

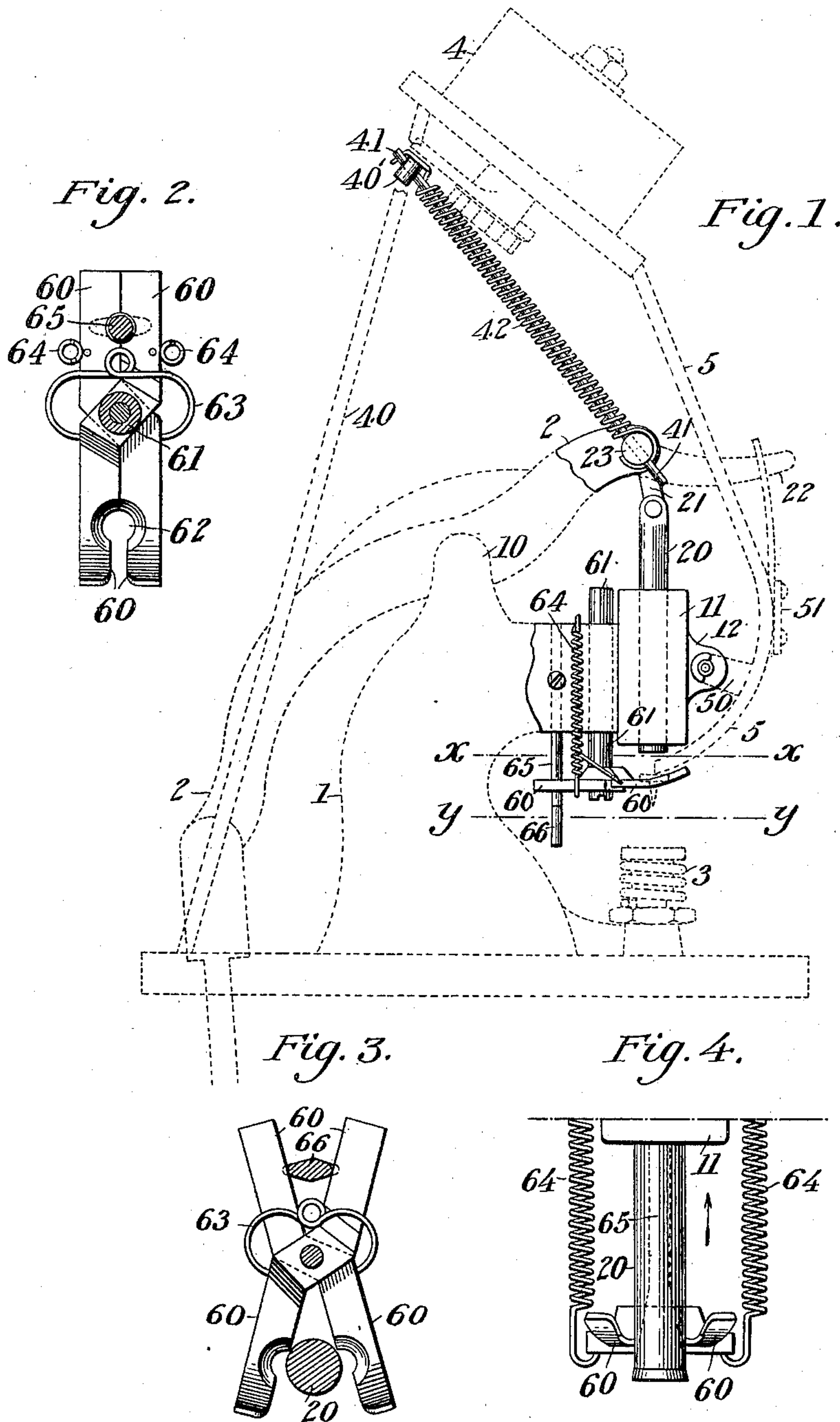
No. 688,026

Patented Dec. 3, 1901.

C. J. MARKS.  
BUTTON SETTING MACHINE.

(Application filed Feb. 8, 1897.)

(No Model.)



Witnesses,  
M. Van Nortwick.  
W. H. Stubbs

Inventor,  
Charles J. Marks  
by George Berk,  
attorney



# UNITED STATES PATENT OFFICE.

CHARLES JACKSON MARKS, OF BROOKLYN, NEW YORK, ASSIGNOR, BY  
MESNE ASSIGNMENTS, TO THE PATENT BUTTON COMPANY, OF WA-  
TERBURY, CONNECTICUT, A CORPORATION OF CONNECTICUT.

## BUTTON-SETTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 688,026, dated December 3, 1901.

Application filed February 8, 1897. Serial No. 622,481. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES JACKSON MARKS, of Brooklyn, in the county of Kings and State of New York, have invented a certain new and useful Improvement in Button-Setting Machines, of which the following is a full, clear, and exact description, reference being made to the accompanying drawings, forming part of this specification.

This invention relates to improvements in machines with which buttons are attached to garments by means of metal fastenings; and the invention consists of a machine comprising particular mechanism, which is hereinafter described and claimed, and which is composed partly of a reservoir or hopper and means whereby the movable portion thereof is actuated and partly of a rivet-holding or button-holding device, commonly called a "receiver," which is adapted to hold the fastenings or buttons in the proper position while the fastenings are being inserted in the garments.

On the accompanying sheet of drawings, Figure 1 is a side elevation of such a machine, showing only in dotted lines certain parts which it is not necessary to minutely describe; Fig. 2, a plan and horizontal section of the receiver in its highest position, in which it appears in Fig. 1, the section being in the plane  $x x$ , Fig. 1; Fig. 3, a plan and horizontal section of the receiver in its lowest position and horizontal section of the plunger, the section being in the plane  $y y$ , Fig. 1; and Fig. 4, a front elevation of the receiver and lower part of the plunger, the receiver being in its lowest position.

Similar reference-numerals designate like parts in the different views.

The object of this invention is to so improve the mechanism which supplies a chute of a button-setting machine with fastenings or buttons as to render a fastening or button incapable of causing any trouble should it happen to get caught between the movable portion of the hopper and either a fixed part of the hopper or the chute and to improve the construction of the rivet-receiver or button-receiver of such a machine. The particular hopper and receiver shown in the draw-

ings are a rivet-hopper and rivet-receiver; but a button-hopper may be substituted for the hopper shown, and the rivet-receiver may be converted into a button-receiver by merely enlarging the recess in the front of the receiver, without otherwise changing the construction of the device, as will appear from the following description.

The frame 1, the lever 2, pivoted in a projection 10 of the frame, the plunger 20, extending through the head 11 of the frame and connected to the lever 2 by a link 21, and the anvil 3 are the same as corresponding parts of other machines which have long been in public use. The hopper 4 is supported by rods 40, which are fastened to the base of the frame, and the chute 5 is secured at its upper end to the bottom of the hopper and near its lower end to a projection 12 on the head of the frame by a bracket 50 on the back of the chute. The lower portion of the chute is curved and extends under the head 11 of the frame, as shown in Fig. 1. On the chute is a separator 51, below which only one rivet is allowed to pass at a time, and which is actuated by a finger 22, fastened on the lever 2.

The movable portion of the hopper may be either the body or a device within the body adapted to agitate the contents of the hopper. It is attached to a spindle which is provided with a bearing under or behind the hopper and on which a ratchet-wheel is fixed, and a pawl mounted on a pivoted arm is arranged to turn the ratchet-wheel when the arm is turned in the proper direction. Movement is imparted to this arm by the lever 2. In the arm is a pin 40', and in the lever is a pin 23, the latter pin being adapted to turn on its axis, and through these pins extends a rod 41, which is loose in the pin 23, so that it may slide freely therein. A coil-spring 42 is placed on the rod 41, and its ends are connected to the pins 40' and 23 by eyes or loops formed on the spring, as appears by Fig. 1. At each operation of the machine the lever 2 by pulling the lower end of the spring 42 downward turns or tends to turn the arm which carries the pawl in the proper direction to actuate the movable part of the hopper, and after each movement of the arm in this



direction the spring, being forced upward with the return of the lever, pushes the arm back to its former position; but should a fastening or a button, if the hopper is a button-hopper containing buttons, lodge in such a way in the mouth of the chute or against a fixed part of the hopper as to prevent the movable part of the hopper from turning freely, then the spring 42 is extended by the lever instead of being drawn bodily downward by it, the pin 23 turning on its axis and the rod 41 sliding in the pin 23, so that although the action of the movable part of the hopper is interrupted the lever 2 continues to actuate the plunger without subjecting any of the parts of the hopper or of the other mechanism to an improper strain and without breaking or bending the lodged fastening or button. This is apt to be dislodged during either the return of the lever or the next operation; yet if it is not it does no harm except to prevent the hopper from discharging any of its contents into the chute and may be easily dislodged by hand at any time, if necessary. By means of the rod 41 a backward movement of the pawl-carrying arm of the hopper is insured after each forward movement of the arm, the pushing action of the spring 42 being rendered effective by the control of the rod. Then the spring 42 is double-acting, for it draws the arm forward and pushes it backward, and the effect of the combined spring and rod is practically that of two springs acting alternately on the arm in opposite directions.

The body 6 of the receiver is composed of the two parts 60, which are pivoted together on the lower end of the rod 61. This rod is adapted to slide in the frame of the machine. Between the parts 60, at and near their front ends, is a recess 62, half of the recess being in one part and half in the other. The parts 60 are normally held close together by a spring 63 as they appear in Fig. 2; but they may be turned on their pivot into the positions in which they are shown in Fig. 3, and the receiver is held by springs 64 in the position in which it is shown in Fig. 1, the body of the receiver being close to the lower end of the chute 5, except when it is forced downward by the action of the plunger. Behind the rod 61 is a rod 65, which is fastened in the frame and which extends downward therefrom between the parts 60 and is provided with a wedge-shaped head 66 at its lower end. The rivets pass from the chute into the recess 62 of the receiver, in which they rest in the position indicated in Fig. 1. When the machine is operated the plunger descends upon the head of the rivet in the receiver and forces the rivet and receiver downward together toward the garment, which is laid upon the anvil 3, the button being within the an-

vil under the garment. When the body of the receiver reaches the head 66 of the rod 65 the rear ends of the parts 60 are separated by contact with the head 66 and the receiver opens, as indicated in Figs. 3 and 4, and allows the rivet and plunger to pass downward below the receiver, whereupon the rivet is driven through the garment and clenched in the button upon the anvil by the plunger. The receiver is restored to its highest position by the springs 64, and as soon as the lower end of the plunger passes above the receiver the parts 60 are forced together by the spring 63, so that the receiver is then ready to take the next fastener from the chute. It is apparent that by enlarging the recess 62 of this receiver to the proper size and shape a button-receiver may be produced in which a button would be supported, as is the fastening represented in Fig. 1, by its head upon the parts 60, its hub extending through the recess, as does the stem of the fastening.

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

1. In a button-setting machine the combination of a hopper provided with a ratchet and pawl, the lever 2 provided with a pin 23, the rod 41 extending through the pin 23 and through a pin 40' on the pawl-carrying arm, and a spring 42 on the rod 41, connected at its ends to the pins 40' and 23, substantially as described.

2. In a button-setting machine, the combination with a frame, of the rod 61 sliding in said frame, the parts 60 60 composing the body of a receiver and pivoted at the lower end of said rod 61, a spring engaging with said parts 60 60 and adapted to hold the same in their closed position, means for raising and lowering said rod 61 with its attached parts 60 60, and the stationary rod 65 having its upper end secured in said frame and its lower end formed into a wedge-shaped head, whereby the parts 60 60 when lowered, will be opened by said wedge-shaped head, substantially as described.

3. In a button-setting machine the combination of the parts 60 comprising the body of a receiver, the rod 61 on which the parts 60 are pivoted together and which is held loosely in the frame, the rod 65 fastened in the frame behind the rod 61 and extending between the parts 60 and provided at its lower end with a wedge-shaped head 66, a spring tending to hold the receiver closed, and a spring or springs tending to hold it in its highest position, substantially as described.

CHARLES JACKSON MARKS.

In presence of—

ABEDNEYO DEWES,  
GEORGE GUMBS.