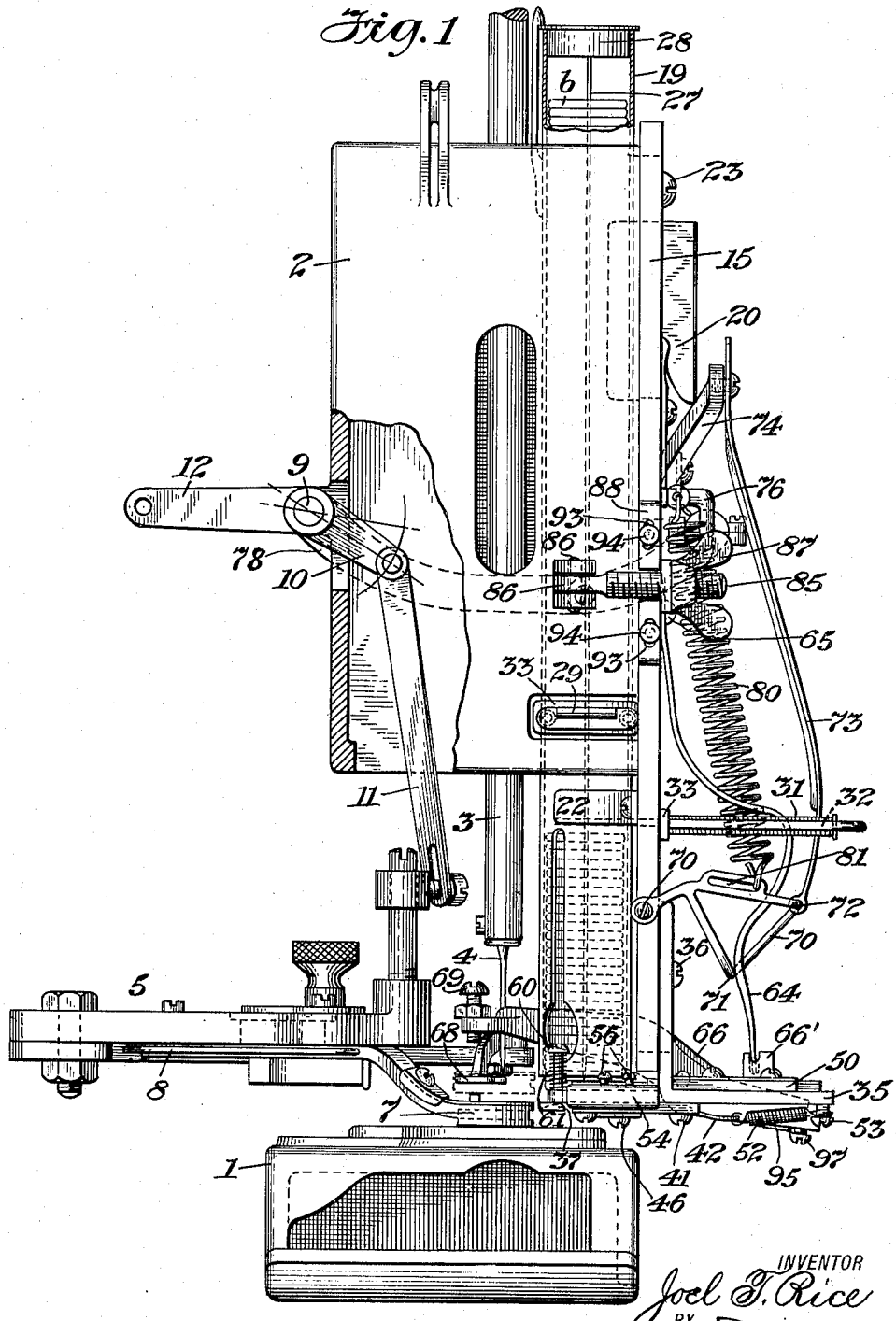
June 17, 1924. 1,497,697

J. T. RICE

BUTTON SEWING MACHINE

Filed June 22, 1920 6 Sheets-Sheet 1

Fig. 1



INVENTOR

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June 17, 1924. 1,497,697

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BUTTON SEWING MACHINE

Filed June 22, 1920 6 Sheets-Sheet 2

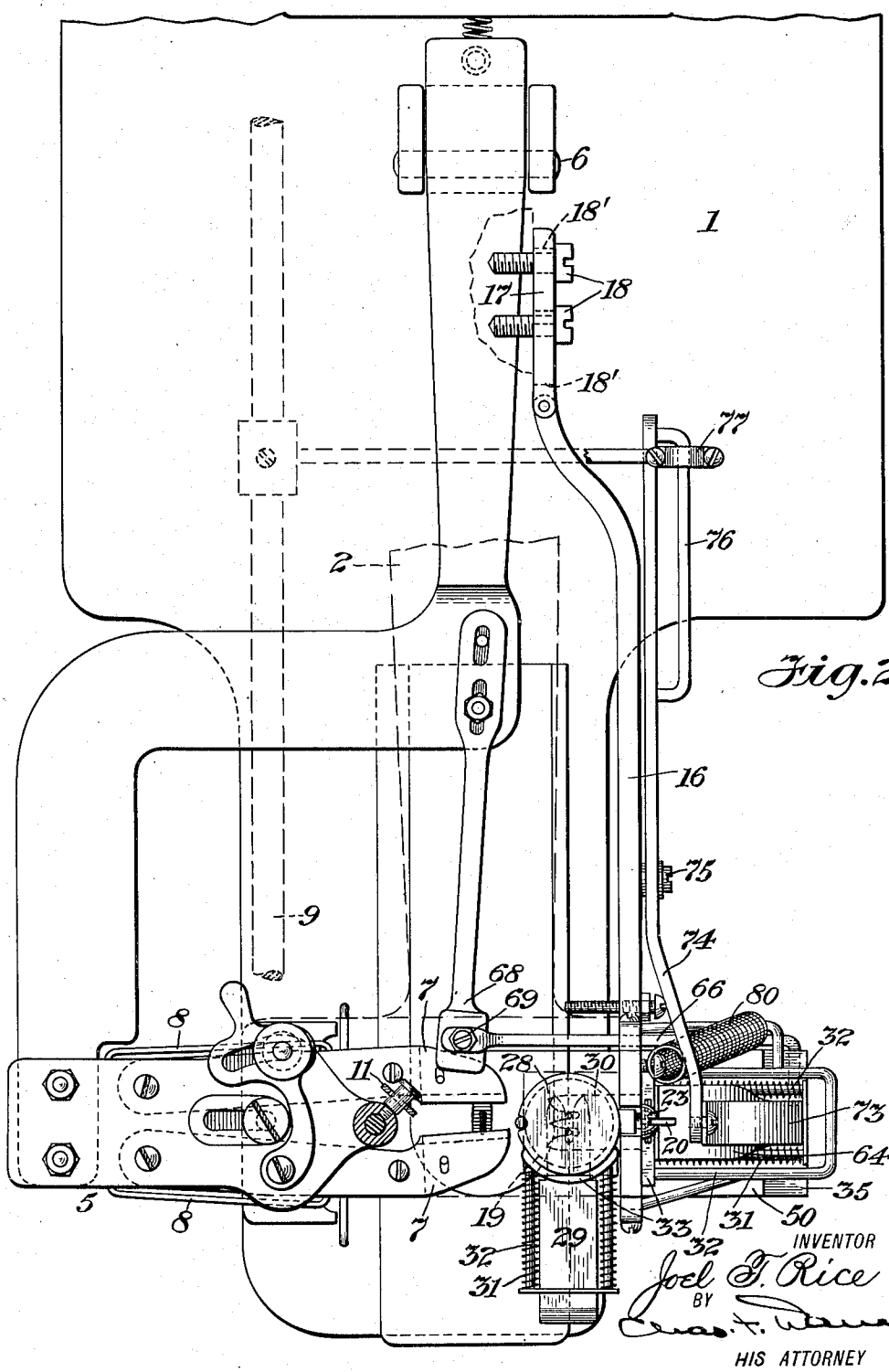

Fig. 2

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June 17, 1924. 1,497,697

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BUTTON SEWING MACHINE

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Fig. 3

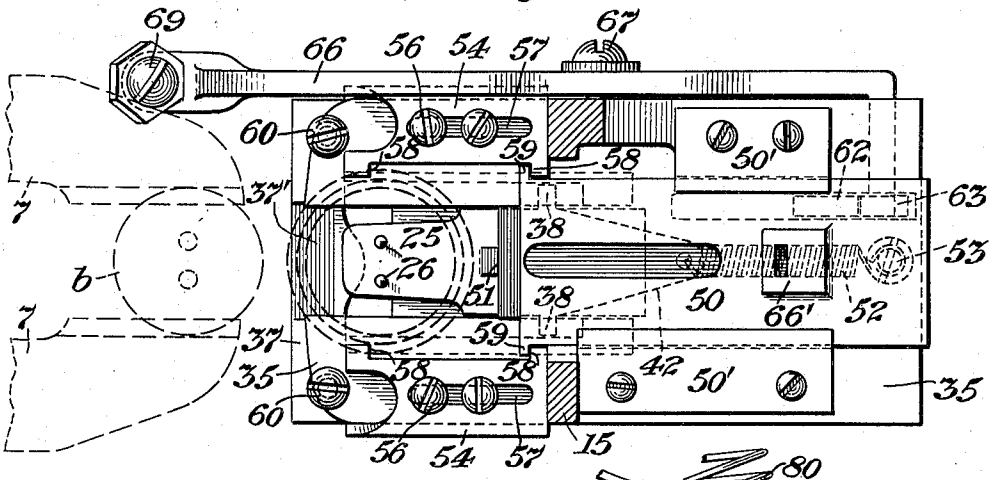
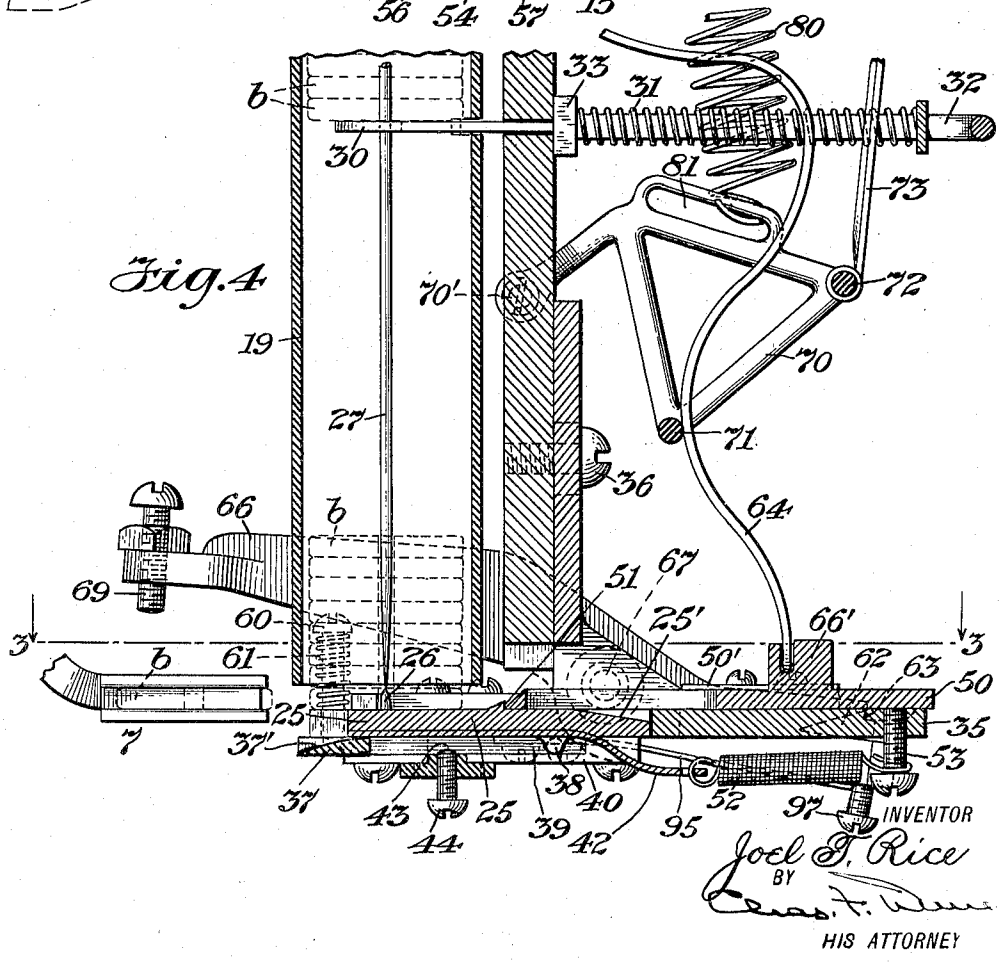


Fig. 4



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BUTTON SEWING MACHINE

Filed June 22, 1920 6 Sheets-Sheet 4

Fig. 5

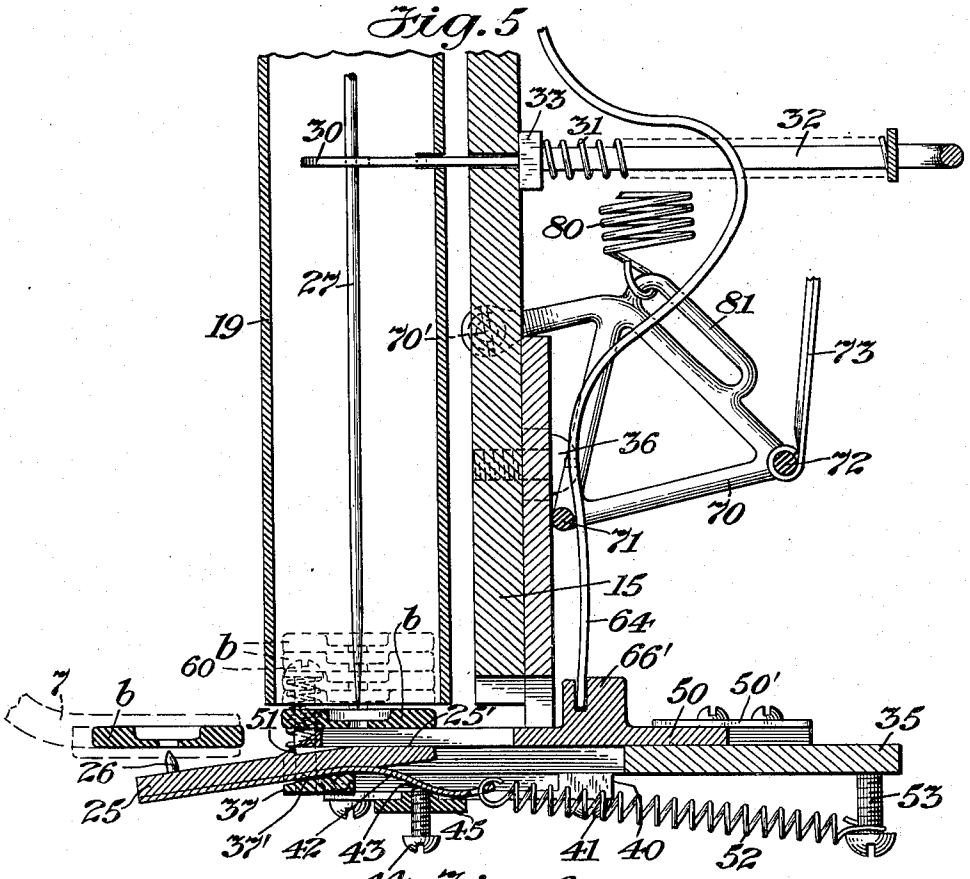
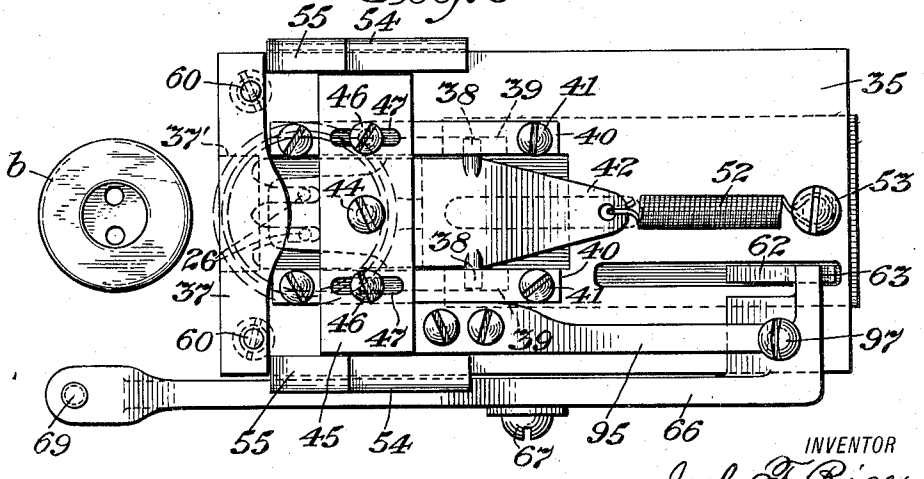


Fig. 6



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BUTTON SEWING MACHINE

Filed June 22, 1920 6 Sheets-Sheet 5

Fig. 7

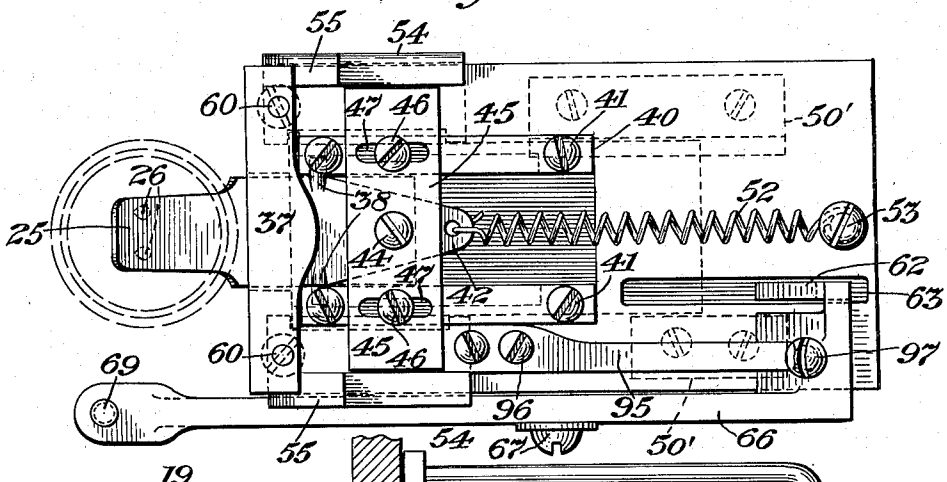


Fig. 8

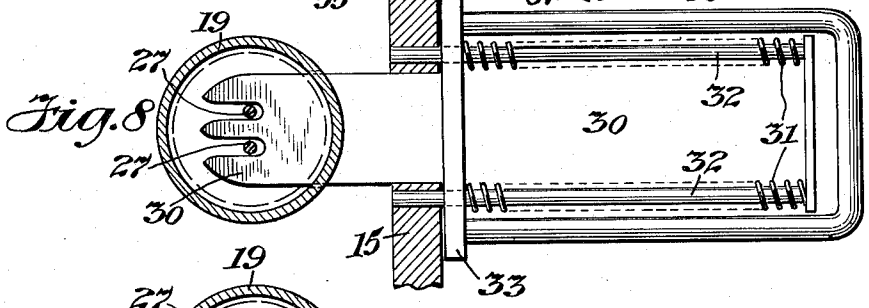
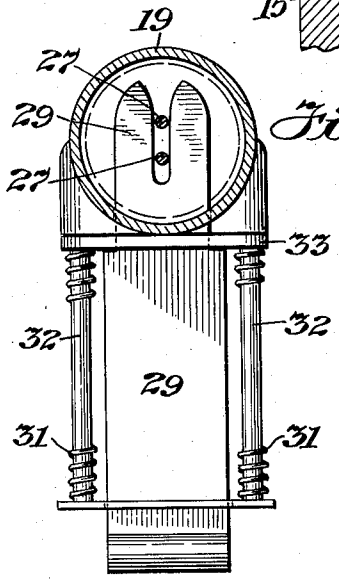


Fig. 9



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BUTTON SEWING MACHINE

Filed June 22, 1920 6 Sheets-Sheet 6

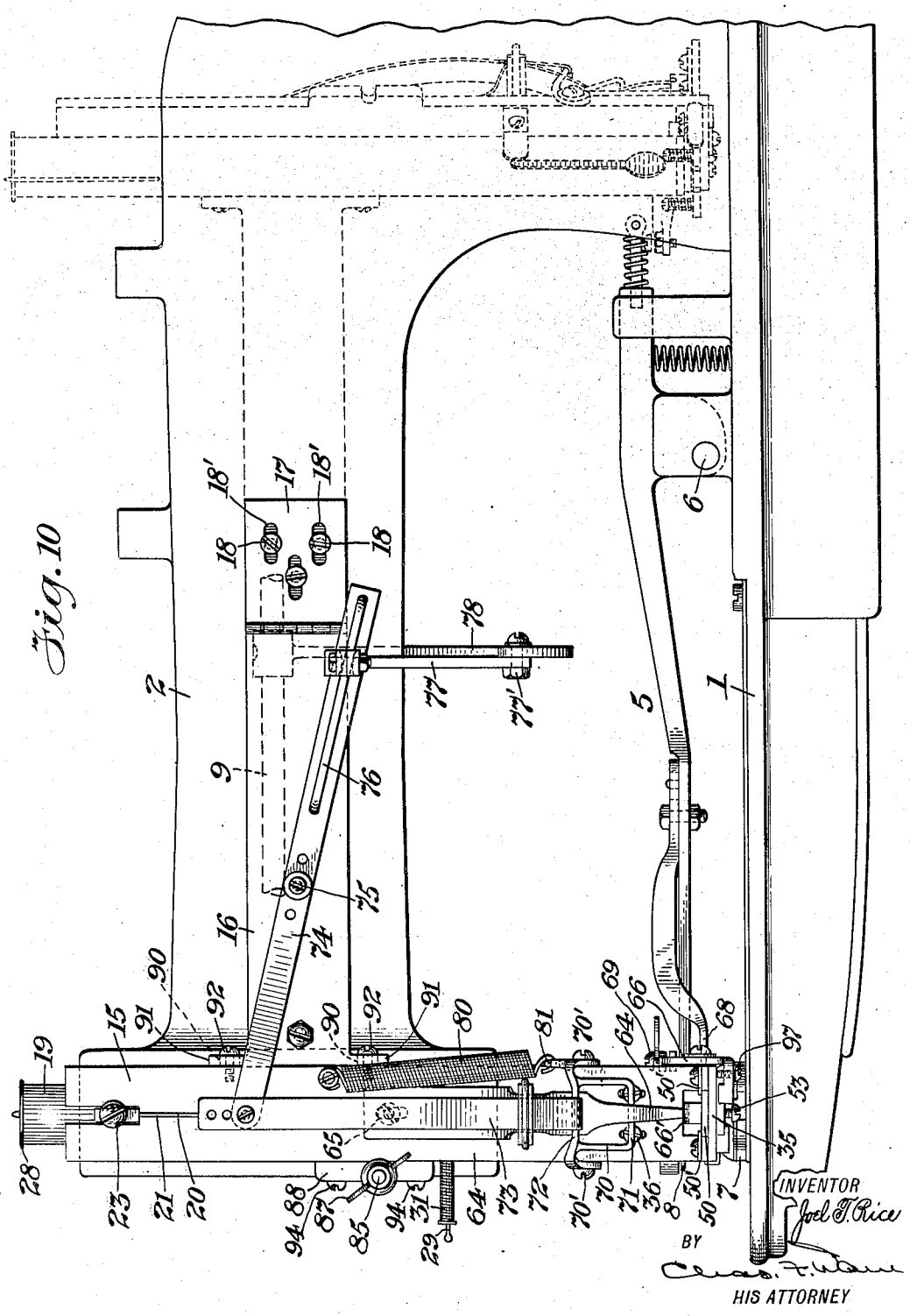

Fig. 10

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Patented June 17, 1924. 1,497,697

UNITED STATES PATENT OFFICE.

JOEL T. RICE, OF NEW YORK, N. Y.

BUTTON-SEWING MACHINE.

Application filed June 22, 1920. Serial No. 390,843.

To all whom it may concern:

Be it known that I, JOEL T. RICE, a citizen of the United States, and resident of New York, in the county of Bronx and State of New York, have invented certain new and useful Improvements in Button-Sewing Machines, of which the following is a specification.

My invention relates to button sewing machines and particularly to that class of button sewing machines adapted for the sewing on of flat buttons having a plurality of eyes or openings through which the sewing thread is passed. In machines of this class the button is held during the sewing operation by a button holder which comprises a pair of spring-pressed jaws between which the buttons are inserted by the operator preliminary to each button sewing operation. This manual operation of placing a button in the button holder at each button sewing operation is obviously objectionable for many reasons, but primarily so because of the delay incident to the operation, which materially interferes with piece work or quantity production. It has therefore been the object of my present invention to provide a mechanism for automatically feeding the buttons to the button holder, and preferably one that will be operative to place a button between the jaws of the button holder each time the latter is raised to release a sewed-on button; in this way wholly eliminating the delay heretofore occasioned by the manual operation of placing the buttons between the jaws of the button holder. Such objects I attain by the novel construction and combination of parts embodying my invention as illustrated in the accompanying drawings, in which—

Fig. 1 is a front end elevation of a button sewing machine equipped with my invention.

Fig. 2 is a plan view of the button feeding mechanism and of the sewing machine proper at a point below its overhanging arm, which latter with certain supported parts are partially shown by broken lines.

Fig. 3 is an enlarged plan view of the button feeding mechanism below the line 3—3 of Fig. 4, and showing in broken lines the front end of the button holder with a supported button.

Fig. 4 is a central vertical section through the lower part of the button feeding mechanism, on the same scale as that of Fig. 3.

Fig. 5 is a similar view, showing a different position of the operating parts.

Fig. 6 is a bottom view of the same, with the parts in positions corresponding with those of Fig. 4.

Fig. 7 is a similar view, with the parts in positions corresponding with those of Fig. 5.

Fig. 8 is a plan view of a device for positioning the button guides within the button magazine, and showing the magazine and part of the supporting frame adjacent said device in section.

Fig. 9 shows a similar device which is located at another point in the length of the magazine.

Fig. 10 is a front elevation of the machine, showing the button feeder mechanism in operative position by full lines and swung back to inoperative position by dotted lines.

Similar reference characters indicate like parts in the several figures of the drawings.

My invention may be applied to a button sewing machine of any usual or suitable type, the machine here shown comprising a frame, consisting of the bed plate 1 and overhanging bracket arm 2; the vertically reciprocating needle-bar 3 and attached needle 4 for cooperation with a looper mechanism (not shown) at the under side of the bed plate for sewing on buttons; and the button holder for holding the buttons while being sewed, which holder consists of a frame 5 pivoted adjacent its rear end on the bed plate of the machine, at 6, and at its front end carrying a pair of pivoted holding jaws 7, 7, which are yieldingly held by springs 8, 8, in button holding position. At the end of each button sewing operation, the button holder is adapted to be raised for the purpose of automatically opening the jaws and releasing the sewed-on buttons, the means here shown for so raising the holder comprising a rock shaft 9 mounted in suitable bearings on the arm of the machine and having a crank arm 10 connecting with the button holder through a pivoted link 11, and a second crank arm 12 for connection with a foot treadle or other actuating means not here shown. When the button holder is raised to open its jaws and release a button, in well known manner, another button is adapted to be automatically placed between the jaws of the holder by means of

my improved button feeder to be now described.

This button feeder may be applied to the machine as a permanent part thereof, or, preferably, it may be embodied in the form of a separate unit and applied to the machine in a manner to be movable to and from a position in operative relation to the button holder and sewing machanism. In the present case, it is embodied in the form of a separate unit which is carried by a supporting frame comprising a vertical standard 15 carried by a horizontally arranged bracket arm 16 having a hinged connection at one end with a bracket plate 17 removably fastened to the overhanging arm 2 of the machine frame by means of screws 18 engaging the arm 2 through elongated slots 18′ in the bracket plate 17, as shown in Figs. 2 and 10.

Connected with the standard 15 is a magazine 19 into which the buttons, indicated at *b*, are adapted to be placed for feeding by gravity through the lower end thereof onto the button feeder, by which they are delivered to the button holder. This magazine, for convenience in being supplied with buttons, etc., is removably connected with the standard 15, the connecting means here shown comprising a hook shaped projection 20 on the upper end of the magazine for engaging the upper end of the standard through a slot 21 therein, and a pair of clamping arms 22 on the inner side of the standard for embracing the magazine near its lower end. A fastening screw 23 engaging the magazine through the upper wide end of the slot 21 in the standard (see Fig. 10) serves as a means for adjustably securing the magazine against displacement after being placed in connection with the standard.

When the buttons are placed between the jaws of the holder, it is of course necessary that they be so positioned that the openings therein will be properly presented to the needle in the sewing operation. To do this, the button feeder 25, supported for reciprocation in a path from the lower end of the magazine to the button holder, is provided with a plurality of positioning pins or projections 26 for engaging the buttons within their openings as the buttons are fed onto the feeder and maintaining such engagement until the buttons have been fed between the jaws of the button holder, whereby the button openings will be properly presented to the needle in the sewing operation.

In order that the buttons may be fed to the feeder 25 with their openings in position to be entered by the pins 26 thereon, I locate guide rods 27 in the magazine which extend through the openings in the buttons and at their lower ends terminate adjacent to and in alignment with the pins on the feeder, as shown in Fig. 4. These guide rods may be supported in any suitable manner, the same as here shown being attached at their upper ends to the removable magazine cap 28 whereby they may be readily removed from the magazine for the purpose of being "loaded" with buttons. When the guide rods are in position within the magazine they are held against lateral displacement therein by slotted guide plates 29 and 30 arranged at right angles to each other, as shown in Figs. 8 and 9. These guide plates are each slidably mounted for movement to and from a position across the magazine opening and are yieldingly held in a normal closed position by means of springs 31 mounted on stationary rods 32 and bearing against cross-heads 33 attached to the plates. By drawing these guide plates outwardly from the magazine, the buttons are permitted to drop downwardly past the same, and as the walls at the front end of the pin receiving slots are made flaring as shown, the plates readily re-engage the guide rods when returned to their closed position in the event of said rods becoming slightly deflected from their normal guiding position.

The button feeder 25 at the lower end of the button magazine, is supported for reciprocation in the slotted front end of a horizontally arranged base plate 35 which is rigidly attached to the lower end of the standard 15 by suitable fastening means, such as the screws 36. Said button feeder is supported adjacent its front end by a vertically yieldable plate 37 extending transversely beneath the same, and is supported adjacent its rear end by means of two laterally projecting arms 38, 38, at its opposite sides which are slidably fitted in horizontally arranged guide-ways 39, 39, formed in plates 40, 40, attached to the under-side of the base plate 35 by screws 41. With the button feeder supported in this way, it is capable of being moved forward in a horizontal plane from its normal position beneath the magazine, as shown in Fig. 4, to carry an engaged button to a position between the laterally yielding jaws of the button holder, and then to be turned downwardly at its front end to release its pins 26 from the button, as shown in Fig. 5. This tilting of the button feeder is caused by a cam plate 42, attached to and projecting from the under side of the feeder, coming into contact with a stationary surface 43 and thereby rocking the feeder on its arms 38, 38, and causing the described downward tilting of the same at its front end. The stationary surface 43 for contact with the cam plate 42 is here shown as the end of an adjusting screw 44 carried by a plate 45 attached to the under side of the base plate 35 by screws 46. By adjusting the vertical position of the screw

44, the necessary tilting of the feeder to effect a complete release of its pins from the button may be obtained. Also, by adjusting position of the screw 44 in a direction lengthwise of the feeder, the timing of the tilting movement of the feeder and thereby its release from the button may be regulated, and this may be effected by shifting the position of the screw-carrying plate 45, which shifting of the latter is permitted by the provision of longitudinal slots 47 therein through which the fastening screws 46 extend.

As a means for imparting a forward or feeding movement to the feeder 25, I mount on the upper side of the base plate 35, between guides 50', 50', an actuator slide 50, which at its front end overlies the feeder and engages with a shoulder 51 thereon, as shown in Fig. 4, the feeder being yieldingly held with its said shoulder in engagement with the front end of the actuator slide by a coiled spring 52 connecting at one end with the plate 42 on the under side of the feeder and at its opposite end connecting with a stationary pin or screw 53 on the frame. When the feeder has neared the limit of its forward feeding stroke as imparted thereto by the actuator slide and is about to be released from the button, the yieldable supporting plate 37 is lowered from beneath the feeder so as not to interfere with its downwardly tilting movement. The means for so lowering the plate 37 comprises a pair of slides 54, 54, formed to embrace the opposite edges of the base plate 35 at its front end and each having a cam or inclined projection 55 at its lower front end for engagement with the ends of the plate 37, as shown in Fig. 7. These slides 54 are held to the base plate 35 by means of screws 56 engaging the upper side of the same through elongated slots 57 therein, as shown in Fig. 3, and are also each formed with a cut-away portion at its upper inner edge forming shoulders 58, 58, which are adapted to be engaged by lugs 59, 59, projecting laterally from the front end of the actuator slide. When this latter slide is operated to impart feeding movement to the feeder 25, it moves independently of the slides 54 until the feeder is about to be tilted downward to release the button, at which time the lugs 59 on the actuator slide engage the front end shoulders 58 of the slides 54 and advance the latter sufficiently to move their cam projections 55 into engagement with the supporting plate 37, as shown in Fig. 7, and effect the lowering of the same to permit of the ready downward tilting of the feeder under the action of its cam 42 when the latter is brought into engagement with the stationary screw 44, as shown in Fig. 5. Upon the release of the feeder pins 26 from the button and also the disengagement of its shoulder 51 from the front end of the actuator slide, as shown in Fig. 5, the feeder is drawn backward by the spring 52 until stopped by the engagement of its pins 26 with the front end of the actuator slide, which latter advanced to button supporting position beneath the magazine upon the forward movement of the button feeder therefrom. Subsequently, when the actuator slide is returned to its normal position by means to be hereinafter described, the feeder will move backwardly therewith under the action of the spring 52 until brought to a position with its pins in alignment with the guide rods 27, after which the slide will continue its return movement until it reaches a position with its front end behind the feeder shoulder 51, as shown in Fig. 4. As the actuator slide nears the end of its return stroke, its lugs 59 engage the rear shoulders 58 on the slides 54 and move the latter backward sufficiently to release its cam projections 55 from the plate 37, as shown in Fig. 6, and thereby permit said plate to be raised and restore the supported feeder to its normal horizontal position. The means for yieldingly supporting the plate 37, as here shown, comprises two headed pins 60, 60, connecting with said plate through openings in the base plate 35 and having coiled springs 61 thereon expanding between their heads and the upper surface of the base plate as shown. To permit of the necessary tilting of the feeder with a minimum lowering of the supporting plate 37, the central part of the latter where the feeder rocks thereon is beveled, as at 37', and the upper rear end of the feeder where it contacts with the under side of the actuator slide is also beveled, as at 25'.

The actuator slide 50 is held in a normal retracted position my means of a latch 62 engaging with a latch shoulder 63 at its under side, as best shown in Fig. 4. Upon the tripping of this latch the actuator will be operated to impart a feeding movement to the button feeder by means of a spring 64 which is here shown as attached at its upper end to the standard 15 by a screw 65, and at its lower end connected with the actuator slide by loosely engaging a lug 66' thereon as shown. The latch 62 is carried by one end of a trip lever 66 which is pivoted to one side of the base plate at 67 with its opposite or operating end extending into position for engagement by an arm 68 of the button holder frame 5. The relation of this trip lever to the arm 68 of the button holder frame is such that when the button holder is raised from its normal lowered button-holding position, as shown by full lines in Fig. 1, to a raised button-releasing position as indicated by dotted lines in said Fig. 1, the arm 68 on the frame 5 will engage the adjacent end of the trip lever and operate the same to trip the latch

and thereby release the actuator slide, which latter will then be operated under the action of the spring 64 to move from the position shown in Fig. 4 to that shown in Fig. 5 and cause the feeder 25 to carry a button from the magazine to a position between the jaws of the button holder. In order to effect a proper timing in the operation of such parts the trip lever 66 is provided with an adjustable contact member, here shown in the form of a screw 69 for engagement by the arm 68. A spring 95 secured to the under side of the base plate by a screw 96 bears upwardly at its free end against the under side of the lever 66 to yieldingly hold the same in normal latching position and to automatically restore it to such position following the tripping of the latch by the button holder. A screw 97 carried by the rear end of the trip lever 66 for engagement with the under side of the base plate 35 serves as a means to adjust the latching position of the lever with respect to the latch shoulder 63 on the actuator slide.

After the actuator slide has been operated by the spring 64 as described to effect a feeding of the button to a position between the button holder jaws, said slide is then adapted to be returned to its normal retracted position. This is accomplished as here shown by means of a two-armed lever 70 pivoted to the standard at 70′, with one arm 71 engaging the inner side of the spring 64 and its other arm 72 connected through a link 73 with the front end of a lever 74, which latter is pivoted to the bracket arm 16 at 75, and at its rear end provided with a loop 76 for the sliding connection therewith of a link 77, which is pivotally connected at 77′ with a crank arm 78 fixed to and operated by the rock-shaft 9 at the rear side of the bracket arm 2. Upon the rocking of the shaft 9 in a direction to lower the button holder onto the work, following the insertion of a button between the jaws by the feeder 25, the arm 78 is swung downward at its front end to rock the connected lever 74 in a direction to swing the lever arm 71 outwardly, from the position shown in Fig. 5 to that shown in Figs. 1 and 4 and thereby act through the spring arm 64 to retract the connected actuator slide and associated parts to their normal positions. As a means to assist in the raising of the lever 70 for effecting the retraction of the connected parts, I have provided a coiled spring 80 connecting at one end with the standard and at its opposite end with said lever. In order, however, that the tension of this coiled spring on the lever 70 may be substantially relieved upon the lowering movement of said lever under the operating action of the spring 64, I have provided the lever arm 72 with an elongated loop 81 for the sliding connection therewith of the spring 80, whereby the connecting end of said spring will move inwardly and towards the axis of the lever upon the lowering of the latter, from its high position, shown in Fig. 10, to its low position, shown in Fig. 5.

As hereinbefore described, the button feeder mechanism is here embodied in the form of a unit which is mounted on the machine in a manner to be capable of movement to and from a position in operative relation with the stitching mechanism and button holder. When swung to operative position with the standard 15 in contact with the front edge of the sewing machine face plate, or other fixed part of the machine, it is secured in stationary position by a suitable fastening device, here shown as a threaded pin 85 hinged to the face plate at 86 and provided with a winged nut 87 for clamping engagement with the face side of a block 88 on the standard, as shown in Fig. 1, this being permitted by a notch in the front edge of said block into which the pin 85 is adapted to be removably seated. When it is desired for any reason to omit the use of the button feeder, it may be swung to inoperative position, as shown by dotted lines in Fig. 10, by simply freeing the fastening device 85—87, and also disconnecting the link 77 from the crank arm 78 through the pivot connection 77′.

In applying the button feeder attachment to the machine, it is of course necessary that the feeder member 25 should be so positioned with respect to the button holder jaws as to assure the button being properly fitted to and positioned between said jaws. Provision is made for this by having the feeder attachment frame adjustable both vertically and horizontally; the horizontal adjustment being permitted by making the screw openings 18′ in the bracket plate 17 horizontally elongated as shown in Fig. 10, and the vertical adjustment being permitted by elongating the openings 90 in the bracket arms 91 (see Fig. 10) through which the screws 92 extend for fastening the standard 15 to the bracket arm 16. Any vertical adjustment of the standard 15 with respect to the fastening device 85 on the face plate of the machine is permitted by making the block 88 adjustable on said standard, as by elongating the openings 93 in the block through which the fastening screws 94 extend, as shown in Fig. 1.

As a means to prevent the button slipping off the pins 26 of the feeder 25 during the feeding operation, I prefer to form said pins with a slight depression in their front or button engaging wall, as shown in Fig. 5, whereby a firm engagement of the pins with the buttons is secured.

What I claim is:

1. In a button sewing machine, the combination with the button holder, of a but-

ton magazine, a feed device operative to receive buttons from said magazine and deliver the same to the holder, operating means for the feed device, and means for tilting the feed device from engagement with the buttons upon delivery of the latter to the holder.

2. In a button sewing machine, the combination with the button holder, of a button magazine, a feed device operative to receive buttons from said magazine and deliver the same to the holder, said feed device having pins for entering the button openings and delivering the buttons to the holder in predetermined position, operating means for the feed device, and means for rocking the feed device downward to release its pins from the buttons upon delivery of the latter to the holder.

3. In a button sewing machine, the combination with the button holder, of a button magazine, a feed device operative to receive buttons from said magazine and deliver the same to the holder, said feed device having pins for holding the buttons in predetermined position thereon and the magazine having guide rods for delivering the buttons to the pins on said feed device, and operating means for the feed device.

4. In a button sewing machine, the combination with the button holder, of a button magazine, a feed device operative to receive buttons from said magazine and deliver the same to the holder, said feed device having pins for holding the buttons in predetermined position thereon and the magazine having guide rods for delivering the buttons to the pins on said feed device, means for engaging the guide rods at a point between their ends to position the same and being movable to permit of the passage of the buttons past the same, and operating means for the feed device.

5. In a button sewing machine, the combination with the button holder, of a button magazine, a feed device operative to receive buttons from said magazine and deliver the same to the holder, said magazine having guide rods for engaging the buttons through their openings and delivering the same to the feed device in predetermined position thereon, means for engaging the guide rods at a point between their ends to position the same and being movable to permit of the passage of the buttons past the same, and operating means for the feed device.

6. In a button sewing machine, the combination with the button holder, of a button magazine, a feed device operative to receive buttons from said magazine and deliver the same to the holder, said magazine having guide rods for engaging the buttons through their openings and delivering the same to the feed device in predetermined position thereon, slidably mounted plates engaging the guide rods between their ends and holding the same against movement in different directions said plates being movable in a direction away from the guide rods to permit of the passage of buttons past the same, and operating means for the feed device.

7. In a button sewing machine, the combination with the button holder, of a button magazine, a feed device operative to receive buttons from said magazine and deliver the same to the holder, said feed device having pins for holding the buttons in predetermined position thereon and the magazine having guide rods terminating at their lower ends adjacent to and in alignment with the pins on the feed device for guiding the buttons thereon, and operating means for the feed device.

8. In a button sewing machine, the combination with the button holder, of a button magazine, a feed device operative to feed buttons from said magazine to the holder, and operating means for the feed device comprising a spring for imparting a feeding movement thereto, and a lever engaging said spring for returning the same and the feed device to starting position.

9. In a button sewing machine, the combination with the button holder, of a button magazine, a feed device operative to feed buttons from said magazine to the holder, and operating means for the feed device comprising a spring for imparting a feeding movement thereto, a lever for returning the same to starting position, and a spring cooperating with said lever in effecting the return movement of the feed device and having a sliding connection therewith for movement toward and from its fulcrum, for the purpose set forth.

10. In a button sewing machine, the combination with the button holder, of a button magazine, a reciprocating feed device having means for engaging the lowermost button in the magazine and feeding the same to the holder, an actuator slide loosely engaging said feed device for imparting feeding movement thereto, a latch for holding said slide in normal retracted position, means for tripping said latch, means for automatically operating the slide to impart feeding movement to the engaged feed device upon the tripping of the latch, and means for automatically releasing the feed device from the button upon the delivery of the latter to the holder.

11. In a button sewing machine, the combination with the button holder, of a button magazine, a reciprocating feed device having means for engaging the lowermost button in the magazine within the openings therein and feeding the engaged button to the holder, an actuator slide loosely engaging said feed device for imparting feeding

movement thereto, a latch for holding said slide in normal retracted position, means for tripping said latch, means for automatically operating the slide to impart feeding movement to the engaged feed device upon the tripping of the latch, and means for automatically releasing the feed device from the button upon the delivery of the latter to the holder.

12. In a button sewing machine, the combination with the button holder, of a button magazine, a reciprocating feed device having pins for engaging the lowermost button in the magazine within the openings therein and feeding the engaged button to the holder, an actuator slide loosely engaging said feed device for imparting feeding movement thereto, a latch for holding said slide in normal retracted position, means for tripping said latch, means for automatically operating the slide to impart feeding movement to the engaged feed device upon the tripping of the latch, and means for automatically releasing the feed device from the button upon the delivery of the latter to the holder.

13. In a button sewing machine, the combination with the button holder, of a button magazine, a reciprocating feed device having pins for engaging the lowermost button in the magazine within the openings therein and feeding the engaged button to the holder, an actuator slide loosely engaging said feed device for imparting feeding movement thereto, a latch for holding said slide in normal retracted position, means for tripping said latch, means for automatically operating the slide to impart feeding movement to the engaged feed device upon the tripping of the latch, and means for lowering the feed device to disengage its pins from the button upon the delivery of the latter to the holder.

14. In a button sewing machine, the combination with the button holder, of a button magazine, a reciprocating feed device having means for engaging the lowermost button in the magazine and feeding the same to the holder, a yieldably held plate supporting said feed device, an actuator slide loosely engaging the feed device for imparting feeding movement thereto, and means for moving the feed device from its position of engagement with the button upon the delivery of the latter to the holder.

15. In a button sewing machine, the combination with the button holder, of a button magazine, a reciprocating feed device having means for engaging the lowermost button in the magazine and feeding the same to the holder, means for moving the feed device from its position of engagement with the button upon the delivery of the latter to the holder, and a yieldable plate supporting said feed device and being operative to yield under the button disengaging movement of the feed device and to thereafter restore said device to the plane of its normal path of movement.

16. In a button sewing machine, the combination with the button holder, of a button magazine, a reciprocating feed device having pins for engaging the lowermost button in the magazine within the openings therein and feeding the same to the holder, means for moving the feed device from its position of engagement with the button upon the delivery of the latter to the holder, and a yieldable plate supporting said feed device and being operative to yield under the button disengaging movement of the feed device and to thereafter restore said device to the plane of its normal path of movement.

17. In a button sewing machine, the combination with the button holder, of a button magazine, a reciprocating feed device having pins for engaging the lowermost button in the magazine within the openings therein and feeding the same to the holder, means for lowering the feed device from its position of engagement with the button upon the delivery of the latter to the holder, and a yieldable plate supporting said feed device and being operative to yield under the button disengaging movement of the feed device and to thereafter raise said device to the plane of its normal path of movement.

18. In a button sewing machine, the combination with the button holder, of a button magazine, a reciprocating feed device having means for engaging the lowermost button in the magazine and feeding the same to the holder, means for lowering the feed device to release it from the button upon the delivery of the latter to the holder, a support for said feed device, means for lowering said support to permit of the release of the feed device from the button, and an actuator slide for operating both the feed device and the said feed device support lowering means.

19. In a button sewing machine, the combination with the button holder, of a button magazine, a reciprocating feed device having means for engaging the lowermost button in the magazine and feeding the same to the holder, means for the lowering the feed device to release it from the button upon the delivery of the latter to the holder, a support for said feed device extending transversely beneath the same, a pair of slides movable to and from a position for engaging the ends of said support and lowering the same to permit of the release of the feed device from the button, and an actuator for operating both the feed device and said slides.

20. In a button sewing machine, the combination with the button holder, of a button magazine, a reciprocating feed device having means for engaging the lowermost but-

ton in the magazine and feeding the same to the holder, means for lowering the feed device to release it from the button upon the delivery of the latter to the holder, and an actuator for the feed device movable to button supporting position beneath the magazine upon the movement of the feed device therefrom.

21. In a button sewing machine, the combination with the button holder, of a button magazine, a reciprocating feed device having means for engaging the lowermost button in the magazine and feeding the same to the holder, means for lowering the feed device to release it from the button upon the delivery of the latter to the holder, and a supporting member movable to button supporting position beneath the magazine upon the movement of the feed device therefrom.

22. In a button sewing machine, the combination with the button holder, of a button magazine, a reciprocating feed device having means for engaging the lowermost button in the magazine and feeding the same to the holder, an actuator slide engaging said feed device for imparting feeding movement thereto, means for lowering the feed device to release it from the button upon the delivery of the latter to the holder and also to release it from engagement by the actuator slide, and a spring for returning the feed device to button engaging position beneath the magazine following the release of said feed device from the button and its actuator slide.

Signed at New York, in the county of and State of New York this 18th day of June, A. D. 1920.

JOEL T. RICE.