(No Model.)

E. PRINGLE.

BUTTON FOR GLOVES.

No. 260,411. Patented July 4, 1882.

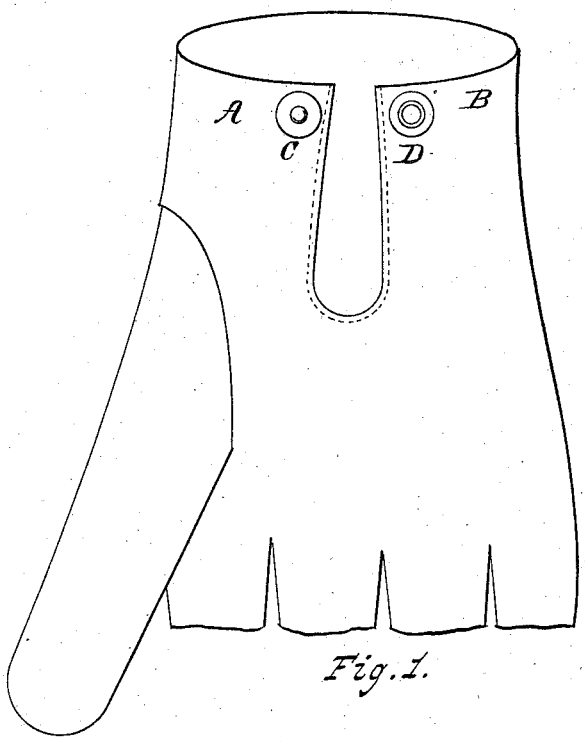


Fig. 1.

Fig. 2.

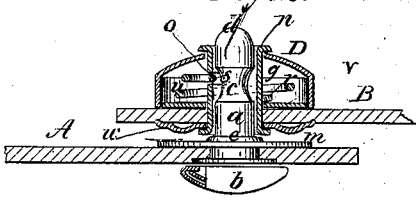


Fig. 3.

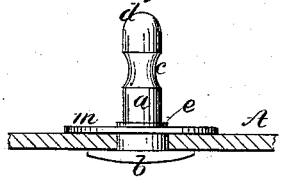


Fig. 4.

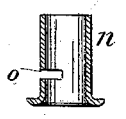
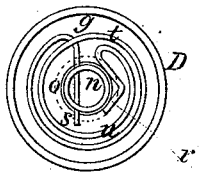


Fig. 5.



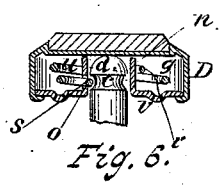


Fig. 6.

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UNITED STATES PATENT OFFICE.

EUGENE PRINGLE, OF GLOVERSVILLE, NEW YORK.

BUTTON FOR GLOVES.

SPECIFICATION forming part of Letters Patent No. 260,411, dated July 4, 1882.

Application filed January 24, 1881. (No model.)

To all whom it may concern:

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

My invention relates to that class of buttons known as "sectional" or "detachable" buttons, in which one section or part of the button is composed of a base and stud which operates in conjunction with another section composed of a button-head and stud-receiving device held together by catching device; and it consists of certain improvements in which the stud of the base-section is provided with an annular groove which operates in conjunction with a shell button-head provided with a tubular stud having a side opening and a spring-catch which works through said side opening and into said annular groove, made with the stud of the base-section, as I will more particularly describe hereinafter.

The object of my improvement is to provide means by which the detachable sections of the button may be readily united or detached from each other by simply pushing the parts toward each other or drawing them from each other without exerting any pressure on any part or adjunct of the button. I attain this object by means of the mechanism illustrated in the accompanying drawings, in which the same letters of reference refer to like parts throughout the several figures, in which—

Figure 1 represents a glove with the parts of my improved button attached thereto. Fig. 2 is a sectional elevation of the coacting parts on an enlarged scale. Fig. 3 is a sectional elevation of the base and stud portion of the button. Fig. 4 is a sectional elevation of the stud-tube employed with the head-section of the button. Fig. 5 is a plan view of the internal parts of the head-section of the button, illustrating their form and arrangements in relation to each other; and Fig. 6 is a sectional elevation.

In the drawings, A and B represent the two pieces of fabric to be united together by means of my improved button, and C and D are the sectional parts of the button. The part C (shown in Figs. 2 and 3) is composed of the cylindrical stud *a* and base *b*, which parts may be made separately and secured together in the manner practiced by the trade, or be made solid with each other, as shown in Fig. 3. The upper and terminating end *d* of said stud is made convex, or with a semi-spherical form, and is provided with an annular concave groove, *c*.

To secure the base portion or section C of the button to the fabric, there is provided on the body of the stud *a*, from the upper side of the base, an annular projecting step, *e*, which extends to a short distance above the upper side of said base, and a thin washer, *m*, having a central perforation which nicely fits the said step *e*, is also provided. When the stud *a* is passed through the fabric A at a point at which it is to remain secured to it (the fabric) the washer *m* is slipped on said stud and down past step *e* on the upper surface of the fabric, when the operator will with suitable instrument or tool upset the shoulder of said step and clinch it down on the said washer, when the base-section of the button will be securely attached to the fabric, as shown.

The coacting section or portion D of the button is the button-head, and it is composed of a chambered shell-head, *g*, provided with a central stud-receiving tube, *n*, held in connection with said head and projecting upward within the shell of the same from the lower or under side of said head to, or near to, the upper side thereof, as shown in Figs. 2 and 6.

Made in one side of the tube *n* is a horizontal slot, *o*, having a width of vertical extension sufficiently large to receive the catching-limb *s* of spring *u*, and with a horizontal extension inward from the outside of said tube toward its center a little less than one-half of the diameter of the same, as shown.

The spring *u* is made substantially in the form shown in Fig. 5, and has its limb *s* resting in the horizontal slot *o* of tube *n*, and its opposite end limb, *r*, bearing on the outer opposite side of said tube, while its intermediate curved portion, *t*, occupies the chamber of the head surrounding said tube, as shown. The spring *u* is held within the chamber of the head by the closing-plate *v*, which plate is held in secure connection with the head of the button by the upper end of tube *n* being passed from the

button-head shell and through the closing-plate *v*, and clinched on washer *w* below after the fabric B is interposed between said base or closing plate and said washer. If preferred, the lower end of tube *n* may be clinched on the lower side of the closing-plate *v* and the washer be dispensed with.

In Fig. 6 the head of the button is shown to be made with a chamber having its lower marginal edge clinching over the outer edge of the closing-plate *v*, which closing-plate is shown to have a stud-receiving tube, *n*, made with it, while the upper end of said tube terminates at the lower side of the top portion of the shell of said head, and the horizontal slot *o* is made the same as before described, and the spring *u* is shown to be inverted from the position shown in Fig. 2; but its catching-limb *s* rests in slot *o* of the tube *n* the same as before described.

When it is preferred to make the base-stud C removable from the fabric the annular projecting step *e* and washer *m* of said base-section may be omitted, and eyelet-holes made in the parts of the fabric to be united may be employed.

When it is desired to connect the portions or sections C and D of the button the operator will place the latter over the former and cause stud *a* of the former to enter tube *n* until the convex end *d* of the said stud has passed the catching-limb *s* of spring *u*, when said catching-limb will fall into the concave annular groove *c* of the stud and catch with the same, and thereby hold section D with section C of the button.

It will be observed that the spring *u* in all its portions is inclosed within a chamber and cannot be in the least disturbed or displaced, and that the catching-limb *s* of said spring will in all cases be held in the horizontal slot *o* of the stud-receiving tube for immediate action with the annular concave groove *c* of stud *a*.

It will also be readily observed that by reason of the slope or convexity of the end *d* of the stud *a* a gentle pressure of the sections C and D toward each other will be sufficient to cause the spring catching-limb *s* to be crowded outward until said catching-limb is opposite the annular concave groove *c*, when the tension of the spring will cause the said catching-limb to engage with said groove.

It will also be readily observed that the upper and lower horizontal sides of said catching-limb of the spring will at all times be held between the upper and lower sides or lips of the horizontal slot *o*, so as to retain the said catching-limb in the same relative position and situation for action with the concave groove *c*.

It will be further observed that by reason of the slope or concavity of the sides of groove *c* and the convexity of the catching-limb *s* of the spring they will act with each so as to throw the latter out from the former when the two sections C and D of the button are drawn on in opposite directions, and that the use of devices for throwing the catch out of engagement with the groove of the stud is obviated.

The spring *u*, in all its portions being made of round spring-wire, will operate the same in all its parts, and, being bent in the form shown, will be sufficiently elastic to cause the catching-limb *s* to readily pass over the head of the stud under slight pressure, and at the same time have sufficient tension to cause said limb to engage with the groove of the stud, so that the upper section, D, will not become accidentally disengaged from the lower section, C.

I am aware that in buttons made with detachable halves or sections studs made with a base-piece, and having spherical or semi-spherical upper ends, and with necks for engaging with a catch, are old and well known.

I am also aware that in sectional buttons catches operated in one direction by springs to hold them in engagement with the studs, and operated in an opposite direction to effect their disengagement from the stud, are also well known.

I am also aware that catches engaging with a stud of the base or lower half of detachable buttons by means of a circular moving piece are also old. I therefore do not claim broadly as my invention studs having sloping or semi-spherical heads with necks, and catches engaging with the same.

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

In a separable or detachable button, the combination, with the base-section C, having a stud which is provided with a sloping or semi-spherical head and annular concave groove *c* below said head, of the head-section D, having a stud-receiving tube provided with horizontal slot *o*, and the spring *u*, having its limb *s* resting in said slot and its body held within an inclosed chamber surrounding said slotted tube, all for operation substantially as and for the purpose set forth.

EUGENE PRINGLE.

Witnesses:
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GEORGE C. MOORE.