(No Model.) 2 Sheets—Sheet 1.

E. MERRITT.

HAND TACKING MACHINE.

No. 262,969. Patented Aug. 22, 1882.

Fig. 1.

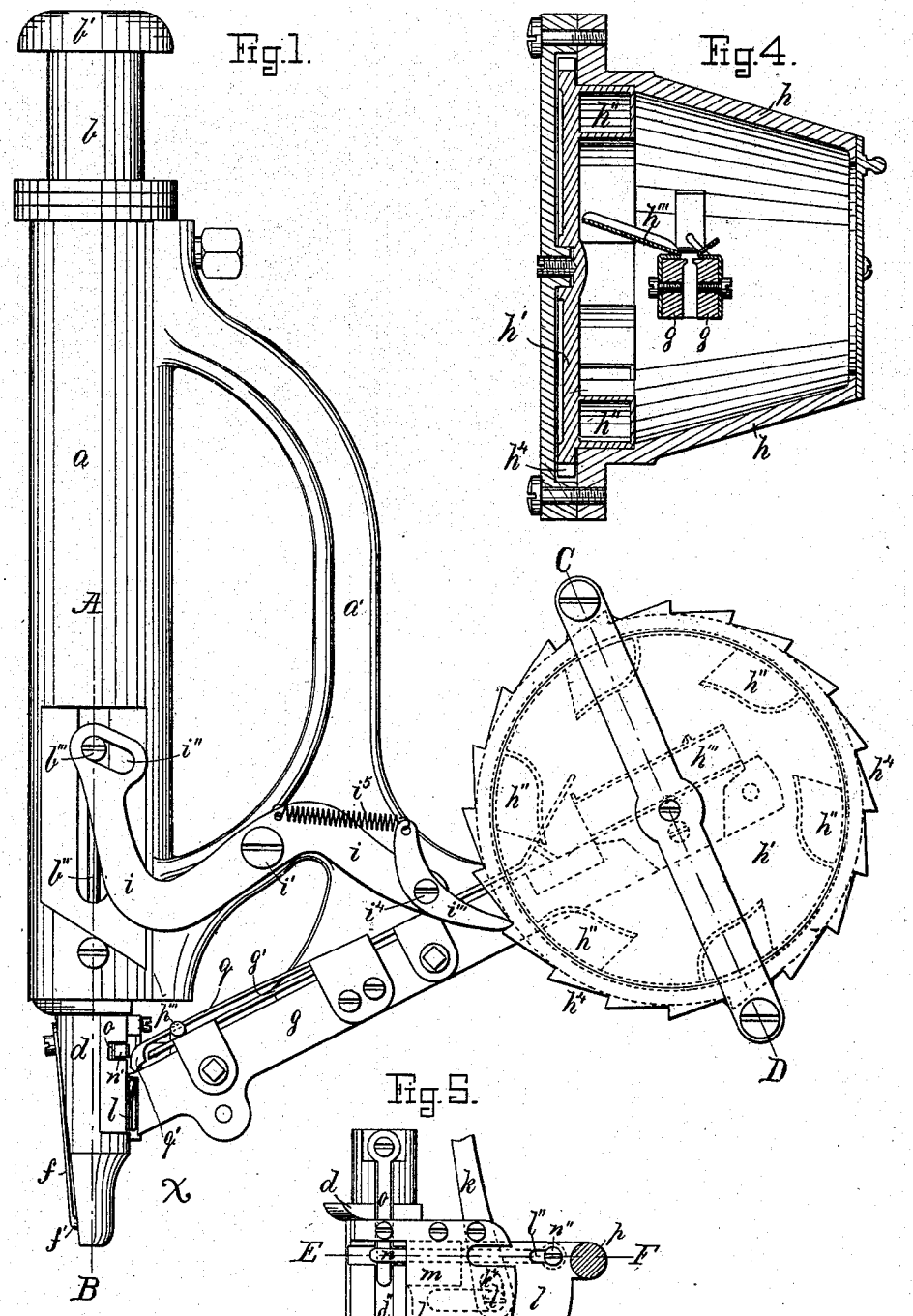

Fig. 4.

Fig. 5.

Witnesses.

Henry Chadbourn.

Sarah M. Goodrich

Inventor.

Edward Merritt

by Munn & Andrew

his attys

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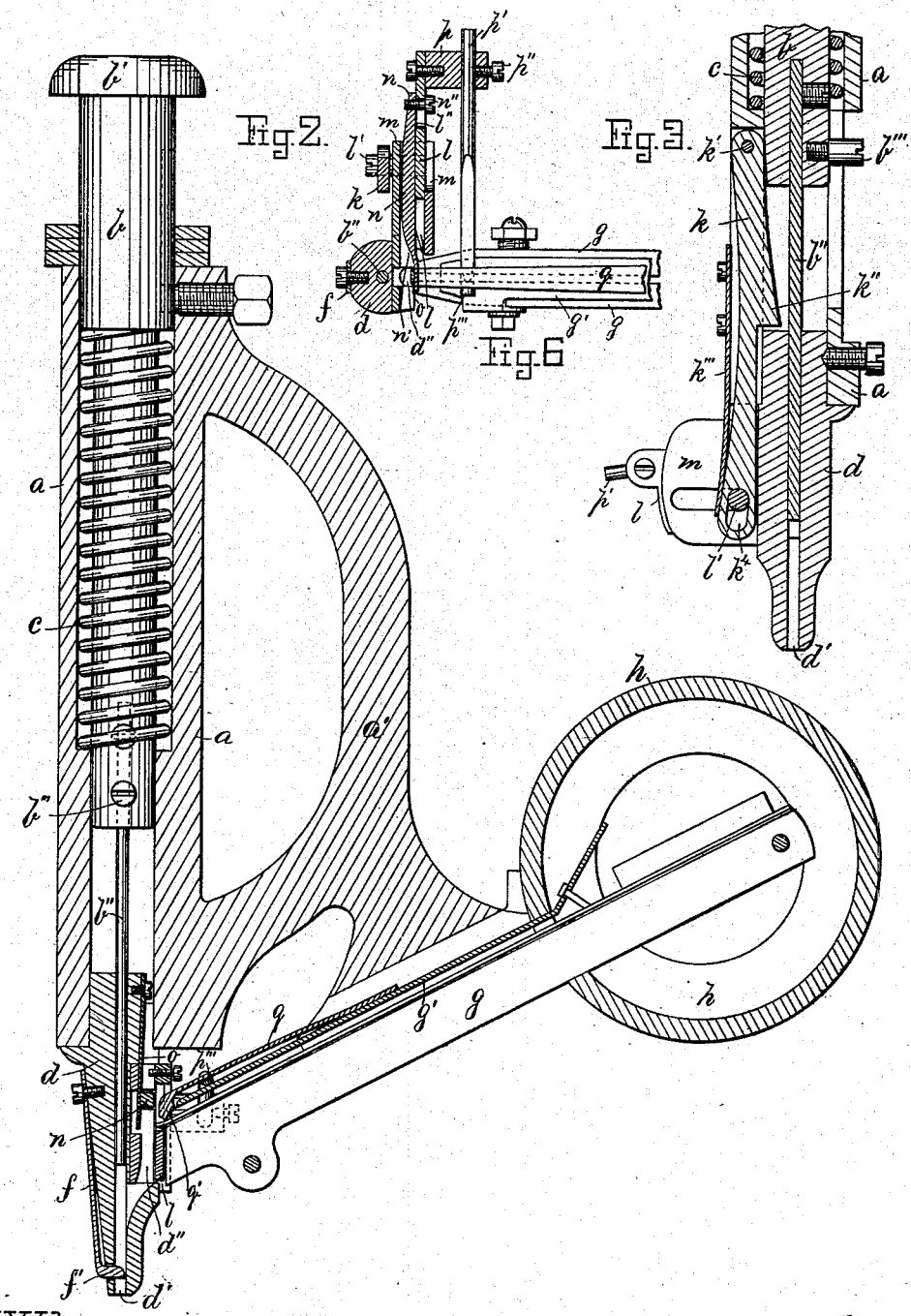

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by Munn & Co
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UNITED STATES PATENT OFFICE.

EDWARD MERRITT, OF BROCKTON, MASSACHUSETTS.

HAND TACKING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 262,969, dated August 22, 1882.

Application filed December 27, 1881. (No model.)

To all whom it may concern:

Be it known that I, EDWARD MERRITT, a citizen of the United States, residing at Brockton, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Hand Tacking-Machines for Headed Nails; and I do hereby declare that the same are fully described in the following specification and illustrated in the accompanying drawings.

This invention relates to improvements in hand tacking-machines for driving headed nails in lasting boots and shoes, and my improved machine is used in connection with any of the usual lasting-machines that stretch the upper and hold it in position on the last.

Heretofore headed nails have been driven by hand; and the object of my present invention is to produce a hand tacking-machine for feeding and driving headed nails, as will hereinafter be more fully shown and described, reference being had to the accompanying drawings, on which—

Figure 1 represents a front elevation of the machine. Fig. 2 represents a longitudinal section of the same. Fig. 3 represents a vertical section on the line A B, shown in Fig. 1. Fig. 4 represents a cross-section of the nail-receptacle on the line C D, shown in Fig. 1. Fig. 5 represents a side view of the throat as seen from X in Fig. 1; and Fig. 6 represents a cross-section on the line E F in Fig. 5, showing portion of the raceways and nail-separator device.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

a is the hollow frame or handle, in which the plunger *b* is movable up and down—upward by means of the coiled spring *c* and downward by exerting a blow on the head *b'* of the plunger *b*.

To the lower end of the plunger *b* is secured the driver *b''*, which is movable up and down in the throat-piece *d*, as shown in Fig. 2.

A mallet is used by which to give a blow on the head *b'* of the plunger *b* for the purpose of driving the nail, and I prefer to use, in connection with my improved machine, a mallet the construction of which I desire to claim in a subsequent application for Letters Patent.

d' is the throat in the lower end of the throat-piece *d*, through which the nail is driven when a blow is given on the head *b'* of the plunger *b*, said throat being provided near its lower orifice with a yielding projection, *f'*, passing through a side perforation in the throat, and forming a part of the spring *f*, that is secured in its upper end to the outside of the throat-piece *d*, as shown in Fig. 2. The yielding projection *f'* serves to prevent the nail conducted into the throat from dropping out until driven by the descent of the driver-bar *b''*.

a' is a bracket cast in one piece with the frame or handle *a*, which bracket serves as a support for the raceways *g g* and the nail-receptacle *h*, which are secured to the said bracket by means of suitable set-screws or equivalent devices.

h' is the rotary hopper plate or disk, having hoppers or scoops *h'' h''* on its inner side, which, during the rotation of said hopper-disk, take up the nails from the nail-receptacle *h* and deliver them upon the apron *h'''*, from which they fall between the upper ends of the raceways *g g*. The disk *h'* is provided on its outer periphery with teeth h^4 h^4, as shown, and an intermittent rotary motion is imparted to the hopper-disk *h'* by means of the rocker-lever *i*, hung at *i'*, and provided in one end with a slot-hole, *i''*, embracing the set-screw *b'''* on the plunger *b*, and in its other end with a pawl, *i'''*, hinged to the lever *i* at i^4, and provided with a spring, i^5, for automatically holding the pawl *i'''* against the teeth h^4, and by these means the pawl *i'''* is caused to act upon the teeth h^4 to turn the disk *h'* a partial revolution around its axis during the upward stroke of the plunger *b*.

g' is the cover for the raceways *g g*, as usual.

To one side of the frame *a* is hinged at *k'* a lever, *k*, having an inward projection, *k''*, as shown in Fig. 3. A spring, *k'''*, secured in its upper end to the frame *a*, presses upon the lower end of the lever *k*, so as to hold the latter automatically in the position shown in Fig. 3 when the plunger *b* is at the upper end of its stroke.

k^4 is a slot-hole in the lower end of the lever *k*, through which extends the stud *l'*, secured to the rear end of the laterally-movable wedge-separator *l*, which is guided in the stationary piece *m*, secured to the throat-piece *d*.

To the rear end of the separator *l* is secured a bar, *n*, provided with an incline, *n'*, in its for-

ward end, as shown in Fig. 6. The bar *n* is made adjustable in its connection with the wedge-separator *l* by means of the set-screw *n''* passing through slot-hole *l''* in the rear end of the separator *l*, as shown in said Fig. 6.

Within the side channel, *d''*, of the throat *d'* is located a spring, *o*, which is normally held against the lower end of the raceways *g g*, and is moved away from it by the inclined bar *n'* forcing said spring back to allow the separator *l* to take a nail from the end of the raceways and to drop it into the throat *d'*, where the nail falls against the spring-lip *f'*, and remains in such a position until the descent of the driver-bar *b''*, caused by a blow by the mallet on the head *b'* of the plunger *b*.

To the rear end of the separator *l* is further secured a hub, *p*, to which is secured the nail-spreader bar *p'* by means of the set-screw *p''*. The bar *p'* is made wedge-shaped in its forward end, *p'''*, where it passes under a spring, *q*, secured to the top of the raceways *g g*.

The extreme lower free end of the spring *q* has a lip, *q'*, the object of which is to act upon the heads of the nails to spread them apart by the action of the spring *q* and lip *q'*, to allow the last nail nearest the throat-channel *d''* to be taken easily from the raceway by the separator *l*. The wedge-shaped end *p'''* of the reciprocating bar *p'* comes in contact with the spring *q* when the separator *l* is at the rear end of its stroke, and raises said spring *q* and its lip *q'* sufficiently to allow a nail to proceed downward against the spring-gage *o*, and during the forward motion of the separator *l* the spring *q* is released from the wedge *p'''* and springs down with its lip *q'* between the heads of the last two nails, causing them to be spread apart for the purpose set forth.

The machine is operated as follows: The frame *a* is held by the operator grasping it in his hand and guided according to where the nails are to be driven. The plunger *b*, to which the driver-bar *b''* is secured, is normally held up by the influence of the spring *c*. At the time the plunger *b* is forced down by a blow from the mallet on the head *b'* a tack is driven through the throat *d'* into the shoe, and at the same time the wedge-separator *l* is forced back by the lower end of the plunger *b* acting on the projection *k''* of the lever *k*, allowing a nail to run down the end of the raceways *g g* against the spring-gage *o*, which is during this time automatically sprung against the ends of the raceways. During the upward motion of the plunger the spring-gage *o* is forced back by the wedge or incline *n'* on the rod *n* being moved forward, thus allowing the wedge-separator *l* to force the nail from the end of the raceways *g g* and to automatically drop it into the throat *d'* against the spring-lip *f'*, where it remains until the next descent of the plunger *b* and its driver-bar *b''*, and so on.

During the operation of the machine the nails are automatically taken from the nail-receptacle *h* and delivered properly to the raceways *g g* in the manner and by the means as hereinabove described.

Having thus fully described the nature, construction, and operation of my invention, I wish to secure by Letters Patent, and claim—

1. In a hand tacking-machine, in combination with the frame *a*, its plunger *b*, spring *c*, and driver-bar *b''*, the throat *d d'*, spring-die *f f'*, spring-gage *o*, and the inclined wedge *n n'*, and inclined lever *k''* for operating said spring-gage, as set forth.

2. In a hand tacking-machine, in combination with the frame *a*, its plunger *b*, spring *c*, and driver-bar *b''*, throat *d d'*, and spring-die *f f'*, inclined bar *n n'*, and wedge-separator *l*, the raceways *g g*, spring-spreader *q q'*, and wedge *p' p'''* for operating it, as set forth.

In testimony whereof I have affixed my signature in presence of two witnesses.

EDWARD MERRITT.

Witnesses:
ALBAN ANDRÉN,
HENRY CHADBOURN.