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FASTENING DEVICES FOR CAMPAIGN-TYPE BUTTONS

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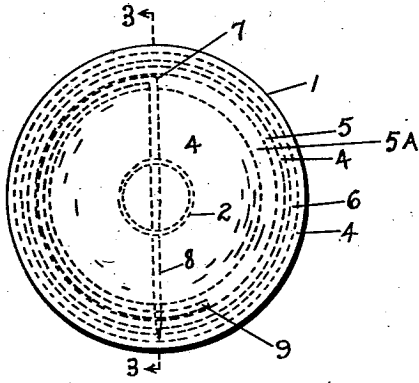


Fig. 1

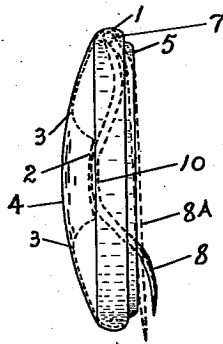


Fig. 2

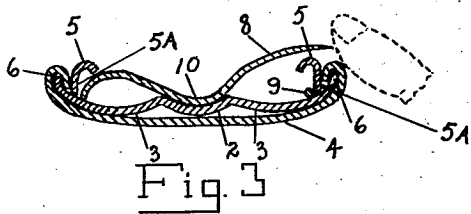


Fig. 3

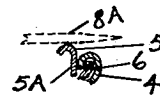


Fig. 4

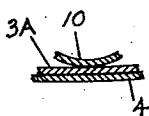


Fig. 5

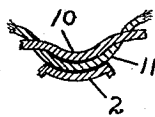


Fig. 6

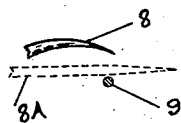


Fig. 7

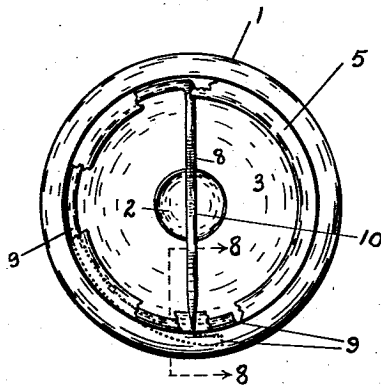


Fig. 8

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**FASTENING DEVICES FOR CAMPAIGN-TYPE  
BUTTONS**

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10 Claims. (Cl. 40—1.5)

My invention relates to the usual display button, with a fastening spring pin assembled therein, on which button there is externally imposed some print as an advertising medium in election campaigns or for other drives or kindred purposes.

The object of my invention is two-fold. The first is to eliminate any chance or danger of being casually pricked by the sharp point of the pin which protrudes beyond the periphery of the button; secondly, to establish at the same time, through automatic means, a much firmer grip between the button and garment or other receptive object on which it is fastened. These important benefits I have achieved by simple means, involving, as will later appear, no extra cost in manufacture, and the saving of time and labor in assembling the parts.

Further benefits of my invention and details of improvement will be set forth as this specification proceeds. It will be understood, however, that the invention is not limited to this particular disclosure, but is susceptible of many changes and modifications which may be made by those skilled in the art without departing from the spirit and scope of this invention.

For a more particular description of my invention, reference is to be had to the accompanying drawings, forming part hereof, in which

Fig. 1 is an elevation of the obverse side of my improved button, with broken lines to indicate the position of the parts and structure in the rear.

Fig. 2 is a peripheral elevation of this button, with broken lines 8A inserted for comparison between my improved device and the conventional type, as to the shape, length and positioning of the pin proper.

Fig. 3 is an inversed somewhat fragmentary sectional view of this improved button, taken along the line 3—3 of Fig. 1, and illustrating, by broken lines, how the shape and positioning of the pin and the surrounding structure act as a safeguard against the casual pricking of one's finger.

Fig. 4 is a fragmentary view, in section, of the structure near and at the periphery of this button, where the printed matter is wedged into position, with illustration, in broken lines, of the conventional pin in relation to its minute contact at the top of the collet and to its reach appreciably beyond the periphery of the button.

Fig. 5 is a fragmentary view, in section, showing substantial contact between the concaved portion 10 of the pin and the complementally arched center of the shell 3A in a shallow button overlaid with the print 4, as an alternative to contact with the surface at 2 as contemplated in the other figures.

Fig. 6 is a fragmentary view, in section, showing the relative position of the pin proper after it is stuck through the fabric 11 and while compressing the same against the complemental surface of concavity 2 of the shell.

Fig. 7 is an elevation of the reverse side of my improved button, with illustration, through dotted lines, of the contour of the curved portion 9 of the pin before it is

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inserted in the button under sufficient compression to get it frictionally underneath the roof of the collet.

Fig. 8 is a fragmentary view of the pointed end of the pin 8 in its positional relation to its curved portion, shown in section, before insertion of said pin in a complementary button, with additional illustration in said figure, through broken lines, of the positional relation of these two parts for the conventional button before similar assembly.

Throughout the drawings, similar reference characters 10 indicate similar parts.

The improved button 1 referred to has in its center the depression 2 which appears in the shell 3 directly behind the print 4, and which shell, according to conventional contour, presents, by contrast, a convexed surface without any dent therein in support of the print, as can be gathered by reference to part 3A in Figure 5. Other parts of the conventional button consist of a collet having a roof 5 and a wall 5A, which wall, as shown, is concentrically positioned around the inner surface of the flange 6 of said shell, with just sufficient space between said wall and flange to permit the wedging therein of the curled edge of the print for keeping the latter in properly arched position regardless of the depression 2 in the center of the shell. The spring pin 7, in its conventional form, is of the shape shown in Figures 1 and 7 but with the following differences: the garment piercing portion 8 of the conventional type is perfectly straight, as shown by the broken lines indicated as 8A in Figure 2, and, in addition, it terminates an appreciable distance beyond the periphery of the button as shown by the same broken lines in Figure 2 and by the broken lines in Figure 4, in contrast to the termination of my piercing pin an appreciable distance inside of said periphery as shown in Figures 1 and 3. As an integral part of this spring pin is the curved portion 9 under sufficient tension to keep it stressed against the wall 5A of the collet, as shown by the position in Figure 3, after it has been snapped in from the position of the dotted to that of the full lines shown in Figure 7. The depression 2 in the shell has, at its summit, a concaved surface complementary to the concavity 10 in the center of the pin proper, whereby the opposing surfaces are brought to full contact position from one end to the other as shown in Figure 3. This contact level at the same time insures a permanent and sufficient separation of said pin proper from the top of roof 5 of the collet, to permit at all times ready means for fastening the button on to a garment or the like, even though this improved pin is shorter than that of the conventional type and terminates before the periphery of the button. Usually these buttons are worn on outer garments for general display and are fastened therethrough by the piercing action of this pin as shown in connection with the fabric 11 in Figure 6.

As to the contour of the spring pin employed in the conventional type and the operation attending the assembly thereof with the button, it may be stated as follows: the curved portion of the pin, before being snapped into the button, temporarily follows the course of the dotted lines shown in Figure 7, while the diametrical portion thereof resiliently hugs said curved length only at the spot where it crosses the same, as can be gathered from the positional relation between parts 8A and 9 as shown in Figure 8, and from which spot the pin proper continues on to the sharp point beyond. No matter what method is used in manually inserting this pin into the button, the operator must always concern himself in the conventional type with spreading the curved portion away from the diametrical or straight portion, so that, for the purpose of this assembly, the former will be brought low enough to be snapped under the roof of the collet while the straight portion at the same time will be shifted from the original contact, at the crossing referred to, on to

the level of the top of the collet, against which it will rest under similar spring tension, with the sharp point of the pin reaching an appreciable distance beyond the periphery of the button. This outreaching point of the pin has given no end of trouble in the use of this conventional button. Both singly and in lots these buttons, after assembly, must be handled with the utmost caution in order to avoid pricking and possible infection. The pin points are necessarily sharp and present a constant menace to all those who handle these buttons. Among the users are many children in connection with various events, celebrations and the like, both in and out of school, and who as a class are not over-cautious in matters of this sort.

In the conventional type the pin proper must necessarily extend beyond the periphery of the button in order that the piercing of the garment shall precede the place, almost at said periphery, where the said pin hugely crosses the top of said collet under tension as aforementioned. It is only at this spot or crossing point in the conventional type where the fabric to which the button is fastened is brought into a squeeze under such tension. On the contrary, in my improved type, as one of the benefits, the pin proper terminates an appreciable distance before said periphery and preferably is downwardly arched up to its sharp point. By reference to Figure 3 and the illustration in broken lines shown thereon, it is obvious that the user is constantly protected by the peripheral edge of the button, which acts like a guard in that respect, and by the slight arch of the pin in a downward direction. Because of the fact that the improved pin originates with a predetermined spread between the curved and straight portions thereof, the insertion of it in the button, with that spread as a start, is made considerably easier and requires much less skill and caution, with attendant savings in time and labor. This initial spread in the pin is preferably just short of the distance required to bring spring pressure into play between the contacting surfaces of parts 10 and 2. The spring pressure is nevertheless immediately created as soon as this improved pin is inserted into the button, for then the spread is at once increased to spring-pressure dimension by the greater height of the contact surface of the depression 2, on which the concavity 10 of the pin is made to rest. In fact, this spring pressure is further increased in proportion to the additional increase in the height of said contact surface by means of the thickness of any fabric which, on fastening, comes between the pin and button proper as shown in Fig. 6.

A comparison of the effectiveness and strength of the grip between that emanating from the conventional method of fastening and that emanating from my improved button, can best be gleaned by a study of the illustration in Figure 4 side by side with that depicted in Figure 6. In the former, the only place where the fabric could be sandwiched in under spring tension, and then only flatly, is that between the pin 8A proper and the adjacent top of the roof 5 of the collet, at the tiny spot where they cross each other. In my improved device, as shown in Figure 6, such fabric is centrally compressed with relation to the button over a considerably longer distance, and, in addition, such compression is made to follow the complementary concavities of the compressing surfaces, by which method, it is quite obvious, a much tighter grip could be effected than could be had if the compressing parts were flat.

My improved device could also be employed with the same benefits as to the type of button which is not so deep between the top of the roof 5 of the collet and the opposite surface of the arched shell underneath, whether it be in the so-called Celluloid class where such collet is employed primarily for wedging the inwardly curled edge of the Celluloid-covered print or display sheet, or of the all-metal type where the print is right on the metal itself and hence where no collet is needed for such wedging purpose. This can be noted by a reference to Figure

5, where the center concavity 10 of the pin nevertheless is in appreciable contact with the reciprocally arched surface of the shell 3A rather than with an elevated surface by way of the depression 2 like that shown in Figures 2 and 3. Usually, the all-metal buttons are of the shallow type because of the absence of the extra depth that would follow if a collet were used and therefore do not call for any such compensating elevation of contact surface to meet the center portion of the smoothly curved pin, thereby avoiding in this all-metal type of button the disfiguration of the convex or arched surface on the face of it and the resultant distortion of the display printed right on the front of the shell. Such convex surface, of course, is kept intact in the so-called Celluloid buttons by use of the separate print 4, as clearly appears in Figures 2 and 3, which sheet of print with a Celluloid or similar coating thereon bridges the depression 2 and thereby to all outside appearances maintains the integrity of the arch in front of the button as in any conventional type. In passing, I might observe that the triple-curved design of the straight portion of my improved pin also adds to the effectiveness of keeping the button in fixed position after being fastened on a garment, yet these curves are gentle enough to avoid any difficulty in making such attachment.

While I have shown and described one embodiment of my invention, it is obvious that it is not restricted thereto, but is broad enough to cover all structures that come within the scope of the annexed claims.

Having described my invention, what I claim is:

1. In a circular button of the character described comprising a shell and means for frictionally housing on the back of it a smoothly curved, pointed pin formed of resilient wire and adapted to secure said button to a garment; said pin having its axis disposed in a plane normal to said shell at the center thereof, its point spaced within the peripheral bound of said shell and rearwardly from all back structure thereof and having its center portion normally in yielding contact with said back to form therewith a clamp adapted to engage a portion of the fabric to which said button may be attached, such contact at the same time being adapted to prevent the reduction from normal distance of said rearward spacing of said point for thereby permitting such attachment without direct handling of said pin and regardless of the extent of said inward spacing thereof.

2. In a circular button of the character described comprising a shell and means for frictionally housing on the back of it a smoothly curved, pointed pin formed of resilient wire and adapted to secure said button to a garment, such curvature along a portion of said pin from its point being substantially convex with relation to the opposing surface of said back; said pin having its axis disposed in a plane normal to said shell at the center thereof, its point spaced within the peripheral bound of said shell and rearwardly from all back structure thereof, in a direction slightly facing such structure, and having its central portion normally in yielding contact with said back to form therewith a clamp adapted to engage a portion of the fabric to which said button may be attached, such contact at the same time being adapted to prevent the reduction from normal distance of said rearward spacing of said point for thereby permitting such attachment without direct handling of said pin and regardless of the extent of said inward spacing thereof.

3. In a circular button of the character described comprising a shell and means for frictionally housing on the back of it a smoothly curved, pointed pin formed of resilient wire and adapted to secure said button to a garment; said pin having its axis disposed in a plane normal to said shell at the center thereof, its point spaced inwardly from the periphery of said shell and rearwardly from all back structure thereof and having its central portion normally in yielding contact with said back to form therewith a clamp adapted to engage a portion of the fabric to which said button may be attached, such

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contact at the same time being adapted to prevent the reduction from normal distance of said rearward spacing of said point for thereby permitting such attachment without direct handling of said pin and regardless of said inward spacing thereof.

4. In a circular button of the character described comprising a shell and means for frictionally housing on the back of it a smoothly curved, pointed pin formed of resilient wire and adapted to secure said button to a garment, such curvature along a portion of said pin from its point being substantially convex with relation to the opposing surface of said back; said pin having its axis disposed in a plane normal to said shell at the center thereof, its point spaced inwardly from the periphery of said shell and rearwardly from all back structure thereof, in a direction slightly facing such structure, and having its central portion normally in yielding contact with said back to form therewith a clamp adapted to engage a portion of the fabric to which said button may be attached, such contact at the same time being adapted to prevent the reduction from normal distance of said rearward spacing of said point for thereby permitting such attachment without direct handling of said pin and regardless of said inward spacing thereof.

5. In a circular button of the character described having a rearwardly and inwardly extending peripheral flange; a fastening pin formed of resilient wire and comprising an arcuate portion underlying said flange and securing said pin to said button, and a pin portion having its axis disposed substantially throughout in a plane normal to said arcuate portion at the center thereof; said pin portion having a free, pointed end spaced slightly rearwardly from said flange and inwardly an appreciable distance from the outer peripheral surface thereof, and curving smoothly inwardly from said end into a reverse curve in yielding contact with the back of said button along a center portion thereof, said reverse curve merging smoothly into a second reverse curve to its juncture with said arcuate portion.

6. In a circular button of the character described having a rearwardly and inwardly extending peripheral flange and a collet within of substantially similar design to, and concentrically pressed against the opposing surface of, said flange; a fastening pin formed of resilient wire and comprising an arcuate portion underlying said collet and securing said pin to said button, and a pin portion having its axis disposed substantially throughout in a plane normal to said arcuate portion at the center thereof; said pin portion having a free, pointed end spaced slightly rearwardly from all rear structure of said button and inwardly an appreciable distance from the outer peripheral surface of said flange, and curving smoothly inwardly from said end into a reverse curve in yielding contact with the back of said button along a center portion thereof, said reverse curve merging smoothly into a second reverse curve to its juncture with said arcuate portion.

7. In a circular button of the character described comprising a shell having a centrally disposed depression in the rear side thereof and a rearwardly and inwardly extending peripheral flange; a fastening pin formed of resilient wire and comprising an arcuate portion underlying said flange and securing said pin to said button, and a pin portion having its axis disposed substantially throughout in a plane normal to said arcuate portion at the center thereof; said pin portion having a free, pointed end

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spaced slightly rearwardly from said flange and inwardly an appreciable distance from the outer peripheral surface thereof, and curving smoothly inwardly and downwardly from said end into contact with the bottom of said depression, and thence curving smoothly out of said depression to its juncture with said arcuate portion.

8. In a circular button of the character described comprising a shell having the central portion thereof projecting a predetermined distance to the rear and concave on its exposed side; and a smoothly curved, pointed pin formed of resilient wire with means for frictionally securing the same to said button, adapted to attach said button to a garment; said pin having its axis disposed in a plane normal to said shell at the center thereof, its point spaced inwardly from the periphery of said shell and rearwardly from all back structure thereof, and having its central portion normally in yielding contact with the concave portion of said shell to form therewith a clamp adapted to engage a portion of the fabric to which said button may be attached, such contact at the same time being adapted to prevent the reduction from normal distance of said rearward spacing of said point.

9. In a circular button of the character described comprising a shell having a centrally disposed depression in the rear side thereof, a rearwardly and inwardly extending peripheral flange and a collet within of substantially similar design to, and concentrically pressed against the opposing surface of, said flange; a fastening pin formed of resilient wire and comprising an arcuate portion underlying said collet and securing said pin to said button, and a pin portion having its axis disposed substantially throughout in a plane normal to said arcuate portion at the center thereof; said pin portion having a free pointed end spaced slightly rearwardly from said flange and inwardly an appreciable distance from the outer peripheral surface thereof, and curving smoothly inwardly and downwardly from said end into contact with the bottom of said depression, and thence curving smoothly out of said depression to its juncture with said arcuate portion.

10. In a circular button of the character described comprising a shell having a centrally disposed depression in the rear side thereof, a rearwardly and inwardly extending peripheral flange and a collet within of substantially similar design to, and concentrically pressed against the opposing surface of, said flange; a fastening pin formed of resilient wire and comprising an arcuate portion underlying said collet and securing said pin to said button, and a pin portion having its axis disposed substantially throughout in a plane normal to said arcuate portion at the center thereof; said pin portion having a free pointed end spaced slightly rearwardly from all rear structure of said shell and inwardly within the line of the outer peripheral surface of said flange, and curving smoothly inwardly and downwardly from said end into contact with the bottom of said depression, and thence curving smoothly out of said depression to its juncture with said arcuate portion.

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