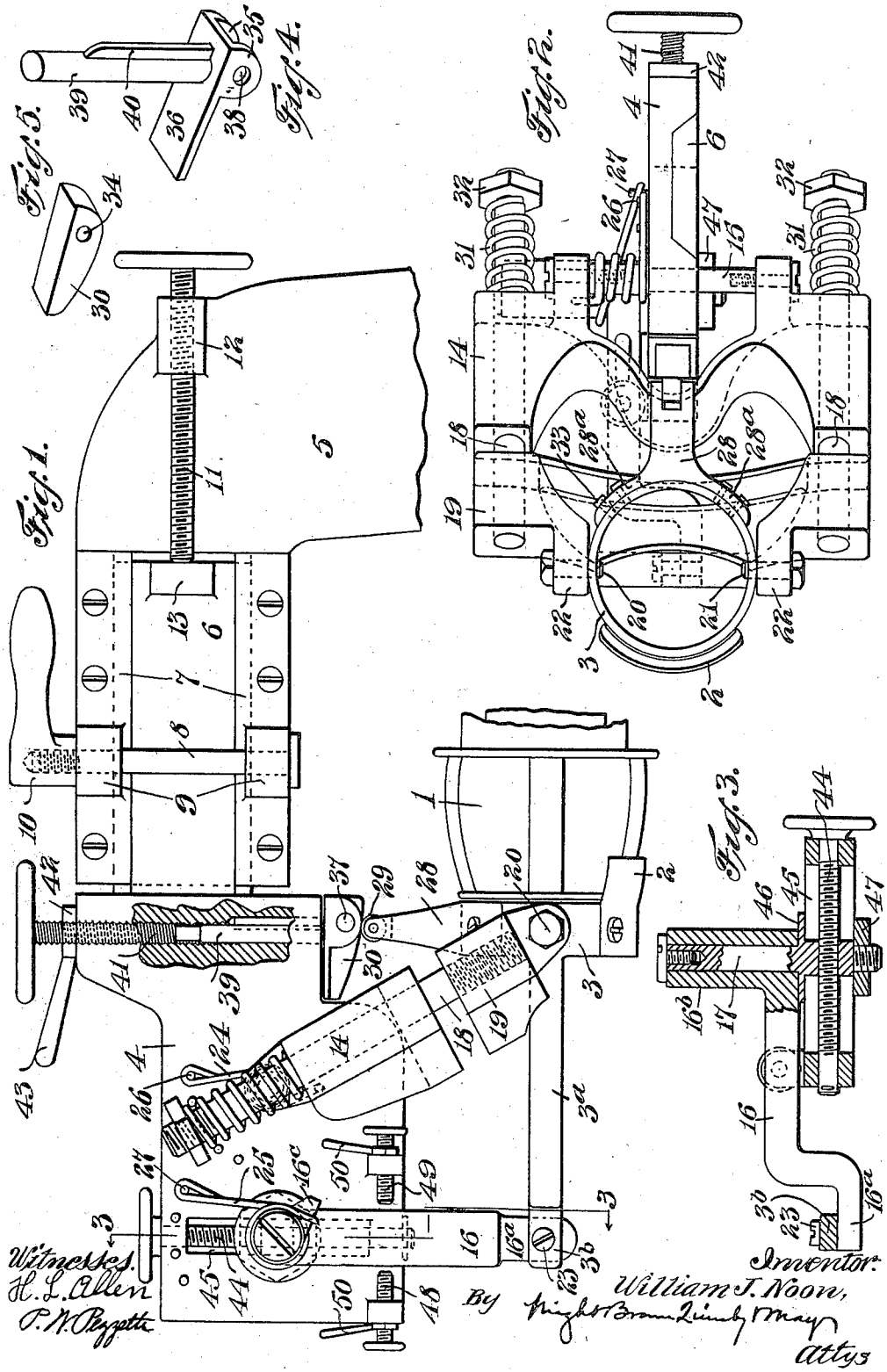
W. J. NOON.

COUNTER GUARD.

APPLICATION FILED NOV. 5, 1909.

984,020. Patented Feb. 14, 1911.



UNITED STATES PATENT OFFICE.

WILLIAM J. NOON, OF LYNN, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO SIMEON J. ROUSSEAU, OF LYNN, MASSACHUSETTS.

COUNTER-GUARD.

984,020. Specification of Letters Patent. Patented Feb. 14, 1911.

Application filed November 5, 1909. Serial No. 526,355.

To all whom it may concern:

Be it known that I, WILLIAM J. NOON, of Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Counter-Guards, of which the following is a specification.

This invention relates to counter-guards used in connection with heel-trimming machines to protect the upper leather at the counter of the shoe from being injured by the cutting tool.

The invention consists in a means of mounting the guard or lip so that it may move outward from the base of the cutter when the thickest or most sharply beveled portion of the heel is turned toward the cutter, and of guiding the guard so that when so moving it will follow the path conforming to the final curvature of the heel.

More particularly the present invention is an improvement on the device described and claimed in my pending application for counter-guards filed May 27, 1908, Serial No. 435,295, and consisting in improvements in the details of construction, especially of means by which the guard or lip is adjusted in a direction transverse to the axis of rotation of the cutter.

In carrying my invention into effect I have devised a mechanism of which the construction at present preferred by me is illustrated in the accompanying drawings, in which,—

Figure 1 represents a plan view of the device in the relation which it occupies to the cutter of a heel-trimming machine. Fig. 2 is an end elevation of the device as it appears when viewed from the right. Fig. 3 is a section taken on the line 3—3 of Fig. 1 looking in the direction of the arrows. Figs. 4 and 5 are perspective views of the holder by which the templet or guide for the counter-guard is carried, and of the templet itself respectively.

The same reference characters indicate the same parts in all the figures.

Referring to the drawings I have designated conventionally at 1 the rotary cutter of a heel-shaving or trimming machine, this cutter being conveniently any of the well-known types now in use, and being shown here for the purpose of illustrating its relation to the guard which forms the substance of the invention.

The apparatus in which my invention is embodied consists of a lip or guard plate 2, which is adapted to enter the crease between the heel and upper leather at the heel seat to protect the upper from injury by the cutter, a holder 3 to which said lip is connected, a bed plate 4 which supports the guard holder by pivotal means hereinafter described, and a bracket 5 secured to the column or base of the heel-shaving machine in any convenient manner. The bed plate 4 has a tongue 6, which is adjustably secured between under-cut guideways 7 of the bracket 5. As clearly shown the tongue may slide longitudinally between these guideways, and is secured by a bolt 8 passing through ears 9 on the guides and a clamp 10 threaded upon the end of the bolt and bearing against one of said ears. A stop screw 11 threaded through a lug 12 on the bracket 5 and bearing against a shoulder 13 on the tongue 6 serves for adjusting and limiting the inward movement of the bed plate 4.

The means for connecting and supporting the guard holder 3 on the bed plate 4 consists of a bracket 14 secured to a pivot pin 15, which preferably passes through the bed so that it may be connected to the bracket both above and below the bed, and an arm 16 pivotally mounted upon a stud 17 which is secured adjustably to the bed. The bracket 14 has parallel guideways or passages through which extend rods or bars 18 secured in any desired way to a bracket 19 which is pivoted by studs or screws 20, 21 to the guard-holder 3. It should be noted that the guard-holder is a piece, preferably a metal casting, which has the form of a ring at the end nearest the cutter 1 and arms 3^a extending from diametrically opposite sides of the ring away from the cutter parallel with the axis of the ring, being connected together at their remote ends and provided with a lug 3^b. The pivotal members 20 and 21, which connect lugs 22 of the bracket 19 to the guard-holder 3 are attached to the latter at diametrically opposite points in line with the arms 3^a in a pivotal manner. The lug 3^b at the end of the guard-holder is connected by a pivot stud 23 with the end 16^a previously described.

The guard holder and guard are normally urged toward the base of the cutter, that is, toward the right with respect to Fig. 1 by springs 24 and 25. The former of these

surrounds the stud 15 and the latter surrounds the hub 16[b] of the arm 16 and is engaged with a projection 16[c] on the side of said hub. The ends of the springs are engaged with studs 26, 27 respectively fastened in the bed plate 4 in such a way as to exert a thrust in the desired direction. There are two sets of studs located so that the ends of the springs 24 and 25 respectively can be engaged with any one of them for adjusting and thereby increasing or diminishing the force exerted by the springs.

On the side of the lip holder next to the bed plate is fastened an arm 28 carrying an anti-friction roll 29 which is held against a templet or guide 30 in a yielding manner. The surface of the templet against which the roll bears is curved to conform with the curvature of the cutter blades and of the final form of the heel. The roll is held against the templet by means of springs 31 surrounding the rods or bars 18, and exerting force between the bracket 14 and abutments 32 secured adjustably on the projecting ends of the bars 18. The tendency of these springs, as will be seen, is to draw the rods or bars through the bracket 14 and retain the roller 29 in contact with the surface of the templet. By this means, as the guard is moved back and forth it travels in a curved path and approaches the axis of rotation of the cutter when the deepest part of the heel is turned toward the same. It is to be noted that the arm or bracket 28 has curved arms 28[a] which lie against the circular portion of the guard holder 3 and are secured thereto by fastenings 33.

It is desirable to provide for varying the position of the path of the counter-guard and also the outline of said path. For this purpose the templet or guide 30 is mounted adjustably and is detachably connected with its holder so that the templets may be readily removed and interchanged. Therefore the templet is made as shown in Fig. 5 as a block provided with an aperture 34. This block is laid between the ears 35 of a holder 36 and secured thereto by a pin 37 passing through apertures 38 in the ears which are in line with the perforation 34 of the templet. When thus held in the holder, the templet bears against the flat base portion thereof so that it is accurately positioned. The holder has a shank 39 which passes into a socket in the bed plate and is held from turning therein by a key 40. In line with the shank 39 is an adjusting screw 41, which is threaded into the base plate and bears against the shank 39. This screw serves for adjusting the templet and is provided with a lock nut or clamp 42 by which it is secured. It will be seen that by adjusting the screw 41 the position of the templet may be instantly altered to correspond with the cutter employed and the style of heel, permitting the heel to have the required amount of extension beyond the heel seat of the shoe. Moreover by removing the pin 37, one templet may be removed and another substituted instantly. The lock nut 42, which has a handle 43 in an accessible position, where sufficient power may be exerted for crowding the nut against the bed, enables the adjusting screw to be firmly secured in any of its positions and prevented from being displaced by the jar of the machine. The arm 16 is also adjustable by means of a screw 44 journaled in the bed plate 4 and passing through a threaded aperture in the base of the stud 17. This stud is contained in a slot 45 wherein it may be moved, and has a flange 46 resting on the upper surface of the bed plate and a nut 47 threaded upon it beneath the bed plate. By means of the nut and flange it is clamped or mounted without looseness in the bed plate. By means of the adjusting screws 41 and 44 either or both ends of the counter-guard may be shifted toward or from the axis of the cutter. The range of movement of the counter-guard in the direction of this axis is limited by stop screws 48 and 49 threaded into lugs on the base plate on each side of the arm 16. These stop screws are provided with clamp nuts 50 by which they are prevented from being jarred loose.

I claim,—

1. In combination with a heel-trimming cutter, a counter guard, pivoted supporting means arranged to swing about an axis transverse to and at one side of the cutter, yielding means tending to move said guard radially with respect to the pivot of said supporting means, a guide toward which and into guiding relation with which the guard is forced by said yielding means, and means for adjusting said guide arranged to exert a pressure thereon in opposition to said yielding means.

2. In a counter-guard for heel-trimming machines having a shield or lip and a holder by which said shield is carried, a guide for said holder, means for yieldingly maintaining said holder in contact with said guide, and permitting the holder to be readily separated therefrom, and adjusting means for moving the guide transversely of the axis of the cutter in opposition to said means.

3. A counter guard comprising a stationary bed plate, a shield pivotally supported by said plate and movable toward and from the same transversely of its pivot, a guide or templet against which said shield is pressed and by which it is guided in its pivotal movement, having a shank extending into a socket in the bed plate, and an adjusting screw passing into the bed plate in line with said shank and into contact with its inner end.

4. A guide for the counter guard of a heel

trimming machine, comprising a plate having a shank for attachment to the machine, and having perforated lugs, and a block formed to fit between said lugs and apertured to admit a holding pin passing through the lugs.

5. In a counter-guard for heel-trimming machines, a guiding member for defining the path of movement of the counter-guarding lip, such guiding member being a block having a surface of the desired form, a holder therefor having a base portion or plate against which said block is adapted to bear and having lugs between which said block is contained, a holding pin arranged to pass through alined perforations in said block and ears, a shank on said holder contained in a supporting bracket or member, and an adjusting screw threaded into said supporting bracket or member in line with said shank for adjusting the position of the guide holder and guide.

6. A counter-guard for heel-trimming machines, comprising a bed plate, a pivot pin fastened through said plate, a bracket located beside the edge of said plate and having overlapping lugs connected to opposite ends of said pivot pin, a counter-guarding lip or shield, a holder by which said shield is carried, a bracket pivoted to said holder, bars or rods secured to one of said brackets and slidingly held in the other, and springs applied to said rods tending to draw one bracket toward the other, and a guide plate against which a portion of said holder is held by the tension of said springs.

7. In a counter-guard for heel-trimming machines, a lip or shield, a holder to which said lip or shield is secured, a piece pivoted to said holder, a supporting plate, a second piece arranged beside the edge of said supporting plate and having lugs extending over opposite sides thereof, a pivot pin passing through said plate to which said lugs are connected, movable resilient means connecting the said pieces together permitting one to move from the other, and tending to hold them together, and a spring engaged with said supporting plate and one of said pieces to oscillate the latter in one direction about its pivotal connection with the supporting plate.

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

WILLIAM J. NOON.

Witnesses:

YVONNE GUERTIN,

EDWARD GUERTIN.