Oct. 12, 1943. J. MATSUMOTO 2,331,489

BUTTON AND CLASP

Filed May 16, 1940

FIG. 11.

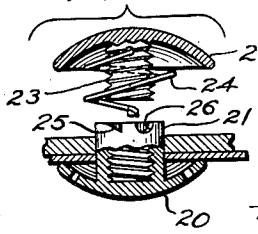


FIG. 1.

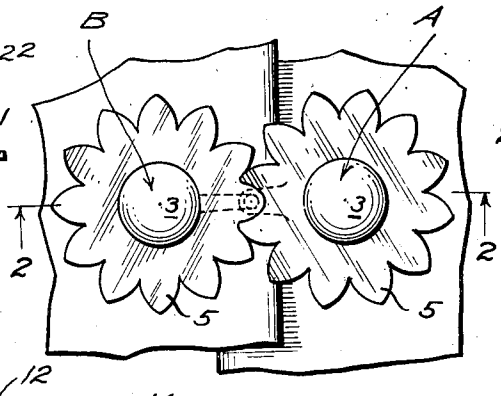


FIG. 8.

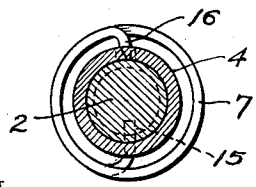


FIG. 9.

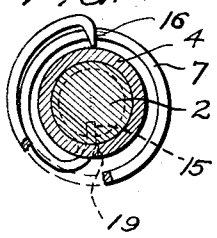


FIG. 10.

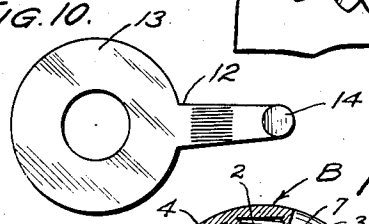


FIG. 2.

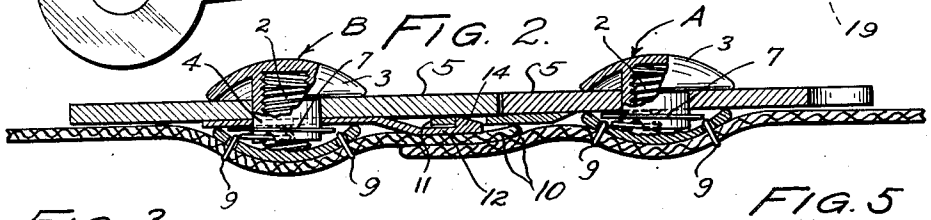


FIG. 3.

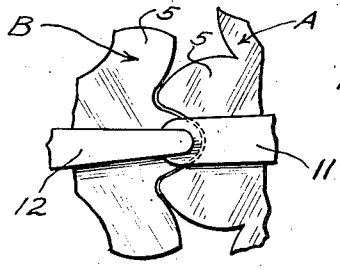


FIG. 4.

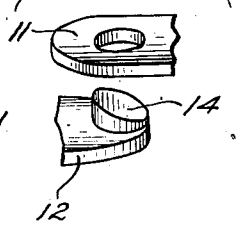


FIG. 5

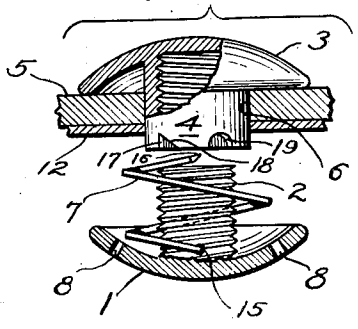


FIG. 12.

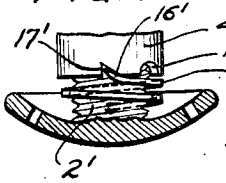


FIG. 7.

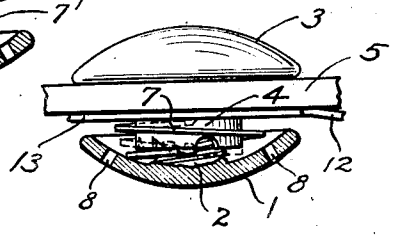
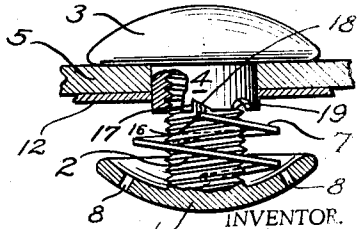


FIG. 6.



INVENTOR.

Josuke Matsumoto

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2,331,489

BUTTON AND CLASP

Josuke Matsumoto, Los Angeles, Calif.

Application May 16, 1940, Serial No. 335,522

6 Claims. (Cl. 24—230)

My invention relates to improvements in button and clasp construction such as disclosed in my U. S. Letters Patent No. 2,100,106 issued November 23, 1937, and also set forth in an application for patent Serial No. 290,411 filed by me on August 16, 1939.

The primary object of the present invention is to provide a button or clasp which is adapted to be attached to a garment to serve as a button, clasp, ornament brooch or the like in a particularly novel manner due to the provision for quickly and easily substituting the heads of the buttons to produce different designs, shapes and ornamental effects without detaching the bases from the garment to which they are attached; and the use of an improved coiled spring locking means for securely but detachably holding the heads of the buttons in place.

Another object of my invention is to simplify, reduce the cost render easier of attachment, buttons or clasps of the type hereinbefore noted.

A further object is to provide an improved form of catch for joining a pair of my buttons to form a clasp.

Another object is to provide a button or clasp construction such as described wherein disk like decorative plates may be carried on a pair of button members so as to substantially conceal the base members thereof and form decorative and interlocking members as in a clasp, said plates having catch members on their inner sides for releasably locking them together.

Various additional objects and features of the invention will appear and will be more fully understood from the following detailed description of a present preferred embodiment thereof, reference for this purpose being had to the accompanying drawing, in which:

Fig. 1 is a fragmentary top plan view of a pair of buttons arranged as a clasp and embodying my invention;

Fig. 2 is an enlarged sectional view taken in the plane of line 2—2 of Fig. 1;

Fig. 3 is a fragmentary bottom plan of a pair of buttons showing the catch for holding them together;

Fig. 4 is a fragmentary perspective showing details of the catch;

Fig. 5 is a fragmentary sectional and side elevational view of button embodying my invention as when the head is separated from the base;

Fig. 6 is a fragmentary side elevation partly in section of the button as when the head is partly screwed thereon;

Fig. 7 is a fragmentary side elevation partly in section showing the button as where the head is just short of its final screw on position which latter is shown in Fig. 2;

Fig. 8 is a cross sectional view showing the relative positions of the spring and two screw threaded fastening members upon initiating the threaded engagement of said members;

Fig. 9 is a sectional view similar to Fig. 8 showing the relative positions of the fastening members and spring in the final screwed position of one of the fastening members, with the spring holding said members together;

Fig. 10 is a top plan view of one of the elements of the catch as when removed from the button assembly;

Fig. 11 is a sectional side elevational view of a modified form of the invention; and

Fig. 12 is a fragmentary side elevational-sectional view of a different coiled spring arrangement.

As shown in the accompanying drawing one form of button construction embodying my invention comprises cup shaped base 1 having a screw threaded male fastening element 2 fixed to the center of the concave side thereof; an inverted cup-shaped head 3 having a tubular internally screw threaded female fastening element 4 fixed to the center of the concave side thereof, a body member 5 in the form of a plate or disk having an aperture 6 thru which the element 4 is inserted, and a coiled spring locking member 7 fixed to and surrounding the male fastening element 2.

The head 3 may be plain or decorated to produce any desired ornamental effect and as it is adapted to be screwed in place, may be readily changed as desired to produce different ornamental effects.

The base 1 is provided with openings 8 whereby it may be sewed as at 9 to a garment 10 as shown in Fig. 2.

As here provided the body plate 5 is mounted on the tubular member or shank 4 of the head 3, the member 4 extending thru the aperture in said plate. When the head is screwed onto the male member or shank 2 of the base the plate 5 lies over and conceals the base as seen in Figs. 1 and 2. This body plate may be of any shape as desired or provided with surface decoration for ornamental purpose and as here shown has scalloped edges to simulate petals of a flower. The plate can be readily removed from the head and plates of different shapes and decorations may be substituted as desired for changing the ornamental effect.

As shown in Figs. 1 and 2 two buttons A and B may be secured to the garment 10 so as to form a clasp, the edges of the body plates being adapted to interlock. The plate 5 on one of the buttons A is equipped with a catch or clasp element 11 in the form of an apertured tongue mounted on the inner side and project from the edge of said plate so as to lie against the under side of the plate 5 of the other button B. A resilient catch member 12 having an enlarged apertured end 13 is mounted on the female member 4 of button B so that the enlarged part 13 lies against the plate 5 while the free end which is offset and formed with a projection 14 is adapted to lie against the catch element 11 so that said projection will extend into the aperture of said catch element and lock the two buttons together as a clasp.

The coiled spring 7 is fixed at one end to the base of the male member or shank 2 of the base 1 as at 15. The other end of this spring is free and provided with an inwardly extended beveled extremity 16 disposed to be engaged by the tubular or female member 4 of the head when the latter is screwed onto the male member 2. In the opposing or engaging edge of the female member 4 is a notch 17 having an inclined edge 18. In screwing the head in place the end 16 of the spring will enter the notch 17 as shown in Figs. 6 and 8 and upon continuation of the screwing of the head, said end will engage the inclined edge 18 of said notch and thereby be forced outwardly so as to ride upon the exterior of the female or tubular member 4 as shown in Fig. 9. The bevel on the end 16 facilitates the entrance of the end into and its removal from the notch. When the end 16 is forced outwardly as aforesaid, the spring is engaged or expanded as indicated in Fig. 9 and when the inner end of the female member 4 reaches a point near the inner end of the spring as when the head has been sufficiently screwed on, the notch 17 or another notch 19 adjacent thereto will receive therein the inwardly turned portion 16 of the spring as formed to permit of affixation of the spring to the member 2.

As the spring will be under compression when engaged in the notch 17 or 19, the member 4 will be locked against turning and accidental unscrewing.

Should notch 19 receive the end 16 of the spring instead of notch 17, turning of the head will also force the end 16 out of the notch, however should the end 16 remain in the notch the spring will be coiled and compressed like a spring washer wherefore to lock the head on the base.

As shown in Fig. 11, I may provide a button having a base so provided with a tubular female member 21 instead of a male member. The head 22 of this form is provided with a male member 23 and the coiled spring 24 is fixed to member 23 whereas notches 25 and 26 are provided on the member 21. In all respects this form is the same as the one first described except as to reversal of the male and female members as aforesaid.

I may prefer to use a spring 7' as shown in Fig. 12, wherein the such spring is fixed at one end to the male fastening member 2' and lies close thereto whereby it will be compressed by the female fastening member 4'. In this form of my invention the outer or free end coil of the spring has a beveled terminal 16' which will engage in one of the notches 17' or 19' as shown in Fig. 12 after the female member 4' is screwed onto the male member sufficiently to hold such parts together, whereby to lock the members against unintentional unscrewing. It should be noted that the end of the female member 4' will contact the outer coil of the spring and thereby compress the entire spring when said member is screwed onto the male member. After the female member makes one complete turn the end 16' will enter one or the other of the notches and may be forced out of notch as desired until the proper number of turns have been made to screw the two members together sufficiently to join therein, at which time the end 16' will again engage in one of the notches and allowed to remain therein to lock the members. It is important to note that by securing one end of a coiled spring to one of two screw threaded fastening members on the base and head respectively of a button, with the outer end of the spring left free, provision is made for effectively locking the button parts assembled, due to the tensioned locking engagement of the spring with one of the fastening members. This locking action is enhanced by notches in one of the fastening members for reception of a portion of the spring.

I claim:

1. A button comprising mutually engageable threaded members, a helical spring disposed about one of said members arranged to be engaged and compressed by the other of said members upon screwing said members together, one end of the spring being attached to the member about which it is disposed, and the other end of the spring being free, there being one or more notches in said other member adapted to receive the free end of the spring.

2. A button comprising mutually engageable male and female threaded members, a helical spring disposed about the male member having one end fastened to the male member adjacent the base thereof and the other end free and arranged to be engaged by the female member and compressed thereby when the members are screwed together, and means on the female member engageable by the free end of the spring when the members are screwed together whereby accidental unscrewing of the members is retarded or prevented by the compressed spring.

3. A button comprising mutually engageable male and female threaded members, a helical spring disposed about the male member having one end fastened to the male member adjacent the base thereof and the other end free and arranged to be engaged by the female member and compressed thereby when the members are screwed together, there being one or more notches on the female member engageable by the free end of the spring whereby accidental unscrewing of the members is retarded or prevented by the compressed spring.

4. A button comprising mutually engageable male and female threaded members, a helical spring disposed about the male member having one end fastened to the male member adjacent the base thereof and the other end free and bent inwardly toward the side of the male member and arranged to be engaged by the female member and compressed thereby when the members are screwed together, there being one or more notches on the opposed faces of the female member engageable by the free end of the spring whereby accidental unscrewing of the members is retarded or prevented by the compressed spring.

5. A button comprising mutually engageable male and female threaded members, a helical spring disposed about the male member having one end fastened to the male member adjacent

the base thereof and the other end free and bent inwardly toward the side of the male member and arranged to be engaged by the female member and compressed thereby when the members are screwed together, there being one or more notches on the opposed faces of the female member engageable by the free end of the spring whereby accidental unscrewing of the members is retarded or prevented by the compressed spring, the female member having telescoped thereover a body plate.

6. A button or clasp comprising two sets of mutually engageable male and female threaded members, a helical spring disposed about each male member having one end fastened to its male member adjacent the base thereof and the other end free and arranged to be engaged and compressed by the opposed female member when the members are fastened together, there being one or more notches in each female member engageable by the free end of the spring whereby unscrewing of the members is retarded or prevented by the compressed spring, a body plate telescoped over each female member, and means on the body plates detachably connecting the body plates together.

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