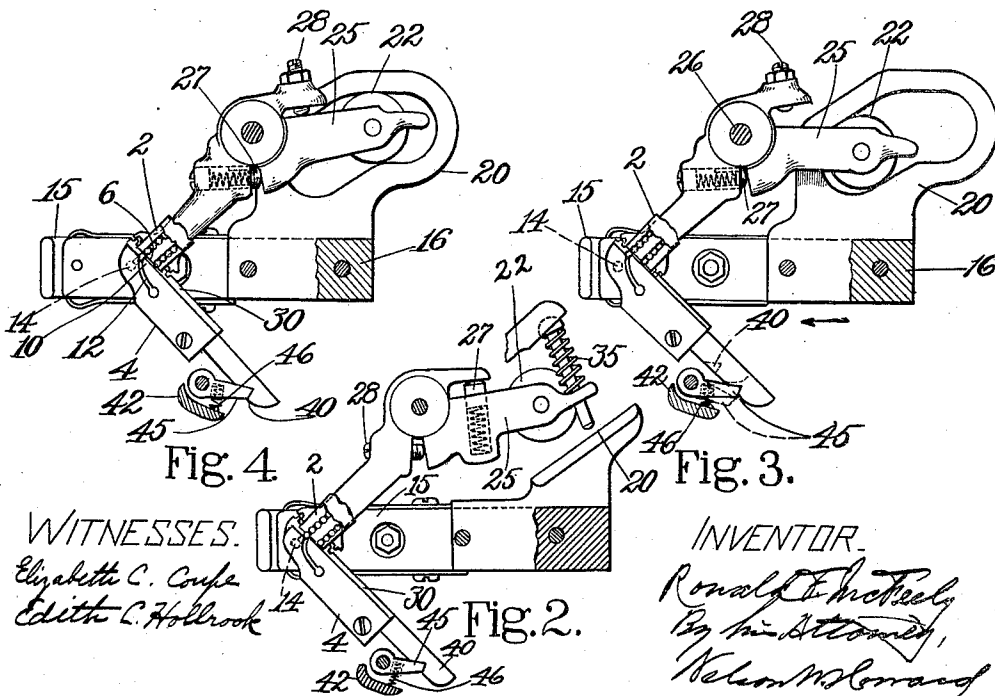
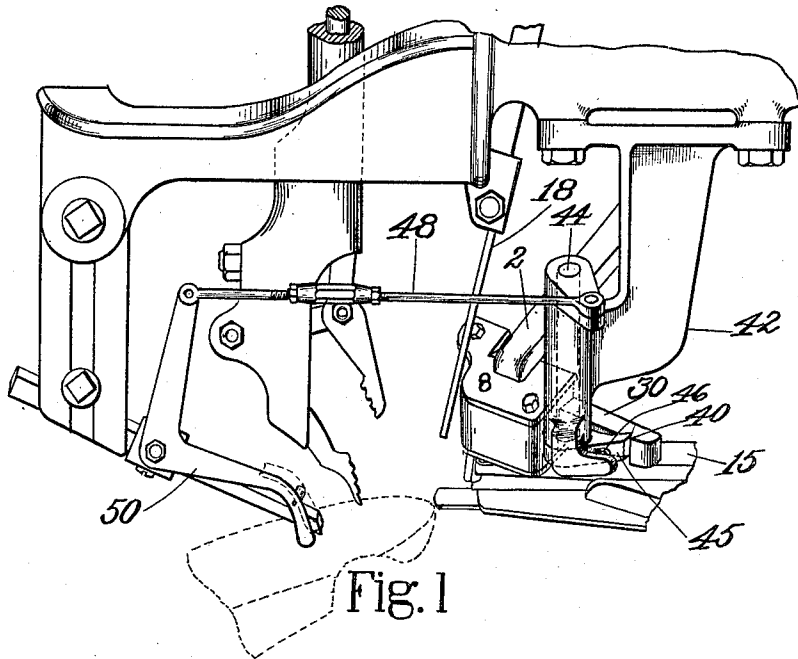


R. F. McFEELY.
TACK FEEDING MECHANISM.
APPLICATION FILED MAY 16, 1908.

1,030,315.

Patented June 25, 1912.



WITNESSES.
Elizabeth C. Cook
Edith C. Holbrook

INVENTOR.
Ronald F. McFeely
By his Attorney,
Helen M. Leonard

UNITED STATES PATENT OFFICE.

RONALD F. McFEELY, OF BEVERLY, MASSACHUSETTS, ASSIGNOR TO UNITED SHOE MACHINERY COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

TACK-FEEDING MECHANISM.

1,030,315.

Specification of Letters Patent.

Patented June 25, 1912.

Application filed May 16, 1908. Serial No. 433,274.

To all whom it may concern:

Be it known that I, RONALD F. McFEELY, a citizen of the United States, residing at Beverly, in the county of Essex and Commonwealth of Massachusetts, have invented certain Improvements in Tack-Feeding Mechanisms, 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 machines for inserting fastenings and particularly to mechanism for feeding the fastenings.

The invention is herein shown as embodied in the tack-supplying and feeding mechanism of a lasting machine of the type illustrated in United States Letters Patent No. 584,744.

An object of this invention is to provide improved means for controlling the feeding of tacks whereby delivery of tacks can be suspended while the machine continues in operation.

An important feature of this invention consists in means adapted to be rendered operative by the machine operator for stopping the delivery of tacks while the mechanism for actuating the tack-delivering devices continue in operation. To this end I connect the tack-delivering device with its actuating mechanism by means including a yielding element and arrange means which is adapted to be manipulated for modifying the movement of the delivering device. In the preferred construction the movement of the delivering device is entirely suspended by a latch which is adapted to be moved into and out of operative position, the movement of the actuating mechanism being taken up by the yielding element when the latch is in its operative position. Preferably also the latch will be connected with operating devices which extend into position to be engaged by the shoe as it is presented in tack-receiving position, whereby the latch is set by the shoe to permit the delivery of tacks while a shoe is in position to receive them and is set to stop the delivery of tacks when a shoe is removed.

A valuable characteristic of this invention is found in the fact that the latch is arranged to stop the delivering device in its next delivering movement after the shoe is withdrawn whereby no tack will be wasted

by being driven when no shoe is in position to receive the tack.

Another very desirable characteristic of the preferred construction is that the latch arrests the movement of the delivering device at a point in its operation when it has a tack in charge and is about to deliver it so that after the latch is withdrawn by the re-presentation of the work the delivering device can discharge a tack at its next forward movement. In the arrangement shown the yielding element referred to is put under compression during the movement of the actuating mechanism in its back stroke and expands to produce the forward movement to deliver the tack. The latch is arranged to lock the delivering device with said yielding element under tension while the actuating mechanism continues to reciprocate. When the latch is withdrawn said yielding element can at once actuate the delivering device to discharge a tack without necessarily waiting for the usual actuating mechanism to operate in its regular time.

The several features of the invention, including certain details of construction and combinations of parts, will be more fully explained in connection with the following description of a preferred embodiment of the invention and will then be pointed out in the claims.

Figure 1 is a side view. Fig. 2 is a plan view, partly in section. Figs. 3 and 4 are modifications.

The machine comprises a raceway 2 having one or more grooves through which tacks are supplied to the separating and delivering devices, which, as herein shown, comprise a separating blade 4 and a delivering plate 6 movable between the end of the raceway and the delivering table 8. The separating blade is arranged to pass between the shank of the end track and the next tack in the groove that is feeding the tacks while the delivering plate has a pointed finger 10 that engages the end tack at or near its head and wedges the tack along the oblique slot 12 over the delivering table toward the discharge opening 14 in the table. From this opening the tack falls into the tack and driver passage of the reciprocating tack block 15 which has suitable fingers for suspending the tack in the passage. The tack block is attached to the slide 16 which by suitable mechanism, not herein shown, is

reciprocated forwardly from the tack-receiving position of the block under the delivering table to a position over the work and under the driver 18.

5 A cam plate 20 is secured between the slide 16 and the tack block 15 for reciprocatory movement therewith and engages a roll 22 on a lever 25, which comprises two members pivoted at 26 and held yieldingly
10 in a predetermined relation by a spring plunger 27 and an adjusting screw 28. The plunger forms provision for the lever to yield, to prevent breakage, in the direction in which it is rocked in an otherwise un-
15 yielding manner by the cam plate 20 as the tack block advances from its tack-receiving position. The lever 25 has toothed engagement with a rack bar 30 to which the separating and delivering devices 4 and 6 are at-
20 tached and in the described movement of the lever and the tack block said devices are moved toward the right into position to permit the end tack to slide past the separating blade into the delivering plate ready to be
25 carried by the latter over the delivering table to the discharge opening 14 by the reverse movement of said devices and the lever. This reverse movement is effected by a spring
30 35 which is arranged in Fig. 2 to press the roll 22 toward and against the cam plate and is put under tension by the cam plate in the forward movement of the latter. During the rearward movement of the cam
35 plate and the tack block, in which the latter returns to tack-receiving position, the spring 35 yieldingly actuates the tack-feeding devices to feed a tack and deliver it to the tack block.

In Figs. 3 and 4 a cam plate 20 having
40 a closed slot is shown and the spring plunger 27 and the adjusting screw 28 are transposed.

A projection from the right-hand end of the rack bar 30 has on its front side a
45 shoulder 40 and mounted in a bracket 42 is a rock shaft 44 which carries a latch 45. This latch is arranged to engage the shoulder 40 and lock the rack bar and the parts connected with it from movement by the
50 spring 35 or the plunger 27 to deliver and discharge the tack which is suspended in the delivering plate at the time said movement is about to take place. A spring 46
55 presses the latch normally toward locking engagement with the shoulder 40 and the upper arm of the rock shaft is connected by a rod 48 with an operating device 50. This operating device is shown as pivoted on the
60 bottom rest against which the sole of the shoe being operated upon is upheld and said device is formed as an angle lever having an arm or foot which projects below the bottom rest into a position where it necessarily is engaged by the shoe in presenting
65 the latter in position to receive a tack. By

this arrangement the latch is always withdrawn from locking position during the movement of the shoe into working position and the withdrawal of the latch will, it should be understood, immediately permit
70 the spring 35 or 27 to act for delivering a tack to the tack block. This provides that a tack will be delivered to the tack block and presented by said block for driving in the same cycle of the machine's operation in
75 which the shoe is presented in tack receiving position so that no time is lost in waiting to get a tack after presenting the shoe. Also it will be observed that the withdrawal of the shoe from tack-receiving position permits the spring 46 to act instantly
80 to throw the latch into position to stop the delivering devices with the next separated tack ready to be delivered. Thus no tacks are wasted by being driven after the shoe
85 has been removed.

As has been indicated, the invention may be used with advantage in a lasting machine. Such machines usually comprise
90 numerous other instrumentalities besides the tack mechanism and the machine as a whole will, as is usual, be connected with suitable starting and stopping mechanism. The provision of the independent means for start-
95 ing and suspending the delivery of tacks according to the position of the work prevents the waste of tacks when the operator withdraws the shoe for one reason or another, as often occurs, without stopping the
100 machine.

Having explained the nature of this invention and described a preferred construction embodying the same, I claim as new and desire to secure by Letters Patent of
105 the United States:

1. In a machine of the class described, the combination with tack separating and delivering devices and means for actuating said devices to feed a plurality of tacks in un-
110 interrupted succession during continued operation of the machine, of means under control of the operator for interrupting the delivery of tacks with a tack in the separating devices without interrupting the operative
115 connection of the actuating mechanism with said devices.

2. In a machine of the class described, the combination with a raceway, tack delivering devices including a tack separator, and means for actuating said devices, of means
120 controlled by the position of the work for locking the delivering devices with the separator in tack receiving relation to the raceway and a tack therein ready to be delivered when the devices are unlocked.
125

3. In a machine of the class described, the combination with tack separating devices, of actuating means therefor including a yielding element which moves a member of the
130 separating devices in the direction to effect

the separation of the tacks, and a latch arranged to be positioned for preventing that operation of the said devices which is normally effected by said yielding element.

5 4. In a machine of the class described, the combination with tack delivering devices, of means for actuating said devices in one direction, means for yieldingly actuating said devices in another direction, and means arranged to be engaged by the work to control the movement of said devices by the yielding means.

5 5. In a machine of the class described, the combination with the tack delivering devices 15 6, 4, 40, the spring 35 for actuating said devices in one direction, means for reversely actuating said devices, the swinging latch 45, the spring 46 arranged to swing the latch 45 into locking engagement with the shoulder 40 substantially as described, and the controlling device 50 arranged to be engaged by the shoe for withdrawing the latch from holding relation to the shoulder 40.

25 6. In a machine of the class described, the combination with a raceway, tack delivering devices including a tack separator, a spring, and means acting through said spring for actuating said devices, of means, controlled by the position of the work, for locking the delivering devices with the separator in tack receiving relation to the raceway with a tack therein ready to be delivered when the devices are unlocked.

35 7. In a lasting machine, the combination of a driver; a tack holder; and tack feeding devices comprising a tack raceway and tack separator, said separator being movable in opposite directions to feed the tacks separately from the raceway to the tack holder, an operating device movable back and forth to operate said separator, a spring located between the latter and said operating device to be compressed by the device and by its ex-

pansion to actuate the separator to effect delivery of a tack, a locking device having an abutment, means for normally holding said abutment in the path of movement of said separator to prevent expansion of said spring for effecting separation of a tack, and an arm connected to said locking device and disposed to be engaged by the shoe to move said abutment out of engaging relation to the separator when the shoe is placed in position to be lasted.

8. A machine of the class described having, in combination, a tack driver, a reciprocating tack carrier, a tack raceway, a tack separator, a two part lever the members of which are yieldingly connected and one of which members has operative connection with the separator to reciprocate it, a cam on the carrier to engage the other member of the lever for moving the lever in one direction, a spring to return the lever, and means arranged to be controlled by the shoe as the shoe is moved out of tack receiving position to lock the separator in its tack receiving relation to the raceway.

9. A machine of the class described having, in combination, a tack driver, a reciprocating tack carrier, a tack raceway, a tack separator, connections from the carrier to the separator to reciprocate the separator between receiving relation to the raceway and delivering relation to the carrier, and means controlled by the work to stop the separator in receiving relation to the raceway.

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

RONALD F. McFEELY.

Witnesses:

CHARLES H. HOYT,
ARTHUR L. RUSSELL.