(Model.)

J. H. SWIFT.

BOX NAILING MACHINE.

No. 251,316. Patented Dec. 20, 1881.

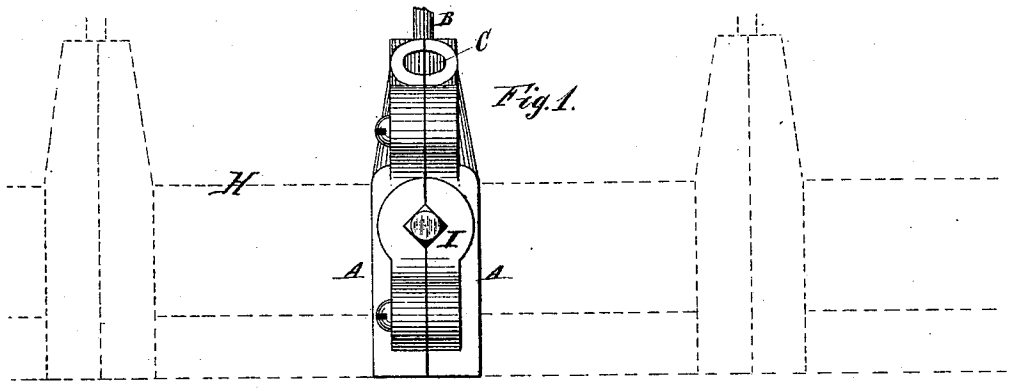

Fig. 1.

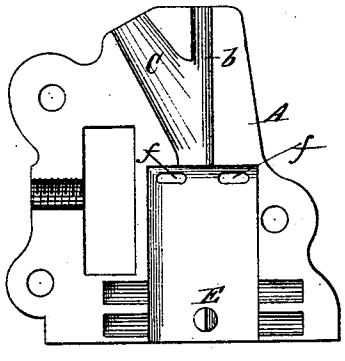

Fig. 2.

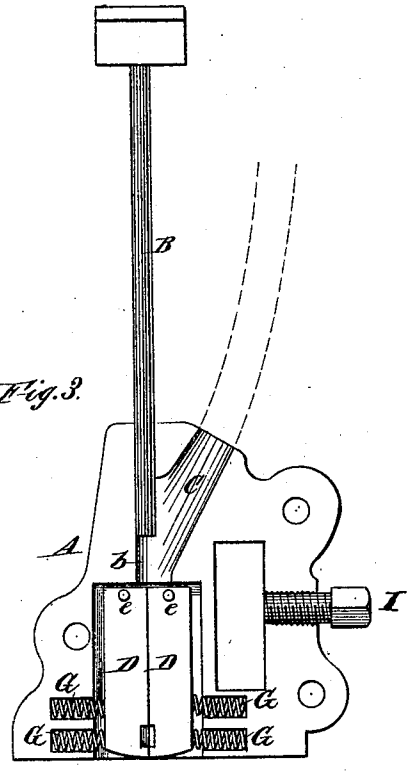

Fig. 3.

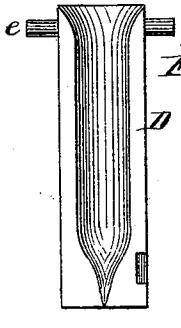

Fig. 4.

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UNITED STATES PATENT OFFICE.

JOSEPH H. SWIFT, OF BROOKLYN, NEW YORK.

BOX-NAILING MACHINE.

SPECIFICATION forming part of Letters Patent No. 251,316, dated December 20, 1881.

Application filed January 17, 1881. (Model.)

To all whom it may concern:

Be it known that I, JOSEPH H. SWIFT, of Brooklyn, Kings county, State of New York, have invented certain new and useful Improvements in Box-Nailing Machines, whereof the following is a specification.

My invention consists in a guide and die-holder adapted to be adjusted on a support, with dies suspended therein and limited by centering-stops to always close in the same position, together with the combined details of construction therefor, as exemplified in the one form of construction shown.

My said improvements relate to a class of box-nailing machines wherein the nails are fed in through tubes from the top of the machine and into nail-guides that are arranged over the box to be nailed, and are preferably secured to a cross-bar passing crosswise through them, such bar being secured to the side frames of the machine.

Figure 1 shows a front view of the device, which I term a "combined nail-guide and die-holder," as the same is seen when in place on the cross-bar of a box-nailing machine. Figs. 2 and 3 show vertical sections of the guide and die-holder with the dies in position in Fig. 3, exposing the interior of the two halves or sections. One of these halves, Fig. 3, is seen to contain the nail-dies and accessories. Fig. 4 shows the face of one of the nail-dies and the groove therein.

A, Fig. 1, represents one of my improved combined nail-guides and die-holders as they appear when in position in the box-nailing machine. It is formed in two halves or sections united by screws, and is made fast in place on a cross-bar, H, (dotted,) by a set-screw, I, in the usual manner of securing the nail-guides now in use. Figs. 2 and 3 show the two sections separated, exhibiting the interior.

B is the nail-driver, working in a vertical guide-way, *b*.

C is the way or passage in which the nails are fed, commonly through a tube reaching to the top of the nailing-machine. The nail-passage C is disposed in a diagonal position as to the nail-driver guideway *b*, and forms a junction therewith, so that nails coming in through said passage C will take their place under the lower end of the nail-driver.

Immediately under the junction of the nail-passage with the driver-guideway I form a cavity in the two sections, and introduce therein the pair of nail-dies D. The office of these dies is to hold the nail in position to insure its being struck by the driver B, and also to control the nail by its sides when in the act of being driven into the box in process of being nailed, the nail slipping out between the lower ends of the dies as it goes into the wood of the box.

A separate view of one of the dies is given in Fig. 4, showing the inner face and the form of the groove therein. The upper part of the groove is of such size that when the two sections are placed together they form a pocket large enough to receive a nail of any size from a tenpenny down to a brad. Near the lower ends the groove is very shallow and so narrow that the pair of dies will retain the smallest nail without permitting it to drop through.

The dies are held together by means of spiral springs G, placed in recesses made therefor, and, by preference, I employ two pairs—one pair for each half or mate of the dies; and the dies are retained in their cavity against the downward friction of the nail and nail-driver by trunnion-studs *e*—one on each side of each die—upon which trunnions the dies are suspended in their cavity. This plan of holding the dies avoids the necessity of a floor to support them and allows the dies to be brought right down in almost immediate contact with the box being nailed, whereby the nail in being driven is held under control up to the last moment. When the dies, on withdrawal of the nail-driver therefrom after driving a nail, are brought together again by the force of the spiral springs G each mate of the pair is prevented from crossing over the center line of the nail-driver way by a limiting-stop, E, termed a "centering-pin," whereby the pair of dies are caused to instantly assume and maintain a constant position centrally of the nail-driver. The pin E is beveled on the sides, and a corresponding nick, *j*, is made in the dies. The studs *e* on the dies enter and play in slots *f* in the two sections of the nail-guide A.

The construction may be varied within the scope of my improvements.

I claim as my invention—

1. A guide and die-holder having separate ways for the plunger and nails and recesses for the dies, springs, and suspension-pivots, and provided with centering-stops and supporting-slot and set-screw, in combination with dies having suspension-pivots and recesses for the centering-stops, springs, and nails, substantially as set forth.

2. The combination of a guide and die-holder adapted to be adjusted on a support and having separate ways for the plunger and nails and centering-stops for the dies with dies suspended therein forming a nail-cavity and limited in movement by the centering-stops and closing-springs, substantially as set forth.

3. The combination of a die-holder adapted to be adjusted on a support with dies suspended therein and limited by centering-stops to always close in the same position.

JOSEPH H. SWIFT.

Witnesses:
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