

(No Model.)

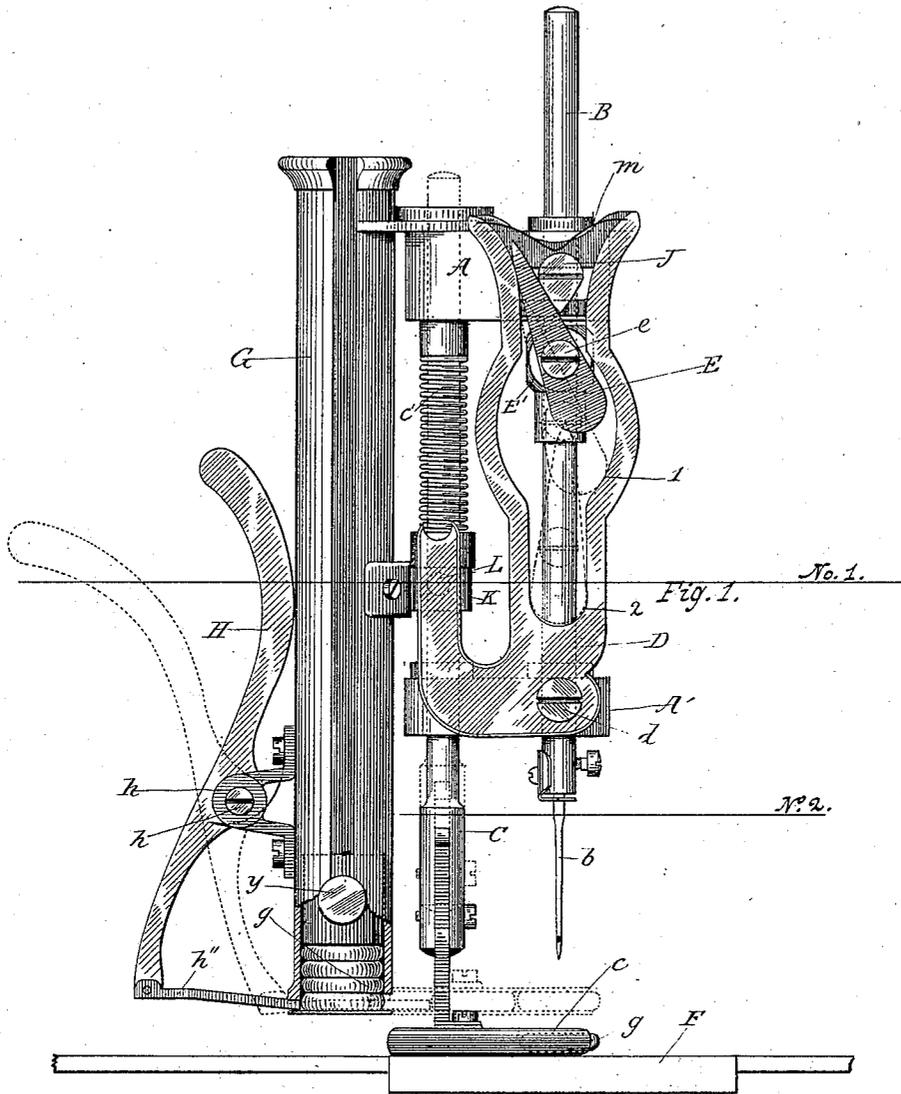
3 Sheets—Sheet 1.

J. HEGEMAN & B. THACKRAH.

SEWING MACHINE ATTACHMENT FOR SEWING BUTTONS ON FABRICS.

No. 294,037.

Patented Feb. 26, 1884.



Witnesses:  
Peter J. Lewis  
A. T. Van Ness.

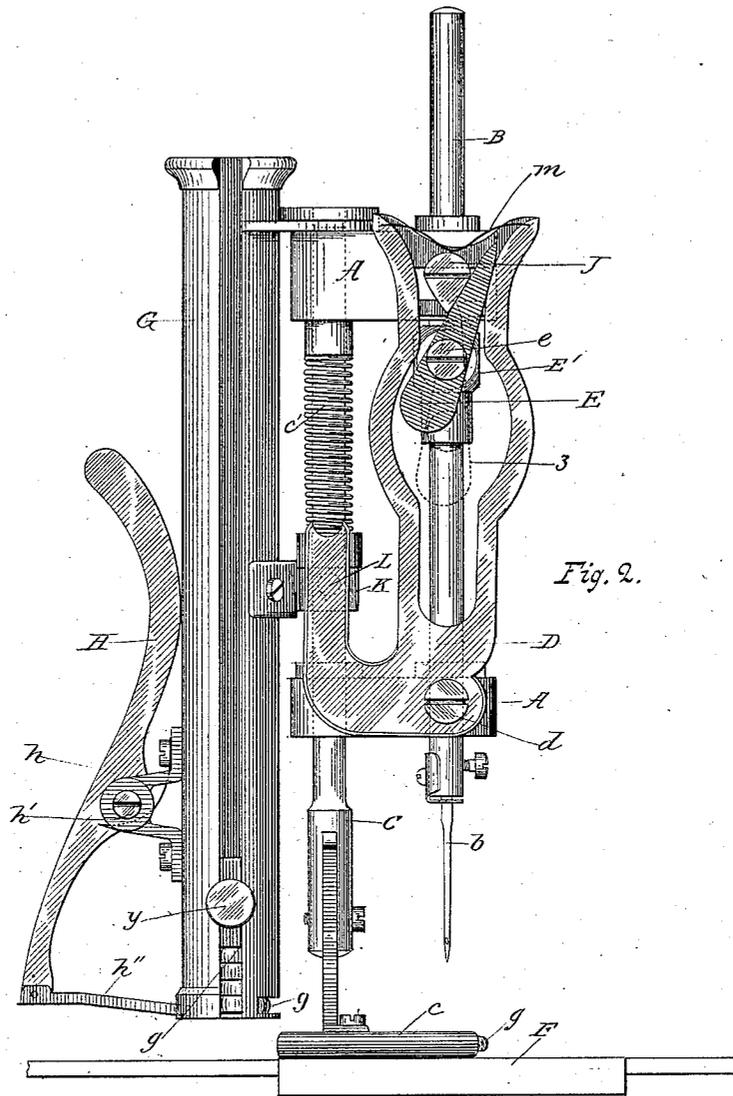
Inventors.  
John Hegeman  
Benjamin Thackrah  
By W. Davidson Jones  
att'y

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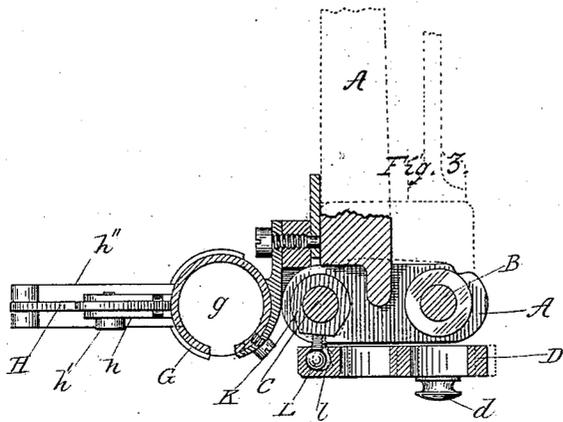


Fig. 3.

Fig. 7.

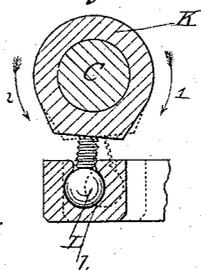


Fig. 4.

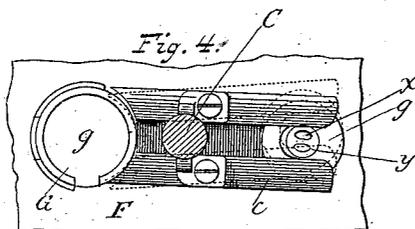


Fig. 5.

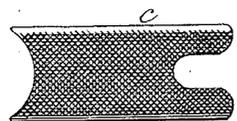
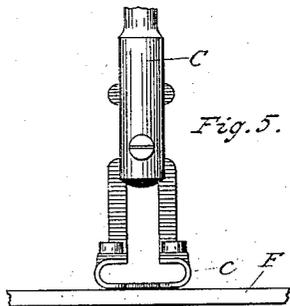


Fig. 6.

Witnesses:

*Peter J. Lewis*  
*A. T. Van Alsenend*

Inventors

*John Hegeman*  
*Benjamin Thackrah*  
 By *W. Davidson Jones*  
 attorney

# UNITED STATES PATENT OFFICE.

JOHN HEGEMAN AND BENJAMIN THACKRAH, OF AMSTERDAM, NEW YORK.

SEWING-MACHINE ATTACHMENT FOR SEWING BUTTONS ON FABRICS.

SPECIFICATION forming part of Letters Patent No. 294,037, dated February 26, 1884.

Application filed May 5, 1883. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN HEGEMAN and BENJAMIN THACKRAH, citizens of the United States, residing at Amsterdam village, in the county of Montgomery and State of New York, have invented certain new and useful Improvements in Attachments for Sewing-Machines to Sew Buttons on Fabric, of which the following is a specification, reference being had therein to the accompanying drawings.

The object of this invention is to sew buttons onto fabric with a sewing-machine; and it consists in the construction and attaching of special parts, hereinafter fully described, whereby buttons may be sewed onto knit or other garments with ease and rapidity; and it also consists in providing a reservoir to hold the buttons, from which they are pressed out as required for use.

Referring to the drawings, Figure 1 is a front elevation of our invention, partly in section, showing the various positions of the several parts. Fig. 2 is also a front elevation, showing the button-holder presser-foot down on the cloth-plate. Fig. 3 is a plan upon line No. 1 in Fig. 1. Fig. 4 is a plan upon line No. 2 in Fig. 1; and Figs. 5, 6, and 7 are detached views.

To enable others skilled in the art to construct and use our invention, we will proceed to describe its construction and operation.

We have shown our invention attached to a Wheeler & Wilson double-thread shuttle sewing-machine. However, it may be attached to any of the well-known manufacture of machines.

The button adapted to be used with our improvements is a common bar-button, now quite extensively used by manufacturers of hosiery, and its general form is fully shown in Fig. 4 of the drawings.

We remove from the sewing-machine designed to be used for this purpose the feed apparatus, as this is not needed, and substitute in lieu thereof a plain plate flush with the cloth-plate F, and provide it with a small hole to allow the needle to enter when the machine is in use.

Upon the front left-hand side of the frame A of the machine we place the barrel or reservoir G, (see Figs. 1, 2, 3, and 4,) to hold the

buttons. This reservoir or barrel we construct of the form and relative proportions substantially as shown in the several drawings. We slot this barrel upon the front side from the top to the bottom, and upon the lower inner side we make an aperture of sufficient size to allow a button, *g*, to be forced out by the follower *h'*, which follower is operated by the lever H, pivoted upon the bracket *h*, secured to the barrel with screws. This plunger *h'* is of sufficient width and thickness to force out at each stroke of the lever a button. The buttons are held firmly down in this barrel by a weight having a thumb-piece, *y*, extending through the slot heretofore referred to. The buttons are placed in this barrel, so that when they are forced out they will be in the position as shown in Fig. 4.

We remove the ordinary presser-foot from the presser-bar C, and insert in its place the button-holder presser-foot constructed as shown in Figs. 1, 2, 4, 5, and 6. Figs. 1 and 2 are side elevations of the foot as shown in the machine. Fig. 4 is a plan, showing the form of the left or back end circled out to fit the circumference of the barrel G, and with its sides formed as shown in Fig. 5. The front end is formed as shown in Figs. 4 and 6, with the lower portion recessed out, so as to allow room for the vertical needle as the foot vibrates at each stroke of the needle, as shown by the broken and full lines in Fig. 4. The button is held at the point where sewed to the garment by a part of the bottom, sides, and top of this button-holder C. The under surface is serrated, so as to engage in the meshes of the cloth when pressed between the foot *c* and the cloth-plate by the spiral spring *c'*.

Upon the upper portion of the sewing-machine frame A, and directly in front of the needle-bar, we drill and tap out a small hole and screw therein a heart-shaped stationary switch-wedge, J, all substantially as shown in Figs. 1 and 2.

We construct and secure upon the needle-bar a sleeve, E'. This sleeve E' is provided with a set-screw, *e*. (See Figs. 1 and 2.) We construct and place upon this set-screw *e* the pivoted switch E. This pivoted switch we construct substantially of the form shown, with its point upward and the large end down-

ward. This pivoted switch E has an easy vibratory movement upon the set-screw *e*.

We construct a bell-crank lever, D, of the form substantially as shown in Figs. 1, 2, and 3, with its upper portion connected together, and provided with a retaining-spring, *m*, at that point, and an arm extending from the bottom of this link-piece to the left, and then upward a short distance. We drill and slot out the upper end of this arm substantially as shown in Figs. 3 and 7, so as to receive the ball-joint L. This hole and slot is indicated by *l* in Figs. 3 and 7. This bell-crank lever D we make of the form as shown, and of the relative dimensions as relates to the sewing-machine substantially as shown in the several figures, and more particularly in Figs. 1, 2, 3, and 7. This bell-crank lever D we secure to the frame A so that it will vibrate upon the set-screw *d*, substantially as shown in Figs. 1, 2, and 3.

We construct, substantially as shown in Figs. 1, 2, 3, and 7, a collar, K, which nicely fits the presser-bar C. In the flatted side we drill and tap a hole, into which we firmly screw the ball-headed screw L. This screw performs two functions—to wit, that of holding the collar firmly upon the presser-bar, while the head forms, in connection with the hole *l*, heretofore referred to, a ball-and-socket joint. The object of this ball-and-socket joint is to vibrate the button-holder presser-foot, as indicated in Fig. 4 by the full and broken lines, as will hereinafter be more fully described.

The operation of my invention is as follows: The barrel is supposed to be provided with a supply of buttons and pressed down with the weight, which is fully shown. The presser bar and foot are elevated to the position as indicated by the broken lines in Fig. 1. The lever H is thrown to the position as is also indicated in said figure by the broken lines. By this movement one button is forced out into the button-holder presser-foot. This movement of the lever H is repeated, thereby forcing out another button. This last movement forces out button *g* to the position in the button-holder presser-foot as shown in Figs. 1, 2, and 4. The place in the garment where it is desired to sew on a button is placed upon the cloth-plate underneath the button-holder presser-foot, directly under the line of the vertical needle. The presser-bar is released from the position shown in Fig. 1 by the broken lines. The action of the spiral spring *e'* causes the serrations on the under part of the button-holder presser-foot (see Fig. 6) to enter into and engage the meshes of the cloth. The cloth-plate F being smooth allows the cloth or fabric to slip easily thereon.

Referring to the bell-crank lever, we will assume that the needle-bar is at its highest position and carrying with it the pivoted switch E, with the bell-crank lever D thrown to the left. (See Figs. 1, 3, 4, and 7.) This will place the button-holder presser-foot in the po-

sition shown in Fig. 4. We will assume that the needle and shuttle are supplied with thread, and that motion is communicated to the machine. The needle-bar descends, and when a portion of the downward stroke is made the rounded lower large end of the pivoted switch E engages the lower right-hand side of the elliptical swell of the bell-crank lever D, as shown by the broken lines at 1, (see Fig. 1,) which engagement at this point, as the needle-bar descends and completes its downward stroke, causes the pivoted switch E to take and assume the position in the lower portion of the space in the bell-crank lever D, as indicated by the pivoted switch in broken lines at 2, when carried by the needle-bar to its lowest position. (See Fig. 1.) As the bell-crank lever is thrown to the extreme left, the large end of the pivoted switch E is also thrown in the same direction, and the point of the pivoted switch E will of necessity be thrown a little to the right of a central vertical line defined by the point of the heart-shaped stationary switch-wedge J. The vertical needle has pierced the thread-hole *x* of the button *g*, (see Fig. 4,) the needle-bar commences its upward stroke, the shuttle underneath interlocks the threads, the pivoted switch E retains its position as last described, and as the needle-bar nearly completes its upward stroke (see Fig. 2) the point of the pivoted switch E engages the stationary switch-wedge J, as shown by the broken lines at 3, (see Fig. 2,) to the right of the point of the stationary switch-wedge J, substantially as shown, and as the stroke is completed the pivoted switch E, acting against the stationary switch-wedge J, forces over to the right the bell-crank lever D, (see Fig. 2,) and carrying with it, through the medium of the ball-and-socket joint, the button-holder presser-foot to the position shown by the broken lines in Fig. 4, and the several parts to the position as shown by the broken lines in Figs. 3 and 7. The needle-bar now descends and the needle pierces the thread-hole *y* (see Fig. 4) of the button *g*. In the downward stroke of the needle-bar last mentioned, the large rounded end of the switch-cam E engages the opposite side of the bell-crank lever D, thereby repeating the same movements of the bell-crank lever D and pivoted switch E as just heretofore described, only in the opposite order. This movement just described is repeated until the button is sewed on the fabric, when the presser-bar is elevated to the position first above described. The fabric is drawn forward if a series of buttons is to be sewed on the same line or a new fabric introduced, a single stroke of the lever H is made, thereby forcing out another button, the presser-bar is released, so as to allow the button-holder presser-foot to press the fabric, and the operation is repeated. At each vibration of the bell-crank lever D the flat curved spring *m* holds the bell-crank lever D firmly in its position by reason of the spring *m* pressing on

alternate sides of the highest point of the heart-shaped stationary switch-cam J.

5 It is obvious that the barrel or reservoir G, with the lever H, &c., attached, may be entirely removed, and the buttons *g* may be placed in position by the operator by hand and then sewed on the fabric.

The advantages of our invention consist in the ease, rapidity, and perfection of its work.

10 Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

15 1. In combination with an organized sewing-machine, the cam-link D, so constructed as to be operated by the pivoted switch E, secured to the needle-bar B, and the stationary switch-wedge J, the presser-bar C, provided with a button-holder presser-foot, *c*, the spiral spring *c'*, and the ball-and-socket joint L *l*,  
20 all constructed and operated as and for the purposes set forth.

2. In combination with a sewing-machine, the barrel or reservoir G, provided with a slot upon one side, an internal weight provided with a thumb-piece working in the slot, and a lever and plunger to force out the buttons, and the button-holder presser-foot, all operating together substantially as set forth. 25

3. The button-holder presser-foot *c*, constructed as described, combined with the presser-bar C, spring *c'*, cloth-plate F, cam-link D, stationary switch-wedge J, pivoted switch E, spring *m*, ball-and-socket joint L *l*, and needle-bar B, all substantially as set forth. 30

In testimony whereof we affix our signatures in presence of two witnesses. 35

JOHN HEGEMAN.  
BENJAMIN THACKRAH.

Witnesses:

P. J. LEWIS,  
LEVI M. PAWLING.