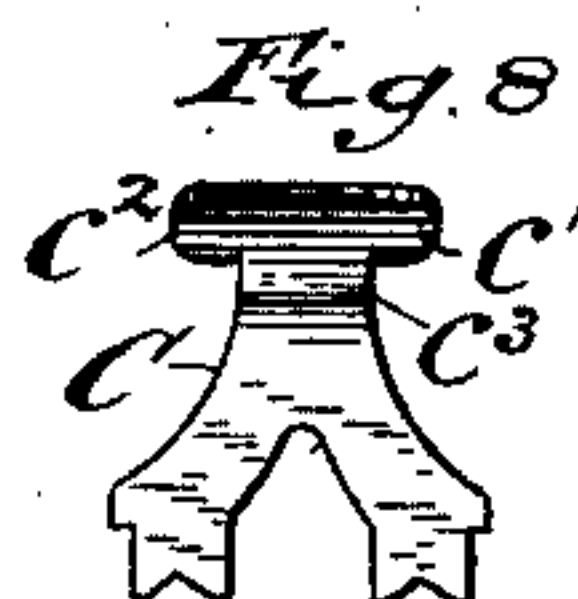
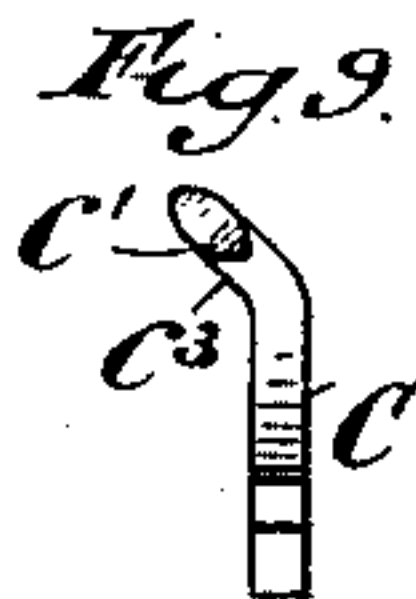
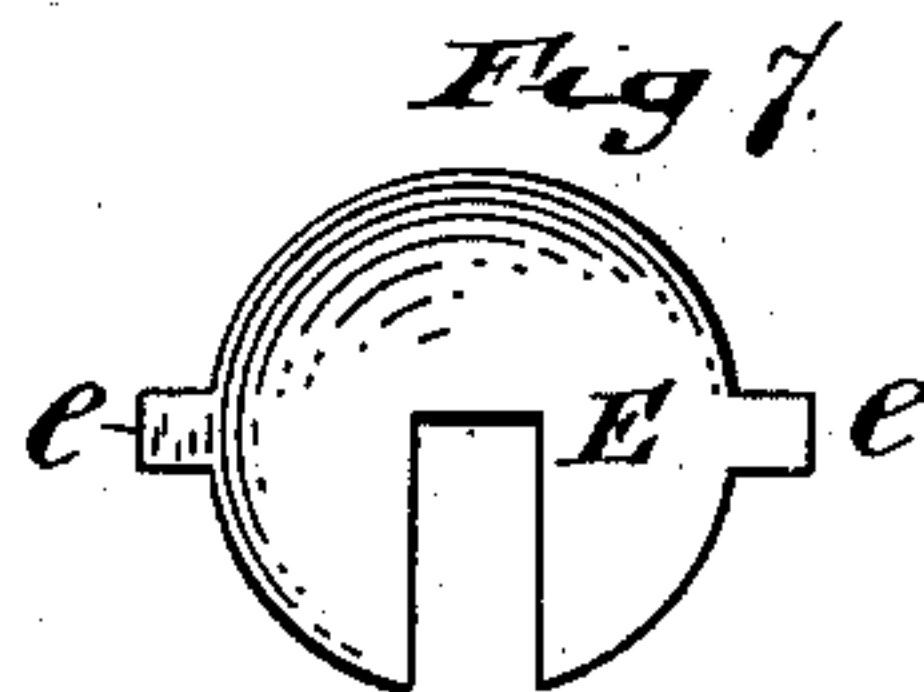
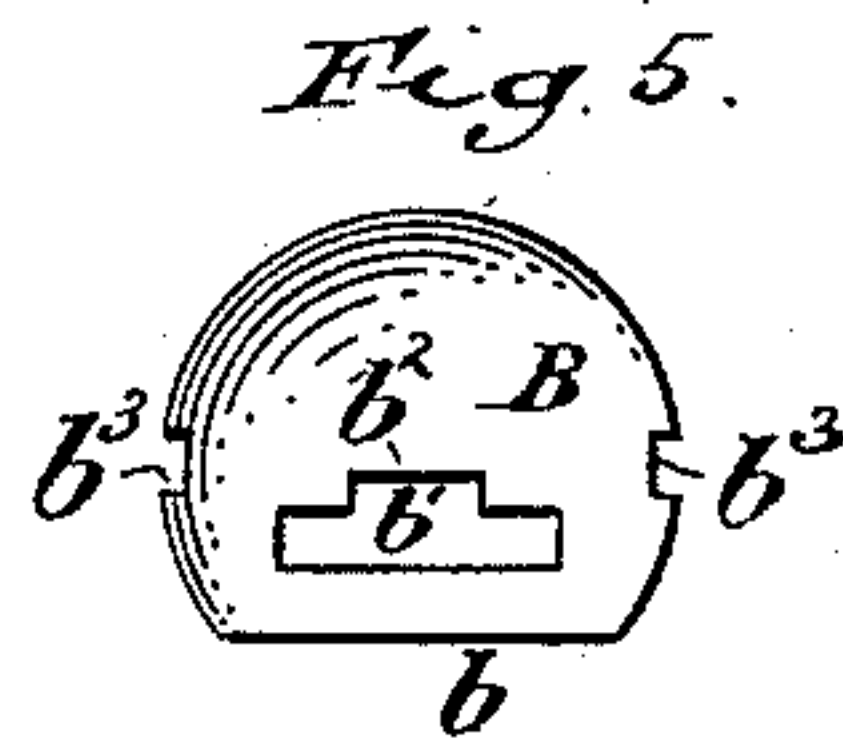
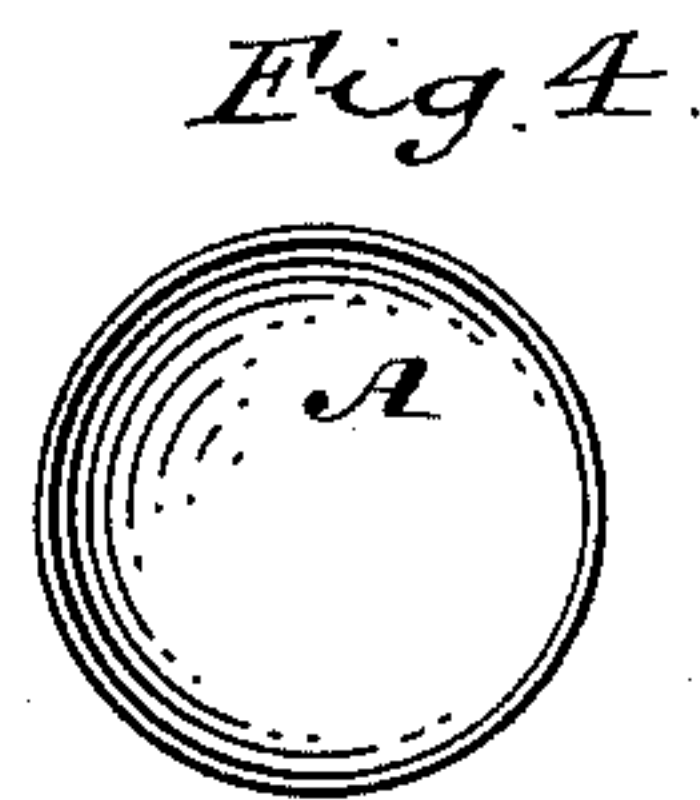
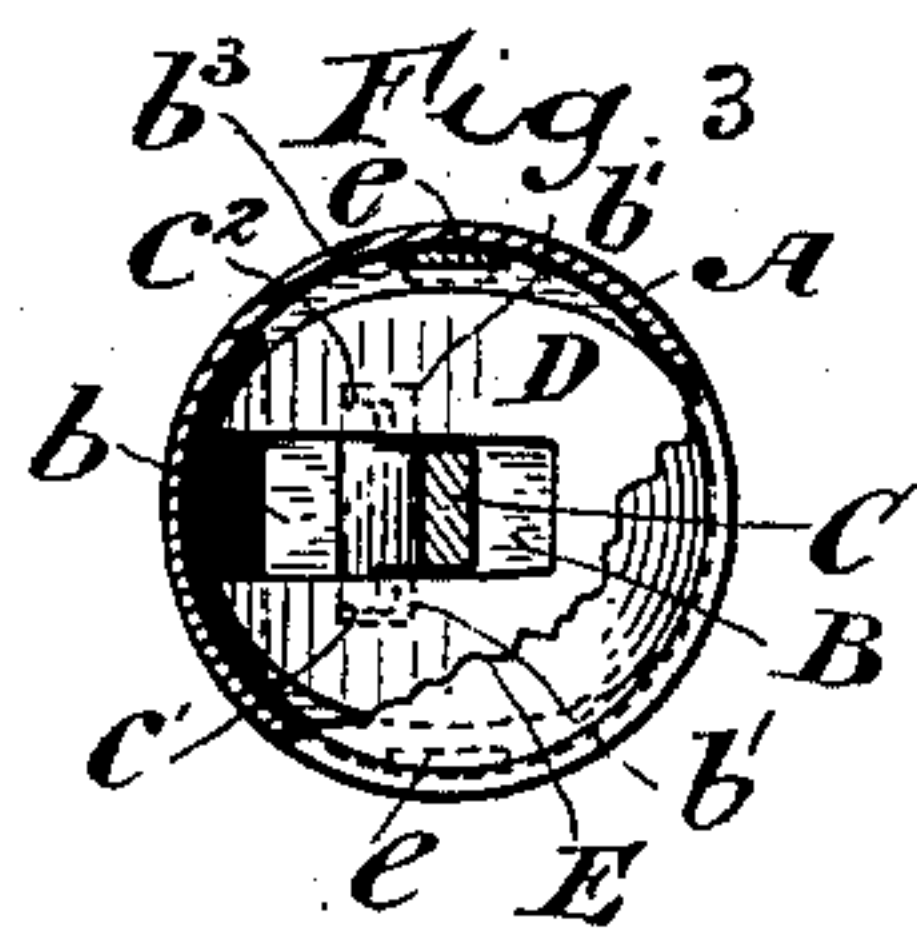
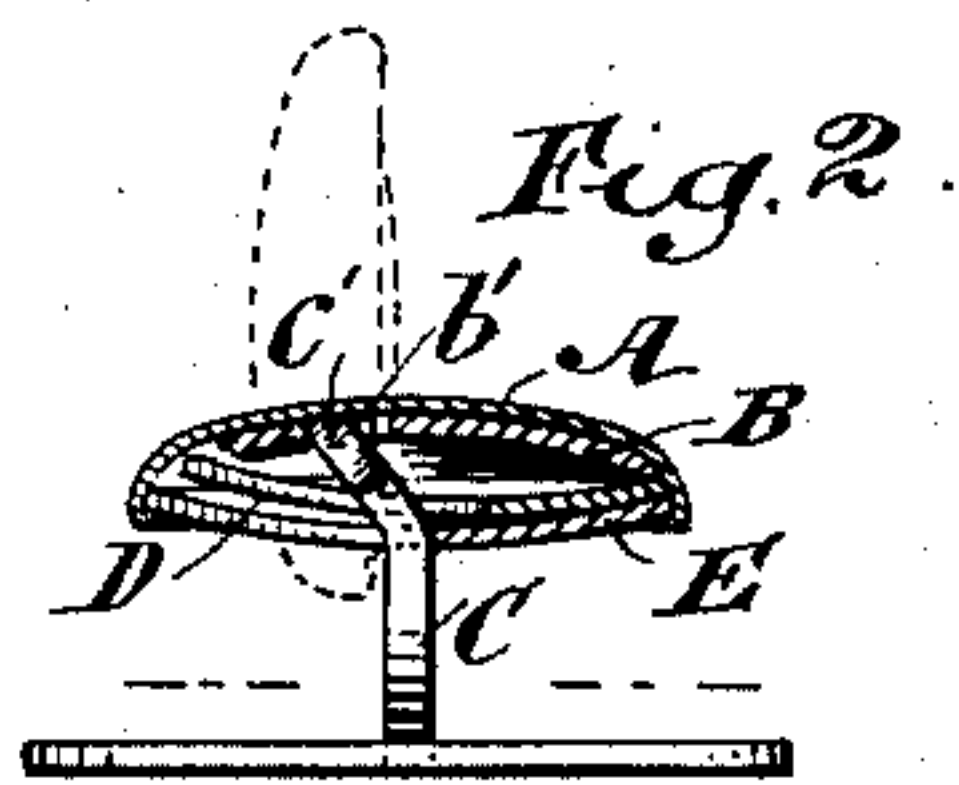
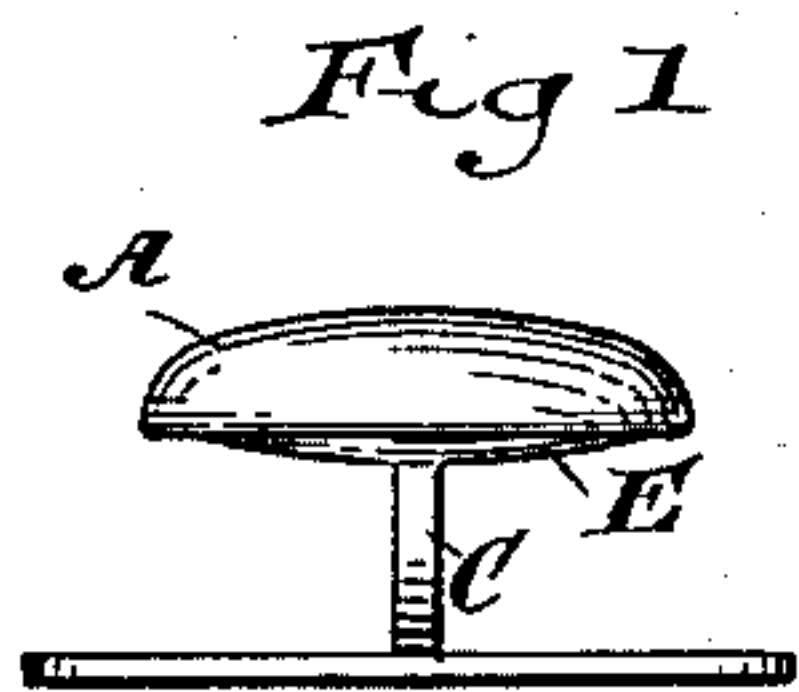


(No Model.)

B. LYON.
BUTTON OR STUD.

No. 374,366.

Patented Dec. 6, 1887.



Witnesses
Jennie Greer
H. L. Bruman

Inventor
Baxter Lyon
by his attorneys
Gifford & Brown

UNITED STATES PATENT OFFICE.

BAXTER LYON, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO HIRAM HOWARD AND STEPHEN C. HOWARD, OF SAME PLACE.

BUTTON OR STUD.

SPECIFICATION forming part of Letters Patent No. 374,366, dated December 6, 1887.

Application filed May 12, 1887. Serial No. 237,923. (No model.)

To all whom it may concern:

Be it known that I, BAXTER LYON, of Providence, in the county of Providence and State of Rhode Island, have invented a certain new and
5 useful Improvement in Buttons or Studs, of which the following is a specification.

My improvement relates to buttons or studs of the kind which are provided with swinging shoes.

10 I will describe a button embodying my improvement, and then point out the various novel features in the claims.

In the accompanying drawings, Figure 1 is a side view of a button embodying my improvement. Fig. 2 is a similar view, except that in
15 this view the shoe is shown in transverse section. Fig. 3 is a view of the shoe of the button, with the front or upper plate broken away, so as to exhibit a spring and a plate provided with bearings for the pivots of the post or shank of the button contained in the shoe. In this view the post is also shown in transverse section. Fig. 4 is a face view of the back or under plate of the shoe. Fig. 5 is a face
20 view of a bearing-plate which is arranged within the shoe adjacent to the back or under plate. Fig. 6 is a face view of a spring-plate which is arranged above the bearing-plate. Fig. 7 is a face view of the front or upper plate. Fig. 8 is a side view of the post or shank of the button. Fig. 9 is an edge view of the post or shank. All these views are made on an enlarged scale.

35 A designates the back or under plate of the shoe. It is of concavo-convex form.

B designates a plate which I term a "bearing-plate," because it is provided with a bearing for the end of the post or shank C and the lateral extensions thereof. This bearing-plate
40 is of concavo-convex form. It occupies a position just inside of the back or under plate, A, its convex surface being adjacent to the concave surface of the back or under plate, A. This bearing-plate is shown as having a straight portion, b , so that it is not a true circle. It has also in it a slot, b' , that extends parallel with the straight portion just mentioned, as here shown. This slot b' is parallel-sided, but is shown as having an offset, b^2 , at one side.

50 The post C, at the end which is connected to the shoe, is bent off at an angle—in the present

instance at an angle of about forty-five degrees—and at its extremity is provided with lateral extensions $c' c^2$, forming therewith a rocker. The rocker fits into the slot b' of the bearing-plate, and is free to rock therein while impinging against the concave side of the back or under plate. The portion c^3 of the post adjacent to the lateral extensions $c' c^2$ can fit in the offset b^2 of the slot b' when the shoe is rocked into one of its extreme positions. It will be observed that the lateral extensions $c' c^2$ and end of the post are not rounded, but are tapered nearly to an edge at that part which impinges against the back or under plate.

65 D designates a spring-plate which is approximately flat, and which is slotted from one side nearly to the other, so as to form two arms and a connecting portion. This plate occupies a position adjacent to the bearing-plate, and its arms extend over the lateral extensions $c' c^2$, holding them and the end of the post in the slot of the bearing-plate. Owing to the peculiar shape of the lateral extensions $c' c^2$, to which I have called attention, the arms of this spring-plate will be deflected whenever the shoe is rocked, and the resistance which the spring offers to being deflected will serve to hold the shoe in either of its positions, except when it shall be purposely shifted.

80 E designates the front or upper plate of the shoe. It is circular in form and slotted from about the center to the edge at one side, so as to receive the post or shank. It is provided with lugs e , which extend in line at about right angles to the slot. This plate is concavo-convex, but its concave side is opposite the spring-plate D, and consequently opposite the concave side of the back or under plate, A. The lugs e are bent so as to extend across the edges of the arms of the spring-plate and engage with notches b^3 , with which the bearing-plate is provided. When all the parts are fitted together, the edges of the back or under plate are turned over, so as to lap upon the edge portion of the front or upper plate, whereupon all the parts will be secured to form the shoe and to secure the shoe to the post or shank.

95 The various parts of the shoe may be made of any desirable metal or metals. The post may be made of any suitable metal and of any desirable shape, except as to the features which
100

relate to my present invention, and these I have already pointed out.

The post may be secured to any suitable head or front piece to complete the button.

5 My button is cheap and very superior in construction and operation. Its shoe is of double convex form. A very short post may be used, because when the shoe is swung it moves upon the rocker formed at the end of the post with a
10 bodily movement. This bodily movement is such that when the shoe is swung parallel with the post the edge of the shoe is farther away from the head than it otherwise would be, and yet is quite as close to the head as is desirable
15 when moved into a position parallel with the head. The slot in the bearing-plate, having the offset which permits of the swinging of the main part of the post into the bearing-plate, renders it possible to make the post shorter
20 than it could otherwise be made. The peculiar construction of this slot in the bearing-plate, in connection with the approximately flat pivots, may serve to limit the adjustment of the shoe beyond either of the positions which
25 it is desired to be capable of assuming.

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

30 1. In a button or stud, the combination, with a shoe having a concavo-convex back or under plate and a front or upper plate secured thereto, a concavo-convex bearing-plate conforming to and lying against the inner surface of the back or under plate and provided with

a narrow slot, and a spring-plate having an opening through it between said bearing-plate 35 and the front or upper plate, of a post provided at the end with a rocker comprising lateral extensions and having an approximately sharp edge which extends through the slot in the bearing-plate and impinges against the inner 40 side of the back or under plate, the lateral extensions bearing against the spring-plate, substantially as specified.

2. In a button or stud, the combination, with a shoe having a concavo-convex back or under 45 plate and a front or upper plate secured thereto, a concavo-convex bearing-plate conforming to and lying against the inner surface of the back or under plate and provided with a narrow slot off the center of the shoe, having 50 an offset portion extending from one side, and a spring-plate having an opening through it between said bearing-plate and the front or upper plate, of a post provided at the end with a rocker comprising lateral extensions and 55 having an approximately sharp edge which extends through the slot in the bearing-plate and impinges against the inner side of the back or under plate, the lateral extensions bearing against the spring-plate, substantially as specified. 60

BAXTER LYON.

Witnesses:

EDWIN H. BROWN,
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