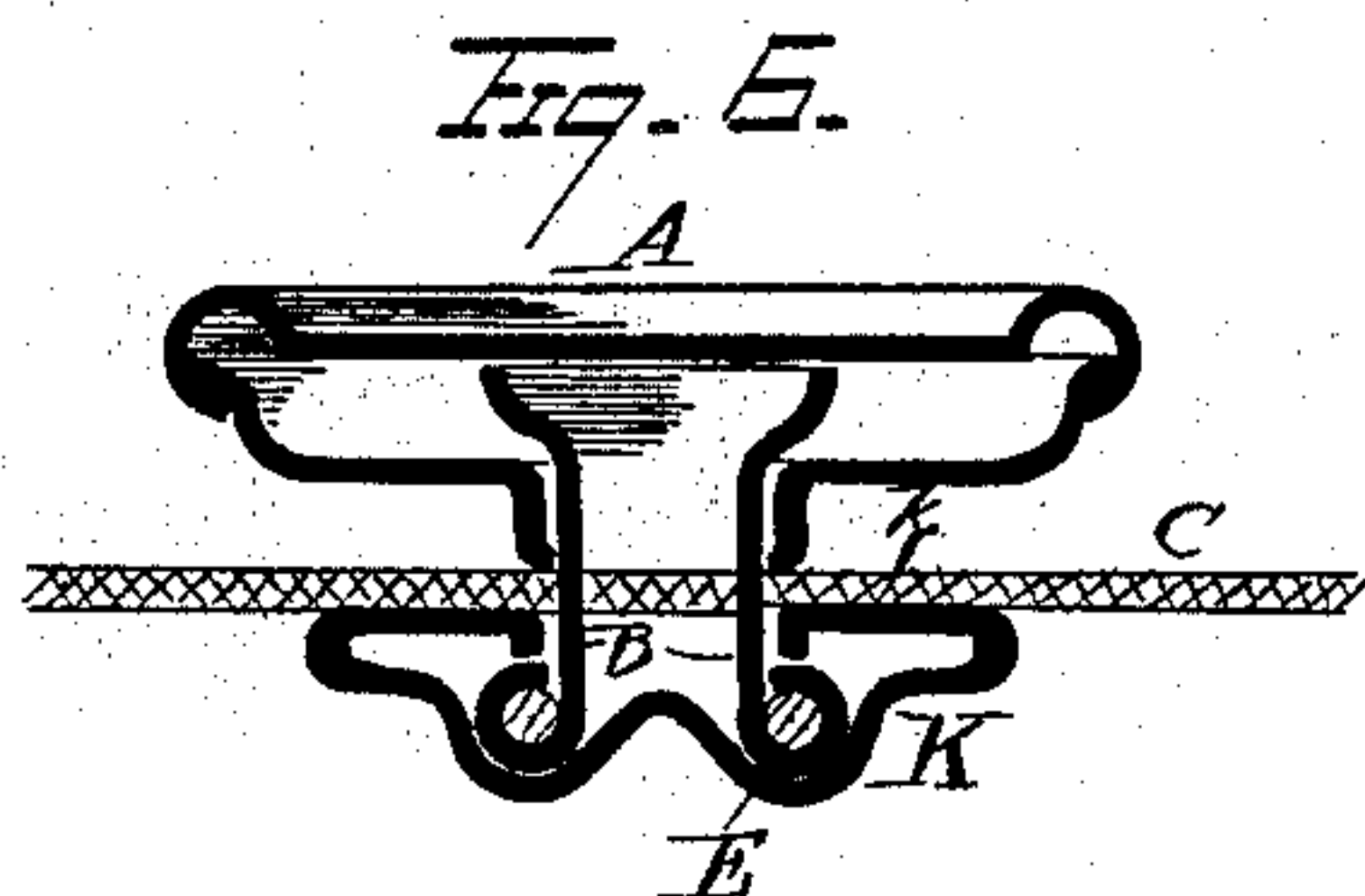
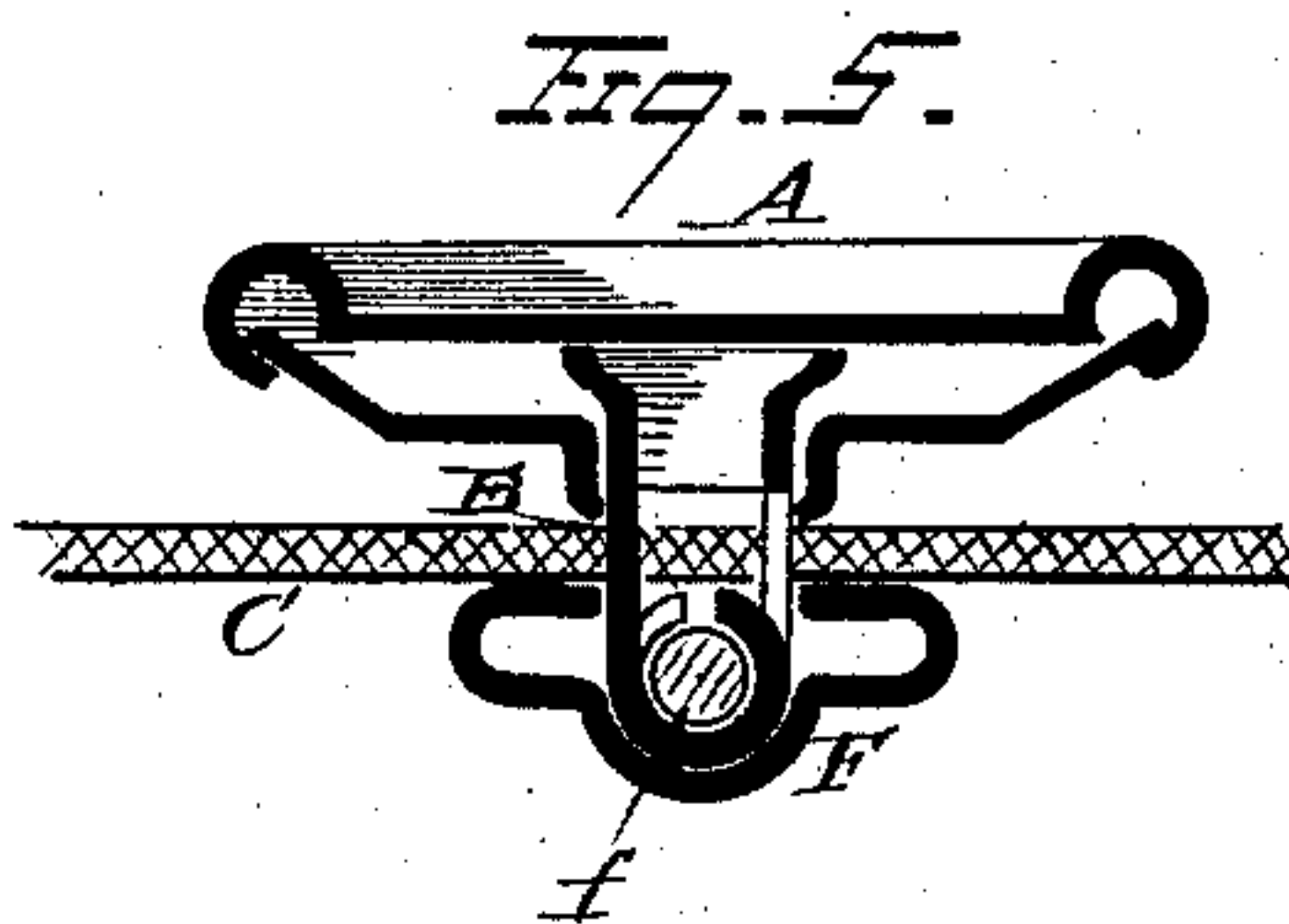
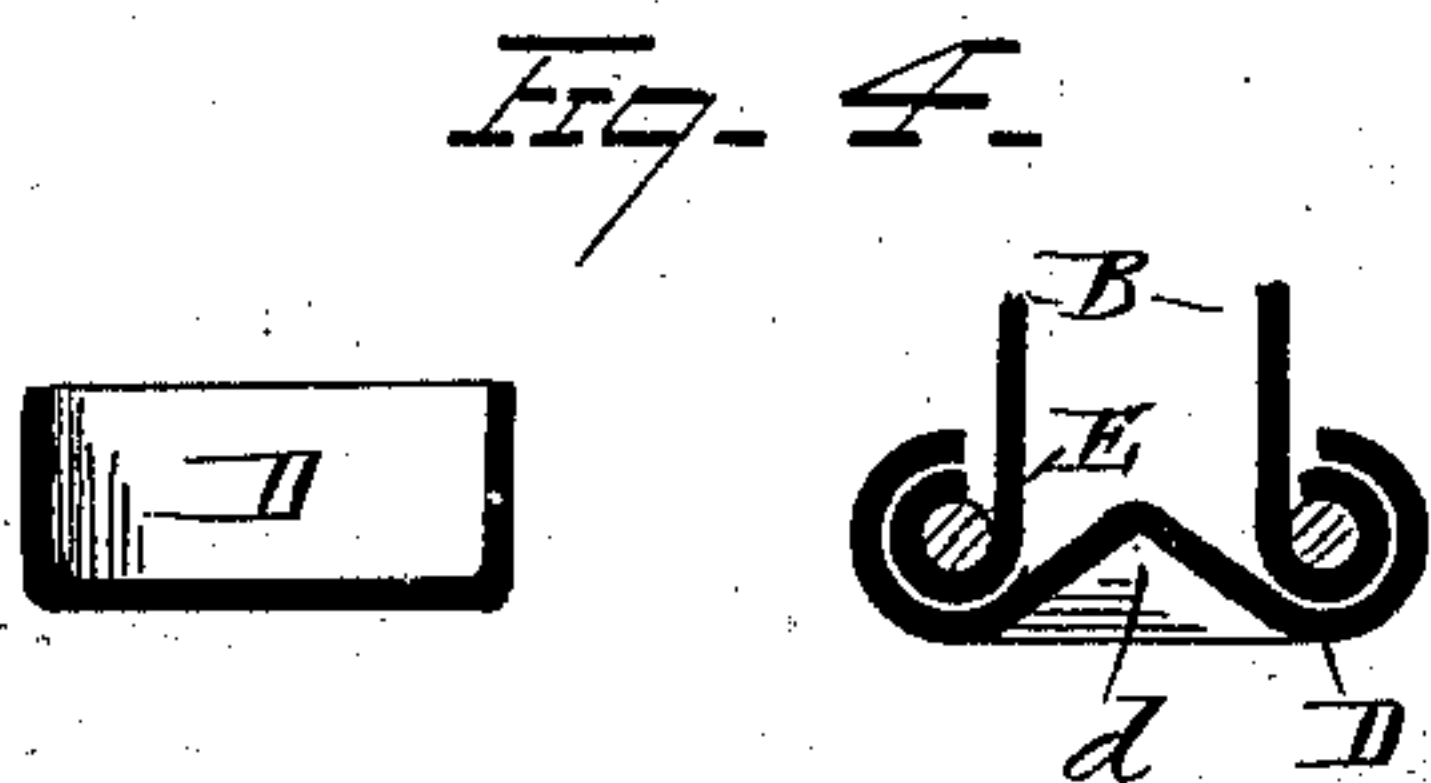
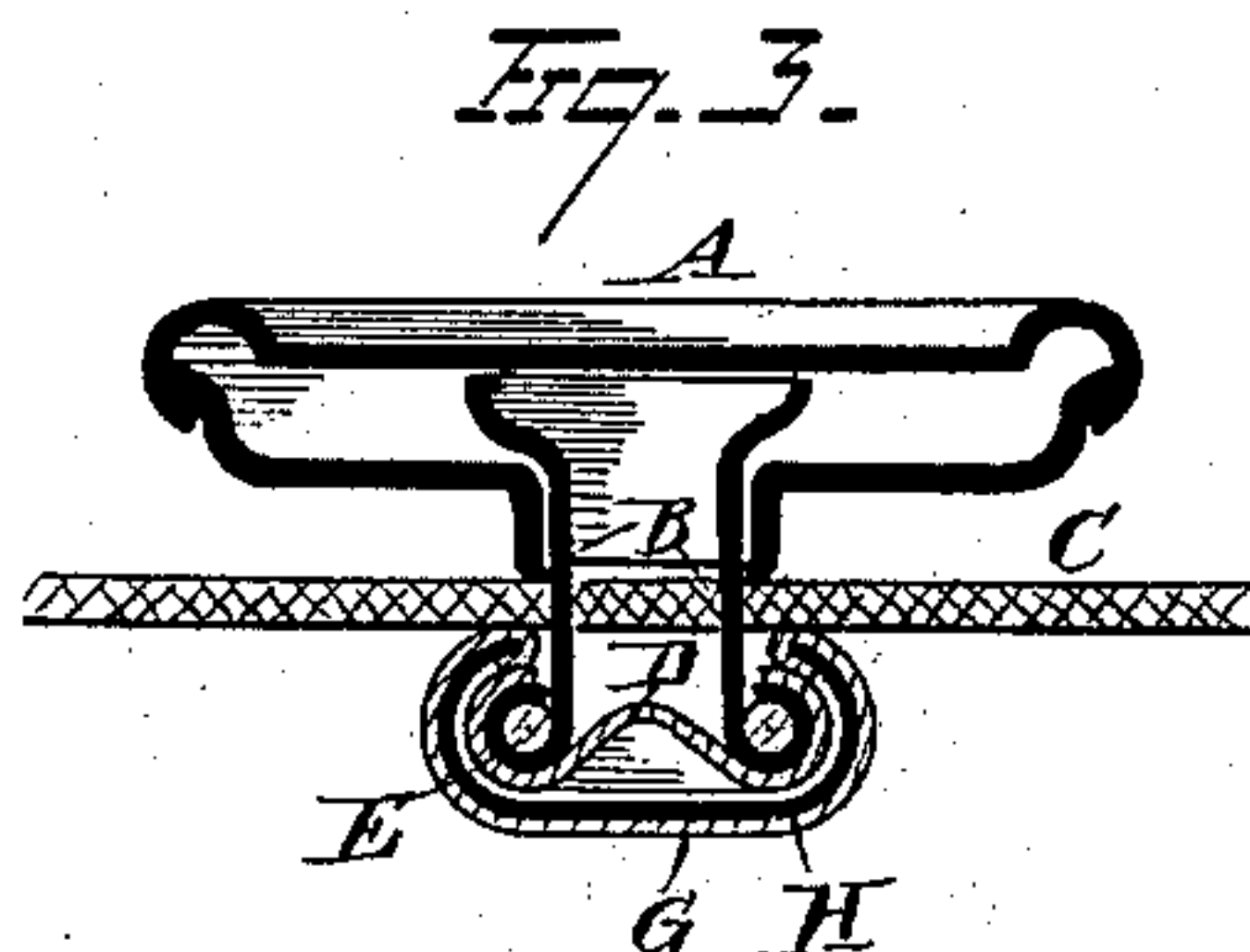
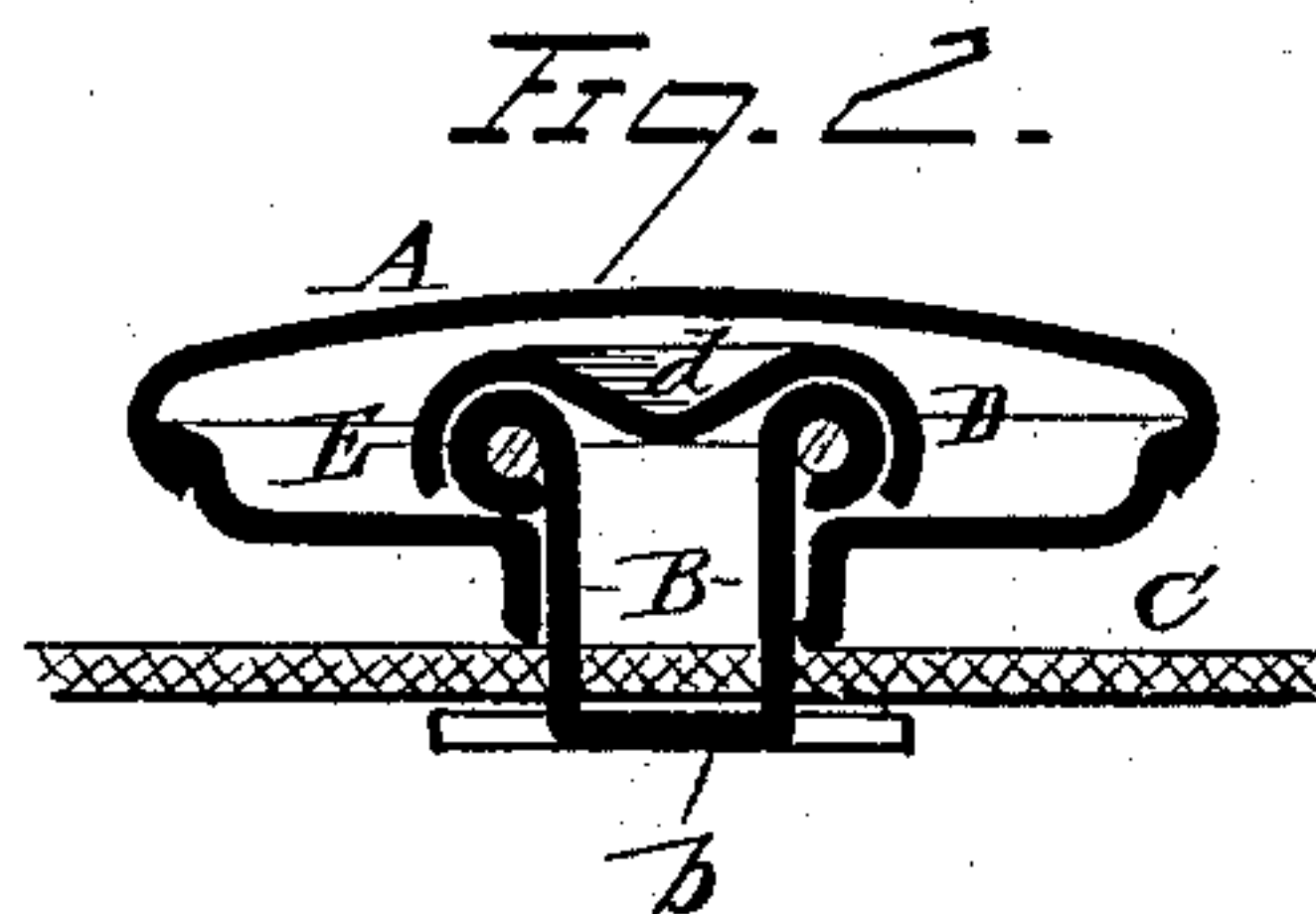
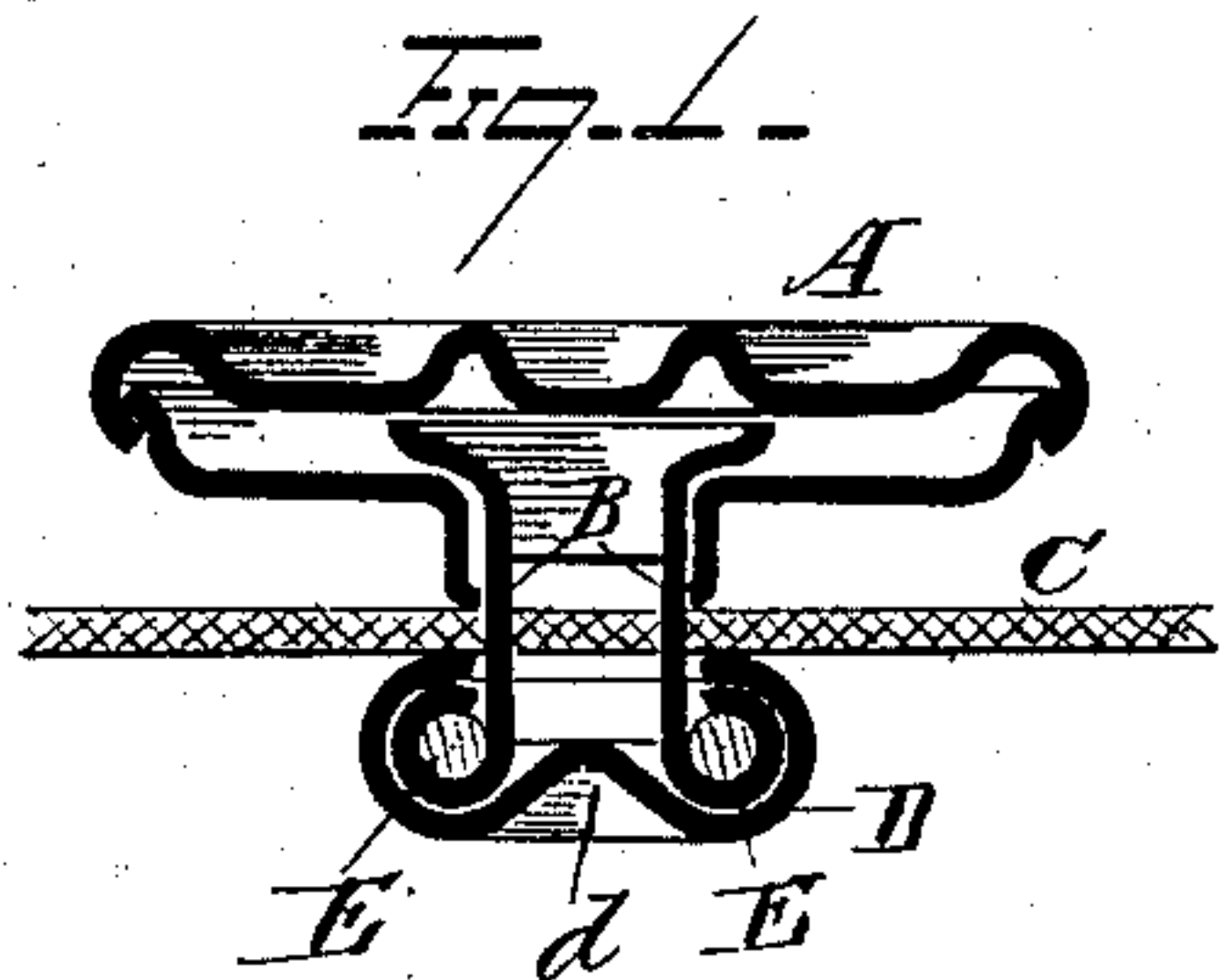


C. E. BATES.
Buttons.

No. 209,320.

Patented Oct. 29, 1878.



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UNITED STATES PATENT OFFICE.

CHARLES E. BATES, OF WEST CHESHIRE, CONNECTICUT.

IMPROVEMENT IN BUTTONS.

Specification forming part of Letters Patent No. **209,320**, dated October 29, 1878; application filed September 25, 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 buttons, and is designed to provide an improved construction of the same, whereby they may be firmly secured to a fabric by mechanical devices.

Heretofore the objections to buttons which are fastened by means of devices which pass through the fabric from the side opposite to the buttons and engage in connection therewith are, first, that said buttons are very thick, and if used as front buttons, or are otherwise exposed to view, they make an unsightly appearance; second, if the button-face is made of thin metal, the same is more or less defaced by the act of fastening the tubular rivet, eyelet, or other mechanical connection; third, it is very difficult to place said buttons accurately in position. On the other hand, buttons made with the fastening device secured to the button itself are either too expensive or incapable of being rapidly fastened to the fabric, in addition to which the common fault is that they are not adapted to fabrics of different thickness or to different thicknesses of the same fabric, and hence a button which is firm on a thick fabric would not be firm on a thin fabric.

My invention is intended to obviate these and other objections now prevalent as regards the class of buttons in question; and to this end it consists, first, in the combination, with a button provided with a grooved plate, which curves the free extremity of a fastening-prong by engagement therewith, of a device adapted to have said extremity coiled about it, and thereby secure the prong firmly in place; secondly, in the combination, with a button provided with a grooved plate formed independent of or as part of the same, and which curves the free extremity of a fastening-prong by engagement therewith, of a device inclosed by

said plate, and about which the prong extremity is adapted to coil; thirdly, in the combination, with a button provided with an annular grooved plate, which curves the free extremities of suitable fastening-prongs by engagement therewith, of a ring, about which said extremities are adapted to coil; fourthly, in the combination, with a button-fastening prong and a grooved plate which curves its free extremity by engagement therewith, of a ring or other device, about which said extremity passes, and which is adapted to clamp it between the same and said grooved plate; fifthly, of the grooved plate when placed against the fabric opposite to the side on which the button is placed, in combination with a flexible covering and an intermediate metallic disk, the latter having edges adapted to bind the edges of the covering between the same and the exterior upper side of said grooved plate.

This form of fastening causes the prongs to be clamped between the prong-securing device and the interior of the grooved plate, the same being so constructed and adapted that any and all strain tending to separate the button from the fabric serves in corresponding increased degree to tighten the engagement of said prongs between the prong-securing device and said grooved plate.

It will also be observed that this method of fastening may be according to either of two ways—that is, the prongs may be secured to the button, so that the free extremities of the same will connect in engagement with the grooved plate and its inclosed prong-securing device when the latter are located on the side of the fabric opposite to that on which the button is placed; or, on the other hand, the prongs may be secured to the button-fastening, and have their free extremities pass through the cloth into the back of the button, there to connect in engagement with the grooved plate and prong-securing device.

In instance of the latter manner of carrying out the invention, I prefer to use the fastening forming the subject-matter of Letters Patent No. 200,018, granted to me February 5, 1878, the prongs of which are well adapted to coil about the prong-securing device when inclosed within the button proper.

Buttons on shoes, gloves, and similar arti-

cles are fastened best in this latter way, while buttons on pantaloons and similar articles of apparel are fastened best by the other manner.

In the drawings, Figures 1 and 2 respectively represent, in sectional views, the two different forms of the invention, as above referred to. Fig. 3 represents the grooved plate as covered when it is placed against the fabric on the side opposite to that on which the button is secured. Fig. 4 illustrates one manner of forming the grooved plate into desired shape, with the prong-securing ring inclosed thereby. Fig. 5 is a modification of the invention wherein the grooved plate is made oblong in form and provided with a single straight rod as a securing device for both prongs. Fig. 6 is a modification of the grooved plate when the latter is located on the side of the fabric opposite to that on which the button proper is secured, the same being made with upper side extensions, adapted to provide greater surface-bearing for itself, and thus prevent any tendency of being drawn through the fabric or otherwise injuring the latter.

As shown in Fig. 1, the button A has the fastening-prongs B secured thereto by being formed in same piece or otherwise connected therewith, the free extremities of said prongs passing through the fabric C, and engaging, respectively, with opposite interior sides of the central convex portion, *d*, of the grooved plate D. This grooved plate may be of any suitable character adapted to cause said prong extremities, by engagement therewith, to curve outwardly and upwardly, so as to coil about the prong-securing device E. However, I preferably use for this purpose an annular grooved plate, formed substantially the same as represented in the different figures of the drawings, and which constitutes the subject-matter of Letters Patent 207,706, granted to me September 8, 1878.

The prong-securing device E is preferably in the form of a ring, as represented in the main views, and is inclosed within said annular groove of the plate.

The free extremities of the prongs, as they are curved by engagement with the latter plate, pass around said ring in coil form, and are thereby held between the same and the respective interior sides of the grooved plate. This not only causes them to connect with said ring in engaging embrace, but also serves to increase the degree of tightness with which they are clamped in position in corresponding proportion with any increase in the strain imposed upon the button.

As represented in Fig. 2, the prongs B are in same piece with the fastening *b*, which is placed on the opposite side of the fabric C from that on which the button is placed. The grooved plate D is loosely held within the body of the button A, and the prong-securing ring E is inclosed within it. In this instance the free extremities of the prongs, after passage through the fabric, engage with opposite sides, respectively, of the central convex por-

tion, *d*, of said plate, and are curved outwardly and downwardly, so as to embrace the ring in coil form. The clamped engagement of the prong extremities is the same in this case as in the former, as is apparent.

In the modification represented in Fig. 5 of the drawings, the same general principle obtains; but, instead of an annular grooved plate, an oblong plate, F, is substituted, the same being formed as shown and provided with a single straight rod or bar, *f*.

Other modified forms of construction may be used, as it is evident that the scope of the invention is broad, and includes any form of plate capable of curving the free extremities of the fastening-prongs, in combination with a prong-securing device adapted to be embraced by said extremities in coil form.

Fig. 3 of the drawings represents the grooved plate D when placed against the fabric opposite to the side on which the button is placed, and provided with a flexible covering, G, made of cloth or other suitable material.

A metallic disk, H, is placed intermediately between the covering and plate, said disk being formed with edges adapted to bind the edges of the covering between the same and the exterior upper side of the plate.

Fig. 4 represents one manner of forming the grooved plate, the same being first "struck up," the ring inserted, and finally stamped or pressed into grooved form with the concavo-convex central body. Other ways of forming this plate and inclosing the ring therein may be substituted for the above.

Fig. 6 illustrates a modification of the button-fastening K, wherein bearing-extensions *k* are formed on opposite sides of its central body and in the upper part thereof, the same being adapted to provide greater surface-bearing for said fastening as the latter comes in contact with the fabric. In this way any tendency of said fastening to draw through the cloth, or otherwise injure the same, or loosen the firm hold of the button upon the fabric, is obviated.

It will be understood that any number of fastening-prongs (one or more) may be used, instead of two, as represented in the drawings; also, that when the grooved plate is connected with the button proper it may be made either independent of or in same piece with the button-shell.

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

1. The combination, with a button, of a button-fastening, one of said parts being provided with suitable prongs, while the other is provided with a curved plate and a retaining-ring, or one or more bars supported on said curved plate, whereby the parts may be firmly secured together by forcing the ends of the prongs against the curved plate, which latter operates to coil the prongs around or partly around the ring or bar, substantially as set forth.

2. The combination, with a button or button-fastening, provided with an annular grooved plate which curves the free extremities of suitable fastening-prongs by engagement therewith, of a ring supported by said grooved plate, and about which said extremities are adapted to coil, substantially as set forth.

3. The combination, with a button, of a button-fastening, one of said parts provided with one or more fastening-prongs, while the other part is provided with an annular grooved plate and a ring supported thereby, said ring adapted to have sufficient play to allow the fastening-prongs to be curved around or partly around the same, and thus enable the prongs to be clamped between the ring and inner surface of the grooved plate, substantially as set forth.

4. In a button, the combination, with the grooved plate placed against the fabric on the side opposite to the button proper, of a flexible covering and an intermediate metallic disk, the latter being formed with edges adapted to bind the edges of the covering between the same and the exterior upper side of the plate, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 20th day of September, 1878.

CHAS. E. BATES. [L. S.]

Witnesses:

EDWARD A. CORNWALL,
EUNICE B. CORNWALL.