

A. D. ELLIOTT, DEC'D.
M. E. ELLIOTT, EXECUTRIX.
SHIELD FOR TOOLS.
APPLICATION FILED MAR. 24, 1905.

956,573.

Patented May 3, 1910.
2 SHEETS—SHEET 1.

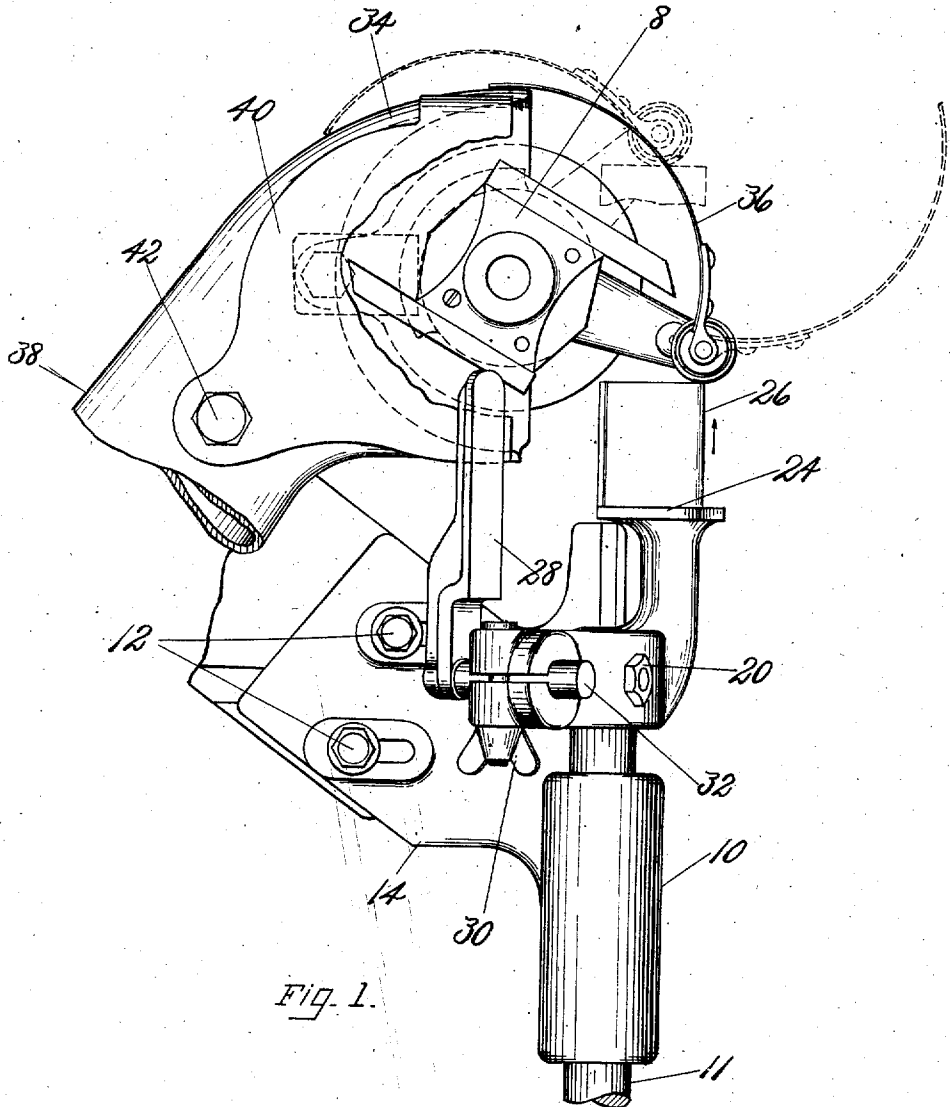


Fig. 1.

WITNESSES.

Edith C. Holbrook
Elizabeth C. Confe

INVENTOR.

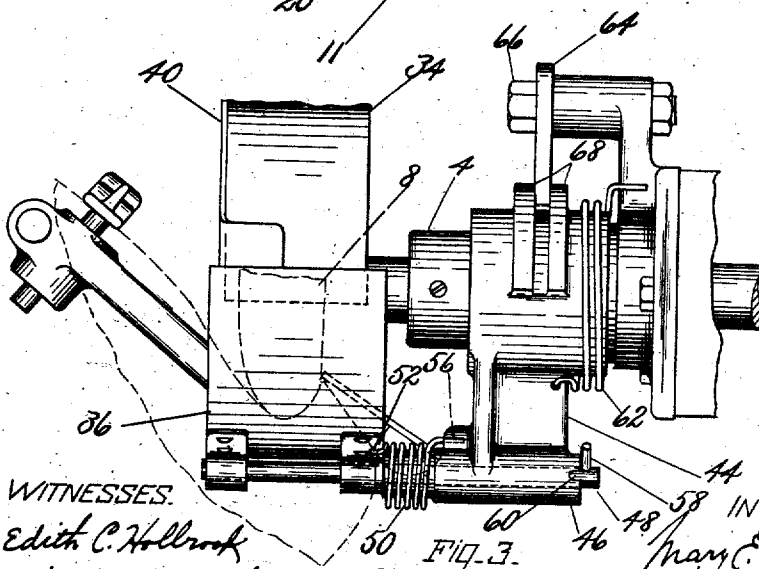
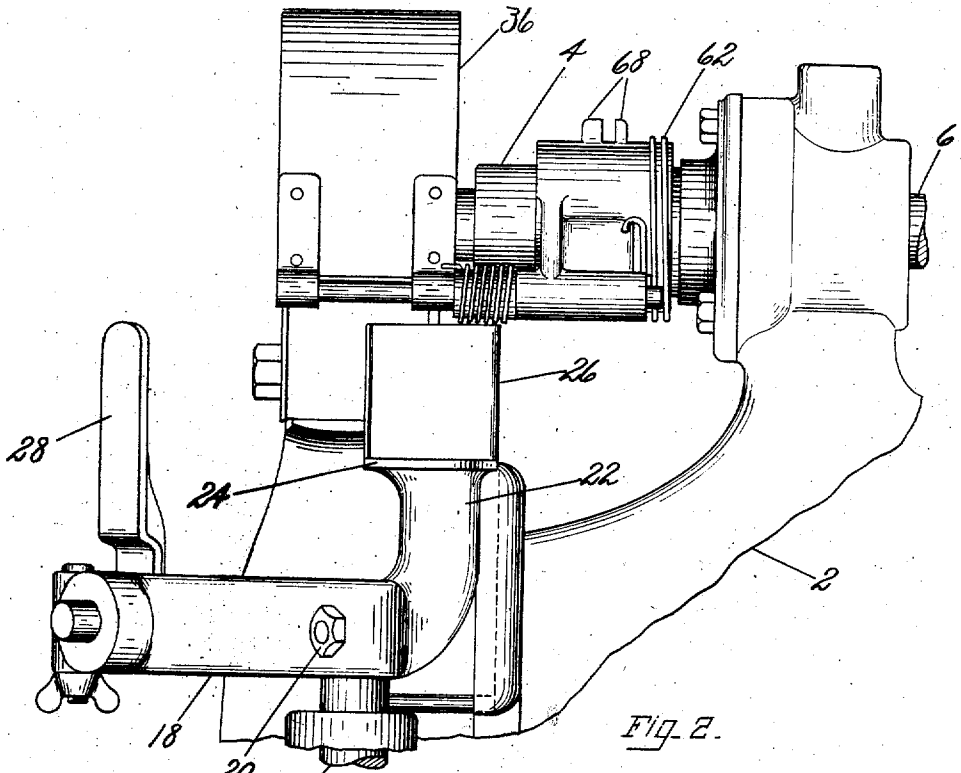
Mary E. Elliott, Executrix
of the Estate of A. D. Elliott,
Deceased, by her Attorney,
Nelson W. Howard

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UNITED STATES PATENT OFFICE.

MARY E. ELLIOTT, OF LAWRENCE, MASSACHUSETTS, EXECUTRIX OF ALVIN D. ELLIOTT, DECEASED, ASSIGNOR TO UNITED SHOE MACHINERY COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

SHIELD FOR TOOLS.

956,573.

Specification of Letters Patent.

Patented May 3, 1910.

Application filed March 24, 1905. Serial No. 251,798.

To all whom it may concern:

Be it known that ALVIN D. ELLIOTT, deceased, late of Lawrence, in the county of Essex and Commonwealth of Massachusetts, invented certain Improvements in Shields for Tools, of which the following description, in connection with the accompanying drawings, is a specification, like reference characters on the drawings indicating like parts in the several figures.

This invention relates to shields for tools, and more particularly to means for covering a rotary tool in heel-trimming or analogous machines.

One embodiment of the invention is shown applied to a machine for breasting heels, but as will be obvious the invention is capable of application to machines having other objects.

Heretofore so far as I am aware, rotary tools in machines of this class have been arranged with a part of their acting peripheries in an exposed position to permit the work to be presented to the tool. With such an arrangement there is some liability of injury either to the operator or to the work through accidental contact with the exposed portion of the tool.

One of the more important objects of the invention is to remove liability of such accidental injury. To this end I provide means for covering the acting part of a tool of the character mentioned, said means being normally arranged to cover the tool for that portion of its path into which the work is moved. The construction is such that as the work is moved toward the tool the covering means is mechanically displaced to permit contact of the work with the tool and is thereafter mechanically changed in position to accommodate different positions of the work with relation to the tool.

In the particular embodiment of the invention shown a work support for sustaining and positioning the heel of a boot or shoe is provided which is normally out of operative relation to a rotary cutter and is movable to bring the breast of a heel into the path of the cutter. A casing for the rotary cutter is provided having a section movably supported upon any convenient part of the machine and in its effective position located adjacent to the acting portion

of the cutter in position to form a shield for said acting portion. The position of the shield is controlled in accordance with the position of the work support, so that as the work support is actuated to bring the work into the path of the cutter the shield is mechanically displaced to permit the work to be brought into operative relation to the cutter.

Other features of the invention will be hereinafter described and pointed out in the claims.

In the drawings,—Figure 1 is a view in side elevation of a portion of a machine for breasting heels, with one embodiment of the invention applied; Fig. 2 is a view in front elevation; and Fig. 3 is a top plan view.

The drawings show one embodiment of the invention applied to a machine for trimming breasts of heels, said machine being of the construction shown in United States Letters Patent No. 784,340, granted March 7, 1905, to Benjamin F. Mayo. This machine comprises a frame 2, provided with suitable bearings 4, one of these bearings being shown. The bearings 4 are arranged to support a rotary shaft 6 carrying a trimming tool or cutter 8. A tubular boss 10 is adjustably secured to frame 2 by bolts 12 passing through slots in a shank 14 extending from boss 10. The boss 10 serves as a guide for a spindle 11 upon the upper end of which a work support is mounted. The work support comprises an arm 18 held in fixed position upon said spindle by a nut 20. The arm 18 may be adjusted pivotally on the spindle 11 by loosening the nut 20. A vertical post 22 is provided at one end of the arm 18, and is formed with a rest for a heel. The rest comprises a horizontal shoulder 24 and a vertical tread support 26 extending above said shoulder 24. A rest 28 for the sole of a shoe is shown at the other end of the arm 18, the rest 28 being adjustably supported upon said arm by a clamp 30 holding an arm 32 extending from said rest. The work support shown is substantially the same in construction and operation as that disclosed in the patent above referred to. The position of a shoe upon this support is shown in Fig. 3.

There is shown on the drawings a preferred form of covering means for the rotary cutter 8. This means includes a section 34

inclosing the rear portion of the cutter and a section 36 placed over the portion projecting from the section 34. The section 34 is preferably provided with a conduit 38 leading to a fan for producing a suction through said conduit. One side of the section 34 is cut away, as shown by the dotted line in Fig. 1, to permit lateral introduction and removal of the cutter 8. This cut-away portion is covered by a slide 40 pivoted at 42 and movable from over said cut-away portion to expose the end of the cutter 8. The section or shield 36 in its effective position is arranged adjacent to the acting portion of the cutter 8. The shield 36 may be as shown in Figs. 1 and 3 of a form to extend over and cover the upper portions of the cutter projecting from the section 34, as it has been found that the cutter is effectually protected by such an arrangement. It is preferred to employ means for movably sustaining the shield 36 in position. The sustaining means shown comprises a holder 44 pivotally mounted upon a bearing 4, and provided at its outer end with a tubular boss 46 adapted to receive a rod 48 to which the shield 36 is secured. The free end of the shield 36 rests upon the section 34 of the casing and a spring 50 may be employed to hold said free end toward the section 34. The spring 50 is of helical form and surrounds one end of the tubular boss 46; having one end 52 engaging the shield and the other end 56 bearing against a lug upon the holder 44. As shown in Fig. 3, the rod 48 has a limited movement longitudinally in the boss 46 and is provided at one end with a pin 58 adapted to enter a groove 60 in the end of said boss and hold the shield in the position shown in dotted lines in Fig. 1. The spring 50 may also serve to hold the rod 48 to the left in Fig. 3, thus tending to hold the pin 58 in the groove 60. As shown in Figs. 1 and 2, the holder 44 rests upon the work support. A spring 62 may be used if desired tending to hold the holder 44 against the work support. The holder 44 may conveniently have a bore to receive the bearing 4, said holder being maintained in position upon the bearing 4 by a strip 64 removably secured to the bearing by a bolt 66 and arranged to enter a groove formed by two lugs 68 upon the holder.

In the operation of the machine shown the work support is moved vertically to bring the breast of a heel into the path of the cutter, the shield 36 being mechanically displaced in the movement of the work support, as indicated in Fig. 1. The shield 36 may be moved into the dotted-line position shown in this figure, whenever it is desired to have access to the cutter. It will be apparent that the arrangement of shield 36 with relation to the work support permits relative movement of these elements. Such

relative movement in the machine shown is occasioned not only by the difference in path between work support and holder, but also by any adjustment given the work support upon the spindle 11.

It will be seen in the machine disclosed that as the heel is fed across the path of the cutter the shield is progressively displaced to allow successive portions of the cutter to be engaged by the heel. This construction is of advantage as it insures that the operator will be protected from accidental contact with the cutter, since the latter is always covered either by the shield alone or by the shield and the work.

Having described the invention, what I claim as new and desire to secure by Letters Patent of the United States is:—

1. In a heel breasting machine in which the heel to be breasted is moved across the path of a rotary cutter the combination with said cutter of a shield arranged to extend normally over the cutter the entire width of its acting part and constructed to be progressively moved to expose said acting part as the heel is fed across said path.

2. A machine of the class described, having in combination, a rotary cutter, a work support arranged for movement to bring the work into contact with the cutter and a shield arranged to normally cover the acting portion of the cutter and to be progressively displaced to expose said acting portion as the work support is moved toward said cutter.

3. In a machine of the class described, a tool, a shield for the tool arranged independently of the tool and movable to expose said tool, a work support arranged to support the work normally out of operative relation to the tool and movable relatively to the tool to bring the work into contact with the tool, and means for controlling said shield in accordance with the position of the work support.

4. In a machine of the class described, a tool, a work support arranged to support the work normally out of operative relation to the tool, and movable in a fixed path to bring the work into the path of the tool, means permitting the path of the work support to be varied, and a shield for the tool movable to expose the tool, and arranged in the path of the work support to be actuated by said support.

5. In a machine of the class described, a rotary tool, a work support arranged to support the work normally out of contact with the tool and movable to bring the work into the path of an acting part of the tool, a casing for the tool having a section adjacent said acting part of the tool movable to expose said part and arranged in the path of the work support to be actuated by said support.

6. In a machine of the class described, a rotary tool, a casing for the tool having a section arranged to shield an acting part of the tool, a holder for said section movable
5 transversely to the axis of the tool and means for pivotally mounting said section upon the holder.

7. In a machine of the class described, a tool arranged for movement in a fixed path,
10 a casing for covering a portion of the tool, a shield movably sustained by said casing arranged to cover the tool for that portion of

its path into which the work is moved, and mechanism for displacing said shield upon the presentation of the work to the tool. 15

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

MARY E. ELLIOTT,
Executrix of the Estate of Alvin D. Elliott,
deceased.

Witnesses:

THOMAS LUND,
THOMAS BEVINGTON.