

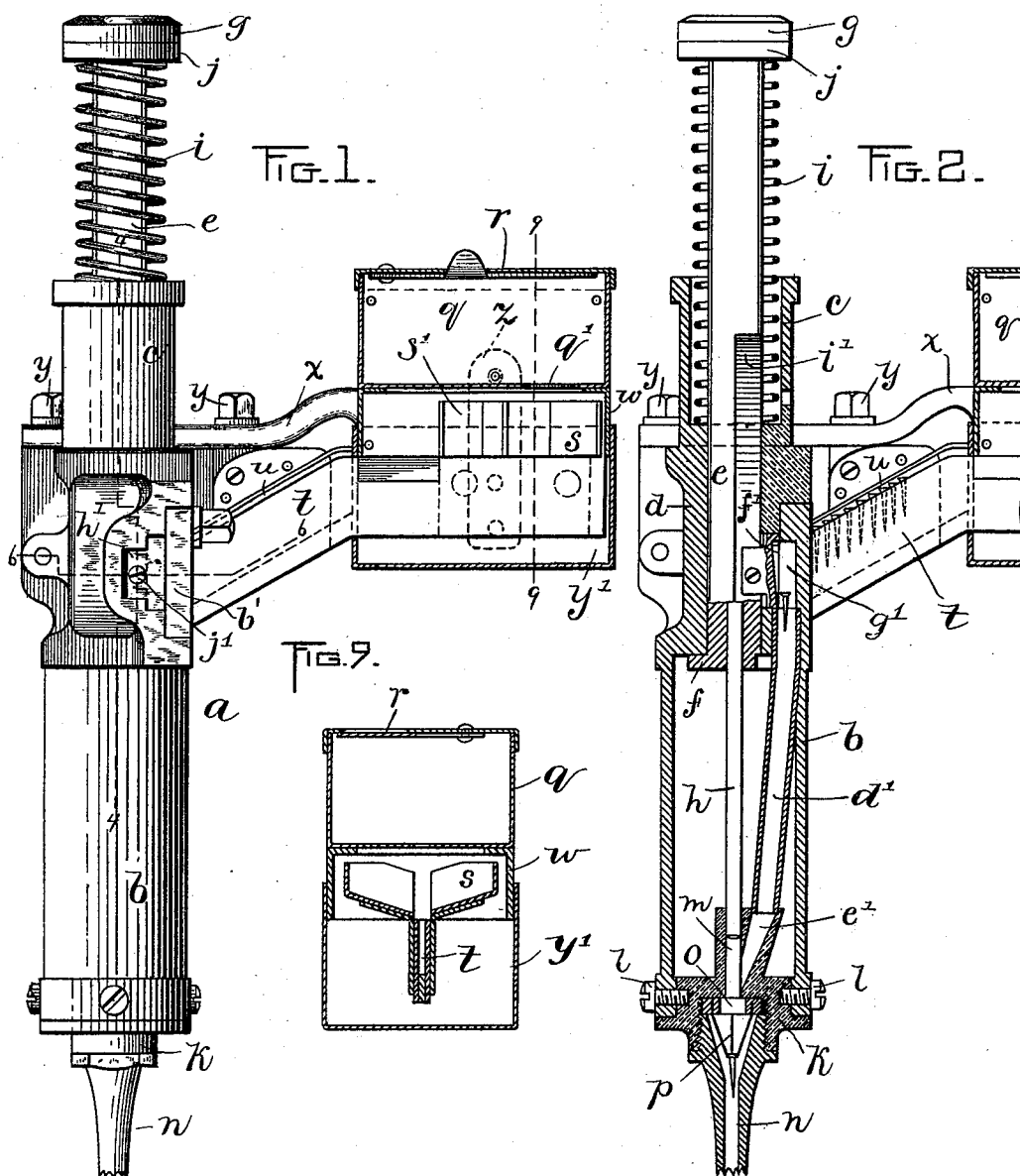
(No Model.)

2 Sheets—Sheet 1.

A. W. EATON & W. S. HAMM,
HAND TACKING TOOL.

No. 583,674.

Patented June 1, 1897.



WITNESSES:

A. D. Harrison.

P. W. Fitzgerald

INVENTORS

A. W. Eaton

W. S. Hamm

by Night & Son, attys.

A. W. EATON & W. S. HAMM.
HAND TACKING TOOL.

No. 583,674.

Patented June 1, 1897.

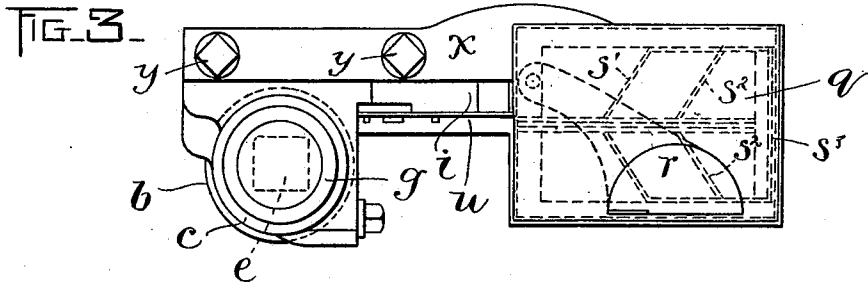


FIG. 5.

FIG. 4.

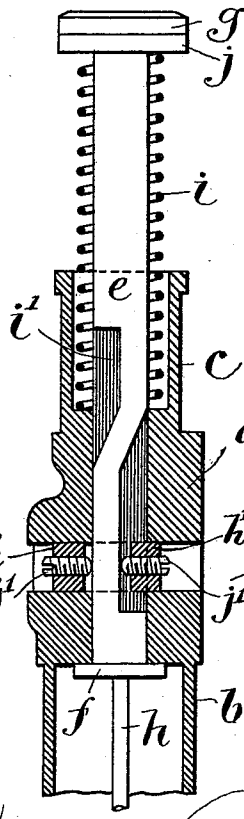
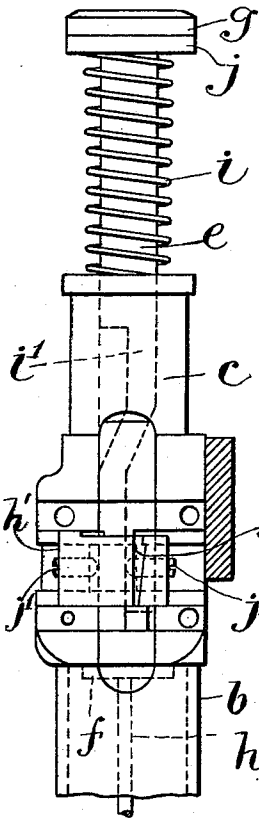


FIG. 6.

FIG. 7.

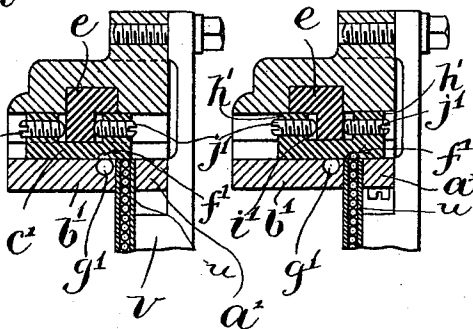
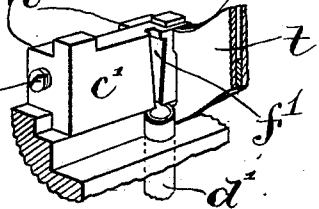


FIG. 8.



WITNESSES:

A. D. Hanson

P. W. Pezzetti

INVENTOR:

Arthur W. Eaton

W. S. Hamm

By Knight, Brown & Company

Attys.

UNITED STATES PATENT OFFICE.

ARTHUR W. EATON, OF BOSTON, AND WILLIAM S. HAMM, OF NEWTON,
MASSACHUSETTS.

HAND TACKING-TOOL.

SPECIFICATION forming part of Letters Patent No. 583,674, dated June 1, 1897.

Application filed September 18, 1896. Serial No. 605,999. (No model.)

To all whom it may concern:

Be it known that we, ARTHUR W. EATON, of Boston, in the county of Suffolk, and WILLIAM S. HAMM, of Newton, in the county of Middlesex, State of Massachusetts, have invented certain new and useful Improvements in Hand Tacking-Tools, of which the following is a specification.

This invention has relation to hand-operated tools for driving lasting-tacks into partially-formed boots and shoes in the process of manufacture of the class in which the tacks are supplied from a reservoir one at a time to the action of a driver to which power is manually applied.

The invention consists of a tool of the character described possessing those features of construction and arrangement illustrated in the drawings and now to be described in detail, and then set forth in the claims hereto annexed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which like characters indicate like parts or features, as the case may be, wherever they occur.

Of the drawings, Figure 1 is a side elevation of a tool equipped with our improvements, the reservoir being illustrated partially in section. Fig. 2 is a central vertical longitudinal section through the tool, the reservoir and raceway being broken off for lack of space. Fig. 3 is a plan view of the same. Fig. 4 is a section on the line 4 4 of Fig. 1. Fig. 5 is a rear elevation of a portion of the tool, the raceway and the rear plate being removed for the purpose of showing the reciprocating feed-slide which transfers the tacks one at a time from the raceway to the tube which delivers them to the throat through which the driver reciprocates. Fig. 6 is a cross-section on the line 6 6 of Fig. 1, showing the feed-slide as registering with the delivering-tube into which it has fed a tack. Fig. 7 is a similar section, but showing the slide as registering with the raceway and as having received a tack therefrom. Fig. 8 is a perspective view showing in detail a portion of the raceway and of the delivering-tube and the feed-slide. Fig. 9 is a partial section on the line 9 9 of Fig. 1, illus-

trating the internal construction of the reservoir from which the raceway extends.

Referring to the drawings, the improved tool therein shown has a casing *a*, formed of one integral mass of cast metal. It has a cylindrical lower portion *b*, a reduced open-ended cylindrical upper portion *c*, and a central guiding portion *d*, to which the raceway is secured and on which the feed-slide reciprocates, as we shall afterward set forth.

The central portion is provided with a square through-aperture to receive and guide the driver-bar *e*, which is provided at its lower end with a flange *f* and at its upper end with a driving-head *g*, secured thereto in any suitable way. The driver *h* is set into an aperture in the lower end of the bar *e* and is of a cross-diameter adequate to drive a tack into a last.

The driver-bar is normally held in a raised position by a spiral spring *i*, coiled around it and abutting against a leather or other yielding washer *j* under the head *g* and against the bottom of the cylindrical portion *c* of the casing. When the bar is depressed, the spring is all contained within the said cylindrical portion *c*.

The lower end of the portion *b* of the casing is closed by a cap *k*, held in place by screws *ll*. The cap has an upwardly-extending boss, with an aperture *m* to receive the driver, and also has a downwardly-extending throat-piece *n*, with a converging aperture leading there-through in alinement with the aperture *m*. A tack centering and retaining device, consisting of a ring *o*, with depending spring-fingers *p*, is held in place between the throat-piece and the cap, as shown in Fig. 2, and acts to temporarily hold the tack in the throat until engaged by the driver.

The reservoir for the tacks consists of a box or hopper *q*, formed of sheet metal, with a top which has a movable door *r* for the reception of the tacks. The hopper has a reduced passage-way in its bottom through which the tacks drop into a receiver *s*, having side and end walls and a bottom slanting toward a raceway *t*, to which it is secured, one of the end walls having a passage-way to permit the tacks to slide down the latter.

The raceway consists of two slightly-separated flat bars, each having a lower inclined portion covered with a flat strip *u*. Both the strip and the raceway are secured to a plate *v*, which in turn is bolted to a bracket on the casing. The hopper for initially receiving tacks is supported on a frame *w*, with an open top and bottom, which frame is cast upon the end of an arm *x*, bolted to the top of the plate *v* by bolts *y*.

The receiver for guiding the tacks into the raceway extends up into the frame *w* and is inclosed in an overflow-receptacle *y'*, suspended from the frame *w* by spring-arms *z*, having apertures to receive studs extending out from the frame, as indicated by broken lines in Fig. 1.

The raceway extends between a bar *a'* and a plate *b'*, both bolted to the casing, as shown in Figs. 6 and 7. A feed-slide *c'* is arranged to slide past the end of the raceway, and between the bar *a'* and plate *b'* and the casing, and to receive the tack from the raceway and carry it to a delivering-tube *d'*, which begins at one side of the raceway and terminates at the lower end of the casing. It communicates by a duct *e'* with the aperture *m*, so that a tack delivered thereto will be dropped into the centering device in the throat.

The feed-slide for transferring the tacks one by one from the raceway to the delivering-tube is provided with a recess *f'* in its face to receive the shank of the tack from the raceway, and which may be made to register with a recess *g'* in the plate *b'*, which recess communicates with the delivering-tube. The feed-slide is likewise provided with two rearwardly-projecting ears *h'*, which extend into a transverse groove in the casing, as shown in Fig. 1, and which lie on either side of a cam *i'*, formed on the driver-bar by cutting away a portion of the front face thereof. (See Fig. 4.) The cam is of such a nature and shape that when the driver-bar is depressed the slide is moved to have its recess register with the raceway, and when it is raised the recess will register with the recess in the plate *b'*. Thus each time a tack is driven into the last a fresh tack is taken from the raceway by the transferring mechanism and delivered to the centering device in the throat. Preferably screws *j'* are tapped into the ears and bear against the sides of the cam, so that the slide may be adjusted relatively to the latter.

Referring again to the devices for receiving the tacks and delivering them to the raceway, it will be observed that the receiver *s* is provided with an end wall *s'*, converging toward the raceway, as shown in dotted lines in Fig. 3, and has partition-walls *s² s²* in parallelism with the end wall *s'* and arranged between it and its front wall *s³*. An aperture *q'* leans from the hopper *q* to the receiver at a point

in front of the partition, so that the tacks are guided by the partition-wall to the raceway and can travel the distance between the latter and the wall *s'* before they drop into the overflow, so that they have a chance to fall properly with their shanks entering down into the raceway. This is of importance in our invention, as the tacks are guided into the raceway with a very small percentage dropping into the overflow-box.

The operation of the device is very simple and needs no explanation additional to that already given.

A tool formed in accordance with the above description is simple in construction and highly efficient in operation. It has but few parts, which are not liable to get out of order or to be displaced, and which may be manufactured at a minimum cost.

Having thus explained the nature of our invention and described a way of constructing and using the same, although without attempting to set forth all the ways in which it may be made or all the modes of its use, we declare that what we claim is—

1. In a hand tacking-tool, the combination of a casing having intersecting longitudinal and transverse guideways; a raceway leading into the transverse guideway; a delivery-tube leading out of the latter at a point laterally removed from the raceway; a transfer-slide engaging the transverse guideway and having a tack-receiving recess for registry with either the raceway or the delivery-tube, said slide also having a pair of ears or lugs; a spring-sustained driver-bar engaging the longitudinal guideway and having a cam-strip extending between the ears on the transfer-slide; a driver carried by said bar; a throat below the driver and with which the delivery-tube communicates; and a retaining device in the throat.

2. In a hand tacking-tool, the combination with a receiver for the tacks consisting of converging bottom walls with a space between them, upright side and end walls, and a plurality of pairs of converging upright partition-walls rising from the bottom on either side of the space; of a storage-hopper above the receiver and having an outlet-opening extending over a plurality of compartments thereof; and a raceway arranged below and registering with the space between the converging bottom walls of the receiver.

In testimony whereof we have signed our names to this specification, in the presence of two subscribing witnesses, this 2d day of September, A. D. 1896.

ARTHUR W. EATON.
WILLIAM S. HAMM.

Witnesses:

C. F. BROWN,
A. D. HARRISON.