

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. 574,266, dated December 29, 1896.

Application filed September 8, 1888. Serial No. 284,943. (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 of 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 split and flanged form of tubular stud-catch and a piece which will hold the said catch in connection with the outer shell of the button-head; second, to combine with the outer shell of the button-head an elastic flanged tubular stud-catch and a piece which will unite the latter with the former and at the same time clamp the material on both its upper and lower sides; third, to provide a holding-stud (of a new form of construction) which will be adapted to cooperate with the slitted flanged and tubular stud-catch to hold it (the stud) with the button-head; fourth, to combine with the stud means by which the stud will be securely attached to the fabric; fifth, to provide specific means by which the improvements in this invention may be carried out 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 button-head and stud portions of a separable button and illustrates the same when connected together and secured to the fabric. Fig. 2 is a sectional elevation of the stud-holding device and the piece employed to connect it with the outer or inclosing shell of the button-head. Fig. 3 is a sectional view of the stud and its adjuncts for holding the same connected with the material. Fig. 4 is a sectional view of the piece holding the stud-catch connected with the outer shell. Fig. 5 is a plan view of the same. Fig. 6 is a sectional view of the stud-catch. Fig. 7 is a plan view of the piece shown in Fig. 6, and illustrating both pieces slitted, so as to be

elastic. Fig. 8 is a sectional view of the same. Fig. 9 is a view of the stud-catch employed with the piece shown in Figs. 2, 4, and 5. Fig. 10 is a plan view of the same. Fig. 11 is a plan view of the stud and its flange quartered. Fig. 12 is a sectional elevation of the same. Fig. 13 is a sectional view of the slitted stud containing improvements. Fig. 14 is a plan view of the same. Fig. 15 is a sectional elevation of a button-head containing the essential parts and showing the button-head clamping the material.

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

In the drawings, A, Figs. 1, 2, and 9, is the stud-catch, which is composed of the tubular portion a and flanged portion a' , with the tubular portion turned up from the flanged portion, as illustrated in the same figures. This piece A is slitted from the top of the tubular portion a downwardly through its entire length by slit a^2 , which slit is continued through the flanged portion a' , as shown. This slit a^2 in the stud-catch allows its portions a and a' to be expanded when the head of the coating stud is crowded through the aperture a^3 of the same. In some cases the flange a' has made with it the clenching-flange a^4 , which has a length sufficient only to bind on the circumferential margin of another piece, as piece D, as illustrated in Fig. 1. In some cases this clenching-flange a^4 is increased in its extension from the flange a' , so as to serve as a means for holding with the eyelet B, as shown in Fig. 2. In other cases the clenching-flange a^4 is wholly omitted, as illustrated in Figs. 6 and 8, in which case I would use an eyelet-holding washer having a clenched flange, as shown in those figures.

B is a fastening-eyelet having a shell-form flange b integral with the tube portion b' , as illustrated in Figs. 1, 2, 4, and 5. This fastening-eyelet B is covered by the outer shell C, having its lower margin edge c clenched against the lower marginal rim edge of the flange b of the eyelet B, as shown in Fig. 1. When the tubular portion b' of this fastening-eyelet B is passed through the fabric, and the tubular portion a of the stud-catch A is entered into the bore b^2 of the eyelet B, and the two pieces A and B are forced together by

any suitable instrument, the lower end of the tube b' of the eyelet B will be spread outwardly all around by the flange a' and be forced underneath the clenching-flange a^4 of the stud-catch A, substantially as shown in Fig. 2, when the two pieces A and B will be securely united.

D is the binding-washer which can be used in connection with the elastic stud-catch A for holding with the tube b' of the fastening-eyelet B when the extension of clenching-flange a^4 of the stud-catch A, as shown in Figs. 2 and 9, is dispensed with and a smaller extension of that clenching-flange is employed, as illustrated in Fig. 1. In some cases when this binding-washer D is employed with the elastic stud-catch A the clenching-flange a^4 can be dispensed with and the binding-washer D can have made with it the clenching-rim d , as illustrated in Figs. 6 and 8, and in either case, whether the binding-washer D be made as shown in Figs. 6 and 8, it operates substantially as does the binding-flange b of the fastening-eyelet B.

In Fig. 1 the stud-catch A only is shown to be continuously slitted through its tubular and flange portions a and a' by slit a^2 , yet when piece D is employed with the slitted stud-catch A the said piece D can be slitted, as shown in Fig. 8, so that it will also be capable of expansion by force applied from the inside of its circumference.

It will be readily seen by reference to Fig. 15 that the button-head proper can be made to consist of only three pieces—the elastic stud-catch A, the fastening-eyelet B, and the eyelet-holding piece D—when the covering-shell C is omitted, and that also when it is preferred that the extended clenching-flange a^4 be omitted and the washer D (whether plain, as in Fig. 1, or provided with the clenching-flange, as in Fig. 6) is used the parts will be composed of only three pieces, (A, B, and D,) exclusive of the closing-shell C, and that when constructed with the pieces A and B joined together, as in Fig. 2, the button-head will be composed of but two pieces, and the button-head thus produced will be simple and strong in its union of parts, while its stud-catch for operation with the stud will be reliable and have a positive holding with the stud.

E is the stud, made, preferably, with a shell form, as shown in Figs. 1, 3, and 12, though it can be made in solid form, as shown in Fig. 13. The body of this stud below the head e is provided with flange e' , and when first constructed the stud-post between head e and flange e' is made with a diameter about the same as that of head e , and the flange and the post portion e^2 is then slitted upwardly, as illustrated in Figs. 11 and 12, to within a short distance from the top of the stud by a single slit e^3 , as shown in Fig. 14. If preferred, the stud and its post and its flange can be slitted by transverse slits, as e^3 and e^4 in Figs. 11 and 12. In either case the sections of the flange and stud-post are integral

with each other, and their bodies at the slit will be pressed or crimped inwardly and toward each other, so as to be set together, substantially as illustrated in Figs. 1, 3, 12, and 13, with the post proper, e^2 , reduced in its diameter in relation to that of head e , as illustrated in the same figures, so as to produce below head e a neck or post of smaller diameter than the head, and one which will be about the same as the bore a^3 of the stud-catch A in the button-head.

F is a clamping-piece having its bore f of size sufficient for admission of the head e of the stud E, and is provided with the binding-flange f' .

G is an eyelet which has its flange g set against the lower side of the flange e' of the stud E and secured to the same by the binding-piece F, as shown.

H is a second eyelet which coacts with the eyelet G to unite the stud E with the fabric by their two flange portions coacting together and their flanges g and h clamping the opposite sides of the fabric. When the stud, secured to one portion of the material, is to be connected with the button-head, secured to another portion of the material, the head e of the stud E will be forced through the elastic catch A, and its head (being of little larger diameter than the bore stud-catch) will expand the said catch, which catch will freely yield before the pressure of the stud-head, by reason of slit a^2 , and pass up through the tubular portion of said catch to above the plane of the upper edge of the same. This catch will, by natural contraction, resume its original diameter and engage with the shoulder where the head e connects with the post or neck and securely hold with the stud until force is applied for effecting a withdrawal of the same from the stud-catch.

By my above-described improvements the button-head portion and stud portion of a separable button can be cheaply produced and its several parts be readily assembled for use of manufacturers who apply the same to gloves and other articles, while the two parts of the button will, when connected, be so securely held together that they will not be readily separated except at the will of an operator.

Having described my invention, what I claim is—

1. In the button-head of a separable button the combination of the stud-catch A, provided with tubular portion a , base-flange a' and clench a^4 integral therewith, and with slit a^2 extending vertically through the half of said catch, and the eyelet B, provided with the external annular dependent flange b adapted to engage one side of the fabric, and with the tube b' adapted to receive the tubular portion a of the stud-catch A and to have its lower portion forced radially outward into the clench a^4 , of said stud-catch, substantially as shown and for the purpose described.

2. A cap or shell for a separable button

having its outlying rim bearing on the face of the material or fabric, a downwardly-extending central eylet portion extending through the fabric, and a stud-catch below the material, said parts being clenched together, with the material between them, substantially as described.

3. In a button-head of a separable button, a stud-catch having a projecting neck, *a*, an outwardly and inwardly extending flange, said neck and flange being slitted, for resiliency, and a fastening-eyellet therefor, substantially as described.

4. A stud for a separable button, consisting of a post and base-flange provided with a slit extending through the flange, up into the shank of the post and into the head, the sections then pressed together to practically close the slit, and leaving an aperture or opening for resiliency in the head only, substantially as described.

EUGENE PRINGLE.

Witnesses:

WILLIAM F. SELKIRK,
CHARLES SELKIRK.