(No Model.) 3 Sheets—Sheet 1.

A. W. HAM.

MACHINE FOR SETTING BUTTONS.

No. 492,397. Patented Feb. 28, 1893.

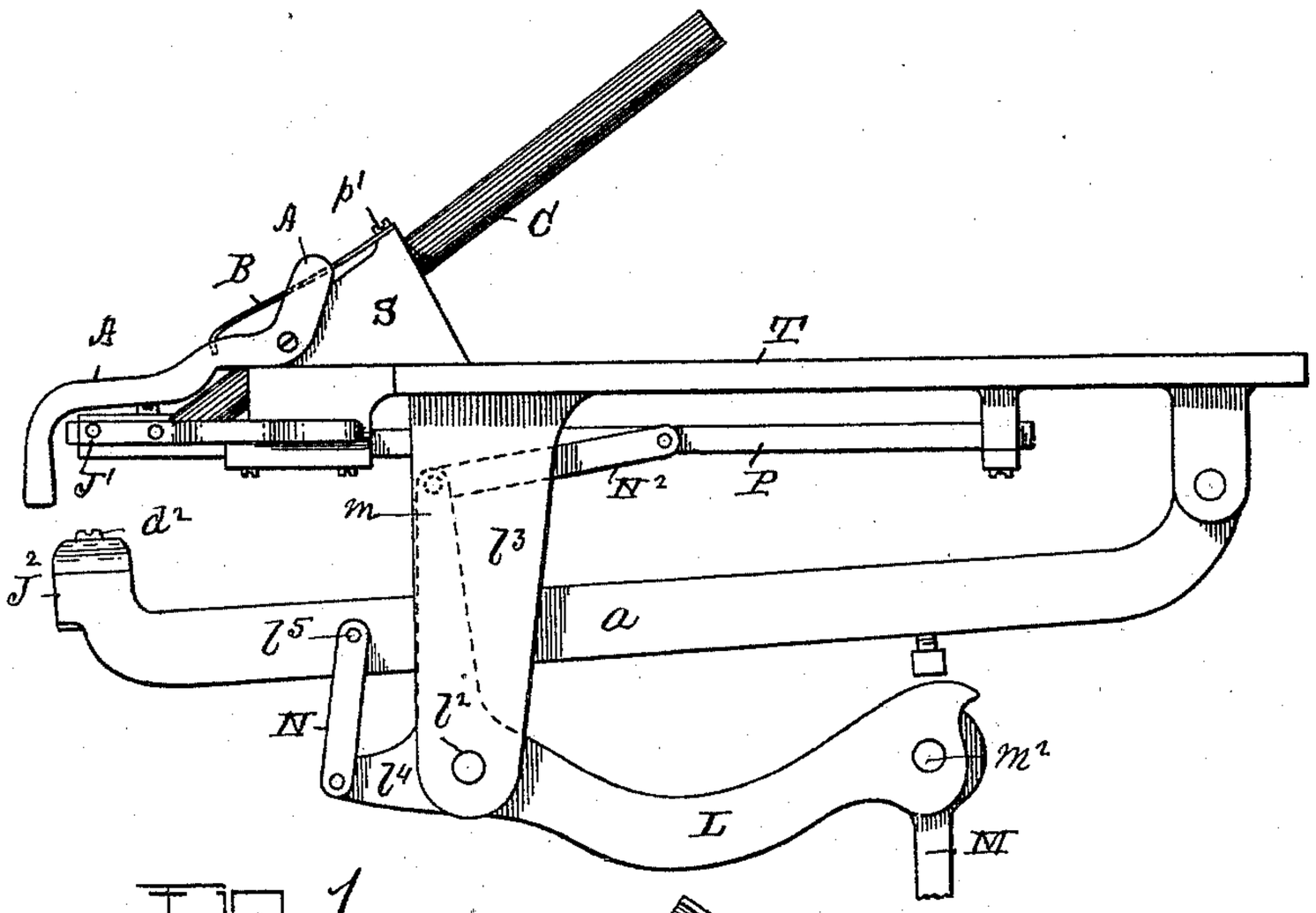

FIG 1

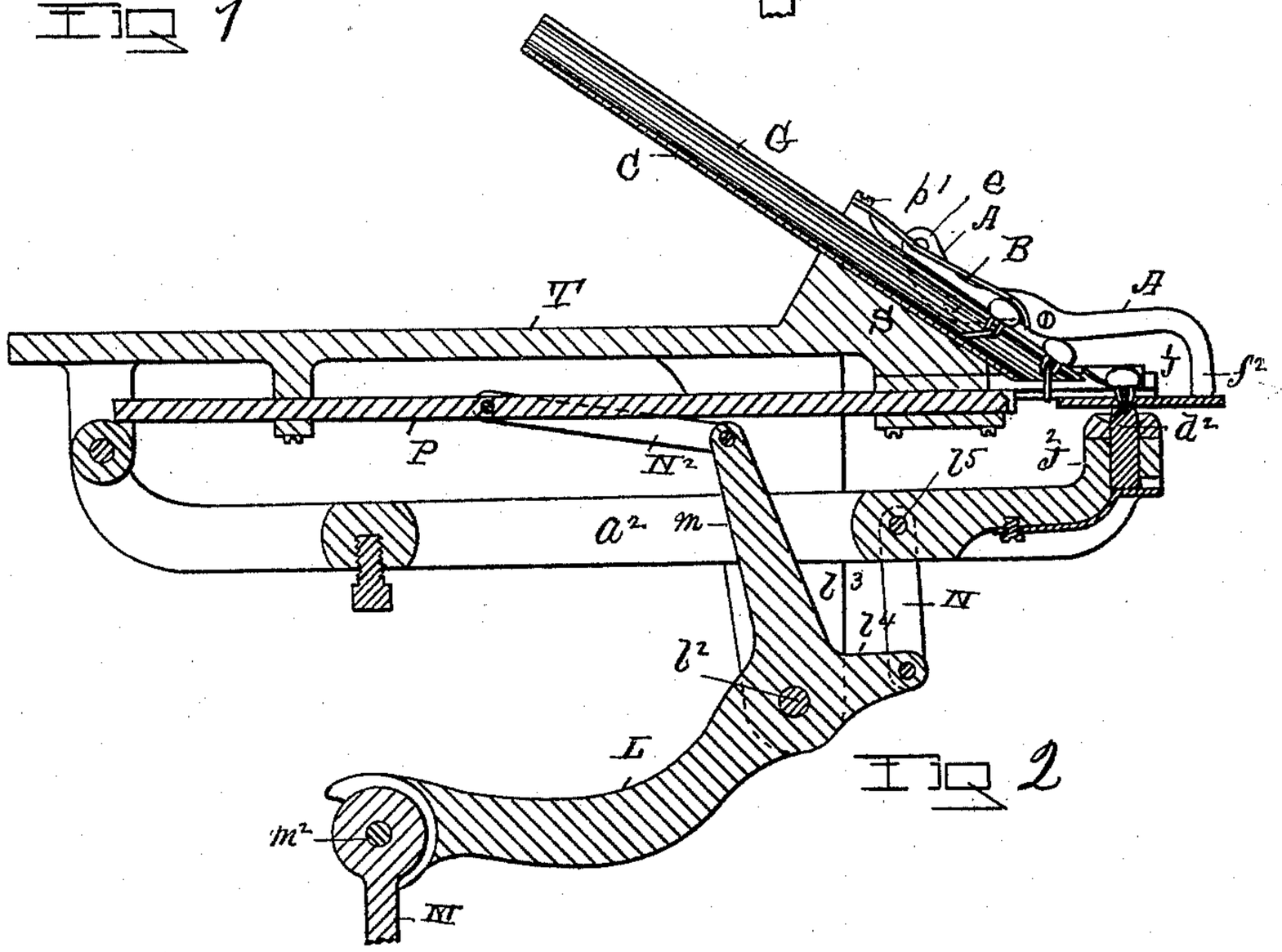

FIG 2

WITNESSES

William A. Evert

Charles S. Bintnall

INVENTOR

Albert W Ham

by W E Hagan Atty

(No Model.) 3 Sheets—Sheet 2.

A. W. HAM.

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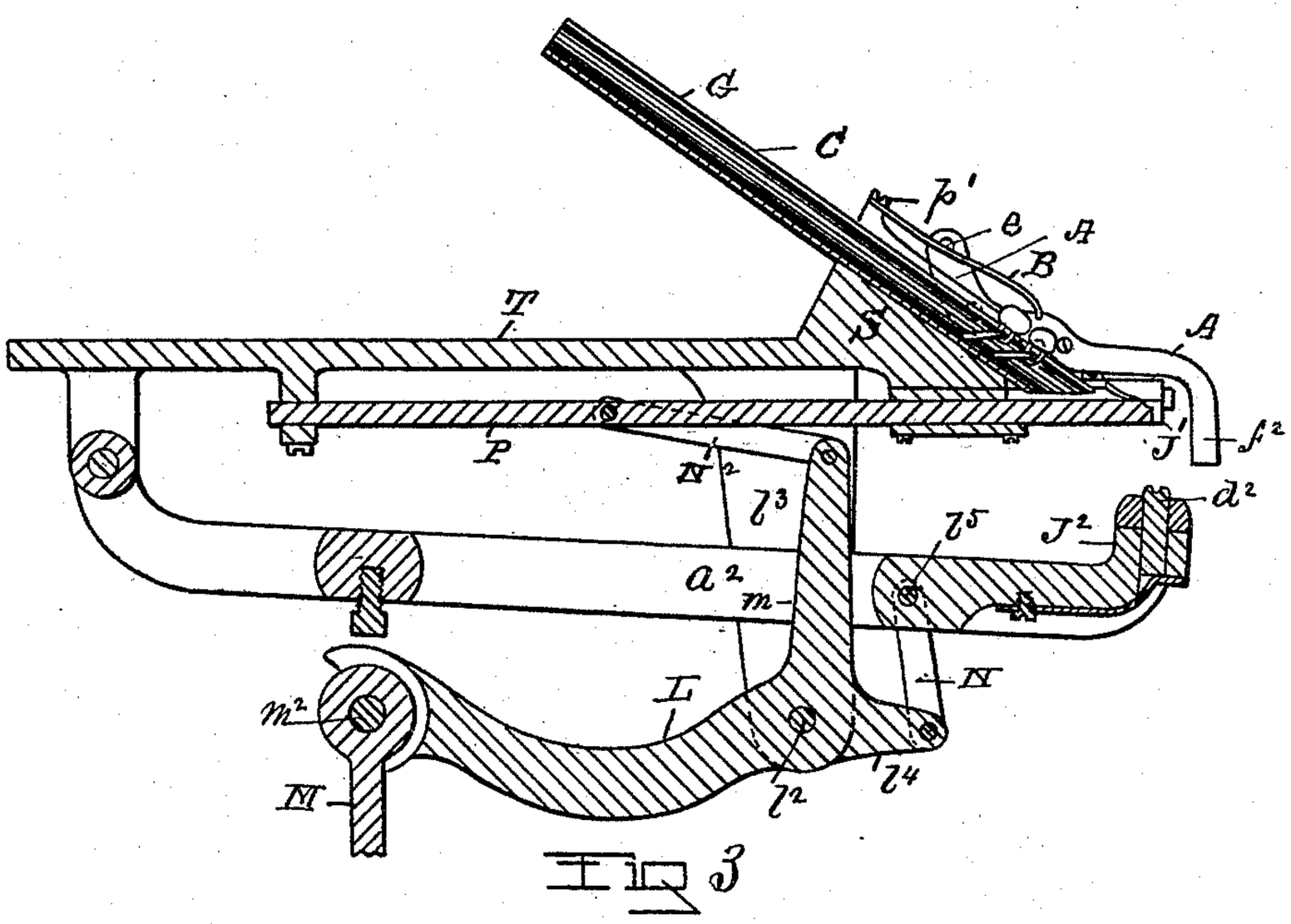

FIG 3

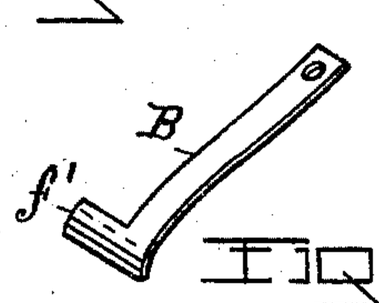

FIG 4

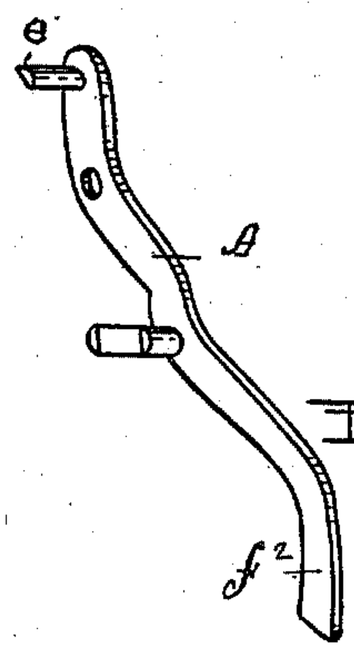

FIG 5

WITNESSES

William A. Lovett

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(No Model.) 3 Sheets—Sheet 3.

A. W. HAM.

MACHINE FOR SETTING BUTTONS.

No. 492,397. Patented Feb. 28, 1893.

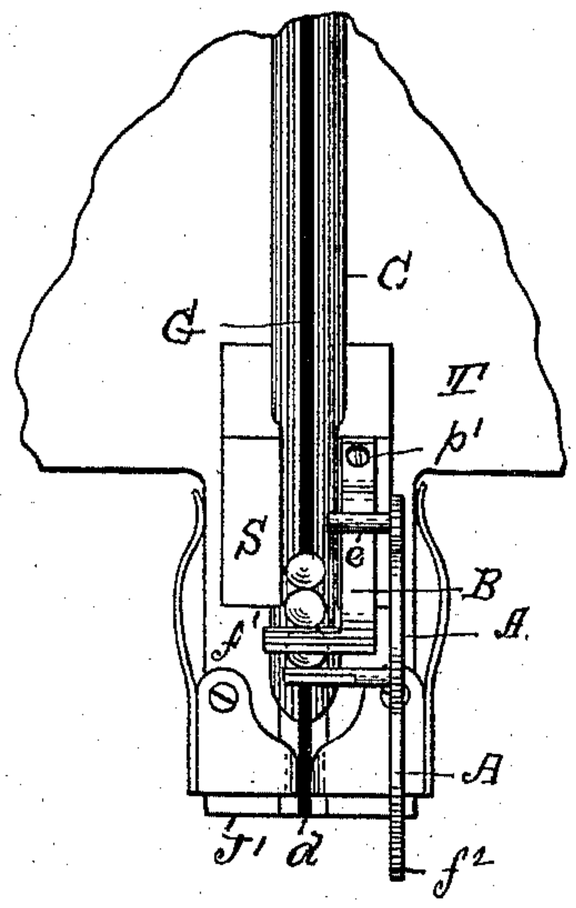

Fig 6

WITNESSES
William A. Sweet
Charles S. Bintnall

INVENTOR
Albert W. Ham
by W E Hagan
atty

UNITED STATES PATENT OFFICE.

ALBERT W. HAM, OF LANSINGBURG, NEW YORK.

MACHINE FOR SETTING BUTTONS.

SPECIFICATION forming part of Letters Patent No. 492,397, dated February 28, 1893.

Application filed July 21, 1892. Serial No. 440,759. (No model.)

To all whom it may concern:

Be it known that I, ALBERT W. HAM, of Lansingburg, Rensselaer county, State of New York, have invented new and useful Improvements in Machines for Setting Buttons, of which the following is a specification.

My invention relates to that class of machines which are used to attach buttons to shoes, and more particularly to that kind of machines employed for this purpose in which the buttons having fasteners threaded into the eyes thereof are caused to descend by gravity through a slotted chute, to a slotted setting upper jaw with the buttons held in place in the downwardly inclined button chute slot by means of a stop which latter is operated by the lower jaw as it ascends to release the buttons one at a time for their movement through the slot in the setting jaw by means of a plunger; and my improvements upon this class of machines relate to a construction whereby a spring-stop is operated to engage with the lowermost button in the chute to hold it stationary (while a preceding button is set) by means of a pivoted lever that is operated to so actuate the spring stop by coming in contact with the upper of the shoe inserted between the upper, and lower jaw, and caused to rise by the latter to actuate said pivoted lever, and spring-stop.

My improvements upon this class of machines are shown as applied to that one of them which is illustrated and described in Letters Patent No. 323,717, dated August 4, 1885, and granted to George A. Mosher and myself, although my invention may be applied to any other button setting machine having a button chute, a setting jaw and a button stop operating to arrest the descent of the buttons through the chute by gravity.

Accompanying this specification to form a part of it there are three plates of drawings containing six figures illustrating my invention with the same designation of parts by letter reference used in all of them.

Of the illustrations Figure 1, is a side elevation of a button setting machine containing my improvement with the standard or support on which it rests, and the foot-treadle by which it is operated omitted, and with the lower jaw shown as not moved up by the treadle rod. Fig. 2, is a central vertical section taken through the button-chute, the support for the latter, the plunger, the under jaw, the bell-crank lever which operates the latter, and the plunger, part of the treadle-rod, and the shoe upper to which a button is being shown as attached; with the link-bar connecting the under jaw with the bell-crank lever, the link-bar connecting the latter with the plunger, the pivoted arm of the under jaw, and the pivoted arm which operates the button stop shown in side elevation, and the under jaw illustrated as raised to set a button. Fig. 3, shows the same parts that are shown at Fig. 2 as to section, and elevation but with the under jaw shown as down, and the button stop in position to allow the descent of a button through the chute-slot to the setting jaw. Fig. 4, shows in perspective the spring-stop shown as detached. Fig. 5, is a perspective of the pivoted lever that operates the spring-stop shown as detached. Fig. 6, is a top view of the setting jaw, part of the button chute, the button stop, and the pivoted lever operating the button stop.

The several parts of the mechanism thus illustrated are designated by reference letters and the function of the parts is described as follows.

The letter T, designates the table or support on which is placed the socket-block S, into which the button-chute C, is inserted, to incline upwardly therefrom. This chute has a slot G, in its upper face, and is arranged in the socket block so that buttons having fasteners threaded into the eyes thereof and placed in the said slot will descend by gravity.

The letter J′, designates the upper or setting jaw, made with a slot *d*, that connects with the slot in the button chute.

The letter B, designates a spring button stop that at *p*′, is attached to the socket-block at one side of the latter. This stop is made with a laterally projecting foot *f*′, at its free end which foot subtends the slot in the button-chute, and so that when forced down it will engage with the lowermost button in the latter, to hold it in place while a preceding button is being set.

The letter J^2, designates the under jaw, made with a setting die d^2, and the letter a^2, designates the rearwardly extended arm of the lower jaw, which at its rear end is pivoted to a lug that is downcast from the under side of the table T, and on which pivoted con-

nection the said under jaw may swing up or down.

The letter L, designates a bell-crank lever which at l^2, is pivoted to a leg l^3, that is downcast from the under side of the table T.

The letter l^4, designates an arm formed on said bell-crank lever and N, a link pivotally connected at its lower end to said arm l^4, and at its other end l^5, is pivotally connected to the under jaw, and the letter m, designates another arm projected upwardly from said bell-crank lever and N^2, a link that pivotally connects at its lower end to said arm m, and at its upper end pivotally connects with the plunger P to operate the latter.

The letter M, designates the treadle-rod that at m^2, pivotally connects with the bell-crank lever L, and by which the arm l^4, of the latter is raised or depressed, and in connection with which the under jaw J^2, is caused to rise and clinch the button fasteners and attach the buttons; and by which also the plunger P, is operated to be reciprocated horizontally through the connection the latter makes with said bell-crank lever by means of the link N^2.

The letter A, designates a pivoted lever which at p^3, is pivoted to the socket-block S, at one side thereof, so that it may be raised or depressed at each of its ends.

The letter e designates a pin that is projected from the side of said pivoted lever near its inner end, and where it will be over the latter to force downwardly its free end to have it engage with the button immediately beneath it in the button chute slot, to hold the same and prevent its descent into the slot in the setting jaw when the outer end of this pivoted lever A, is raised.

The letter f^2, designates a downwardly projected foot that is formed on the front end of said pivoted lever A, where the latter subtends the setting jaw, and where when the upper of a shoe is inserted between the two jaws as the under jaw rises the upper of the shoe will by the latter be forced to engage with the foot f^2, of the lever A, and thus force downwardly its inner end, and cause the pin e, to engage with the free end of the spring-stop, and cause the latter to engage with, and to hold the button that is immediately beneath said spring, and thus prevent its descent while a preceding button is moved frontwardly in the button slot of the setting jaw, and when the button is set and the shoe-upper withdrawn the lever A, will release its detent upon the spring-stop B, and allow another button to descend into the slot of the setting jaw to be moved forward and set as before described, said lever A, being actuated at its outer end independently of any connection with the other mechanism, and in which respect it differs in its operation from a button releasing lever that is actuated by a stud or bar that is moved upwardly by the ascent of the lower jaw or feeding finger.

Buttons having fasteners threaded into the eyes thereof being placed in the button chute will descend therein until one of them rests in the slot of the setting jaw where it can be moved frontwardly to come under the action of the under jaw and its clinching die. As the under jaw commences to rise the foot f^2, of the lever A, engages with the upper of the shoe placed between the jaws, and thus operates the pin on said lever to force down the spring-stop B, which engages with the bottom button in the chute to arrest the descent of the other buttons, while the one in the setting jaw is being clinched by the die, and when the shoe-upper is withdrawn, the spring stop rises to release the buttons.

When it is desired to work the machine to free the same from buttons, to substitute others, or when the material into which the buttons are being inserted is too thin and not rigid enough to operate the lever A, or when the said material does not extend laterally a sufficient distance to come in contact with the lever A, the latter may be operated by hand.

Where a button stop acts on the buttons descending in an inclined chute only while one of them has descended into the setting jaw and leaves the buttons free at other times they are less likely to stick in the chute than when the buttons are held by a stop that is in engagement with the column of buttons at all times excepting when moved to release the bottom one.

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

1. The combination with an inclined button chute, provided with a button slot in its upper face; of a setting jaw having a slot to connect with said chute slot; an under jaw with a setting die; a spring stop arranged over the lower end of said chute slot; and a lever pivoted between its ends to the machine stock with its inner end arranged to engage with said spring stop, and the outer end of said lever to extend downwardly at one side of and below said upper jaw, constructed and arranged to be operated substantially in the manner as and for the purposes set forth.

2. The combination with the inclined button chute C, made with the slot G, and spring-stop B, of the upper jaw J′, made with the slot d; the under jaw J^2, and plunger P, operated by the bell-crank-lever L, and the lever A, pivoted between its ends and arranged to be operated substantially in the manner as and for the purposes set forth.

Signed at the city of Troy, New York, this 5th day of May, 1892, and in the presence of the two witnesses whose names are hereto written.

ALBERT W. HAM.

Witnesses:
CHARLES S. BRINTNALL,
W. E. HAGAN.