

(No Model.)

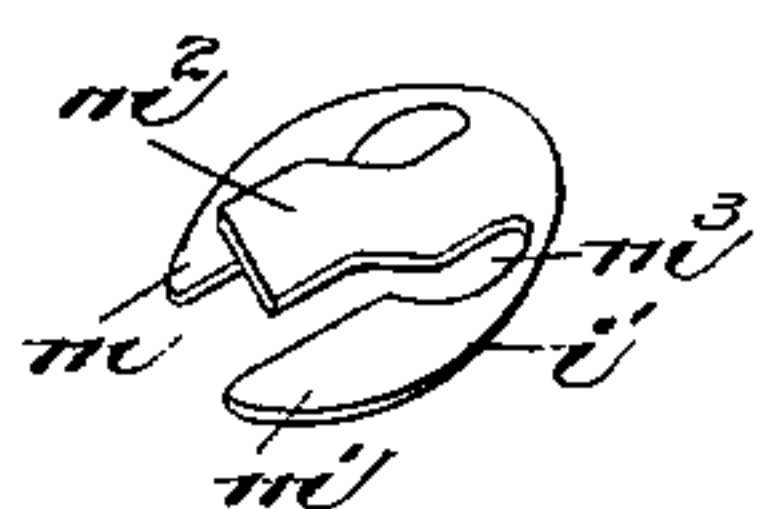
W. F. WHITING.

BUTTON OR STUD.

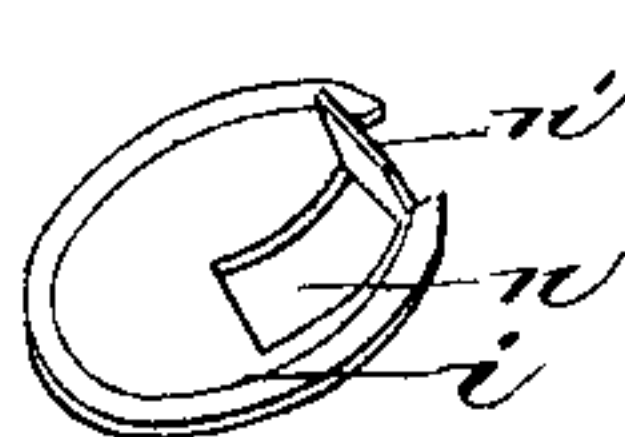
No. 386,762.

Patented July 24, 1888.

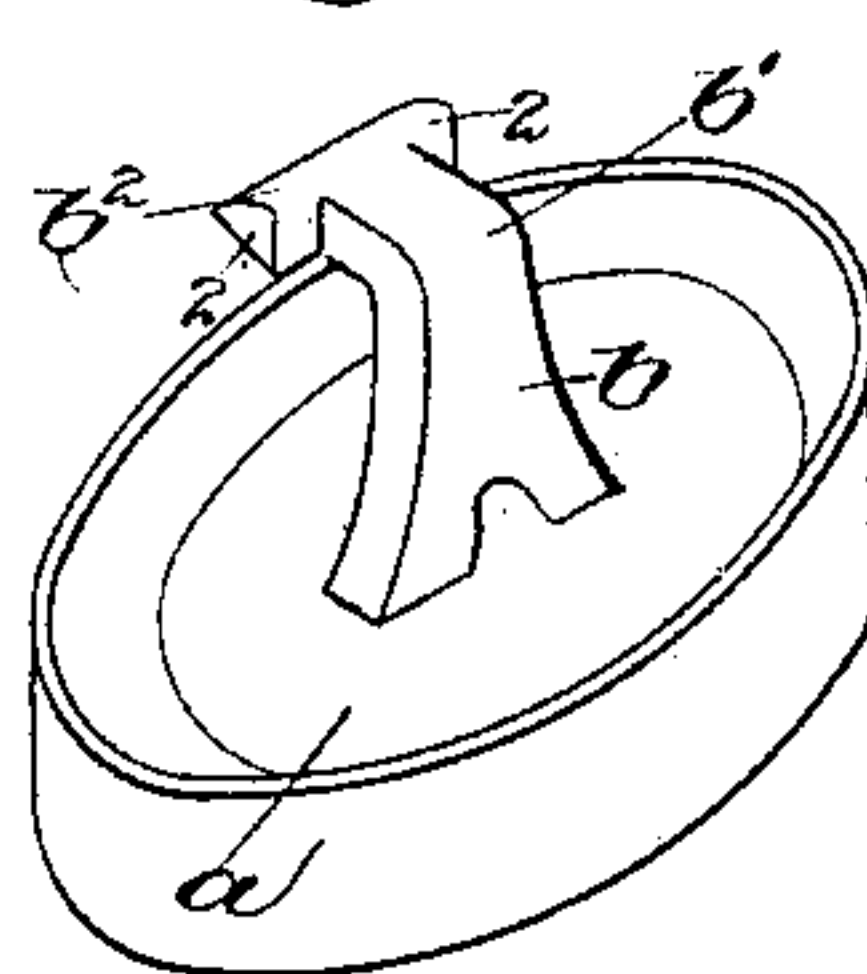
*Fig:1*



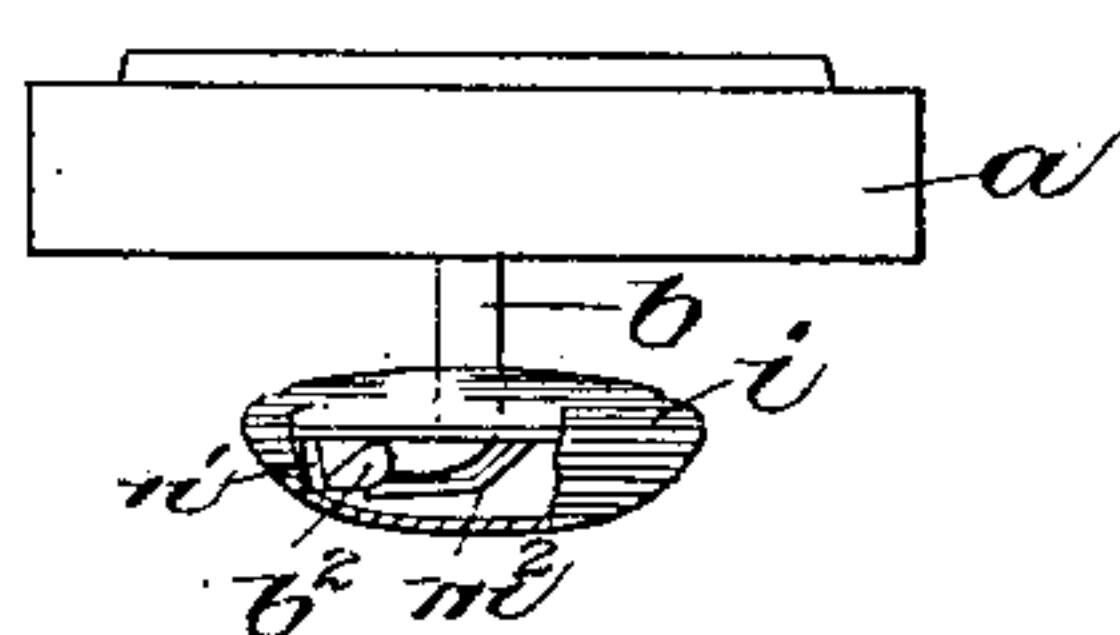
*Fig:2*



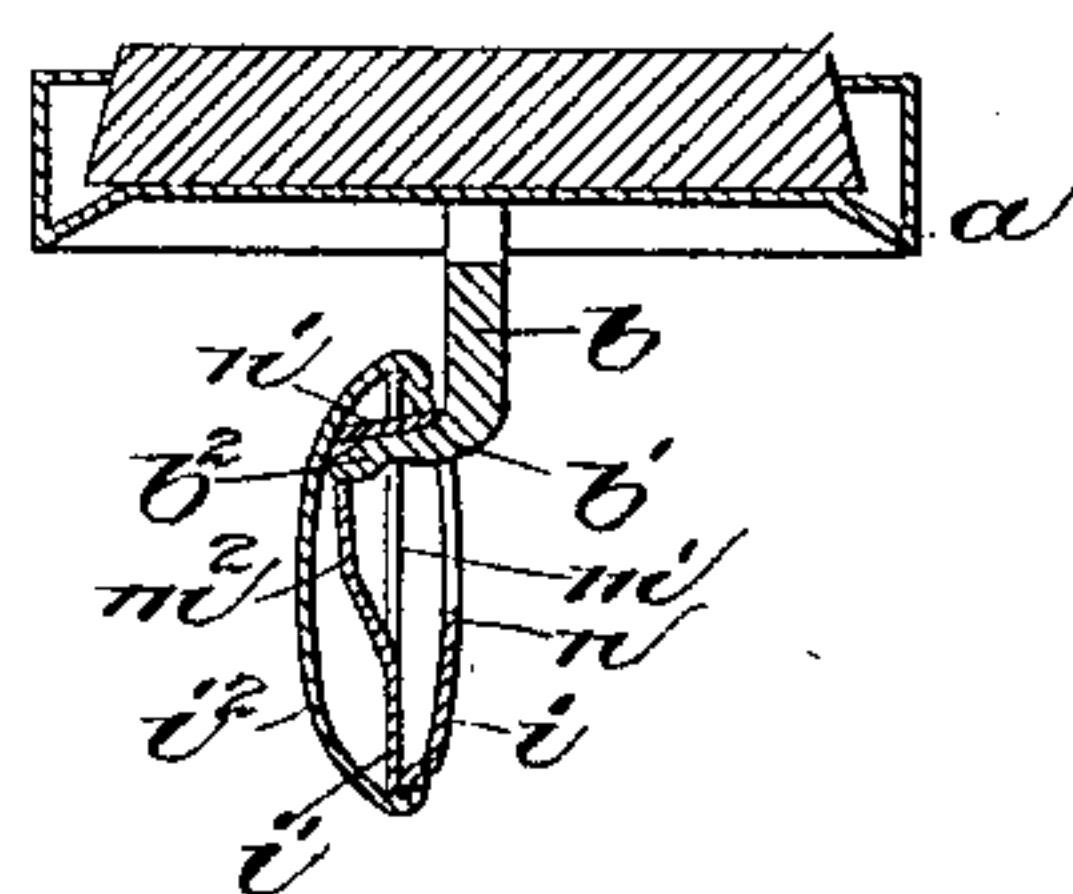
*Fig:3*



*Fig:5*



*Fig:4*



Witnesses.  
Fred. S. Chaul af.  
Frederick E. Emery

Inventor.  
William F. Whiting.  
by Leroy & Gregory.  
Attys.

# UNITED STATES PATENT OFFICE.

WILLIAM F. WHITING, OF NORWOOD, ASSIGNOR TO HIRAM HOWARD AND  
STEPHEN C. HOWARD, OF PROVIDENCE, RHODE ISLAND.

## BUTTON OR STUD.

SPECIFICATION forming part of Letters Patent No. 386,762, dated July 24, 1888.

Application filed January 24, 1888. Serial No. 261,723. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM F. WHITING, of Norwood, county of Kent, State of Rhode Island, have invented an Improvement in Buttons and Studs, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to improve the construction of that class of buttons or studs having a pivoted shoe, whereby a very short post may be used, and yet when the shoe is turned in line with the post afford sufficient length of post and shoe to reach through the cuff and permit the shoe to be turned on the post.

In accordance with this invention the head of the button or stud is fixed or attached to a post, the outer end of which is bent outwardly and provided with ears to constitute a rocker. The shoe is herein shown as composed of three parts—an under plate, an inner spring-plate, and an inclosing cap to hold the under plate and spring-plate together on the rocker of the post. The under plate of the shoe has a slot extending from at or near its center toward one edge, in which slot the bent portion of the post works, and also has a projection or stop near one edge as at the termination of the said slot for the rocker. The spring-plate forming part of the shoe is shaped to present two spring arms or portions upon which the ears of the rocker act, and has also a stop or projection for the rocker. The stops of both the under plate and spring-plate co-operate with the rocker to prevent the shoe sliding upon the post, and the stop of the spring-plate, yielding similar to the spring-arms of the spring-plate, gives a spring-like or quick action to the shoe in moving it from one to its other position. The inclosing cap of the shoe is made concavo-convex to receive and hold assembled the spring-plate and under plate, together with the rocker of the post, the edges of said cap being turned over the edge of the under plate, and when the parts are thus assembled the cap so confines the stops and rocker as to cause the ears of the rocker to act on the spring-arms of the spring-plate and co-operate with the stops.

Figures 1 and 2 show in perspective, respectively, the spring-plate and the under plate

of the shoe. Fig. 3 shows in perspective the bent post to which the head of the button or stud is to be attached in usual or suitable manner; Fig. 4, a vertical section of the button or stud, showing the shoe as turned in line with the post; and Fig. 5 shows in elevation the button or stud embodying this invention, the shoe being broken away to show the position of the parts within it when the shoe is at right angles to the shank.

The button-head *a* is attached, in usual or suitable manner, to a short post, *b*, which has its end bent laterally, as at *b'*, to form a rocker, *b<sup>2</sup>*, having laterally-extended ears 2, said rocker being shaped to present one inclined side or face.

The shoe *c* is herein shown as composed of three parts—viz., an under plate, *i*, a spring-plate, *i'*, and a cap, *i<sup>2</sup>*. The under plate, *i*, (see Fig. 2,) has a slot, *n*, extending from at or near its center toward one edge, and terminating as near the edge as possible, and an inwardly turned stop or projection, *n'*, is secured to or formed as an integral part of said plate. The spring-plate *i'* comprises two spring-arms, *m m'*, and a stop made as a yielding tongue, *m<sup>2</sup>*, all struck, preferably, from a single flat piece of metal, the stop or tongue *m<sup>3</sup>* being thereafter bent upward, as shown in Fig. 1.

To give to the spring-arms greater elasticity, the material is cut away, as at *m<sup>3</sup>*, as near as practicable to the edge of the plate. The cap *i<sup>2</sup>* is made concavo-convex to receive the spring-plate *i'*, rocker *b<sup>2</sup>*, and under plate, *i*. The spring-plate *i'* is so placed in the cap that the stop *m<sup>2</sup>* rests adjacent to the inner side thereof. The rocker *b<sup>2</sup>* is placed between the spring-plate *i'* and the cap, so that the ears 2 of the rocker receive on or against them the spring-arms *m m'*, while the stop *m<sup>2</sup>* bears directly upon the inclined side or face of the rocker, the arms *m m'* being thereby held firmly in position. The under plate, *i*, is placed against the spring-plate *i'* in such position that the stop *n'* extends inwardly and bears against the interior of the cap *i<sup>2</sup>*, as best shown in Fig. 4, terminating adjacent to the stop *m<sup>3</sup>*, only sufficient space being left between the said stops for the end of the rocker. The parts thus assembled are held by turning the edge of the cap *i<sup>2</sup>* over the edge of the under plate,



i. With the parts assembled, as shown and described, it will be seen that the bent portion of the post is free to work in the slot  $n$  of the under plate, while its ears act upon the spring-arms  $m m'$  of the spring-plate.

The stops  $n' m^2$ , located, as described, adjacent to the interior of the cap  $i^2$ , and receiving between them the rocker  $b^2$ , serve as limiting-stops for the rocker in either position of the shoe, preventing the said shoe from sliding upon the post, and by placing the stops near one edge of the shoe and bending the post backward to form the rocker it is possible to use a shorter post and yet have sufficient length in the combined post and shoe, when in the position Fig. 4, to pass through any usual cuff or collar and band and then be turned. The shorter the post the more desirable the button.

The width of the rocker  $b^2$  taken transversely is much greater than its thickness, and is arranged, when in its two extreme positions, to lie upon or against the spring-arms without moving them out of their normal position; but during the movement of the shoe from one to its other position the said rocker acts upon and moves the spring-arms.

The rocker  $b^2$  is nearly triangular in cross-section, although one of its longer sides is somewhat curved. The stop  $m^2$ , being made yielding and bearing upon the said curved inclined side of the rocker, will be moved slightly as the rocker is turned, bearing upon said rocker substantially at its end when the shoe is in line with the post, as in Fig. 4, and bearing upon said rocker some distance from its edge when the shoe is in its other position, thus giving to the shoe a spring-like or quick action during its movement from one to its other position in either direction. By this construction it will be seen that a very thin shoe is obtained, which, when turned in line with the post, leaves ample space to accommodate the material or linen, and when turned at right angles to the post, or parallel to the head of the shoe, is truly centered, and all with the employment of a very short post.

I claim—

1. In a button or stud, the post having the rocker  $b^2$ , combined with the shoe having within it one or more spring-arms, with which the rocker co operates, and two yielding limiting-stops placed adjacent to but independent of each other, against one or the other of which the said rocker  $b^2$  bears when the shoe is in its respective extreme positions, substantially as described.

2. In a button or stud, the post having the rocker  $b^2$ , combined with the shoe composed of the slotted under plate having the stop  $n'$ , the spring-armed plate having the stop  $m^2$ , and the cap  $i^2$ , substantially as described.

3. The post bent laterally at its outer end and having the rocker  $b^2$ , combined with the shoe composed of a cap,  $i^2$ , a spring-plate,  $i'$ , and an under plate,  $i$ , the said under plate having a limiting-stop, as  $n'$ , near one edge thereof, to operate substantially as described.

4. The bent post having the rocker  $b^2$ , combined with the shoe composed of the under plate,  $i$ , having the stop  $n'$ , the plate  $i'$ , having the spring-arms  $m m'$  and the tongue or stop  $m^2$ , the rocker  $b^2$ , working between the said arms  $m m'$  and the tongue when the shoe is in one position, and bearing on said arms and against the end of said tongue when in another position, substantially as described.

5. The bent post having the rocker, and the shoe comprising the cap  $i^2$  and two spring-arms, the said rocker being placed between the said cap and spring-arms, and when moved pressing said spring-arms out of their normal position, combined with two limiting-stops placed adjacent to each other, and also adjacent to the cap of the shoe, but at opposite sides of the rocker, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM F. WHITING.

Witnesses:

JOHN H. KINYON,  
J. M. CONE.