C. E. BATES.

Buttons.

No. 211,882. Patented Feb. 4, 1879.

Fig. 1.

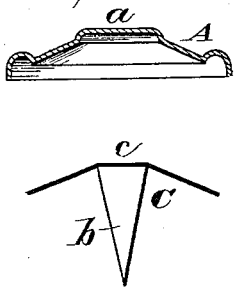


Fig. 2.

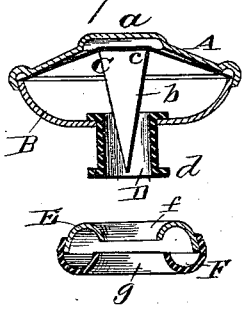


Fig. 4.

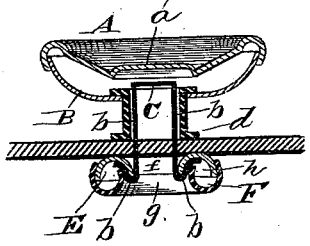


Fig. 3.

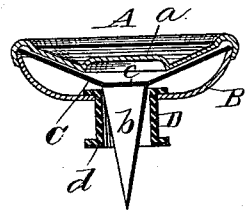
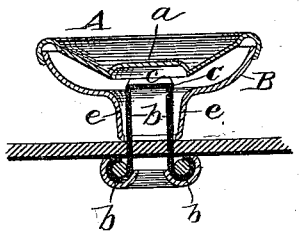


Fig. 5.



WITNESSES

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CHARLES E. BATES, OF WEST CHESHIRE, CONNECTICUT.

IMPROVEMENT IN BUTTONS.

Specification forming part of Letters Patent No. **211,882**, dated February 4, 1879; application filed December 10, 1878.

To all whom it may concern:

Be it known that I, CHARLES E. BATES, of West Cheshire, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Buttons; and I do hereby 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in buttons of that class wherein means for securing the button to the fabric are incorporated with and constitute a permanent portion of the article.

Heretofore many contrivances have been devised for securing buttons to fabrics without resorting to needle and thread. Buttons have been provided with metallic prongs, which latter are forced through the fabric and secured against displacement by various means; but in such cases the articles have been found defective, for the reason that the prongs project from the button, and by reason of such exposure become bent and distorted in packing and handling, and hence are not only tedious of application, but the fiber of the metal constituting the prongs becomes weakened by bending the prongs back and forth to straighten them, and hence they are liable to break when subjected to slight wear, and thus allow of the displacement of the button.

The object of my invention is to obviate the defects above noted; and to this end my invention consists, first, in a button composed of two shells, within which fastening-points are incased, the parts being constructed in such a manner that when pressure is applied to the button the inclosed prongs will be caused to project sufficiently therefrom to pass through the fabric to which the button is to be secured.

My invention further consists in the combination, with the shells of a button having suitable prongs inclosed therein, of two concavo-convex disks for clamping and securing the outer ends of the fastening-prongs.

In the accompanying drawings, Figure 1 is a detached view of the several parts of my improved button. Fig. 2 is a vertical section through the shells of the button, illustrating the same as in proper condition for supplying the trade. Fig. 3 is a vertical section of the shells of the button after the prongs have been forced outwardly therefrom. Fig. 4 is a vertical section of the button secured to a piece of fabric. Fig. 5 is a modification.

A represents the front, and B the rear, shell of a button. The central portion, *a*, of the front shell, A, is raised sufficiently to insure the desired space between the inner surfaces of the two shells, which latter are secured to each other at their outer edges in the ordinary manner.

C is a thin sheet-metal plate having any desired number of prongs *b* cut therefrom, said plate being bent or pressed into arch form, so that its central portion, *c*, will be in close proximity or rest against the raised portion *a* of the front shell, A. By this form and construction of parts the prongs *b* are retained wholly or in part between the shells A B.

The rear shell, B, may have an eyelet, D, secured thereto, the lower end being outwardly flared at *d* to rest upon the fabric without cutting the same. This eyelet, when secured to the shell, serves to support the button at any desired distance from the surface of the fabric, and also serves as a shield to protect the pointed ends of the prongs *b* from injury, so that the buttons may be packed and handled without danger of bending or breaking the attaching-prongs.

Instead of employing an eyelet for the purposes above stated, the rear shell, B, may have a cup-shaped shoulder, *e*, formed therewith, as illustrated in Fig. 5. In either form of device the prongs are retained within the shells, and thus protected from injury.

E and F are prong fastening disks, each being concavo-convex in form, and secured together at their edges with their concave surfaces facing each other. Each disk is provided with a central perforation, from which extend inwardly annular flanges *f* and *g*, the flange *g* being of greater diameter than the flange *f*, so that when the two disks are compressed and forced together the smaller flange, *f*, may project into the central perforation of the disk F, and the flange *g* be received within

the annular groove *h* in the opposite disk, E. When it is desired to secure one of my improved buttons to any piece of fabric or article of dress, the eyelet or cup-shaped shoulder of the button is placed upon the fabric and the outer or front shell, A, pressed against the rear shell, B, which operation transforms the outer shell into the form illustrated in Figs. 3 and 4, and forces the prongs *b* outwardly from their protecting-shield, the button-eyelet or depending shoulder, through the cloth or fabric. The ends of the prongs *b* pass through the central opening in the concavo-convex disk E, the convex surface of which is seated against the fabric, and are curved outwardly between the annular flanges *f* and *g* of the two disks E and F. The disk F is then forced toward the disk E, and thereby transformed into the shape illustrated in Fig. 4, which operation causes the flanges *f* and *g* to telescope. The flange *f*, being of the smallest diameter, enters the central opening in the disk F, while the flange *g* engages with the extreme ends of the prongs *b*, and forces them within the annular groove in the disk E, thereby forming a sharp return-bend in each prong, and securing the ends thereof in close contact between the edge of the flange *g* and the bottom of the annular groove in the disk E. Disks E and F, when secured in place, present smooth rounded surfaces, which will in no wise abrade or wear the fabric to which the button is secured, or catch and tear other articles of dress with which they may come in contact.

Instead of employing the concavo-convex disks E F for securing the ends of the prongs, I may use any of the forms of fastening set forth in my Patent No. 209,320, dated October 29, 1878, and still retain one of the essential and important features of this improvement—viz., the retaining of the prongs within the shells of the button until desired for actual use.

Instead of employing a prong-plate of the particular shape and construction herein shown and described, other forms may be resorted to without departing from the spirit of my invention—as, for instance, the prongs may be upheld within the two shells by means of a spring by paper fabric—as my improvement comprises any form of prong adapted to be forced outwardly from the button when one or both of the shells thereof are upset by pressure, and the space between the two decreased, as heretofore explained.

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

1. A button consisting of two shells having fastening prong or prongs inclosed within said shells, and adapted to be forced outwardly therefrom when desired for use, substantially as set forth.

2. A button consisting of two shells, in combination with a yielding plate upholding one or more prongs in close proximity to, or in direct contact with, the front or outer shell of the button, substantially as set forth.

3. The combination, with a button consisting of two shells having fastening prong or prongs inclosed within said shells, and adapted to be forced outwardly therefrom, of two concavo-convex disks for securing the ends of said prongs between their opposing surfaces, substantially as set forth.

4. The combination, with the outer shell of a button and attaching-prongs, of the rear shell provided with an eyelet or shoulder which serves as a shield to protect the points of the attaching-prongs, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 3d day of December, 1878.

CHAS. E. BATES.

Witnesses:
EUNICE B. CORNWALL,
EDWARD A. CORNWALL.