

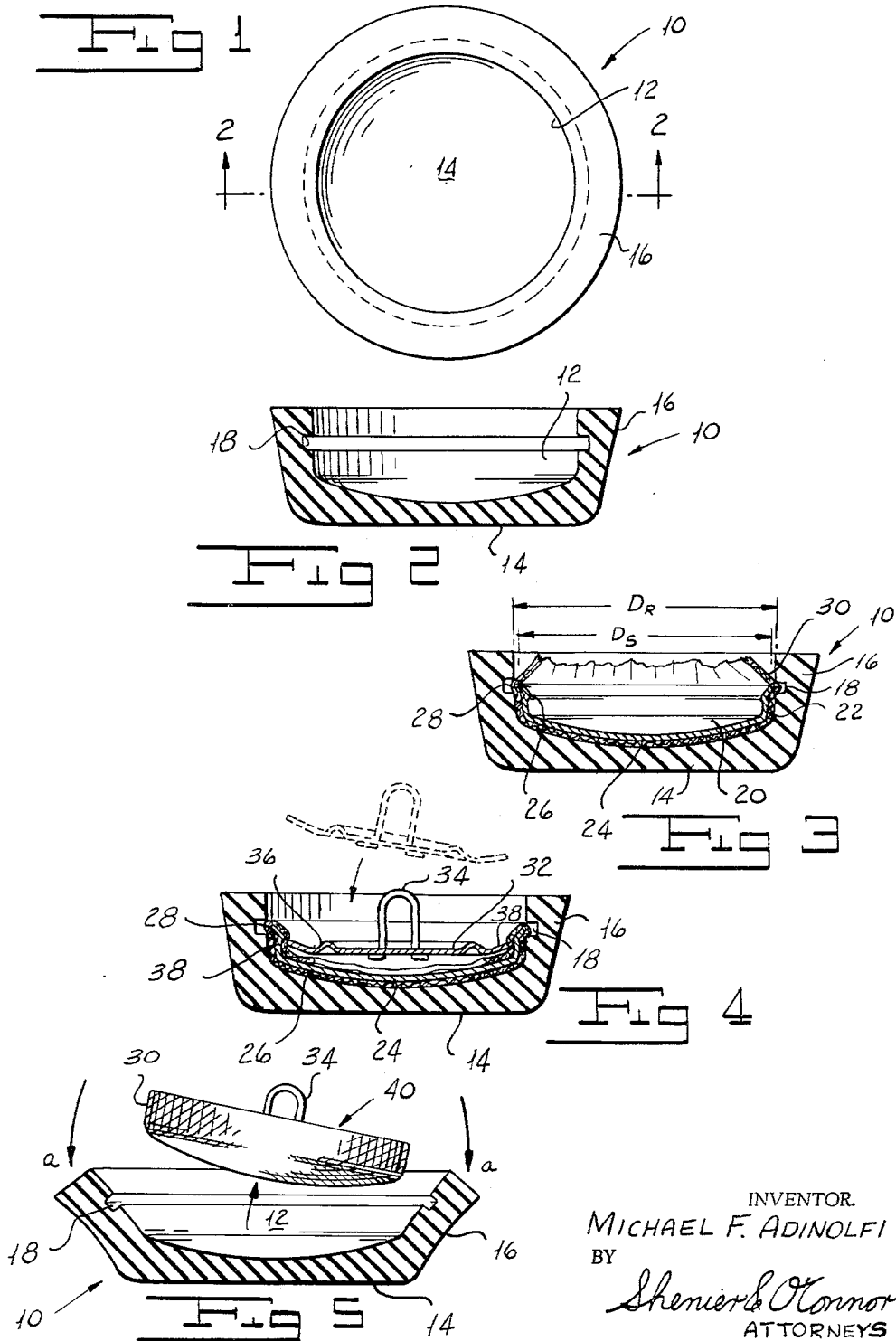
Nov. 2, 1965

M. F. ADINOLFI

3,214,811

JIG FOR ASSEMBLING FABRIC COVERED BUTTON

Filed May 6, 1963



INVENTOR.
MICHAEL F. ADINOLFI
BY

Shenier & O'Connor
ATTORNEYS

1

3,214,811 JIG FOR ASSEMBLING FABRIC COVERED BUTTON

Michael F. Adinolfi, Brooklyn, N.Y., assignor to Empire State Metal Products, Inc., New York, N.Y., a corporation of New York

Filed May 6, 1963, Ser. No. 278,087

1 Claim. (Cl. 24—113)

My invention relates to a jig for assembling a fabric covered button and more particularly to an improved jig for assembling a fabric covered button which permits the assembled button to be removed from the jig in a rapid and expeditious manner.

There are known in the prior art assemblies for making buttons covered with a fabric which matches a garment fabric. These buttons generally include a hollow shell providing a fabric-supporting surface. A circular piece of fabric having a diameter which is greater than that of the finished button is stretched over the shell with the edge thereof folded over into the shell. When these operations have been performed, a disk or the like is inserted into the shell to clamp the fabric between the outer edge of the disk and the shell wall.

It will readily be appreciated that the assembly operation described above is somewhat difficult to perform with the hands alone since the fabric edge must be held within the shell while the retaining disk is applied to the assembly. Moreover, care must be taken to ensure that the fabric is stretched tightly over the fabric-supporting surface.

In order to facilitate the assembly of a fabric covered button, such as is described above, it has been suggested that there be provided a jig or die having a cavity which generally conforms to the fabric-supporting surface of the shell. With such a jig, the fabric is placed over the jig recess and the shell is inserted into the recess to draw the fabric tightly over the supporting surface. Then the edge of the fabric can be tucked into the shell and the backing member or retainer disk can readily be applied thereto. More particularly, in the prior art it has been suggested that the jig be provided with an internal annular rib or bead so that when the shell and the fabric are applied to the jig, the rib tends to direct the edge of the fabric inwardly to facilitate the operation of applying the retaining disk. While this device functions somewhat in the manner described, it incorporates the distinct disadvantage that the dimension of the rib is such as to make withdrawal of the assembled button a relatively difficult operation.

I have invented a jig for assembling a fabric covered button which overcomes the defects of assembling devices of the prior art. My jig retains all of the advantageous features of assembling devices of the prior art while greatly facilitating the operation of removing the assembled button from the jig. My jig facilitates the operation of securing the fabric over the shell by means of the retaining disk while at the same time permitting the assembly to be removed from the jig with ease.

One object of my invention is to provide an improved jig for assembling fabric covered buttons which overcomes the disadvantages of assembling devices of the prior art.

Another object of my invention is to provide an improved jig for assembling a fabric covered button which permits the assembled button to be removed from the jig with relative ease.

Still a further object of my invention is to provide an improved jig for assembling a fabric covered button which greatly facilitates the operation of securing the fabric over the button shell while at the same time permitting the assembled button to be removed with ease.

2

Other and further objects of my invention will appear from the following description.

In general my invention contemplates the provision of a jig for assembling fabric covered buttons in which the jig body which is made of resilient material has a generally cylindrical shell-receiving recess of a diameter slightly greater than the outer diameter of the shell. When the fabric has been placed under the shell and as the shell is pushed into the recess, the shell lip directs the fabric into an outwardly-extending annular groove formed in the inner surface of the jig wall. The upper edge of the groove directs the fabric edge inwardly of the jig to permit the retaining disk to be assembled. The outer jig wall is provided with a draft from its upper edge toward the base of the jig to permit the upper edge wall to be flexed outwardly with ease to pop the assembled button out of the jig recess.

In the accompanying drawings which form part of the instant specification and which are to be read in conjunction therewith and in which like reference numerals are used to indicate like parts in the various views:

FIGURE 1 is a top plan view of my improved jig for assembling fabric covered buttons.

FIGURE 2 is a sectional view of my improved jig for assembling fabric covered buttons taken along the line 2—2 of FIGURE 1.

FIGURE 3 is a sectional view of my improved jig for assembling fabric covered buttons indicating the relative disposition of the parts after the shell and fabric have been applied to the jig.

FIGURE 4 is a sectional view of my improved jig for assembling fabric covered buttons illustrating the final step in the formation of a fabric covered button.

FIGURE 5 is a sectional view of my improved jig for assembling fabric covered buttons illustrating the manner in which an assembled button pops out of the jig.

Referring now to FIGURES 1 and 2 of the drawings, my improved jig indicated generally by the reference character 10 is formed from a suitable resilient material such, for example, as a natural or synthetic rubber. I form my jig 10 with a generally cylindrical recess 12 to provide a base 14 and a wall 16. I form an annular groove 18 in the inner surface of the wall 16 in any suitable manner. For a reason which will be explained in detail hereinafter, I provide the outer surface of the wall 16 with a draft from the upper edge thereof toward the base 14 so that the portion of the wall 16 adjacent the base 14 is thinner than the upper edge thereof.

Referring now to FIGURES 3 and 4, my jig 10 is intended for use for a fabric covered button, one element of which is a shell 20 having a wall 22 and providing a fabric-supporting surface 24. I provide the shell 20 with an inwardly directed bead 26 and with a lip 28 which extends outwardly somewhat from the bead 26 to provide the shell with a mouth.

In assembling a fabric covered button by use of my jig 10, I first cut a generally circular piece of fabric 30 having an outer diameter somewhat greater than the outer diameter D_S of the shell 20. The recess 12 has a diameter D_R which is slightly greater than the diameter D_S . In the initial step of forming a fabric covered button by use of my jig, I first place the cut fabric over the jig recess 12 and then push the shell 20 down into the recess 12 so as to stretch the fabric 30 tightly over the entire surface 24 of the shell. I so space the groove 18 from the base 14 that the portion of the fabric 30 outside the lip 28 extends into the groove 18 somewhat. Owing to this action, the upper edge of the groove 18 tends to direct the edge of the fabric 30 inwardly of the jig as shown in FIGURE 3. This disposition of the fabric edge greatly facilitates the operation of assembling

3

the button as will be apparent from the description given hereinafter.

The remaining element of the button assembly is a retainer disk 32 carrying a loop 34 which permits the assembled button to be secured to the garment. The disk 32 has an annular bead 36 which permits the disk to flex and it has a flange 38 which extends outwardly and slightly upwardly around the bead 36. The outer diameter of the flange 38 is slightly less than the inner diameter of the bead 26 to provide the required clamping action. Now with the parts in the relative positions shown in FIGURE 3, the disk 32 as shown in FIGURE 4 can be moved down into the shell and behind the bead 26. Owing to the disposition of the fabric 30, the flange 38 readily engages the fabric as disk 32 is moved into the shell. When the flange 38 is moved to a position behind bead 26, the fabric is securely clamped in position over the surface 24 of the shell 20.

When all the operations described above have been performed, a completed button assembly indicated generally by the reference character 40 has been made. Now in order to remove the button 40 from the jig 10 without the danger of disassembling the parts, pressure is applied to the upper edge of the wall 16 at a pair of generally diametrically opposite points, as indicated by the arrows "a" in FIGURE 5. At the same time, pressure is applied to the underside of the base 14. When this is done, the jig 10 readily flexes and the assembled button 40 pops out of the jig with ease. As is pointed out hereinabove, I so construct my jig that the wall 16 tapers somewhat from the upper surface thereof toward the base so that the flexing operation just described can easily be performed to pop the button 40 out of the jig.

In operation of my fabric covered button assembling jig, when a piece of fabric 30 has been cut, it is stretched over the surface 24 of shell 20 and the shell is pushed into the recess 12. Finally, the edge of flange 28 is positioned adjacent the groove 18 to force some of the fabric 30 into the groove to cause the edge of the fabric to be directed inwardly of the shell. Now the clamping disk 32 is moved into the shell behind the bead 26. In the course of this operation, flange 38 engages the fabric to clamp it between the edge of the flange and the bead 26. Next, in response to pressure applied to the upper edge of the wall 16 and to the underside of the base 14, the assembled button 40 is easily popped out of the jig 10.

It will be seen that I have accomplished the objects

4

of my invention. I have provided an improved jig for assembling fabric covered buttons which overcomes the disadvantages of assembling devices of the prior art. My device retains all the advantages of assembling devices of the prior art while at the same time permitting an assembled button to be popped out of the jig with relative ease. My jig pulls the fabric edge inwardly to facilitate assembly of the clamping disk while at the same time permitting the assembled button to be popped out of the jig.

It will be understood that certain features and sub-combinations are of utility and may be employed without reference to other features and subcombinations. This is contemplated by and is within the scope of my claim. It is further obvious that various changes may be made in details within the scope of my claim without departing from the spirit of my invention. It is, therefore, to be understood that my invention is not to be limited to the specific details shown and described.

Having thus described my invention, what I claim is:

A jig for assembling fabric covered buttons, each of which buttons has a shell for receiving a piece of fabric, said shell having a given outer diameter, said jig including a body of resilient material having a wall with a generally smooth and continuous inner surface and a base, said wall surface and said base defining a generally circular recess having a diameter slightly greater than the outer diameter of said shell, and an annular groove extending around said inner surface between the top of said wall and said base, said groove having an upper edge, said wall tapering from a relatively thicker portion at the top thereof to a relatively thinner portion adjacent said base, said jig being adapted to receive said fabric piece in said recess, said shell moving said fabric into said groove as said shell moves into said recess whereby the upper edge of said groove directs the edges of said piece toward the center of said recess.

References Cited by the Examiner

UNITED STATES PATENTS

2,772,013	11/56	Stover.	
2,875,762	3/59	Middleton et al.	
2,993,392	7/61	Decker	79—5
3,091,141	5/63	Decker	79—5

DONLEY J. STOCKING, *Primary Examiner.*

M. HENSON WOOD, JR., *Examiner.*