

(No Model.)

J. W. MILLER.

CUFF BUTTON.

No. 262,606.

Patented Aug. 15, 1882.

Fig. 11,

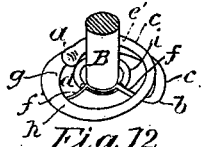


Fig. 12

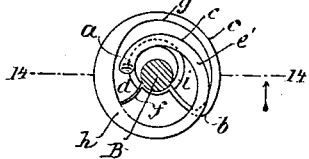


Fig. 4,

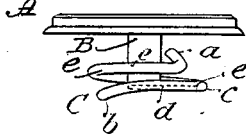


Fig. 1,

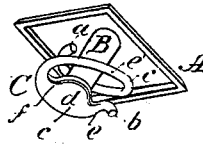


Fig. 3,

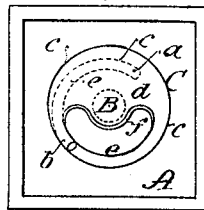
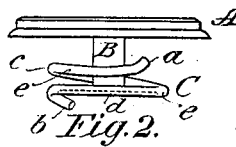


Fig. 13,

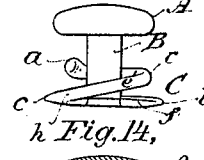


Fig. 14,

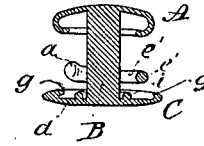


Fig. 5,

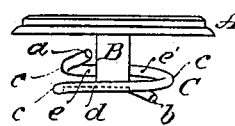


Fig. 6,

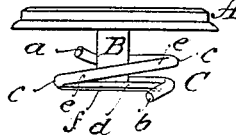


Fig. 7,

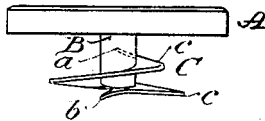


Fig. 8,

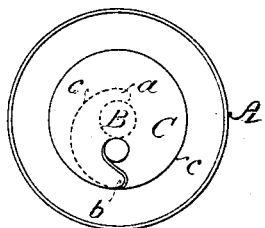


Fig. 9,

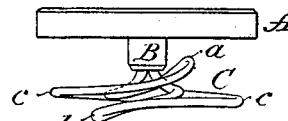
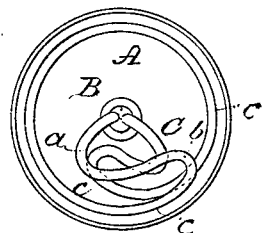


Fig. 10,



WITNESSES.

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his attorney

UNITED STATES PATENT OFFICE.

JAMES W. MILLER, OF NEWARK, NEW JERSEY.

CUFF-BUTTON.

SPECIFICATION forming part of Letters Patent No. 262,606, dated August 15, 1882.

Application filed March 15, 1882. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. MILLER, of Newark, in the county of Essex and State of New Jersey, have invented a new and useful Improvement in Cuff-Buttons and other Buttons or Studs, which improvement is fully set forth in the following specification.

This invention relates to the fastening device at the inner end of the shank or pillar of the button or stud for securing the same in the button-hole, and has reference more particularly to that class of fasteners which are screwed in and out of place.

It has for its object mainly to adapt the button to be easily inserted in and removed from the cuff or other article, and to be securely retained therein, and to render it strong and at the same time capable of being made light and cheap.

The invention consists, first, in combining with the pillar or shank of the button a screw-fastening device formed of a plate or shoe thickened at the outer edge by turning the metal of the plate over on itself or by securing a wire to the edge, said plate or shoe having preferably an extension which is coiled around the pillar or shank above said shoe, leaving its end free; secondly, in strengthening the plate or shoe by a wire fastened thereto close to and around the pillar; thirdly, in shaping the spiral fastening device (whether a plate or wire, or, as in the first part of the invention, a plate and wire) so that the outer edge comes nearer to the pillar or shank as said device approaches the disk or face of the button; and, fourthly, in turning the inner end of the spiral fastening upward toward the disk or face, as well as inward toward the pillar or shank.

It comprises also certain minor combinations and details of construction.

In the accompanying drawings, which form a part of this specification, Figure 1 is a perspective view of a cuff-button constructed in accordance with the invention; Fig. 2, a plan of the same; Figs. 3, 4, 5, and 6, views in elevation from different sides; Figs. 7 and 8, views in elevation and plan, respectively, of a modified form embodying a portion of the invention; Figs. 9 and 10, similar views of another modification. Figs. 11 to 14 represent a collar-button embodying the invention in what is deemed the

best mode of carrying it into effect. They are respectively a perspective view with pillar or shank in cross-section, a plan partly in horizontal section, an elevation, and a vertical section on line 14, Fig. 12.

A is the disk or face of the button; B, the shank or pillar, and C the spiral fastening device. The latter is attached to and coiled around the pillar or shank B. As shown, it extends over more than a circle, the inner end, *a*, extending past the outer end, *b*, so as to overlap the lower or outer coil. While this construction is the most advantageous and is specially claimed, the invention can in part, at least, be applied to spiral fasteners in which the ends do not overlap. The shape of the outer edge, *c*, is shown best in the plan views. It is not concentric with the pillar or shank, but is, in whole or in part, eccentric thereto, approaching the pillar as it rises toward the face or disk A, near the inner end, *a*, of the fastening device. Preferably this eccentricity of the outer edge is confined to the second coil or inner overlapping part of the fastening device, and it is so shown. The inner end, *a*, of the spiral fastener is turned upward toward the disk or face A, (see views in elevation,) as well as inward toward the pillar or shank B. By these new features of construction the spiral fastening device is adapted to be screwed into and out of the button-hole very easily, while in use it holds the button in place with great security.

With the ordinary screw-studs (for shirt-bosoms) having the lower end of the pillar coiled to form the fastening device, as well as with the buttons commonly used for cuffs, having a circular plate or shoe fastened at the center to the pillar or shank and split on one side, and those comprising a coiled strip having overlapping ends and attached by a cross-bar to the shank or pillar, it is often quite difficult to remove the stud or button, particularly if the button-hole be just large enough for the passage of the fastening device.

In Figs. 7 and 8 the spiral fastening device is formed of a plate, and in Figs. 9 and 10 of a wire. These forms, although otherwise well adapted to their purpose, are objectionable, the former because the edge of the plate is liable to cut the fabric unless the plate be made

so thick as to be uneconomical, and the latter because wanting in stiffness, unless the wire is made too thick. Both of them, however, as well as the more perfect forms, which avoid these objections, and are shown in Figs. 1 to 6 and in Figs. 11 to 14, are of my own invention. Referring to these figures, a thin plate or shoe, *d*, is fastened to the pillar or shank B, and the edge of this plate or shoe is thickened by turning it over, as shown at *g*, Fig. 14, or by securing around the edge the wire *e*, exceeding in diameter the thickness of the plate or shoe. (See Fig. 3.) The shoe or plate may be attached to the pillar and the wire to the shoe or plate by soldering or brazing, or in other suitable way. It is obvious that the plate or shoe could be shaped as in Figs. 7 and 8 and the wire secured on its edge, and that a thick edge could also be made by turning a bead on the edge of the spiral fastening-plate in said Figs. 7 and 8; but it is best and cheapest to make the body of the shoe or plate, as shown, approximately semicircular, or slightly larger than a semicircle, and to provide a cylindrical extension, *e'*, of small diameter, which is coiled for a suitable distance around the pillar or shank, the end being left free. This extension *e'* may be formed by a prolongation of the wire *e*; or it may be made in one piece with the body of the plate or shoe. The inner end, *a*, is preferably enlarged to form a bead, as shown in Figs. 11 to 13, whereby it may more easily take the button-hole. The extension is also flattened at *h*, where it joins the body of the plate or shoe, to give elasticity thereto. Around the pillar or shank a wire, *i*, is secured. When the outer end, *b*, of the wire *e* is left projecting it can be protected by a shot or loop to prevent its hurting the wearer. At *f* the edge of the plate or shoe is thickened by stamping in dies, or in other suitable way. In Figs. 1 to 6 the thickened edge projects downward or outward, and in Figs. 11 to 14, inward or upward. The latter is preferred, as it is not so liable to cut the linen in use.

The button-hole for use with the improved buttons need not be equal in length to the extreme diameter of the device C, but need be only slightly more than half such diameter plus the radius of the pillar or shank.

To fasten the button or stud in a button-hole it is only necessary to insert the outer end, *b*, and to turn the article until the inner end, *a*, has passed through the opening. To remove or unfasten it the inner end, *a*, is inserted through the hole and the article turned until it is free.

It is obvious that the shoe or plate with wire around the edge or otherwise thickened at the edge could be used in some of the old forms of screw-fastenings for buttons, and that the exterior of the shoe or plate could be coiled concentrically with the shank or pillar, though in that case some of the advantages before indicated would be lost.

Having now fully described my said inven-

tion and the manner of carrying the same into effect, what I claim is—

1. In a screw-fastening for buttons or studs, the shoe or plate thickened at the edge by a wire or otherwise, as explained, and having the said thickened portion extended and coiled around the shank of the button, substantially as described.

2. The combination, substantially as described, of the disk or face of the button, the shank or pillar, and a screw-fastening device coiled about the shank or pillar, and comprising a plate or shoe having its edge thickened by a wire or by other means, such as indicated.

3. The combination of the pillar or shank of the shoe or plate and a wire or extension of said shoe or plate rising from the latter and coiled around, but detached from the pillar or shank, the outer edge of said extension being closer to the said pillar or shank than that of said shoe or plate, substantially as described.

4. In a button or stud, a screw-fastening device having its inner free end overlapping or extending beyond the outer end, and having its outer edge approaching the shank or pillar as it rises toward the disk or face of the button, substantially as described.

5. In combination with the disk or face and pillar or shank of a button or stud, a screw-fastening device attached to the lower end of the shank or pillar, and provided with two free ends, the inner end being bent inward and upward, substantially as described.

6. The combination, with the shank or pillar, of the attached screw-fastening device having its inner end above and within the edge of the lower coil, and turned upward toward the disk or face of the button, substantially as described.

7. The combination, with the shank or pillar, of the shoe or plate attached to its lower end, and a wire or extension of the said shoe or plate coiled above the same and bent inward toward the pillar or shank, substantially as described.

8. In a screw-fastening device for buttons or studs, the shoe or plate thickened at the edge by a wire or otherwise, as explained, and having the said thickened portion extended and coiled around the shank of the button, and bent inward and upward, substantially as described.

9. The plate or shoe thickened at its outer edge, and strengthened at the center by a wire surrounding the pillar or shank, substantially as described.

10. The coiled extension of the shoe or plate, flattened where it joins the plate or shoe to impart elasticity thereto, substantially as described.

11. A screw-wire or extension of the plate or shoe of a screw-fastening device, provided with an enlarged head at its inner end, substantially as described.

12. In a screw-fastening device attached to the pillar or shank of a button or stud, and provided with two free ends, a shoe or plate of the form shown, thickened both on the
5 outer curved edge and on the irregular chord of the arc, substantially as described.

13. A button or stud comprising the disk or plate, pillar or shank, shoe or plate thickened on the several edges and strengthened at
10 the center, and the extension of said shoe or

plate, coiled as explained, and flattened where it joins the plate, or shoe, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscrib- 15
ing witnesses.

JAMES W. MILLER.

Witnesses:

B. T. LEE,
JOHN MCCLURE.