(No Model.) 3 Sheets—Sheet 1.

E. HANSALPAKAR.

MACHINE FOR SEWING ON BUTTONS.

No. 531,261. Patented Dec. 18, 1894.

Fig. 1.

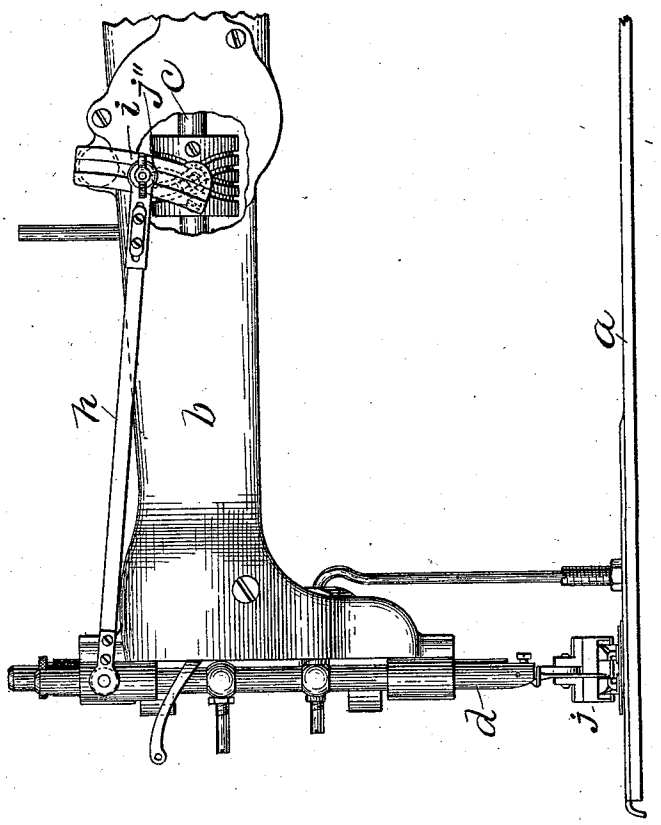
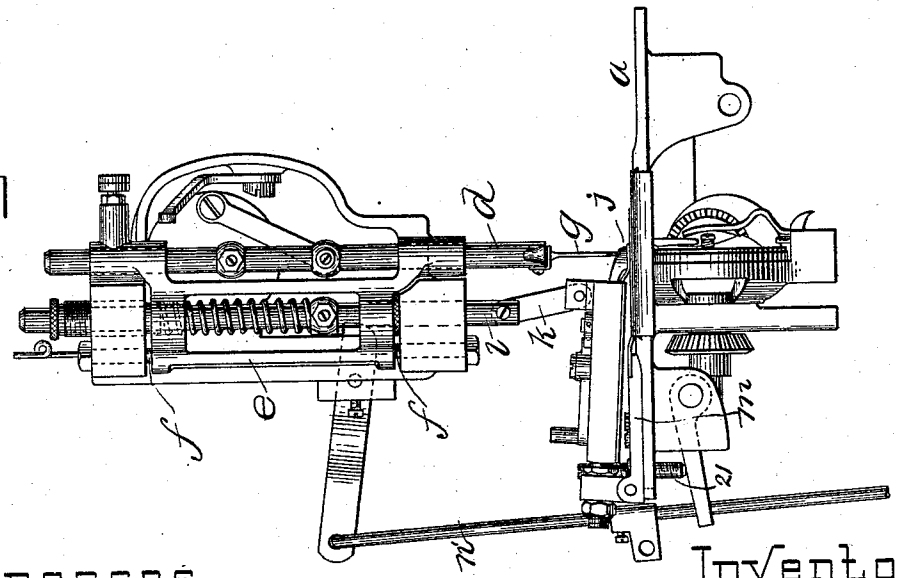


Fig. 2.



Witnesses.
John F. Nelson.
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Inventor.
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Fig. 3.

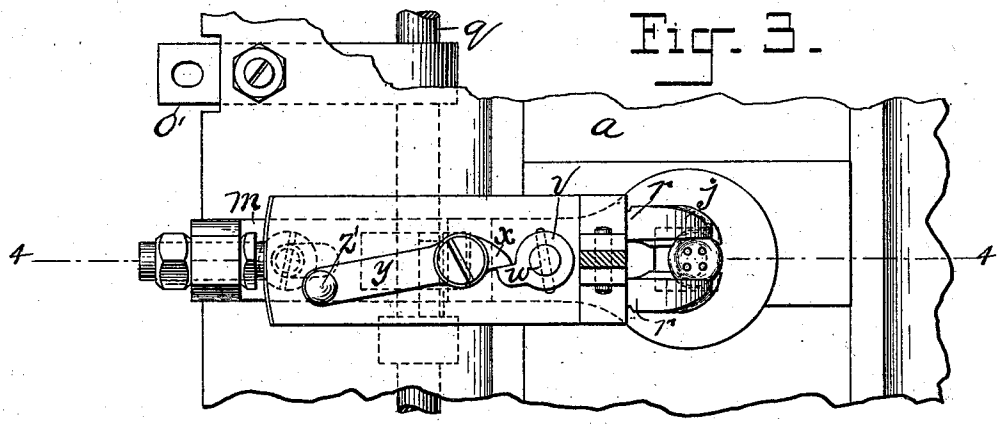

Fig. 4.

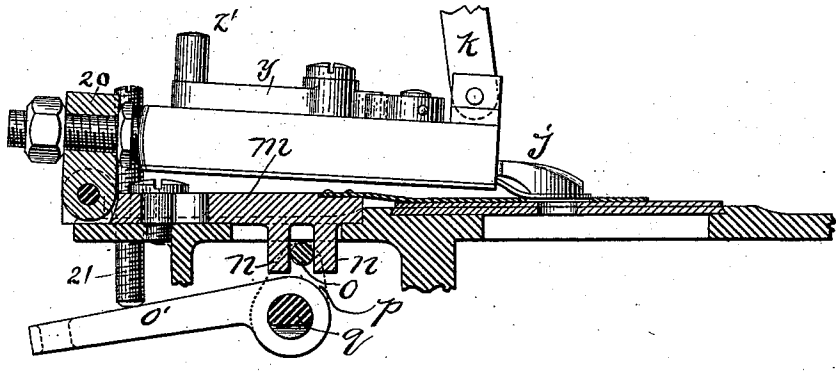

Fig. 7.

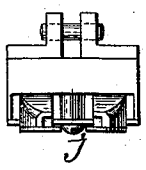

Fig. 5.

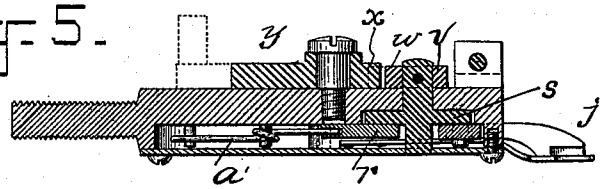

Fig. 6.

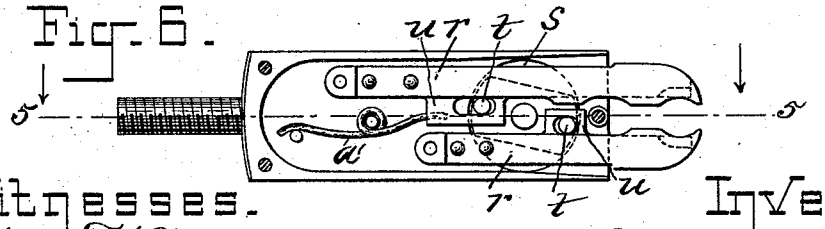

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Fig. 8.

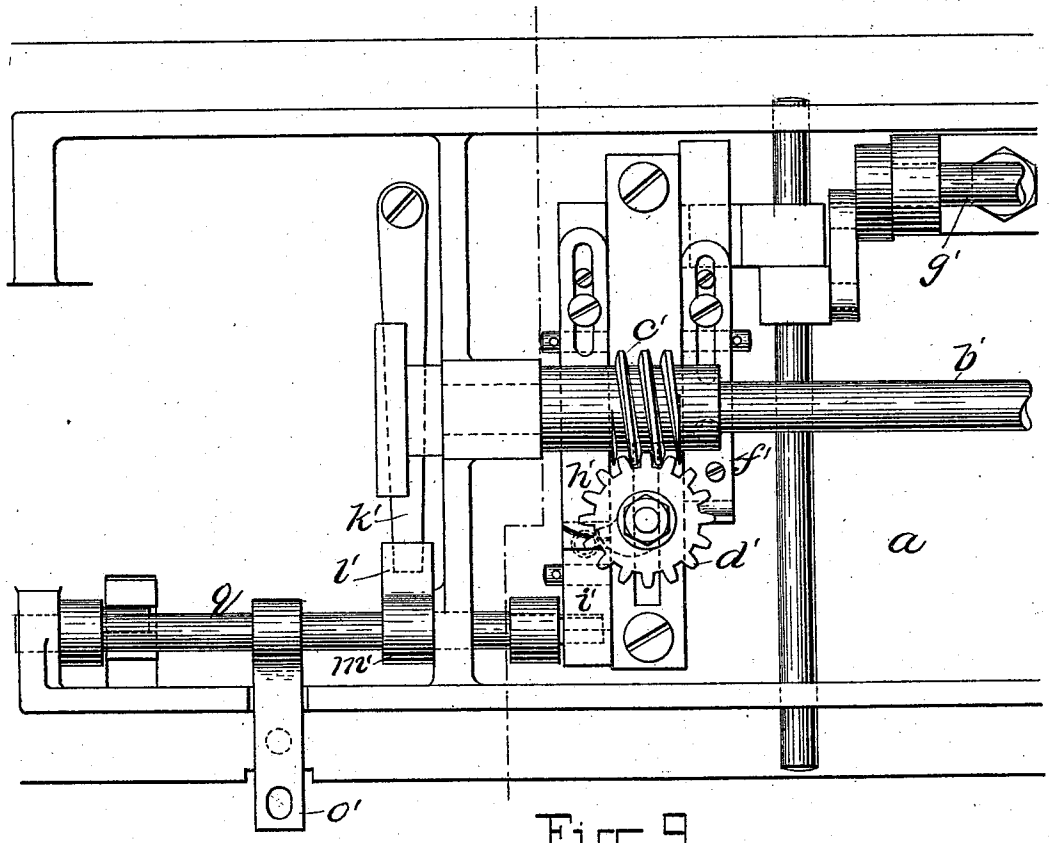


Fig. 9.

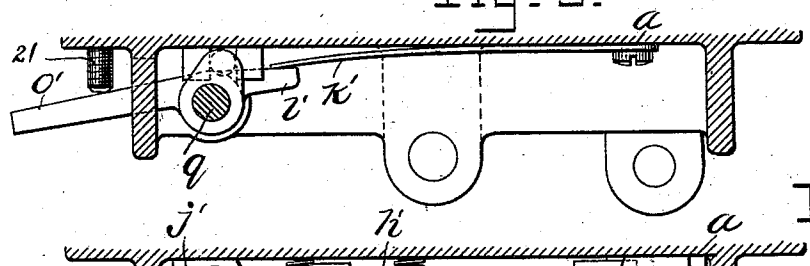
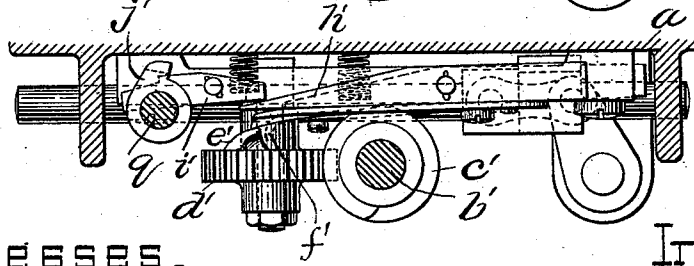


Fig. 10.



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UNITED STATES PATENT OFFICE.

EDWIN HANSALPAKAR, OF WATERTOWN, ASSIGNOR TO THE UNION BUTTON SEWING MACHINE COMPANY, OF BOSTON, MASSACHUSETTS.

MACHINE FOR SEWING ON BUTTONS.

SPECIFICATION forming part of Letters Patent No. 531,261, dated December 18, 1894.

Application filed February 9, 1894. Serial No. 499,587. (No model.)

To all whom it may concern:

Be it known that I, EDWIN HANSALPAKAR, of Watertown, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Button-Sewing Machines, of which the following is a specification.

This invention has relation to machines for sewing buttons on fabrics or other materials, and has for its object, first, the provision of a combination of means whereby the button may be held stationary during the sewing operation, excepting to be shifted so as to present a new pair of eyes to the needle, the latter being vibrated in sewing through a pair of eyes, thus securing greater certainty of operation, and greatly simplifying the means for accomplishing the desired result; second, the provision of a button holder which may be readily adjusted to suit buttons of different size, and secure an exact centering of the same.

To these ends the invention consists in the construction and combination of parts hereinafter described and claimed.

Reference is to be had to the annexed drawings, and to the letters and figures marked thereon, forming a part of this specification, the same letters designating the same parts or features, as the case may be, wherever they occur.

Of the drawings—Figure 1 is a side view of so much of the forward end of a sewing machine as it is necessary to show in order to illustrate the invention, the parts below the bed not being represented. Fig. 2 is an end view of the same, showing also the parts below the bed. Fig. 3 is a plan view partially in section above the button-holder, showing the construction and mode of operation of the latter. Fig. 4 is a vertical sectional view taken on the line 4—4 of Fig. 3. Fig. 5 is a similar view taken on the line 5—5 of Fig 6. Fig. 6 is a plan view of what is shown in Fig. 5. Fig. 7 is an end view of Figs. 5 and 6. Fig. 8 is a plan view of the bottom of the machine embodying the improvements. Fig. 9 is a sectional view taken on the line 9—9 of Fig. 8. Fig. 10 is a sectional view showing the manner in which the wiper on the worm wheel operates to unlatch the means which holds the button-holder against movement so that it can be shifted to present a new pair of eyes to the needle.

Of the drawings—*a* designates the bed of the machine.

b is the overhanging arm or goose-neck in which the rotary needle shaft *c* is journaled, the latter being so connected with the needle-bar *d* as to reciprocate the same vertically.

e is a frame pivoted at *f f*, in which frame the needle-bar has its bearings and which frame may be vibrated on its pivots so as to vibrate the needle-bar and needle *g*. The needle-bar is vibrated by means of a rod or pitman *h* pivotally connected at its forward end to the frame *e*, and adjustably connected at its opposite end with an arm *i*, pivoted at its upper end to a stationary part of the machine, and provided at its lower end, as at *j''*, with a swivel block which travels in a groove in a hub or cam block secured to the needle shaft *c*.

By the means described the needle-bar and needle may be vibrated in a way that will be understood without further description.

j designates the button-holder which is connected at its forward end by a link *k* to the spring-pressed presser-bar *l*, and at its rearward end is pivoted by a link, 20 to a sliding block *m* having lugs *n n* which extend down through a slot in the machine bed *a*. A pin *o* from a projection *p* of a collar, hub, or other contrivance on a rock shaft *q*, extends between the said lugs *n n*, so that as the said shaft *q* is rocked in its bearings the block *m* and buttonholder *j* will be moved longitudinally to and fro.

The button-holder is constructed of a base piece upon which are pivoted two arms *r r*, having button-holding jaws formed on their forward ends.

s designates a turn plate or button having its bearings in the button-holder and provided with pins *t t* extending vertically into slots formed in lateral projections *u u* of the arms *r r*. Upon the upper end of the journal stud of the turn-plate *s* is affixed a collar *v* having a laterally projecting finger *w* adapted to be engaged by a finger *x* extending from the hub of a lever *y*, fulcrumed at *z*. A spring *a'* is connected with one of the arms

r so as to act with a tendency of moving the jaws together.

By taking hold of the handle, z', of the lever y it may be moved so as to cause its finger x to act upon the finger w, and move the turn plate to separate and limit the extent of movement of the jaws toward each other, the turn plate and its connections with the arms r r serving to move the jaws coextensively, so that a button placed therein may always be centered with respect to the needle.

b' designates the main shaft, provided with a worm c' which engages and drives a worm wheel d', horizontally arranged, on the upper face of which there is a wiper or cam projection e', adapted, when the worm-wheel completes a revolution, to come into contact with the free end of the finger f' and press it upward, releasing a catch controlled thereby and effect a stopping of the machine through the operation of the rod or shaft g'. The stopping mechanism is not a part of the present invention, and exercises no modifying effects upon its mode of operation, hence is not fully shown or described.

When the worm wheel d' makes a half revolution, after the starting of the machine to sew on a button, the wiper e' comes into contact with the free end of a pivoted arm or finger h' which rests below a latch i' and presses the said finger and latch upward. When the latch i' is pressed upward, as stated it is released from engagement with a part j' secured to the rock-shaft q, and allows the said shaft to be rocked to a limited extent by the pressure of a spring k' upon the free end of a lug l', of a collar m' secured to the said rock-shaft, and so shift the button-holder in order that it may present a new pair of eyes to the needle. The extent to which the shaft, q, can be rocked is limited by an adjustable screw, 21, which is engaged by the arm, o', fastened on the shaft, q. See Fig. 4.

The shifting of the button-holder will be accomplished through the medium of the pin o on the rock-shaft acting upon the lugs n n of the sliding-block m connected with the button-holder.

The parts of the machine are so timed that upon drawing down upon the rod or wire n' which may be connected with a treadle, in order that it may be operated by the foot of the user of the machine, the presser bar and button-holder will be raised, the rock-shaft q moved by drawing down on the free end of the arm o' connected therewith, and the parts locked in the position in which they are represented in Fig. 10. It being supposed that a four-eyed button has been placed between the jaws of the button-holder, the vibrating needle will operate to sew through two eyes of the same until the wiper e' acts to move the latch i' which will release the rock-shaft q and permit the latter to rock in its bearings, so as to present the remaining pair of eyes to the vibrating needle which will sew through the latter, as described, until the worm wheel d' completes its revolution when it will operate to stop the machine.

Having thus explained the nature of the invention and described a way of constructing and using the same, though without attempting to set forth all of the forms in which it may be made, or all of the modes of its use, it is declared that what is claimed is—

1. In a machine for sewing on buttons, the combination with a vertically reciprocating and laterally vibrating needle and complemental stitch-forming mechanism, of a button holder and carrier supported above the bed-plate and confined to movement in a single rectilinear line at a right angle to the lateral vibration of the needle and intermittently operating means acting upon said holder and carrier to hold the same stationary during a predetermined number of stitches, then to shift said holder and carrier a predetermined distance in said line during the rise of said needle and then to hold said holder and carrier stationary during a predetermined number of stitches, substantially as and for the purpose set forth.

2. In a machine for sewing on buttons, the combination with a vertically reciprocating and laterally vibrating needle, and complemental stitch forming mechanism, of a button holder and carrier supported above the bed plate and confined to movement in a single rectilinear line, said button holder comprising a pair of adjustable jaws provided with slotted lugs, a turn-plate mounted upon one end of a vertical shaft and having pins arranged to engage said slots, a lug upon the opposite end of said shaft and a lever, one end of which is arranged to engage said lug and means acting upon said holder and carrier to hold the same stationary during a predetermined number of stitches, then to shift said holder and carrier a predetermined distance in said line during the rise of said needle, and then to hold said holder and carrier stationary during a predetermined number of stitches, substantially as and for the purpose set forth.

3. In a button holding attachment for button sewing machines, the combination with a pair of spring-pressed adjustable jaws, provided with slotted lugs, of a turn-plate mounted upon one end of a vertical shaft having pins arranged to engage said slots, and means connected with the other end of said shaft for moving said turn-plate to operate said jaws, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 25th day of January, A. D. 1894.

EDWIN HANSALPAKAR.

Witnesses:

ARTHUR W. CROSSLEY,

A. D. HARRISON.