A. B. GRODAES.

SHOE SOLING MACHINE.

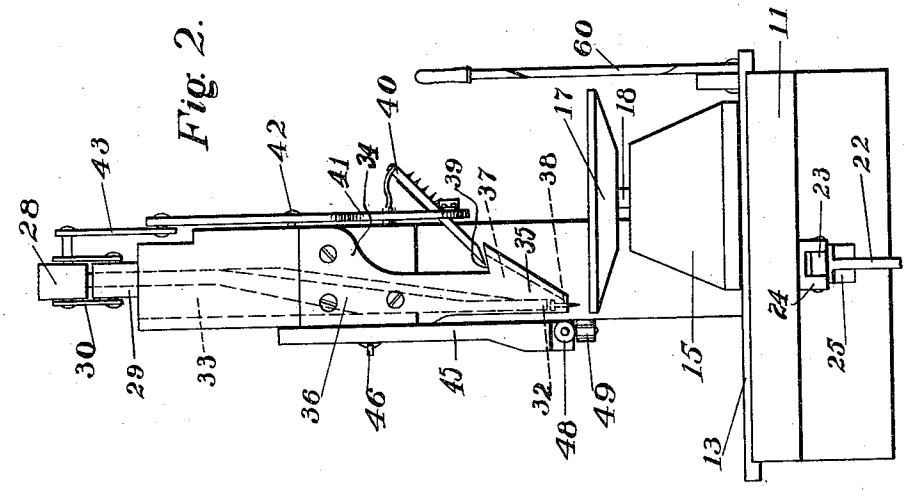
APPLICATION FILED JUNE 25, 1909.

1,052,662.

Patented Feb. 11, 1913.

2 SHEETS—SHEET 1.

Fig. 2.



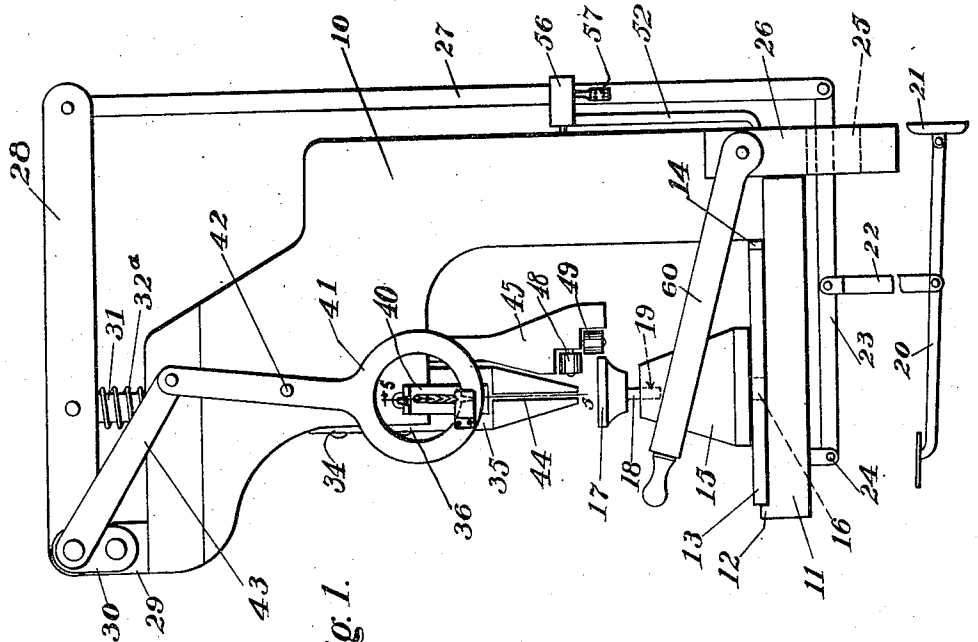


Fig. 1.

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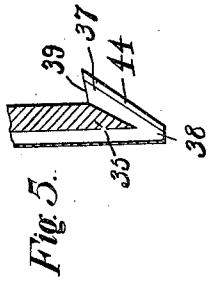

Fig. 5.

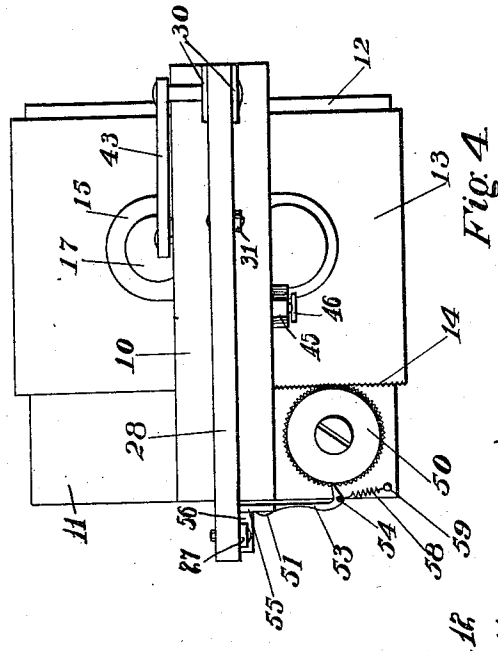

Fig. 4.

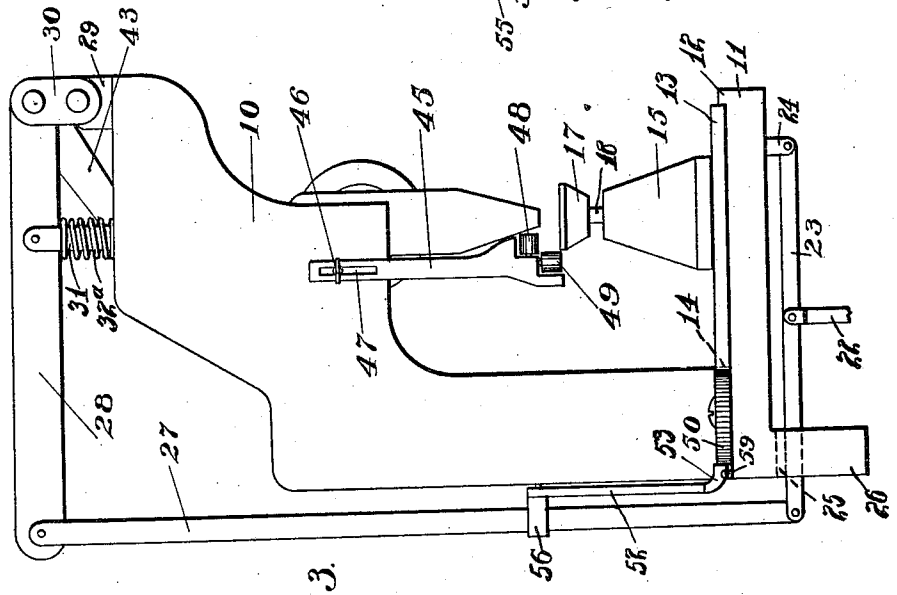

Fig. 3.

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UNITED STATES PATENT OFFICE.

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SHOE-SOLING MACHINE.

1,052,662. Specification of Letters Patent. Patented Feb. 11, 1913.

Application filed June 25, 1909. Serial No. 504,348.

To all whom it may concern:

Be it known that I, ANDREW B. GRODAES, a citizen of the United States, residing at Maude, in the Province of Saskatchewan, Dominion of Canada, have invented certain new and useful Improvements in Shoe-Soling Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to shoe making and has special reference to a machine designed to tack the soles of shoes on to the uppers.

The principal object of this invention is to provide a novel nail feeding mechanism for such machines.

Another object of the invention is to provide a novel nailing mechanism.

A further object of the invention is to provide a machine for the purpose described which is composed of a relatively few number of parts, is therefore simple in construction, and is cheap to manufacture.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, like characters of reference indicate like parts in the several views, and Figure 1 is a side elevation of a machine constructed in accordance with this invention. Fig. 2 is a front view thereof. Fig. 3 is an elevation from the side opposite to Fig. 1. Fig. 4 is a top plan view thereof. Fig. 5 is a section on the line 5—5 of Fig. 1.

The numeral 10 indicates the standard of a machine constructed in accordance with this invention and upon this standard is mounted a forwardly extending platform 11 provided with a guide lip 12. Mounted upon the table 11 is a plate 13 which has its forward edge bearing against the lip 12 and is provided on its rearward edge with gear teeth 14. The plate is thus held between the standard 10 and the lip 12 so that it may slide across the table 11. Mounted upon the plate 13 is a post 15 which is held to the plate by means of a pin 16 received in a suitable aperture in the plate 13. The post is thus removable from the plate.

At 17 is a shoe support which may be of any preferred form and size and this shoe support is provided centrally of its body with a downwardly extending pin 18 which fits in a suitable aperture 19 made in the upper end of the post 15. The shoe support 17 is thus swivelly mounted on the post.

Mounted below the table 11 is a treadle 20 which has one end pivoted to a suitable bearing 21 which may be secured to a downward extension of the frame 10 or may be pivotally fastened on a floor or wall. Connected intermediate the ends of this treadle is a link 22 the opposite end of which is connected to a lever 23 which is pivoted beneath the table 11 to a lug or ear 24. The lever 23 passes through an aperture 25 formed in a guide 26 on the rear end of the table 11 and the rear end of this lever 23 is connected to a link 27 which runs vertically back of the standard 10 and which has its upper end connected to a lever 28. This lever 28 is pivoted to a support 29 located on the frame being connected thereto by means of a swinging link 30. Intermediate its ends the lever 28 is pivoted to a plunger 31 which extends downward through the frame and carries upon its lower end a driver 32.

From the foregoing it will be observed that as the treadle is depressed the lever 23 is also drawn down and this draws with it by means of the link 27 the lever 28 so that the plunger 31 is depressed every time the treadle 20 is depressed. For the purpose of restoring these parts to their natural position the plunger 31 is surrounded by a coil spring 32^a which bears at its upper end against the under side of the lever 28 and at its lower end against the frame 10.

The plunger 31 is slidably mounted in a suitable guide aperture 33 formed in the body of the casting or frame 10 and secured beneath the overhanging portion 34 of this frame is a guide and delivery head 35. This guide and delivery head is provided with an upwardly extending portion 36 which is secured to the base of the frame 10. This guide head 35 is further provided with an offset projection having an inclined aperture 37 which terminates at the bottom in an opening 38 arranged to permit the delivery of a shoe nail or peg. In order to deliver pegs to the head 35 this projection is

formed with a shoulder 39 which is disposed below the lower end of a peg or nail chute 40 and a suitable cut off 41 is pivoted to the frame as at 42 and is connected by means of a link 43 with the lever 28 so that as this lever is depressed and rocked upon the lug 29 by means of the link 30 the link 43 will cause the upper end of the cut off 41 to move backward and forward thus permitting the passage of one of the nails or pegs from the upper end of the chute 40 to the head 35. In order to permit these pegs to have their points fall freely into the head the said head is laterally slotted as at 44 and this slot is of just sufficient width to permit the passage of the shanks or points of the pegs while the heads of said pegs slide over the slot. In this manner the pegs are always delivered point downward.

In order to hold the shoe sole firmly and at the same time to guide the sole and prevent pegs being driven in the center thereof there is provided upon the frame 10 a downwardly extending bar 45 which is secured to the frame by means of a suitable thumb screw 46 passing through a slot 47 formed in the bar 45. By this construction the bar may be adjusted vertically while at the same time the lower end may be swung inwardly or outwardly to properly position it with reference to the shoe support 17. In order to lessen the friction between the parts there is mounted on the bar 45 a horizontal roller 48 and a vertical roller 49. The horizontal roller is intended to bear against the under side of the sole and press the same firmly on the shoe while the vertical roller 49 acts as a guide roller so that when the shoe support is pressed inward thereagainst the pegs will be spaced evenly from the edge of the shoe sole.

In order to move the plate 13 and shoe support 17 forward as the machine is actuated there is mounted upon the base or table 11 a gear wheel 50 which meshes with the gear teeth 14. Pivoted at one side of the rear of the frame as indicated at 51 is a bar 52 which extends downward and has provided on its lower end a lateral extension 53 provided with a pawl 54 arranged to engage the teeth of the gear 50. The bar 52 has also an upper lateral extension 55 and on this lateral extension is mounted a collar 56 which embraces the link 27 and for the purpose of moving this collar as the lever 28 is raised the link 27 has secured thereto a lug 57 which contacts with the collar 56 each time that the lever 28 is raised. In this manner as the lug 57 is raised the bar 52 is actuated and the pawl 54 is caused to move the gear 50 thus moving the plate 13 which is provided with the teeth 14 meshing with said gear. In order to permit this pawl to act the lateral extension 53 is made of resilient material and is so arranged that the pawl 54 moves freely over the teeth 50 in one direction while when moving in the opposite direction it engages said teeth. In order to move this pawl to its normal position after the lever 28 has moved the gear 50 there is provided a spring 58 which is attached at one end to the pawl and at the other end to a post 59 located on the table 11.

In the operation of the device after a shoe has been placed upon the shoe support the guide bar 45 is adjusted to bring it into proper relation to a sole which is placed on said shoe and the lever or treadle 20 is alternately depressed and allowed to rise. Each time that the treadle 20 is depressed one of the nails drops down into the guide and delivery head 35 and is there acted upon by the driver 32 so that it is driven into the shoe. As the lever 28 rises after this has been accomplished the plate 13 is moved forward a space equivalent to the movement of the pawl 54 by the lug 57 and at the same time the cut off 42 is moved so as to permit a fresh peg or nail to fall into the head 35 ready for driving. The operator meanwhile keeps the shoe support in such position that the edge of the shoe bears against the roller 49 and then depresses his foot to operate the lever 28 thus repeating the operation. It is obvious that by continuing with this operation the entire sole may be securely nailed to the upper.

In order to provide for cutting off and trimming leather the device is equipped with a pivoted knife 60 which drops over the edge of the table 11.

There has thus been provided a simple and efficient device of the kind described and for the purpose specified.

It is obvious that minor changes may be made in the form and construction of this invention without departing from the material principles thereof. It is not therefore desired to confine the invention to the exact form herein shown and described, but it is wished to include all such as properly come within the scope of the appended claims.

Having thus described the invention, what is claimed as new, is:—

1. In a device of the kind described, a frame, a nail plunger, a nail feeding mechanism including a cut off lever pivoted to the frame, a link having its lower end connected to the frame in front of the upper end of said plunger, a plunger lever having its forward end connected to said link, a second link connecting the first link and the cut off lever, and means to actuate the plunger lever.

2. A device of the kind described, a frame, a table, a perforated guide carried by the table, a lever disposed below the table and pivoted at one end thereto and having its other end projecting through the aper-

ture of the guide, a nailing plunger, a nail feeding mechanism, a cut off lever for said mechanism pivoted to the frame, a lever fulcrumed to the nailing plunger and having its other end pivotally connected to the frame, a spring disposed around the plunger between the frame and the lever, a link connecting the cut off lever and the plunger lever, a link connecting the first mentioned lever and the plunger lever, and means connected to the first mentioned lever for actuating said plunger and cut off lever.

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

ANDREW B. GRODAES.

Witnesses:

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C. H. BELL.