

Feb. 2, 1937.

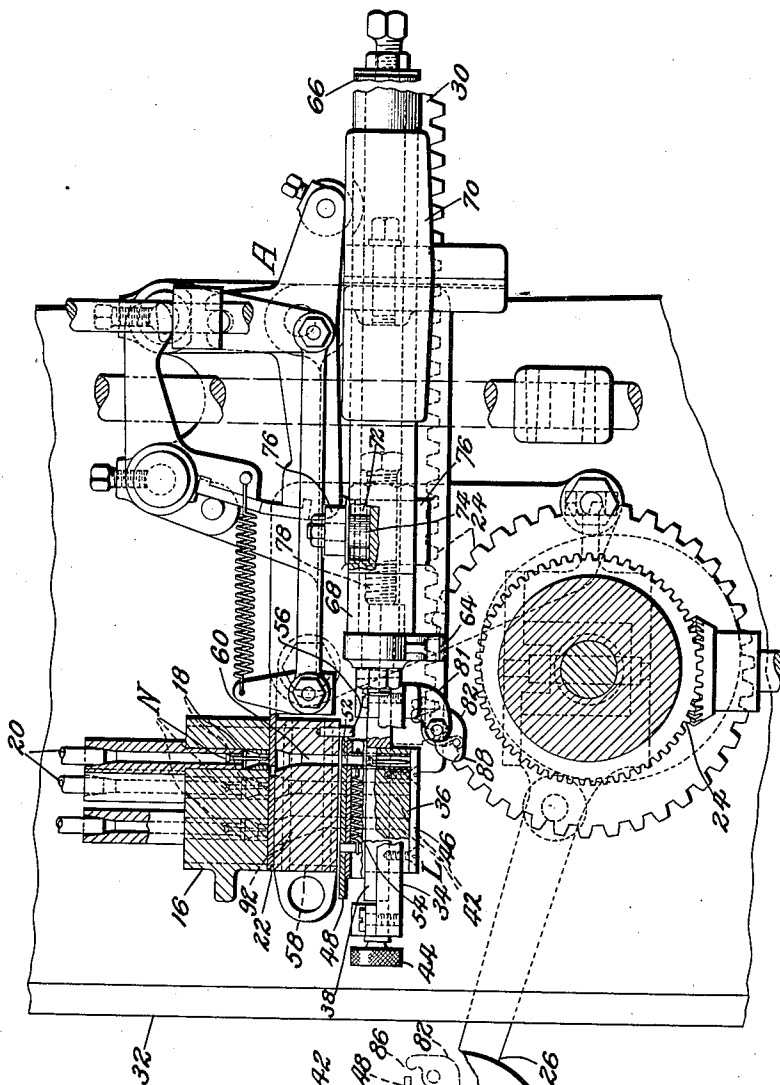
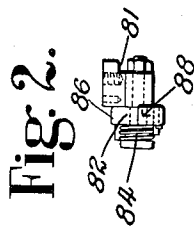
A. COCOZELLA, JR

2,069,217

FASTENING INSERTING APPARATUS

Filed Sept. 11, 1933

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

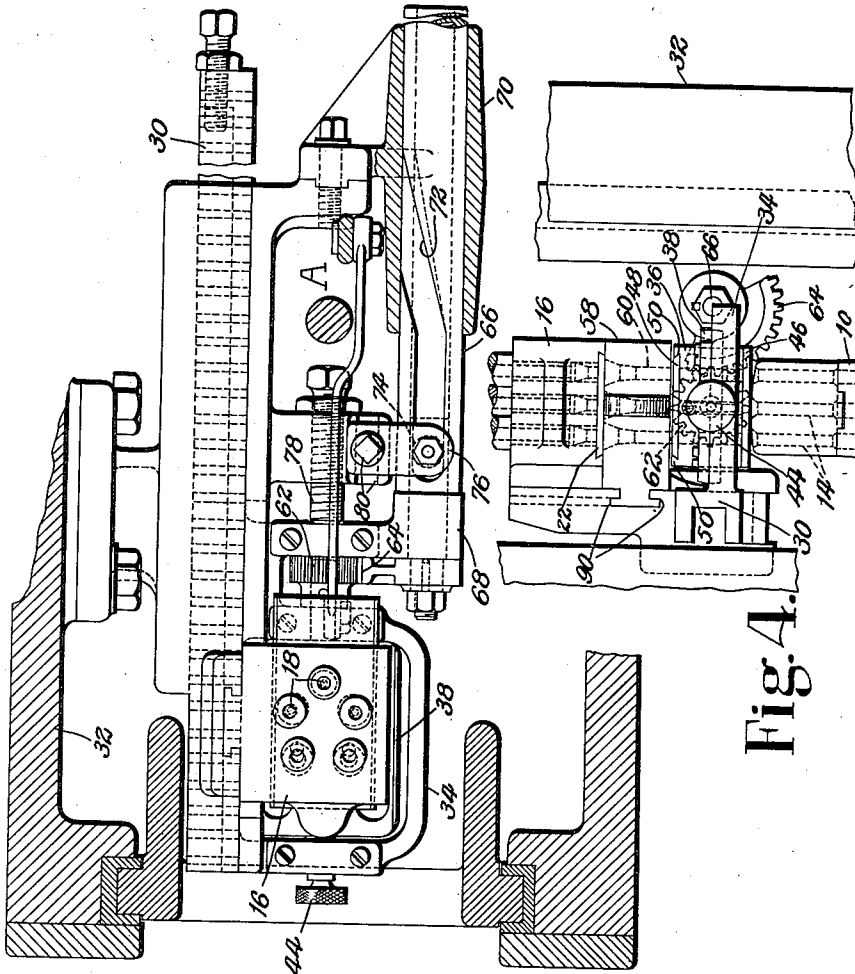


Fig. 4.

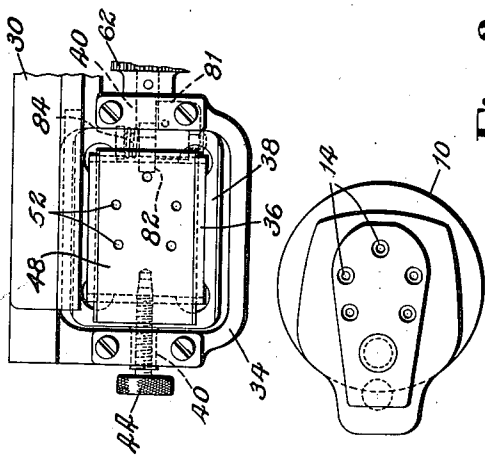


Fig. 3.

Fig. 5.

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UNITED STATES PATENT OFFICE

2,069,217

FASTENING-INSERTING APPARATUS

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Application September 11, 1933, Serial No. 688,884

37 Claims. (Cl. 1—32)

My invention relates to apparatus for inserting fastenings, and more particularly to mechanism for supplying the fastenings to such apparatus.

5 It is a well-known practice in fastening-inserting machines, for example those which are used to attach heels to shoes by nails driven from within said shoes, to advance the nails from a source of supply along slotted raceways of a distributing mechanism hanging by their heads, and then to pick these nails off load by load and invert them at the ends of the raceways, so they may be delivered points-up to the nailing mechanism. Nails are subject to such marked irregularities that it is difficult to obtain reliable inverting means, said nails being especially likely to clog the raceways at the points of contact with the inverting devices. An object of this invention is to effect an inversion of nails or other fastenings in a positive manner not dependent upon characteristics of such fastenings and which minimizes the danger of clogging. In the attainment of this object, I cause the inversion of the fastenings after they have left the distributing mechanism and during their transfer to the nailing or inserting mechanism, as by inverting the member by which they are being carried. In the illustrated embodiment of the invention appears a loader-slide reciprocating to produce the transfer, upon which slide is pivoted a frame by which any one of a set of loader-blocks may be carried. During the movement of the loader-block under the influence of the slide between a nail-receiving position at the distributor and a nail-delivering position at the nailing mechanism, the frame may be rotated, so nails held in passages in the block points-down may be delivered to the nailing mechanism points-up. It will be evident that the presence of fins or other irregularities upon the nails or differences in their weight will be without effect upon such inverting means. The rotation of the loader-block may be produced by a shaft turning upon the loader-slide and connected to the block or its frame, rotation of the shaft being herein shown as produced by a cam-groove formed in it and receiving a relatively fixed member. This groove is preferably provided with end-portions substantially parallel to the axis of the shaft and an intermediate helical portion. This permits the loader-block to both leave and approach the foot-plate of the distributor and the jack of the nailing mechanism without movement of rotation and to turn only while fully clear of the co-operating mechanisms. With the

transferring member or loader-block is associated a nail-retaining member or shutter; and since the nail-holding passages of the block receive and deliver from the same ends, the other extremity having a fixed closure, I provide means for rendering the retaining member ineffective in both extreme positions of the transferring member. The block-passages are thus opened only for the reception and delivery of nails, said nails during their transfer being guarded against displacement by being held in closed chambers. The condition obtains regardless of the inversion of the block. In one direction of its travel with the loader-block, the retaining member or shutter may be actuated by direct contact with an element of the distributor which supplies it, while at the other extremity, when it is moving in the opposite direction, a member traveling with the transferring member may produce this movement by engagement with it and with the nailing mechanism or jack.

As a further object of the invention, I effect the accurate reception of nails or like fastenings by and their delivery from a loader-block, which is one of an interchangeable set each having substantially cylindrical nail-holding passages and which is supplied through a distributor-foot-plate having delivering passages fixed in position. This I accomplish by interposing between the foot-plate and loader-block a guide-block, also one of an interchangeable set and corresponding to the loader-block which is in use, the guide-block having passages receiving nails from the foot-plate-passages and delivering to the loader-block-passages. As herein shown, the guide-block-passages register at their lower extremities with the loader-block-passages, while at the upper ends are flaring throats receiving the nails from the fixed foot-plate-passages. With this arrangement no adjustment at the foot-plate is required when the nailing design is changed; and, particularly with an invertible loader-block, the cylindrical loader-block-passages avoid misdirecting the nails as they leave the block upon delivery to the nailing mechanism. The flared openings of the guide-block-passages, which only receive the nails from the foot-plate-passages, facilitate the entry of nails to the former passages, which, in the guide-blocks for different nailing designs, will be differently inclined as they descend from the fixed foot-plate-passages.

A single embodiment of this invention is illustrated in the accompanying drawings. Here,

Fig. 1 is a broken side elevation of my improved fastening-supplying mechanism, including por-

tions of a nail-distributor, together with the more closely associated portions of a heel-attaching machine;

Fig. 2, a detail in front elevation of the actuating lever for the loader-block-shutter;

Fig. 3, a broken top plan view of the parts shown in Fig. 1;

Fig. 4, a front elevation thereof; and

Fig. 5, a detail of the loader-block and its supporting parts, looking from above.

Generally, the heel-attaching machine and nail-supplying means may be of the same general character as in Letters Patent of the United States No. 1,735,928, Benjamin, December 23, 1930. Of this the jack is shown at 10, it containing nail-drivers 12 reciprocating in passages 14. At 16 appears the foot-plate of the nail-distributor, in which foot-plate passages 18 are arranged in a fixed relation and are supplied in successive loads with nails through tubes 20 which lead downward from the discharge device of the distributor. A movable nail-retaining shutter 22 controls the delivery of nails from the foot-plate-passages. Reciprocatory mechanism 25 L transfers the loads of nails received from the foot-plate-passages and delivers them to the jack-passages. The travel of this loader may be produced, as in the Benjamin patent, by driving mechanism including gearing 24 governed by lever 26 arranged for manipulation by the operator. At A appear certain elements for controlling the distributor and loader. These are more particularly described in Letters Patent of the United States No. 1,947,770, MacKenzie, February 20, 1934. They do not play a direct part in the present invention and will not be further referred to.

Considering the loading mechanism L, a carrier-bar 30 is guided to slide horizontally in the frame 32 of the heel-attaching machine, it being reciprocated by the gearing 24. At its forward extremity it is extended laterally by a yoke 34. Within this yoke is a generally rectangular space to receive a loader-block 36 and its frame or mounting 38. The frame is also generally rectangular and has projecting from its opposite ends trunnions 40, 42 (Fig. 5) by which it is supported for rotation in the yoke about a horizontal axis. The loader-block, which is one of an interchangeable set provided with nail-holding passages 42 arranged in accordance with one of a plurality of nailing designs, fits within the frame 38 so it is definitely located with its passages normally substantially vertical. It may be separably locked in position by a screw 44 threaded through the outer trunnion and entering a recess in any block inserted in the frame. What are normally the lower ends of the passages 42 are permanently closed by a plate 46. Across the upper extremities of the passages moves a nail-retaining shutter 48. As illustrated, this shutter is arranged to slide in ways 50 upon the block (Fig. 4) and has an opening 52 (Fig. 1) for each block-opening 42. The shutter is under the influence of a spring 54 extending between it and the block, which spring, when permitted, carries the shutter-openings out of registration with the block-openings to cause the retention of the nails. In the nail-receiving position of the block beneath the foot-plate, the rear edge of the shutter may contact with a projection 56 depending from a guide-block 58, having nail-delivering-passages 60 respectively communicating with the foot-plate-passages 18. This guide-block will later be described more fully. The engagement

with the projection 56, in the nail-receiving position of the loader-block, shifts the shutter 48 against the tension of its spring to align the shutter-openings with the loader-block-passages when they are beneath the guide-block-passages.

From the position just described, in which nails fall from the distributor points-down into the loader-passages 42 where they rest upon the permanent closure 46, the block is to be inverted so when it reaches the jack 10 the nails will have their points up for delivery to the passages 14. Fast upon the inner trunnion 40 of the frame 38 is a pinion 62, with which meshes a gear-segment 64 secured to a loader-block-actuating shaft 66 journaled in a bearing-arm 68 projecting horizontally from the loader-slide 30. The shaft is also shown as supported by a bearing 70 carried by the frame 32 and through which said shaft may move longitudinally. In the shaft is formed a cam-groove 72, which has at its opposite extremities portions substantially parallel to the axis of the shaft. The intermediate portion, which furnishes the cam proper extends through 90° about the shaft. Lying within the groove is a projection 74 depending from a bracket 76, which may also carry the usual loader-stop-screw 78. The bracket is shown as joined to the frame by a slot-and-screw connection 80, so the timing of the cam 72 may be changed with respect to the rotation of the shaft 66. The gearing 64, 62 has a two-to-one ratio, so rotation of the shaft 66 through 90° turns the loader-block through 180°, as said block travels from its nail-receiving position beneath the foot-plate to its nail-delivering position over the jack. In the last-mentioned relation the shutter 48 is at the under side of the block with the nails resting upon it heads-down.

To release the nails from the block, so they may fall into the jack-passages 14, it will be evident, since the block is now traveling in a direction opposite to that in which it arrived at the foot-plate, that the effect of the shutter-opening-contact at the jack must be reversed as compared with that produced by the projection 56. For this purpose, there is fulcrumed upon a bracket 81 secured to the under side of the loader-yoke 34 a bell-crank-lever 82, which is held by a torsion-spring 84 (Fig. 2) with one arm substantially vertical and a second arm extending in a generally horizontal direction. This is as shown in the right-hand dash-line position in Fig. 1. The vertical arm has a rounded end 86 which may contact with the shutter 48, and the horizontal arm is provided with an inclined surface 88 arranged for contact with the rear of the jack. The inversion of the loader-block during its travel brings the rear edge of the shutter opposite the end 86 of the lever 82. When the block is close to its nail-delivering position over the jack, the surface 88 strikes said jack, turning the lever upon its fulcrum and forcing the end 86 against the shutter to open it against the force of the spring 54, thus allowing the nails to drop from the block-passages into the jack-passages.

To briefly outline the operation of the nail-transferring system, a loader-block 36, selected in accordance with the nail-inserting design to be employed, is secured in the frame 38 by the screw 44 and, at the beginning of an operating cycle, contains in the passages 42 a load of nails N resting with their points upon the closure-plate 46. The shutter 48 is at this time held open by its contact with the projection 56. When the operator desires to deliver the load of nails

to the jack 10, he actuates the lever 26. The driving mechanism, with its gearing 24, thereupon moves forward the slide 30, carrying the loader-block, the shutter of which is closed by the spring 54 as it leaves the projection. After the loader-block and its frame have cleared the guide-block 58, the fixed projection 74, which has been in the forward straight portion of the shaft-groove 72, is received by the helical or cam-portion. This rotates the shaft through 90° and by the gearing 62, 64 turns the loader-block through 180°, so now the shutter 48 is at the bottom of the block and the heads of the nails are resting upon it. Said shutter is opposite the end of the lever 32. Further travel occurs, with the projection in the opposite straight portion of the groove, until the passages in the block are vertically alined with the jack-passages 14. Near the end of its travel, the lever 32 is swung in an anti-clockwise direction (see the dash-line positions in Fig. 1), by its engagement with the jack, and contacting with the shutter opens this, releasing the nails so they enter the jack-passages points-up ready for driving. The slide then travels rearwardly, the retreat of the lever 32 from the jack allowing the spring 54 to close the shutter. The loader-block is restored to its original position by the groove 72, and upon arrival beneath the guide-block 58 the shutter is opened by the projection 56 to receive from the distributor another load of nails. It will be apparent that with this relatively simple arrangement, the nail-inverting force applied is of a character which no nail, however irregular, can resist, and that there is nothing which is likely to obstruct the paths of the nails and cause clogging. An uninterrupted supply to the jack is thus assured. During the travel of the loader-block, the plate 46 and the shutter 48 completely close the ends of the block-passages 42. These passages are thus transformed into closed chambers in which the nails are securely held against displacement. Therefore, no shock which the loader-block sustains, as when it is stopped at the jack, can throw the nails from the block. Faulty delivery is thus guarded against.

It is customary, in heel-attaching machines of the character of that disclosed in the Benjamin patent, to employ an unvarying arrangement of foot-plate-passages and to form the nail-receiving openings of the loader-block-passages with flaring or inclined throats of sufficient area and so located for all nailing designs that delivery to them may be made from the fixed foot-plate-openings. With my invertible loader-block this not entirely satisfactory. The loader-block-passages with such expanded throats will receive the nails properly as in previous organization, but upon inversion of the block each throat may prevent a larger area than the jack-passage to which it delivers and may allow the contained nail to be deflected to one side and contact with the jack-top, so that it fails to enter the passage. This difficulty I avoid by placing between the foot-plate-shutter 22 and the loader-block-shutter 48 the previously-mentioned guide-block 58. This I have shown as removably supported in ways 90 upon the frame 32 (Fig. 4), there being a set of the guide-blocks corresponding to the set of loader-blocks. The lower delivering throats of the guide-block-passages 60 are cylindrical, as the loader-block-passages 42 preferably are throughout, so these passages for all designs may be located in accurate registration. Similarly, these cylindrical

passages 42, when the loader-block is inverted and they are over the throats of the jack-passages 14 which are usually somewhat flared, will so register that unfailing delivery is assured. The upper extremities or throats 92 of the guide-block-passages are flared and inclined in the same manner as are the usual loader-block-passages, so all the interchangeable guide-blocks will properly receive nails from the foot-plate-passages without change in the latter.

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

1. In a machine for inserting fastenings, fastening-inserting mechanism, fastening-supplying mechanism, bodily movable means for transferring fastenings from the supplying mechanism to the inserting mechanism, and means for inverting the fastenings during their transfer.

2. In a machine for inserting fastenings, fastening-inserting mechanism, fastening-supplying mechanism, a movable transferring member receiving fastenings from the supplying mechanism and delivering them to the inserting mechanism, and means for inverting the transferring member during its movement.

3. In a machine for inserting fastenings, fastening-inserting mechanism, fastening-supplying mechanism, a movable transferring member receiving fastenings from the supplying mechanism and delivering them to the inserting mechanism, a nail-retaining member associated with the transferring member, and means for rendering the retaining member ineffective in both the receiving and delivering positions of the transferring member.

4. In a machine for inserting fastenings, fastening-inserting mechanism, a fastening-distributor having fastening-delivering passages, and means acting upon the fastenings while they are between the delivery-openings of the passages and the inserting mechanism for inverting said fastenings.

5. In a machine for inserting fastenings, fastening-inserting mechanism, fastening-supplying mechanism, a traveling carrier, a fastening-holding member movable upon the carrier during travel between the two mechanisms, and means for moving the holding member upon the carrier during the travel thereof.

6. In a machine for inserting fastenings, fastening-inserting mechanism, fastening-supplying mechanism, a traveling carrier, a fastening-holding member movable upon the carrier during travel between the two mechanisms, and an actuating member for the holding member traveling with the carrier.

7. In a machine for inserting fastenings, fastening-inserting mechanism, fastening-supplying mechanism, a traveling carrier, a fastening-holding member movable upon the carrier during travel between the two mechanisms, an actuating member for the holding member movable with and upon the carrier, and a relatively fixed member engaging the actuating member to cause its movement upon the carrier.

8. In a machine for inserting fastenings, fastening-inserting mechanism, a distributor having means for delivering fastenings in successive groups points-down, and means for receiving fastenings from the distributor and delivering them points-up to the inserting mechanism.

9. In a nailing machine, a jack provided with nail-receiving passages, a loader movable toward

and from the jack, a loader-block having nail-holding passages and being rotatable upon the loader, and means made effective during the movement of the loader for rotating the block.

5 10. In a nailing machine, a jack provided with nail-receiving passages, a loader movable toward and from the jack, a loader-block having nail-holding passages which are normally substantially vertical and closed at their lower extremities, said block being rotatable upon the loader, 10 and means for rotating the block through substantially 180°.

11. In a nailing machine, a jack provided with nail-receiving passages, a loader movable toward 15 and from the jack, a loader-block having nail-holding passages which are normally substantially vertical and closed at their lower extremities, said block being rotatable upon the loader, and a shutter associated with extremities of the 20 passages opposite those which are closed.

12. In a nailing machine, a jack provided with nail-receiving passages, a loader movable toward 25 and from the jack, a loader-block having nail-holding passages which are normally substantially vertical and closed at their lower extremities, said block being rotatable upon the loader, a shutter associated with extremities of the passages opposite those which are closed, and means 30 for operating the shutter at the opposite extremes of travel of the loader.

13. In a heel-attaching machine, a reciprocatory loader-slide, a frame pivoted on the slide, a loader-block mounted in the frame, and means 35 for rotating the frame.

14. In a heel-attaching machine, a reciprocatory loader-slide, a frame having trunnions rotatable in the slide, a loader-block separably 40 mounted in the frame, a screw threaded through one of the trunnions and engaging the loader-block in the frame, and means for rotating the frame.

15. In a heel-attaching machine, a reciprocatory loader-slide, a loader-block rotatable thereon, and a member fixed relatively to the slide 45 and co-operating with the block to rotate it.

16. In a heel-attaching machine, a reciprocatory loader-slide, a loader-block rotatable thereon, an actuating shaft for the block provided 50 with a cam-groove and being rotatable upon the slide, and a projection fixed relatively to the slide and extending into the groove.

17. In a heel-attaching machine, a reciprocatory loader-slide, a frame pivoted on the slide, a 55 loader-block mounted in the frame, a shaft rotatable upon the slide, gearing connecting the shaft and frame, and means for rotating the shaft.

18. In a heel-attaching machine, a nail-distributor, nailing mechanism, a rotatable loader-block movable between the distributor and the 60 nailing mechanism, and means for retaining the block against rotation while it is adjacent to the distributor and nailing mechanism and for rotating said block during the intermediate portion 65 of its travel.

19. In a heel-attaching machine, a nail-distributor, nailing mechanism, a reciprocatory 70 slide, a loader-block rotatable upon the slide and movable thereby between the distributor and the nailing mechanism, a shaft rotatable upon the slide and connected to the block, said shaft being provided with a groove having end-portions 75 substantially parallel to the axis of the shaft and an intermediate helical portion, and a pro-

jection fixed relatively to the shaft and extending into the groove.

20. In a heel-attaching machine, a nail-distributor, nailing mechanism, a loader-block rotatable upon the slide and movable thereby between the distributor and the nailing mechanism, 5 a shaft rotatable upon the slide and connected to the block, said shaft being provided with a groove having end-portions substantially parallel to the axis of the shaft and an intermediate helical portion, and a projection fixed relatively to the shaft 10 and extending into the groove, the projection lying in the helical portion of the groove only when the block is clear of the distributor and nailing mechanism. 15

21. In a fastening-inserting machine, an invertible traveling transferring member having fastening-holding passages, and a fastening-retaining member inverted with the transferring member and movable thereon to open and close 20 the passages.

22. In a nailing machine, a loader-block movable between nail-receiving and nail-delivering positions and provided with nail-chambers closed 25 against the escape of nails in all directions during the movement, and means arranged to open the chambers for the reception and delivery of the nails.

23. In a nailing machine, a nail-distributor, a jack provided with nail-holding passages, a movable loader, a loader-block presented by the loader 30 to the distributor and jack and provided with nail-passages, means for closing each passage at both its extremities, and means for opening the passages only when the block is at the distributor or jack. 35

24. In a fastening-inserting machine, a rotatable traveling transferring member having fastening-holding passages, a fixed closure for one end of the passages, and a movable closure 40 for the opposite end of the passages.

25. In a fastening-inserting machine, a rotatable traveling transferring member having fastening-holding passages, a fastening-retaining member movable at one end of the passages, 45 and means for moving the retaining member to free the passages at the opposite extremes of travel of the transferring member.

26. In a fastening-inserting machine, a rotatable traveling transferring member having 50 fastening-holding passages, a fastening-retaining member movable at one end of the passages, a relatively fixed member with which the retaining member contacts at one extremity of its travel to open the passages, and a member traveling 55 with the transferring member and movable thereon in contact with the retaining member to open the passages at the opposite extreme travel.

27. In a nailing machine, a movable loader, a frame rotatable thereon about a horizontal axis, 60 a loader-block separable from the frame and having nail-holding passages, and a nail-retaining shutter movable upon the block.

28. In a nailing machine, a movable loader, a frame rotatable thereon, a loader-block separable 65 from the frame and having nail-holding passages, and a plate fixed to one side of the block to permanently close the passage-openings.

29. In a nailing machine, a loader-slide, a frame rotatable thereon, a loader-block separable 70 from the frame and having nail-holding passages, a plate fixed to one side of the block to permanently close the passage-openings, and a shutter provided with openings, said shutter being movable upon the block at the side opposite 75

the plate to carry the openings into and out of alinement with the passages.

30. In a nailing machine, a movable loader, a loader-block rotatable thereon and having nail-holding passages, a nail-retaining shutter movable upon the block, and a lever fulcrumed upon the loader for engagement with the shutter.

31. In a heel-attaching machine, a nail-distributor, a jack provided with nail-receiving passages, a reciprocatory slide, a frame rotatable upon the slide, a loader-block carried by the frame and having nail-holding passages, said loader-block being movable from a nail-receiving position at the distributor to a nail-delivering position at the jack, a shutter slidable upon the loader-block and having openings carried into and out of alinement with the block-passages, a spring holding the shutter normally closed, and contact elements at the distributor and jack for opening the shutter.

32. In a heel-attaching machine, a nail-distributor, a jack provided with nail-receiving passages, a reciprocatory slide, a frame rotatable upon the slide, a loader-block carried by the frame and having nail-holding passages, said loader-block being movable from a nail-receiving position at the distributor to a nail-delivering position at the jack, a shutter slidable upon the loader-block and having openings carried into and out of alinement with the block-passages, a spring holding the shutter normally closed, said shutter being opened by contact with an element at the distributor, and a member movable upon the slide and engaging the jack to open the shutter.

33. In a heel-attaching machine, a nail-distributor, a jack provided with nail-receiving passages, a reciprocatory slide, a frame rotatable upon the slide, a loader-block carried by the frame and having nail-holding passages, said loader-block being movable from a nail-receiving position at the distributor to a nail-delivering position at the jack, means for inverting the frame and block upon the slide during the travel, a shutter slidable upon the loader-block and having openings carried into and out of alinement with the block-passages, a spring holding the shutter normally closed, said shutter being opened by contact with an element at the distributor, and a lever fulcrumed upon the slide, one end of said lever being carried against the jack in the forward movement of the slide and the opposite end contacting with the shutter in the inverted position of the loader-block and frame.

34. In a nail-supplying mechanism, a foot-plate having passages fixed in position and through which nails are delivered, a movable loader, a loader-block separably carried by the loader and being one of a set, each provided with

nail-holding passages corresponding to one of a plurality of nailing designs, said passages being substantially cylindrical, and a guide-block separably mounted between the foot-plate and loader-block, there being a guide-block corresponding to each loader-block, the selected guide-block having passages receiving nails from the foot-plate-passages and delivering them to the loader-block-passages.

35. In a nail-supplying mechanism, a foot-plate having passages fixed in position and through which nails are delivered, a movable loader, a loader-block separably carried by the loader and being one of a set, each provided with nail-holding passages corresponding to one of a plurality of nailing designs, said passages being substantially cylindrical, and a guide-block separably mounted between the foot-plate and loader-block, there being a guide-block corresponding to each loader-block, the selected guide-block having passages the lower extremities of which register with the passages of the loader-block which is in use while the upper extremities have flaring throats receiving nails from the fixed foot-plate-passages.

36. In a nail-supplying mechanism, a foot-plate having passages fixed in position and through which nails are delivered, a movable loader, a loader-block separably carried by the loader and being one of a set, each provided with nail-holding passages corresponding to one of a plurality of nailing designs, said passages being substantially cylindrical and closed at one extremity, means for inverting the loader-block upon the loader to cause the passages to both receive and deliver nails through the open extremities, and a guide-block separably mounted between the foot-plate and loader-block, there being a guide-block corresponding to each loader-block.

37. In a nail-supplying mechanism, a foot-plate having passages fixed in position and through which nails are delivered, a movable loader, a loader-block separably carried by the loader and being one of a set, each provided with nail-holding passages corresponding to one of a plurality of nailing designs, said passages being substantially cylindrical and closed at one extremity, means for inverting the loader-block upon the loader to cause the passages to both receive and deliver nails through the open extremities, and a guide-block separably mounted between the foot-plate and loader-block, there being a guide-block corresponding to each loader-block, the selected guide-block having passages the lower extremities of which register with the passages of the loader-block which is in use, while the upper extremities have flaring throats receiving nails from the fixed foot-plate-passages.

ANTHONY COCOZELLA, JR.

CERTIFICATE OF CORRECTION.

Patent No. 2,069,217.

February 2, 1937.

ANTHONY COCOZELLA, JR.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 3, first column, line 56, after the word "this" insert is; line 60, for "prevent" read present; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 23rd day of March, A. D. 1937.

(Seal)

Henry Van Arsdale
Acting Commissioner of Patents.