

C. C. HAMMOND.
 BUTTON FEEDING MECHANISM.
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1,155,148.

Patented Sept. 28, 1915.

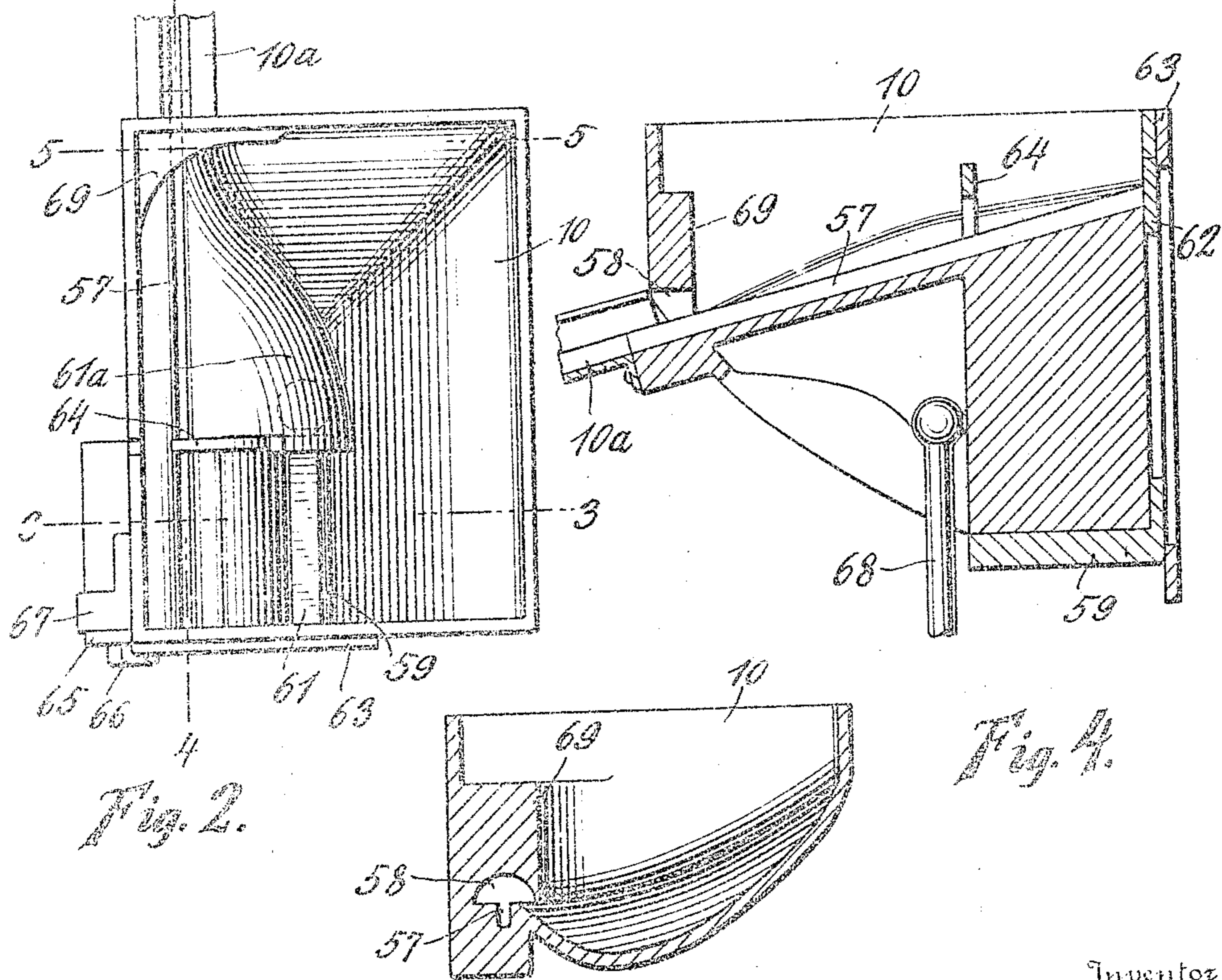
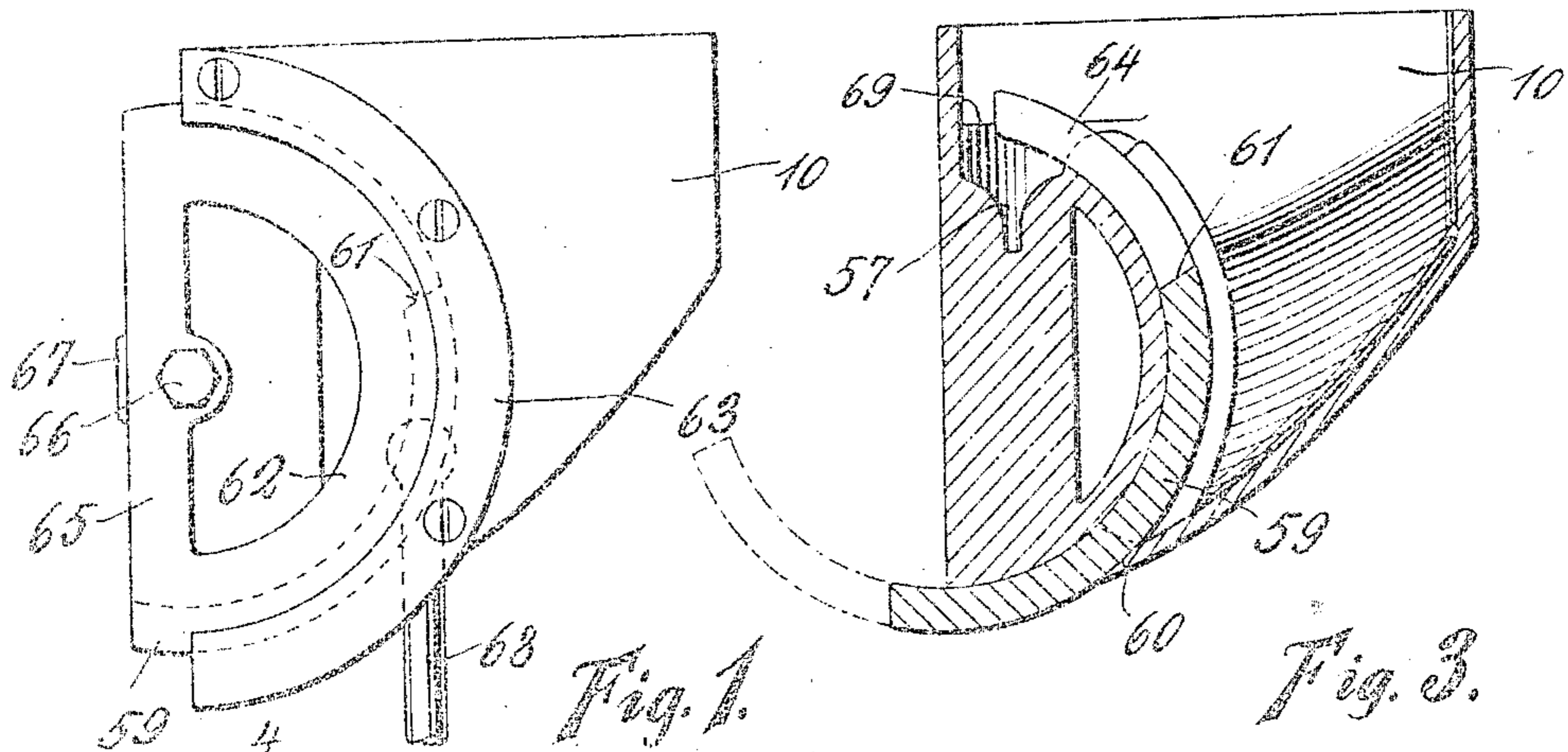


Fig. 5.

Witnesses

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BUTTON-FEEDING MECHANISM.

1,155,148.

Specification of Letters Patent.

Patented Sept. 28, 1915.

Original application filed April 21, 1914, Serial No. 833,383. Divided and this application filed February 23, 1915. Serial No. 10,080.

To all whom it may concern:

Be it known that I, CLARENCE C. HAMMOND, a citizen of the United States, residing at Wichita, in the county of Sedgwick and State of Kansas, have invented certain new and useful Improvements in Button-Feeding Mechanism, of which the following is a specification.

This invention relates to machines for fastening buttons having eye-shanks to boots, shoes and other articles, by threading a wire through the shank and forming the same into a staple, the prongs of which are driven through the article to which the buttons are to be fastened, after which the prongs are clenched to complete the fastening.

The present application relates more particularly to the means for feeding the buttons to the staple-forming mechanism, it being a division of the application filed April 21, 1914, Serial No. 833,383.

The invention has for its object to provide a simple and efficient button-feeding mechanism, and with this object in view it consists of a novel combination and arrangement of parts to be hereinafter described and claimed, reference being had to the accompanying drawing in which—

Figure 1 is a side elevation of the button hopper or magazine containing the button-feeding mechanism associated therewith; Fig. 2 is a plan view thereof; Figs. 3, 4, and 5 are sections on the lines 3—3, 4—4, and 5—5, respectively, of Fig. 2.

Referring specifically to the drawing, 10 denotes a hopper or magazine containing the buttons which are to be fed to the staple-forming mechanism of the machine, said mechanism not being shown in the present application. From the magazine 10 an inclined chute 10^a leads to the staple-forming mechanism and carries the buttons thereto. The magazine 10, above the bottom thereof, contains a button raceway 57 which is inclined toward one end of the magazine, in which latter is an opening 58. The raceway extends for a short distance from this opening and the upper end of the chute 10^a is connected to said projecting end to form a continuation thereof. The raceway has a groove to accommodate the button shank. In the magazine works an oscillatory button elevator designed to elevate the buttons from the bottom of the magazine and to deposit

the same into the raceway 57. The elevator is a segmental member 59 which works in a slot 60 in the bottom of the magazine. The concave side of the elevator fits slidably against that portion of the side wall 60 of the magazine which is shaped to form the raceway 57, said portion having an arcuate curve to conform to the curvature of the elevator. The elevator is swung up and down in the magazine to carry its upper end back and forth between the bottom of the magazine and the raceway. The elevator swings transversely of the raceway in a curved path. The buttons are caught on the shoulder 61 formed by the upper end of the elevator, and when said shoulder reaches the raceway, at the limit of its upward swing, the buttons drop into the raceway. The elevator then swings back to carry the shoulder to the bottom of the magazine for another supply of buttons. The elevator does not extend throughout the entire length of the magazine, but it is located at the end thereof opposite the end having the outlet opening 58, in view of which the buttons are deposited into the highest part of the raceway, and they slide down the same by gravity. Beyond the elevator, the side wall of the casing slopes downward from the top of the raceway, as indicated at 61^a. The opposite side wall of the magazine, as well as the end wall having the opening 58, slope toward the elevator, in view of which the buttons tend to settle in that part of the magazine in which the elevator works.

The elevator 59 has a flange 62 at one end which works in a recess in the corresponding end of the magazine 10, the joint being covered by a strip 63 secured to the end wall of the magazine, on the outside thereof. At the other end of the elevator a curved flange 64 extends beyond the shoulder 61. The buttons are prevented from dropping off the ends of the shoulder by these flanges. The ends of the flange 62 are connected by a cross-piece 65 having at the center a pivot opening to receive a pivot stud 66 carried by a bracket 67 mounted on the outside of the magazine side wall.

To the inner end or edge of the elevator 59 is connected a pitman 68 which latter in turn is connected to a suitable drive shaft or other means whereby motion is imparted to the elevator. The bottom of the magazine is recessed to accommodate the pitman.

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 Above the opening 58 is a button knock-off flange 69. Any buttons that are not properly placed in the raceway 57 come in contact with the flange and are deflected from the raceway 57 back in to the bottom of the magazine.

At the end of the upward stroke of the shoulder 61 the latter is alongside the raceway 57, and slants downward thereto, thus assuring the passage of the buttons to the raceway, and as they slide down off the shoulder into the raceway, the shanks of the buttons enter the narrow bottom portion or slot of the raceway. The button shanks are therefore correctly placed in the raceway, and the latter is given just enough slant to allow the buttons to slide down to the chute 10^a, which latter the buttons enter with their shanks presented downward in proper position to be taken up by the staple-forming mechanism. When the shoulder 61 is at the end of its upward travel, the flange 64 extends across the top of the raceway, and if there are any misplaced buttons in the latter, they will roll against the flange, and in so doing will usually fall back into proper position before the flange is retracted. If there are still any misplaced buttons on the chute after the flange is moved back, they will be thrown back into the hopper by the knock-off 69. The shoulder 61 is inclined so that it is parallel to the raceway 57 at the end of the upward stroke of the elevator and the flange 64 prevents the buttons from sliding off the shoulder, said flange being located at the lower end of the shoulder.

I claim:

1. In a button-setting machine, a button magazine having an inclined button raceway

and an outlet opening to which the said raceway extends, said raceway being located above the bottom of the magazine, and a button elevator working in the magazine between the bottom thereof and the raceway, said elevator having an end guard flange which extends transversely across the top of the raceway when the elevator is discharging thereinto.

2. In a button-setting machine, a button magazine having an inclined button raceway and an outlet opening to which the raceway extends, said raceway being located above the bottom of the magazine, and a button elevator mounted in the magazine to oscillate transversely of the raceway between the latter and the bottom of the magazine, said elevator having an end guard flange which extends across the top of the raceway when the elevator is discharging thereinto.

3. In a button-setting machine, a button magazine having an inclined button raceway and an outlet opening to which the raceway extends, said raceway being located above the bottom of the magazine, and a button elevator working in the magazine between the bottom thereof and the raceway, said elevator having a button-supporting shoulder which is inclined to extend parallel to the button raceway at the end of its upward stroke, and a guard flange at the lower end of the button-supporting shoulder.

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

CLARENCE C. HAMMOND.

Witnesses:

LEO O. MORGAN,
 LESTER H. GARDNER.