

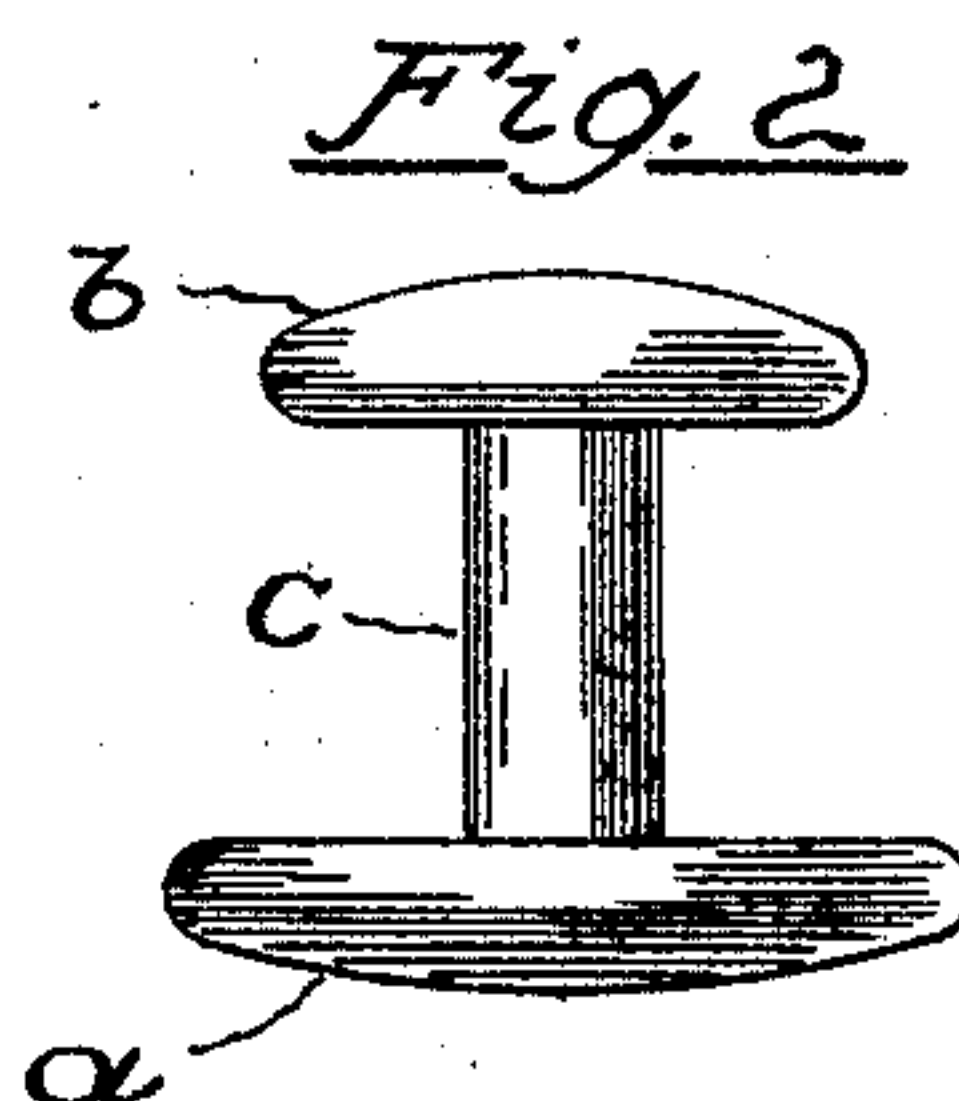
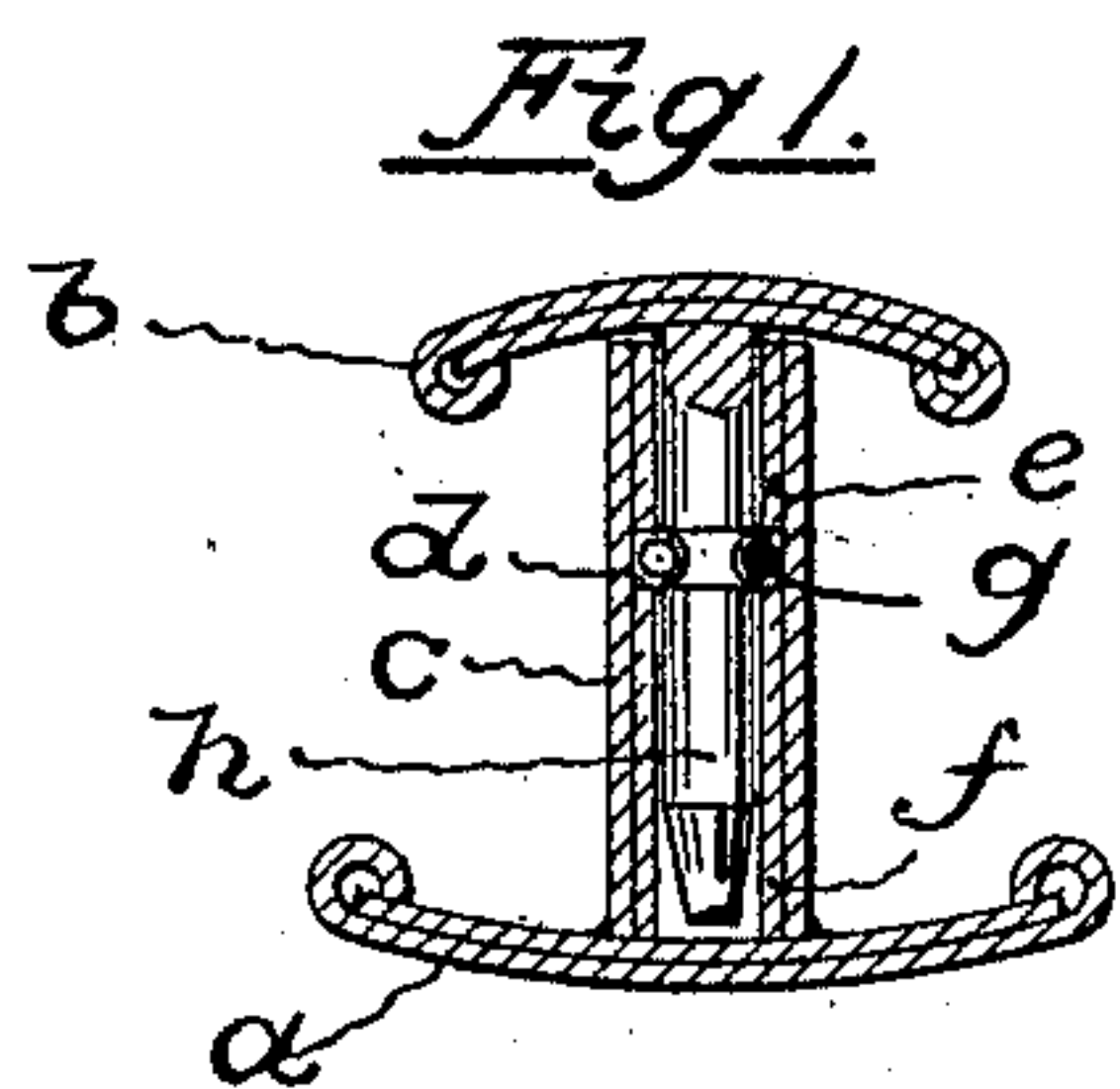
No. 612,498.

Patented Oct. 18, 1898.

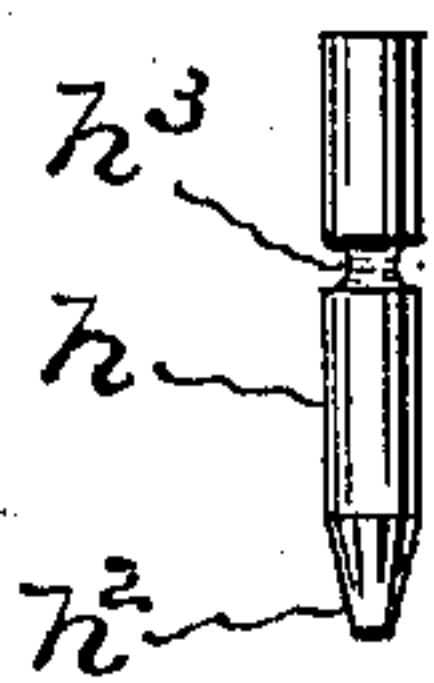
J. E. HILL.  
SEPARABLE BUTTON.

(Application filed July 22, 1897.)

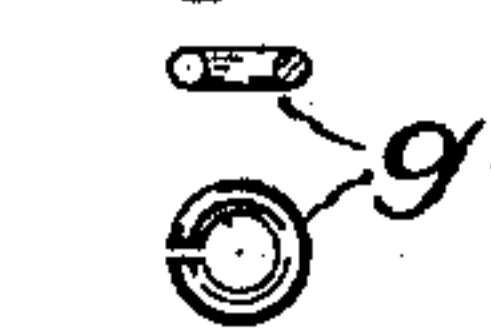
(No Model.)



*Fig 3.*

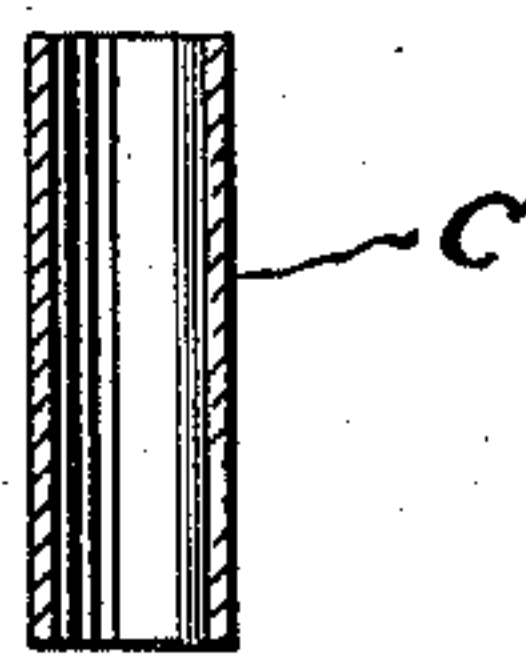
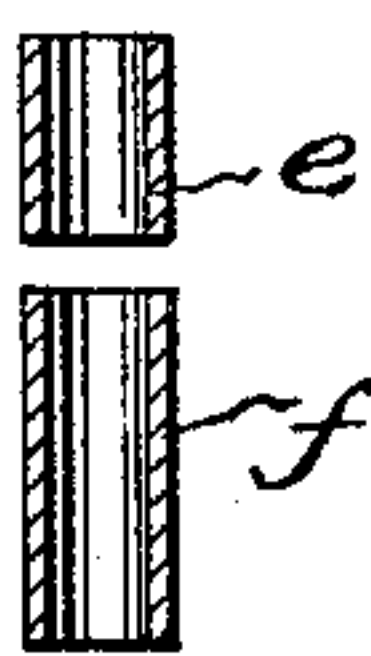


*Fig 4.*



*Fig 5.*

*Fig 6. Fig 8.*



*Fig 7.*

WITNESSES:

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# UNITED STATES PATENT OFFICE.

JOHN E. HILL, OF MALDEN, MASSACHUSETTS.

## SEPARABLE BUTTON.

SPECIFICATION forming part of Letters Patent No. 612,498, dated October 18, 1898.

Application filed July 22, 1897. Serial No. 645,625. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN E. HILL, a citizen of the United States, and a resident of Malden, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Separable Buttons, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relates more particularly to that class of buttons or studs commonly used for fastening or ornamenting shirts, shirt-waists, and collars or cuffs attached thereto. The usual or common form, comprising two flanged heads or disks permanently connected by a central neck or bar, is objectionable for various reasons not necessary to specify here, and many attempts have been made to produce a button having separable heads securely fastened when in position, yet easily detached or separated when occasion requires.

The object of my invention is to provide a separable button which shall be simple, secure, and durable. I attain this object by means of the construction shown in the accompanying drawings, forming a part of this specification, in which corresponding parts in the several views are denoted by like letters of reference, and of which—

Figure 1 is a longitudinal section of my new and improved separable button. Fig. 2 is an external elevation of the same. Fig. 3 is a pin or stud which in the complete button is attached to one of the heads thereof. Fig. 4 is a sectional view of a spring-ring, the function of which is described below in this specification. Fig. 5 is a plan of the spring-ring shown in Fig. 4. Fig. 6 is a bushing, described below. Fig. 7 is a like bushing, also described below. Fig. 8 is a sleeve or shank which in the complete button is attached to the remaining head thereof.

Referring now to Fig. 1, it will be seen that each head of the button (indicated by *a* and *b*) is composed of two plates of different diameters, the edges of the larger being crimped or spun over the edges of the smaller. This construction is old and forms no part of my improvement. My invention is confined to the construction of the central neck or bar, and the heads may be of any character of form or material and may be attached to the sev-

eral parts of the said neck or bar by any means of a sufficiently substantial and permanent character, or they may be an integral part thereof.

Referring now in particular to the neck or bar connecting the heads of the button, *c* is a sleeve or shank secured to one of the heads *a* of the button and provided at or near the middle of its length with an internal annular groove *d*. As shown in the drawings, the said groove is provided by inserting and securing within the said sleeve or shank two bushings *e* and *f*, having their adjacent ends separated by a space. The advantage of this modification is that it facilitates the introduction within the said groove *d* of the spring-ring *g*, this latter being placed in position prior to inserting and securing the outer bushing *e*. The spring-ring is a loose fit within the groove.

To the remaining head *b* of the button the pin or stud *h* is secured. The outer end *h*<sup>2</sup> of the said pin or stud is tapered to a smaller diameter than that of the interior of the spring-ring, and the body of the said pin or stud is of such a diameter as will permit it to pass freely, but not loosely, within the central orifice of the tubular sleeve or shank. The said pin or stud is further provided with an external annular groove *h*<sup>3</sup> at such portion of its length as will come opposite the groove *d* and the spring-ring *g* when the sleeve or shank *c* abuts against the head *b*.

The method of operation of the device is thought to be obvious and is as follows: The sleeve or shank is inserted within the usual buttonholes. The pin or stud is in turn inserted within the central orifice of the sleeve or shank. The tapered end thereof engages with the spring-ring. Upon applying a sufficient pressure the latter is expanded, the pin or stud forced home, when the spring-ring snaps into the groove *h*<sup>3</sup> and locks the two main portions of the button together with such effect that it is practically equal to a solid button.

To detach or separate the two portions of the button, a firm pull in direct line with the axis is required, when the spring-ring yields, expands, and permits the central pin or stud to be withdrawn.

Having thus fully described my invention,



but without confining myself to the exact construction herein explicated, what I claim as new, and desire to secure by Letters Patent, is—

5 1. In a locking device for separable buttons, the combination with a central pin or stud, and a spring locking-ring, of a tubular sleeve or shank provided with an internal annular groove or recess formed by introducing  
10 within the said sleeve or shank two bushings spaced apart to form the said groove or recess in the manner and for the purpose set forth.

2. In a separable button the combination

of two heads *a*, *b*, a shank *c*, two bushings *e*, 15 *f*, within the shank *c* and spaced apart to form the groove *d*, a ring *g*, and the pin *h*, having the recess *h*<sup>3</sup>, in the manner and for the purpose set forth.

In testimony whereof I, JOHN E. HILL, have 20 signed my name to this specification, in the presence of two subscribing witnesses, on this 10th day of July, A. D. 1897.

JOHN E. HILL.

Witnesses:

R. C. MURFEY,  
JOHN SHEPARD.