

(No Model.)

T. FOWLER.
NAIL DRIVING MACHINE.

No. 355,762.

Patented Jan. 11, 1887.

Fig. 1.

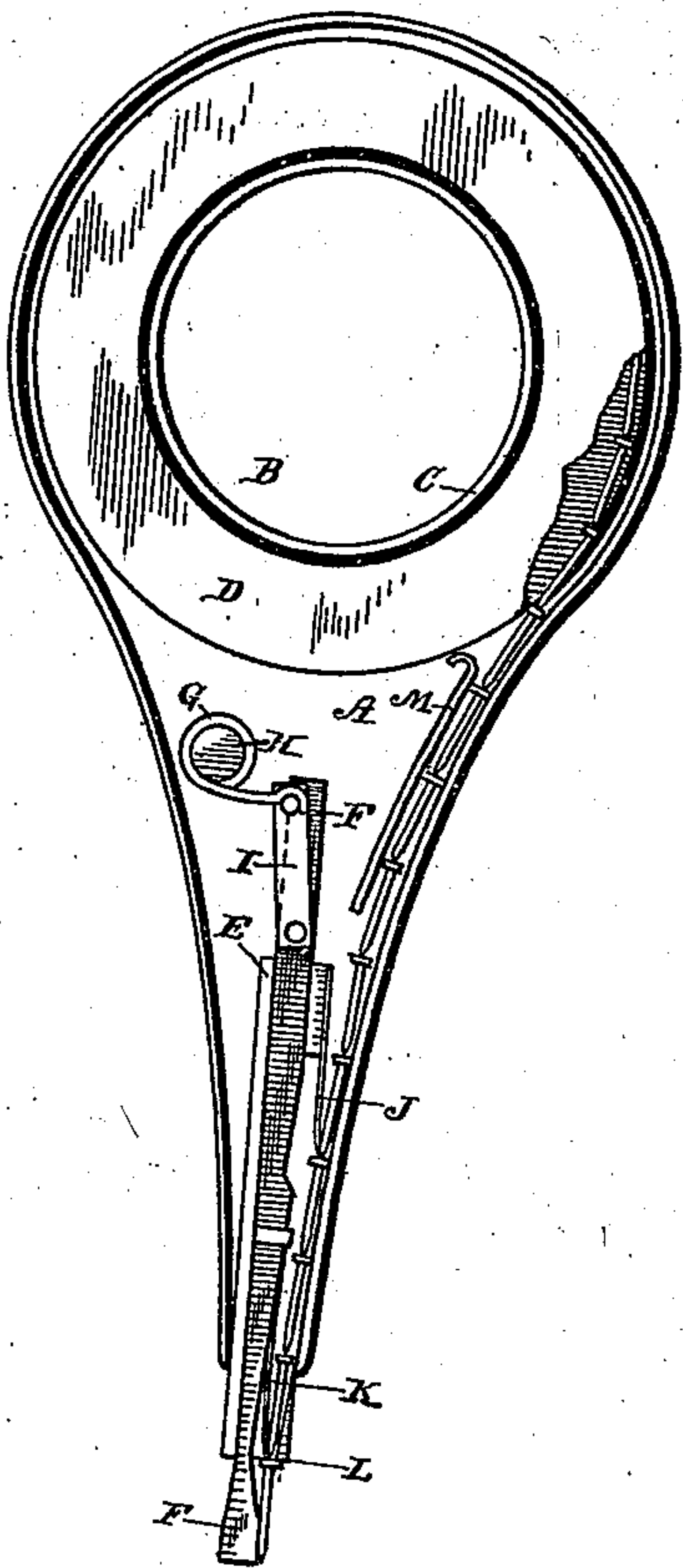


Fig. 2.

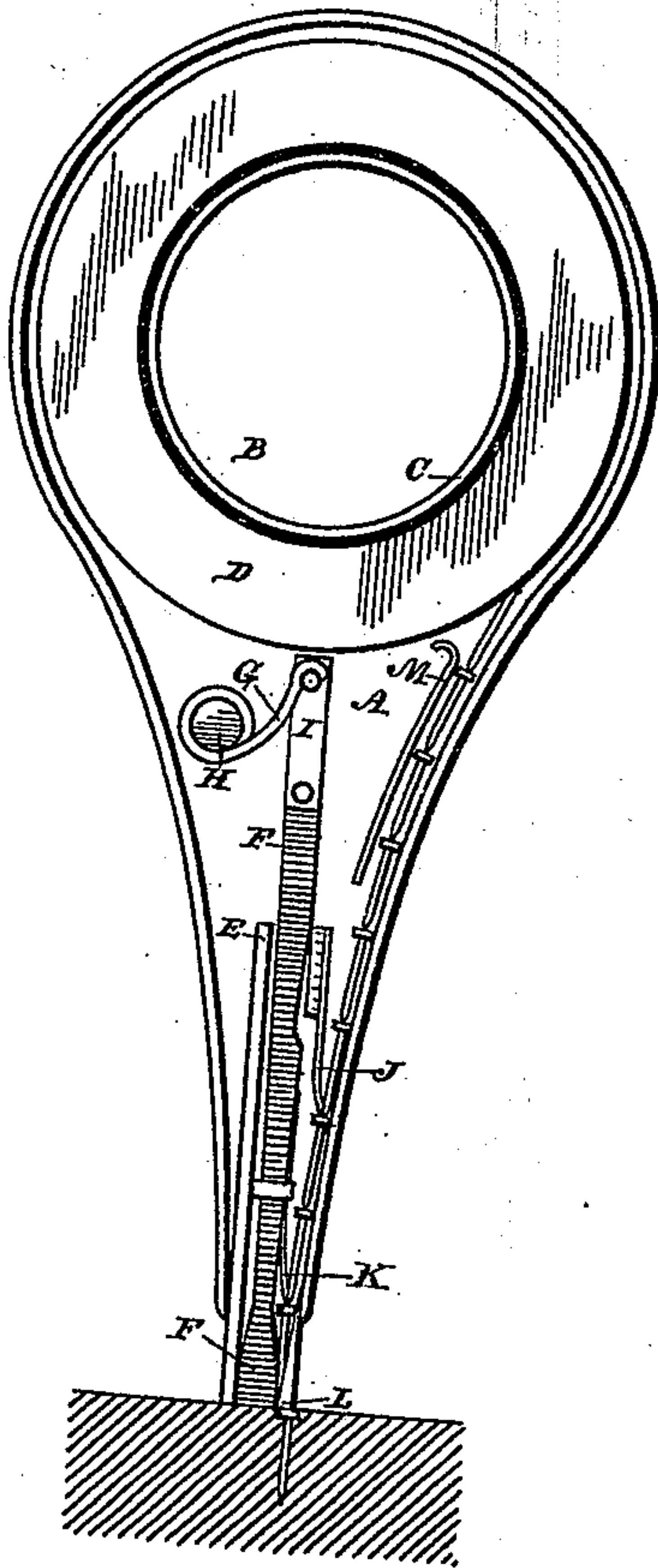


Fig. 3.

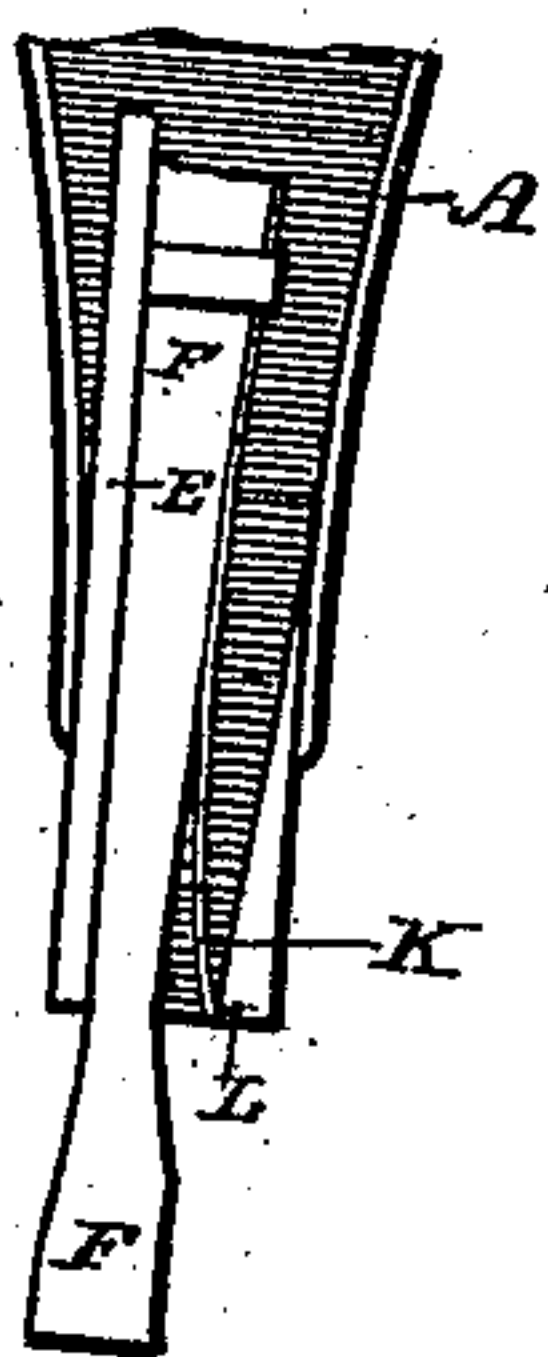
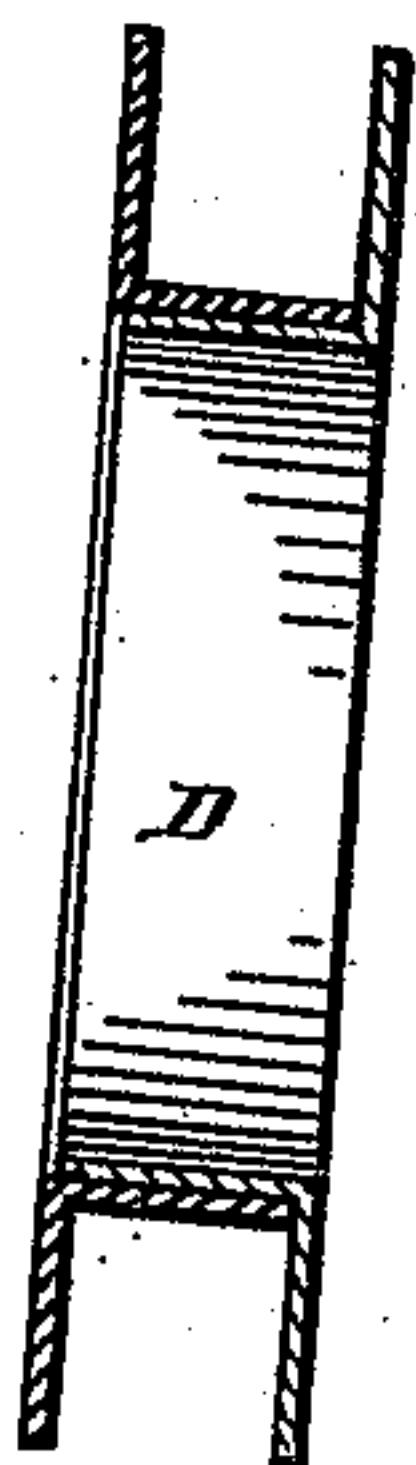


Fig. 4.



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. 355,762, dated January 11, 1887.

Application filed September 24, 1886. Serial No. 214,421. (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 machines for driving nails, but more especially such nails as are shown and described in Letters Patent of the United States No. 341,413, granted to me the 4th day of May, 1886.

The object of my invention is to provide a simple and portable device which will be adapted to contain a coil of the nails above referred to, and which will successively drive and cut them off, while at the same time the operator may plainly see the exact spot where he desires to place the nail, and may drive the same with accuracy; and with these ends in view my invention consists in the details of construction 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 how to make and use my improvement, I will describe the same in detail, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 shows my device with the cover removed and with a nail in proper position for driving; Fig. 2, a similar view, but showing the position of the parts after a nail has been driven and cut off; Fig. 3, an enlarged detail of the driving and severing devices; and Fig. 4, a section of the nail-holding reel, which appears in plan view at Figs. 1 and 2.

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

A is the hollow case, which has an opening, B, near its top, to form a suitable handhold.

C is a hub, preferably of thin sheet metal, secured around the edge of the opening B, and D is a reel which fits within the case and turns

upon the hub. I prefer to make the reel of two parts fitted together, as shown at Fig. 4, since nails in merchantable coils may be placed upon one of the detached parts and there retained by putting on the other part, when the reel and coil are ready to be placed in the case.

E is a guide-plate, rigidly secured in the case and extending from its lower extremity vertically upward, as shown in the drawings.

F is the sliding cut-off bar, which lies alongside the guide-plate, as seen at Fig. 1, when at rest. It is narrowed backward from its extremity, for the purpose presently explained.

G is a spring coiled about a post, H, within the case, and its end through a link, I, is connected to the cut-off bar, upon which it exerts a constant downward pressure.

J is a detent-spring secured to a post in the case, which post also serves as a bearing for the upper end of the cut-off bar. Said detent-spring holds the length of nails as against any withdrawal from the driving devices.

K is the feed-spring, whose function, as will presently appear, is to successively draw down the nails from the coil and place them in proper engagement with the driver L, which is a small inward projection at the lower extremity or nose of the case, and which engages the head of the lowest nail upon one side thereof, while the feed-spring engages it upon the other, as is shown at Fig. 1.

M is a guide-rib, between which and the side wall of the case the length of nails passes to the driving mechanism.

The operation of my improvement is as follows: In Fig. 1 the lowest nail is shown with its head in engagement with the driver, and with its body and point lying alongside the backwardly-inclined end of the spring-actuated cut-off bar. As the nail is in no way inclosed or hidden from sight, the operator may place it for driving with great accuracy. In the driving the case is pressed or driven downward, which forces the nail into the wood and at the same time forces the cut-off bar backward within the case. As it thus moves backward, its inclined edges, by their contact with the end of the guide-plate and nail, crowd the latter against the driver, and thereby severs

it from the string. The two positions of the cut-off bar relative to the guide-plate may readily be seen by reference to and comparison of Figs. 1 and 2. The upward movement of the cut-off bar relative to the case causes the feed-spring to move up and catch upon the head of the nail next above the one driven, and draw it down into engagement with the driver as the cut-off bar is returned out of the case by its spring.

I find the construction hereinbefore described to be very convenient and exceedingly advantageous for the following reasons: First, it is exceedingly simple and contains practically but one moving part; second, the reel turning freely upon the hub causes the nails to be very easily pulled down to the driver; third, in adjusting a fresh coil of nails they are very readily placed in position on the reel; fourth, in engaging the length of nails with the driving mechanism they do not have to be introduced through any guideway or eyes.

Having thus described my invention, I claim—

1. The combination, in a device of the character described, with the case arranged to hold a coil of nails, of the stationary driver secured upon the nose of said case, the spring-actuated cut-off bar adapted to slide in and out of said case, and the feed-spring secured upon and adapted to move with the cut-off bar, substantially as set forth.

2. In a nail-driving machine, the hollow case having an opening therethrough near its top to serve as a hand-hold and the hub surrounding said opening, in combination with the reel arranged within the case and adapted to turn upon the hub, substantially as set forth.

3. The combination, with the nail feeding, driving, and severing devices, of the case having the opening at its top and the reel arranged and adapted to turn within the case, as and for the purpose set forth.

4. The combination, with the stationary driver, as described, of the spring-actuated

cut-off bar arranged to slide in and out of the case and inclined backward from its lower extremity, the guide-plate against which said bar normally rests, the feed-spring secured to and carried by the cut-off bar, and the detent-spring whereby the nails are secured as against retraction, all arranged as described, and for the purpose set forth.

5. In a nail-driving machine, the combination, with the nail delivery and cut-off, of the case having an opening therethrough to serve as a hand-hold, the hub around the opening, and the two-part separable reel arranged to turn upon the hub, substantially as and for the purpose specified.

6. The hollow case provided with the opening for a hand-hold, and the hub and reel arranged to turn upon the hub, in combination with the stationary driver secured upon the nose of the case, the spring-actuated cut-off bar inclined backward from its point, and the feed-spring secured to and adapted to move with the cut-off bar, substantially as described.

7. The combination of the case and the reel arranged to turn therein with the stationary driver, the stationary guide-plate extending up within the case from the nose thereof, the reciprocating cut-off bar arranged to slide against the guide-plate, the feed-spring secured to and carried by the cut-off bar, the detent-spring and the spiral spring connected to the cut-off bar and adapted to throw the same without the case, substantially as set forth.

8. The combination, with the driver, of the spring-actuated cut-off bar whose extremity is inclined backward, the stationary guide-plate against which the cut-off bar lies and whereby it is deflected during its backward movement, and the feed-spring secured to the cut-off bar.

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

THADDEUS FOWLER.

Witnesses:

HENRY S. DE FOREST,
D. JOSEPH FOLEY.