(No Model.) 2 Sheets—Sheet 1.

A. G. WILKINS & J. B. MILLER.

APPARATUS FOR ATTACHING BUTTONS TO FABRICS.

No. 312,688. Patented Feb. 24, 1885.

Fig. 1.

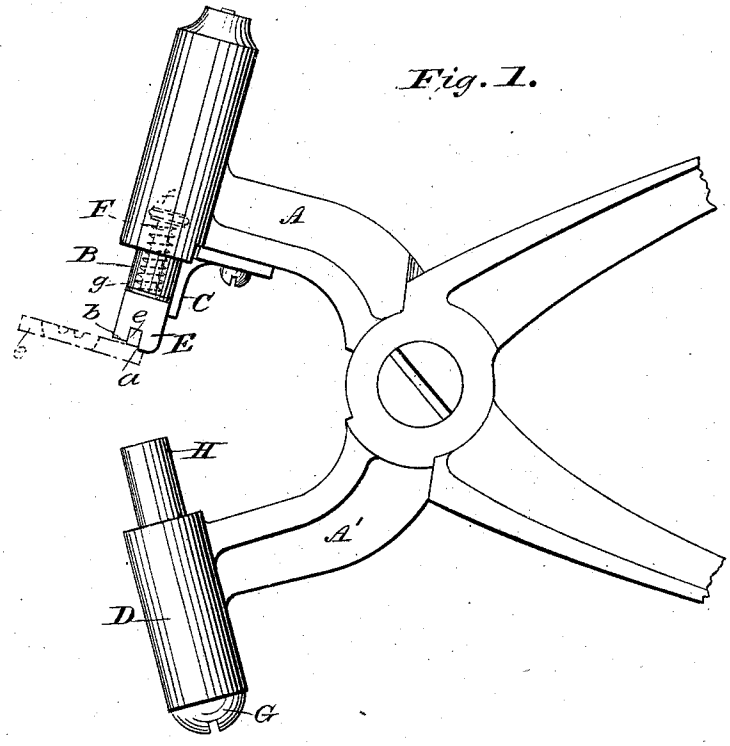


Fig. 5.

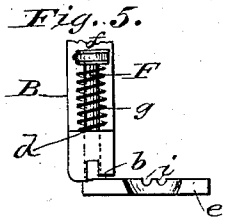


Fig. 6.

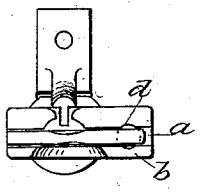


Fig. 2.

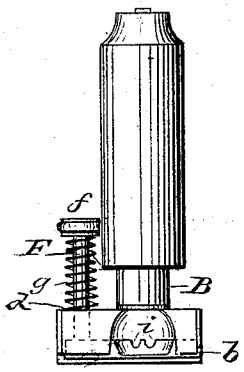


Fig. 3.

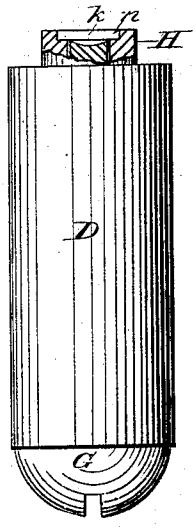
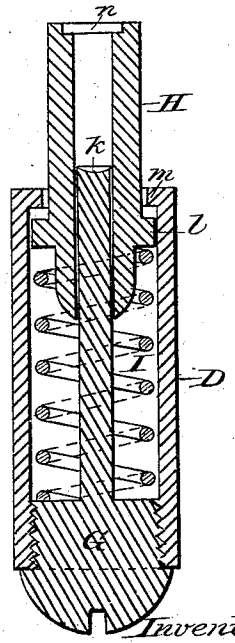


Fig. 4.



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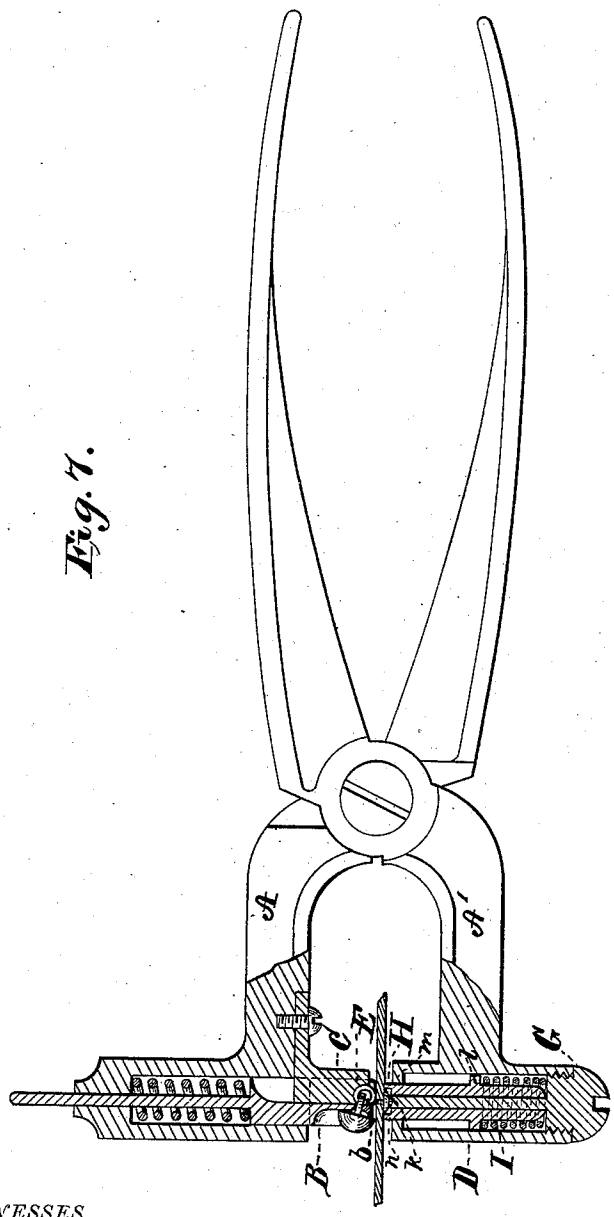
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Fig. 1.



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UNITED STATES PATENT OFFICE.

ALEXANDER G. WILKINS, OF MEADVILLE, PENNSYLVANIA, AND JAMES B. MILLER, OF KENT, OHIO, ASSIGNORS TO THE WILKINS SHOE BUTTON FASTENER COMPANY, OF MEADVILLE, PENNSYLVANIA.

APPARATUS FOR ATTACHING BUTTONS TO FABRICS.

SPECIFICATION forming part of Letters Patent No. 312,638, dated February 24, 1885.

Application filed May 9, 1884. (No model.)

To all whom it may concern:

Be it known that we, ALEXANDER G. WILKINS, of Meadville, Crawford county, and State of Pennsylvania, and JAMES B. MILLER, of Kent, Portage county, and State of Ohio, have invented certain Improvements in Apparatus for Attaching Buttons to Fabrics; and we hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a side elevation with the jaws open. Fig. 2 is a front elevation of the button-holding mechanism. Fig. 3 is an enlarged front elevation of the fastener-holding devices. Fig. 4 is an enlarged vertical section through the fastener-holding devices. Figs. 5 and 6 are details. Fig. 7 is a vertical sectional view through the working parts, showing their position and the position of the button and fastener when the fastening is completed.

Our invention relates to apparatus for securing buttons to fabrics, and is improvements upon the apparatus described and shown in the application for a patent filed by Alexander G. Wilkins, April 14, 1884, Serial No. 127,932.

Our invention consists of sundry details of construction, as hereinafter fully described, and specifically pointed out in the claims, whereby the construction and operation of the fastener-holding device is simplified and the button-latch and spring-bolt hold and carry the button, so as to insure greater certainty of a perfect fastening.

In order that those skilled in the art may make and use our invention, we will proceed to describe the manner in which we have carried it out.

In the said drawings, A A′ are the working-jaws of the apparatus, the jaw A carrying the spring plunger or bolt B and upsetting device C. The jaw A′ is cast with a barrel or tube, D, on its end, in which is inclosed the fastener-holding devices. The lower end of spring-bolt B is provided with a head, E, arranged at right angles to the line of the operating-jaws, and longitudinally provided with a squared groove or recess, *a*, in its lower surface. The rear of the head is provided with a vertical slot in the same manner as shown in the said application to Alexander G. Wilkins, in which the upsetting-tool operates. Between the groove or recess *a* and its front side, or side in which the button is inserted, the head is cut away slightly on its lower surface, as seen at *b*, leaving that portion of the head in the rear of groove *a* projecting a little below the portion *b*, for a purpose hereinafter described.

At one end of the head E is a cylindrical opening, *d*, through which passes a pin, F, bearing on its lower end a button-holding latch, *e*, and on its upper end a head, *f*, between which and the upper surface of head E lies a coiled spring, *g*, so that normally the spring keeps latch *e* drawn into groove *a*. When the pin F is thrust down, the latch passes out of groove *a*, and the turning of pin F throws the latch around, as seen in dotted lines, Fig. 1, for the removal or insertion of a button in the recesses *i i* on top of the button-latch.

In the bottom of barrel or tube D is inserted a screw-plug, G, from the center of which rises a cylindrical anvil, *k*, having a socket in its upper end to receive and sustain the head of the fastening-pin while it is being curled or upset. The stationary anvil passes through the center of a reciprocating sleeve, H, having such diameter as to snugly fit the interior of barrel D. Near the lower end the sleeve H is provided with an annular shoulder, *l*, which engages with an annular shoulder, *m*, on the interior of the barrel D, and prevents the escape of the sleeve upwardly from the said barrel.

Between the shoulder *l* on the sleeve and the inner end of screw-plug G is a coiled spring, I, which keeps sleeve H normally projected out of barrel D, as seen in Fig. 1. The upper end of the sleeve H is provided with a cup-shaped receptacle, *n*, to receive and hold the washer, while the pin rests in the central opening of the sleeve H, with its head resting on the end of anvil *k*. The comparative lengths

of anvil *k* and sleeve H are such that when sleeve H is depressed until its lower end brings up against screw-plug G the upper edge of sleeve H lies in a plane slightly above the plane in which lies the upper end of the anvil *k*, so that the lower face of the head E, when the jaws are closed, rests on the end of sleeve H and does not touch the anvil *k*.

From the construction as hereinbefore described it will be seen that the rear portion of head E projects slightly below the bottom of latch *e*, so that when the jaws are closed to the fastening position, the rear of head E resting on the end of sleeve H, the said latch has a limited downward independent movement. This construction leaves the button-eye as high as possible, and held in place through the medium of spring *g*, whereby the eye is less liable to be caught by the point of the pin while the machine is deflecting it, and when it comes down near to and settles on the fabric the pressure of the upsetting-tool on the loop will overcome spring *g* and push the eye down, thereby releasing the wire of the button-eye and causing the button to tip, bringing the eye closer to the fabric and making a closer loop or coil. The portion *b* of the lower face of head E being cut away, as shown, results in the latch having to travel a minimum distance downward before turning outward to release the button after the fastening is completed.

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

1. The jaw A′ and barrel D, in combination with the central fixed anvil, *k*, sleeve H, having on its upper end the receptacle or socket *n*, and the spring I, all constructed, arranged, and operated as set forth.

2. In a button-securing apparatus, the spring-sleeve H and fixed anvil *k*, combined with such comparative length, substantially as described, that when the sleeve is at its lowest point of depression its upper end will be in a plane slightly above the upper end of the anvil, as specified.

3. In a button-securing apparatus, the spring-bolt B, in combination with a button-holding latch having both a vertical and horizontal movement, substantially as described.

4. In combination with the jaws of a button-securing device, a button-holding latch, substantially as described, having a limited independent yielding movement as the jaws are closed to finish the upsetting of the fastening-pin, substantially as set forth.

5. In a button-securing device, the spring-bolt B, having its lower face cut away at *b*, and a groove or recess, *a*, in combination with latch *e*, substantially as and for the purpose set forth.

6. In a button-securing apparatus, the spring-bolt B, having its head E, having the rear portion of its lower face projecting below the latch *e* when in its normal position, in combination with said button-holding latch *e*, substantially as described.

7. In a button-securing apparatus, the spring-bolt B, provided with the head E, having a cylindrical opening, *d*, at one side, in combination with pin F, having head *f* at one end and latch *e* at the other, and spiral spring *g*, all constructed, arranged, and operated as set forth.

ALEXANDER G. WILKINS.
JAMES B. MILLER.

Witnesses:
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A. D. CLARK.