(No Model.)

F. E. WILLIAMS.

BUTTON.

No. 456,246. Patented July 21, 1891.

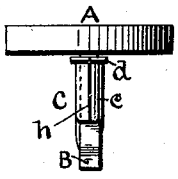


FIG. 2.

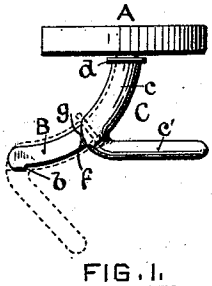


FIG. 1.

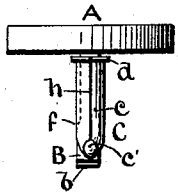


FIG. 3.

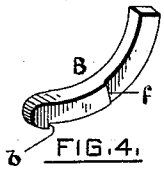


FIG. 4.

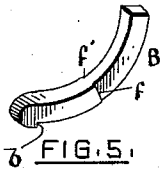


FIG. 5.

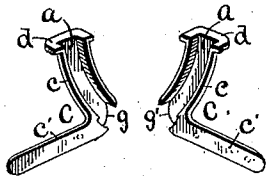


FIG. 6.

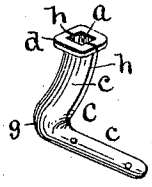


FIG. 7.

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UNITED STATES PATENT OFFICE.

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BUTTON.

SPECIFICATION forming part of Letters Patent No. 456,246, dated July 21, 1891.

Application filed April 20, 1891. Serial No. 389,590. (No model.)

To all whom it may concern:

Be it known that I, FRANK E. WILLIAMS, of the city, county, and State of New York, have invented a new and useful Improvement in Buttons and Studs; and I do hereby declare the following specification, taken in connection with the accompanying drawings, forming a part of the same, to be a description thereof.

This invention relates to a button or stud having a curved arm secured to the head of the article and a second bent arm mounted to slide on and lengthwise of the first to enable the second arm to be placed in a position for the convenient application and removal of the article.

The invention consists in certain features of construction and arrangement whereby the movable arm is locked in a closed position, and also in the construction of the movable arm, as hereinafter described and claimed.

Referring to the drawings, Figure 1 represents on an enlarged scale a shirt button or stud embodying the invention, the movable arm being shown by full lines in a closed position and by dotted lines in position for the article to be applied or removed. Fig. 2 shows a view of the same at right angles to the view in Fig. 1 with the movable arm in a closed position. Fig. 3 represents a view from the opposite side to that shown in Fig. 2. Fig. 4 represents in perspective the curved arm that is secured to the head of the article, the said arm having a single locking-shoulder. Fig. 5 shows the same arm with two locking-shoulders thereon. Fig. 6 represents in perspective the two parts which compose the movable arm. Fig. 7 shows in perspective such parts combined to form the arm.

A is the head of the button or stud, which head may be of any desired form or style.

B is the curved arm, which is attached at its upper end to the button or stud head, and may be rectangular, triangular, oval, or circular in cross-section. The arm B is curved in the arc of a circle, and upon it the bent arm C, having a curved channel *a*, is mounted to slide, so that the arm C can assume the position shown by dotted lines in Fig. 1 to enable the article to be conveniently applied and removed, and also the closed position shown by full lines to hold the article in place. The arm C is composed of a sleeve portion *c*, which surrounds the arm B, and in which the channel *a* is located, and a portion *c'*, which projects from the portion *c* and forms a ring. In order to prevent the arm C from sliding off the arm B, any suitable form of stop, as *b*, may be employed on the arm B, over which stop the portion *c* of the arm C cannot pass. The arm C is preferably furnished with a flange *d* at its upper end, so that when the arm has been inserted until said flange comes in contact with the bosom pressure upon the head of the stud will bring the arms into the closed position.

In order that the arm C may be locked in a closed position, the arm B is provided on one side, as shown in Fig. 4, with a locking-shoulder *f*, and this shoulder is obtained by making that portion of the arm between the shoulder and upper end of the arm (which part of the arm is surrounded by the portion *c* of the arm C when the latter is in a closed position) of less thickness than the arm B is below the shoulder. This reduction in the size of the arm may be secured by swaging when the arm is formed. When the arm C is in a closed position, one side, at *g*, Figs. 1 and 7, of the lower end of the part *c* of said arm engages the shoulder *f* and locks the arms in such position, as will be readily understood. To enable the arm C to pass over the shoulder *f* when the arm is moved to the position shown by dotted lines in Fig. 1, the portion *c* of the arm is separated or bifurcated throughout its length, as by a slit *h*, Figs. 2, 3, and 7, thereby allowing the two parts formed by the slit to move away from each other when passing over the shoulder. If desired, two locking-shoulders *f f'* may be formed on opposite sides of the arm B, as shown in Fig. 5, and such shoulders be engaged by opposite sides *g g'*, Fig. 6, of the lower end of the portion *c* of the arm C. By forming the locking shoulder or shoulders on the arm B, as described, and locating such shoulder or shoulders so as to be engaged by the lower end of the portion *c* of the arm C, the arm B is stronger than when grooved near its upper

end, as illustrated in my application for Letters Patent filed July 23, 1890, Serial No. 359,593, and the arm C is less expensive to make than the movable arm shown in my said application, because no inwardly-projecting tooth is required to be specially formed on one wall of the channel in the arm for entering such locking-groove.

That part of my invention which relates to the construction of the arm C is as follows: The arm is made in two halves, each being struck up or formed as shown in Fig. 6, with half the channel *a* sunk or milled on its inner surface, so that when said halves are joined the arm will be complete. The parts of the portion *c'* only are to be secured to each other, and this may be done in any suitable manner, as by riveting, as shown in Fig. 7, leaving those parts of the halves which constitute the portion *c* of the arm unconnected, so that such parts can separate to pass over the locking-shoulder when the arm is slid.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with the button or stud head, of the curved arm B, secured thereto and provided with a shoulder *f*, and the bent arm C, mounted to slide on the arm B and having a bifurcated portion *c*, which surrounds said arm, that portion of the arm B between its upper end and the shoulder *f* being thinner than the arm below said point, whereby a locking-shoulder is formed, and the said locking-shoulder being located, as described, so that the lower end of the portion *c* of the arm C will engage said shoulder when the arm C is in a closed position and lock it there, substantially as set forth.

2. The combination, with the button or stud head, of the curved arm B, secured thereto, and the bent arm *c c'*, mounted to slide on the arm B, the said arm *c c'* being composed of two halves channeled to receive the arm B, and those parts of the halves which constitute the portion *c'* of the arm being riveted or secured together, while those parts of the halves which constitute the portion *c* are unconnected, substantially as set forth.

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