(No Model.)

E. PRINGLE.

SEPARABLE BUTTON.

No. 574,265. Patented Dec. 29, 1896.

Fig. 1.

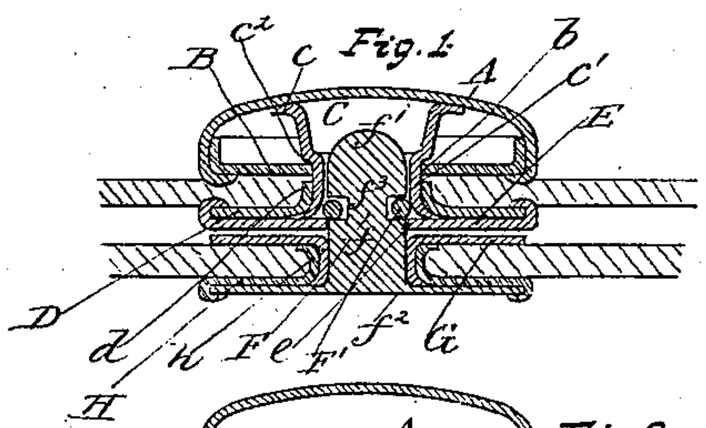

Fig. 2.

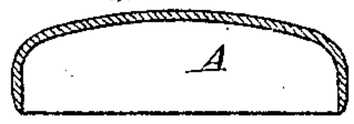

Fig. 9.

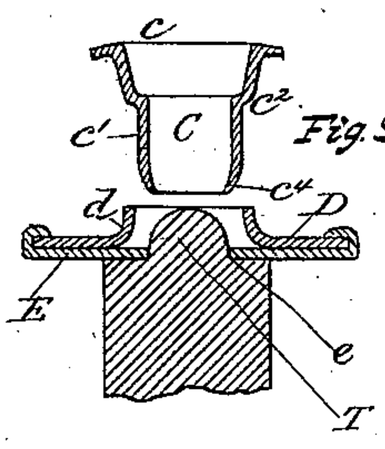

Fig. 3.

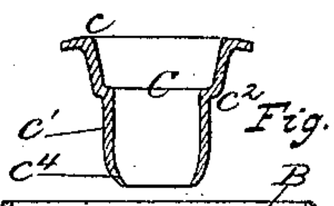

Fig. 4.

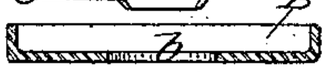

Fig. 5.

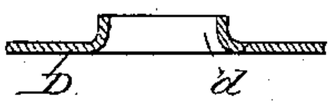

Fig. 10.

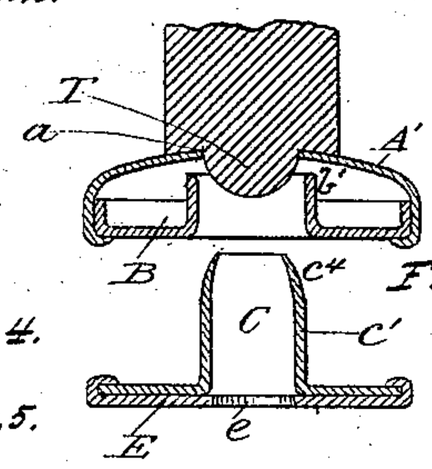

Fig. 6.

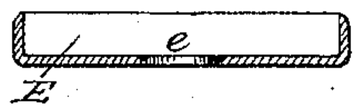

Fig. 7.

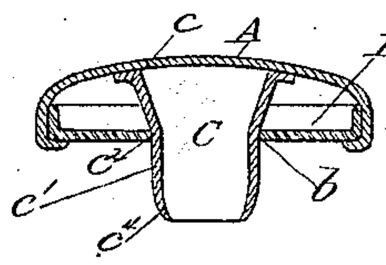

Fig. 8.

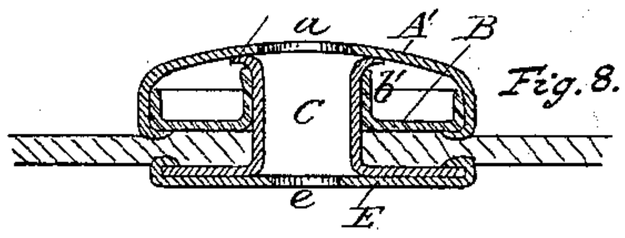

Fig. 11.

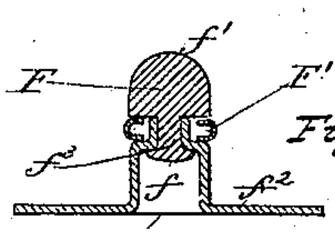

Fig. 12.

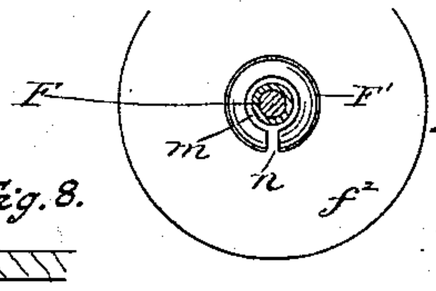

Fig. 13.

Fig. 14.

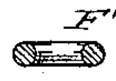

Fig. 15.

Witnesses:
William F. Selkirk
Laura M. Selkirk.

Eugene Pringle
Inventor.

UNITED STATES PATENT OFFICE.

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

SEPARABLE BUTTON.

SPECIFICATION forming part of Letters Patent No. 574,265, dated December 29, 1896.

Application filed March 20, 1888. Serial No. 267,866. (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 improvements in separable buttons; and it consists of the devices, parts, and elements and combinations of devices, parts, and elements hereinafter particularly described, and specifically set forth in the claims.

The objects of my invention are to provide in a button-head of a separable button a stud-receiving tube, which will also constitute the fastening-eyelet of the button-head, and will operate in connection with a stud-engaging piece to hold the stud and receive the lateral strain on the same; also to provide in a stud of the separable button an elastic compressible engaging piece which will coact with the stud-engaging piece in the button-head to hold the stud connected with the same; also to provide in a stud an elastic compressible engaging ring, which will be annular to the stud-post, with provision for compression for passage through a contracted stud-receiving opening in the button-head, and, finally, to provide specific combinations of devices, parts, and elements by which my improvements are embodied in practical form in separable buttons.

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 parts of the separable button connected together and secured to the material. Fig. 2 is a sectional view of the outer shell of the button-head. Fig. 3 is a sectional view of the piece forming the stud-receiving tube and eyelet. Fig. 4 is a sectional view of the upper side clamping-piece of the button-head. Fig. 5 is a sectional view of the under side clamping-piece of the head. Fig. 6 is a sectional view of the stud-engaging plate. Fig. 7 is a sectional view of the outer shell and the upper side clamping-piece secured to a fastening-eyelet of modified form. Fig. 8 is a sectional view of a button-head having some of its parts of modified form. Fig. 9 is a sectional elevation of the parts composing the lower clamping portion of the button-head and a fastening-eyelet and tool for expanding and clenching the tube of the latter. Fig. 10 is a sectional view of the parts composing the upper half portion of the button-head, an inverted fastening-eyelet, and tool for turning and clenching the tube end of said eyelet. Fig. 11 is a sectional elevation of the stud embodying a part of the improvements in this invention. Fig. 12 is a sectional view of the same from above. Fig. 13 is a sectional view of an elastic compressible engaging ring of shell form. Fig. 14 is a sectional view of the same made with a solid form. Fig. 15 is a view of the same from above.

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

In the drawings, A is the top or outer shell of the button-head. B is the upper side clamping-piece, and C is the fastening-eyelet, having its top flange *c* bearing against the top shell and its tube portion *c'* in the central opening *b* of piece B. This tube portion *c'* of eyelet C has made with it an annular shoulder c^2, which seats on the upper side of piece B at the margin edge of the opening *b* in the same.

D is the lower side clamping-piece, which has in it a central opening and a rim-flange *d* around the same, on which the tube portion of the eyelet C is clenched.

E is the stud-holding plate, shown to be arranged against the lower side of the clamping-piece D and secured to the same by its rim-flange being clenched on the said clamping-piece; yet, if preferred, a flange made with piece D and clenched on plate E can be employed with the same result. This plate E has in it the stud-receiving opening *e*, having its diameter a little less than that of the base of the tube of the fastening-eyelet C, so that the border edge of said opening *e* in plate E will project to a small distance inwardly past the line of the bore of the said eyelet for engagement with the catching part of a coacting stud.

In Figs. 3, 7, and 9 the lower end portion

c^4 of the clenching tube portion c' of the fastening-eyelet C is shown to be contracted or curved inwardly.

In Fig. 9 is shown an anvil portion t of a suitable tool, by means of which this inwardly-curved portion c^4 of the tube of the eyelet will be turned outwardly, so as to clench on the inner side of the rim-flange d of piece D when the said eyelet and piece are crowded together, as shown by full lines in Fig. 1.

In Fig. 8 the fastening-eyelet C is shown to be used inverted and as being made without any shoulder and having its flange forming the means for clamping the lower side of the material, while its tube is made to clench an upper end of the internal flange b'. In Figs. 8 and 10 the shell A' is shown to have in it the central perforation a, and in Fig. 10 is shown the anvil portion T, applied to said perforation to turn the clenching end c^4 of the eyelet C when the latter and the button-head are forced together, as shown in Fig. 8.

F, Figs. 1, 11, and 12, is the stud, which consists of the stud-post f, stud-head f', base f^2, and the compression catching-piece F' between the said post f and head f' and annular to the neck f^3, as shown in said figures. The compression catching-piece F' is shown in Figs. 1, 11, and 12 to be circular in form and having its central opening m to be a little greater than the diameter of the neck f^3, and in Figs. 12 and 15 this catching-piece F' is shown to have in one side of its body an opening n, which opening permits the body of this piece F' to be compressed or contracted, so as to reduce its diameter to a diameter corresponding with that of the central opening e of the stud-engaging plate E for passage through the same from the lower side of said plate to within the lower end of the tubes of the eyelet, as shown in Fig. 1.

In Figs. 11 and 13 this compression catching-piece is shown to be made with a shell form, while in Fig. 14 it is shown to be solid, yet in all cases, whether the piece be of shell or solid form, it will be of elastic material, so that after compression or contraction it will spring outwardly to its normal size.

G, Fig. 1, is the eyelet for fastening the stud to the material, and is shown to have its flange operating as a clamping-piece on the upper side of the material and its tube portion clenching over the central rim-flange h of the lower side clamping-piece H.

By my above-described improvements the button-head can be cheaply produced and readily fastened to the material, while its stud will be made to readily engage with the button-head and strongly hold with the same, and by reason of the central opening of the catching-piece being a little larger than the diameter of the neck f^3 the post and head portions of the stud can be drawn by the pull on the stud against the edge of the central opening in the catching-plate E and the wall of the eyelet C without affecting the catching-piece F'. This stud, by omitting the pieces which attach it to the fabric, may be used with any suitable coacting head not attached to the fabric, or it may be secured to the fabric and used with any coacting head also secured to the fabric.

I am aware of patents to Shipman of October 12, 1886, No. 350,776; November 9, 1886, and August 21, 1888, and do not herein claim the invention therein shown.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A button-head having an aperture in its cap, an engaging piece having an upturned flange upon its outer edge for connection with the cap, and a central upwardly-projecting cylindrical portion, and a fastening-eyelet passed through the material and clenched over the upper edge of the cylindrical portion by a tool inserted in the aperture of the cap.

2. A button-head comprising a cap, a fastening-eyelet having a flange at one end and connected to the cap, an engaging piece upon the opposite side of the material and having an aperture therein, for the insertion of a tool for turning a flange upon the opposite end of the eyelet for holding the head to the material, both of the flanges of the fastening-eyelet being within the button-head and concealed, substantially as described.

3. A button-head comprising a cap or shell, a clamping-piece secured thereto and bearing underneath a shoulder or projection formed upon the fastening-eyelet, for securing the head to the material, substantially as described.

4. A stud for a separable button consisting of a post having an annular recess, a hollow, split, resilient ring within the recess, and a fastening-eyelet for holding the stud to the material substantially as described.

5. A stud for a separable button comprising a base, having an annular offset or shoulder, a head-piece connected thereto, and forming an annular recess, and a resilient ring in the recess, substantially as described.

EUGENE PRINGLE.

Witnesses:
WILLIAM F. SELKIRK,
CHARLES SELKIRK.