

F. L. ALLEY,
BEATING MACHINE FOR FINISHING BOOTS AND SHOES.
APPLICATION FILED NOV. 27, 1908.

1,030,374.

Patented June 25, 1912.

3 SHEETS—SHEET 1.

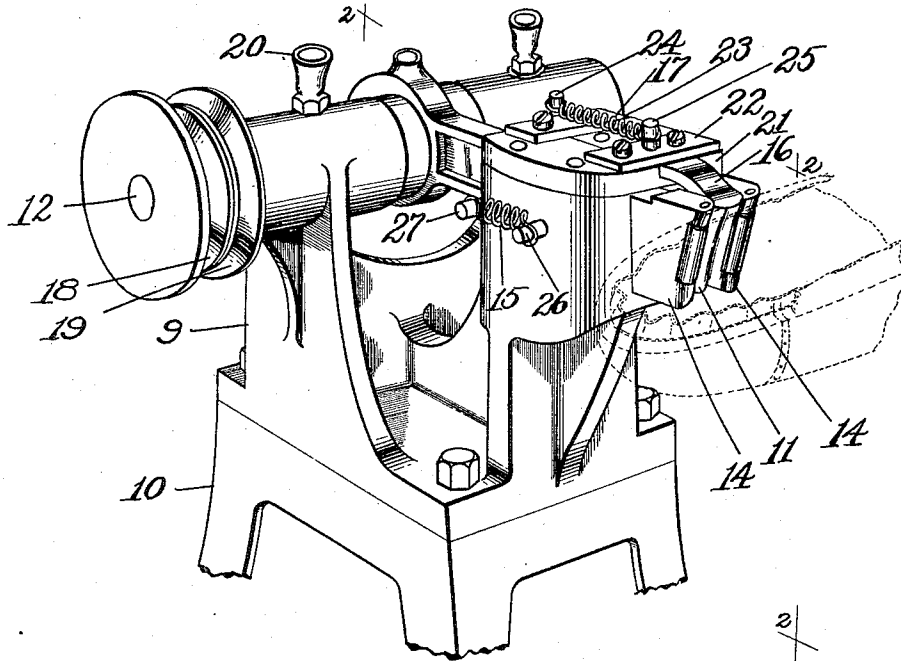


Fig. 1.

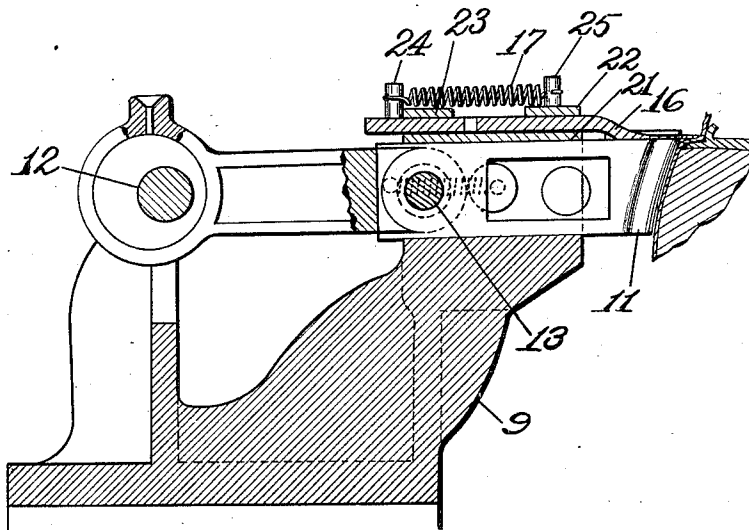


Fig. 2.

WITNESSES

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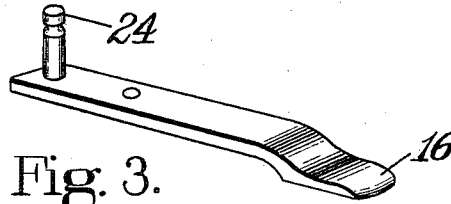


Fig. 3.

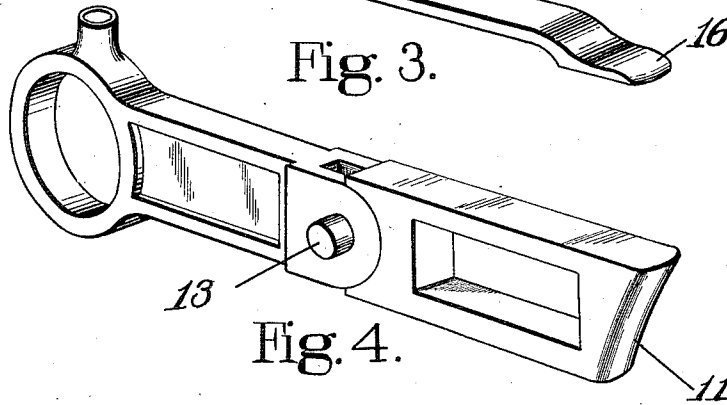


Fig. 4.

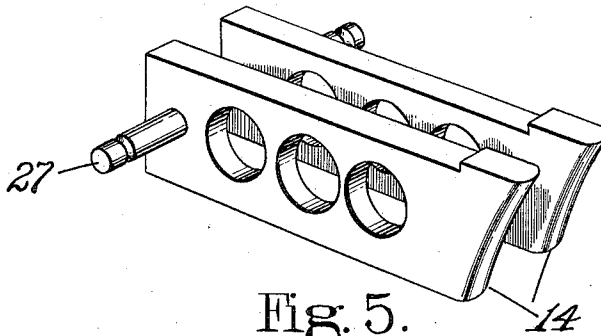


Fig. 5.

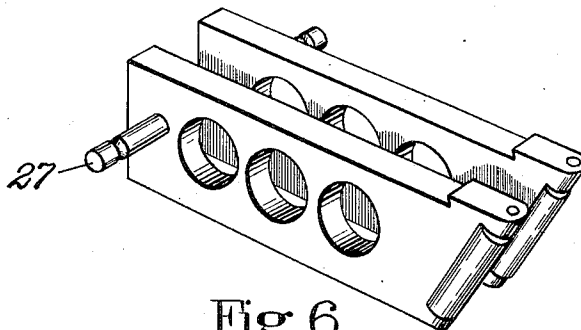


Fig. 6.

WITNESSES

Elizabeth C. Coupe
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INVENTOR

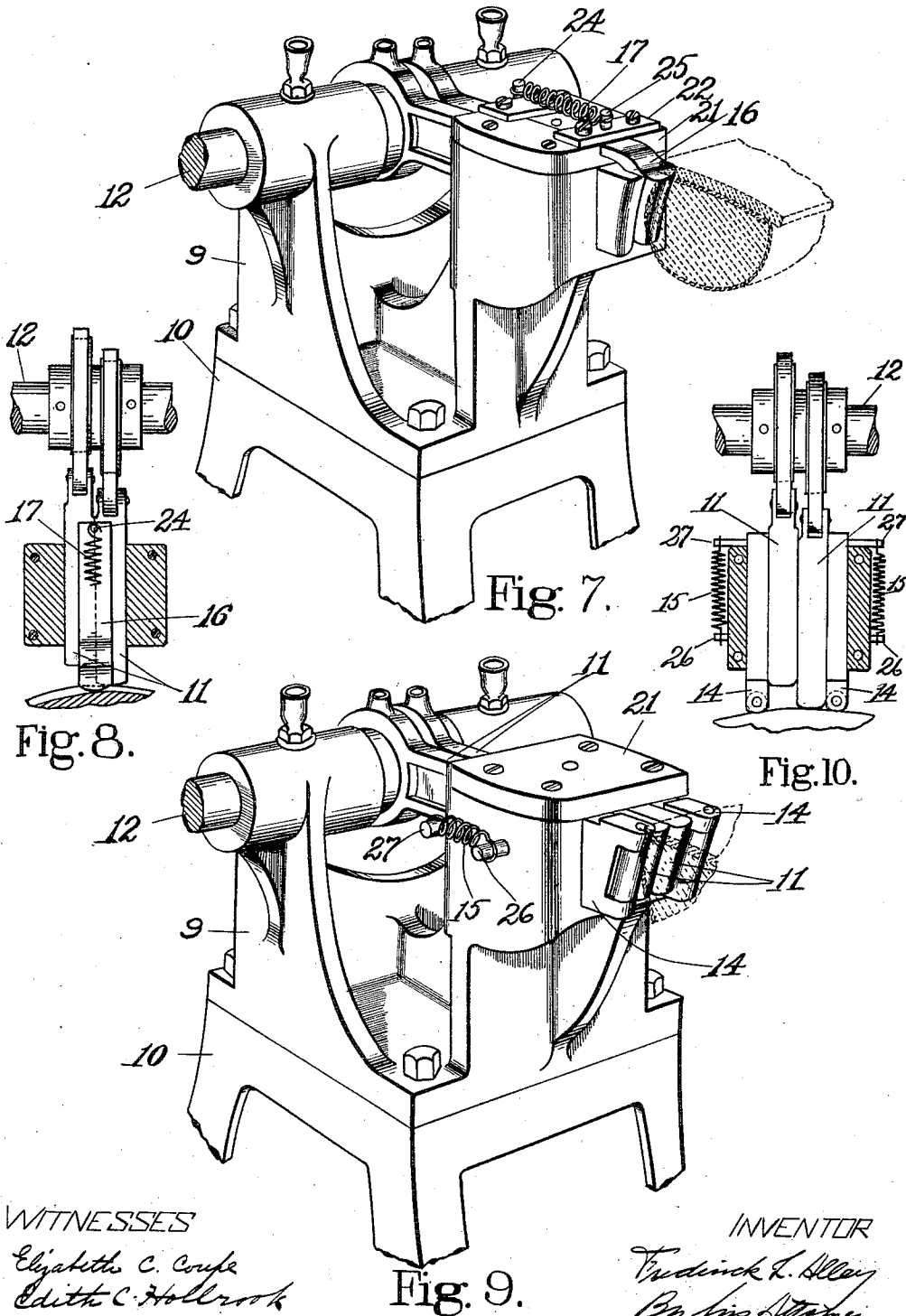
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3 SHEETS—SHEET 3.



WITNESSES
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Fig. 9.

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UNITED STATES PATENT OFFICE.

FREDERICK L. ALLEY, OF SYDNEY, NEW SOUTH WALES, AUSTRALIA, ASSIGNOR TO
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BEATING-MACHINE FOR FINISHING BOOTS AND SHOES.

1,030,374.

Specification of Letters Patent.

Patented June 25, 1912.

Application filed November 27, 1908. Serial No. 464,543.

To all whom it may concern:

Be it known that I, FREDERICK L. ALLEY, a citizen of the United States, residing at Sydney, New South Wales, Australia, have
5 invented certain Improvements in Beating-Machines for Finishing Boots and Shoes, of which the following description, in connection with the accompanying drawings, is a specification, like reference characters on
10 the drawings indicating like parts in the several figures.

This invention relates to improvements in beating machines for finishing boots and shoes and has for its object the smoothing
15 out and finishing of boots and shoes after the operation of lasting or re-lasting.

According to my invention I provide a guide which takes in the crease between the upper and the sole or acts as a rest or guide
20 in beating up boots and shoes after lasting and before the sole is laid. The said guide may be fixed but preferably I have it mounted so that the action of a spring keeps it in contact with the work and permits it to
25 readily follow the contour of the boot or shoe. Adjacent to and preferably vertical with said guide is a sliding hammer suitably mounted so that a reciprocating motion is imparted to it. On each side of the
30 hammer is an adjustable guide or roll which is also preferably provided with a spring. The said guides or rolls in addition to forming rests for the boot also have a smoothing out effect but primarily their object is to
35 allow the hammer to retract from the boot after delivering a blow.

My improved beater may also be employed for smoothing or pounding out the sole so as to cause it to take the shape of
40 the last bottom and in some cases, such as when beating out the sole of a boot, I may dispense with a crease guide.

The invention may also be used for beating up the upper, conforming and smoothing
45 it out to the shape of the last after the operation of lasting Goodyear or welt shoes, and when so employed the guide by extending slightly over the edge and bottom of the shoe bears upon that portion of the
50 upper which is brought over and tacked to the innersoles, permitting the hammer to operate along the side and edge, or portion of the shoe around the toe, heel seat, sides

and shank of same. In each of these described uses the guide determines the plane,
55 with relation to the shoes, in which the hammer acts, and assists the operator in so presenting the shoe that the side shall be properly beaten and shaped from the edges downwardly without liability of striking
60 the edge in a way to bruise or cut it. The side guides or rolls situated on each side of the hammer are intended as rests for the shoe, and also assist in the smoothing out process, forming a point for the backward
65 throw of the hammer free from the shoe, and permitting the shoe to be moved forward to receive the next blow.

The face of the hammer may either be straight or curved according to the work it
70 has to do, and I may employ one rest instead of two. In some cases I may use two or more adjoining hammers reciprocated alternately.

These and other features of this invention including certain details of construction and combination of parts will appear
75 in connection with the following description of a machine embodying the invention in a preferred form and will then be pointed
80 out in the claims.

Figure 1 is a perspective view of the machine, and, Fig. 2 is a vertical section on the plane 2—2 Fig. 1. Fig. 3 is a perspective
85 view of the crease guide, while, Figs. 4 and 5 are similar views of the hammer and side guides respectively. Fig. 6 is a perspective view of side guides in the form of rolls. Figs. 7, 8 and 9 are similar views of modifications of the invention hereinafter de-
90 scribed, specific claims on which are to be included in a divisional application. Fig. 10 is a plan of Fig. 9, partly in section.

9 is a frame or head which is suitably secured to a pedestal or the like 10.
95

11 is the hammer sliding between suitable guide pieces and is eccentrically mounted on the shaft 12 being jointed at 13.

14 are the guides or rests provided with the springs 15, and 16 is the crease guide
100 preferably also having the spring 17, said springs tending to hold the guides in contact with the work.

18, 19 are fast and loose pulleys on the shaft and 20 are oil cups.
105

21 is the top plate which in Figs. 1, 2 and

7 is shown as formed to present a guideway for the crease guide 16 which is covered by the smaller plates 22 and 23.

The spring 17 is secured to the pin 24 on the guide 16 and also to the pin 25 on the plate 22 thereby tending to return the guide to its normal position, or up to the work. The springs 15 are secured to the fixed pins 26 and to the pins 27 toward the rear of the guides 14.

The operation of the improved beating machine is as follows: When operating on boots or shoes after the outer sole is laid the operator holds the boot or shoe so that the guide 16 enters the crease between the upper and the sole and presses the boot against the guides or rolls 14 so that on the shaft 12 being rotated and the sliding hammer 11 reciprocated the surface of the boot is pounded to shape the work to the last and rubbed or rolled to smooth out any inequalities in the upper.

When operating on boots or shoes before the outer sole is laid and after the process of lasting the operator holds the lasted over portion of the boot or shoe up to and in contact with the fixed guide 16 and the side portion thereof against the side guides and the hammer. The side guides allow the hammer to retract and while the hammer is operating permit the work to be held at varying angles up to it, and the guide 16 extends inwardly over the margin of the bottom of the lasted shoe and creases the upper into the angle between the feather and shoulder of the innersole. At the same time the guide 16 by continuous engagement with the upper on the margin of the bottom of the lasted shoe rubs the upper over the feather and works it against the shoulder of the innersole, thus preparing the shoe for the reception of the welt and in seam.

I may dispense with the side guides, as shown in Figs. 7 and 8 and employ a plurality of hammers having their eccentrics set at such different positions on the shaft that one hammer is forward and forms a rest for the shoe while the other retracts from the shoe to allow it to strike or act by impact on the work at its next advance. This arrangement of a plurality of hammers oppositely set on their eccentrics may also be employed with the side guides 14 as illustrated in Fig. 9. In this figure the top or crease guide 16 is omitted to adapt the machine for use in beating out or shaping the sole of a shoe. In this arrangement, a rolling, a rubbing and a beating of the sole is effected successively as the shoe is advanced, the rolling being done by the rolls and the beating and rubbing being effected by the two hammers alternately. It will be observed that the crease or bottom guide 16 is bent downwardly to extend to or below, as in Fig. 1, the plane of the

tops of the hammers so that the hammer shall reach to the edge face of the shoe to shape the upper along the edge, and the top edge of the hammer shall be opposite the welt crease and therefore be prevented from liability of marring the upper as might occur if the hammer were spaced below the crease guide.

Having fully described this invention, what I claim as new and desire to secure by Letters Patent is:—

1. In beating machines for finishing boots and shoes the combination with a sliding hammer suitably reciprocated, of a rest to hold the work while the hammer delivers a blow and aid in smoothing out the surface of the work adjacent to the hammer, and a guide which takes against the lasted over portion of the upper substantially as described.

2. In beating machines for finishing boots and shoes, a sliding hammer and means for reciprocating it in combination with spring actuated side guides and a spring actuated crease guide arranged substantially as described.

3. In beating machines for finishing boots and shoes the combination with hammers 11 of side guides 14 having springs 15, and a crease guide 16 provided with a spring 17 arranged substantially as described and as illustrated.

4. A shoe beating machine having in combination a hammer for beating the side of a shoe, a guide arranged to engage in the welt crease or over the shoe bottom, and means for supporting said guide to permit it to yield oppositely to the direction of the blow of the hammer.

5. A shoe beating machine having in combination a hammer for beating the side of a shoe, a guide arranged to engage in the welt crease or over the shoe bottom, and guide supporting means arranged to permit the guide to yield backwardly and otherwise to hold the guide unyieldingly.

6. A shoe beating machine having in combination a hammer for beating the side of a shoe, means for reciprocating said hammer substantially perpendicularly to the surface being treated, and shoe guiding means constructed and arranged to enter the welt crease and determine the relation of the hammer to the plane of the shoe bottom.

7. A shoe beating machine having in combination a hammer for beating the side of a shoe, means for reciprocating said hammer substantially perpendicularly to the surface being treated, and shoe guiding means arranged to have sliding engagement with the bottom of a lasted and tacked welt shoe between the edge and the lasting tacks.

8. A shoe beating machine having in combination a hammer for beating the side of a shoe, and shoe guiding means located at

each side of the hammer and comprising a slide arranged to yield oppositely to the direction of the blow of the hammer.

9. A shoe beating machine having in combination a hammer for beating the side of a shoe, and shoe guiding means comprising a slide arranged to yield oppositely to the direction of the blow of the hammer, and a roll arranged to form the work engaging face on one side of the hammer.

10. A shoe beating machine having in combination a hammer for beating the side of a shoe, and shoe guiding means comprising slides arranged to engage the shoe on three sides of the hammer.

11. A shoe beating machine having in combination a hammer for beating the side of a shoe, and shoe guiding means comprising a yielding slide arranged at either side of the hammer to engage the side of the shoe and a yielding slide arranged above the hammer in position to enter the welt crease of the shoe.

12. A beating machine for finishing boots and shoes, having, in combination, a side beating hammer, means for reciprocating said hammer, a yielding rest adapted to engage the side of the shoe to position the work while the hammer delivers a blow, and a guide independent of said rest and constructed and arranged to have sliding engagement with the work in the welt crease or on the bottom of a lasted shoe.

13. A beating machine for finishing boots and shoes, having, in combination, a hammer or beating the side of a shoe, means to reciprocate the hammer, and shoe guiding means comprising a rest arranged at one lateral side of the hammer to engage the side of the shoe and position the work while the hammer delivers a blow, and an independent guide arranged above the hammer for engagement with the bottom of the shoe.

14. A beating machine for finishing boots and shoes, having, in combination, a hammer for beating the side of a shoe, means for reciprocating the hammer, and shoe guiding means comprising independently yielding

rests one of which is arranged with its face in position for rubbing the side of a shoe and another of which is arranged for rubbing engagement with the lasted over upper materials in the welt crease or on the bottom of a shoe.

15. A beating machine, for finishing boots and shoes, having, in combination, a side beating hammer suitably reciprocated, and shoe guiding means comprising a rest arranged at one side of the hammer to engage the side of the shoe, and a guide arranged above the hammer and independent of said rest, the said shoe guiding means being constructed and arranged to enable the said hammer to beat the edge face of the shoe to shape the upper along the edge.

16. A shoe machine of the class described, having, in combination, a side beating hammer suitably reciprocated, a yielding slide arranged to rest the shoe laterally, a guide projecting beyond the working face of the hammer, and guide supporting means therefor arranged to permit the guide to yield backwardly, the said guide being constructed and arranged to extend inwardly over the margin of the bottom of a lasted shoe and to crease the upper into the angle between the feather and shoulder of the inner-sole.

17. A machine of the class described, having, in combination, a hammer for beating the side of a shoe, and a creasing tool comprising a slide constructed and arranged for continuous engagement with the upper on the margin of the bottom of a lasted shoe to work the upper against the shoulder of the innersole and rub it over the feather for preparing the shoe for the reception of the welt and the inseam.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FREDERICK L. ALLEY.

Witnesses:

UNA L. SUTRON,
CHARLES E. GRAHAM.