(No Model.)

E. T. THOMAS.

BUTTON SEWING ATTACHMENT FOR SEWING MACHINES.

No. 281,650. Patented July 17, 1883.

Fig: 1.

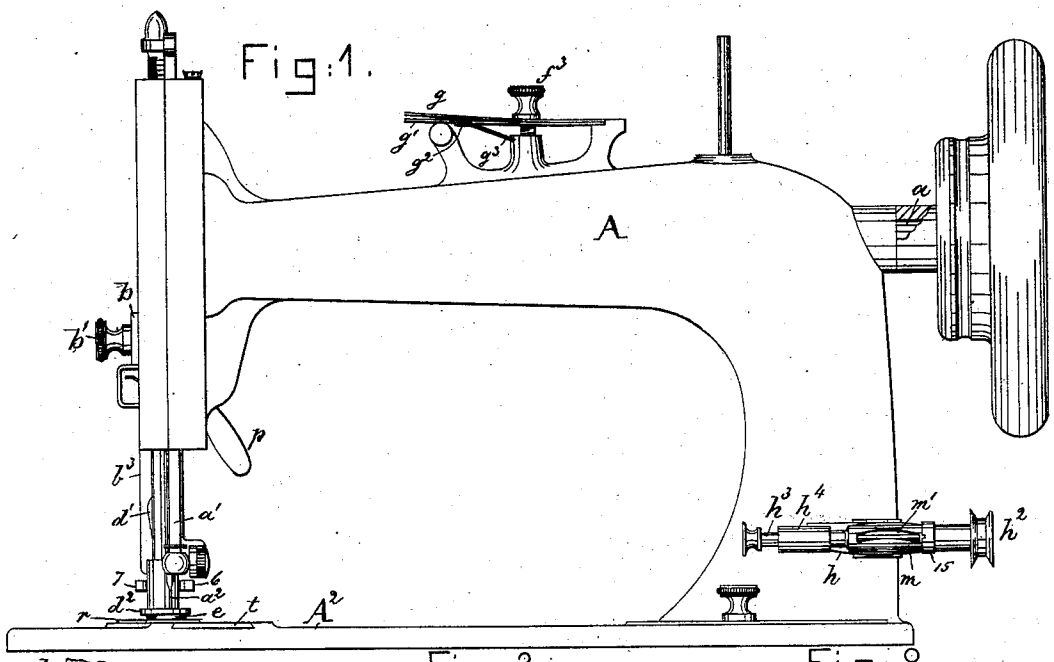


Fig: 2.

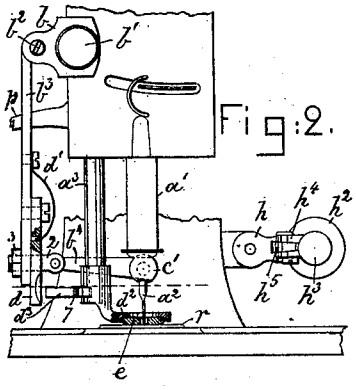


Fig: 3.

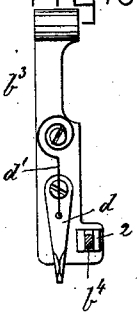


Fig: 8.

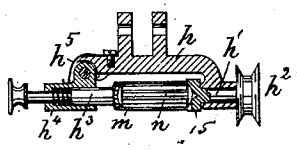


Fig: 10.

Fig: 9.

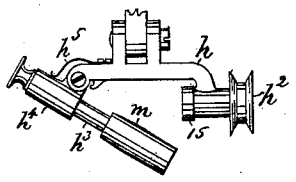


Fig: 4.

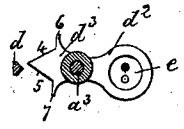


Fig: 7.

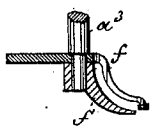


Fig: 11.

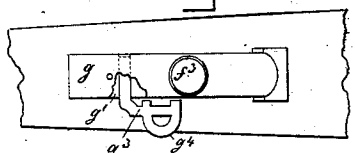


Fig: 5.

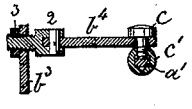


Fig: 6.

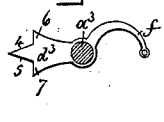
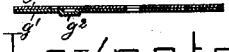


Fig: 13.

Fig: 12.



Witnesses

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A. O. Orne.

Inventor.

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by Crosby & Gregory

Attys.

UNITED STATES PATENT OFFICE.

EDDY T. THOMAS, OF NEW YORK, N. Y., ASSIGNOR TO THE NEW HOME SEWING MACHINE COMPANY, OF ORANGE, MASSACHUSETTS.

BUTTON-SEWING ATTACHMENT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 281,650, dated July 17, 1883.

Application filed January 8, 1883. (No model.)

To all whom it may concern:

Be it known that I, EDDY T. THOMAS, of New York, county and State of New York, have invented an Improvement in Button-Sewing Attachments for Sewing-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object the production of an apparatus by which to sew buttons upon garments.

In this my invention a lever vibrated horizontally by reason of its connection with the needle-bar, and provided with a spring-held finger, acts upon the beveled end of a button-holding presser-foot or carrying-lever pivoted or having its fulcrum on the presser-foot or its bar, the said button-holding presser-foot being provided at its under side with a recess to receive the button placed between it and the cloth-plate of the machine, so that as the said lever is vibrated the button is so moved as to present first one and then another of its holes under and so as to be entered by the needle in its descent.

Figure 1 represents in side elevation a sewing-machine embodying my improvements; Fig. 2, a partial front elevation thereof; Figs. 3, 4, and 5, details of the devices for moving and controlling the button to be sewed upon a garment; Figs. 6 and 7, a modification to be referred to, showing how a part of the button-controlling devices may be made to operate an embroidering device; Figs. 8, 9, and 10, details of the bobbin-winder; Figs. 11, 12, and 13, a top view and longitudinal and cross section of the tension device.

The frame part A, bed A^2, shaft *a*, needle-bar *a'*, needle a^2, and presser-bar a^3 are of any usual shape, and as common to the Home sewing-machine, and are operated as in that machine, so need not be herein further described.

Upon the head of the machine is a clamp, *b*, attached by a suitable screw, *b'*. The clamp has a pin, b^2, which serves as the fulcrum of the lever b^3, which at its lower end is adjustably connected by a screw-eye, 2, and nut 3 with a link, b^4, the other end of which is passed over the shank of the usual needle-holding screw, *c*, inserted through the collar *c'*. The lever b^3 has pivoted upon it a finger, *d*, beveled at its lower end, as in Fig. 3, and a spring, *d'*, acts to normally keep the said finger in vertical position. The presser-bar a^3 serves as a fulcrum for the button-holding lever or presser-foot d^2, provided at its rear side with an arm or extension, d^3, having two bevel-faces, 4 5, and two projections, 6 7. The under side of the foot d^2, made as an annulus, is recessed, as shown in Fig. 2, to receive the button *e*, having holes through it, as shown in Fig. 4. As the lever b^3 is vibrated through its connection with the needle-bar, as described, the finger *d* comes against and travels over first one and then over the other inclined surface 4 5, according to the position of the arm d^3, and which projection was last acted upon by the finger. The finger, as it strikes one or the other shoulder 6 or 7, turns the button-holding presser-foot on the presser-bar, thus causing it to be vibrated in first one and then in the other direction at each movement of the needle to make a stitch. Viewing Fig. 4, it is assumed that the finger *d* last struck the shoulder 6 and turned the button-holding presser-foot, and was then carried backward by the lever b^3, so that the finger *d* stands in vertical position, as in Fig. 3. Now, as the lever b^3 is again moved forward, the finger *d* will come against the inclined edge 5, and finally strike the shoulder 7 and turn d^2 d^3 in the opposite direction, the needle thus alternately entering different holes in the button and sewing it to the cloth or garment. The needle-thread will be locked by a thread carried by the usual shuttle.

The extent of vibration of the button-holding presser-foot may be altered by adjusting the screw-eye 2.

If desired, I may employ the lever b^3 and finger *d* to vibrate the thread-carrying arm *f*, (see Figs. 6 and 7,) it having a rearwardly-extended arm, b^5, such as described as being employed with the button-holding presser-foot, so that the finger *d*, acting thereon, will vibrate the arm *f* and cross its thread or silk under the needle-thread. When the arm *f* is used, the presser-bar will be provided with a presser-foot, *f'*, of usual construction.

The thread-tension device for the needle-

thread is composed of two springs, $g\,g'$, held in contact and adjusted as to their pressure by a screw, f^3. I have provided one of these common springs, as herein shown, the lower one, g', with a depression or pocket, g^2, into which I have placed a relief-lever, g^3, having a suitable handle, (see Figs. 1 and 10,) which may be acted upon by the operator to turn the relief-lever and separate the springs $g\,g'$ whenever it is desired to draw the needle-thread freely through between the springs $g\,g'$, as when removing the work after finishing a seam, or otherwise. The end of the relief-lever has a flange, 12, (see Fig. 12,) to prevent it from being drawn out sidewise from between the springs.

The pivoted frame h of the bobbin-winder has a spindle, h', band-wheel h^2 thereon, and a spring-pressed center-pin, h^3, the latter being contained in a pivoted bearing, h^4, acted upon by a spring, h^5. The center-pin has a barrel or case, m, attached to its inner end, which has a slot, m', preferably curved, as shown in Fig. 1, to act as a guide for the thread being wound upon the bobbin n, placed in the said barrel or case, as shown best in Fig. 8. The head 15 of the spindle h' is shaped, as usual, to engage the head of and to rotate the bobbin. While being filled, the thread travels backward and forward in the slot m', which acts as a distributing-slot, as is well understood. The inner diameter of the barrel governs the diameter of the mass of thread on the bobbin. To insert or remove a bobbin the barrel will be turned outward, as in Fig. 9.

The hand-lever p is employed to lift the presser-foot bar, as usual.

The band-wheel h^2 will be driven by contact with the usual driving-belt of the machine in the usual manner.

When buttons are being sewed upon cloth, the usual feeding device is covered by a small smooth plate, r.

The shuttle-race cover or slide t is fitted into usual guides.

In Fig. 10 I have shown a spring-presser, u, connected with the barrel or case m by screw u^2, and extended through the slot m' thereof, the said spring having its end curved or bent to rest upon the mass of thread as it is being wound upon the bobbin, causing it to be wound smoothly and evenly.

In Figs. 1, 7, and 8 I have omitted the said spring to avoid confusion in the drawings.

I have herein shown and described a tension-relief and a bobbin-winder; but I do not herein claim the same, as they will form the subject-matter of another application to be filed by me.

I claim—

1. The presser-bar and the button-holding presser-foot pivoted thereon, and provided with the inclines and shoulders, and adapted to engage and hold the button, combined with the lever b^3 and its finger d, and means to move the said lever to operate substantially as described.

2. The needle-bar, the lever b^3, and connected link to move the said lever, combined with the spring-held finger d, the presser-foot, and the arm or lever having the inclined surfaces and shoulders, substantially as shown and described.

3. The bed-plate, the feed-covering plate r, and the button-holding presser-foot recessed at its under side, and provided with shoulders 6 7, combined with the lever b^3 and finger, and means to operate the lever, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDDY T. THOMAS.

Witnesses:
SAMUEL TARR, Jr.,
J. M. MONROE.