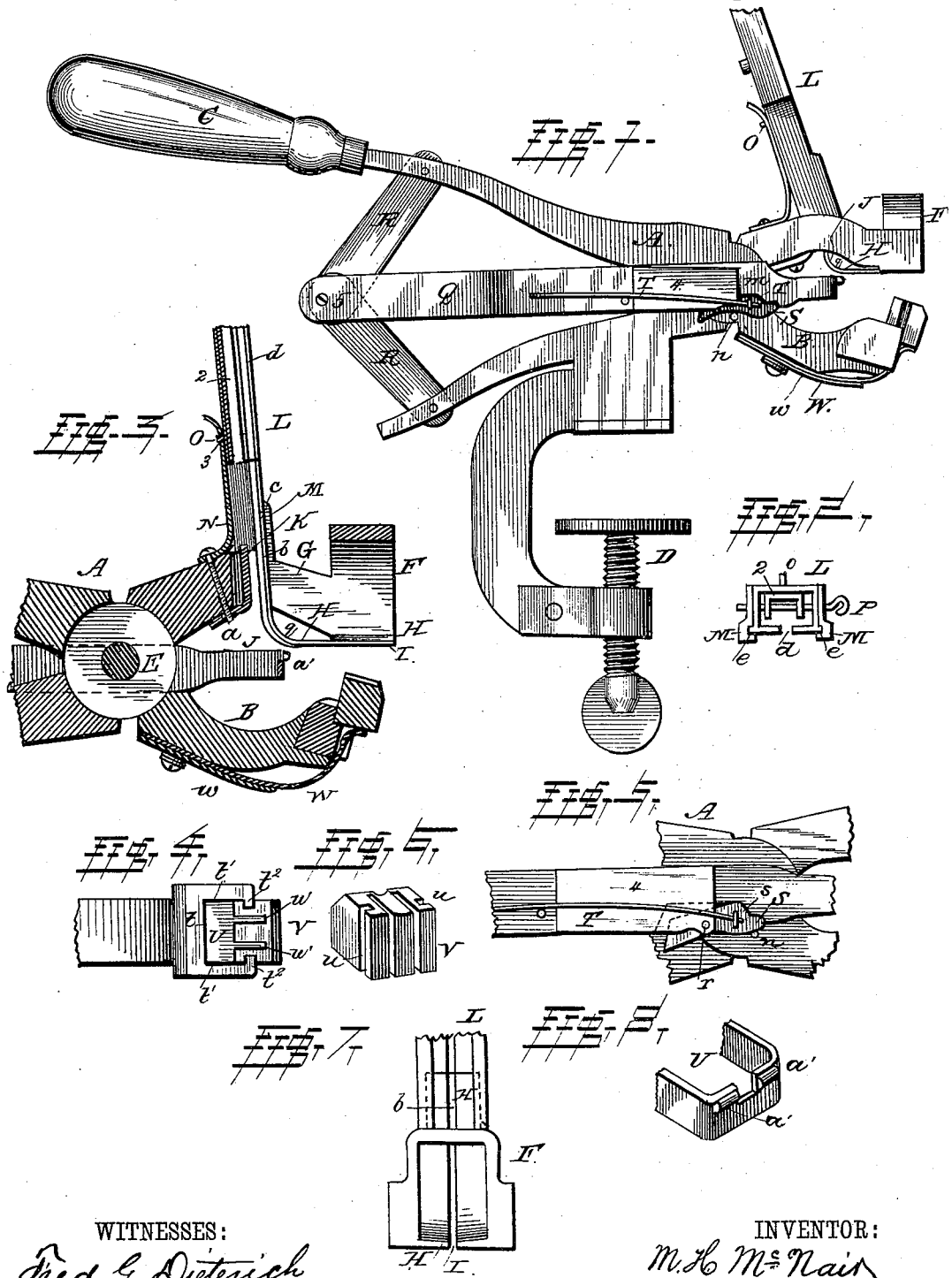
(No Model.)

M. H. McNAIR.

BUTTON ATTACHING IMPLEMENT.

No. 304,541. Patented Sept. 2, 1884.



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BUTTON-ATTACHING IMPLEMENT.

SPECIFICATION forming part of Letters Patent No. 304,541, dated September 2, 1884.

Application filed October 31, 1883. (No model.)

To all whom it may concern:

Be it known that I, MILTON H. McNAIR, a citizen of the United States, residing at Meadville, in the county of Crawford and State of Pennsylvania, have invented a new and useful Improvement in Button-Attaching Implements, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings and letters of reference marked thereon, forming a part of this specification, in which—

Figure 1 is a side view of the complete device. Fig. 2 is a detail horizontal view of magazine. Fig. 3 is a longitudinal section of jaws A and B. Fig. 4 is a detail view of jaw B. Fig. 5 is a detail view of trip-cam S. Fig. 6 is a detail view of removable block V. Fig. 7 is a detail front view of jaw A, and Fig. 8 is a detail end view of U-shaped lever.

Similar letters indicate like parts in all the figures.

My invention relates to improvements in a magazine implement designed to attach buttons to shoes or other articles of wearing-apparel by means of fastenings passing through the eyes of the buttons; and it consists in the peculiar construction and arrangement of the parts, as hereinafter more fully set forth, and pointed out in the claims.

The implement is constructed with an upper jaw, A, provided with a handle, C, a lower jaw, B, pivoted to the upper jaw, A, by the pivotal screw or pin E; and D represents a clamp secured to the lower jaw, B, by means of which the implement may be secured to a table, counter, or other article for operating the implement. The upper jaw, A, is provided at its forward end with an open box, F, provided with a receiving-opening, G, in its top, and a longitudinal slot, I, in its bottom H. The rear end of the bottom H is inclined upwardly and rearwardly preferably, and the slot I is continued in the said upwardly-projecting parts.

J represents a guide having its upper end preferably inclined rearwardly, and of the same curve as the bottom of the box F, and provided with a bracket, K, removably secured to the arm A by a screw, *a*. The curved guide J is provided at its forward end with a slot, *b*, lying opposite the slot I and registering with it, through which the eyes of the buttons pass. An open space lies between the bottom of the box F and the guide J, and the latter is so constructed as to taper into a thin spring-tongue, *c*, at its upper end.

L represents the outer box of the magazine, which is constructed in the form of a rectangular box, with a slot, *d*, running its entire length. Inside of this box L is rectangular box 2, of smaller cross-section than the box L, and provided with open ends, and a front slot extending from end to end. The slot I in the bottom of the box F, the slot *b* in the curved guide J, and the slot *d* in the magazine, together form a continuous channel for the downward passage of the shanks of the buttons.

M M represent parallel plates secured to the opposite sides of the lower end of the magazine L. The parallel plates M M are provided near their upper edges and on their inner faces with parallel longitudinal grooves *e e*, adapted to receive the upturned ends of the plates H, the tongue *c* of the guide J entering the rectangular box 2. This construction permits the magazine L to be readily connected with and disconnected from the movable jaw A, and when connected the slot I between the plates H and the slot *d* will register with each other, or the slot *d* in the magazine will form a continuation of the slot I in the bottom of the open box F. The magazine L, when thus connected with the upper jaw, A, is held securely in place, preferably in an inclined position, by means of the spring-brace N, attached to the upper jaw, A, by the same screw *a* that secures the bracket K to the upper jaw, A. The spring-brace N is provided with a hole, 3, at its upper end, which springs on the stud O on the back face of the magazine L. The spring N is curved at its upper end away from the magazine, so that it may readily be removed from the stud O when desired, whereby a number of magazines may be filled, removed, and replaced. A stop-pin, P, as shown in Fig. 2, is employed to prevent the buttons and fastenings from dropping through the magazine while being filled.

In Fig. 1, Q represents a feed-lever constructed in the form of a rectangular loop, the opening in the loop in front being wide enough to receive the implement at its joint. The back part of the loop of the feed-lever Q is contracted, so as to slip over the levers R R,

and the rear ends of the loop of the feed-lever Q are pivoted to the inner ends of the levers R R at 5. The forward ends of the levers R are pivoted, respectively, to the upper and lower jaws, A and B, as clearly shown in the drawings. One side of the feed-lever Q is curved at *m* to conform to the trip-cam S.

n represents a pin secured to the lower jaw, B, and operates the trip-cam S in the back-and-forth movement of the feed-lever. The trip-cam S is constructed in one piece in the form of a double cam, and is secured to the feed-lever Q by means of the arm or bracket 4, attached to the feed-lever Q, and provided with a pivotal pin, *r*, secured to the plate 4 and passing through a hole in the trip-cam S, pivoted in rear of its middle.

T represents a spring, one end of which is secured to the feed-lever Q, the opposite end of the spring bearing against a pin, *s*, near the forward end of the trip-cam S, the tension of the spring T being exerted to close the forward end of the trip-cam S against the feed-lever Q, the function of the trip-cam S on the pin as the feed-lever Q is moved forward being to raise the feed-lever Q, so that the latter will press against the prongs of the buttons in the slot I of the box F, and press them forward out of slot I. The pin *n* in the backward movement of the feed-lever Q and the trip-cam S passes between them and lowers the feed-lever Q as it is drawn backward, the spring T closing the forward end of the trip-latch against the lower edge of the feed-lever when the pin *n* has passed out of the space between the feed-lever Q and the spring-latch S.

The forward end of the lower jaw, B, is provided with a recess, *t*, having opposite vertical grooves, *t' t'*, and inwardly-projecting vertical lips t^2.

U represents a T-shaped block, the top horizontal ends of which are adapted to be received in the grooves *t' t'* of the recess *t*. The vertical part of the T-shaped block U is hollow.

V represents a removable block provided with side grooves, *u u*, adapted to receive the vertical lips t^2 t^2 in the recess *t* when the block V is slid into the recess *t*.

u' u' are grooves made in the inner face of the block V, adapted to receive the side flanges of the vertical hollow part of the T-shaped socket U, and thus hold the block V securely but removably in place on the forward end of the jaw B.

W represents a flat spring bent angularly at its forward end and pressing against the back face of the block V. The spring W is provided near its rear end with a hole, through which passes a set-screw, the latter being adapted to pass also through one of two or more adjustable holes in a plate, *w*, overlying the spring W, the set-screw passing through the plate *w* and spring W, and thence into the lower jaw, B. By this construction, after the removable block V is brought in contact with the jaw A, the other jaw can be moved forward to come also in contact with the jaw A to clinch the prongs held on the eyes of the buttons to the leather through which the prongs are forced. The forward end of the feed-lever Q is provided with studs *a'*, which, in the forward movement of the feed-lever Q, lie in contact with and on opposite sides of the curved guide J.

The operation of the machine is as follows: The fastening or prong is inserted in the eye of each button, and the buttons are placed in the magazine, the stop-pin at the lower end of the magazine holding the buttons in place. The implement is then closed and the feed-lever Q carried back by the levers R R, which allows a button and its fastening—the stop-pin having been removed—to fall by gravity in the slot I, below the curve in the open box F, and as the handle C is raised the feed-lever Q is brought forward and carried upward, pushing the fastening and button to the point of inserting or setting the fastening. The material to which the button is to be attached is then placed between the jaws A and B, and as the handle C is pressed down the pin *r* passes between the trip-cam S and feed-lever Q, which causes the lever Q to drop, thus preventing it, as it moves back, from coming in contact with the prongs of the next fastening, which has in the meantime dropped into the curve of the open box F, and as the handle C is pressed down the jaw B is raised, which forces the prongs of the fastening through the material and into the slots of the piercing-block V, and as the pressure is continued the spring W permits the block V to be forced back, and the prongs are clinched on the under side of the material, and the same operation is repeated for the setting of each button.

This implement may be operated or the mechanism organized so as to be operated by a treadle or other power.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a button-setting implement, the combination, with the lower jaw, B, pivoted to the upper jaw, of the upper jaw, A, provided with an open box, F, having an opening, G, and curved slotted bottom H, having its rear end upwardly extended, guide J, having the same curve as the bottom H of said box, and means, substantially as described, for imparting a forward and upward and downward and rearward movement to the feed, as set forth.

2. In a button-setting implement, the combination, with the lower jaw, B, pivoted to the upper jaw, upper jaw, A, provided with the open box F, having the opening G in its top, curved slotted bottom H, having its rear end upwardly extended, and curved guide J, having the same curve as the bottom H of the open box, of the feed-lever Q, levers R, pivoted to the upper and lower jaws, and the feed-lever, pin *n*, trip-cam S, and spring T, substantially as shown and described.

3. The magazine herein shown and described, consisting of the outer rectangular

box, L, provided in its upper face with a longitudinal slot, *d*, extending its entire length, and rectangular box 2, of smaller cross-section than the outer box and surrounded by it, and extending longitudinally through the outer box, and having an open top and ends, the outer box, L, being provided with parallel grooved plates M at its lower end, substantially as shown and described.

4. In a button-setting implement, the jaw A, provided at its forward end with an open box, F, provided with an opening, G, in its top, and a slotted bottom, H, extending upwardly above the open box, substantially as shown and described.

5. The combination, with the upper jaw, A, provided with an open box, F, having a slotted bottom, H, of the guide J and feed-lever Q, provided with studs *a' a'*, adapted to straddle the guide in the forward movement of the feed-lever, substantially as described.

6. The combination, with the jaw A, having open box F, provided with upwardly-extending slotted bottom H and opening G, of the magazine L, provided with grooved plates M, stud O, and spring N, substantially as shown and described.

7. The combination, with the jaw A, provided with the open box F, having open top G and upwardly-extending slotted bottom H, of the magazine L, grooved plates M, stud O, spring N, and stop-pin P, substantially as shown and described.

8. The combination, with the lower jaw, B, provided with a recess, *t*, having opposite vertical grooves, *t' t'*, and inwardly-projecting lips t^2 t^2, and T-shaped block U, of the removable spring-pressed block V, provided with grooves *u u'*, substantially as shown and described.

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Witnesses:
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