No. 643,579. Patented Feb. 13, 1900.

W. H. H. WERTZ, JR.

SEPARABLE COLLAR BUTTON.

(Application filed Mar. 27, 1899.)

(No Model.)

Fig. 1.

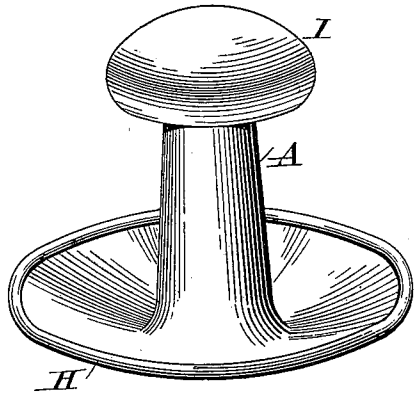


Fig. 4.

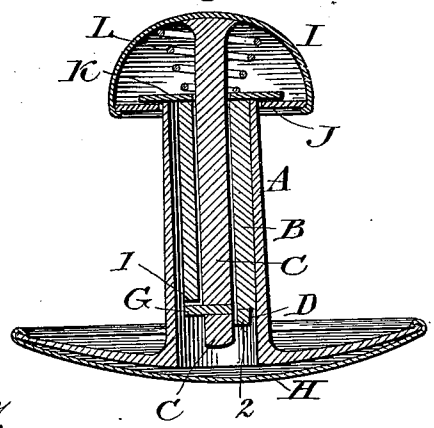


Fig. 7.

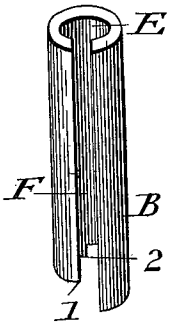


Fig. 2.

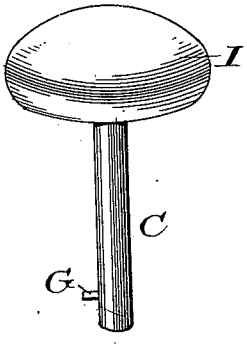


Fig. 5.

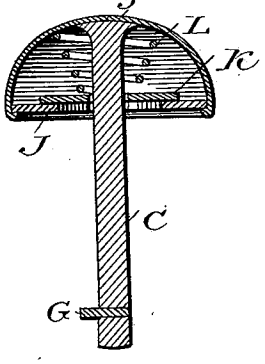


Fig. 8.

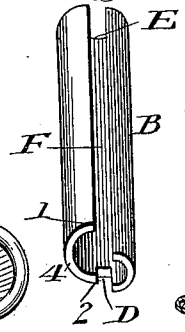


Fig. 3.

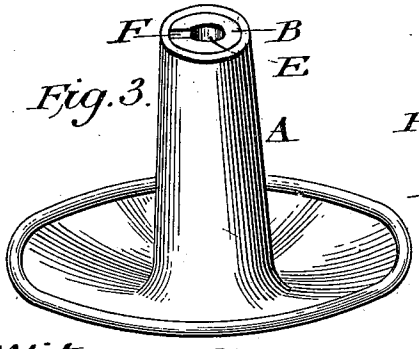
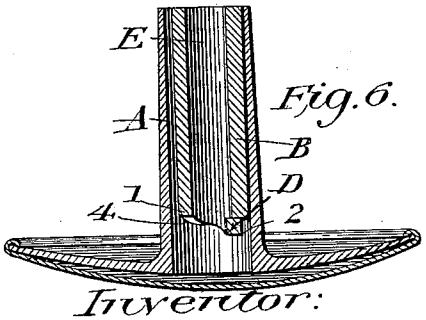


Fig. 6.



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UNITED STATES PATENT OFFICE.

WILLIAM HENRY HARRISON WERTZ, JR., OF TOLEDO, OHIO.

SEPARABLE COLLAR-BUTTON.

SPECIFICATION forming part of Letters Patent No. 643,579, dated February 13, 1900.

Application filed March 27, 1899. Serial No. 710,704. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HENRY HARRISON WERTZ, Jr., a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented a new and original Improvement in Separable Buttons, of which the following is a specification, reference being had to the accompanying drawings, showing the parts thereof.

My invention relates to an improvement in separable buttons which when closed resembles an ordinary solid post-button.

The object of this invention is to produce a button that is simple in construction, easy to operate, neat in appearance, one that will not separate of its own accord, is durable, and the parts thereof will not weaken or wear out by constant use. This plan of fastening can also be applied to cuff-buttons, shirt-waist sets, and, in fact, wherever a separable button is needed. I attain these objects by the device illustrated by the following drawings.

Figure 1 is a perspective view of the button closed. Fig. 2 is a perspective view of the head and its shank, showing a locking-pin in the side of the shank. Fig. 3 is a perspective view of the back and hollow post inclosing the tube B. Fig. 4 is a sectional view of the button closed with the shank inserted and in position for locking. Fig. 5 is a sectional view of the head and shank with locking-pin. Fig. 6 is a sectional view of the back and hollow post with tube inclosed. Fig. 7 is a perspective view of the slotted tube with the inclined end as seen from the outer end, which is to be inclosed in the hollow post. Fig. 8 is also a perspective view of the same tube as seen from the lower end.

Similar letters and figures refer to similar parts throughout the several views.

I indicates the head of the button, which is a thin shell and incloses a conical spiral spring L, whose larger end presses against the top of the head and the smaller end presses against a washer K, which rests against the back-plate J of the head. This spring is made in a conical shape, so that when pressed together the coils may lie inside one another flat against the top of the head. In this way a stronger and stiffer spring can be used. It is made of tempered steel. The washer K has a circular hole in the center large enough to admit the end of the post with freedom. The back-plate J also has a circular hole in the center large enough to easily admit the shank C. This shank is shown in Figs. 2, 4, and 5. It is joined to the head at point 3, as seen in Figs. 4 and 5. This shank may be soldered to the head, or they may be made in one piece. The shank C passes through the conical spiral spring L and through the washer K and through the back-plate J and extends from the top of the head to such a distance that when the shank C is inserted in the post A the washer K shall rest on the end of the post A and the locking-pin G in the shank C shall be in position for locking in the recess D. This position is indicated by point 1 on the slotted tube B, and when the locking-pin G has traveled around the slope 4 and is in position at point 2 to enter the locking pocket or receptacle D the projection of the shank C below the locking-pin G should almost touch the back of the button, just giving the locking-pin G sufficient room to enter the locking pocket or receptacle D. This length of shank does not allow any unnecessary strain on the conical spiral spring L. The slotted tube B, as seen in Figs. 3, 4, 6, 7, and 8, is soldered in the hollow post A, and when finished they are substantially one piece. This tube B has a slot F running its entire length, which is wide enough to receive the locking-pin G. At the lower end of the tube and beginning at the slot F is an incline (indicated by 4) which runs one-half way around the tube to a locking pocket or receptacle D, which is directly opposite the slot F and extends into the tube far enough to receive the locking-pin G. One half of the circumference of the lower end of the tube B is straight or square with the axis and extends from the notch D to the slot in the tube. The other half of the circumference of the tube, extending from the notch D to the slot in the tube, is an incline. The inclined half of the tube being shorter than the straight half and at point 2 of the incline nearest the notch D, it should be about one diameter of the locking-pin G shorter than the straight half of the tube, and at the point 1 of the incline nearest the slot it should be about twice

the diameter of the locking-pin shorter than the straight half of the tube. This makes it impossible for the locking-pin to pass around the straight half of the tube. This makes it impossible for the locking-pin G to get around the other half of the tube B.

E indicates the bore through the tube B.

H indicates the back of the button.

To close the button, insert the shank C into the tube B of the post A and turn it one-half way around to the right, and as the locking-pin G travels around the slope 4 the spring L in the head is drawn together till the locking-pin G reaches the locking pocket or receptacle D, when the spring L draws the locking-pin firmly into the locking-pocket. To open the button, press down on the head and turn it one-half way around to the left, when it is unlocked and the shank can be withdrawn.

Having thus described my invention, what I claim is—

In a separable button the combination of a conical spiral spring L, a hollow head I, a plate J which forms the back of the head, a washer K inclosed in the head, a shank C secured to the head, and passing through the conical spring L, and through circular holes in the washer K, and in the back-plate J, and having a locking-pin G near its lower end, a hollow post and back A, a slotted tube B having an inclined end, and also having a locking pocket or receptacle D, extending into said tube, for the reception of the locking-pin G, all substantially as described and for the purpose specified.

WILLIAM HENRY HARRISON WERTZ, JR.

Witnesses:

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