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F. E. WARNER

FLEXIBLE BUTTON FOR SOFT COLLARS AND OTHER ARTICLES

Filed June 13, 1922

Fig. 1.

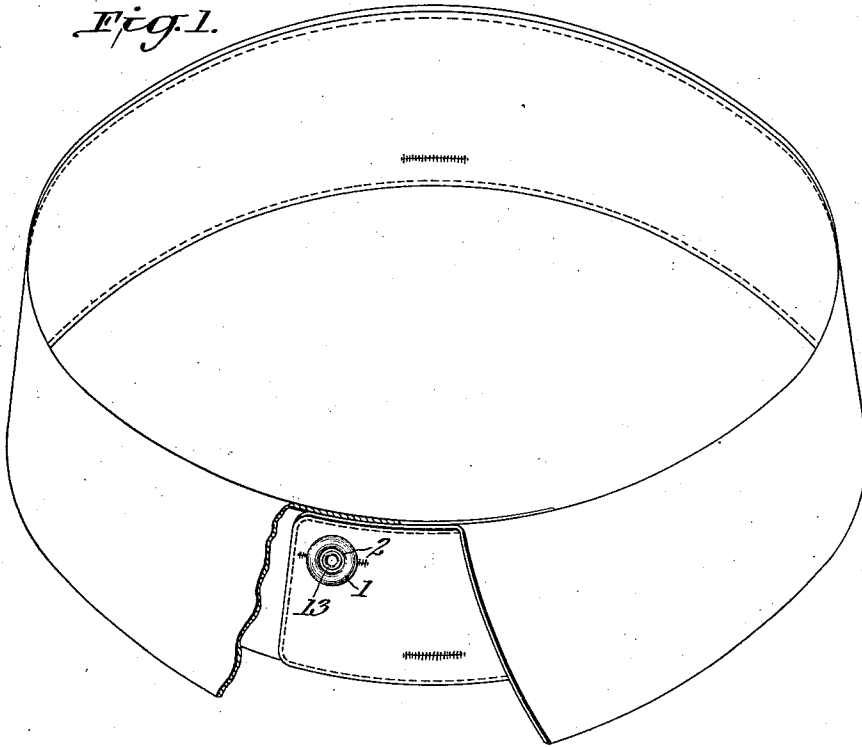


Fig. 2.

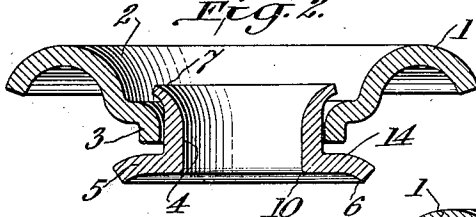
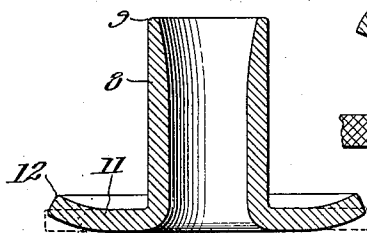
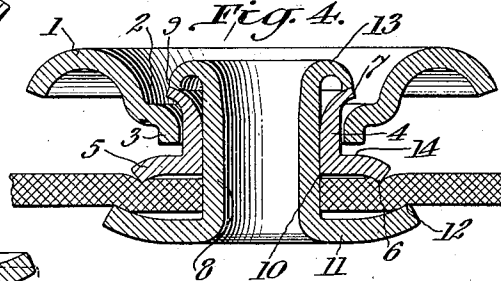


Fig. 3.

Fig. 4.



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UNITED STATES PATENT OFFICE.

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FLEXIBLE BUTTON FOR SOFT COLLARS AND OTHER ARTICLES.

Application filed June 13, 1922. Serial No. 567,891.

To all whom it may concern:

Be it known that I, FRANK E. WARNER, a citizen of the United States, residing at Waterbury, in the county of New Haven and State of Connecticut, have invented a certain new and useful Improvement in Flexible Buttons for Soft Collars and Other Articles, of which the following is a full, clear, and exact description.

The object of this invention is to provide a button for soft collars and other articles, and by this I mean a button such as may be used upon collars that are laundered soft, to hold the upper corner of the inserted end or tab of the collar in proper position beneath the front fold of the collar.

It is desirable that a button for such use be of relatively small diameter, and relatively flat as regards the distance at which it stands away from the material to which it is attached, and to these ends the button of this invention is made as small as practicable from a standpoint of utility and manufacturing expediency, and is partly collapsible to decrease its normal thickness. These features of dimensions and collapsibility make ironing of the article to which the button is attached practically unobstructed and thereby prolong the life of such article because of the consequent unlikelihood of the iron cutting or tearing the material of the article by contact with the button during the process of ironing.

Moreover, the button is not only partly collapsible, but it is also flexible, this flexibility tending to facilitate its manipulation in the buttoning and unbuttoning operations.

The invention consists in a button for soft collars and other articles, comprising a head having a recessed face and a shank, a foot-piece having a barrel adapted to fit loosely within the shank and its leading end expanded to flexibly but inseparably unite the head and foot-piece, and a setting eyelet having a tube and a flange, the leading end of the tube being clinched upon the expanded end of the barrel to set the button on a piece of material; the shank and foot-piece cooperating to prevent the clinched end of the barrel from at any time extending beyond the plane of the face of the head, but permitting a partial collapsing of the button to reduce its thickness; and the flange

of the eyelet being deformable downwardly to accommodate the button to setting upon materials of different thicknesses, as I will proceed now to explain and finally claim.

In the accompanying drawings illustrating the invention, in the several figures of which like parts are similarly designated, Figure 1 is a perspective view of a collar the front fold of which is partly broken away to show the button attached. Fig. 2 is an axial vertical section of the button head and foot-piece assembled; Fig. 3 is an axial vertical section of the setting or attaching eyelet, and Fig. 4 is an axial vertical section showing the button set upon a piece of material, these last three views showing the parts greatly enlarged.

The drawing shows the invention applied to an open face button having a head provided with a rolled rim or edge 1, a recess 2 and a shank 3 through which last extends the loosely fitting barrel 4 of a foot-piece 5 having its circumferential edge turned inwardly as at 6 for a purpose later appearing. As shown, the outer or leading end of the barrel 4 is expanded within the recess 2 as at 7 to form a flexible but inseparable connection between the head and foot-piece.

The button is set upon or attached to the article by means of a setting eyelet, preferably of the self-piercing variety, Figs. 3 and 4, having a tube 8 the leading end 9 of which is adapted to cooperate with the relatively sharp edge 10 of the foot-piece to pierce the material of the article, and the flange 11 of the eyelet is out-turned as at 12 for a purpose later appearing.

Setting of the button is accomplished by proper clinching of the leading end 9 of the eyelet tube 8 upon the expanded end 7 of the barrel 4 of the foot-piece 5, as shown in Fig. 4.

The relative proportion of the depth of recess 2, and length of shank 3 to the height of the clinched end 13 of eyelet tube 8 and the distance at which it stands away from the outer surface 14 of the foot-piece 5, is such that the clinched end will never project beyond the plane of the upper surface of the rim 1 of the head, even when the head is depressed so that the end of shank 3 contacts with the outer surface 14 of the foot-piece, as would be the case when iron-

ing the article to which the button is attached, thereby presenting a substantially even surface to the iron. Moreover, when in this partially collapsed condition the button is of less thickness than when its parts are in the position shown in the drawings.

It will be noted that the flange 11 of the eyelet is of greater diameter than the diameter of the foot-piece 5, so that while a firm grip is obtained upon the material upon which the button is set, between the oppositely turned edges of the foot-piece and eyelet flange, no cutting or tearing of the material will result. Moreover, by turning the edge of the eyelet flange, I produce a flange which is partly deformable, so that, in case materials of different thicknesses are used with the button, the flange of the eyelet may be deformable downwardly (as shown in dotted lines in Fig. 3) to accommodate additional thickness of material instead of making necessary change in adjustment of the machine used for setting the buttons upon such material of added thickness. This deforming or flattening out of the flange of the eyelet is made possible by the fact that a flat setting die is used instead of one having a face which conforms to the under face of the eyelet flange.

It will be noted also that the foot-piece 5 and flange 11 are of relatively large diameter, thus affording a large bearing and attaching surface and making unlikely tearing out of the button even when set upon frail material, such as thin silk or linen, because of the consequent relatively large amount of material grasped within the circumference of the foot-piece and setting flange and the attendant remoteness of the circumferential gripping edges of these parts from the hole pierced through the material by and for the passage of the eyelet in setting.

It will be understood that I do not consider my invention as limited to the various details of construction and arrangement of parts herein shown and described, as it is obvious that various changes may be made therein without departing from the spirit of the invention or the scope of the following claims.

What I claim is:—

1. A button for soft collars and other articles, comprising a head having a shank, and a foot-piece having a barrel arranged within and spaced from said shank, the upper end of said barrel being expanded to flexibly connect said head and foot-piece.

2. A button for soft collars and other ar-

ticles, comprising a head having a recess and a rearwardly extending shank, and a foot-piece having a barrel, the leading end of which is adapted to be expanded within said recess, said barrel having a loose fit within said shank, whereby a flexible connection is provided between the head and foot-piece.

3. A button for soft collars and other articles, comprising a head having a shank, a foot-piece having a barrel fitting loosely within said shank and its leading end expanded to prevent separation of the head and foot-piece, and a setting eyelet having a flange and a tube, the leading end of said tube adapted to be clinched upon the expanded end of said barrel, whereby the button may be set upon a piece of material.

4. A button for soft collars and other articles, comprising a head having a recess and a shank, a foot-piece having a barrel loosely fitting within said shank and its leading end adapted to be expanded to flexibly connect said head and foot-piece, and a setting eyelet having a flange and a tube, the leading end of said tube adapted to be clinched upon the expanded end of said barrel to set the button upon a piece of material, and the flange of said eyelet being inturned at its circumference and deformable downwardly for the purpose specified.

5. A button for soft collars and other articles, comprising a head having a recess and a shank, a foot-piece having a barrel fitting loosely within said shank but inseparable therefrom, and a setting eyelet having a tube, the leading end of which is clinched upon the barrel of the foot-piece, the length of said shank being such that the clinched end of said tube always lies within said recess.

6. A button for soft collars and other articles, comprising a head having a rim, a recess and a shank, a foot-piece having a barrel loosely fitting within said shank and its leading end expanded to inseparably and flexibly unite the head and foot-piece, and a setting eyelet having a tube, the leading end of which is clinched upon the expanded end of said barrel, the distance between the end of said shank and said foot-piece being such that the clinched end of said tube will never extend beyond the plane of the outer surface of said rim.

In testimony whereof I have hereunto set my hand this 12 day of June, A. D. 1922.

FRANK E. WARNER.

Witnesses:

H. B. RIGGS,

M. E. ROGERS.