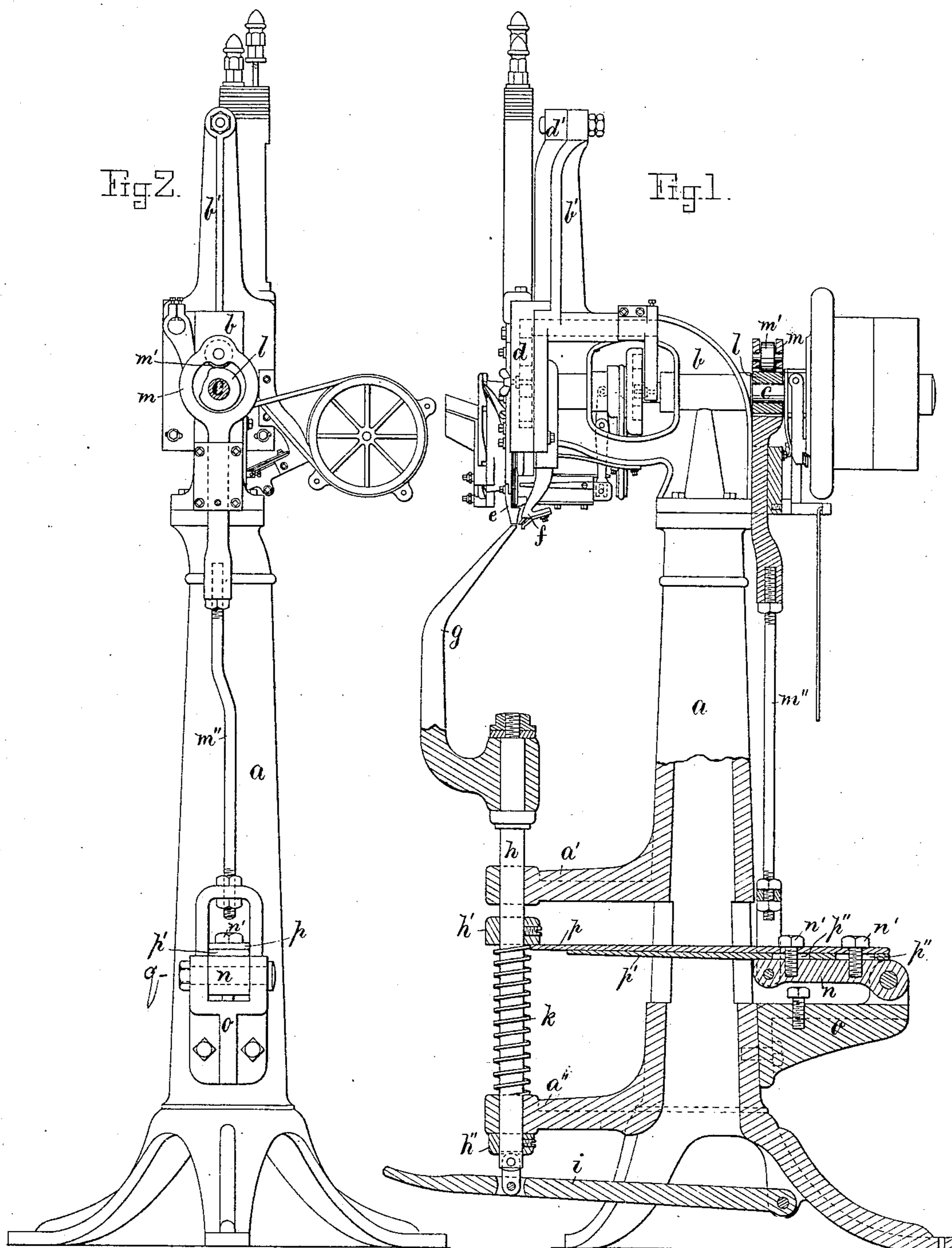


(No Model.)

E. MERRITT.  
NAIL DRIVING MACHINE.

No. 279,579.

Patented June 19, 1883.



Witnesses

Henry Chadbourne.  
H. Allen.

Inventor

Edward Merritt  
by *Wm. Andrew* his atty

# UNITED STATES PATENT OFFICE.

EDWARD MERRITT, OF BROCKTON, MASSACHUSETTS.

## NAIL-DRIVING MACHINE.

SPECIFICATION forming part of Letters Patent No. 279,579, dated June 19, 1883.

Application filed November 20, 1882. (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 Nail-Driving Machines; 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 nail-driving machines; and it consists of an improved mechanism for producing a continuous but varying pressure of the work against the throat or the presser-foot of the machine, for which purpose the invention is carried out as follows, reference being had to the accompanying drawings, where—

Figure 1 represents a sectional side elevation of a nail-driving machine provided with my improvement; and Fig. 2 represents a rear elevation of the same, showing the driving-pulley as being removed.

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

$a$  is the usual standard, to the upper end of which is secured the usual head,  $b$ , in the ordinary manner, which head is provided with the rotary driving-shaft  $c$  and its connecting mechanism to the various parts of the machines, as usual.

$d$  is the swinging head, pivoted at  $d'$  to the upper end of the standard  $b'$ , projecting upward from the fixed head  $b$  in the ordinary way.

To the lower part of the swinging head  $d$  is attached the usual rigid throat,  $e$ , in the ordinary way.

$f$  is the vertically-operated presser-foot, which is operated by a suitable cam, as usual, to press the work downward away from the throat  $e$  to allow the swinging head to move to one side preparatory to feeding the work.

$g$  is the horn, adapted to swing around the upper end of the vertical spindle  $h$ , which latter is guided in the stationary bearings  $a'$  and  $a''$ , attached to the front of the standard  $a$ , as usual. The lower end of the spindle  $h$  is jointed to the treadle-lever  $i$ , by means of which the horn  $g$  may be depressed to allow the shoe to be placed on the top of said horn and removed

therefrom after being nailed. Between the upper part of the bearing  $a''$  and a collar,  $h'$ , on the spindle  $h$  is located a coiled spring,  $k$ , the object of which is to balance the horn  $g$  and its spindle  $h$  and to hold the upper end of the said horn at all times with a light upward pressure against the work held between the upper end of the horn and the throat or presser-foot.

$h''$  is a collar secured to the horn-spindle  $h$  below the bearing  $a''$ , which collar serves as a stop against the under side of the bearing  $a''$ , so as to prevent the upper end of the horn from coming in contact with the throat when no work is supported on said horn.

For the purpose of holding the horn up against the work with an increased pressure during the driving of the nails, and at all times except during the feed of the work over the upper end of the horn, I arrange and use the following mechanism: On the driving-shaft  $c$  is secured the cam  $l$ , which works in the ring or strap  $m$ , preferably provided with an anti-friction roller,  $m'$ , in its upper end, as shown. The ring  $m$  is made in one piece with or secured to the rod or link  $m''$ , the lower end of which is hinged to the forward end of the bar or plate  $n$ , such bar or plate being hinged in its rear end to the arm or bracket  $o$ , secured to the rear of the standard  $a$ .

To the top of the bar  $n$  is secured, by means of screws  $n' n'$ , the flat springs  $p$  and  $p'$ , which project through a slotted opening in the standard  $a$ , as shown, the forward end of the upper spring,  $p$ , resting against the under side of the collar  $h'$ , as shown in Fig. 1. The lower spring,  $p'$ , being adjustable forward and back on the upper spring,  $p$ , to increase or decrease the pressure on the collar  $h'$ , as may be desired, for which purpose said spring  $p'$  is provided with slotted perforations  $p'' p''$ , through which the screws  $n' n'$  pass, and in this manner an increased pressure is brought to bear upward on the horn  $g$  and the spindle  $h$ , for the purpose and at the time as specified by the action of the cam  $l$ , strap  $m$ , rod  $m''$ , hinged bar  $n$ , and springs  $p$  and  $p'$ . The spring  $p$  may be provided with one or more adjustable leaves,  $p'$ , as may be desired. The action of the cam  $l$  is such that it will depress the springs  $p' p'$  during the time in which the feed of the work over the upper end of the horn takes place,

and thus remove the increased upward pressure of the horn during the time of feeding; but at all other times during the operation of the machine such increased pressure upward  
5 on the horn is occasioned by the cam *l*, its strap *m* and rod *m''* raising the spring *p* upward and causing its free end to act on the collar *h'* with an upward pressure to hold the work firmly between the upper end of the horn  
10 and the throat while the driver is in the act of driving the nail.

I have not referred to or described in detail the manner of operating the awl and driver-bars and swinging-head feed mechanism, as  
15 such parts of the head of the machine are similar or alike with those previously patented by me, and form no subject-matter of the present application.

*q* is an adjustable set-screw on the bracket *o*  
20 to regulate the motion of the bar or plate *n*.

What I wish to secure by Letters Patent, and claim, is—

In a nailing-machine, the combination of the spring *k* on the spindle *h*, for holding the horn *g* upward with a constant pressure, with 25 the spring or springs *p p'* and connecting mechanism, substantially as described, to the driving-shaft *c*, for forcing the said horn *g* upward with an increased pressure against the work during the operation of driving the nails, as 30 set forth.

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

EDWARD MERRITT.

Witnesses:

ALBAN ANDRÉN,  
HENRY CHADBURN.