(No Model.)

T. FOWLER.

NAIL DRIVING MACHINE.

No. 345,679. Patented July 20, 1886.

Fig 1

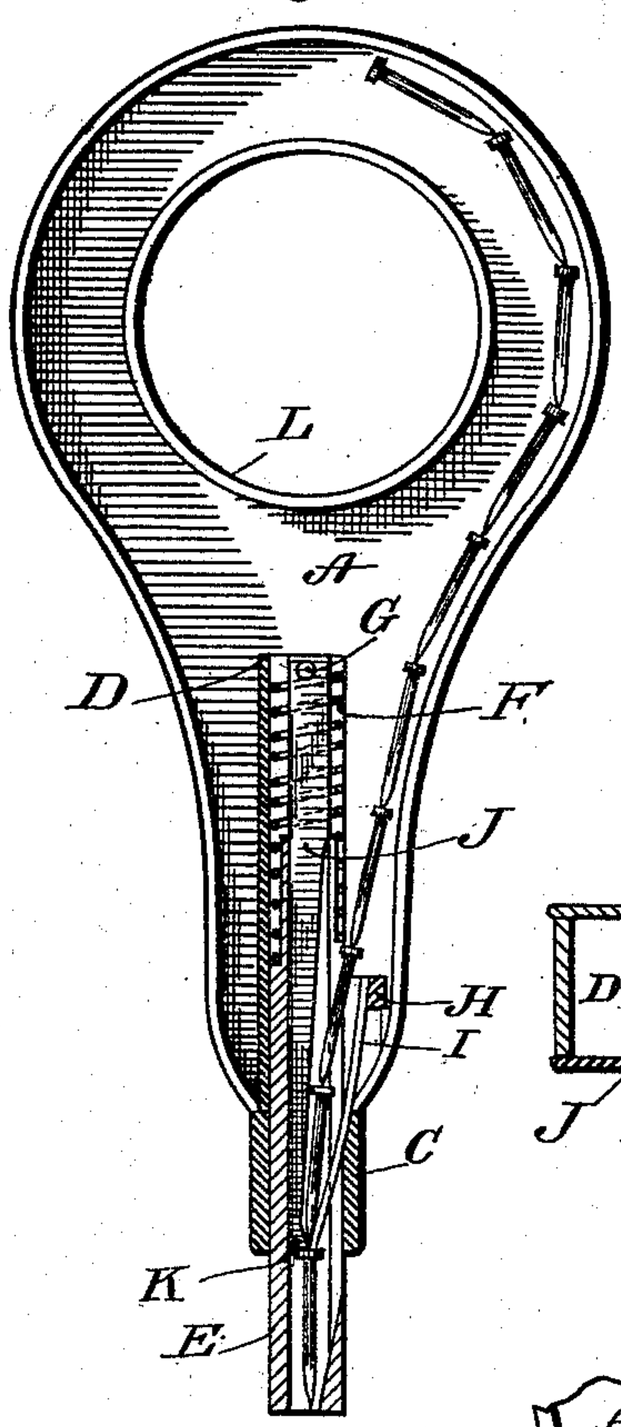


Fig 2

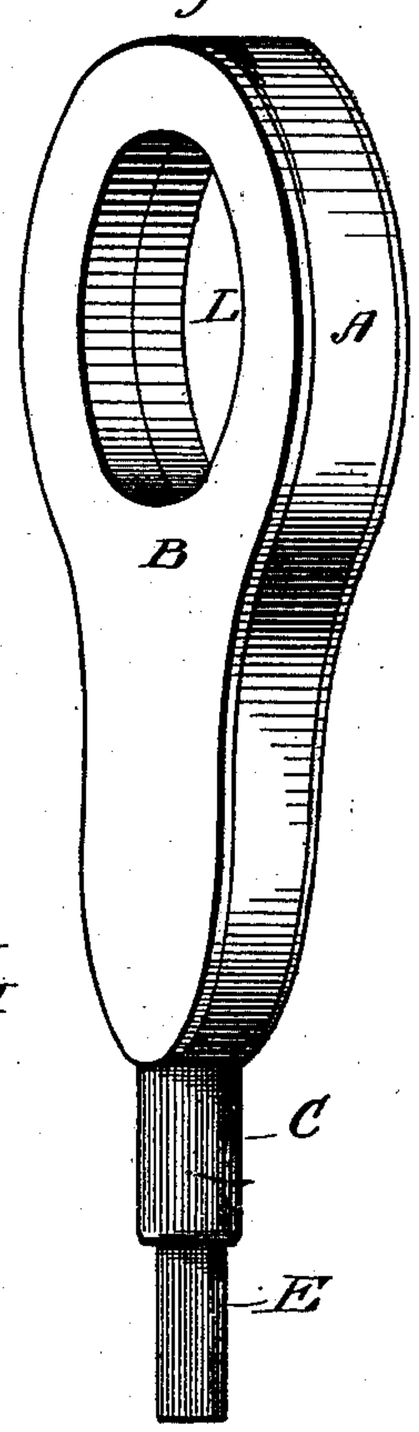


Fig 3

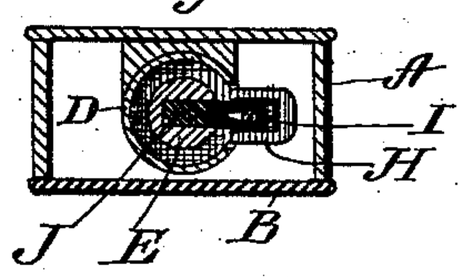
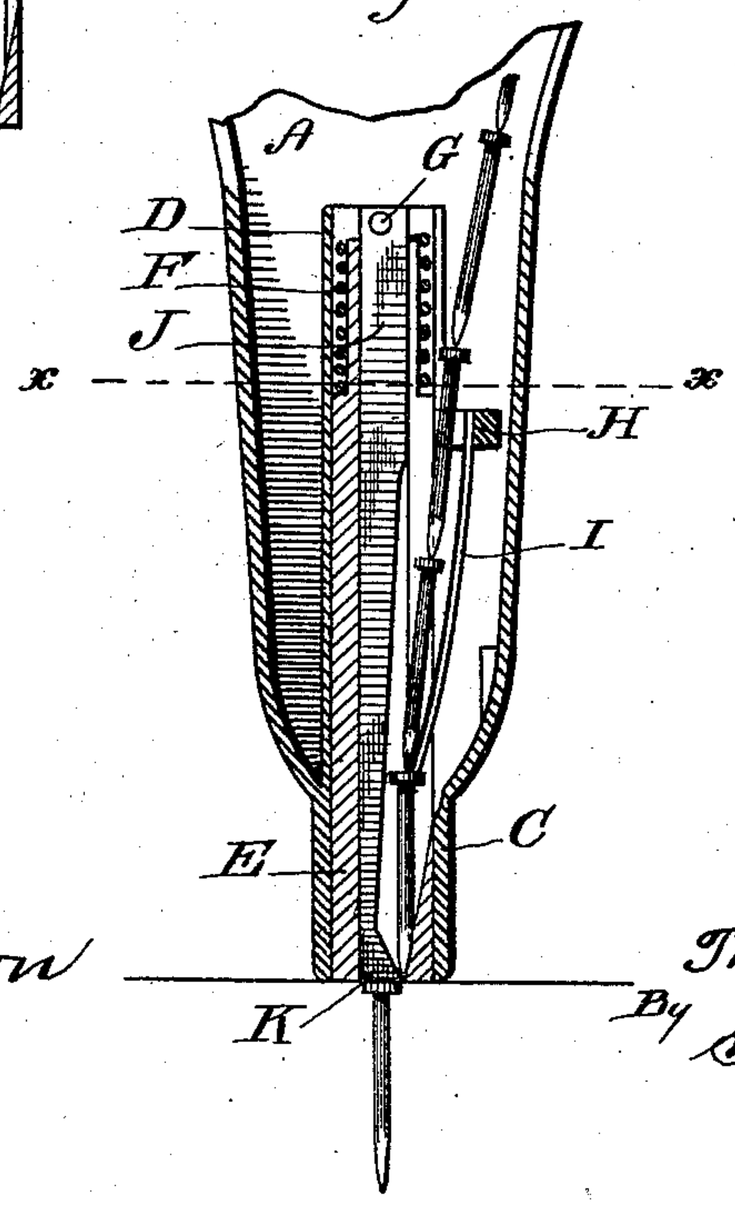


Fig 4



Witnesses
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UNITED STATES PATENT OFFICE.

THADDEUS FOWLER, OF SHELTON, ASSIGNOR OF ONE-HALF TO THOMAS B. DE FOREST, OF BIRMINGHAM, CONNECTICUT.

NAIL-DRIVING MACHINE.

SPECIFICATION forming part of Letters Patent No. 345,679, dated July 20, 1886.

Application filed April 15, 1886. Serial No. 198,951. (No model.)

To all whom it may concern:

Be it known that I, THADDEUS FOWLER, a citizen of the United States, residing at Shelton, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Nail-Driving Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain new and useful improvements in automatic nail-driving machines, and has for its object to provide a device for holding, feeding, and driving a continuous string or series of nails, such as is shown and described in a certain application for Letters Patent, bearing Serial No. 187,982, and filed by me on the 8th day of January, 1886; and with these ends in view my invention consists in the details of construction and combination of elements hereinafter fully explained, and then recited in the claims.

In order that those skilled in the art to which my invention appertains may fully understand its construction and operation, I will describe the same in detail, referring by letter to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is central vertical section through a driver, showing the parts in their normal position, and a short length of nails properly adjusted for driving; Fig. 2, a perspective; Fig. 3, a transverse section taken at the line *x x* of Fig. 4, and Fig. 4 a vertical section showing the position of the parts after the nail is driven and cut off.

Similar letters denote like parts in all the figures of the drawings.

A is a hollow case provided with a suitable cover, B, and serves both as a handle for the manipulation of the machine, and also to hold a coil of the nails, hereinbefore referred to, and of which a short length is shown at Figs. 1 and 4. The case at its lower end terminates in a rigid tubular projection, C.

D is a slotted guide-tube extending upward within the case and rigidly attached to one wall thereof. It forms a continuation of the tubular projection C, and is of the same internal diameter. Within this slotted tube is arranged and adapted to slide a hollow nose-piece, E, which is shouldered for the abutment of the spiral spring F, whereby it is actuated. A pin, G, confines the upper end of the spring. The nose-piece is slotted at one side for a portion of its length, and its interior opening tapers toward its lower end. (See Figs. 1 and 4.)

H is a yoke bridging the slot in the nose-piece. It serves as a guideway for the nails into the interior of the nose, and also as a stop to limit the downward movement of the latter.

I is a feed-spring secured to the yoke. Its action will presently appear.

J is the driver, which is secured at its top to the pin G. It extends downward within the spiral spring and the sliding nose-piece, and its lower extremity, which is in the same horizontal plane with the end of the tubular projection C, terminates in a wedge-shaped toe-point, K. The driver has no movement whatever relative to the case or guide-tube.

The operation of my improvement is as follows: A suitable length of the nails is coiled around the hub L within the case, and its forward end led downward through the yoke and into the sliding nose, so that the position of the nails relative to the mechanism of the driver is as shown at Fig. 1—that is, the driver-toe is in engagement with the head of the lowest nail, and the point of the feed-spring is also in engagement with the head of the nail, but upon the side opposite to the driver-toe. To drive the nail, the extremity of the nose-piece is placed upon the spot where it is desired to set the nail and a smart blow struck upon the top of the case. This forces the sliding nose-piece backward within the guide-tube against the action of the spiral spring until the parts are in the position illustrated at Fig. 4—viz., the nose-piece entirely within the tubular projection and the nail firmly driven. In the downward course of driver and nail the tapered interior of the nose-piece sets the nail toward the wedge-shaped toe, whose point severs the nail from the string, as seen at Fig. 4. The upward movement of the nose-piece carries the yoke and spring upward with it, and the extremity of said spring engages with the head

of the nail next above that just driven, then, as the resiliency of the spiral spring returns the nose-piece downward to its normal position, the string of nails is drawn down by the grasp of the feed-spring to the position shown at Fig. 1, and ready for driving.

It will be observed that my device is exceedingly simple in its construction, but at the same time perfectly automatic, since the recovery from each blow constitutes a feed of great certainty. If the nail is driven to its whole length the feed-spring must engage with the nail next above, and in order that the nose-piece may return to its normal position the coil must be drawn downward one step—that is to say, one nail.

I am aware that driving-machines for use in connection with a string or series of nails are not broadly new, and, furthermore, that such machines adapted both to set the nails and sever the same have heretofore been employed, and I do not therefore desire to be understood as laying claim to those features as of my invention, but only to the construction and arrangement of parts herein described and illustrated, and embodied in the claims which form a part hereof.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a device of the character described, of the case in which the coil of nails is adapted to be wound, the stationary wedge-pointed driver secured therein within the guide-tube, the spring-actuated vertically-sliding nose-piece arranged around the driver, and the feed-spring secured to the nose-piece, and whereby the nails are successively placed within the field of the driver, substantially as set forth.

2. In a nail-driving machine, the combination of the driver secured inside the case, of the spring-controlled and vertically-sliding nose-piece arranged around the same, and the feed-spring secured to the sliding nose-piece and adapted to reciprocate therewith, substantially as specified.

3. In a nail-driver, as described, the combination of a case provided with a removable cover, and having therein a hub, around which the nails are adapted to be wound, a slotted guide-tube secured within the case, a hollow, slotted, and internally-tapered nose-piece within the guide-tube, and a spring for holding the latter without the case, a stationary toe-pointed driver arranged within the sliding nose, and a feed-spring secured to and adapted to reciprocate with the sliding nose-piece, substantially as described.

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

THADDEUS FOWLER.

Witnesses:
S. H. HUBBARD,
S. S. WILLIAMSON.