A. SMITH.

Machines for Driving Nails.

No. 145,818. Patented Dec. 23, 1873.

Fig. 1.

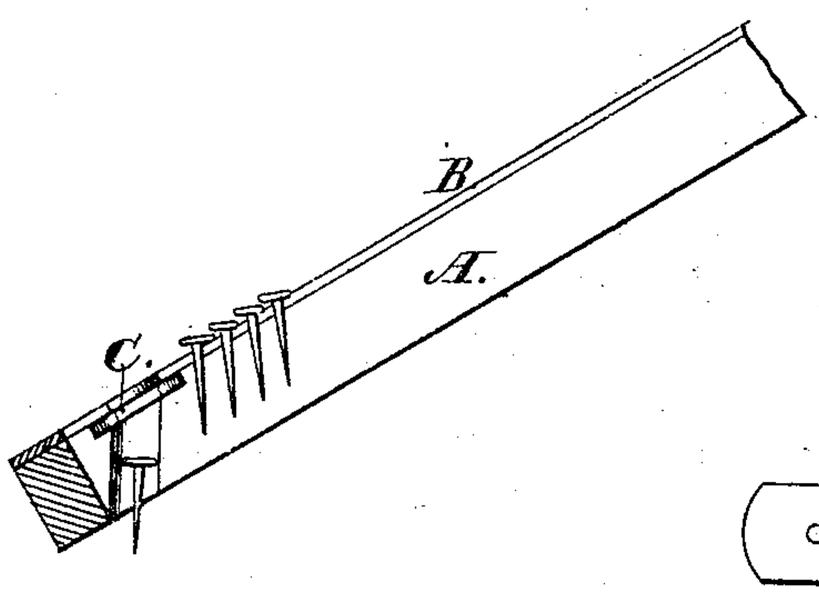


Fig. 3.

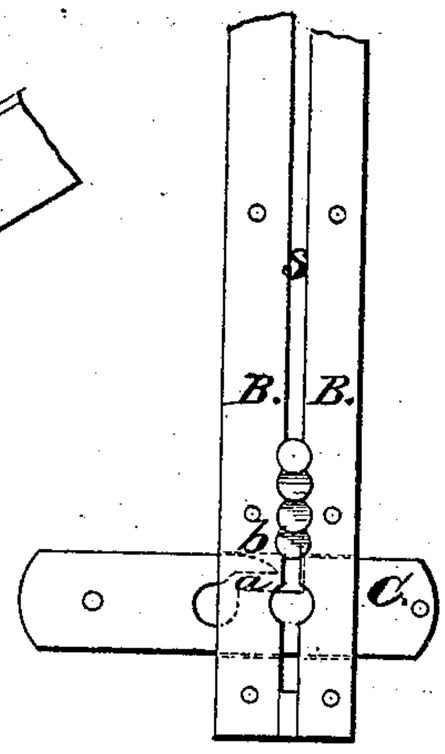


Fig. 4.

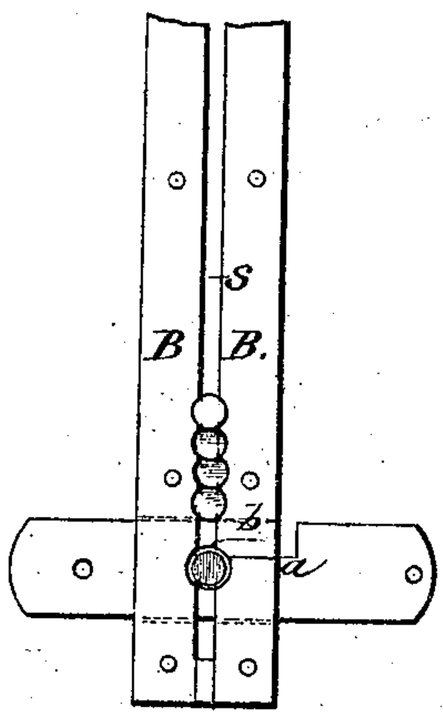


Fig. 2.

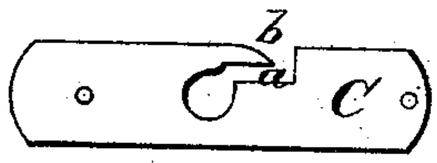
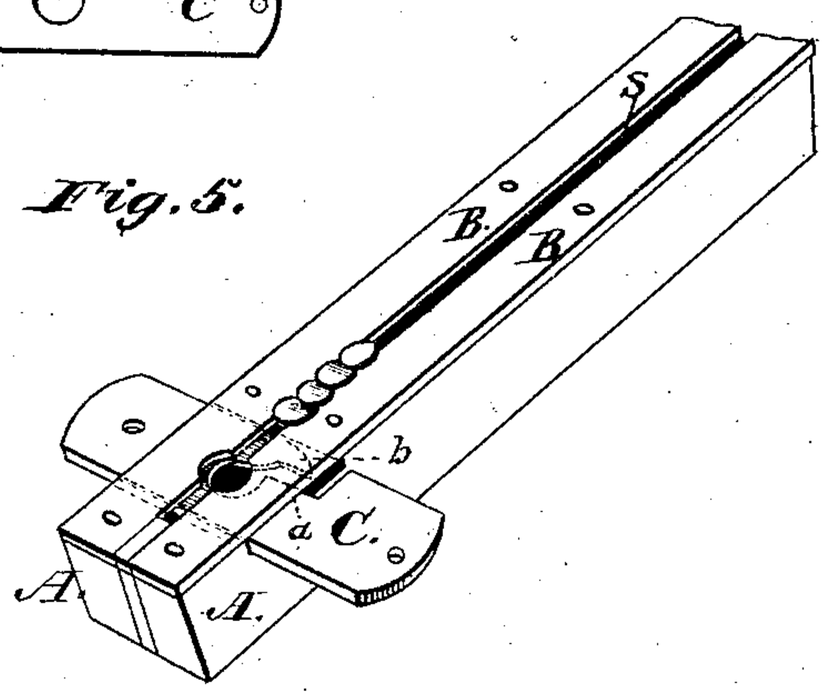


Fig. 5.



Witnesses.
James O. Foup.
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UNITED STATES PATENT OFFICE.

ADDISON SMITH, OF PERRYSBURG, OHIO.

IMPROVEMENT IN MACHINES FOR DRIVING NAILS.

Specification forming part of Letters Patent No. **145,818**, dated December 23, 1873; application filed March 3, 1873.

To all whom it may concern:

Be it known that I, ADDISON SMITH, of Perrysburg, in the county of Wood and State of Ohio, have invented a certain Improvement in Machines for Driving Nails or Tacks, of which the following is a specification:

My invention relates to that part of the machine known as the "cut-off," whose office is to detach from the mass one nail or tack at a time, to receive the stroke of the driver, which forces the detached nail into the box or other object whose several parts are to be joined together.

Figure 1 is a vertical longitudinal section of the inclined guide-bars, between which the tacks, resting on their heads, pass downward to the cut-off C, underneath which the slot or space between the bars is widened, so as to pass the nail or tack when detached or cut off. These bars are conveniently made of cast-iron, and the upper face laid with thin steel plate, having a slot and enlarged opening corresponding with that of the guide-bars underneath.

Fig. 2 presents a face view of the cut-off C. It is composed of a thin plate or bar of steel, into the upper edges of which is cut a notch, somewhat resembling a bayonet-notch. This bar or cut-off plays freely back and forth across the inclined guide-bars, and close to the under surface of the steel plate facing the same. It receives motion, through suitable connections, from the driving power. Its two extreme positions are shown in Figs. 3 and 4, respectively. It takes the position of Fig. 3 at the end of the forward thrust of the driving-bar, and that of Fig. 4 at the end of the back stroke.

Now, it will be seen that, when the nail is driven home at the end of the forward stroke, the opening into the notch of the cut-off lies directly across the slot in the guide-bars, so that the column of tacks in the slot rests upon the horizontal edge *a* of the cut-off, as shown in Fig. 3. Upon the reverse movement of the cut-off, the finger *b* is immediately thrust between the lowermost nail of the column and the one next above. By this means the bottom nail is detached or cut off, while the column of tacks now in turn rests upon the finger *b*. The cut-off still advances until the horizontal edge *a* passes beyond the slot in the guide-bars, when the detached nail, now unsupported, drops through the opening at the end of the slot in the guide-bars into its seat below, to be driven home.

Fig. 5 is a perspective view of the parts before described. A, the two guide-bars; B, steel facing; C, cut-off bar. The line of overlapping circles along the slot *s* indicates the heads of the nails or tacks in the several figures, and the two vertical dotted lines in Fig. 5 the opening for the passage of the detached tack.

The steel facing B does not appear in Figs. 3 and 4, in order that the working of the cut-off may be more clearly seen.

I claim—

The combination of the plate C, provided with its finger *b* and notched shoulder *a*, with the feeding device B, whereby they support alternately the column of tacks, and supply them singly to the opening below, substantially as and for the purpose described.

ADDISON SMITH.

Witnesses:

JAMES O. TROUP,

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