D. B. WAITE.
Buttons.

No. 204,114. Patented May 21, 1878.

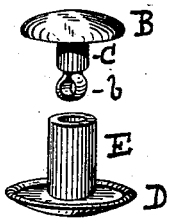

FIG. 1.

FIG. 2.

FIG. 3.

WITNESSES.

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IMPROVEMENT IN BUTTONS.

Specification forming part of Letters Patent No. **204,114**, dated May 21, 1878; application filed April 18, 1878.

To all whom it may concern:

Be it known that I, DANIEL B. WAITE, of the city and county of Providence, in the State of Rhode Island, have invented a new Improvement in Collar-Buttons, Sleeve-Buttons, and Studs; and declare the following to be a specification thereof, reference being had to the accompanying drawings.

Like letters indicate like parts.

Figure 1 is a perspective view of my invention. Fig. 2 is a vertical section of the same. Fig. 3 is a plan of the spring.

My invention relates to that class of buttons in which the front and the back are made detachable, and are held together, when adjusted, by the lateral pressure of a spring within or upon the connecting-posts.

My invention consists in a spring having a loop or open ring for its head, and held immovably at its opposite or inner end by a spring-hook engaging with a shoulder made upon the interior surface of a tubular post.

The spring A is made of steel or other suitable metal. At one end it is formed into a hook shape, *a*, and at the opposite end it is bent into a loop or open ring, *b*, the free end of which is brought near to but not into contact with the stem of the spring. A slight motion, therefore, can be obtained by compressing the sides of the loop or ring until the free end is crowded against the stem.

The button or stud is made in any desirable shape. The back B has a tubular post, C, within which is secured the spring A. On its inner surface a shoulder is swaged, as shown in section in Fig. 2. The hook end *a* of the spring is inserted within the post C, and crowded in until the hook has passed beyond the shoulder, when, resuming its normal position, it engages with the shoulder, and is so locked in that it cannot be withdrawn. The loop *b* projects beyond the tube or post C, and has its free end contained within the tubular post.

The front D of the button or stud also has a post, E, which is tubular, and of a size to receive the post C, and has an inner shoulder, as seen in section in Fig. 2. The inner diameter of the tube E is slightly less than the outer diameter of the loop *b*. The loop, therefore, in entering, is slightly compressed, and so continues until crowded beyond the inner shoulder, when, resuming its normal position, it locks the two parts of the button together. The parts may be detached by withdrawing the post C, with its spring A, from within the post E, thus reversing the process just described.

The post C, with its spring A, may be attached to the front of the button, and the post E to the back, such an arrangement being simply a reversal of that shown, and effecting the same result.

It has hitherto been necessary to secure the spring within the tubular post C by soldering. In my invention the spring is immovably held without soldering, by the simple engagement of the hook against the inner shoulder.

By making the entering portion of the spring in the form of a loop or ring, I obtain all the advantages of a round head or knob, while by the free end of the spring just within the tubular post C, I have all the advantages without any of the obvious difficulties found in a bifurcated spring.

The swaging of the shoulders within the tubular posts affords me ample space for the spread of the springs, and avoids the necessity of procuring such space by means of a lining for the front and the back, although such a construction is applicable to my improved button, if for any reason desired.

I am aware that buttons have been heretofore constructed of two parts, which are held together by a spring inclosed within a tube. Such, therefore, I do not desire to claim, broadly; but

What I do claim as new and useful is—

1. In a button, the combination of the front D, back B, tubular and shouldered posts C E, and spring A, having the hook *a* and loop *b*, substantially as and for the purpose specified.

2. In a button, the spring A, having at one end the hook *a*, adapted to catch within the tubular and shouldered post C, and at the opposite end a loop or ring, *b*, by means of which loop it is secured to the tubular post E, substantially as and for the purpose specified.

DANIEL B. WAITE.

Witnesses:

NELSON E. CHURCH,

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