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L. R. CARLEY

2,110,645

SEW-ON BUTTON

Filed June 7, 1935

Fig. 1.

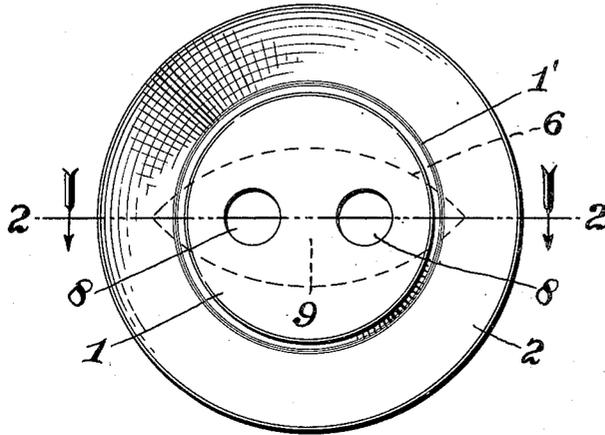


Fig. 2.

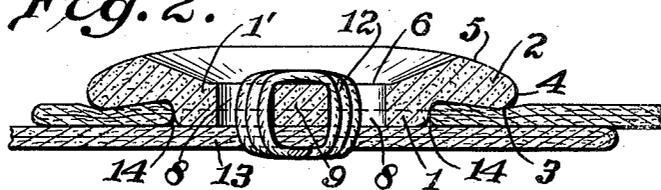


Fig. 3.

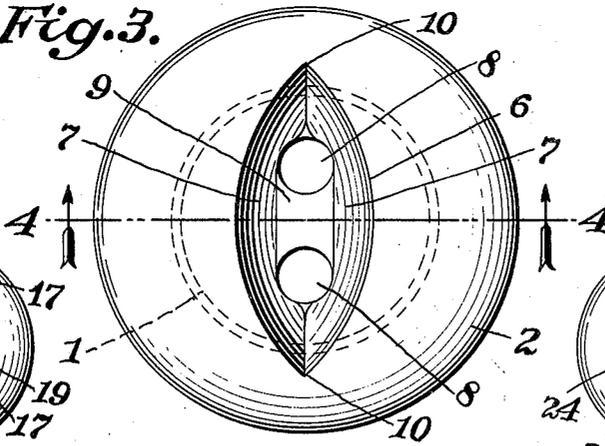


Fig. 5.

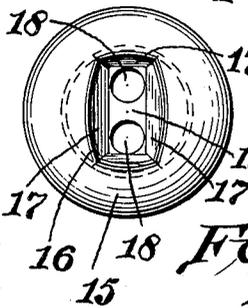


Fig. 6.

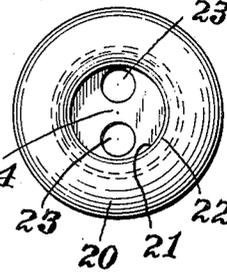
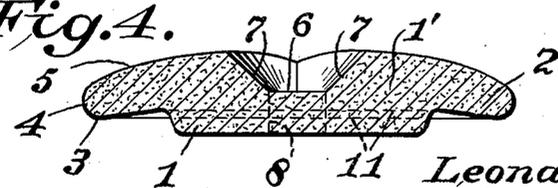


Fig. 4.



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UNITED STATES PATENT OFFICE

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SEW-ON BUTTON

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Application June 7, 1935, Serial No. 25,505

1 Claim. (Cl. 24—90)

My invention relates to new and useful improvements in sew-on buttons, and more particularly to a button formed of a molded composition.

One of the objects of the invention is to produce a relatively flat button but, at the same time, overcome what has heretofore been one of the natural disadvantages in buttons of this type or style.

As a rule, sew-on buttons, especially the fisheye type, are designed to snugly hug the cloth to which they are sewed, but there is a disadvantage in that the walls of the button hole, after the button has been passed therethrough, bear directly against the threads which secure the button to the cloth, and in a relatively short time the threads become frayed from contact with the walls of the button hole and it soon becomes necessary to again sew on the button.

One of the principal objects of the present invention, therefore, is to produce a relatively flat sew-on button of the fisheye or depressed center type, formed from a molded or pressed composition, but to extend a hub slightly below the outer peripheral rim of the button, so that the walls of the button hole through which the button is passed will bear against the hub rather than against the attaching threads.

Still another object of the invention is to produce a relatively flat type button formed of a molded or pressed composition of any desired material, and wherein although the face of the button is depressed to form what is termed the "fisheye" or a central well, still the under central portion of the button being thickened, there will be no likelihood that the bar or bottom of the depressed portion between the two thread openings will break, either when the button is being sewed in place or from strain during its continued use.

Still another object of the invention is to produce a button that, although of a relatively flat nature and provided with a relatively deep fisheye or well in its face, will be reinforced directly beneath the fisheye or well with a slightly protruding hub, which arrangement not only strengthens the button about the thread openings but will also prevent the walls of the button hole from contacting with the threads with which the button is sewed in place.

With these and other objects in view, the invention consists in certain new and novel features and combination of parts, as will be hereinafter more fully explained and pointed out in the claim.

Referring now to the drawing showing a preferred embodiment,

Fig. 1 is a greatly enlarged bottom plan view, for the sake of clearness, of my new and improved button of the fisheye type;

Fig. 2 is a sectional view taken on the line 2—2 of Fig. 1 and showing the button as attached to a piece of cloth and the walls of a button hole about the hub;

Fig. 3 is an enlarged top plan view of the button;

Fig. 4 is an enlarged sectional view taken on the line 4—4 of Fig. 3;

Fig. 5 shows a slightly modified form, on an enlarged scale but reduced with relation to Figs. 1 to 4, with the rectangular central depressed portion; and

Fig. 6 is a top plan view of a still further modification, on an enlarged scale but reduced with relation to Figs. 1 to 4, showing a circular depressed central portion.

Referring now more particularly to the several views, it might be stated at the outset that for the sake of clearness of illustration, Figs. 1, 2, 3, and 4 are enlarged about six times and Figs. 5 and 6 are enlarged about three times over the normal size of the button.

In Fig. 1, there will be seen a relatively flat molded button of any desirable composition that is used for making buttons. The composition of the button per se does not enter into the present invention. It will be noticed that the button is preferably circular in outline and consists of the central hub 1, which merges with the body 1' and with the rim 2, while the outer lower edge 3 of the rim extends slightly downwardly and is rounded at its outer edge, as at 4, and then extends upwardly on a very flat curve, as at 5.

On the upper surface of the button may be seen the depression 6, which is termed the fisheye, the sides of the depression sloping downwardly toward the center, as at 7, while in the bottom of the fisheye are the usual openings 8 which are spaced by the partition or what might be termed the bar 9. It will be noticed, especially from Figs. 1 and 3, that the opposite ends 10 of the fisheye protrude slightly past a line drawn vertically through the button in alignment with the periphery of the hub, but as will be remembered, the outer ends of the fisheye are but slightly depressed, the depression getting deeper as it approaches the openings 8 and, of course, the sides of the bar 9.

From the dotted lines 11 in Fig. 4, it will be seen that by extending the hub 1 downwardly,

this bar 9 is about twice the thickness of what it normally would be if it were not for this extended hub. Therefore, by molding the button with this hub, as shown in Fig. 4, so that it extends below the under side of the peripheral edge 3 of the button, the thickness of the bar 9 will be such that the possibilities of a broken bar are very slight. It is to be again reiterated that the drawing shows the button on an enlarged scale, and a button formed of a molded composition without this extra thickness of the hub would leave too thin a bar 9 for practical purposes.

Glancing for the moment to Fig. 2, there are shown the threads 12 which have been passed through the openings 8, about the bar 9, and through the cloth 13 to which the button is attached to hold the button in position, and it will also be seen that the walls 14 of the button hole will be pinched or snugly held below the button and will contact with the hub 1 rather than against the threads 12.

By forming the dies (not shown) to mold a button of the above form and contour, it is possible to strengthen the button at its weakest point, that is, beneath the fisheye, and especially the central bar between the openings of the fisheye, and it has also made it possible to prevent the walls of the button hole from wearing the attaching threads.

Referring to the modified form shown in Fig. 5, there is shown a similar button 15 but with a rectangular depressed central portion 16, the said central depression having the sloping side walls 17, while in the bottom 19 may be seen the openings 18. It will be understood that this button is similar to the preferred form, the only difference being that rather than having a "fisheye", in this instance the depression is rectangular in shape.

In the same manner in Fig. 6, there is shown the button 20 with the central depressed portion 21 having the downwardly sloping sides 22, in which there are the thread openings 23 which,

of course, are formed in the bottom 24 of the depressed portion 21.

The buttons shown by these modified forms are identical with the preferred form, with the exception of these central depressions.

Finally, I have found that buttons made according to the above description are light in weight, simple to manufacture, and will not break either in the rim or across the central depressed portion, even when put through the wringer of a washing machine.

Many slight changes might be made without in any manner departing from the spirit and scope of the invention.

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

A relatively flat molded composition sew-on button being slightly domed, said button having its upper surface depressed centrally thereof forming a fisheye, said fisheye having thread-receiving openings, a downwardly projecting circular hub formed on the under surface of the button directly beneath the fisheye to provide a relatively thick bottom bar, said openings extending through the bar, said hub strengthening the body of the button beneath the fisheye and being of a thickness to project but slightly below the bottom of the rim of the button, the under wall of the rim extending upwardly to where it merges with the upper extremity of the hub, whereby the hub will be contacted by the walls of a button-hole formed in a cloth through which the button is passed and the bottom of the rim of the button will contact the surface of the cloth adjacent said button-hole, the button being solid from rim to rim in a plane just above the upper extremity of the hub, with the exception of the depressed portion, and the edge of the rim being bluntly rounded to obtain a maximum thickness at the outer periphery of the rim.

LEONARD R. CARLEY.