No. 692,740. Patented Feb. 4, 1902.

S. VAN AUKEN.

NAILING IMPLEMENT.

(Application filed Feb. 13, 1901.)

(No Model.) 2 Sheets—Sheet 1.

FIG. 1.

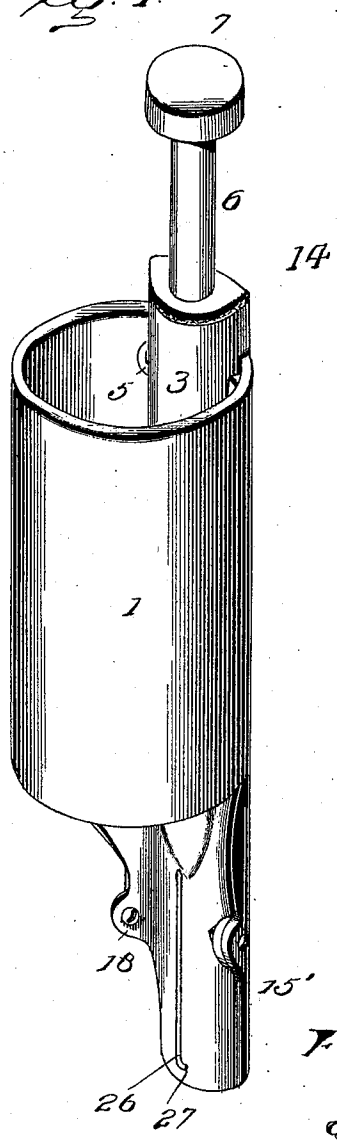


FIG. 2.

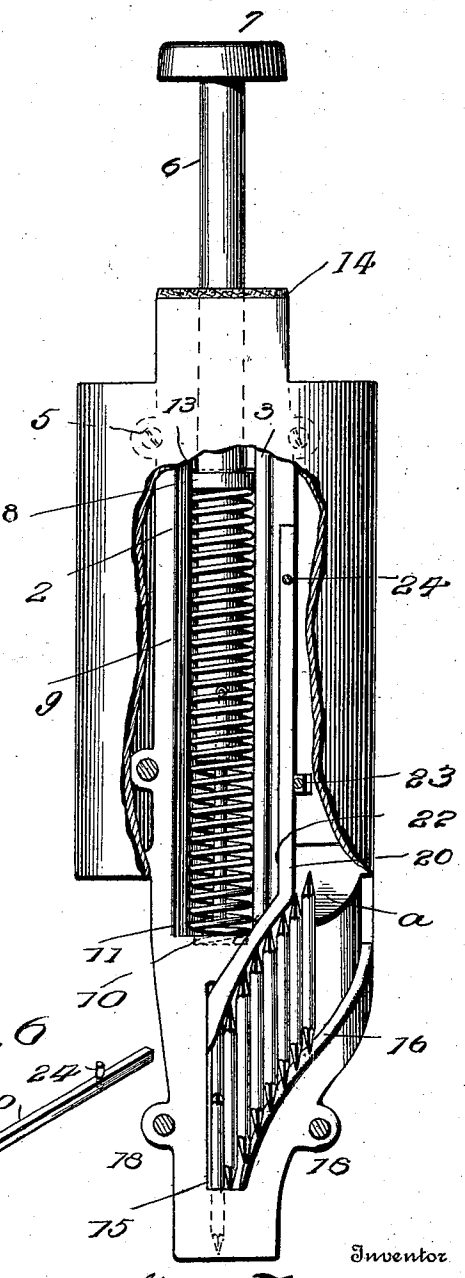
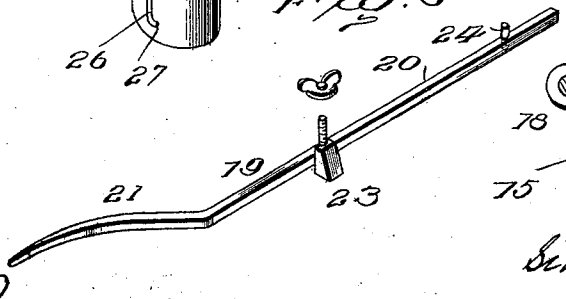


FIG. 6.



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(No Model.) 2 Sheets—Sheet 2.

FIG. 3.

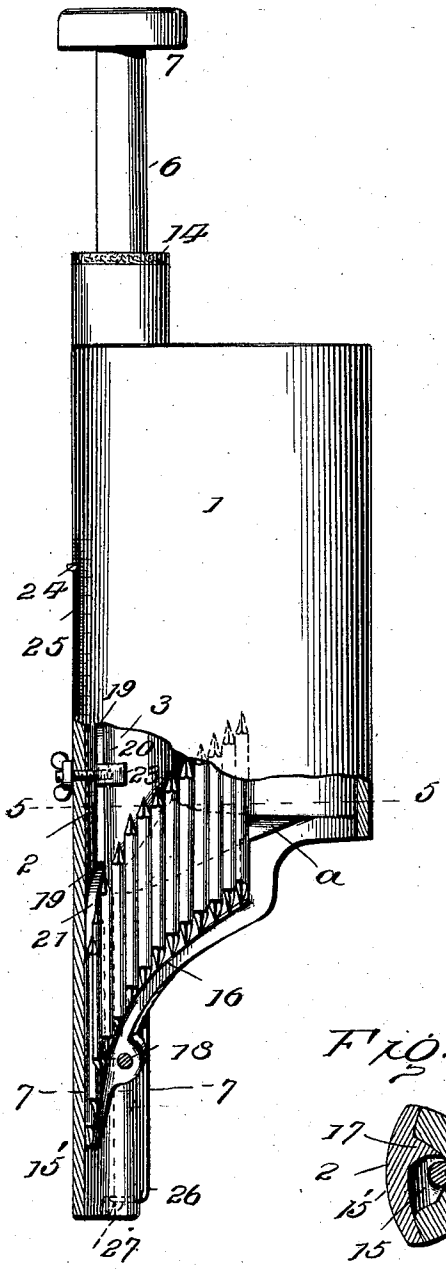


FIG. 4.

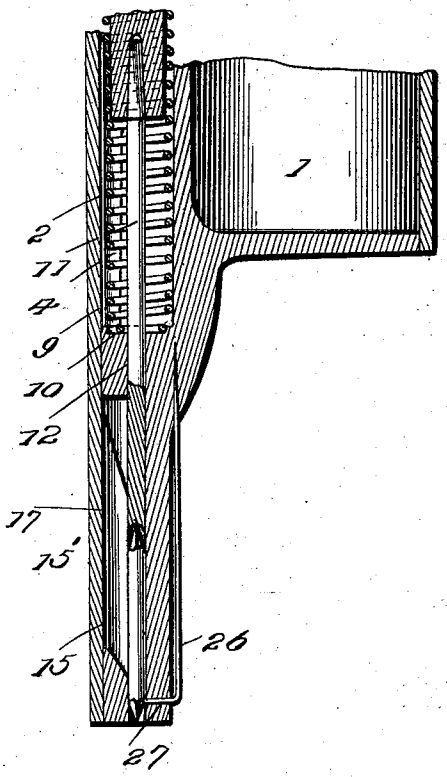


FIG. 5.

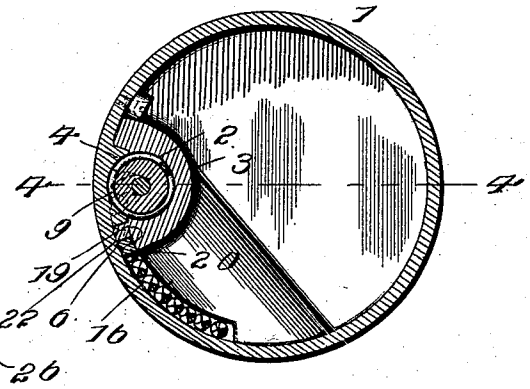


FIG. 7.

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UNITED STATES PATENT OFFICE.

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NAILING IMPLEMENT.

SPECIFICATION forming part of Letters Patent No. 692,740, dated February 4, 1902.

Application filed February 13, 1901. Serial No. 47,175. (No model.)

To all whom it may concern:

Be it known that I, SIDNEY VAN AUKEN, a citizen of the United States, residing at Saginaw, in the county of Saginaw and State of Michigan, have invented certain new and useful Improvements in Nailing Implements; 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 generally to implements or tools for feeding and driving nails, pins, brads, but more particularly to an implement especially designed for feeding and driving specially-constructed metal pins into the mortised joints of doors, sashes, blinds, and other similarly-jointed articles; and it consists of the novel construction and peculiar arrangement of the several parts, as will be hereinafter more fully described, and briefly stated in the claims.

The principal object of the invention is to simplify and cheapen the construction of this class of implements without in the least impairing their durability and effectiveness.

Other objects of the invention will become apparent upon further description thereof.

In the drawings, Figure 1 is a perspective view of my improved nailing implement; Fig. 2, a front elevation with the front of the magazine-shell partly broken away to show the feedway and driving mechanism; Fig. 3, a side elevation, partly broken away, to show the means for securing the compound nail gage and guide-bar forming part of the feedway; Fig. 4, a vertical section of the lower portion of the implement on line 4 4 of Fig. 5; Fig. 5, a transverse section on line 5 5 of Fig. 3; Fig. 6, a perspective view of the compound nail gage and guide-bar, and Fig. 7 a cross-section on line 7 7 of Fig. 3.

Referring to the several views, the numeral 1 indicates a suitable nail or pin magazine, the inner side wall of which is provided with a bore or chamber 2, which extends from the lowest point of the bottom to a short distance above the upper edge of the magazine and may be formed partly in the side wall of the magazine and partly in a casing 3, the inner side edges of the bore portion of the casing being rabbeted to receive the edges 4 of the bore portion formed in the magazine-wall, as shown in Fig. 5. The casing 3 is provided with perforated ears 5, by means of which it may be secured to the magazine-wall by screws, as shown. Operating within the bore is a driver 6, which is provided with a head 7 and an annular flange or collar 8. The driver is held in a normally-restrained position by means of a coil-spring 9, which sits between the flange 8 and the bottom 10 of the bore, said bottom being provided with a slight annular groove to form a seat for the lower end of the spring. Removably attached to the driver is a driver-rod 11, which passes through a central perforation 12 in the bottom of the bore and has its lower end preferably countersunk, as shown in Fig. 4, the purpose of which will be hereinafter explained. The driver is held against accidental displacement by any suitable means, preferably by an annular shoulder 13, formed on the inner side of the bore-wall, against which shoulder the flange 8 abuts, as shown in Fig. 2. The upper end of the wall of the bore is provided with a cushion 14, of leather or other suitable material.

The casing 3 extends below the bottom of the magazine, and in line with the bore 2 is a nail or pin receiving channel 15, the outer wall of which is formed by an extension 15′ of the magazine-shell. Opening into this channel is a feedway 16, a portion of the magazine-bottom being inclined downward, as shown at *a*, to facilitate the feeding of the nails or pins. The bottom of the magazine and the extension in which the channel 15 is formed are preferably integral with the casing 3, as is also the inner wall of the feedway, the outer wall being formed by the extension 15′. A vertical rib 17, slightly concave in cross-section, projects from the inner side of the extension 15′ into the channel 15, as shown in Fig. 7. This rib 17 serves as an abutment against which the nails or pins are alined directly under the driver-rod 11. The casing extension is secured to the extension 15′ by means of screws passing through ears 18 on the casing extension and holes in the extension 15′.

In order to properly feed nails or pins of various lengths, I provide the upper part of the feedway with an adjustable gage guide-bar 19, consisting of a straight portion 20 and a

curved portion 21, the portion 21 serving to assist in guiding the nails or pins to a proper alinement under the driver and to regulate the height of the feedway to accommodate nails or pins of varying length when properly adjusted. The straight portion of the gage guide-bar is seated in a rabbet 22, made in one of the edges of the casing 3, and is adjustably secured therein by any suitable means, preferably by a wedge-block 23, provided with a screw-threaded shank and binding-nut, as shown in Figs. 3 and 6. The wedge-block rests against the outer side edge of the part 20, with the shank passing through a hole in the magazine-wall. By tightening the binding-nut the wedge-block is caused to press firmly against the part 20 and wedge it in its seat in the rabbet. On the upper end of the straight portion of the compound gage and guide-bar is a pin 24, projecting through a slot 25 in the magazine-wall, and on the side edges of said slot are certain marks indicating various lengths of nails or pins, so that by adjusting the pin 24 to any one of these marks the gage guide-bar may be adjusted to feed nails or pins of a given length and to guide the same properly into the receiving-channel under the driver.

As the pins for securing the mortised joints of doors, sashes, and blinds are to be fed from the bulk, they have both of their ends pointed, as shown, so that successful driving will be insured. In order to provide a greater impact-surface between the point of the pins and drive-rod, I countersink the end of said rod, as before stated, to receive said point. To prevent the pin from dropping out of the channel 15 before being driven, I provide a spring 26, which has one end projecting through a perforation 27, leading into said channel, and is adapted to bear against the pin with sufficient force to retain it in position until driven.

By means of my improved implement or tool nails or pins may be accurately fed into the receiving-channel and properly alined under the driver without manipulation other than is imparted by the shock caused by striking the driver-head with a mallet or other tool. As thus alined the nails or pins may be driven rapidly and without danger of being bent. The implement is compact in form and readily grasped with one hand, leaving the other hand free to use a mallet for striking a blow on the head of the driver.

By having the drive-rod detachable facilitates the removal thereof in case of injury. The end which enters the socket in the shank of the driver is tang shape, and a hole is made through the shank for the insertion of a small tool to force the driver-rod out when it is to be replaced by a new one.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, in a nailing implement, of a magazine provided with an extension, as described, and having a vertical semicircular groove in the inner side of its wall, said groove forming a portion of the bore for a nail-driver, a casing provided with a groove forming the other portion of the bore, said casing having a horizontal extension, forming the bottom of the magazine, and a vertical extension provided with a nail-receiving channel, a feedway connecting the magazine with the receiving-channel, and a nail-driver, substantially as specified.

2. The combination, in a nailing implement, of a magazine provided with an extension, as described, and having a vertical semicircular groove in the inner side of its wall, said groove forming a portion of the bore for a nail-driver, a casing provided with a groove forming the other portion of the bore, said casing having a horizontal extension, forming the bottom of the magazine, and a vertical extension provided with a nail-receiving channel, a feedway connecting the magazine with said receiving-channel, a gage guide-bar adjustably secured in the feedway, and a nail-driver, substantially as specified.

3. In a nailing-machine, the combination with a supply-magazine having a feedway extension, of a nail-driving mechanism arranged within the supply-magazine, the casing of said mechanism being provided with a horizontal extension forming a bottom for said magazine, a nail-receiving channel below the driving mechanism, a feedway situated in the feedway extension and communicating with the magazine and receiving-channel, and a guide-bar vertically adjustable in said feedway extension to guide nails of different lengths.

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

SIDNEY VAN AUKEN.

Witnesses:
DENIZA MATTHEWS,
J. R. NOTTINGHAM.