This invention relates to a fastener, and more particularly to a button type of fastener which does not require the use of stitches or thread.

The object of the invention is to provide a button for retaining two members selectively fastened together, as for example two pieces of fabric can be held together and wherein the button of the present invention can be speedily and easily connected or disconnected as desired.

Another object of the invention is to provide a button which will withstand long periods of usage and will not accidentally become separated when being worn on an article of clothing or the like, and wherein the button does not require the use of thread to maintain the same in place on the garment or article with which it is being used.

A further object of the invention is to provide a sewless snap grip button which is extremely simple and inexpensive to manufacture.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawing, forming a part of this application, and in which like numerals are used to designate like parts throughout the same.

Figure 1 is a sectional view illustrating the button of the present invention.

Figure 2 is a plan view of the button of Figure 1 and showing the head.

Figure 3 is a sectional view taken on line 3—3 of Figure 4.

Figure 4 is a sectional view showing the parts disassembled.

Figure 5 is a sectional view taken on line 5—5 of Figure 4.

Figure 6 is a sectional view taken on line 6—6 of Figure 4.

Referring in detail to the drawing, the numerals 10 and 11 indicate first and second body members that are mounted for movement toward and away from each other, and these body members may be articles of clothing, fabrics, or the like. The numeral 12 indicates a first circular plate which is arranged to one side of the first body member 10, and the plate 12 and body member 10 are provided with registering openings 13 and 14, Figure 4. The numeral 15 indicates a second circular plate which is arranged on the opposite side of the body member 10 and plate 12, and a plurality of spaced apart prongs 16 extend from the plate 15 and project through the registering openings 14 and 13. These prongs 16 are adapted to be peened over or bent over so as to cause the plates 15 and 12 to remain fastened or secured to the first body member 10.

Extending from the plate 15 and secured thereto or formed integral therewith is a ball 17, for a purpose to be later described.

The second body member 11 is provided with a circular aperture or opening 18, and a circular base 19 is arranged contiguous to one side of the second body member 11. Spaced apart teeth 20 extend from the base 19 and project through the aperture 18, and these teeth 20 are adapted to extend through openings 22 in a support piece 21. The support piece 21 is arranged on the opposite side of the body member 11 from the base 19, and the teeth 20 are adapted to be peened over so as to maintain the support piece 21 and base 19 fastened to the body member 11.

Formed integral with the support piece 21 or secured thereto is an externally threaded bushing 23, and the numeral 24 designates each of a plurality of inwardly extending spring fingers which are adapted to selectively engage the ball 17, as for example when the parts are in the position in Figure 1.

There is further provided a head which is indicated generally by the numeral 25, and the head 25 is provided with a threaded socket 26 for threadedly engaging the bushing 23. The head 25 is further provided with a recessed portion 27, and the head 25 is also provided with recesses 28 which provide clearance for the peened over teeth 20, with the parts in the assembled position of Figure 1. The head 25 also includes recesses 29 which are adapted to receive lugs 30 that extend from the support piece 21.

The plate 15 is provided with projections 31 which are adapted to coating indentations 32 in the plate 12 so as to insure that the fabric or members such as the members 10 will be firmly held or gripped between the plates. Similarly the base 19 and support piece 21 may be provided with coating projections and recesses for insuring a better grip on the material 11.

From the foregoing, it is apparent that there has been provided a button which can be used for fastening or holding two members together such as the members 10 and 11. In use, the plates 13 and 15 are adapted to be arranged on opposite sides of the member or fabric 10, and these plates are maintained connected together by means of the prongs 16 which extend through the openings 14 and 13. The base 19 and support piece 21 are arranged on opposite sides of the other member 11, and the members 19 and 21 are maintained in their assembled positions by means of the teeth 20 which extend through the openings 22. The bushing 23 is threadedly externally, and the spring fingers 24 will grip or receive the ball 17 when the members 11 and 10 are contiguous to each other as shown in Figure 1. The head 25 is arranged in threadedly engagement with the bushing 23. Thus, it is to be noted that when the parts are in assembled or closed position the parts are arranged as shown in Figure 1.

Then, when it is desired to separate the members 11 and 10, the user can readily manually grip the head 25 and cause the member 11 to move away from the member 10. This separation is possible because the spring fingers 24 can pull loose from the ball 17 so that for example a garment can be opened or any other members can be separated or moved apart.

The plate 15 is provided with projections 31 which contact with recesses 32 so as to provide a better grip.

The head 25 is provided with sockets 26 and 28 and 29 that provide clearance for the peened over teeth 20 and lugs 30. The head 25 is provided with the threaded socket 26 which threadedly engages the bushing 23 and this detachable feature of the head 25 permits different types of heads to be used with the button as desired. Thus, the user can readily unscrews the head 25 from the base 19 and arrange a different head thereon, and different types of heads can be used to enhance the attractiveness of garments or articles of clothing with which the device is being used.

The parts may be made of any suitable material and in different shapes or sizes.

The button can be used on different types of garments or articles such as shirts, suits, coats, pajamas, women's apparel, upholstery, canvas, plastic or metal materials, or the like. The recess 27 is shaped so that a suitable
tool can be arranged in engagement therewith when it is necessary to use such tool for unscrewing the head 25 from the bushing 23.

The parts can be made of a material which does not corrode and the button will be retained in place without using any stitches or thread. The button is easy and quick to use, and in the event that any of the parts such as the head becomes broken, they can be readily replaced without discarding the entire assembly. The parts can be suitably decorated and made in different colors such as to further increase the attractiveness thereof. As previously stated when a person grips the head 25 and pulls on the same, the spring fingers 24 will be released from the ball 17 so that the members 10 and 11 can be separated, as for example when an article of clothing or garment is to be opened.

Some of the advantages of the present invention are as follows:

The button will replace conventional cotton thread sewed on buttons which are often poorly sewed on, and this is important since thread had a tendency to deteriorate through the action of detergents, washing, or the like. Also, the button of the present invention will not accidently work loose and it is durable and does not require the use of a needle and thread to mount the same.

The button opens and closes with a snap action.

If desired, suitable spring members such as the spring members 8 or the like can be used for providing necessary tension to prevent accidental separation or disengagement of the parts.

Minor changes in shape, size and rearrangement of details coming within the field of invention claimed may be resorted to in actual practice, if desired.

I claim:

1. In a device of the character described, first and second body members mounted for movement toward and away from each other, first and second plates arranged on opposite sides of said second body member, means for securing said first and second plates to said first body means, a ball extended from the center of said second plate, a base and support piece arranged on opposite sides of said second body member, means for securing said base and support piece to said second body member, said second body member being provided with a circular aperture, an externally threaded bushing extending from said support piece in alinement with the opening in said second body member, a plurality of inwardly extending spring fingers arranged within said bushing for selectively engaging said ball when it is inserted through the opening in said second body member, and a head provided with a threaded socket for engaging said bushing.

2. In a device of the character described, first and second body members mounted for movement toward and away from each other, a first circular plate arranged contiguous to one side of said first body member, there being registering openings in said first plate and said first body member, a second circular plate arranged contiguous to the other side of said first body member, spaced apart prongs extending from said second plate and projecting through said registering openings, a ball extended from the second plate; said second body member being provided with a circular aperture, a circular base arranged contiguous to one side of said second body member and having teeth extended through the aperture in said second body member, a support piece arranged on the opposite side of the second body member from said base and said support piece being provided with a plurality of spaced apart openings for the projection therethrough of said teeth, an externally threaded bushing extending from said support piece, a plurality of inwardly extending spring fingers arranged within said bushing for selectively engaging said ball, and a head provided with a threaded socket for engaging said bushing.

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