

No. 667,279.

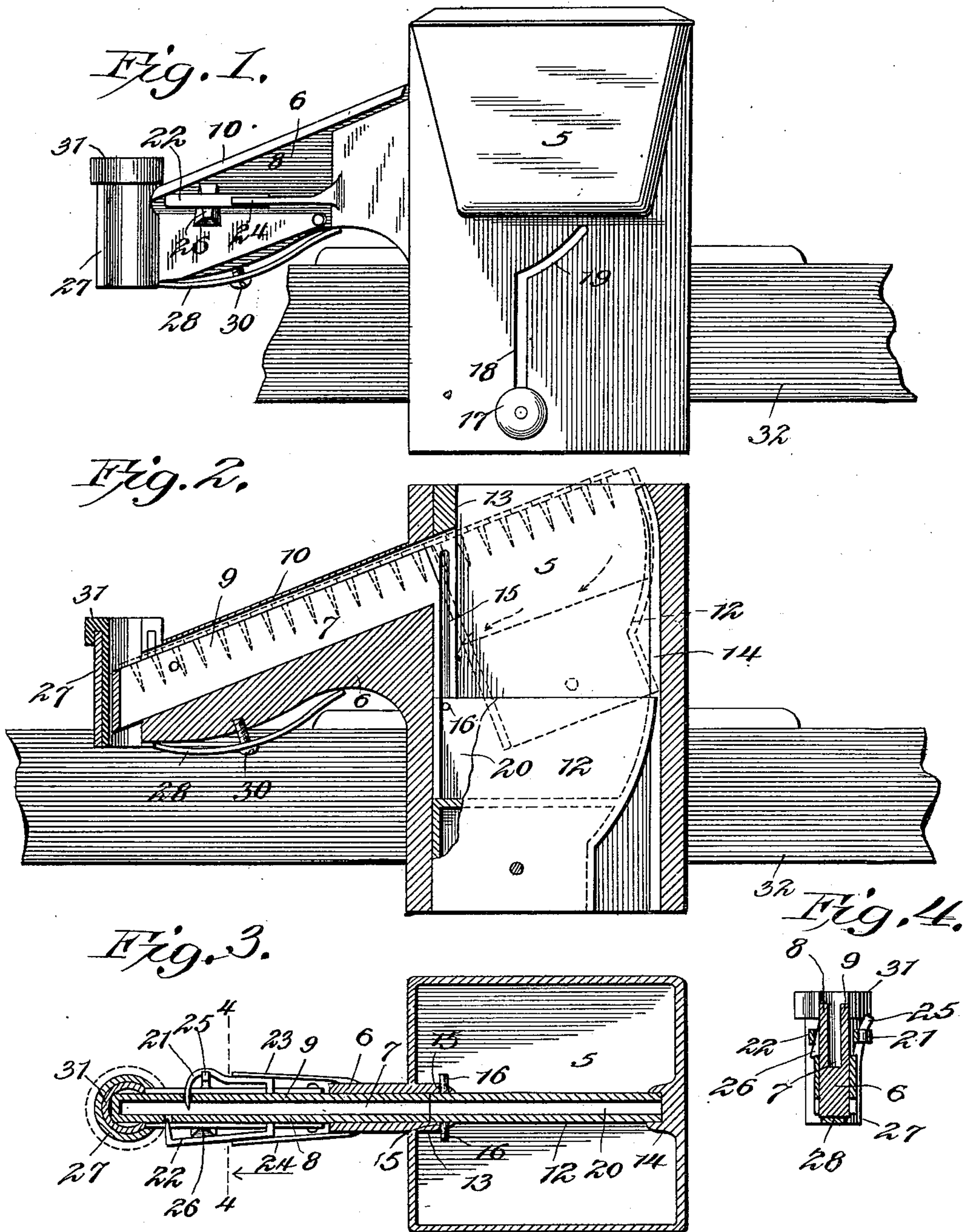
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J. H. YEAKEY.

AUTOMATIC TACK AND LATH NAIL MACHINE.

(Application filed May 5, 1898.)

(No Model.)



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN HENRY YEAKEY, OF REDDING, CALIFORNIA.

AUTOMATIC TACK AND LATH-NAIL MACHINE.

SPECIFICATION forming part of Letters Patent No. 667,279, dated February 5, 1901.

Application filed May 5, 1898. Serial No. 679,870. (No model.)

To all whom it may concern:

Be it known that I, JOHN HENRY YEAKEY, a citizen of the United States, residing at Redding, in the county of Shasta, State of California, have invented a new and useful Tack and Lath-Nail Machine, of which the following is a specification.

This invention relates to tack or nail carrying machines, and it has specific reference to devices for carrying a number of nails or tacks in a convenient position for successive use by a mechanic, the tacks or nails being discharged successively to a receiver, from which they are taken one by one by the operator.

The object of the invention is to provide a construction in which the tacks or nails may be easily and quickly placed from the hopper to the feed tube or slot and may be then discharged to the receiver by manipulation of a magnetized hammer which when withdrawn from the receiver will raise a tack or nail therefrom.

Further objects and advantages of the invention will be evident from the following description and include means for discharging slivers or headless nails or tacks from the carrier.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a side elevation showing the apparatus and a portion of its carrying-belt. Fig. 2 is a vertical longitudinal section of the apparatus, the discharging position of the carrier being indicated in dotted lines. Fig. 3 is a section taken longitudinally of the feed-chute. Fig. 4 is a section on line 4 4 of Fig. 3 and showing the correlative shapes of the feed-operating cams.

Referring now to the drawings, the present apparatus comprises a casing including a preferably rectangular hopper 5, from one side of which leads an arm 6, having a longitudinal slot 7 therein, said slot communicating with the hopper at the upper end thereof.

In the slot 7 is disposed a feed-chute comprising parallel plates 8 and 9, which are connected at their outer ends, this chute being slanted, with its outer end below its inner end, so that tacks or nails that may be supplied thereto with their tails between the plates 8

and 9 and their heads resting upon the upper edges of said plates may slide freely down the plates to rest with the lowermost nail or tack against the connection of the outer ends of the plates. The chute has a covering-plate 10, which is disposed above the plates 8 and 9 and is separated therefrom by an interspace sufficient to receive the heads of the nails or tacks, as shown in Fig. 2 of the drawings, the edges of the plate 10 being bent downwardly and then inwardly and connected with plates 8 and 9.

In order to feed the nails or tacks from the hopper to the chute, a carrier is provided. This carrier (shown at 12) consists of a plate the upper end of which is of a length to reach entirely across the hopper and engage slidably between beads 13 and 14, formed upon the inner faces of the front and rear of the hopper, as shown. Said carrier also engages slidably a slot in the bottom of the hopper, and the lower end of the carrier is reduced in length, so that after said carrier has been raised vertically to the proper extent in its operation its rear portion may be tilted upwardly for a purpose hereinafter explained.

Guide-slots 15 are formed in the beads 13, and with these slots are engaged pins 16 upon the carrier, the slots being of such length that when said carrier is raised to bring its upper end to the height of the upper end of the chute the guide-pins will strike the upper ends of the guide-slots, and further upward movement of the forward portion of the carrier will be arrested. At the same time, however, the rear portion of the carrier may be raised to tilt the carrier and cause its upper edge to lie in the plane of the upper edge of the chute. To thus raise and lower the carrier, a knob 17 is engaged with the carrier, and the stem thereof passes through a slot in the side of the casing, this slot comprising a lower vertical portion 18 and an upper arc-shaped portion 19, corresponding to the vertical and tilting movements of the carrier. When the carrier is in its lowermost position, its upper edge lies flush with the bottom of the hopper, and in this upper edge of the carrier is formed a slot 20, extending from the front to the rear of the carrier and being continued downwardly for about one-half the depth of the carrier, the width of the slot or

groove being such as to readily admit the tails of tacks or nails and to exclude the heads thereof, so that the tails will fall into the slot or groove and the heads will rest upon the upper end or edge of the carrier. Thus if the carrier be raised from its lower position the tacks or nails that have their tails engaged will be raised, and when the carrier is tilted they will be discharged therefrom and into the chute, down which they will slide into position to be removed.

Slivers or headless nails or tacks will drop entirely into the groove of the carrier and will lie upon the bottom thereof, and as the carrier is tilted they will be discharged from the front end of the groove into the space between the beads 13 and down through the slot in the bottom of the hopper. Thus only the good will be discharged to the chute.

The covering-plate 10, as shown, terminates short of the forward end of the chute, so that the head of one tack may be exposed, and to permit the tacks or nails to successively assume this position a feed mechanism is provided and is formed and disposed for operation by the magnetized hammer, with which the tacks or nails are lifted from the receiver at the lower end of the chute. This feed mechanism consists of two bent fingers 21 and 22, disposed at opposite sides of the chute, the finger 21 being slightly nearer to the hopper than is the finger 22, and the extremities of these fingers are passed transversely into openings in the sides of the chute. The rear ends of the fingers are pivoted upon the plates 8 and 9, and they are held yieldably to normally project their extremities across the inclosure of the chute by means of spring-plates 23 and 24, which are secured to the arm 6. The arms or fingers 21 and 22 are adapted to be moved to draw their extremities alternately from the slot of the chute by means of cams 25 and 26, which are forced under them. These cams are carried by the arms of a longitudinally-slotted tube 27, the extremities of the arms being pivoted to the outer faces of the plates 8 and 9. The cams are wedge-shaped and are reversely disposed, so that when the arms of tube 27 move upwardly cam 26 will enter under finger 22 to draw it outwardly, and at the same time cam 25 will move from under finger 21 to permit its spring to force its extremity into the chute. When the tube 27 is moved downwardly, cam 25 engages and moves finger 21 outwardly, and at the same time cam 26 is moved from under the finger 22, so that its spring may project it into the chute. As the tacks or nails pass down the chute finger 21 first stops the foremost nail, and when the tube 27 is moved downwardly the tack or nail is released and stops against the finger 22, which is moved inwardly. When the tube then rises, finger 22 releases the tack or nail, which then passes from under the cover-plate 10 to the end of the chute.

The split tube 27 receives the end of the

chute, as shown, so that the tack or nail at the end of the chute lies within the inclosure of the tube, and the tube is held normally at the upper limit of its movement by means of a spring-finger 28, which is of bow shape and rests with one end against the lower side of the chute and with its opposite end against the lower edges of the arms of the tube 27. A screw 30 is engaged with the spring midway of its ends and is engaged with the chute to vary the tension of the spring.

The plate 10 is of non-magnetic material, as are also the plates 8 and 9, so that in extracting the tacks from the tube 27 with a magnetized body they may be freely withdrawn, and the tube 27 is provided with a cap and lining 31 of similar material.

In connection with this apparatus there is used a magnetized hammer, and when a tack or nail is to be extracted the face of the hammer is brought against the cap of the tube 27 and is pressed downwardly, moving the tube and actuating the feed mechanism. When the hammer is lifted, the lowermost tack or nail is lifted with it, and the tube 27 in rising under the influence of its spring actuates the feed mechanism to supply a new tack or nail from the covered portion of the chute to the inclosure of the tube 27.

In practice the apparatus is carried by a belt 32, worn around the waist to hold it in proper position.

It will be understood that in practice various modifications of the construction shown may be made and that any suitable materials and proportions may be used for the various parts without departing from the spirit of the invention.

What is claimed is—

1. A device of the class described comprising a hopper, a chute leading from the hopper, feed mechanism adapted to feed tacks from the upper portion to the lower portion of the chute, a non-magnetic tube inclosing the lower end of the chute and having pivotally-mounted arms, and means carried by the arms for actuating the feed mechanism when the tube is moved.

2. A device of the class described comprising a hopper, an inclined chute leading from the hopper, a carrier mounted in the hopper for vertical movement and subsequent tilting movement to lie with its upper face in the plane of the chute, said carrier having a slot to receive the tails of tacks and to exclude their heads, feed mechanism carried by the chute for feeding tacks from the upper portion to the lower portion thereof, a non-magnetic tube inclosing the lower end of the chute and having arms pivoted to the chute, means for holding the tube yieldably in raised position, and cams carried by the arms for engagement with the feed mechanism to operate it.

3. A device of the class described comprising a hopper, an inclined chute leading from the hopper, a carrier mounted in the hopper

for movement to lie with its upper face in the plane of the chute, said carrier having a slot to receive the tails of the nails or tacks and to exclude their heads, feed mechanism carried by the chute for feeding tacks from the upper portion to the lower portion thereof, a tube inclosing the lower end of the chute and having arms pivoted to the chute, means for holding the tube yieldably in raised position and cams carried by the arms for engagement with the feed mechanism to operate the latter. 10

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