No. 804,536. PATENTED NOV. 14, 1905.

M. HINDMARCH.

MAGAZINE NAIL DRIVER.

APPLICATION FILED SEPT. 14, 1904.

Fig. 1.

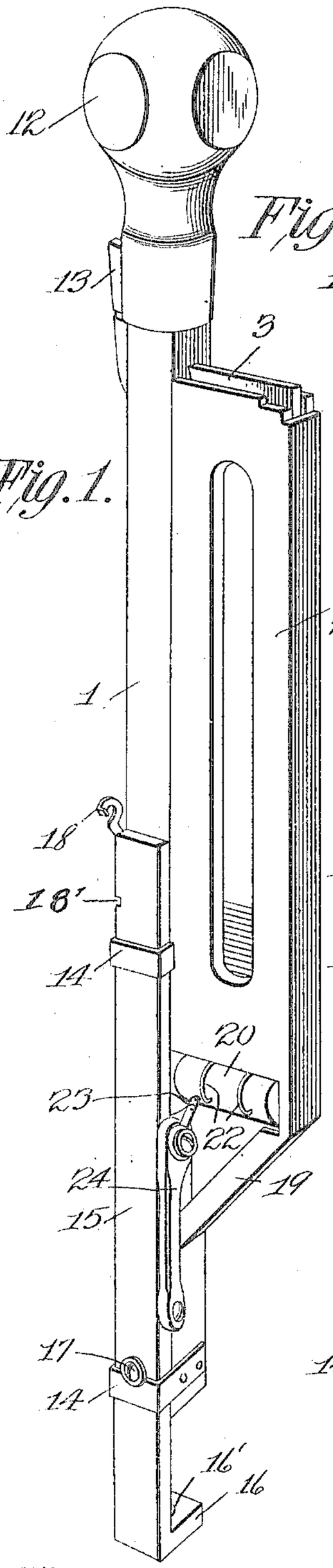

Fig. 2.

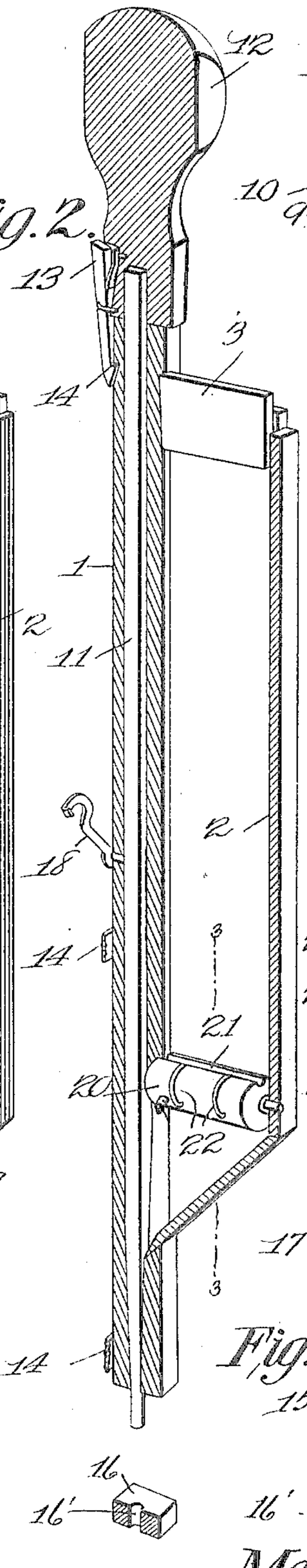

Fig. 4.

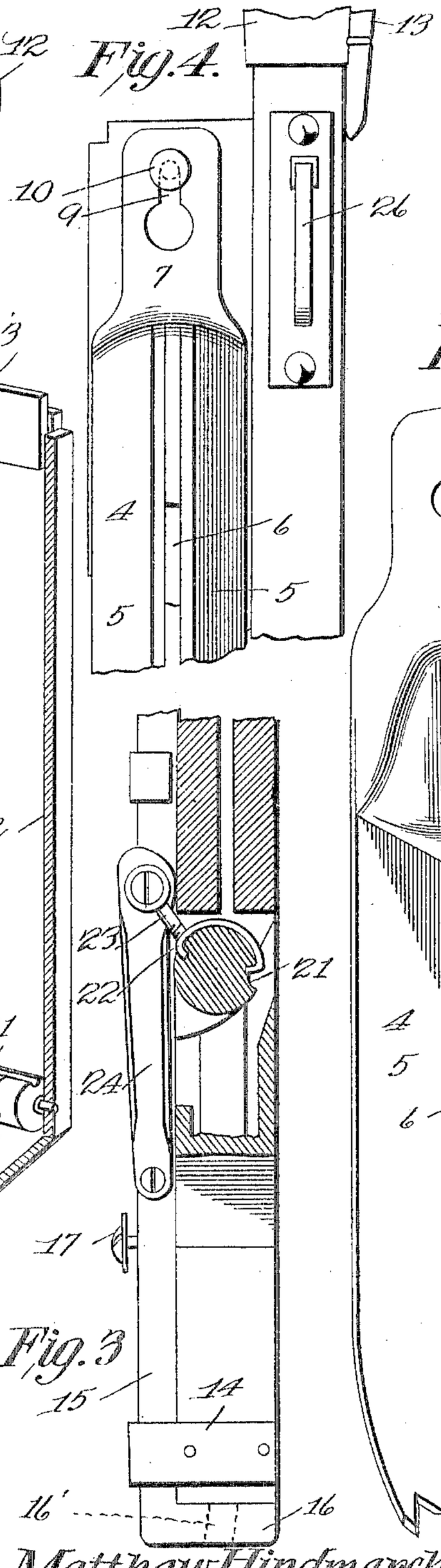

Fig. 5.

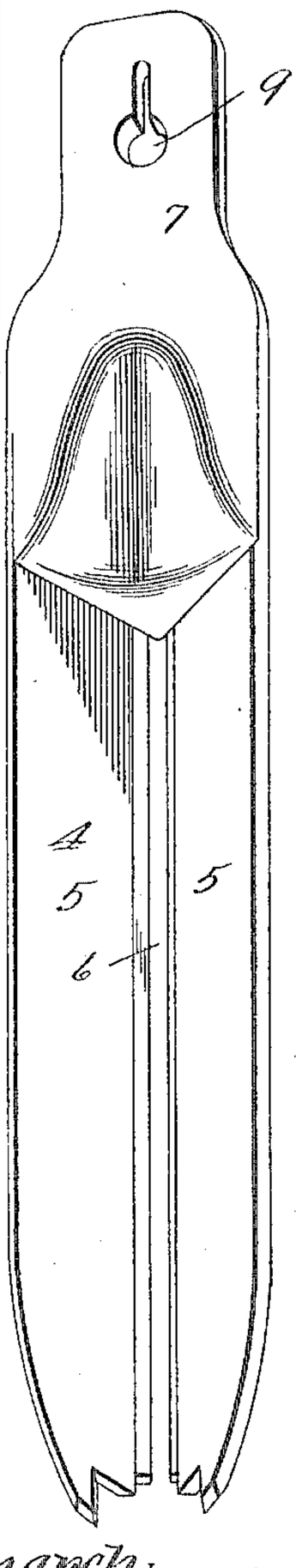

Fig. 3

Witnesses

E. C. Stewart

Jno. C. Carter

Matthew Hindmarch, Inventor

by Crosby & Co.

Attorneys

UNITED STATES PATENT OFFICE.

MATTHEW HINDMARCH, OF STURGIS, KENTUCKY.

MAGAZINE NAIL-DRIVER.

No. 804,536. Specification of Letters Patent. Patented Nov. 14, 1905.

Application filed September 14, 1904. Serial No. 224,462.

To all whom it may concern:

Be it known that I, MATTHEW HINDMARCH, a citizen of the United States, residing at Sturgis, in the county of Union and State of Kentucky, have invented a new and useful Magazine Nail-Driver, of which the following is a specification.

This invention relates to devices of that class known as "magazine nail-drivers," wherein a quantity of nails or tacks are placed in a suitable magazine and fed one by one to positions in front of a driving-rod.

One object of the invention is to provide an improved feeding device in which a feeding roller or cylinder is provided with a peripheral groove of a size sufficient to receive a single nail, said roller being partly revolved at each operation to discharge the nail contained in its groove, while the peripheral portion of the roller forms a closure to prevent the escape of the remaining nails.

A further object of the invention is to provide an implement which may be readily carried from place to place and locked in such manner as to prevent the accidental discharge of nails.

With these and other objects in view, as will more fully hereinafter appear, the invention consists in certain novel features of construction and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, size, and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, Figure 1 is a perspective view of a nail-driver constructed in accordance with the invention, the parts being shown in the positions assumed immediately in advance of the feeding of a nail from the reservoir. Fig. 2 is a sectional perspective view of the same. Fig. 3 is a transverse sectional elevation of a portion of the device on the line 3 3 of Fig. 2, the view being on an enlarged scale. Fig. 4 is an elevation of the upper portion of the device looking from the side opposite that seen in Fig. 1. Fig. 5 is a detail perspective view of the loading-trough.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

The frame of the implement comprises a hollow shank 1, which may be of rectangular or other shape in cross-section, and to one side of this shank is secured the nail-magazine 2, the magazine casing and shank being formed integral when the parts are formed of cast metal, and one side of the casing is preferably open, as shown in Fig. 1, in order that the operator may readily ascertain the quantity of nails at his command. The top of the magazine will ordinarily be closed by a removable plug 3, and during recharging operation this plug is taken out and the reloading-trough 4 placed in position in alinement with the magazine. The trough comprises a pair of arms 5, arranged at an angle to each other and separated by a groove 6 of a width sufficient to permit the passage of the shank portions of the nails, the latter dropping down through the trough, while their heads are retained therein. The shank end 7 of the trough forms a convenient handle for the device, so that it may be readily placed in a box or other receptacle containing a quantity of nails and by suitable manipulation receive the charge of nails, after which the open end of the trough is placed in alinement with the open top of the magazine, and the tool and trough are gently manipulated in order to introduce the nails within the magazine. The shank portion 7 of the trough is provided with a keyhole-slot 9 in order that the trough may be hung on a suitable headed pin 10, projecting from one side of the magazine, as shown in Fig. 4.

The shank 1 is open for its entire length and receives a hammer-rod 11, that is provided at its upper end with an operating-handle 12, and the handle carries a latch 13, the upper portion of which is within convenient reach of the fingers of the operator, while the lower portion of the latch enters a suitable slot 14, formed in the shank. At one side of the shank are arranged suitable guiding yokes and straps 14, through which extends a vertical bar 15, provided at its lower end with a projecting foot 16, having an opening 16′ in alinement with the opening of the shank and adapted for the passage of the hammer-rod during the driving operation. This slide or bar 15 is free to drop by gravity when the apparatus is being used, its downward movement being limited by a pin or lug 17, projecting from the bar and engaging against the lower guide 14. When not in use, the bar is

held up by a suitable hook 18, pivoted to the shank and adapted to engage in a suitable opening or notch 18′, formed in said bar.

The lower portion of the magazine communicates with the hammer-rod opening in the shank, and nails fall from said magazine on an inclined guide 19, the heads striking the upper portion of the guide and the points of the nails being thus directed properly into the opening in which said hammer-rod is guided, the nails falling by gravity until their points strike the object into which they are to be driven.

Communication between the magazine and the hollow shank is under the control of a feed-roller 20, that has end pintles adapted to suitable guiding-openings formed in the shank and the magazine-casing. Under this roller is a slot 21, disposed in a plane parallel with the axis of the roller and of a size sufficient to receive a single nail from the magazine. This slot is presented in alinement with the lower portion of the magazine, and then when the roller is turned the nail contained in the roller will effectually prevent the accidental escape of nails.

In order to resist wear and at the same time permit the ready operation of the device, that portion of the roller which engages the nails is provided with one or more ribs 22, which preferably are formed of small strips of wire, having their opposite ends bent and adapted to openings formed in the periphery of the roller. When worn, these pieces may be readily renewed. From the roller projects an arm 23, that is connected by a link 24 of the bar 15, and each time the latter moves out of the position shown in Fig. 1 the nail-receiving groove of the roller will be moved to the position shown in Fig. 2 and will receive the lowermost nail in the magazine. When the members move to the position shown in Fig. 3—that is to say, with the lower end of the main shank in contact with the foot 16—the nail-receiving groove of the roller will have moved to the position shown in said Fig. 3 and the nail will fall by gravity to the guiding-opening in the hammer-rod.

In the operation of the device the parts may be considered primarily in the position shown in Figs. 1 and 2. The foot 16 is then placed against the surface into which a nail is to be driven, and the operator grasps the handle 12 and at the same time depresses the catch 13, so as to disengage the handle from the shank. The hammer-rod is then raised, and at the same time the shank and magazine are depressed to the position shown in Fig. 3. The raising of the hammer-rod clears the opening in the shank, so that the nail released by the feeding-roller is free to fall down through the opening and rest with its point against the surface into which it is to be driven. The hammer-rod is then moved forcibly down and drives the nail, the end of the hammer-rod moving down flush with the surface into which the nail is driven, so that no further operation is required. On again raising the shank the bar 15 will still rest against the shingle or other object, and the feeding-roller will again be turned and receive a second nail.

When the device is not in use, the slide-bar 15 is locked in the position shown in Fig. 3 by merely turning the catch 18, so that accidental discharge of nails from the magazine will be avoided.

At one side of the shank is placed a suitable hook 26, by which the implement may be hung to the belt of the operator.

Having thus described the invention, what is claimed is—

1. In combination, a hollow stock, a hammer-rod guided therein, a magazine carried by the stock, a grooved roller for governing the feed of single nails from the magazine to the stock, a slidable bar carried by the stock and having a foot portion provided with an opening in alinement with the hammer-rod, and means for connecting said bar to the roller.

2. In combination, a hollow stock, a hammer-rod guided thereby, a magazine carried by the stock, a grooved roller for controlling the feed of nails from the magazine, a slidable bar carried by the stock, a link connecting said bar to the roller, the bar being provided with a foot portion having a guiding-opening in alinement with the hammer-rod.

3. In a magazine nail-driver, a hollow stock, a hammer-rod guided thereby, a magazine, a grooved feeding-roller at the bottom of the magazine, and a nail-guide movable independently of the stock and connected to the roller.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

MATTHEW HINDMARCH.

Witnesses:

A. W. Thompson,

G. W. Ross.