(No Model.)

F. P. BARNEY.

BUTTON.

No. 345,824. Patented July 20, 1886.

Fig. 10

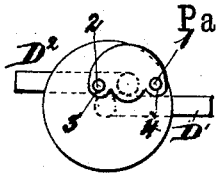


Fig. 14.

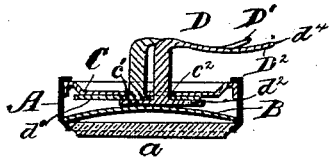


Fig. 9.

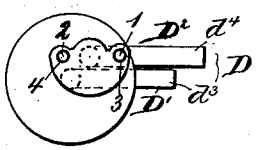


Fig. 5.

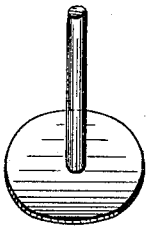


Fig. 8.

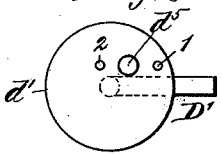


Fig. 6.

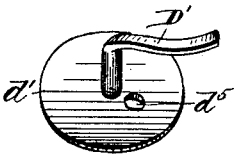


Fig. 13.

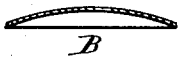


Fig. 2.

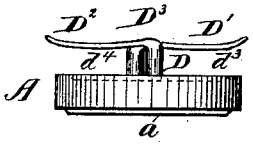


Fig. 12.

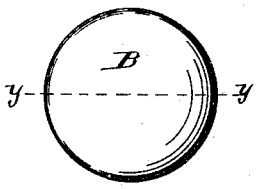


Fig. 1.

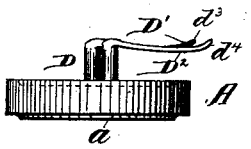


Fig. 4.

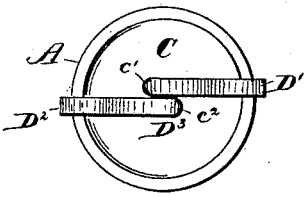


Fig. 11.

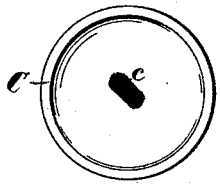
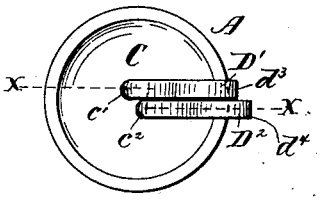
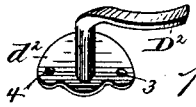


Fig. 3.



Witnesses
W. E. Boulter
C. M. Kusbloch

Fig. 7.



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Inventor
Frank P. Barney,
Jenny & Mh
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UNITED STATES PATENT OFFICE.

FRANK P. BARNEY, OF CHARTLEY, MASSACHUSETTS.

BUTTON.

SPECIFICATION forming part of Letters Patent No. 345,824, dated July 20, 1886.

Application filed March 25, 1886. Serial No. 196,542. (No model.)

To all whom it may concern:

Be it known that I, FRANK P. BARNEY, a citizen of the United States, residing at Chartley, town of Norton, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Cuff-Buttons; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to cuff-buttons or studs, or similar fastening devices for wearing-apparel, and has for its object to simplify and cheapen their construction without thereby impairing their efficiency.

To these ends the invention consists, in a button of the class described, of the combination, with the head or button proper, of a shank composed of two parts or sections, each provided with a head, one of said sections passing through the head of the other, and both sections passing through an aperture or apertures in the button, whereby one section is made stationary, while the other is free to rotate, substantially as hereinafter described.

The invention further consists in the combination with a button of the class described, of a shank composed of two sections, each provided with a head, one of said sections passing through the head of the other, and both sections through an aperture or apertures in the button, with a seat-plate for the heads of the shank-sections to hold them against endwise movement, devices for limiting the amplitude of the movement of one of the sections, and devices for locking the movable section into position, substantially as hereinafter fully described.

The invention further consists in the mode of connecting a two-part or sectional shank with a button, so that one of said sections will be rigidly and the other rotatably connected with the button, substantially as and for the purpose hereinafter described.

Referring to the accompanying drawings, in which like letters of reference indicate like parts, Figures 1 and 2 are elevations of my improved button, showing the two parts or sections of the shank thereof in the position they assume for removal from and for locking the button in a button-hole, respectively. Figs. 3 and 4 are inverted plan views of the button, showing the two parts of its shank in the positions indicated by Figs. 1 and 2, respectively. Fig. 5 is an isometric view of an ordinary copper or brass rivet, such as are found in commerce, from which the shank-sections are made. Figs. 6 and 7 are also isometric views of the two shank-sections finished. Fig. 8 is an under side view of the stationary shank-section. Fig. 9, a like view of both sections united and in the position for removal from a button-hole. Fig. 10 is a like view showing the shank-sections in the position when the button is locked in a button-hole. Fig. 11 is a top plan view of the inner face-plate of the button detached. Fig. 12 is a like view of the bearing-plate. Fig. 13 is a section on line *y y* of Fig. 12. Fig. 14 is a vertical transverse section on the line *x x* of Fig. 3.

All the above figures are drawn to an enlarged scale, to better show their construction and the combination of the various parts of the button.

In the drawings, A indicates the body, head, or shell of the button, in which is fitted a concave plate, B, of sufficiently thin sheet metal to give it the necessary elasticity to act as an elastic bearing for the heads of the shank-sections, and C is the inner face-plate. The outer face-plate, *a*, of the button may be integral with the shell, or it may be a plate or setting of any other desired material, as will be readily understood. The inner face-plate has two openings, c' c^2, for the passage of the two sections D′ and D² of the two-part or sectional shank D. These shank-sections are constructed from blanks which are nothing more than ordinary copper or brass machine-made rivets, such as can readily be found in the market, having a stem of sufficient length for the purpose in view. It is immaterial whether the head of the rivet is absolutely cylindrical or not, as this does not make any difference, so far as one of the shank-sections is concerned, though it should be and is usually perfectly flat on both sides. The stem of the rivets is bent at right angles, each forming one half, d^3 and d^4, respectively, of a cross-bar or cross-head, D³, of the shank D, and said bent portion is preferably flattened and the ends thereof turned up-

ward and attenuated, to facilitate the insertion of the shank into a button-hole. The head d' of that section of the shank D which is to be rigidly connected with the button—as the section D', for instance—has an opening, d^5, by the side of its stem or straight portion, and preferably on a diametrical or radial line intermediate of the horizontal and vertical diametrical lines of the head d' of said section to cause the one half d^4 of the cross-head to project slightly beyond the other half, d^3, when brought parallel therewith, as shown in Figs. 1 and 3, and to cause said bent portions to extend equally far over the button when one of the sections is turned to bring the bent portions on a line with each other to form the cross-bar or cross-head, as shown in Figs. 2 and 4. This arrangement is, however, not absolutely necessary, as it is obvious that the two shank-sections may be placed one beside the other on the horizontal diametrical line of the head d'. This head d' of the stationary section D' of the shank D has two projections or locking-studs, 1 2, on its under side, which, with a view of saving labor, are formed by indentations in said head. They are located on an arc of a circle drawn from the center of the opening d^5 in said head d'. The straight portion of the shank-section D^2 is passed through the hole d^5 in the head of the section D', so that the head d^2 of said section D^2 will lie underneath that of section D', and said head d^2 is provided with two openings, 3 4, so arranged as to register and interlock with the locking lug or lugs or projections 1 2, on the under side of the head d' of the shank-section D', when the section D^2 reaches the limit of its movement in either direction, whereby the amplitude of the rotation of the section D^2 is limited.

In Fig. 9 I have shown the parts in the position when the shank-sections lie side by side and ready for removal from the button-hole, and in Fig. 10 I have shown the said parts in position when the shanks are deployed to form the cross-head and lock the button to a garment.

The two shank-sections D' D^2, constructed as described, are passed through the holes c' c^2 of the inner face-plate, C, and the parts are ready to be united with the button-shell A, which is effected as follows: The concave spring-plate B is first placed in the shell and rests loosely therein, its concave surface forming the seat for the heads of the shank-section. The inner face-plate, C, is now placed in the shell, so that the heads d' d^2 of the shank-sections will be firmly seated on the plate B, when the edges of shell A are turned over the inner face-plate in the usual manner, thus holding the latter firmly in position with the heads of the shank-sections firmly seated on the spring-plate B. Since the section D^2 of the shank passes through the head d' of the section D' of said shank, and the straight portion of the shank-sections pass through separate holes in the inner face-plate, the latter, together with the shank-section D^2, act as a locking device to lock the shank-section D' against rotation, while the shank-section D^2 is free to rotate in plate C and in the head d' of shank-section D'.

By means of the described construction the parts of the button may be readily assembled, and all of them secured firmly in place by simply lapping the inner edge of the shell of the button-head over back plate, thereby effecting a material reduction in the cost of the button.

When the shank-sections are in the position shown in Fig. 1, they may readily be introduced into a button-hole, and by rotating the section D^2 to bring the bent portion thereof on a line with the corresponding portion of the stationary section D' a cross-bar or cross-head, D^3, is formed, whereby the button is securely locked in position. When the shank-sections are in the position shown in Figs. 1, 3, and 9, the opening 3 in the head d^2 of shank-section D^2 interlocks with the projection 1 in the under side of the head d' of the shank-section D', and the hole 4 in said head d^2 interlocks with the projection 2 on head d', the spring-plate B holding them firmly in engagement. If the rotatable section D^2 is now turned about one hundred and eighty degrees, the hole 3 will come into engagement with the projection 2 and the hole 4 with the projection 1—that is to say, the interlocking of the parts will be reversed, as will be readily understood. It will be seen that a certain amount of power will be required to overcome the power exerted by the spring-plate B, to disengage the heads d' d^2 from the locking devices, thus providing against accidental rotation of the movable section of the shank D.

It is obvious that the stationary section of the shank will act as a lock to the rotatable section when the latter is rotated in one direction to bring the bent portions of the shank-sections into the position shown in Figs. 1 and 3; hence a single projection or stud on the under side of the head d' of section D' and a single hole in the head d^2 of shank-section D^2 will be sufficient to lock the section D^2 against rotation when turned to bring its bent portion into the position shown in Figs. 2 and 4. In fact, the interlocking devices may be dispensed with altogether, and the spring-plate B be relied upon to hold the rotatable shank-section against accidental rotation, especially, as hereinabove described, when the latter shank-section is arranged on a radial line between a horizontal and a vertical line relatively to the stationary shank-section D', which latter is thus made to act as a stop that will limit the amplitude of the rotation of the shank-section D^2 in either direction, as will be readily seen. I would, however, recommend the use of the locking devices hereinabove set forth, as the rotatable shank-section will be held more firmly in the position to which it may be moved to bring its bent or horizontal position into the position shown in Figs. 1 to 4.

I have shown in the drawings a cylindrical button shell or head. It will be understood,

however, that I do not limit myself to this form exclusively, as it is obvious that any other desired form may be given to the shell or head—as, for instance, it may be made oval or elliptical, or square, or of other angular form, and a disk or other shaped spring-plate, B, employed, if desired. I have also described the shanks as passing through separate holes in the inner face-plate of the button. This, however, is not absolutely necessary, as a slot of sufficient length to accommodate both shanks may be formed in the plate without interfering with the operation of the button, as shown at *c*, Fig. 11, as it is evident that by passing one of the shanks through the head of the other the shank that passes through such head will lock the same against rotation.

From the description of my improved button it will be seen; that it differs essentially from all buttons of this class as heretofore constructed, in that neither of the shank-sections form an integral part of the button-head, or are rigidly secured thereto either by soldering or riveting; that the only means for securing said shank-sections to the button-head consists in turning over the edge of the shell onto the back plate, C, through which said shanks pass after the parts have been properly placed in the shell, as above described.

What I claim is—

1. In a button of the class described, the combination, with the button-head, of a shank composed of two parts or sections, each comprising a shank having a bent arm to form a shoe and an enlarged head, the head of one of said sections being apertured and the shank of the other section passed therethrough, and both shank-sections being passed through the back of the button, whereby one of said sections is made stationary, while the other is free to rotate, substantially as described.

2. In a button of the class described, the combination, with the button-head, of a shank composed of two parts or sections, each comprising a shank having a bent arm to form a shoe and an enlarged head, the head of one of said sections being apertured and the shank of the other section passed therethrough, and both shank-sections being passed through the back of the button, whereby one of said sections is made stationary, while the other is free to rotate, and in combination therewith of a seat or bearing for the enlarged heads of said sections, to prevent endwise movement thereof in the button-head, substantially as described.

3. In a button of the class described, the combination, with the button-head, of a shank composed of two parts or sections, each comprising a shank having a bent arm to form a shoe and an enlarged head, the head of one of said sections being apertured and the shank of the other section passed therethrough, and both shank-sections being passed through the back of the button, whereby one of said sections is made stationary, while the other is free to rotate, and in combination therewith of a locking device to limit the amplitude of the rotation of the rotatable section of said shank, substantially as described.

4. In a button of the class described, the combination, with the button-head, of a shank composed of two parts or sections, each comprising a shank having a bent arm to form a shoe and an enlarged head, the head of one of said sections being apertured and the shank of the other section passed therethrough, and both shank-sections being passed through the back of the button, whereby one of said sections is made stationary, while the other is free to rotate, and in combination therewith of an elastic bearing-plate for the heads of the shank-sections, and a locking device controlled by said plate to lock the rotatable shank-section against movement on the stationary section, substantially as and for the purpose specified.

5. In a button of the class described, the combination, with the button-head having an inwardly-bent flange around one edge, a spring-bearing plate seated in said head, and the apertured back plate thereof, of a shank composed of two parts or sections, each comprising a shank having a bent arm to form a shoe and an enlarged head, the head of one of said sections being apertured and the shank of the other section passed therethrough, the shanks of both sections being passed through the back plate of the button, with the heads thereof seated on said spring-bearing plate, said parts being secured in position by the inwardly-bent flange on the button-head, substantially as and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK P. BARNEY.

Witnesses:
ELISHA T. JACKSON,
BENJAMIN L. WOOD.