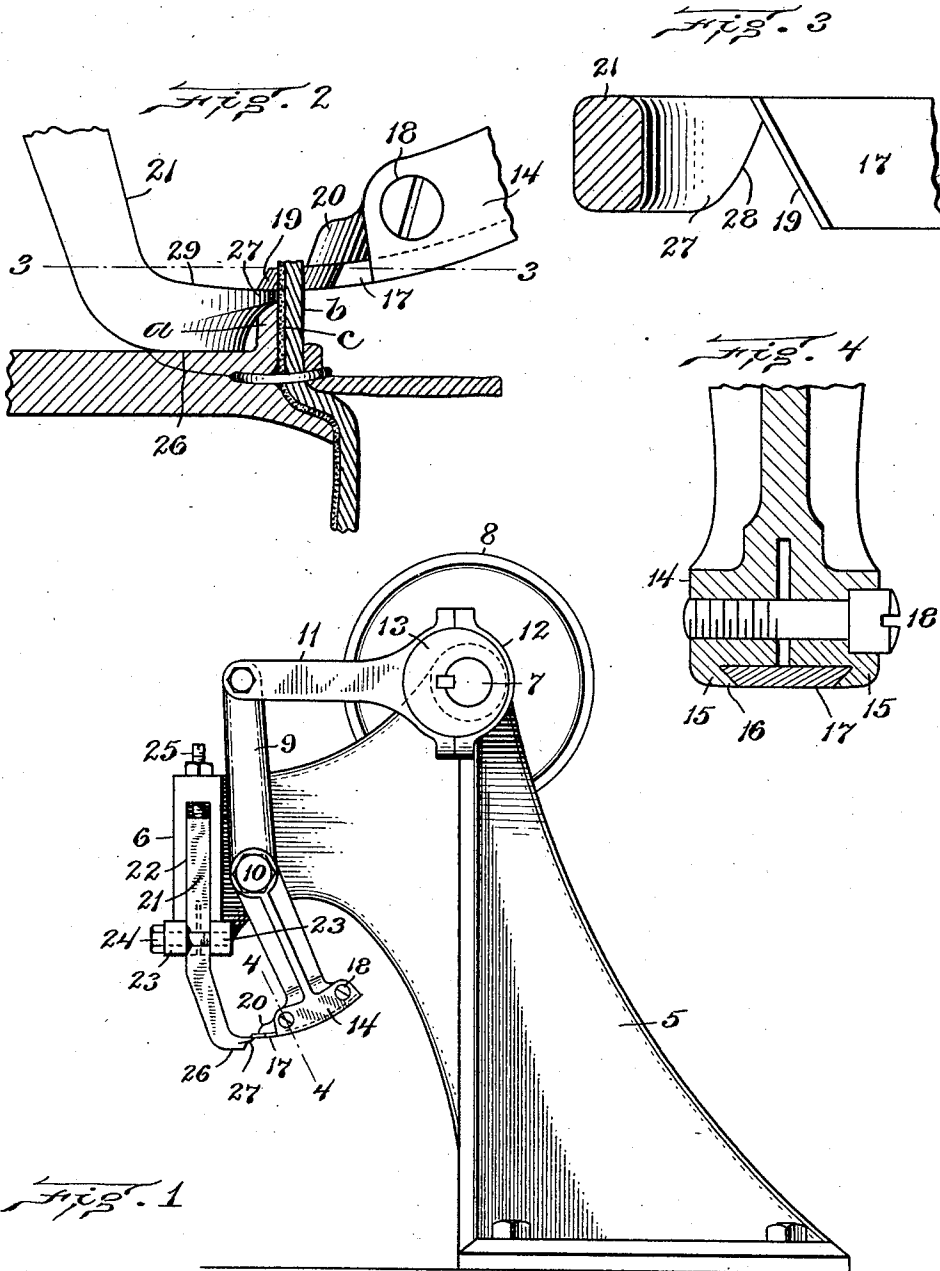


H. A. BALLARD.
INSEAM TRIMMING MACHINE.

APPLICATION FILED MAY 23, 1908. RENEWED SEPT. 13, 1912.

1,062,756.

Patented May 27, 1913.



Witnesses:
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UNITED STATES PATENT OFFICE.

HARRIE A. BALLARD, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE BOYLSTON MANUFACTURING COMPANY, OF SOUTH BOSTON, MASSACHUSETTS, A CORPORATION OF NEW JERSEY.

INSEAM-TRIMMING MACHINE.

1,062,756.

Specification of Letters Patent.

Patented May 27, 1913.

Application filed May 23, 1908, Serial No. 434,472. Renewed September 13, 1912. Serial No. 720,273.

To all whom it may concern:

Be it known that I, HARRIE A. BALLARD, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Inseam-Trimming Machines, of which the following is a specification.

This invention has relation to those machines used in the manufacture of shoes which are known as inseam trimming machines.

It has for its object to provide certain improvements therein for rendering such machines more efficient and accurate in operation.

On the accompanying drawings, Figure 1 represents in side elevation a machine embodying the invention. Fig. 2 represents a magnified section through a portion of a partially formed shoe, and illustrates the action of the shears or cutters. Fig. 3 represents a similar enlarged view of the operative portions of the cutters. Fig. 4 represents an enlarged section on line 4—4 of Fig. 1.

On the drawings, 5 indicates a frame which may be of any suitable or desirable construction having an overhanging head 6. In the frame are journals for the reception of a shaft 7 from which power is imparted to the movable knife or shear. This shaft 7 is driven in any suitable way, preferably by a heavy belt and momentum wheel 8.

9 indicates a two-arm lever fulcrumed upon a stud 10 projecting laterally from the head. To the upper end of the upper arm of the lever 9, is connected an eccentric rod 11, the strap 12 of which is operatively engaged with an eccentric 13 on the end of the shaft 7. The lower end of the lower arm of the lever 9 is formed or provided with a segment 14 which is longitudinally split as shown in Fig. 4, to constitute two clamping members 15 15 having a dovetailed groove 16.

17 indicates the movable blade or shear, the edges of which are beveled so that it may be clamped in the segment by drawing the members 15 together with a screw 18. The blade or shear 17 is curved in the direction of its length, its curvature being concentric with the axis of the stud 10. The operative end of the blade has a cutting edge 19 which is diagonal as shown. The segmental end of the lever 9 is illustrated as

formed with a projection 20 which supports and braces that portion of the shear or cutter which projects beyond the clamps 15, and prevents the blade from springing upwardly.

Coöperating with the movable cutter blade or shear is an element which serves two purposes, to wit, that of a stationary cutter blade and that of a work gage or work rest. This element consists of a bar 21 located in a socket 22 in the head. The walls of the socket are formed with ears 23 which may be drawn together by a screw 24 so as to clamp the bar rigidly in place. 25 indicates an adjusting set screw which is passed through the head into the socket so as to engage the end of the bar. The lower end of the bar is curved downwardly and then laterally so as to provide an under surface 26 against which the face of the inner sole may be pressed by the operative. The end of the bar has also a flange 27 which forms a stationary blade or shear, and the cutting edge 28 of the flange is at an acute angle to the cutting edge 19 of the blade or cutter 17. The upper surface 29 of the bent end of the bar is curved so as to be concentric with the axis of the stud 10, and the angular extremity of the blade 17 overlaps the upper surface of the corresponding extremity of the blade 27.

In operation, the two blades are never completely separated, Fig. 3 illustrating the limit of the movement of the blade 17 away from the blade 27. The thickness of the end of the bar determines the height of the unsevered portion of the work. In Fig. 2, a portion of a partially formed welt shoe is shown, and it will be seen that the lip *a* on the inner sole projects under the flange or cutter 27, and that the upper *b* and its lining *c* project above the cutter and between the two cutters or shears.

I regard it as essential that the movable blade, which is located outside of the seam, should overlap the stationary cutter or blade which is inside of the seam, for the reason that I thereby produce upon the work a straight clean cut edge, whereas if the said movable blade projected under the stationary blade, it would necessarily press downward the upstanding unsevered portion of the work, or else force the work bodily downward from the rest. In either event, the edge cut upon the work would be ragged

and uneven. Furthermore, by causing the movable blade to overlap the stationary blade, they may both be so thick as to cut through tacks or other foreign substances without injury to their edges. On the other hand were the movable blade to pass under the stationary blade, it would have to be thin and would be constantly liable to injury.

10 I propose to provide the machine with a series of combined work rests or gages and stationary cutters or shears of different thicknesses, since the thickness of the end of the bar 21 determines the cut along the seam, or the height of the material which is left after the trimming operation.

20 Having thus explained the nature of my said invention and described a way of constructing and using the same, although without attempting to set forth all of the forms in which it may be made or all of the modes of its use, I declare that what I claim is:—

25 1. In an in-seam trimming machine a stationary cutter to engage the inner face of the seam, a reciprocatory cutter outside the seam, said cutters having their edges at an acute angle, and the reciprocatory cutter overlapping the stationary cutter, whereby said reciprocatory cutter passes over the sev-

ered edge of the work without depressing it, said stationary cutter having a flange to extend over the insole lip and engage the edge of the upper, substantially as set forth.

2. In an in-seam trimming machine the combination with a movable cutter and means for supporting and actuating it, of a cooperating element constituting both a work gage and support and a stationary cutter, said element having a cutting edge extending under the movable cutter, a face to engage the innersole of the work and a flange to engage the edge of the upper, the edges of the movable cutter and the stationary cutter forming an acute angle.

3. In an in-seam trimming machine, a movable cutter outside the seam and a stationary cutter to engage the inner face of the seam, said stationary cutter having a face to engage the innersole of the work, and a flange to extend over the innersole and engage the side edge of the upper, substantially as set forth.

In testimony whereof I have affixed my signature, in presence of two witnesses.

HARRIE A. BALLARD.

Witnesses:

JAS. H. CHURCHILL,
MARCUS B. MAY.