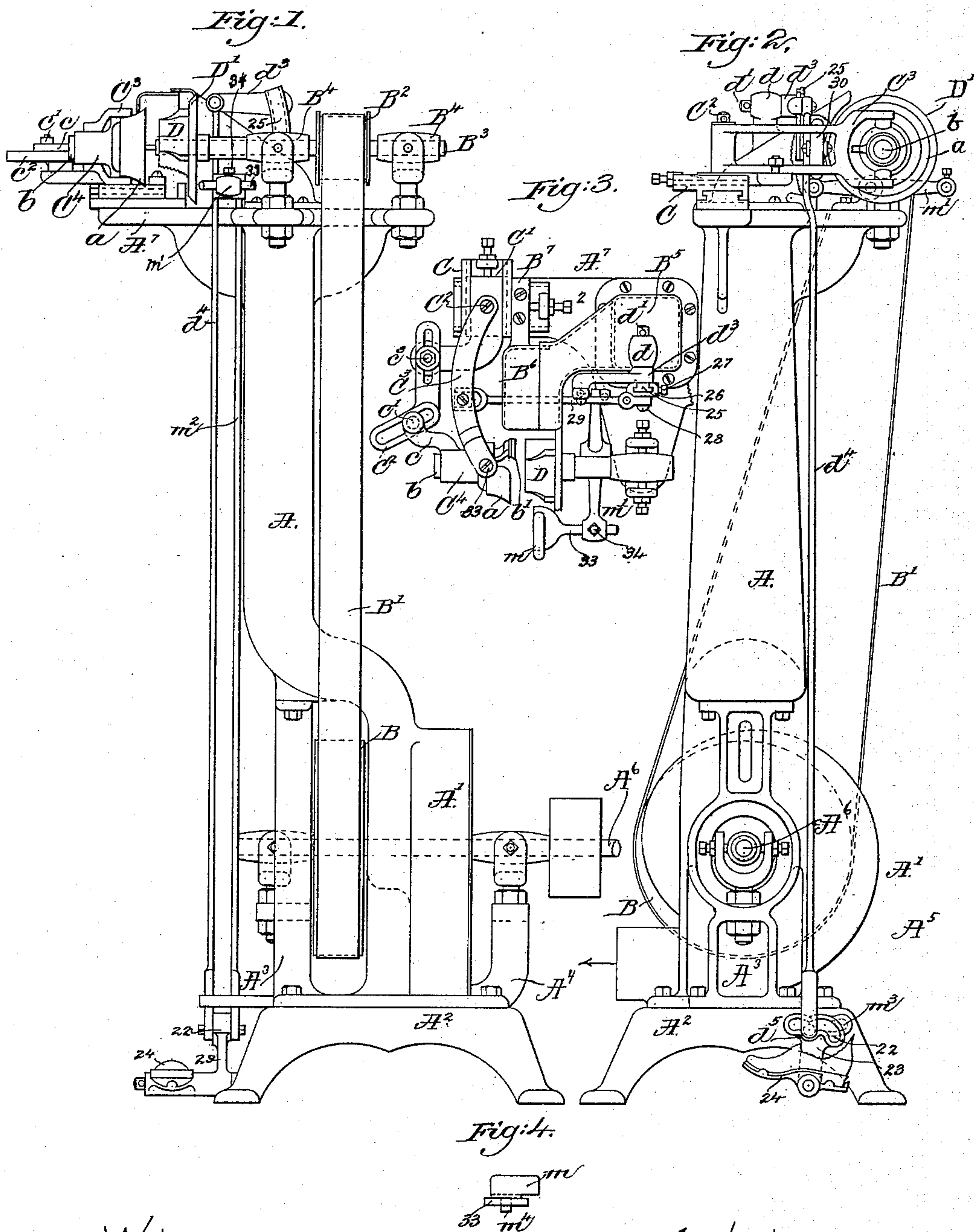


(No Model.)

C. W. GLIDDEN.
HEEL TRIMMING MACHINE.

No. 410,088.

Patented Aug. 27 1889.



Witnesses.
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UNITED STATES PATENT OFFICE.

CHARLES W. GLIDDEN, OF LYNN, ASSIGNOR TO JAMES W. BROOKS, TRUSTEE,
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HEEL-TRIMMING MACHINE.

SPECIFICATION forming part of Letters Patent No. 410,088, dated August 27, 1889.

Application filed June 25, 1888. Renewed March 7, 1889. Serial No. 302,390. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. GLIDDEN, of Lynn, county of Essex, State of Massachusetts, have invented an Improvement in Heel-Trimming Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to improve the construction and operation of heel-trimming machines of that class where the rand or counter guard and rand-cutter are moved automatically to uncover more or less of the cutting-edges of the blades parallel to their cutting-edges. In this present embodiment of my invention the rand or counter guard is supported by one rather than by two links, as in another application, Serial No. 275,880, filed by me, the employment of one link reducing the cost of and simplifying the mechanism. Herein I have combined with the rand or counter guard a treadle by which to move it positively whenever desired. I have also combined with the rand or counter guard and heel-trimming tool a wind-trunk having a telescopic bonnet.

Particular features in which invention consists will be described in the specification; and pointed out in the claims at the end thereof.

Figure 1 is a front elevation of a heel-trimming machine embodying my invention; Fig. 2, a left-hand end elevation of the same; Fig. 3, a top or plan view of the machine shown in Fig. 1, and Fig. 4 a detail of the heel or edge rest.

The main frame-work of the machine, shaped as shown, is made hollow in the part A to constitute a wind-trunk, the hollow part A rising from a blower-shell A', bolted to a base A², having suitable legs, the said base having also bolted to it suitable brackets A³ A⁴, which support usual pivoted bearings A⁵ for the main driving-shaft A⁶, one of the said brackets, as A³, being extended vertically to serve as a support for the wind-trunk.

The main shaft A⁶ has fast on it any usual form of exhaust-fan, whereby in the rotation of the shaft air will be drawn down through the trunk A and shell A', and to be discharged from the mouth of the said shell, as shown

by the arrow, Fig. 2, the said driving-shaft containing not only the said exhaust-fan, but also the driving-pulley B, which drives the belt B', extended over the pulley B², and rotating the cutter-shaft B³, having suitable bearings B⁴ erected on the flanged head A⁷.

The head A⁷ has bolted to it a bonnet composed of two hollow trunk portions B⁵ B⁶, one sliding telescopically into the other, in order that the area of the open space or mouth of the wind-trunk next the cutter may be adjusted to correspond with the size of the cutter being used, the movable portion B⁶ having an arm B⁷, connected to an adjustable block C, in or on which is made adjustable the block C', to which is pivoted at C² the link C³, employed to support the carriage C⁴, provided with the rand or counter guard a, having a lip, as usual, to enter the rand-crease.

The carriage C⁴ has suitable bearings for the shaft b, having attached to its inner end a rand-cutter b' of any usual construction. The carriage C⁴ has an outwardly-extended rigid arm c, provided with a roller or other stud c', which enters a slot in an arm c², adjustably attached by a stud or screw c³ to an arm or portion of the block C', the adjustment of the arm c² on the block C' enabling the slot in the said arm in which moves the said roller or other stud c' to be placed in the desired position or angle with relation to the axis of rotation of the cutter-shaft B³ and the cutter D, which with its blades may be of any usual or desired shape.

The position of the block C is determined by the screw-bolt 2, and according to the position of the said screw-bolt the portion B⁶ of the bonnet will enter the portion B⁵ thereof more or less, the position of the said screw being changed according to the length of the cutter being employed.

The cutter herein shown will have co-operating with it in usual manner a tread-guard D'.

The flanged head A⁷ has erected upon it a stand d, (shown in Fig. 2,) which receives within it the reduced pin d', forming part of a lever d³, (shown as of elbow shape,) one arm of the said lever having connected to it a link or rod d⁴, having at its lower end a roller or other stud d⁵, which enters a cam-slot 22 in

an arm 23, rising from or forming part of a treadle 24, the movement of the said treadle and cam-slot causing the lever d^3 to be rocked upon its pivot. This bell-crank lever d^3 has
 5 an arc-shaped arm 25, made dovetailed in cross-section, as best shown in Fig. 3, the said dovetailed portion depending and having adjustably mounted upon it a block 26, which may be secured in adjusted position thereon
 10 by a set-screw 27. This block 26 has attached to it by a set-screw 28 a link 29, the outer end of which is pivotally attached to a post or bridge 30, in turn pivoted at its upper and lower ends by suitable pivot-
 15 screws to the link C^3 , so that the movement of the said lever d^3 causes the said link to be moved upon its pivot C^2 in a direction to cause the rand or counter guard a' to be moved toward or from the rotary cutter D,
 20 and at the same time that the said link is so moved the roller or other stud c' , traveling in the slotted portion of the cam c^2 , causes the carriage C^4 to tip more or less upon the pivot
 25 C^3 , the curve or arc in which the lip of the rand-guard travels during its movement following substantially the curvature of the edges of the blades which are attached to or form part of the rotary cutter.

30 The heel-rest m , upon which rests the heel to be trimmed, is herein shown as provided with a shank m^4 , which enters a hole in an arm 33, so that the said rest may be turned as about a vertical pivot.

35 The arm 33 is made adjustable horizontally in a lever m' , and it may also be turned about its axis in said lever, and when in position it is held in place by a set-screw 34.

The rear end of the lever m' has connected
 40 to it a rod m^2 , provided at its lower end with a roller or other stud, which enters a cam-slot m^3 in a portion of the arm 23, connected to or actuated by the treadle 24, before described, said cam-slot m^3 being of such shape that
 45 when the treadle is moved the lever m' will be moved, together with the heel-rest m , so that the heel will be raised or lowered properly while the cutter acts upon the substantially straight sides of the heel. When the
 50 rest is being actuated positively to move the heel while the rotary cutter trims the substantially straight sides thereof, the rand or counter guard is, it will be understood, tipped more or less to cover or uncover more or less
 55 of the acting edges of the blades of the cutter, especially when the cutter is trimming the substantially circular or rear part of the heel, and at such time the rest m is free to tip or turn about its pivot, so that it may
 60 remain with its acting edge substantially parallel with the lifts composing the heel. Prior to this my invention the rest m , on which the shoe is supported and turned while being trimmed, has always remained parallel to the
 65 tread-guard or to the plane in which the tread-guard stands, and when the heel was tipped—as when trimming about the rear

part thereof—the said heel has had to swing on the said rest, which, when the heel is considerably concaved, has prevented the heel
 70 from taking a bearing on the rest at the point where the heel is of least diameter, and consequently the heel cannot, except with greatest care, be held steadily by the hand of the operator while being trimmed. To overcome
 75 this evil, the rest m , herein shown, has been mounted loosely upon its carrying-arm 33, as described, so that the said rest is left free to turn on the said arm with the heel as the latter is tipped, which is the case while the rear
 80 end of the heel is being trimmed, and consequently the heel bears at all times in like manner upon the rest m during the trimming operation.

Prior to my invention I am aware that
 85 heel-trimming machines have been provided with fixed rests—with rests that have been made adjustable in various directions; but when trimming the heel the rests have not been movable, as herein provided for.
 90

I have herein shown a rotary heel-cutter, a carriage, a support therefor; a rand-guard attached to the said carriage and shaped to project over the heel-cutter, a rotary rand-cutter, and a tread-guard; but I do not herein claim
 95 any one of the said devices or the combination of any one or more of the said devices, broadly, as the same form the subject-matter of several claims in my application, Serial No. 275,880, filed June 2, 1888.
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I claim—

1. In a heel-trimming machine, a rotary cutter to trim the heel, and a carriage having an attached rand or counter guard to enter the rand-crease, combined with a single link,
 105 upon which the carriage is pivoted, and with a roller or other stud c' and a cam with which it co-operates, substantially as described, whereby when the link is moved toward and from the rotary cutter the carriage may be
 110 tipped to operate substantially as described.

2. In a heel-trimming machine, a rotary cutter, a carriage having an attached rand or counter guard, and means to support the carriage, combined with a treadle and connections between the treadle and support for the
 115 said carriage, whereby the carriage may be moved positively toward and from the rotary cutter, as and for the purpose described.

3. In a heel-trimming machine, a carriage, a rand or counter guard attached thereto, and support for the said carriage, a rotary cutter, a rest on which the heel of the shoe is placed while being trimmed, and a treadle, combined with connections between the said rest and
 120 the support for the said carriage, whereby the said carriage and rest are moved automatically in both directions, substantially as described.

4. In a heel-trimming machine, the lever m' ,
 125 combined with the adjustable arm 33 and the adjustable rest m , mounted thereon, substantially as described.

5. In a heel-trimming machine, the combi-

nation, with the rotary cutter having a tread-guard, of the rest *m* for the heel to be trimmed, and means to support the said rest, the rest being adjustable upon its support to
5 place it at an angle to the plane in which the tread-guard stands, substantially as described.

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

CHARLES W. GLIDDEN.

Witnesses:

H. P. FAIRFIELD,
W. C. WILLSON.