(No Model.)

2 Sheets—Sheet 1.

E. LEHMANN.

HAND NAILING IMPLEMENT.

No. 489,020. Patented Jan. 3, 1893.

Fig. 1.

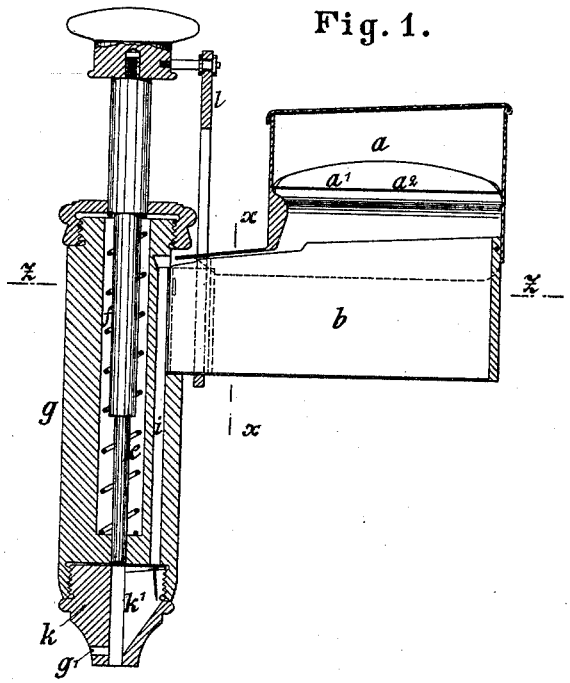


Fig. 2.

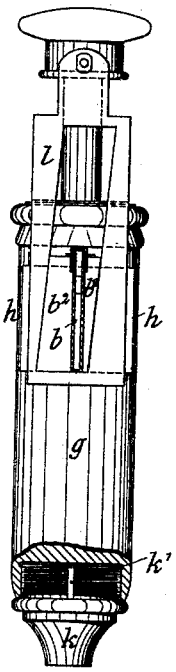


Fig. 3.

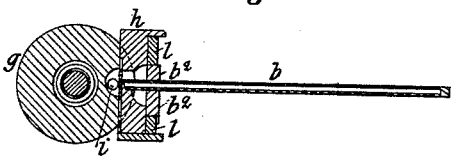
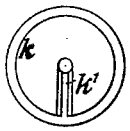


Fig. 4.



WITNESSES:

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(No Model.) 2 Sheets—Sheet 2.

E. LEHMANN.

HAND NAILING IMPLEMENT.

No. 489,020. Patented Jan. 3, 1893.

Fig. 5.

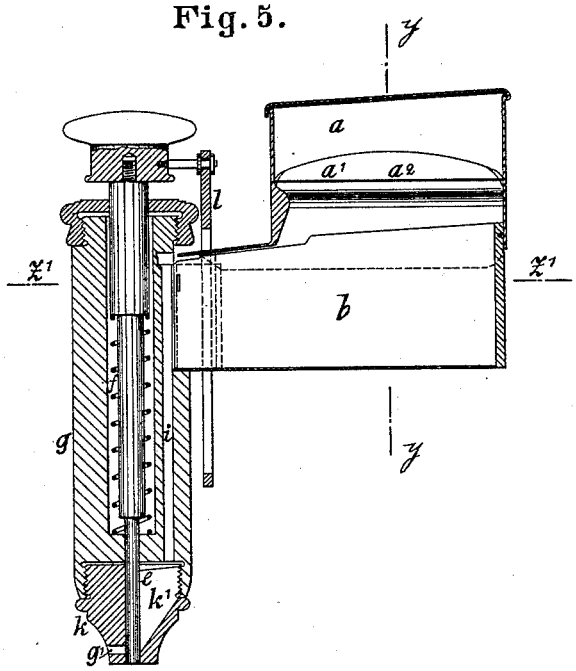


Fig. 6.

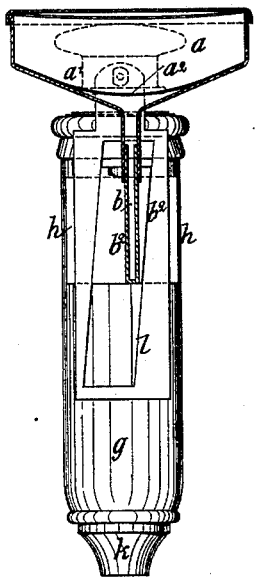


Fig. 8.

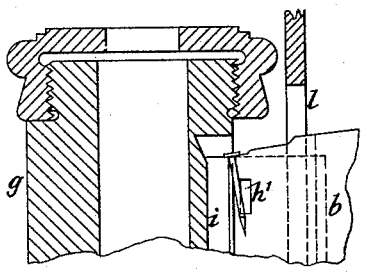


Fig. 7.

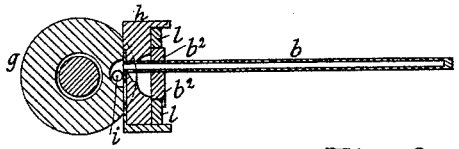
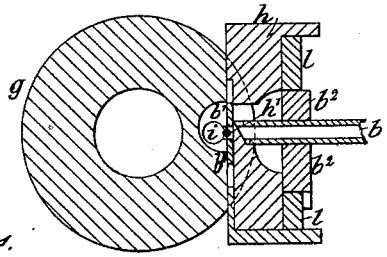


Fig. 9.



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UNITED STATES PATENT OFFICE.

EDMUND LEHMANN, OF BAUTZEN, GERMANY.

HAND NAILING IMPLEMENT.

SPECIFICATION forming part of Letters Patent No. 489,020, dated January 3, 1893.

Application filed August 24, 1892. Serial No. 443,964. (No model.)

To all whom it may concern:

Be it known that I, EDMUND LEHMANN, a subject of the King of Saxony, residing at Bautzen, in the Kingdom of Saxony, Empire of Germany, have invented certain new and useful Improvements in Nailing-Tools, of which the following is a specification.

This invention relates to an improved tool for feeding and driving nails such as are used in the manufacture of cigar and other boxes, for connecting sheet metal plates, for attaching small ornamental articles, &c.

By means of this tool the nails or pins can be fed to the proper place without being manipulated and they will be driven rapidly and true, without danger of being bent.

The invention consists in the various features of improvement more fully pointed out in the claims.

In the accompanying drawings: Figure 1 is a vertical section through my improved tool. Fig. 2 a longitudinal section on line x, x, Fig. 1. Fig. 3 is a horizontal section on line z, z, Fig. 1. Fig. 4 a top view of the screw plug. Fig. 5 a vertical section of the tool, similar to Fig. 1, but showing the parts in a different position. Fig. 6 is a vertical section on line y, y, Fig. 5. Fig. 7 a horizontal section on line z', z', Fig. 5. Figs. 8 and 9 are detailed sections on an enlarged scale of parts of the tool.

The letter g, represents a tubular socket or casing provided with an inclosed vertically movable magnetic spring plunger e.

b, is a chute communicating with the tube and adapted to feed the nails received from a hopper a, arranged above the chute. The nails or pins received by the hopper a, fall successively through a perforation a^2, of a plate a', and into the chute b. Upon the inclined edges of this slot the nails will be suspended by their heads and will thus slide into the tube and beneath the plunger.

The tube g, carries at its upper end and within a lateral notch, a block h, having a groove or slot, in which the chute b, is guided by means of flanges b', projecting at right angles from the chute (Fig. 9). The chute b, opens into a channel i, arranged in the wall of the tube. At its lower end the tube is partially closed by a screw plug k, having a central perforation for the plunger and a slot k', communicating with said perforation and also with the channel i. The slot k', is provided with an enlarged and inclined guide groove for the heads of the nails, (Figs. 2 and 4.) To the plunger e, there is pivotally secured a link l, sliding in a suitable vertical groove of the block h. The link l, is provided with an oblique slot that embraces blocks b^2, attached to the chute b. These blocks have inclined contact faces, corresponding to the inclination of the link. Normally, the plunger is held by a spring f, at such a height that its lower end is situated directly above the central opening of the screw plug k. A further raising of the plunger will be prevented by the connecting link l, that will strike against the lower side of the chute b, as shown in Fig. 1. Every time the plunger arrives at this position, the oblique sliding faces of the connecting link l cause a lateral movement of the chute b, in the block h, so that the passage of the chute b, is brought into line with the vertical channel i, and the foremost nail of the row of nails hanging upon the upper edges of the chute b, can slide or slip into the channel (Figs. 3 and 9). The nail then drops through the channel i, and is caught up in the slot k', the head of the nail resting in the inclined guide groove, with which the slot k', is provided at its upper side. As soon as the nail has reached the position described, it will be attracted by the lower end of the magnetic plunger e, so that the nail will hang freely within the central perforation of the screw plug. By now depressing the plunger, the nail will be driven into the work, while the chute b, containing the nails is moved in a lateral direction by means of the oblique sliding faces of the connecting link l, and the blocks b^2, so that the passage of the chute will no longer coincide with the channel i, but will be closed, as shown in Fig. 7.

In order to cause only the foremost nail to slip from the chute into the channel i, at the end of the upward stroke of the plunger, there is fixed to the block h, a wedge shaped arm h', (Fig. 9) entering into a suitable slot of the chute b, when the latter is moved laterally. This arm passes between the first and second nails, so that the first nail will slip into the channel i, while the other nails will be held back.

To prevent the nails from sliding back along the chute, when the tool is inclined during use, the edges of the chute b, are provided with steps or shoulders (Figs. 1 and 5) a special step or shoulder being provided for the foremost nail, as shown in Fig. 8.

The central perforation of the screw plug k, communicates with the air by a vent g', for preventing the formation of a partial vacuum during the upward stroke of the plunger.

What I claim is:

1. The combination of a slotted tube with an inclosed magnetic plunger, a laterally movable chute having contact blocks b^2 and with an obliquely slotted link pivoted to the plunger and embracing the blocks, so as to impart the lateral motion to the chute, substantially as specified.

2. The combination of a slotted tube with an inclosed plunger, a grooved guide h secured to the tube a flanged chute having inclined blocks b^2 and engaging the guide and with an obliquely slotted link pivoted to the plunger and engaging the blocks b^2, substantially as specified.

Signed at Dresden this 27th day of July, 1892.

EDMUND LEHMANN.

Witnesses:
ERNST LORENZ,
HERNANDO DE SOTO.