

Aug. 2, 1938.

R. H. LAWSON

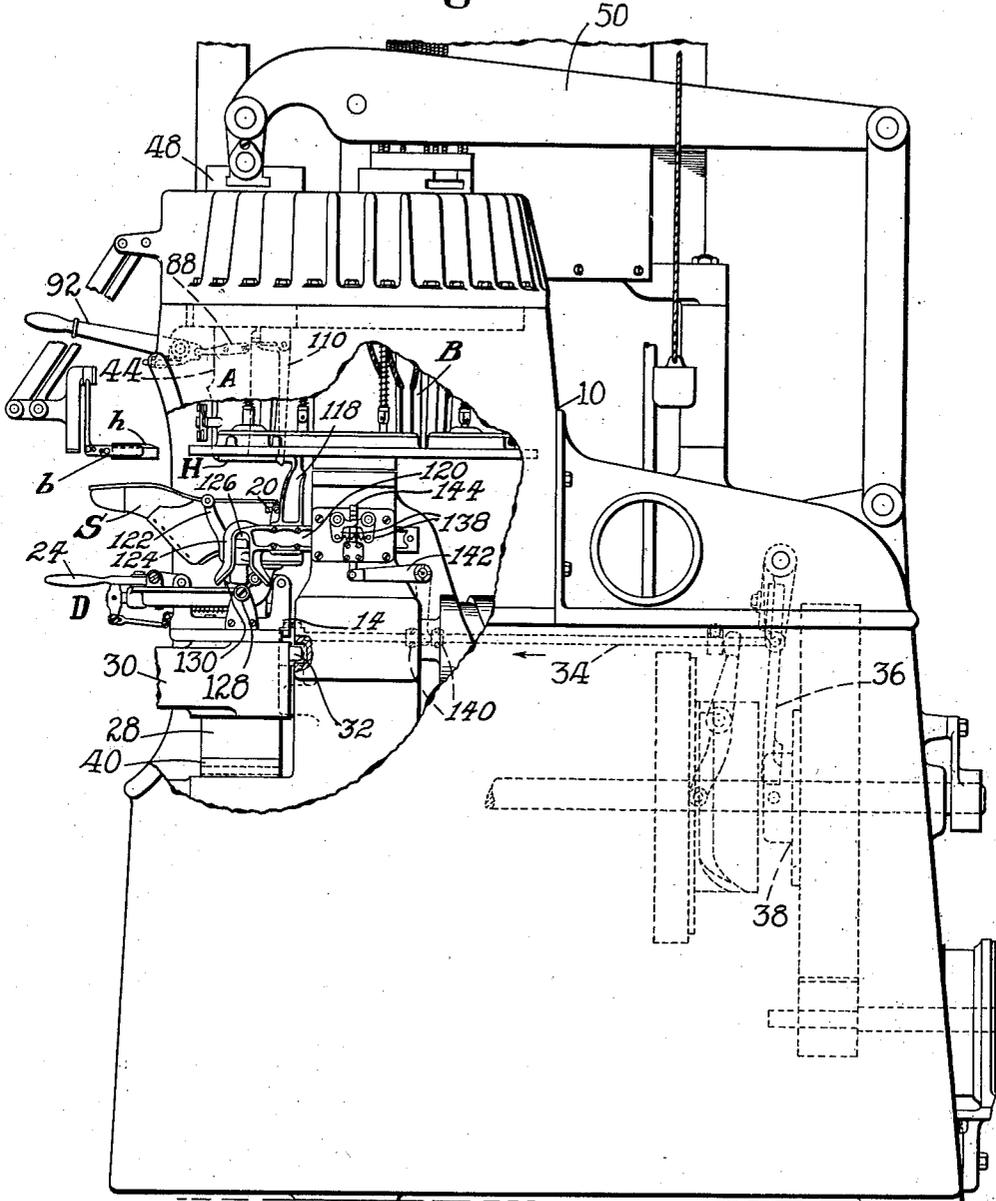
2,125,349

HEEL-ATTACHING MACHINE

Filed Dec. 8, 1936

4 Sheets-Sheet 1

Fig. 1.



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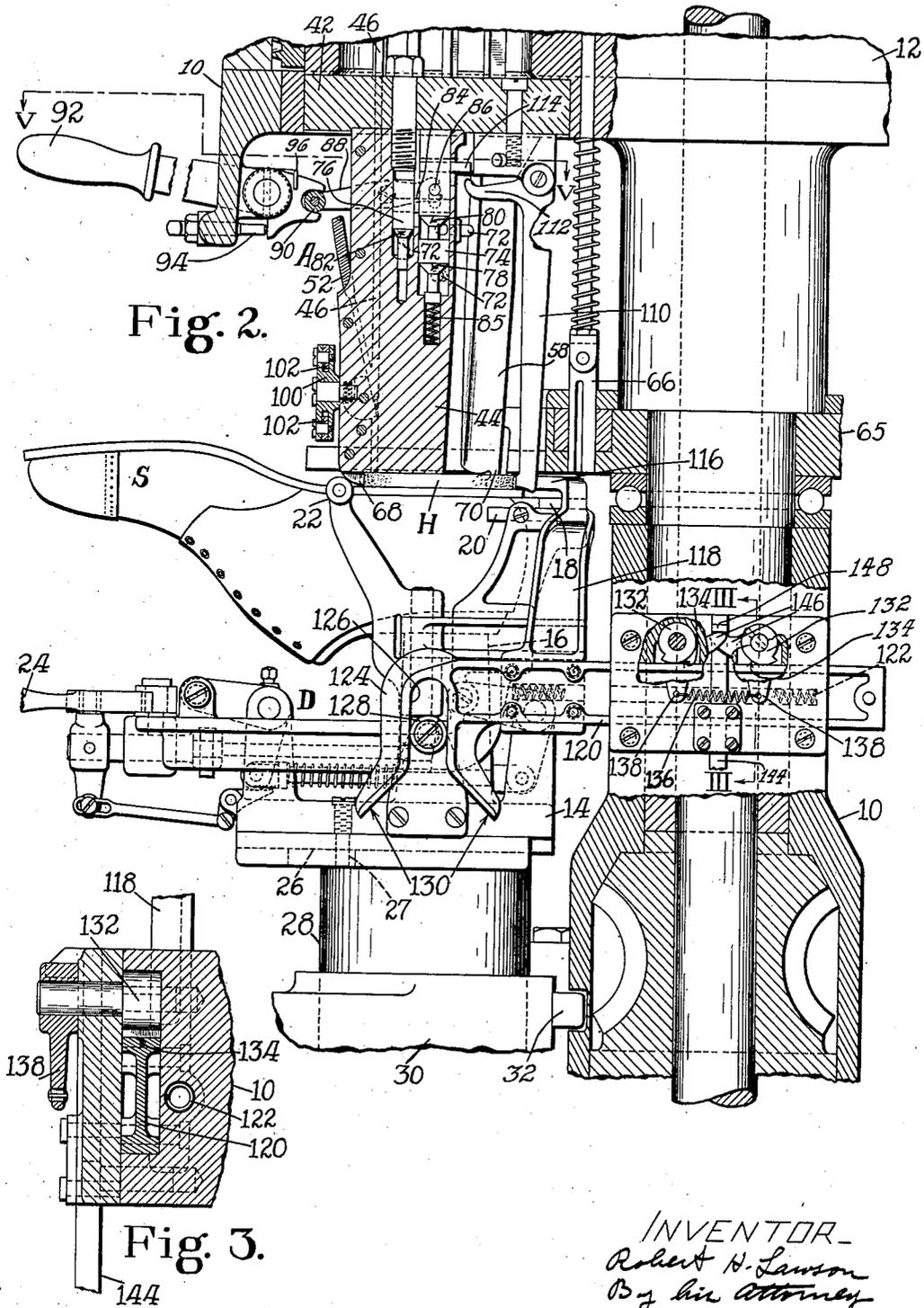
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2,125,349

HEEL ATTACHING MACHINE

Filed Dec. 8, 1936

4 Sheets-Sheet 2



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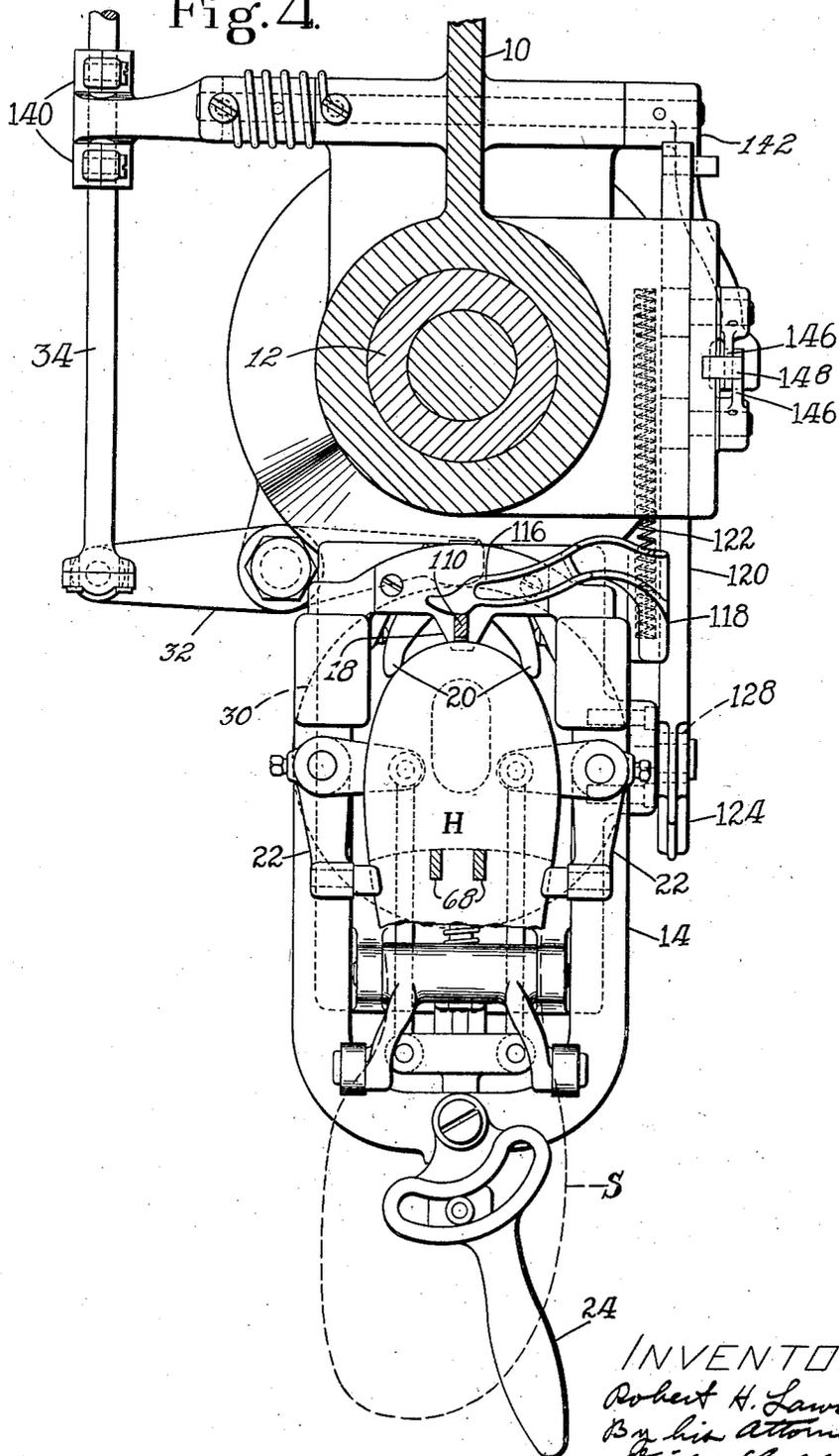
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HEEL ATTACHING MACHINE

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4 Sheets-Sheet 3

Fig. 4.



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Fig. 6.

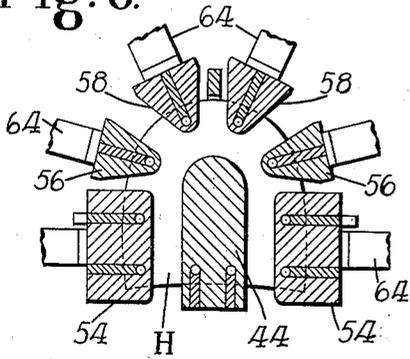


Fig. 5.

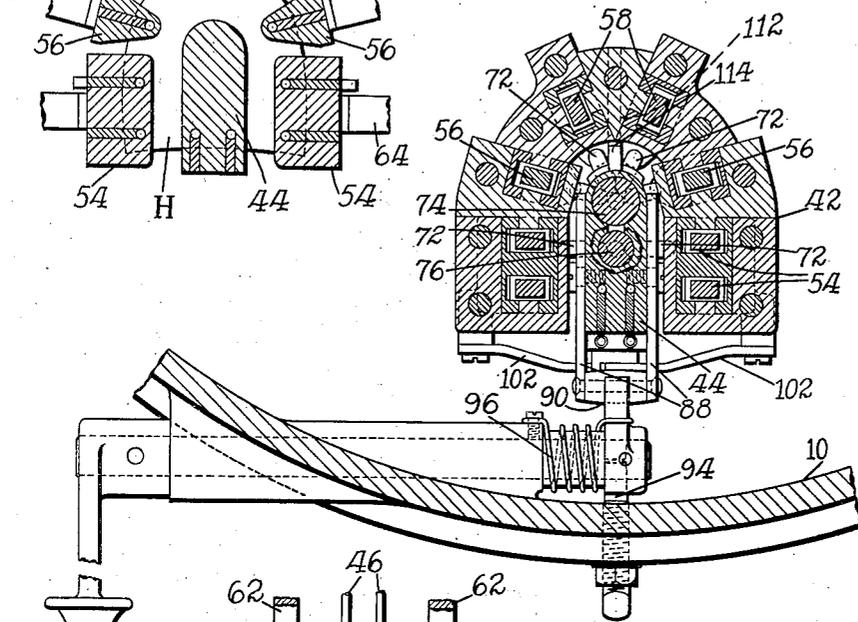
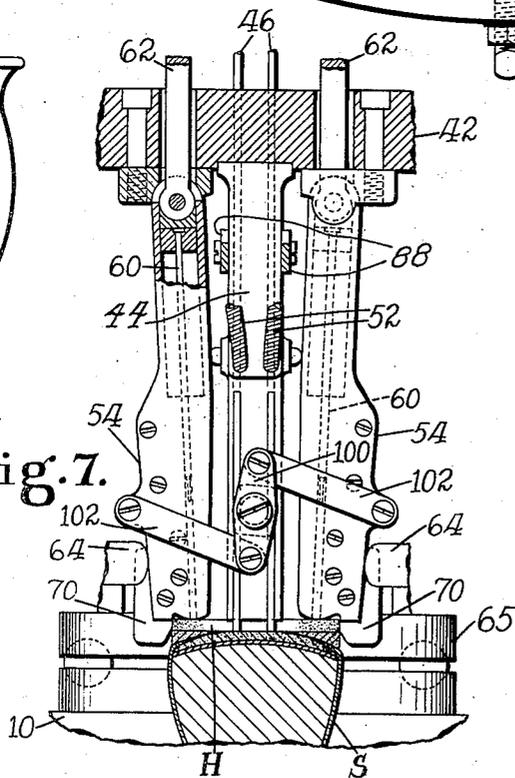


Fig. 7.



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UNITED STATES PATENT OFFICE

2,125,349

HEEL-ATTACHING MACHINE

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Application December 8, 1936, Serial No. 114,827

31 Claims. (Cl. 1—32)

My invention relates to the attachment of heels or heel-portions to shoes and is particularly directed to machines of the character of that disclosed in Letters Patent of the United States No. 2,033,248, Lawson, March 10, 1936.

The apparatus of the above-identified patent is especially designed for operation upon a type of shoe provided in its heel-seat and in a heel-base and lift to be attached with locating openings.

These openings when alined with one another by projections from the top of a jack upon which the work is held for the operations upon it, are arranged in the correct relation for attachment.

To ordinary commercial work, however, from which these openings are absent, the machine of the patent is not directly applicable, and an object of my invention is to provide for the operation of such a machine upon shoes which are without special locating means. In the attainment of this object, I utilize a heel or heel-portion to be attached as the means for effecting the location of the work, there being means movable into contact with it to control registration between the heel and the shoe to which it is to be attached, the two being supported upon holders which are movable relatively. The controlling means having been positioned by the heel, it may be locked and then will not only be accurately effective in connection with an operating mechanism for which it is thus set, but also for other operating mechanisms. Consequently, after the controlling means has been adjusted, it will serve to produce the registration of the shoe with successively operating mechanisms, as in a turret machine, such as the previously mentioned patent illustrates. At the termination of the operating cycle of the machine, the lock is released, so the controlling means may be set for the next heel and shoe operated upon. The operating mechanism which holds the heel for the initial performance of its locating function preferably has an abutment-surface for contact with the heel and a breast-gage extending from said surface. About the abutment member may move operating sections for pricking the work or inserting fastenings in it, there being connections between opposite sections for compelling them to move uniformly in opposite directions. This, with the manner in which the shoe-holder is moved into operating position, insures the correct transverse relation between the heel and heel-seat. With the rear of the heel, a controlling member is arranged to contact, and by this the position of the shoe-

holder is governed to cause registration between the heel and the heel-seat longitudinally of the shoe. To facilitate the introduction of the heel between the sections and the controlling member, means is preferably provided for moving them away from the abutment member. The position-controlling means which I have chosen to illustrate includes the controlling member just mentioned, which may be in the form of an arm pivoted upon the operating mechanism, and a slide movable by the arm and having a guide-slot. In this slot, a projection from the shoe-holder, mounted to slide upon a carrier which shifts the holder into and out of co-operation with the operating mechanism, may be directed after the controlling slide has been locked in the position determined by the heel. As clamping pressure is applied to the work, this slot determines the registration between the heel and the heel-seat, and by maintaining the lock until the end of the operating cycle, a like effect may be obtained for successively acting operating mechanisms. The application of the locking means may be initiated by a member movable with the shoe-holder when the machine is started, so the positioning means is made ready for action before power-operation begins.

In construing the claims of this case, it is to be understood that the term "heel", which has been employed for the sake of conciseness, applies equally to a whole heel or to a heel-portion, as a base or a top-lift of rubber or other material.

In the accompanying drawings, illustrating a particular form of the invention,

Fig. 1 is a broken, side elevation of my improved machine;

Fig. 2, an enlarged, side elevation of the shoe-holder in co-operation with one of a plurality of operating mechanisms;

Fig. 3, a sectional detail on the line III—III of Fig. 2;

Fig. 4, a horizontal section taken above the shoe-holder of Fig. 2;

Fig. 5, a horizontal section on the line V—V of Fig. 2;

Fig. 6, a horizontal, sectional detail through the lower portion of the operating sections, and

Fig. 7, a broken front elevation of the operating mechanism of Fig. 2.

Generally, the apparatus has the form of that disclosed in Patent No. 2,033,248. Upon a frame 10 a turret 12 is rotated during each cycle of the machine in three steps, to present at an operating position mechanisms for pricking and

preliminarily nailing a heel-base to a shoe, for driving the attaching nails into the pricked openings and for nailing to the base a rubber or other lift. For each step, the turret is stopped, the operation performed by one of the three mechanisms which it carries, and then said turret is turned through 120° to present the next mechanism at the operating position. One of the mechanisms, designated as A, is shown in some detail in the drawings, this being for the pricking and preliminary nailing. Another of the mechanisms is indicated as B, this being for nailing the lift, which is automatically presented for attachment by a holder b. A lasted shoe to be heeled is supported upon a holder D, of which there may be two, as in the patent, although only one is herein illustrated. The holder may be as in Letters Patent of the United States No. 1,932,551, Lawson, October 31, 1933. Of this, it is only necessary to say that a plate 14 has rising from it a post 16 upon which rests the crown of the last, while members comprising a back-stop 18, counter-engaging arms 20 and pivoted sole-engaging arms 22 locate the shoe in a definite position upon the plate and hold it firmly for the operations upon it. The arms are shifted between the work-receiving position and the work-clamping position by connections to a lever 24 actuated by the operator. The plate 14 is movable to a limited extent, determined by a stop-projection 27 depending from it, in horizontal ways 26 formed in a member 28. This member is vertically reciprocable upon the end of an arm 30 pivoted at one side of the machine to occupy, alternately, positions in which the shoe is introduced into the holder D and in which it is presented to the mechanism A and the associated mechanisms. In the latter relation, to which it is swung initially by the operator, it contacts with a lever 32 and through a horizontally reciprocatory rod 34 and lever 36 trips a clutch mechanism 38 to start the power-operation of the apparatus. In the operating position, the carrier 28 for the holder-plate 14 is above a member 40 of mechanism by which preliminary and final pressure are applied to the shoe in the holder to clamp it for the operations to be performed.

The turret 12 has a horizontal, circular plate 42 from which depends an abutment-post 44 of the operating mechanism A, and against which the pressure mechanism forces the work. In vertical passages in the abutment reciprocate drivers 46, 46 secured to a plunger 48, which, when the mechanism A is in active position, will be under the influence of an actuating lever 50 oscillated under the power of the machine. These drivers insert through a heel-base applied to the heel-seat of a shoe in the holder D, two nails supplied to the driver-passages through tubes 52. The base is thus secured for the succeeding operations. Pivoted at their upper extremities upon the plate 42 are six operating sections of the mechanism A, consisting of a forward side pair 54, 54, a rear side pair 56, 56 and a rear pair 58, 58. In each of the sections 54, 54 are two vertical passages, while the other sections each contains one passage. In each passage an awl 60 is arranged to reciprocate, it being joined to the plunger 48 by a link 62. These awls prick in the heel-base openings for the reception of six attaching nails. The sections are urged inwardly by spring-actuated plungers 64 movable upon a plate 65 of the turret 12 and are locked in their forward positions during the pricking operation by wedge members 66 actuated by the plunger 48.

The more important features of the present invention will now be considered. The abutment-post 44 has at its forward edge two downward projections or gages 68 provided with substantially vertical, inner contact-faces. Against these faces a heel-base is to be placed with its tread-surface up. Each of the pricking sections is provided with a depending gage-portion 70 arranged to engage the periphery of the thus-located base. As just explained, the sections are forced normally in, and the extent of this movement is such as to permit the gage-portions to contact with the smallest base to be attached. To free from the gage-portions the space which the base is to enter when applied to the post 44 and its projections, means is furnished whereby the operator may simultaneously swing out the sections of the post. Movable in a horizontal passage in the post is a plunger 72 contacting at its inner extremity with one of the sections, there being a plunger for each section. In vertical passages in the post reciprocate two primary plungers 74 and 76. Upon the plunger 74 are two annular, downwardly and inwardly inclined surfaces 78 and 80 arranged to engage the inner extremities of the secondary plungers 72 of the sections 56 and 58, respectively. A similar surface 82 upon the primary plunger 76 contacts with the secondary plungers of the sections 54. A horizontal pin 84 connects the plungers 74 and 76, compelling them to move together. A spring 85 maintains them normally elevated. From opposite sides of the plunger 74 are projections 86, 86, which are received by the forked inner ends of a lever 88 fulcrumed upon the post 44. As the turret 12 rotates, and the mechanism A reaches the operating position, a roll 90 upon the outer end of this lever enters the forked extremity of a hand-lever 92 fulcrumed upon the frame 10. The hand-lever is normally held with its fork properly aligned with the path of the roll 90 by an adjustable stop 94 against which a shoulder upon the lever is forced by a torsion-spring 96. When the operator depresses the hand-lever, and the inclined surfaces of the primary plungers 74 and 76 are forced by the lever 88 downwardly, their inclined surfaces 78, 80 and 82 act upon the secondary plungers to press these against the operating sections and swing them outwardly. This movement is sufficient to remove the gage-portions 70 of all the operating sections from the area at the end of the post which the largest heel-base will occupy. Upon release of the hand-lever, the springs 85 and 96 will restore the plungers and their actuating means to their initial positions, and the spring-plungers 64 will carry the gage-portions 70 of the sections into contact with the heel-base which has been applied to the end of the post 44 and definitely located fore and aft of the machine by the projections 68. To obtain a corresponding lateral positioning of the base, the pricking sections 54 are so joined as to be compelled to move equally and oppositely with respect to a vertical plane through the center of the post and through the longitudinal axis of the shoe in the holder D. To this end, an equal-armed lever 100 is fulcrumed upon the front of the post and is joined at its ends by links 102, 102 to the respective sections 54, 54. Therefore, as the plungers 64 carry these sections in, the heel-base is symmetrically located laterally of the heel-seat. At the same time, the awls 60 are correctly spaced from the periphery of the base by the contact of the gage-portion 70 with said periphery, and the awls of the sections 56

and 58 are similarly positioned, ready for the pricking operation.

The lateral relation of the shoe in the holder is established by the guidance of the holder-plate 14 in the ways 26 in a direction parallel to the longitudinal axis of the tread-surface of the heel-base, held as just described, and by the symmetrical action of the holder-arms 20 and 22, as set forth in the previously-mentioned Patent No. 1,932,551. There remains the proper longitudinal presentation of the shoe in the holder to the heel-base at the operating position A and the maintenance of this relation for the other operating positions. For this purpose, I employ the base itself as a cage. Fulcrumed upon the under side of the turret-plate 42 at the rear of the post 44 is a controlling lever 110, the main arm of which extends downwardly to a point at the back of the heel-base and in its horizontal plane. A short arm 112 projects forwardly beneath a horizontal pin 114 fixed in the primary plunger 74. By this connection, the movement of the hand-lever 92 is communicated to the controlling lever 110. Against the rear of the lower end of the lever 110 bears the horizontal extension 116 of an arm 118 rising from a holder-locating slide 120 guided to reciprocate horizontally in the frame 10 below the turret 12. Into engagement with the lever the arm-extension is urged by an expansion-spring 122 interposed between it and the frame. By this engagement, the slide is positioned with respect to the rear of the heel-base. The forward end 124 of the slide is enlarged to permit the formation in it of a vertical recess or slot 126 into which fits transversely a roll 128 rotatable upon one side of the plate 14 of the holder D. The roll is mounted in a predetermined relation to the back-stop 18, by which the shoe is located longitudinally of the holder. The bottom of the slot expands, fore and aft of the machine, to furnish a throat, the side-walls 130, 130 of which will receive contact of the roll 128 to direct it into the body 126 of the slot. The slide 120, 124 will have been positioned by the heel-base and the lever 110 to correctly locate the holder D and the heel-seat of the shoe therein when the roll 128 is received by the slot 126.

Before this action upon the holder D occurs, the slide 120 must be secured in the place to which it has been adjusted. Above the slide, where it passes through the frame 10, two locking cams 132, 132 are rotatably mounted, these having oppositely acting eccentric surfaces 134, 134 which are normally forced into engagement with the upper edge of the slide by a spring 136 joining arms 138, 138 depending from the shafts of the cams. As the holder D is swung into the operating position beneath the mechanism A, and the lever 32 moved by contact of the arm 30 shifts the rod 34 to trip the clutch 38, one of a pair of collars 140, 140 upon the rod contacts with a bell-crank-lever 142 fulcrumed upon the frame. To the forward extremity of a substantially horizontal arm of the bell-crank, a vertical bar 144 is articulated, this being guided to move adjacent to overlapping arms 146, 146 fast from the shafts of the cams 132. An angular portion 148 of the bar overhangs both arms and prior to the starting of the machine is held against them by the outer collar 140. The slide 120 is thus normally free. As the rod is moved forward, the bell-crank-lever raises the bar 144 under the influence of the inner collar, and the spring 136 rotates both cams 132 to lock the slide against displacement from the position to which it has been adjusted by the

lever 110. Upon the starting of the power-operation of the machine and the application of pressure to the work by the rising of the member 40, the roll 128 will be located somewhere beneath the outer extremities of the inclined walls 133, 130 and will enter the slot 126, either directly or being cammed toward it by one of the walls. When the roll is in the slot-portion 126 of the locked slide 120, the shoe will have been fixed in the correct longitudinal relation to the heel-base in the mechanism A. The lateral relation has been determined by the arms 20 and 22, together with the definite location of the ways of the plate 14, and the work is ready for the operation upon it. After this has been performed, the holder D is lowered by the member 28 to allow the turret 12 to bring the succeeding operating mechanism above the holder D. Because, throughout the operating cycle, the rod 34 remains in its forward position, the lock is maintained upon the slide 120. Therefore, as each of the other operating mechanisms, as that for base-nailing or lift-nailing, arrives at the holder D, and the member 28 rises to apply pressure to the work, the entrance of the holder-roll 128 into the slot 126 will, as before, produce the desired relation between the heel-base, which is now upon the shoe, and either the base-nailing mechanism or the lift-nailing mechanism. At both mechanisms, a condition of approximate registration with the operating sections is produced, these being more exactly positioned, as in Patent No. 2,033,248, by the contact of their gage-portions with the attached base upon the shoe. At the lift-nailing mechanism B, the breast of the attached base is correctly located for alinement with it of the breast of a lift automatically presented by the holder b.

Considering the action of the apparatus, with the carrier-arm 30 drawn out from the operating position, the operator places a lasted shoe S in the holder D and clamps it in place by shifting the lever 24. He also supplies a heel-lift *h* to the holder *b* and applies a heel-base H against the gage-projections 68, 68 upon the lower extremity of the post 44 of the preliminary nailing and pricking mechanism A, which is in operating position. For the last-mentioned purpose, the operating sections and the arm 110 will have been carried away from the post by the lever 92, release of which will allow the sections to clamp the base in place and laterally locate or centralize it by the connected sections 54, 54. The arm 30 is swung in to operating position, and as the heel-seat of the shoe S in the holder D moves across the heel-base, it is presented in the proper lateral relation thereto because of the manner in which the elements of the machine are supported and moved, the longitudinal axis of the heel-seat coinciding with the corresponding axis of the heel-base in the holder. As to the relation of the heel and heel-seat along the common longitudinal axis, the primary controlling member or arm 110 will have been located in accordance with the length of the base, and the normally unlocked secondary controlling member or slide 120 will be correspondingly positioned by engagement of the arm-extension 116. When the arm 30 reaches the point at which it acts upon the lever 32 to start the machine in operation, the bar 144, governed by the starting rod 34, releases the cam members 132, 132 to lock the controlling slide as it has been set by the heel-base. Under the power of the machine, the member 28 rises through the arm 30 to clamp the work, and the entrance of the holder-roll 128 into the guide-

slot 126 of the controlling slide shifts the holder D longitudinally of the heel to bring the breast-line of the sole into registration with the breast of the heel. These elements will therefore be properly related for their preliminary attachment and pricking regardless of the size of the shoe. Since the rod 34 remains in the rearward clutch-controlling position throughout a complete rotation of the turret 12, the lock is retained by the cams 132 upon the controlling slide for a like period, and upon elevation of the holder D in the presentation to it of the succeeding operating mechanisms, its roll 128 will cause the registration of the heel-base attached to the shoe S in the holder with such operating mechanisms and with the lift *h* in the holder *b*. At the completion of the operating cycle, the outward movement of the arm 30 releases the rod 34. This lowers the bar 144 to unlock the slide 120, preparing the machine for the succeeding operation.

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

1. In a heel-attaching machine, a shoe-holder, a heel-holder, the two holders being movable relatively to establish registration between a heel and the heel-seat of a shoe which they carry, and means movable into contact with the heel for controlling such registration.

2. In a heel-attaching machine, a shoe-holder, a heel-holder, the two holders being movable relatively to establish registration between a heel and the heel-seat of a shoe which they carry, means including a member movable to a position determined by the periphery of the heel for controlling such registration, and means for locking the controlling means against movement during the operation of the machine.

3. In a heel-attaching machine, a shoe-holder, a heel-holder, the two holders being movable relatively to establish registration between a heel and the heel-seat of a shoe which they carry, means including a member contacting with the heel for controlling such registration, means for locking the controlling means against movement during the operation of the machine, and means movable to both start the machine in operation and render said locking means effective.

4. In a heel-attaching machine, operating mechanism provided with a plurality of sections positioned by engagement with the periphery of a heel inserted between them, a controlling member also positioned by the heel, and a shoe-holder movable into co-operation with the operating mechanism under the influence of the controlling member.

5. In a heel-attaching machine, operating mechanism provided with a plurality of sections positioned by engagement with the periphery of a heel inserted between them, a primary controlling member also positioned by the heel, a secondary controlling member positioned by the primary member, and a shoe-holder movable into co-operation with the operating mechanism under the influence of the secondary controlling member.

6. In a heel-attaching machine, operating mechanism provided with a plurality of sections positioned by engagement with the periphery of a heel inserted between them, a primary controlling member also positioned by the heel, a secondary controlling member positioned by the primary member, a shoe-holder movable into co-operation with the operating mechanism un-

der the influence of the secondary controlling member, and means for locking the secondary controlling member during the action of the operating mechanism.

7. In a heel-attaching machine, operating mechanism provided with a plurality of sections positioned by engagement with the periphery of a heel inserted between them, a primary controlling member also positioned by the heel, a secondary controlling member positioned by the primary member, a shoe-holder movable into co-operation with the operating mechanism under the influence of the secondary controlling member, means for locking the secondary controlling member during the action of the operating mechanism, and a member movable with the holder for rendering the locking means effective.

8. In a heel-attaching machine, a shoe-holder, a plurality of operating mechanisms one of which includes a heel-holder, means for moving the shoe-holder and operating mechanisms relatively to bring them into co-operation, and means set under the control of a heel in its holder for producing registration between the heel-seat of a shoe in its holder and one of the operating mechanisms, said means thereafter effecting such registration for another operating mechanism.

9. In a heel-attaching machine, a shoe-holder, a plurality of operating mechanisms movable into successive co-operation with the shoe-holder, and means set by one of the operating mechanisms for positioning the shoe-holder, said means thereafter positioning the shoe-holder with respect to another operating mechanism.

10. In a heel-attaching machine, a shoe-holder, a plurality of operating mechanisms movable into successive co-operation with the shoe-holder, one of said mechanisms including a heel-holder, and means set under the control of a heel in the holder for positioning the shoe-holder, said means thereafter positioning the shoe-holder with respect to another operating mechanism.

11. In a heel-attaching machine, a shoe-holder, a plurality of operating mechanisms movable into successive co-operation with the shoe-holder, means set by one of the operating mechanisms for positioning a shoe with its holder, said means thereafter positioning the shoe-holder with respect to other operating mechanisms, and means for maintaining the positioning means as thus set throughout the successive operations.

12. In a heel-attaching machine, a shoe-holder, a plurality of operating mechanisms movable into successive co-operation with the shoe-holder, means set by one of the operating mechanisms for positioning a shoe with its holder, said means thereafter positioning the shoe-holder with respect to other operating mechanisms, means for maintaining the positioning means as thus set throughout the successive operations, and means for releasing the positioning means at the termination of the operating cycle.

13. In a heel-attaching machine, operating mechanism including a heel-holder, a shoe-holder and a carrier for the shoe-holder, said carrier being movable to present a shoe in the holder in a definite transverse relation to the operating mechanism, and means set by contact with a heel in its holder for positioning the shoe longitudinally with respect to the operating mechanism.

14. In a heel-attaching machine, operating mechanism including a heel-holder, a shoe-holder and a carrier having ways in which the shoe-holder is movable, said carrier being movable to

present a shoe in the holder to the operating mechanism, and means set by contact with a heel in its holder for moving the shoe-holder in its ways.

5 15. In a heel-attaching machine, operating mechanism including a heel-holder, a shoe-holder and a carrier having ways in which the shoe-holder is movable, said carrier being movable to present a shoe in the holder to the operating
10 mechanism and to press together the heel-seat of a shoe in its holder and a heel in its holder, and means set by contact with the heel during the presenting movement of the carrier and acting to move the heel-holder in its ways during the pressure movement of said carrier.

15 16. In a heel-attaching machine, operating mechanism comprising a member having an abutment-surface for contact with a heel, a heel-breast-gage associated with said surface, operating sections movable about the abutment member,
20 and connections between opposite sections compelling them to move uniformly in opposite directions.

25 17. In a heel-attaching machine, operating mechanism comprising a member having an abutment-surface for contact with a heel, a heel-breast-gage associated with said surface, operating sections movable about the abutment member,
30 connections between opposite sections compelling them to move uniformly in opposite directions, a controlling member arranged for contact with the rear of a heel located upon the abutment-surface by the breast-gage, and a shoe-holder governed by the position of the controlling
35 member.

40 18. In a heel-attaching machine, operating mechanism comprising a member having an abutment-surface for contact with a heel, a heel-breast-gage extending from said surface, operating sections movable about the abutment member,
45 a controlling member arranged for contact with the rear of a heel located upon the abutment-surface by the breast-gage, and means arranged to move simultaneously the operating sections and the controlling member away from the abutment member to receive a heel between them.

50 19. In a heel-attaching machine, operating mechanism comprising a member having an abutment-surface for contact with a heel, a heel-breast-gage extending from said surface, operating sections movable about the abutment member and
55 plungers movable in the abutment member and acting upon the sections, and means arranged to move the plungers and separate the sections from the abutment member.

60 20. In a heel-attaching machine, operating mechanism comprising a member having an abutment-surface for contact with a heel, a heel-breast-gage extending from said surface, operating sections movable about the abutment member,
65 plungers movable longitudinally of the abutment member and provided with inclined surfaces, and plungers movable transversely of the abutment member by contact with the inclined surfaces and acting upon the sections.

70 21. In a heel-attaching machine, operating mechanism arranged to hold a heel to be attached, a member positioned under the influence
75 of the heel thus held and having a guide-portion, and a shoe-holder movable across the heel and also toward said heel to press the heel-seat against it, said holder being located by the guide-portion of the member in registration with the heel during the pressure-movement.

22. In a heel-attaching machine, operating mechanism arranged to hold a heel to be attached, a member positioned under the influence of the heel thus held and having a guide-portion, means for locking the member after it is thus positioned, and a shoe-holder movable across the heel and also toward said heel to press the heel-seat against it, said holder being located by the guide-portion of the member in registration with the heel during the pressure-movement.

23. In a heel-attaching machine, operating mechanism arranged to hold a heel to be attached, an arm pivoted upon the operating mechanism and positioned by contact with the heel, a slide governed by the arm and having a guide-slot, and a shoe-holder movable into and out of active relation to the operating mechanism and having a portion entering the guide-slot.

24. In a heel-attaching machine, operating mechanism arranged to hold a heel to be attached, an arm pivoted upon the operating mechanism and positioned by contact with the heel, a slide governed by the arm and having a guide-slot, means for locking the slide in the position determined by the arm, and a shoe-holder movable into and out of active relation to the operating mechanism and having a portion entering the guide-slot.

25. The combination with a frame, of a turret rotatable thereon, a plurality of operating mechanisms presented successively by the turret to an operating position, one of the mechanisms being arranged to hold a heel, a controlling member movable upon the frame and positioned by the heel, a carrier movable into and out of operating position, and a shoe-holder movable upon the carrier under the influence of the controlling member.

26. The combination with a frame, of a turret rotatable thereon, a plurality of operating mechanisms presented successively by the turret to an operating position, one of the mechanisms being arranged to hold a heel, a controlling member movable upon the frame and positioned by the heel, a carrier movable into and out of operating position and toward and from each operating mechanism, and a shoe-holder movable upon the carrier under the influence of the controlling member as the carrier moves toward the operating mechanism.

27. The combination with a frame, of a turret rotatable thereon, a plurality of operating mechanisms presented successively by the turret to an operating position, one of the mechanisms being arranged to hold a heel, a controlling member movable upon the frame and positioned by the heel, a carrier movable into and out of operating position and toward and from each operating mechanism, and a shoe-holder movable upon the carrier under the influence of the controlling member as the carrier moves toward each of the plural operating mechanisms.

28. The combination with a frame, of a turret movable thereon, a plurality of operating mechanisms presented successively by the turret in operating position, one of the mechanisms being arranged to hold a heel and having a pivoted arm positioned by said heel, a slide movable upon the frame, said slide being governed by the arm and provided with a slot, a carrier movable into and out of operating position and toward and from each operating mechanism, and a shoe-holder movable upon the carrier and having a portion arranged to enter the slot.

29. The combination with a frame, of a tur- 75

ret movable thereon, a plurality of operating mechanisms presented successively by the turret in operating position, one of the mechanisms being arranged to hold a heel and having a pivoted arm positioned by said heel, a slide movable upon the frame, said slide being governed by the arm and provided with a slot and inclined walls converging theretoward, a carrier movable into and out of operating position and toward and from each operating mechanism, and a shoe-holder movable upon the carrier and having a portion arranged to enter the slot under the guidance of the inclined walls.

30. The combination with a frame, of a turret rotatable thereon, a plurality of operating mechanisms presented successively by the turret to an operating position, one of the mechanisms being arranged to hold a heel, a controlling member movable upon the frame and positioned by the heel, means for locking the thus-positioned controlling member against movement upon the

frame throughout the rotation of the turret, a carrier movable into and out of operating position, and a shoe-holder movable upon the carrier under the influence of the controlling member.

31. The combination with a frame, of a turret rotatable thereon, a plurality of operating mechanisms presented successively by the turret to an operating position, one of the mechanisms being arranged to hold a heel, a controlling member movable upon the frame and positioned by the heel, means for locking the thus-positioned controlling member against movement upon the frame throughout the rotation of the turret, a carrier movable into and out of operating position, a shoe-holder movable upon the carrier under the influence of the controlling member, and a member movable to start the turret in rotation and to cause the application of the locking means.

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