

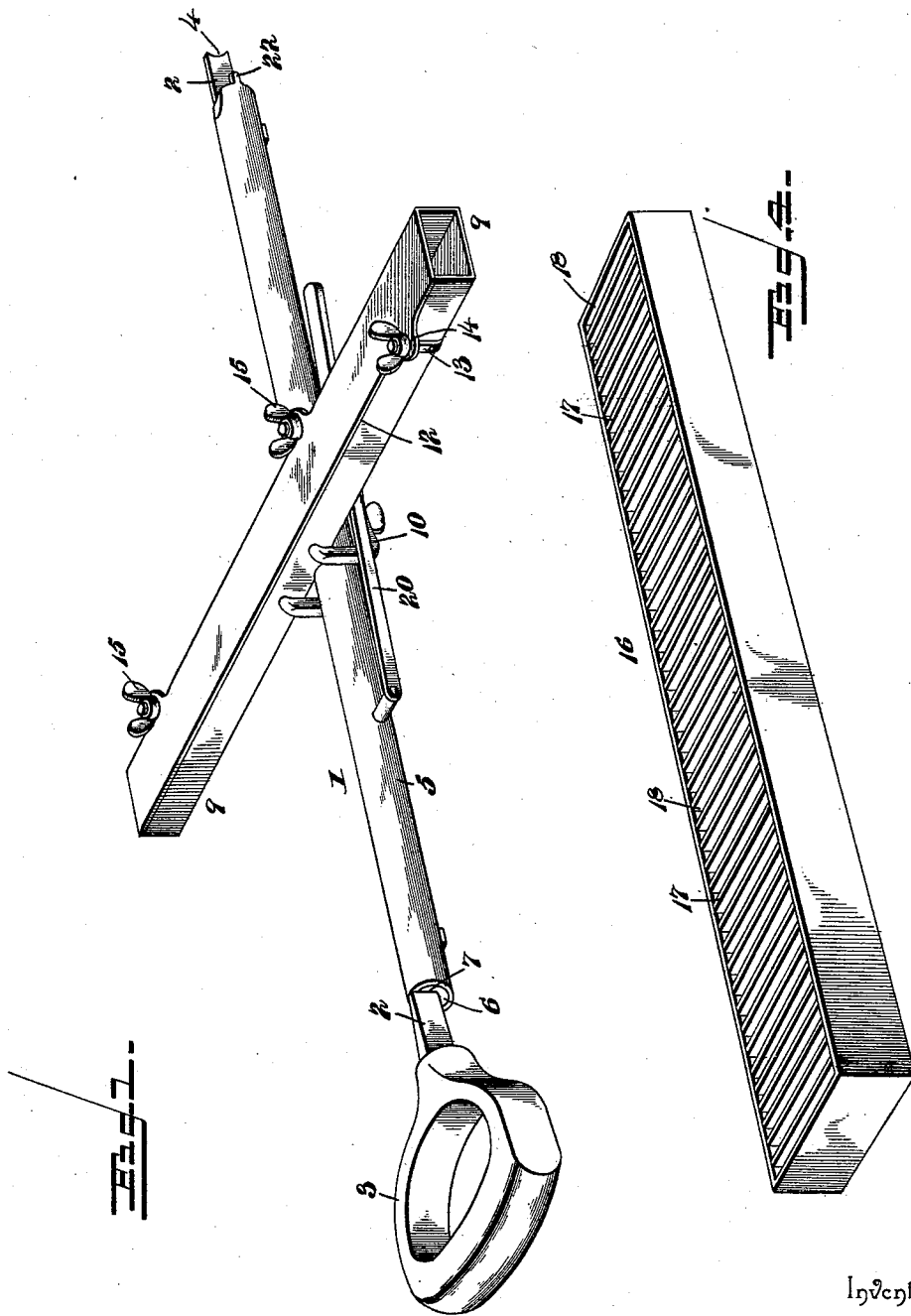
(No Model.)

2 Sheets—Sheet 1.

G. W. HEIRD.
HAND NAILING MACHINE.

No. 541,088.

Patented June 18, 1895.



Inventor

George W. Heird

Witnesses

E. H. Stewart
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By *his* Attorneys.

C. A. Snow & Co.

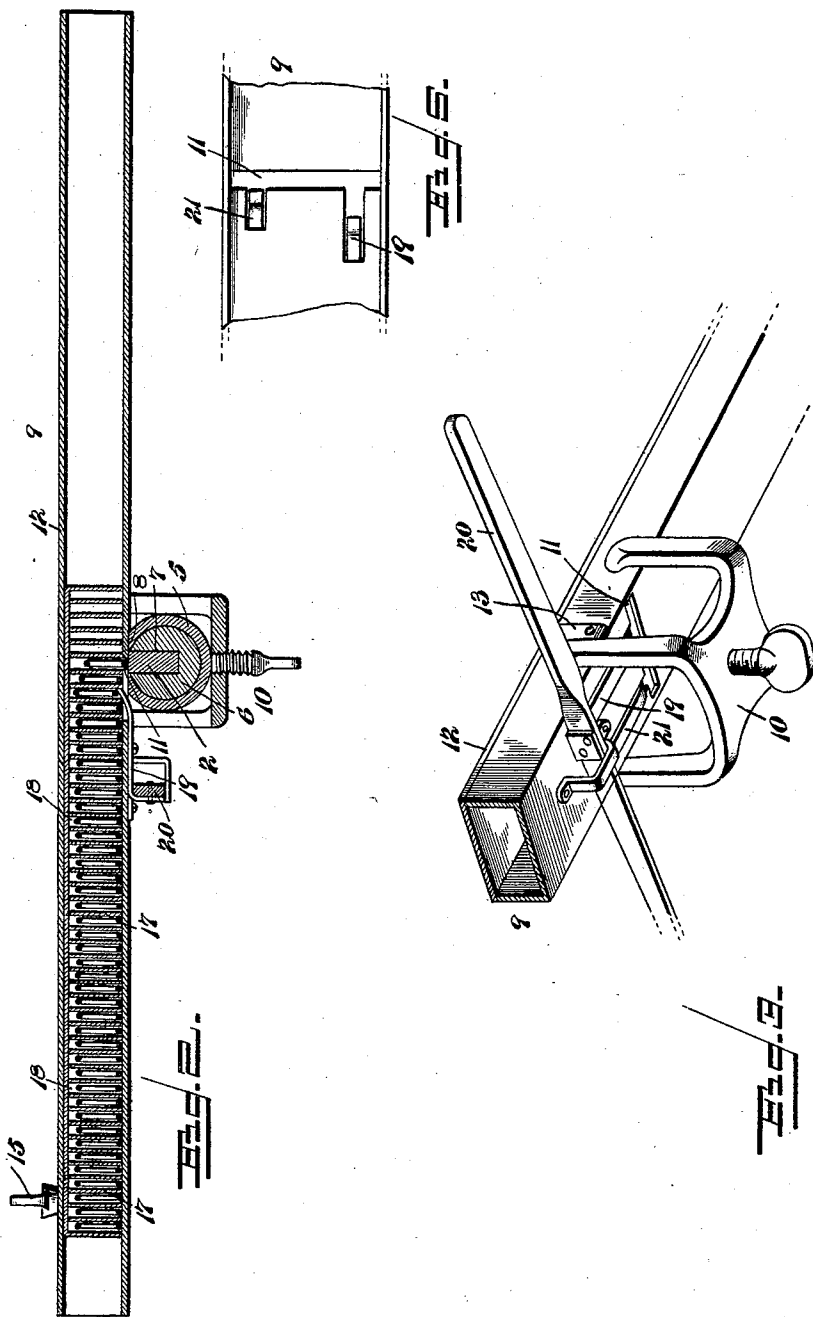
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Witnesses

E. H. Stewart
W. B. Taylor

By *his* Attorneys.

George W. Heird

Chas. H. Co.

UNITED STATES PATENT OFFICE.

GEORGE W. HEIRD, OF CATONSVILLE, MARYLAND, ASSIGNOR OF ONE-HALF
TO IRA L. WASTLER, OF SAME PLACE.

HAND NAILING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 541,088, dated June 18, 1895.

Application filed July 25, 1894. Serial No. 518,561. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. HEIRD, a citizen of the United States, residing at Catonsville, in the county of Baltimore and State of Maryland, have invented a new and useful Hand Nailing-Machine, of which the following is a specification.

My invention relates to hand nailing machines, and it has for its object to provide a simple, inexpensive, and efficient device, adapted for use in connection with hedge-fence construction, and having a magazine which may be removed, filled and replaced without disconnecting any of the other parts of the apparatus, whereby a number of loaded magazines may be carried to the field and inserted as required to avoid the necessity of filling a magazine in the field, such an operation being inconvenient, especially in cold weather, and involving a serious waste of time during the process of constructing a fence.

Further objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claim.

In the drawings, Figure 1 is a perspective view of a machine embodying my invention. Fig. 2 is a sectional view taken parallel with and longitudinally through the magazine and guide. Fig. 3 is a perspective view, partly broken away, of the magazine-guide and connected parts to show the means for feeding the magazine. Fig. 4 is a detail view, in perspective, of a magazine constructed in accordance with my invention. Fig. 5 is a detail inverted plan view of a portion of the guide to show the feeding and stop pawls.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a run-way in which operates, slidably, the plunger or driver 2, provided at one end with a handle 3 and at the other end with a notch or seat 4 to engage the end of a nail or clip. The runway is constructed of a tube 5 in which is fitted a core 6 provided with a longitudinal groove or channel 7. The upper side of the groove or channel is closed, when the parts of the apparatus are assem-

bled, by the exterior tube, and the tube is provided, at an intermediate point with an inlet opening or slot 8 through which the nails or clips are introduced to the groove or channel. The transversely disposed guide 9 is secured to the run-way at an intermediate point by means of the clip 10, and is provided in its lower side with an opening or slot 11 to register with the inlet opening or slot 8 in the exterior tube, said guide being provided with a removable cap-plate 12 held in place by threaded studs 13 on the side walls of the guide fitting in perforations 14 in the cap-plate, and engaged above the latter by the thumb-nuts 15. This cap-plate is removable to provide for repairing or adjusting the parts, particularly the feeding mechanism, (hereinafter described,) and for removing a bent or injured nail or clip which obstructs the operation of the machine. In this guide is slidably fitted a magazine carrier, adapted to contain a number of nails or clips, and designed to be fed longitudinally through the guide to bring the said nails or clips successively in alignment with the feed opening or slot 8, and in the construction illustrated in the drawings this carrier 16 consists of a rack, provided with a series of teeth 17 formed by partitions arranged transversely in the carrier and providing intermediate compartments or chambers 18 for the reception, respectively, of nails or clips, one nail or clip being arranged in each compartment or chamber.

The means for feeding the carrier to bring the chambers thereof successively over the feed-opening of the run-way, consist of a spring operating-pawl 19, connected to and operated by a trigger 20 which is of spring metal and is secured to the exterior tube of the run-way in position for operation by means of the left hand of the manipulator, and a retaining-pawl 21, also of spring metal. Both of these pawls engage the teeth of the rack formed by the partitions of the carrier, and after the carrier has been advanced the distance between contiguous teeth of the rack by the operation of the trigger, the retaining-pawl prevents return movement.

This being the construction of the improved nailing machine, the operation thereof is as follows: The handle of the plunger or driver

is grasped in one hand and the run-way, adjacent to the trigger, is grasped in the other hand, the fingers of the second-mentioned hand being arranged in position to press the free end of the trigger toward the runway. With the plunger or driver in its advanced position, as shown in Fig. 1, the trigger is operated, thus advancing the carrier sufficiently to bring one of the chambers thereof over the feed-opening of the run-way. The nail or clip arranged in said chamber of the carrier falls into the feed-opening and rests upon the upper side of the plunger, and therefore when the latter is drawn back preparatory to driving the nail or clip falls into the bore of the run-way, or the channel which is provided in the core. The plunger is then advanced and carries the nail or clip to the outer or front end of the run-way and drives it at the point desired.

In order to enable the operator to hold the front end of the run-way in place while advancing the plunger, I provide said end of the run-way with lugs 22, which may be arranged to straddle a twig, branch, or other part of the fence, and may, if desired, be pressed into the surface of the upright to which said twig or branch is to be secured.

It will be obvious that when a carrier or magazine becomes emptied it may be removed from the guide and refilled and then replaced, without removing the cap-plate of the guide, or a number of filled carriers or magazines may be carried to the field and inserted successively as their predecessors are emptied. This feature of carrying a number of magazines I have found of advantage for the reason that it is inconvenient, particularly in cold weather, and a great loss of time to fill the magazine after using all of the clips contained therein. By this arrangement a filled magazine can be inserted just before the previous magazine is emptied, thus providing for continuous operation.

Before insertion into the guide, the magazine or carrier is arranged in a position shown in Fig. 4, and as the said magazine or carrier

has a closed bottom the clips may be arranged in the compartments with facility; but when the magazine or carrier is arranged in the guide, it is inverted to bring the open side of the magazine in contact with the floor of the guide, for obvious reasons. This inverted position of the carrier is shown in Fig. 2.

It will be understood, furthermore, that various changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described my invention, I claim—

In a hand nailing machine, the combination with a run-way and a longitudinally movable plunger operating therein; of a separate straight tubular guide provided at an intermediate point with a clip detachably embracing the run-way to secure the guide thereon at right angles thereto, said tubular guide being open at its opposite ends and provided with a bottom feed opening communicating with the run-way, a magazine or carrier mounted to slide within the tubular guide and provided with an open side closed by the floor of the guide and with a series of parallel transverse partitions forming chambers or compartments for the reception of nails or clips and also forming a continuous operating rack, said magazine or carrier when inverted being adapted to act in the capacity of a container for the nails or clips before insertion into the guide, and a hand operated actuating pawl arranged to project through the bottom opening of the guide and to engage against the partition walls of the magazine or carrier to feed the latter within the guide, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

GEORGE W. HEIRD.

Witnesses:

JOHN H. SIGGERS,
HAROLD H. SIMMS.