

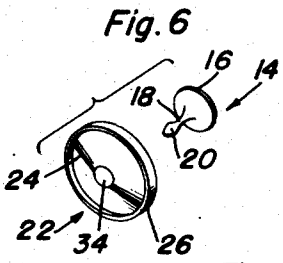
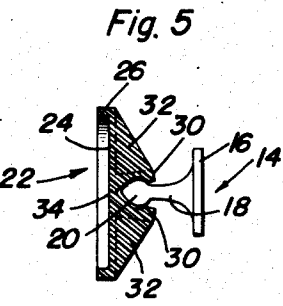
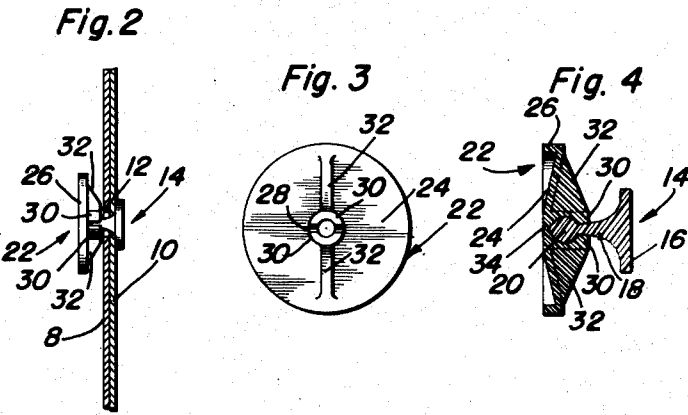
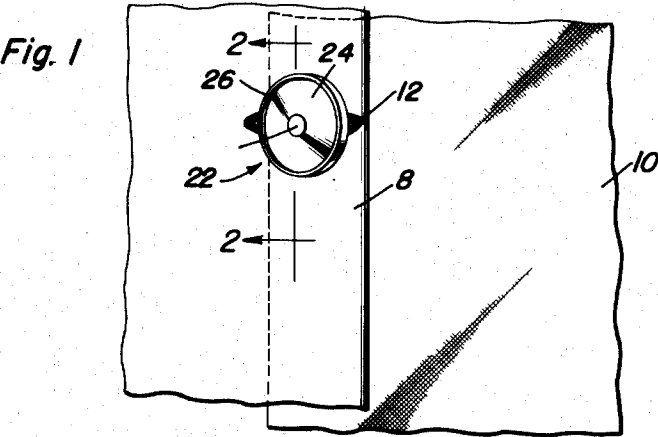
Oct. 27, 1953

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2,656,578

READILY APPLICABLE AND REMOVABLE GARMENT BUTTON

Filed June 21, 1951



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UNITED STATES PATENT OFFICE

2,656,578

READILY APPLICABLE AND REMOVABLE
GARMENT BUTTON

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Application June 21, 1951, Serial No. 232,751

3 Claims. (Cl. 24—108)

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The present invention relates to certain new and useful improvements in garment buttons and has more particular reference to a readily applicable and removable button construction which may be completely detached for practical garment laundering purposes, which may be readily applied for use and which does not have to be sewn in place.

As implied in the preceding introductory statement of the invention, garment buttons having these general structural and functional characteristics are old and well known. That is to say, it is common practice to construct buttons of male and female units having separable interlocking components. Therefore, it is the object of the instant invention to structurally, functionally and otherwise improve on buttons in the stated category and, in so doing, to provide a novel and unique button in which manufacturers, retailers and users will find their respective requirements and needs fully met.

Another object of the invention is to provide a button construction which may be more easily applied and removed and which, despite these improvements, is simple, durable, efficient and otherwise suitable in achieving the desired results.

Novelty is predicated, for the most part, on the unique construction of the female unit or complement. Broadly, this part is unique in that it is provided with readily openable and closable grips or jaws for coaction with the usual head on the male unit. More specifically, the preferred adaptation has to do with a female unit which is characterized by a stress or pressure responsive deformably resilient diaphragm. This is in certain instances, normally deformed into conical shape and provided on one side with expansible and contractible jaws, whereby when finger pressure is exerted against the center of the diaphragm it is flattened out and, in so doing, spreads the jaws to open position and, when released again immediately resumes its normal shape and automatically closes the jaws.

Other objects and advantages will become more readily apparent from the following description and the accompanying sheet of illustrative drawings.

In the accompanying drawings:

Figure 1 is a perspective view showing portions of a garment, each with a buttonhole and showing, in addition, the improved button construction applied thereto.

Figure 2 is a central section taken on the vertical line 2—2 of Figure 1, looking in the direction

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of the arrows and showing the button construction in elevation.

Figure 3 is an enlarged elevation showing the reverse face of the so-called female unit.

Figure 4 is a central section with the two units coupled together and in normal association.

Figure 5 is a view similar to Figure 4 showing the diaphragm flattened out and the jaws in open position.

Figure 6 is a group perspective view with the male and female units separated.

In Figures 1 and 2 the numerals 8 and 10 designate portions of a garment, such as a dress, sweater, coat or the like. The section 8 is provided with a buttonhole 12 and the other section, if desired, may be provided with a complementary hole. Or the male section may be simply punched forcibly therethrough.

The male unit is denoted by the numeral 14 and is not unusual in that it includes a one-piece construction having a circular or equivalent base 16, a neck or shank 18 and a spear-like enlargement constituting a head 20. This may be sufficiently pointed that it could, if desired, be forced through the garment fabric. Primarily, however, this unit is merely a headed base and is adapted to preferably coordinate with the complementary female unit 22. Both units may be and preferably are constructed of suitable flexible resilient materials, preferably commercial plastics. The female unit 22 is characterized by a deformable pressure responsive or stress type deformable diaphragm or disk 24. This is marginally surrounded by a reinforcing rim or annulus 26. The normal shape of the diaphragm is slightly conical as shown in Figure 4 and the inherent resilient properties maintain the same in this condition. On the reverse side the disk is provided with a central outstanding stud and said stud is slitted or divided as at 28 in Figure 3 to define a pair of opposed semi-circular gripping jaws 30—30 and an intervening axial recess or socket for the head 20. Substantially triangular webs 32—32 are radially integrated with the jaws and also with the outside face of the diaphragm. These webs obviously serve to stabilize the jaws when the latter are closed. The desired opening of said jaws is accomplished merely by exerting force against the central portion 34 (see Figure 5) of said diaphragm. It follows that when the two units 14 and 22 are coupled separately as shown in Figure 4, the jaws are normally closed and frictionally engage and retain the head 20 in place. When it is desired to remove the button assembly finger pressure is exerted against

the spot 34 and the rigid rim 26 is held between the first and second fingers. It is obvious that this pressure serves to flatten or straighten or correspondingly flex the responsive diaphragm from the position shown in Figure 4 to that shown in Figure 5 whereupon the jaws spread apart and permit the head 20 to be readily withdrawn. It is, of course, actually possible to forcibly pull the two units apart, if desired.

Although the diaphragm has been shown and described as being conical in form it is obviously within the pervue of the invention to employ a diaphragm which is flat if desired. It is also clear that the circular or disc shape is not necessarily required and that the over-all button may be of some other shape and provided, if desired, with surface ornamentation. It is to be noted too that the radial ribs or webs not only reinforce and stabilize the jaws with which they are integrated but they divide the reverse side of the diaphragm into independent sectors or segments which are susceptible of being separately flexed.

Novelty is predicated, as is obvious, on the rim equipped discoidal or circular deformable pressure responsive resilient diaphragm with the openable and closable jaws on the reverse side, with the jaws joined with the diaphragm by aligned diametrically opposite reinforcing webs.

Minor changes in shape, size, materials and rearrangement of parts may be resorted to in actual practice provided no departure is made from the invention as claimed.

Having described the invention, what is claimed as new is:

1. As a new article of manufacture, a female button unit molded from pliant commercial plastics and shaped to provide a button, the latter having an imperforate pressure responsive diaphragm provided on the axial center of its reverse side with an integral outstanding stud substantially solid in cross-section, said stud being divided from end to end and providing a plurality of opposed openable and closable head gripping and retaining jaws, the latter being normally closed but spreading apart to open position when pressure is exerted upon said diaphragm in a manner to temporarily flex and deform the latter, a substantially rigid endless rim integral with and encircling the periphery of said diaphragm and projecting beyond the plane of the adjacent peripheral portion of the diaphragm, and radially disposed reinforcing webs formed integrally with said diaphragm and joined at their inner respective ends to diametrically opposite sides of said studs.

2. As a new article of manufacture, a female button unit embodying an elastic diaphragm which is flexibly yieldable, said diaphragm being imperforate and adapted to be marginally gripped and held with the fingers while the thumb forcibly exerts pressure against the cen-

tral portion of the obverse side to momentarily flex and thus deform the diaphragm, the inherent elastic properties causing said diaphragm to immediately spring back to its original shape the moment the thumb pressure is released therefrom, the reverse side of said diaphragm having a centrally disposed integral laterally projecting stud, said stud being axially recessed and providing a socket, said stud being further longitudinally slotted from its outer end to its inner attached end to provide at least two radially expansible and contractible head gripping jaws, reinforcing webs integral with the reverse side of said diaphragm and joined to and radiating from the respective jaws to the peripheral portion of the diaphragm.

3. As a new article of manufacture, a female button unit embodying an elastic diaphragm which is flexibly yieldable, said diaphragm being imperforate and adapted to be marginally gripped and held with the fingers while the thumb forcibly exerts pressure against the central area of the obverse side to momentarily flex and thus deform the diaphragm, the inherent elastic properties causing said diaphragm to immediately spring back to its original shape the moment the thumb pressure is released therefrom, the reverse side of said diaphragm having a centrally disposed integral laterally projecting stud, said stud being cylindrical in cross-section and centrally divided into a pair of semi-circular openable and closable gripping jaws, a substantially rigid endless rim integral with and encircling the periphery of said diaphragm and projecting beyond the plane of the adjacent peripheral portion of the diaphragm, a pair of diametrically opposite rigid outstanding webs formed integrally with said reverse side, said webs radiating from said stud with their respective outer ends terminating adjacent the periphery of said diaphragm, the respective inner ends of said webs being joined to the median portions of their respective jaws, whereby said reverse side is transformed into independent sectors susceptible of being effectively flexed and subsequently returned to their normal positions.

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