

(No Model.)

N. D. INGRAM.
SELF ATTACHING BUTTON.

No. 591,973.

Patented Oct. 19, 1897.

Fig. 1

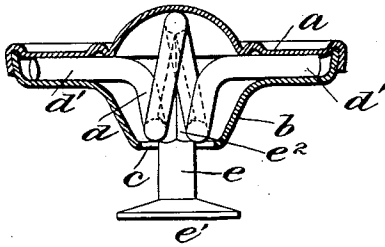


Fig. 2

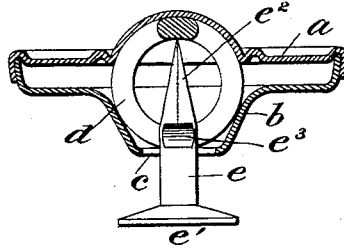


Fig. 3

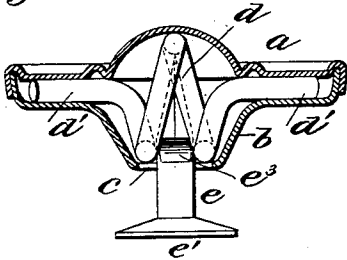


Fig. 4

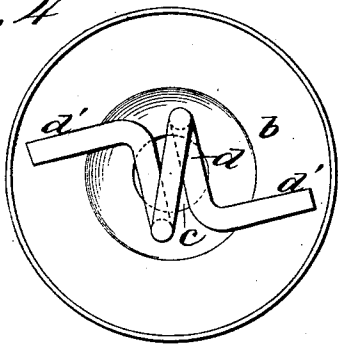


Fig. 5

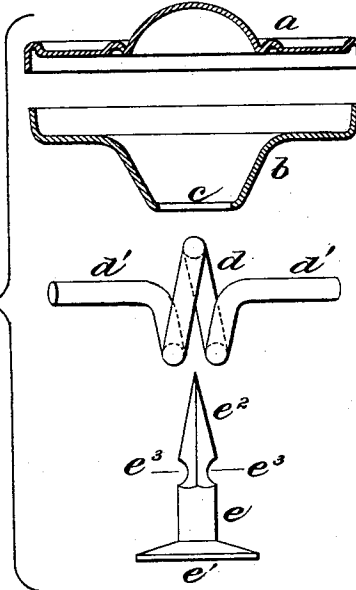
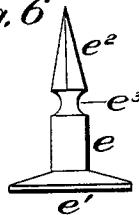


Fig. 6



Witnesses
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att'y.

UNITED STATES PATENT OFFICE.

NATHAN D. INGRAM, OF HOLYOKE, MASSACHUSETTS, ASSIGNOR TO THE
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SELF-ATTACHING BUTTON.

SPECIFICATION forming part of Letters Patent No. 591,973, dated October 19, 1897.

Application filed May 12, 1894. Serial No. 510,983. (No model.)

To all whom it may concern:

Be it known that I, NATHAN D. INGRAM, a citizen of the United States, residing at Holyoke, in the county of Hampden and State of Massachusetts, have invented a certain new and useful Improvement in Self-Attaching Buttons, of which the following is a full, clear, and exact description.

This invention relates to what I have termed a "self-attaching button"—that is to say, a button for practically permanent attachment to garments, wherein the button-head and its attaching device are made as separate parts and the attaching device secured to the head in a more or less permanent manner, without the necessity of employing tools or implements for effecting the engagement of the head and its attaching device.

In carrying out my invention, I use a button-head of any suitable construction having an opening in its back for the entrance of the fastening medium and provided with a cavity for the reception of a coiled spring whose coils straddle said opening, and for an attaching device I use a pointed and grooved tack, the point of which is forced in between the coils of the spring until its groove or grooves comes or come into engagement with the coils of the spring, in such manner that the coils of the spring by their engagement with such groove or grooves will effect a more or less permanent engagement of the head and its attaching device.

In one form of my invention, the grooves are so made that the head may be separated from the attaching device, and in another form such separation for all practical purposes is impossible or very difficult of achievement.

Having thus stated the principle of my invention, I will proceed now to describe the best mode in which I have contemplated applying that principle, and then will particularly point out and distinctly claim the part, improvement, or combination which I claim as my invention.

In the accompanying drawings, illustrating my invention, in the several views of which like parts are similarly designated, Figure 1 is a sectional elevation. Fig. 2 is a similar view

taken at right angles to the view, Fig. 1. Fig. 3 is a sectional elevation showing the attaching device turned a quarter around to effect disengagement with the spring. Fig. 4 is a plan view of the head of the button with the face-plate removed. Fig. 5 shows the various parts of my button disassembled, the plates of the button-head being shown in section; and Fig. 6 is an elevation of a tack or attaching device having a continuous circumferential groove.

The face-plate *a* of the head and the back plate *b* may be of metal, constructed and united in any usual manner, and the base or back plate is provided with an opening *c*.

d is a coiled spring, with its coils normally set to act by their expansion. This spring is provided with ends *d'* *d'*, which extend over between the parallel flanges of the face and back plates, so as to hold the coiled portion upright and in line with the opening *c*; but obviously other provision may be made for holding the coiled spring in position thus.

The fastening or attaching device is a pointed tack *e*, having the head *e'* and the wedge-like point *e''*, and at the base of this point the tack is provided on opposite sides with grooves *e'''*, or instead of parallel grooves a single groove *e'''* may be extended entirely around the tack, as shown in Fig. 6.

In order to apply my button to a garment, the tack *e* is forced through the material of the garment, and its point caused to enter in between the coils of the spring, and when the point of the tack has passed up between these coils until its grooves come opposite the lower limbs of the coils, the contractile force or tension of the spring will cause its said lower limbs to snap into said grooves, turning the tack if this be necessary to this end, and thus securely unite the head and the tack or fastening device and effect a practically permanent and entirely secure engagement of the head and tack.

The shank of the button-head is conical or tapering, and since the strain put upon the button-head and communicated to the tack will tend to draw the coils of the spring down into this conical or tapering shank, it follows that the coils will be pressed together and

against the tack and thereby the coils will be the more securely bound about and grip the said tack.

In case it is desired to detach the button-head from its fastening device, one or the other of these devices will be held against rotation, and the other will be given a quarter-turn, so as to spread apart the coils of the spring, and thus free the grooves from engagement with said coils, as indicated in Fig. 3, and then the head and attaching device may be separated. Of course, in the use of the tack shown in Fig. 6, where a continuous groove e^3 is employed, the button-head is designed to be permanently attached to the said fastening device and may be removed therefrom only with difficulty.

As is obvious, buttons constructed in accordance with this invention may be assembled upon garments without the use of special tools, the tack not requiring to be upset at its point or otherwise defaced to effect engagement of the tack and the button-head.

What I claim is—

1. A self-attaching button, comprising a button-head having an opening in its back for the entrance of the point of the fastening medium and provided with a cavity adjacent to such opening, and a coiled spring arranged on edge or upright within such cavity with its coils straddling such opening to permit the entrance of the point of the fastening medium between such coils to be engaged by such coils, and constructed and arranged to be engaged by and held in place between the

face and back of the button-head, combined with a fastening medium, such as a pointed and grooved tack, substantially as described.

2. A self-attaching button comprising a head, having a tack-receiving opening in its base or back plate, and a coiled spring having its coils arranged upright in a cavity in said head and straddling said opening, and provided with laterally-extended anchoring arms or portions engaged between the face and back of the head, and a pointed and grooved attaching device adapted to be forced between the coils of the spring and to be engaged in its grooved portion by the coils of said spring, substantially as described.

3. A self-attaching button comprising a head, having a conical or tapering shank, provided with an opening, a coiled spring, having its coils arranged upright within said conical shank between the face and back of the button and in line with said opening, and an attaching device adapted to be passed into said opening and forced in between the coils of the spring and to be engaged by the said coils, the conical or tapering shank of the head serving to tighten the grip of the coil upon the attaching device as strain is put upon the attaching device, substantially as described.

In testimony whereof I have hereunto set my hand this 4th day of May, A. D. 1894.

NATHAN D. INGRAM.

Witnesses:

R. B. JOHNSON,
LOUIS S. AYER.