June 6, 1967 N. SCHIMMEL 3,323,966

METHOD OF BONDING AN ATTACHMENT MEANS TO A BADGE SURFACE

Original Filed May 31, 1963

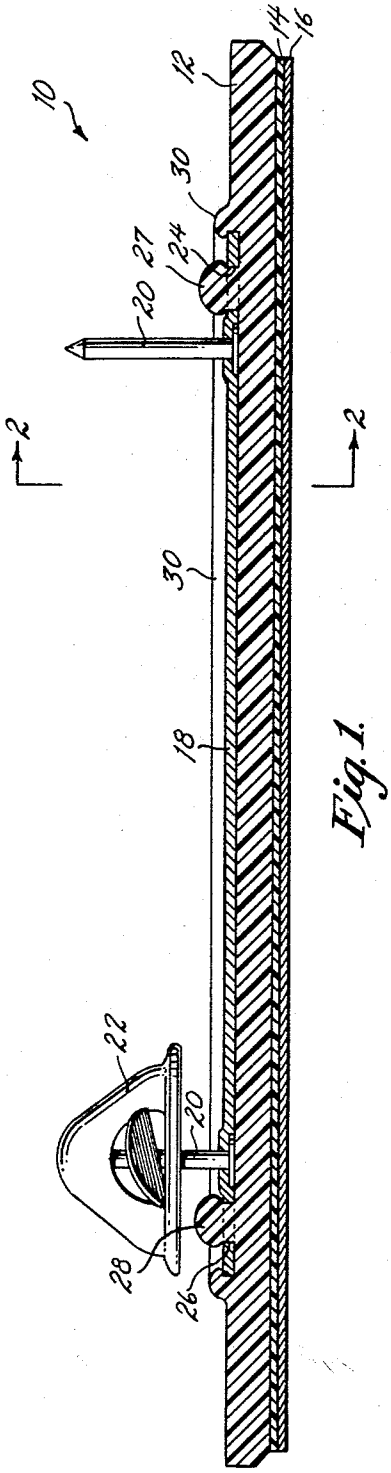


Fig. 1.

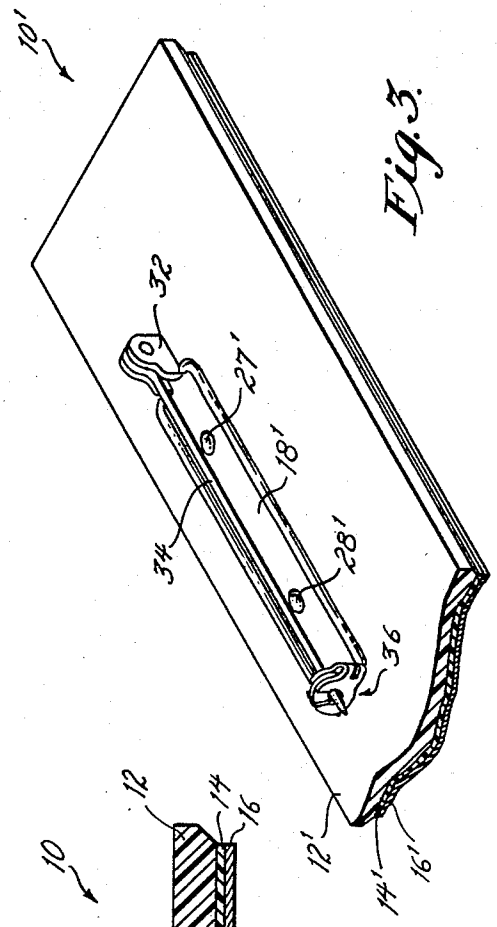


Fig. 3.

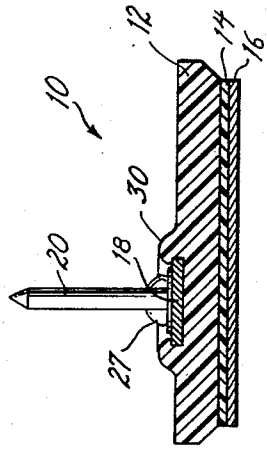


Fig. 2.

INVENTOR.
NORBERT SCHIMMEL
BY
Seidel & Gonda
ATTORNEY

United States Patent Office 3,323,966 Patented June 6, 1967

1

3,323,966

METHOD OF BONDING AN ATTACHMENT MEANS TO A BADGE SURFACE

Norbert Schimmel, New York, N.Y., assignor to Hermes Plastics, Inc., New York, N.Y., a corporation of New York

Original application May 31, 1963, Ser. No. 284,727, now Patent No. 3,257,747, dated June 28, 1966. Divided and this application Dec. 23, 1965, Ser. No. 515,853

3 Claims. (Cl. 156—298)

This application is a division of my copending application S.N. 284,727, filed May 31, 1963, for "Badge and Method of Making Same," now U.S. Patent No. 3,257,747.

This invention relates to a badge and a method of making the same.

Badges, brooches, identification devices and the like have been manufactured in a variety of different ways for many years. Heretofore, such badges and the like secured the fastening means to the body of the badge by rivets, clips, prongs on the fastening means, cut-out recesses in the body of the badge, etc. Such arrangements for securing the fastening means to the body of the badge necessitate manufacturing steps and require an increased number of components as compared with the present invention.

The badge of the present invention includes a body portion and a fastening means secured together with a fused joint. The body portion of the badge is preferably a heat fusable plastic material, such as cellulose acetate, any of the acrylics, polystyrene, polyethylene, polyvinyl chloride, etc. The fastening means is applied with pressure and in a heated condition against the body portion of the badge. The fused plastic material is permitted to flow through holes in the fastening means and permitted to solidify to effect a fused joint therebetween.

As a result of the present invention, the manufacturing process for making badges is materially simplified, badges may be made more economically, and the number of components is reduced to a minimum. While attaining these advantages, the badges of the present invention do not detract from the outward appearance of the badge, and the means for securing the attachment means to the body of the badge is not readily apparent from the front of the badge.

It is an object of the present invention to provide a novel badge and a method for making the same.

It is another object of the present invention to provide a badge wherein the body portion of fusable plastic material is fused to the attachment means for the badge.

It is another object of the present invention to provide a method for making a badge wherein a heated attachment means is applied with pressure against the body portion of a badge made from a fusable plastic material.

It is another object of the present invention to provide a novel badge and method of making the same which is economical, rapid, reliable, and utilizes a minimum number of parts.

Other objects will appear hereinafter.

For the purpose of illustrating the invention, there are shown in the drawings forms which are presently preferred; it being understood, however, that this invention is not limited to the precise arrangements and instrumentalities shown.

2

FIGURE 1 is a longitudinal sectional view through a badge of the present invention.

FIGURE 2 is a sectional view taken along the line 2—2 in FIGURE 1.

FIGURE 3 is a partial perspective view of a badge in accordance with another embodiment of the present invention.

Referring to the drawing in detail, wherein like numerals indicate like elements, there is shown in FIGURE 1 a badge designated generally as **10**.

The badge **10** includes a body portion **12** of heat fusable plastic material including but not limited to the acrylics, cellulose acetate, polystyrene, polyethylene, polyvinyl chloride, etc. The body **12** is a strip of material cut to the desired width and length. During the manufacture of the same, the step of cutting the body **12** to the desired length may be the ultimate step, if desired. A layer **14** of plastic material is joined to one face of the body **12**. Layer **14** may be any conventional material having writings thereon or capable of being embossed or otherwise printed to contain any information or ornamental configurations. A protective layer of paper **16** having a pressure-sensitive coating is juxtaposed and adheres to the exposed face of the layer **14**.

A fastening means is applied to the rear face of the body **12**. Such fastening means includes a thin, flat, plate-like section or layer of metal **18** having outwardly projecting prongs **20** at spaced points therealong. The prongs **20** extend through punched holes in metal **18** and the heads of the prongs are soldered or welded in place. Hence, the heads are not visible from above in FIGURE 1. For purpose of illustration, the body **12** may have a thickness of approximately 0.10 inch and the layer of metal **18** may have a thickness of approxiately 0.03 inch. In order that the prongs **20** may facilitate the mounting of the badge **10** on a support, conventional spring clips **22** will be provided for each of the prongs **20**.

The layer of metal **18** is provided with a pair of holes **24** and **26**. Holes **24** and **26** are preferably punched at the same time as the holes for the prongs. Integral projections **27** and **28** of plastic material from the body **12** extend through the holes **24** and **26**, respectively. It will be noted that the free end of the projections **27** and **28** terminates in a bead having a diameter greater than the diameter of the holes **24** and **26**. The projections **27** and **28** are fused to the layer of metal **18**. A ridge **30** of plastic material from the body **12** extends around the periphery of the layer of metal **18**.

In constructing the badge **10** of the present invention, the body **12** is supported on any convenient surface below a platen. The attachment means will be supported by the platen and heated by a coil on the platen. Pressure will be applied by the platen to force the heated attachment means against the rear face of the body **12**. The heat of the layer of metal **18** and the pressure with which it is applied against the body **12** cause the layer of metal **18** to be embedded in the body **12** so that the upper surface of the layer of metal **18** is substantially flush with the upper surface of the body **12**. The melted plastic material of the body **12** forms the ridge **30** and fuses upwardly through the holes **24** and **26** to form the projections **27** and **28**. When the fused plastic material of the body **12** has solidified, the attachment means will be

joined thereto by a fused joint. The enlarged bead at the free end of the projections **27** and **28** assures that the layer of metal **18** will be retained in a position locked against the body **12**. A partial locking effect is also attained by the ridge **30** which overlaps the uppermost surface of the layer of metal **18**.

All of the above steps may be accomplished in a very short period of time and may be effected by automatic or semi-automatic equipment. The heating of the body **12** to effect a fused joint is only locally on the uppermost surface immediately adjacent the layer of metal **18**. Thus, the heating equipment need not be large or expensive, and the layers **14** and **16** may have been applied previously to the body **12**. The body **12** may have previously been cut to the unit lengths which are desired or may be in strip form. If the attachment means are secured to the body **12** which is in strip form, with such attachment means being applied at spaced points therealong, the ultimate step in the method of manufacturing the badge **10** of the present invention would be the step of cutting the strip into unit lengths between adjacent attachment means. In view of the minimum number of parts being utilized, and the simplicity of effecting the mounting of the attachment means on the body **12**, the badge **10** of the present invention may be made faster and more economically than badges proposed heretofore.

In FIGURE 3 there is illustrated another embodiment of the present invention designated generally at **10'**. The badge **10'** is identical with the badge **10** except as will be made clear hereinafter. Hence, corresponding primed numerals are provided in FIGURE 3 for the corresponding elements of badge **10**.

Badge **10'** differs from badge **10** in the provision of a different type of attachment means. The attachment means of badge **10'** includes a layer of metal **18'**. On one end of the layer of metal **18'**, there is provided an integral rotary support **32**. Support **32** includes a pair of integral ears bent upwardly from the plane of the layer of metal **18'** and rotatably support one end of a stick-pin **34**. The free end of the stick-pin **34** is retained in a closed disposition by a conventional rotary latch **36** which is integral with the other end of the layer of metal **18'**. Holes corresponding to holes **24** and **26** are provided in the layer of metal **18'** between the support **32** and the latch **36**.

The present invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof and, accordingly, reference should be made to the appended claims, rather than to the foregoing specification as indicating the scope of the invention.

I claim:

1. A method of making a badge, brooch or the like comprising the steps of providing a layer of fusible plastic material, providing an attachment means having a flat plate-like section, heating said section, pressing said heated section against a surface of said fusible plastic material so that said heated section causes local melting of the fusible plastic material, said step of pressing being continued until said plastic material flows around and over at least a portion of the peripheral edge of said section and effects a fused joint between said section and said fusible plastic material.

2. A method of making a badge, brooch or the like comprising the steps of providing a layer of heat fusible plastic material, providing an attachment means having a flat plate-like section defined by a peripheral edge, heating said section to a temperature in excess of the melting point of said plastic material, pressing the heated section against the surface of said heat fusible plastic material so that portions of said layer of heat fusible plastic material adjacent said heated section are caused to fuse, continuing said step of pressing said heated section until the upper surface of said section is substantially flush with the upper surface of said layer so that fused portions of said layer flow over and around at least a portion of the peripheral edge of said plate-like section, and allowing said fused portions of said layer to solidfy to form a heat fused joint between said layer and said section.

3. A method of making a badge, brooch or the like comprising the steps of providing a layer of fusible plastic material, providing an attachment means having a flat plate-like section, providing at least one hole through said section, heating said section, pressing said heated section against a surface of said fusible plastic material thereby causing local heating of the fusible plastic material by said heated section to locally melt the fusible plastic material, continuing said step of pressing said heated section until said melted plastic material flows around and over at least a portion of the peripheral edge of said section and the periphery of the hole, and allowing said melted plastic material to solidify to form a fused joint between said section and said fusible plastic material.

References Cited

UNITED STATES PATENTS

213,784	4/1879	Smith	156—298
2,014,414	9/1935	Schneeweis	156—298
3,081,077	3/1963	Sudman	156—298 X

EARL M. BERGERT, *Primary Examiner.*

HAROLD ANSHER, *Examiner.*