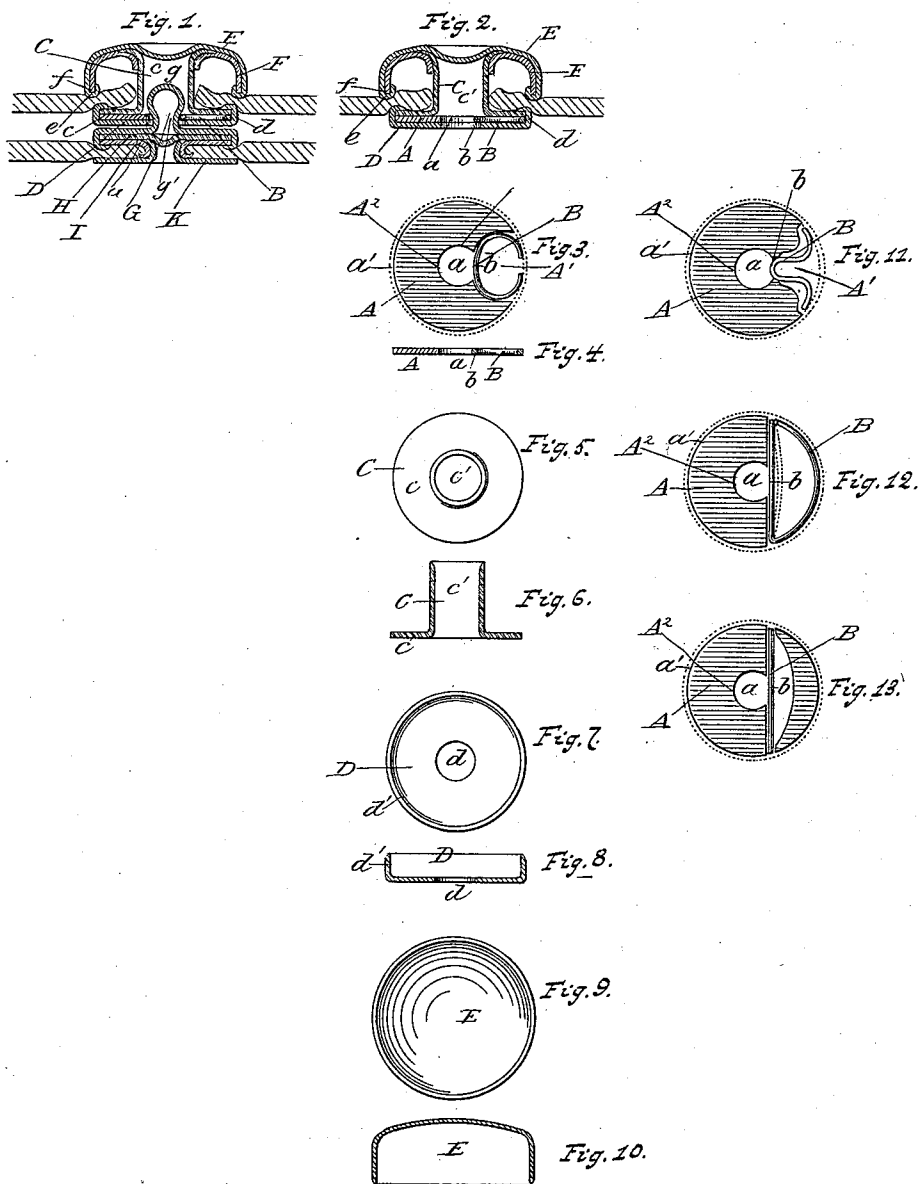


(No Model.)

E. PRINGLE.
SEPARABLE BUTTON.

No. 447,348.

Patented Mar. 3, 1891.



Witnesses.

William F. Siskin
Charles Siskin.

Eugene Pringle
Inventor.

UNITED STATES PATENT OFFICE.

EUGENE PRINGLE, OF GLOVERSVILLE, NEW YORK, ASSIGNOR TO MADISON D. SHIPMAN AND CHARLES E. BRADT, BOTH OF DE KALB, ILLINOIS.

SEPARABLE BUTTON.

SPECIFICATION forming part of Letters Patent No. 447,348, dated March 3, 1891.

Application filed September 8, 1888. Serial No. 284,944. (No model.)

To all whom it may concern:

Be it known that I, EUGENE PRINGLE, a citizen of the United States, residing at Gloversville, in the county of Fulton and State of New York, have invented certain new and useful Improvements in Separable Buttons, of which the following is a specification.

My invention relates to separable buttons; and it consists in the parts and devices and combinations of parts and devices hereinafter particularly described, and specifically set forth in the claims.

The objects of my invention are, first, to provide in a button-head of a separable button a simple receptacle for a spring-catch, and also a simple spring-catch which will act, with the neck of a coacting stud at one side of the same, to force the neck of a stud against any unyielding holding-lip at the opposite side of the neck and at a point low down in the neck of the stud, and, second, to provide specific combinations of means by which this invention will be carried into effect. I attain these objects by the means illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a sectional elevation of the button-head and stud portions of a separable button, illustrating the same in their parts, and their connections with each other and with the fabric. Fig. 2 is a sectional elevation of the button-head containing my improvements and secured to the fabric. Fig. 3 is a plan view of the stud-catch-holding disk and its coacting stud-catch in place. Fig. 4 is a sectional view of the same. Fig. 5 is a plan view of a piece for holding the stud spring-catch in place and secure with the outer clamping portions of the button-head. Fig. 6 is a sectional elevation of the same. Fig. 7 is a plan view of the lower-side clamping-plate. Fig. 8 is a sectional view of the same. Fig. 9 is a plan view of the outer shell or closing-cap of the button-head. Fig. 10 is a sectional view of the same. Figs. 11, 12, and 13 are plan views of the stud-holding plate and coacting stud-catch, which can be employed as modifications of that shown in Figs. 3 and 4.

The same letters of reference refer to like parts throughout the several views.

In the drawings, A represents the stud-hold-

ing plate, which has central in it the aperture *a*. This plate or piece A has the margin-edge portion *a'* annular to the aperture *a*, which aperture is of such an extension as will be sufficient to receive the head of the stud, while the said marginal edge *A'* of this piece is to be made with so much of a section of a circle as will be sufficient to coact with the fastening-eyelet, and a clamping-piece to hold this plate A in position and from shifting and at the same time provide in it a spring-catch chamber *A'*, for holding the spring-catch coacting with this plate for holding with the stud. This spring-catch chamber *A'* is shown to be produced by the removal of a portion of the circular disk from one side of the central aperture *a*, as shown in Figs. 3, 11, 12, and 13. In Fig. 3 the removal of the metal from a full circular plate is shown to comprise only a small portion of one-half of the full diameter of plate A, so as to receive in it a spring-catch B of oval form, as shown in that figure. In Fig. 11 the removal from a full circular disk for forming chamber *A'* is shown to consist of only a small section (of a full circular disk) for receiving in it the spring-catch B, of the form shown in that figure. In Figs. 12 and 13 the removal of the metal from a full circular form of plate is less than one-half of its diameter, so as to produce spring-catch-holding chamber *A'*, which will commence at a line a little at one side of the center of the aperture *a*, so as to contain a straight bar form of elastic catch *b*, as shown in those figures. In these modifications the chamber *A'* communicates with the aperture *a*.

C is an eyelet having flange *c* of diameter about equal the diameter of stud-holding plate A, and a tubular portion *c'* of sufficient length for holding with the upper half portion of the button-head. The flange *c* of this eyelet constitutes the upper wall of the chamber *A'*, in which the stud spring-catch B is held.

D is the binding-piece, provided with a central aperture *d*, of a diameter corresponding with that of aperture *a* in plate A, and has a clinching-flange *d'* for binding the circumferential edge of flange *c* of the eyelet C when united with pieces C and A, with the latter between the former and this binding-piece,

and when the said parts are united this piece D forms the lower side wall of the chamber A' for a spring stud-catch B.

E is a closing cap or shell of the button-head, and is secured to a holding-piece F by having its lower margin portion *e* fixed with the margin edge *f* of the piece F, as shown in Figs. 1 and 2, for attaching the upper half portions of this button-head with the lower half portion formed by the fastening-eyelet C and pieces A, D, and B with the fabric. The eyelet C will be passed through the fabric, and by a suitable instrument be crowded with its end against the cap E, when the upper end of the eyelet will be spread outwardly and made to engage with the piece F, substantially as shown in Figs. 1 and 2, when the two portions of the button-head will be united together with the material between.

G is a stud having its head *g* of a diameter about corresponding with the diameter of the apertures *a* and *d* in pieces A and D, so as to fasten with the same. This stud G is secured to the fabric by means of pieces H, I, and K or by other known means. When this stud G is crowded through the apertures *a* and *d* of the plates A and D, the head of the stud will press against the portion *b* of the spring-catch B, when the spring-catch will yield and allow the head *g* to pass through said apertures until the neck *g'* of the stud is opposite the spring-catch, when the spring-catch will, by its natural elasticity, assume its original form and engage by its portion *b* with the neck of the stud, and at the same time crowd the stud against the margin edge A² of aperture *a*, and cause it to engage with the neck of the stud G at a point on the same which will be about opposite the holding portion *b* of the spring-catch B, when the stud will be held securely connected with the button-head, so as to require some force to withdraw the former from the latter.

By these improvements the button-head can be cheaply constructed and be made to include in its parts a simple and effective means for holding the button-head with the stud.

The drawings show plate A with its spring-catch B and piece D below the lower side of the fabric, yet, if desired, their parts can be arranged so as to be relatively above the plane of the upper side of the fabric. The drawings also show the flange of the fastening-eyelet as operating as a device for holding on the upper side of plate A and the spring-catch B; yet, if desired, the fastening-eyelet can be inverted and a suitable piece can be substituted for the flange of the eyelet.

Having described my invention, what I claim is—

1. In a separable button, the combination, with the outer shell of a button-head and a fastening-eyelet, of a stud-catching piece A, in form of a section of a circular disk having the stud-receiving opening *a*, and a spring-catch B, which is held in position at a side of said stud-receiving opening and in opposition to the margin-edge portion A² of the same by pieces inclosing said spring-catch, and its coacting stud-catching piece, substantially as and for the purposes set forth.

2. In a separable button, the combination, with the piece A, having the stud-receiving opening *a* and the spring-retaining recess A', said piece A held within a shallow chamber between two pieces clinched together, of a spring-catch held within said recess and a fastening-eyelet adapted to secure said parts with a button-head to the fabric, substantially as and for the purpose set forth.

3. In a separable button, the combination, with an eyelet for securing the outer shell of a button-head to the material, the piece A, provided with opening *a*, and the coacting spring-catch B, of a supporting-piece operating with the eyelet to hold said piece A and spring B in place, substantially as and for the purposes set forth.

4. In a separable button, the combination, with the outer shell of a button-head and piece F, secured within said shell and in contact with its inner side surface, of the piece A, provided with opening *a*, spring-catch B, a piece supporting said piece A and spring-catch B and connected with the flange of a fastening-eyelet which holds with the outer shell of the button, and with said shell clamps the material.

5. In a separable button, the combination, with a fastening-eyelet C, piece D, provided with a central perforation which communicates with the bore of the tube portion of the said eyelet and is secured to the flange of the same, and the stud-holding device composed of the piece A, having opening *a*, and the coacting spring-catch B, of the outer shell of the button-head, having piece F secured within it and in contact with the inner side surface of said shell, for operation with the said fastening-eyelet, substantially as and for the purposes set forth.

EUGENE PRINGLE.

Witnesses:

WILLIAM F. SELKIRK,
CHARLES SELKIRK.