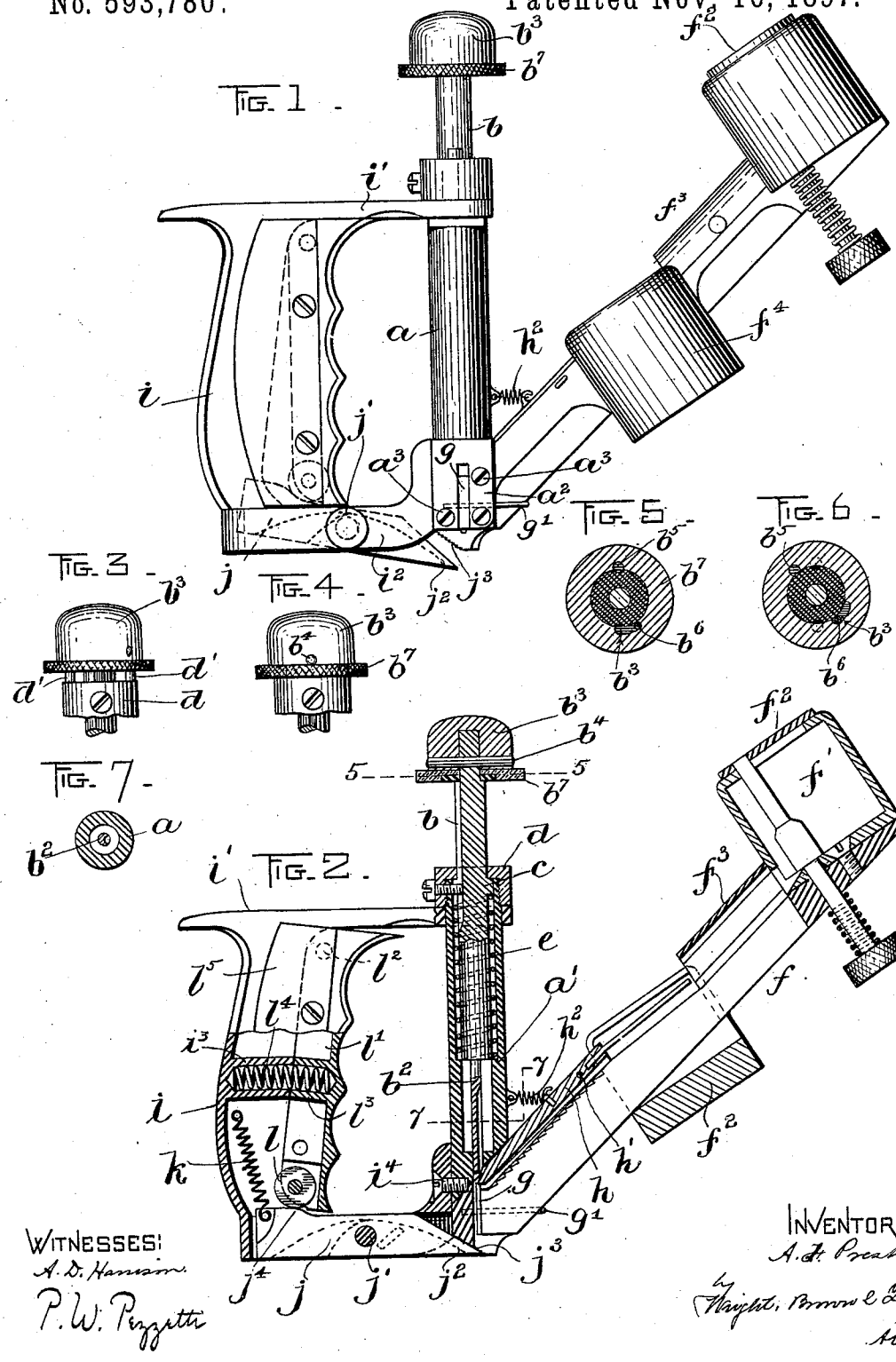
(No Model.) 2 Sheets—Sheet 1.

A. F. PRESTON.

HAND TACKING TOOL.

No. 593,780. Patented Nov. 16, 1897.



(No Model.) 2 Sheets—Sheet 2.

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FIG. 8.

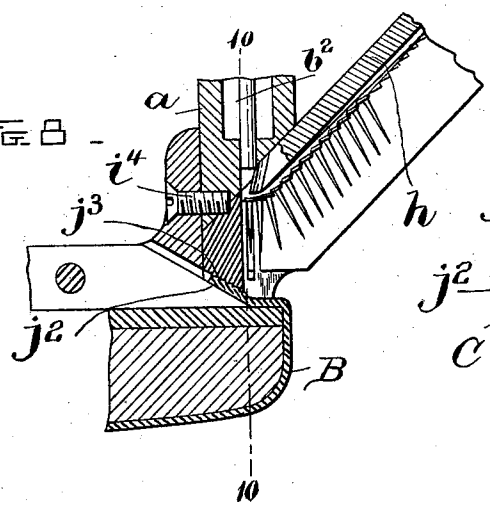


FIG. 9.

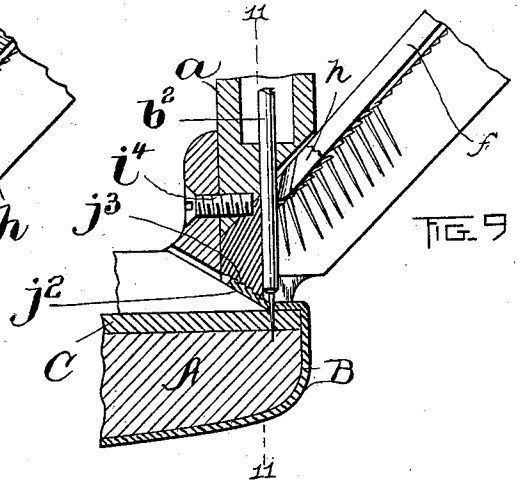


FIG. 10.

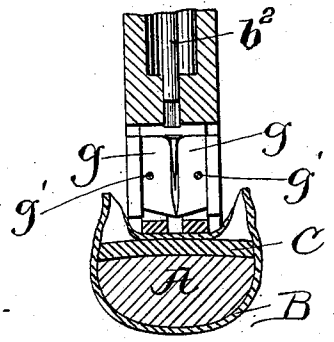


FIG. 11.

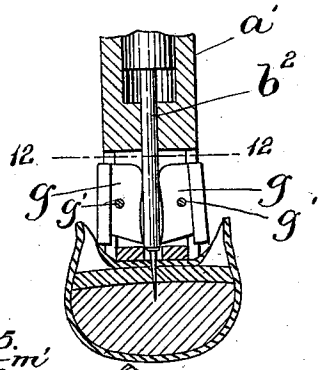


FIG. 13.

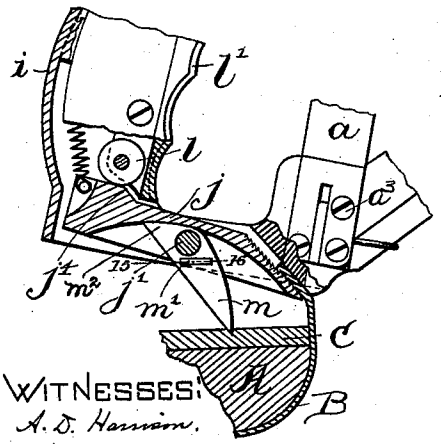


Fig. 15.

FIG. 12.

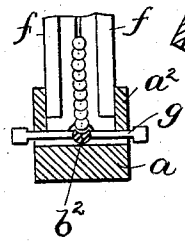
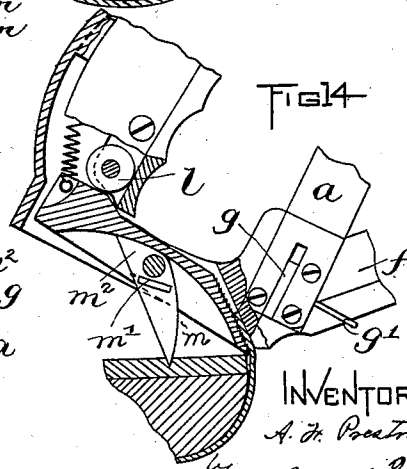


FIG. 14.



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INVENTOR:
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by Wright, Brown & Quinby
Attys.

UNITED STATES PATENT OFFICE.

ALBERT F. PRESTON, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE BUSELL LASTING MACHINE COMPANY, OF NASHUA, NEW HAMPSHIRE.

HAND TACKING-TOOL.

SPECIFICATION forming part of Letters Patent No. 593,780, dated November 16, 1897.

Application filed February 23, 1897. Serial No. 624,680. (No model.)

To all whom it may concern:

Be it known that I, ALBERT F. PRESTON, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Hand Tacking-Tools, of which the following is a specification.

This invention relates to a hand tacking-tool of the class illustrated in my Patent No. 576,823, dated February 9, 1897.

The object of the invention is to provide certain improvements in hand tacking-tools of the character specified by means of which the edges of the upper may be more positively gripped for the purpose of drawing them taut over the last, and in which the tacks, with the exception of the lowest one in the chute, may be held against movement when the driver is being operated to force said lowest tack through the upper into the insole.

To these ends the invention consists of the improvements which are illustrated upon the drawings and which I shall now proceed to describe in detail and then point out in the claims hereto annexed.

Reference is to be had to the annexed drawings, and to the letters marked thereon, forming a part of this specification, the same letters designating the same parts or features, as the case may be, wherever they occur.

Of the drawings, Figure 1 represents my improved tack-holder in side elevation. Fig. 2 represents a vertical section through the same. Figs. 3 and 4 illustrate the stops, which may be adjusted to permit the driver to be moved to its full extent or which may stop its movement before it has completed the same. Figs. 5 and 6 are sectional views on the line 5 5 of Fig. 2, illustrating the various positions of the stops. Fig. 7 represents a section on line 7 7 of Fig. 2. Figs. 8 and 9 are longitudinal sections illustrating the devices for temporarily locking all of the tacks in the chute, with the exception of that one which is engaged by the driver. Figs. 10 and 11 are sections on the lines 10 10 and 11 11 of Figs. 8 and 9, respectively. Fig. 12 represents a cross-section on the line 12 12 of Fig. 11. Figs. 13 and 14 are sectional views through the lower portion of the tacker, showing the dog or lever. Fig. 15 represents a section on the line 15 15 of Fig. 13.

In carrying out the invention I employ a hollow head or casing a, in which the driver b^2 reciprocates to eject the tacks, which are fed thereto by a chute. The driver-bar b, to the lower end of which the driver is secured, is provided with a flange c, fitting in the upper portion of the aperture in the casing and coacting with the ferrule d to limit the upward movement of the driver-bar, and is also provided at its upper end with a knob or head b^3, by which it may be depressed by one hand of the operator, a spring e within the head pressing against the shoulder a' being employed to normally raise the driver and hold it in the position shown in Fig. 2.

The head a is provided with a handle adapted to be grasped by one hand of the operator, so that the head may be moved freely about over the last A, which supports the upper B and the insole C of a shoe.

The driver b^2 is crescent-shaped in cross-section, so as to engage only the lowest one of a line of tacks fed thereto through a chute which is affixed to the head a and which is inclined relatively thereto, so that when the head is in a vertical position the chute will be inclined at such an angle that tacks will slide downward by gravitation. The chute has two side bars f far enough apart to receive the shanks of the tacks and upon which the heads of the same rest.

A hopper f' is secured to the upper end of the chute and has a spring-held cap or cover f^2, which closes the feeding-aperture. Between the head and the hopper there is an overflow-box f^4, which receives the tacks which do not properly place themselves upon the side bars f, there being a guard f^3 extending from the hopper to the overflow-box to prevent the tacks from being thrown from the chute.

The lower ends of the side bars $f\,f$ of the chute, which are connected together, project into an aperture between the side plates a^2 of the head and are connected thereto by screws a^3, and located at the end of the chute in alinement with the driver is a yielding guide which receives the tacks one by one

from the chute and guides them as they are ejected by the driver. The guide consists of two plates g g, having their edges adjacent and being pivoted upon the ends of a bent spring g', so that a tack will be guided by them when forced between their adjacent edges. The lowest tack in the chute lies with its shank between the edges of the plates with its head resting upon the corners of the same when the driver-bar is raised, as shown in Fig. 10.

Thus far the construction described is not materially different from that illustrated in my Patent No. 576,823 above referred to.

For the purpose of holding the tacks in the chute when the driver-bar is acting upon the tack in the yielding guide I employ a bar h, pivoted at h' to the chute and lying above the line of tacks, as shown in Figs. 2, 8, and 9, its lower end being convex and slightly inclined so as not to interfere with the action of the driver-bar b^2. The said bar h is capable of a slight oscillation and is normally held away from the tacks by a spring h^2, having one end attached to the head and the other attached to the side bar h, and when it is in its elevated position the lower end of the bar h projects slightly into the path of the driver b^2 at an inclination thereto. Hence when the driver-bar b is forced downward the driver b^2 engages the said bar and forces it down upon the tacks to hold them while the said driver is forcing the free tack into the upper and the insole. By reason of the peculiar shape of the driver and the convex end of the lock h only one tack at a time is engaged by the driver, while the others are held against movement.

In securing the edges of an upper temporarily to an insole the tacks are driven into place in such way as to have their heads project out far enough to be grasped by some withdrawing instrument, and hence I provide the tacker with means for stopping the action of the driver before it completes its stroke, whereby the tacks are driven into the stock for only a portion of their length.

The ferrule d is provided with two upwardly-projecting pins or stops d', and the knob b^3, which is secured to the top of the driver-bar b by a pin b^4 passing through an aperture therein, is provided with a movable disk b^7, having apertures $b^5 b^5$, which when the said knob is in one position will receive the said pins or stops d' and when the cap is in another position will be out of alinement therewith, so that the stops will abut against the lower face of the disk and prevent it from being forced down against the ferrule d. The movement of the disk b^3 is limited by a pin b^6, which projects from the head into a slot therein. In addition to those features I employ the improved handle having a grip i, an upper transverse connecting-bar i', which is provided at its end with an aperture to receive the head a, and a connecting-bar i^2, which is secured to the base of the head by a screw i^4, as shown in Fig. 2. The said bar i^2 is slotted to receive a lever j, pivoted therein by a pin j' and having its end j^2 oblique to form a jaw to coact with the stationary jaw j^3, formed by the lower end of the chute. A spring k, attached to the end of the lever j, holds the jaws normally apart, and the rear end of the lever is formed with a cam j^4, on which operates a roller l, journaled on a bar or lever l', pivoted at l^2 at the upper end of the grip. In sockets i^3 and l^3 on the grip and the lever l', respectively, is placed a spring l^4, against the stress of which the lever l' may be drawn toward the grip to cause the roller to ride up on the cam j^4 of the movable-jaw lever. The two sockets act as stops to limit the movement of the lever l' when it has locked the two jaws together. The spring returns the parts to their normal inoperative positions when pressure upon the lever l' is released. Guard-plates l^5 are secured to the lever l' to overlap the grip, and thereby prevent the hand from being caught between them.

The lever j is slotted to receive a dog or lever m, held frictionally on the pin j' and lying normally in the slot or groove in the lever j and held therein by a spring m'. The spring m' is a curved leaf-spring and lies in a shallow groove in the side of the dog m. The spring m' also bears against the inner walls of the recess in the lever j, so as to operate frictionally to hold the dog against movement. (See Figs. 13 and 15.) The said dog has its shorter end m^2 adapted to rest against the wall of the groove, as shown in Fig. 13, to which position it may be thrown by partially rotating the pin j', which is provided with a milled head for this purpose.

In employing the tacker the dog is engaged with the insole C, as shown in Fig. 14, and acts as a fulcrum on which the whole head may be turned, the handle acting as a lever. A continued backward movement or pull on the device after the dog has been moved into position will exert an outward pressure upon the inner sole, which opposes the inward pressure of the upper against the edge of the sole to prevent the displacement of the sole. When the upper has been drawn sufficiently over the edge of the sole, the swinging of the head to a line at right angles to the sole causes the dog to be forced into the slot in the lever j with its lower edge flush with the edge of the said lever, where it will remain until moved at an angle thereto by the pin j'. Thus from the foregoing it will be seen that I have provided improved devices for locking the tacks against movement when the driver is about to engage and is engaging the lowest tack in the chute, so that more than one tack cannot slide into contact with the driver; and, moreover, I provide an improved device for gripping the edge of the upper. Only two levers are required to lock the jaws together, and when the jaws are once locked comparatively little pressure from the fingers is required to keep them in that position, since

the two levers are at that time at substantially a right angle to each other. The dog is pivoted to the handle and not to the lever *j*, and operates with great efficiency to equalize the pressure of the upper against the edge of the insole.

What I claim is—

1. A tacker comprising a driver, a chute for delivering tacks to the action of the driver, and means located above the line of tacks and acted on directly by the driver for automatically holding them against movement when the driver engages the tack in its path.

2. A tacker comprising a driver, a chute for delivering tacks to the action of the driver, and means engaging the heads of the tacks and automatically engaged and operated by the driver for holding all the tacks against movement except that one engaged by said driver, during the action of the driver.

3. A tacker comprising a driver, a chute for delivering tacks to the action of the driver, and a bar located above the chute and engaged and operated automatically by the driver to hold all of the tacks against movement except the lowest one in the chute.

4. A tacker comprising a driver, a chute for delivering tacks to the action of the driver, means located above the tacks and normally raised therefrom, and extending into the path of the driver to be engaged thereby, whereby when the driver is operated the said means engage the tacks and hold them against movement.

5. A tacker comprising a driver, a chute, a yielding guide at the end of the chute and in line with the driver, whereby the tacks may pass freely into the guide without the employment of a separator, and means located above the tacks for automatically holding against movement all of them except the one in the guide, when the driver is depressed.

6. A tacker comprising tacking means, a handle, a stationary jaw, a movable jaw pivoted in the handle, and a bar in position to be grasped by the fingers and adapted to ride on said movable jaw to lock the jaws together.

7. A tacker comprising tacking means, a handle, a stationary jaw, a movable jaw pivoted in the handle and having a cam-surface, and a pivoted lever in position to be grasped by the fingers and having a roller adapted to ride on said cam-surface to lock the jaws together.

8. A tacker comprising tacking means, a handle, a stationary jaw, a movable jaw pivoted in the handle and having a slot, a dog located in said slot and pivoted to the handle on the axis of the fulcrum of said movable jaw, for the purpose described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 17th day of February, A. D. 1897.

ALBERT F. PRESTON.

Witnesses:
A. D. HARRISON,
M. B. MAY.