

Nov. 4, 1958

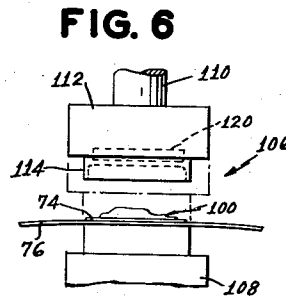
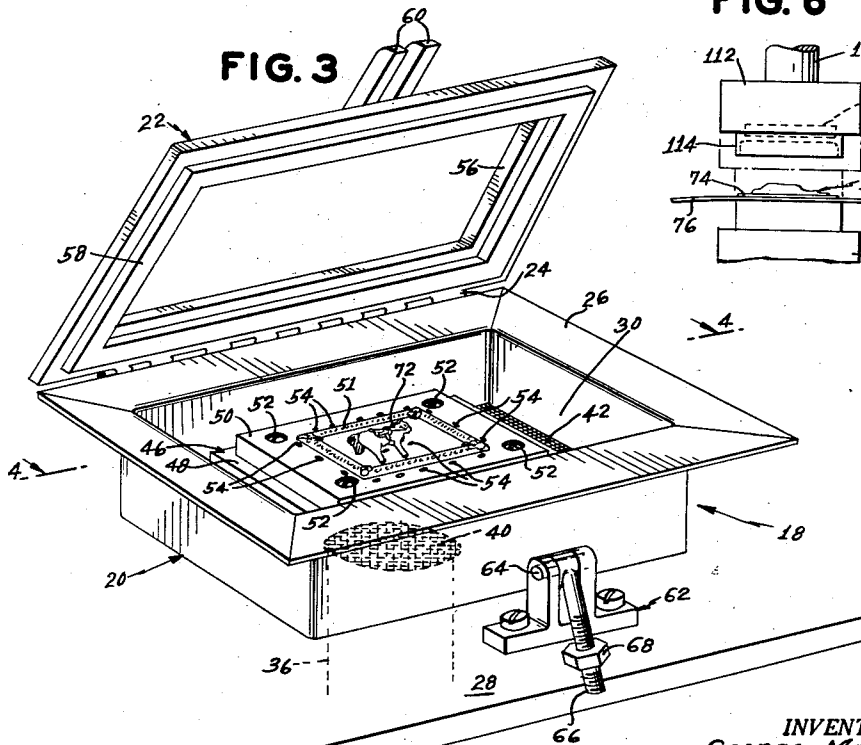
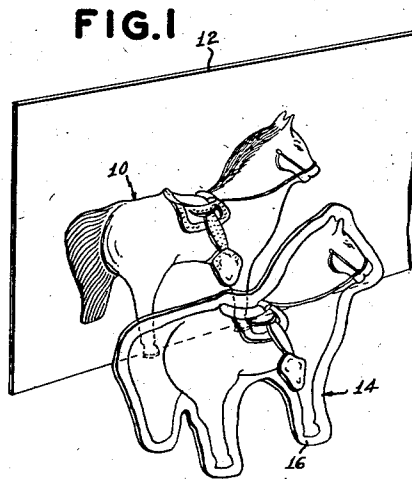
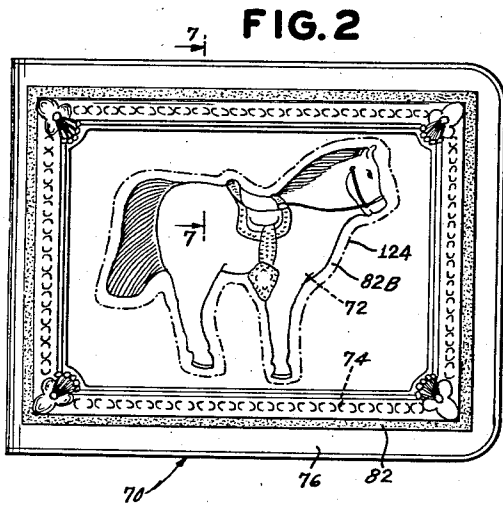
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2,859,152

METHOD OF APPLYING APPLIQUES

Filed April 8, 1955

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

FIG. 4

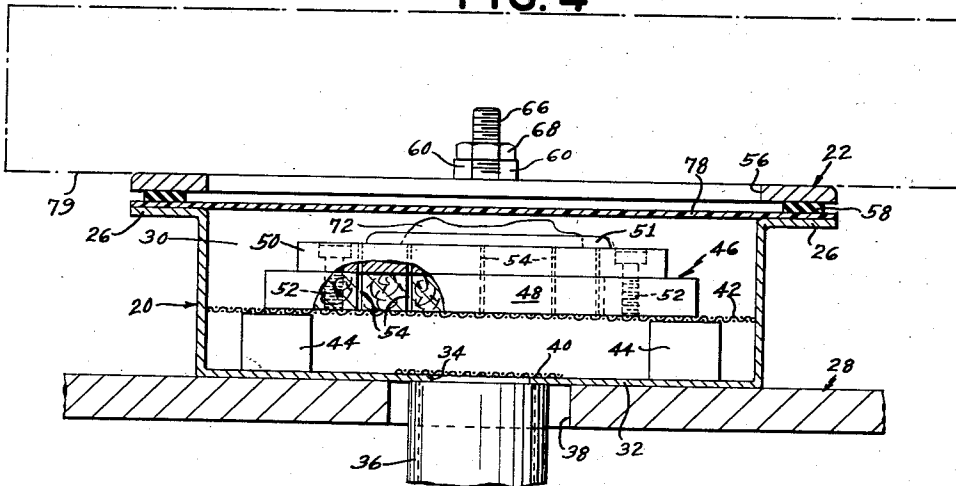


FIG. 5

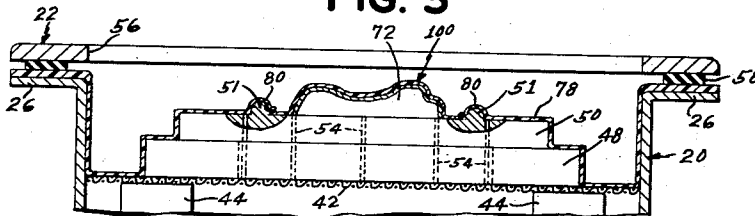


FIG. 10

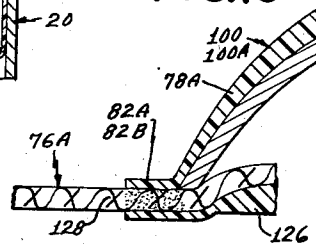


FIG. 8

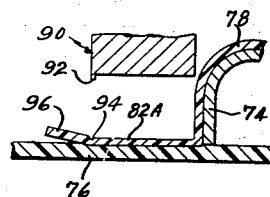


FIG. 7

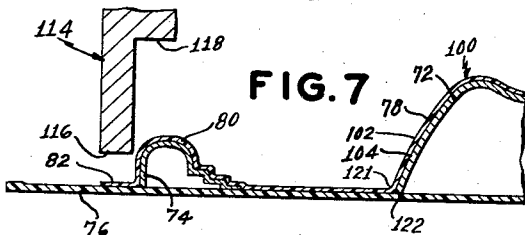
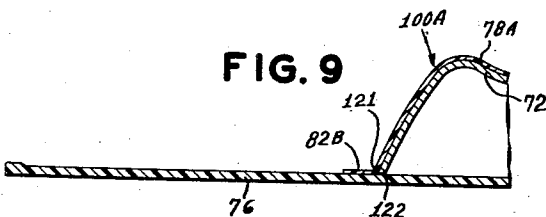


FIG. 9



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1

2,859,152

METHOD OF APPLYING APPLIQUES

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Application April 8, 1955, Serial No. 500,164

4 Claims. (Cl. 154—116)

This invention relates to ornamented articles and to a method of making such articles.

An object of the present invention is the provision of a generally simplified, efficient and relatively inexpensive method for forming an ornament for an article of manufacture and for mounting the ornament on the surface of the article. In this connection, it is a more specific object of the present invention to mount the ornament in position on the article without impairment to or damage to the article such as that which results from a stitching operation or from the use of adhesives.

Another object is the provision of an ornament for a surface part of an article of manufacture, which ornament can be formed of any suitable ornamental element available on the open market and which need not be specially fabricated.

Another object is the provision of an article of manufacture having a surface part of sheet material provided with a raised ornament which is held in position thereon without the necessity of providing a direct securement of the ornament to said part.

Another object is a method for securing an ornamental element of predetermined surface contour on a sheet material member by means of a light permeable element which overlies said ornamental element and is sealed to the sheet material member, which method obviates the necessity of separately forming the light permeable element to the surface contour of the ornamental element and then assembling said elements in surface to surface relation.

The above and other objects, features and advantages of the present invention will be more fully understood from the following description considered in connection with the accompanying illustrative drawings.

In the drawings which illustrate the best mode now contemplated by us of carrying out our invention;

Fig. 1 is an exploded view illustrating a method of securing an ornamental element on the surface of a sheet material member;

Fig. 2 is a side view of a wallet provided with an ornamental element pursuant to the present invention;

Fig. 3 is a perspective view of molding apparatus utilized in the practice of the present invention, said apparatus being illustrated in the inoperative condition thereof;

Fig. 4 is a sectional view, on an enlarged scale, taken on the line 4—4 of Figure 3, with the molding apparatus in the operative condition thereof;

Fig. 5 is a fragmentary view similar to Figure 4, with parts broken away and illustrated in section for purposes of illustration;

Fig. 6 is a view, in side elevation, of a heat sealing press utilized in performing the method of the present invention, and illustrates a sheet material element positioned on the bed thereof and an ornament positioned on the sheet material preparatory to the securement of the ornament on the sheet material;

Fig. 7 is a sectional view, on an enlarged scale, taken

2

on the line 7—7 of Figure 2, and illustrates the die of the heat sealing press in retracted position;

Fig. 8 is a fragmentary view, on an enlarged scale, similar to Fig. 7, showing a modified form of die and an intermediate step in the decoration of the wallet;

Fig. 9 is a view similar to Fig. 7 and illustrates a different ornament on the wallet; and

Fig. 10 is a fragmentary sectional view, on an enlarged scale, similar to Fig. 9, and illustrates the ornament applied to a textile part.

The present invention is a continuation-in-part of our copending application, Serial No. 483,197, filed January 21, 1955, now Patent No. 2,726,941, dated December 13, 1955. As illustrated and described therein, and as shown herein in Figure 1, on ornament 10 of raised surface contour is held in position on the surface of a sheet material part 12 by means of a light permeable element 14. More specifically, the light permeable element 14 is formed of thermoplastic sheet material which is first molded into a shape complementary to the ornament 10. In order to mount the ornament 10 in position on the surface of the sheet material part 12, the light permeable element 14 is superposed on the surface of the sheet material part 12 in registry with the ornamental element 10 which is disposed therebetween. The light permeable element 14 is provided with a peripheral edge 16, which is substantially continuous to extend about the ornamental element 10 when the light permeable element is assembled therewith. The peripheral edge 16 is heat sealed or fused to the sheet material part 12 to hold the ornamental element 10 in position on the surface of the sheet material part 12. The peripheral edge 16 on the light permeable part may be formed by an independent operation, prior to the sealing of the light permeable part to part 12, or it may be formed as a part of the heat sealing operation during which a tear edge is defined in part 14, the peripheral edge 16 being defined within the tear edge and remaining when the excessive material outwardly of the tear edge is removed.

Pursuant to the present invention, the necessity of effecting the registry of the elements 10 and 14, prior to the sealing operation, is eliminated. Pursuant to the present invention an ornament is formed by molding a thermoplastic sheet member over a suitable prefabricated ornamental element, to form a unit therewith, and the ornamental unit is then fused to the particular article or sheet material member which is to be decorated therewith. This eliminates the necessity for effecting the registration of the ornamental element and the light permeable element and consequently simplifies the procedure involved in mounting the ornamental element on the sheet material part and also reduces the costs involved in producing the decorated article. In order to provide an ornament, pursuant to the present invention, provision is made for a draw box 18 (Figs. 3, 4 and 5) comprising a base 20 and an apertured cover 22, which is hinged, as at 24, to a continuous peripheral flange 26 provided on the base 20. The open base 20 is suitably mounted on a support 28 and defines a chamber 30 in which a vacuum molding operation is performed for molding a sheet of light permeable thermoplastic material over an ornamental element. In order to develop the required vacuum within the chamber 30, the bottom wall 32 of the base 20 is apertured, as at 34. A pipe or conduit 36 is connected at one end thereof to a suitable vacuum pump (not illustrated) and the other end thereof extends through an aperture 38 in the table 28 so as to register with the aperture 34, as best illustrated in Fig. 4. A screen 40 overlies the aperture 34 to prevent the entry of foreign matter into the conduit 36.

A second screen 42, substantially coextensive with the interior of the base 20, is mounted therein by the spacing

members 44—44 provided on the bottom wall 32. A die assembly 46 is mounted on the screen 42, being supported by the members 44. Said assembly comprises a support plate 48 made of suitable material, preferably wood, and a metal die 50 suitably secured to the plate 48, as by the screws 52. The die assembly 46 is provided with a plurality of transversely extending passageways or air ducts 54 which extend completely through both the die 50 and the support plate 48, as best illustrated in Fig. 4.

The cover 22 has the aperture 56 defined therein which extends throughout the major extent thereof. It will be noted from Fig. 4 that the aperture 56 in said cover is substantially coextensive with the inner periphery of the flange 26, on the base 20. A sealing gasket 58, formed of resilient material, is provided on the inner surface of the cover and extends about the opening 56 thereof. In order to clamp the cover against the flange 26, the cover is provided with the spaced clamping members 60—60 and the table 28 is provided with the bracket 62 which pivotally mounts, as at 64, a threaded bolt 66 provided with the adjustable clamping nut 68. It will be understood that when the cover is closed on the flange 26, the bolt 66 is inserted between the clamping members 60 and the nut 68 is threaded into engagement therewith, as best illustrated in Fig. 4, to clamp the cover on the base.

Figure 2 illustrates a wallet 70 which has been decorated pursuant to the present invention. It will be noted that the decoration comprises a prefabricated ornamental element 72, here shown as a horse, formed of a suitable material, preferably metal, and an ornamental frame 74 which surrounds the horse. In forming said decoration for the sheet material wall 76 of the wallet 70, the ornamental element 72 is positioned on the die 50, as best illustrated in Fig. 3. It will be noted that, as here shown, the die 50 has a raised border-defining portion 51, the element 72 being centered within said die portion. A light permeable thermoplastic sheet 78, preferably formed of transparent vinyl, is disposed on the flanges 26 of the base 20 so as to completely overlie the latter, as best illustrated in Fig. 4. The cover 22 is then closed and clamped into position on the base 20 by the previously described clamping means 60, 66 and 68. The resilient gasket 58 clamps the sheet 78 against the flanges to form an air tight seal about the sheet and holds the sheet in position on the flanges. A conventional quick-heating device 79 (Fig. 4) is then moved into position above the apertured cover of the draw box 18 so as to heat and soften the plastic sheet 78. For example and not by way of limitation, the vinyl sheet is heated preferably to about 550 degrees Fahrenheit until it is softened. The vacuum pump (not illustrated) is then operated to exhaust the air below the vinyl sheet 78 through the conduit 36 so as to mold the vinyl sheet over the ornament 72 and the die 50, as best illustrated in Fig. 5. The application of both the heat and the vacuum is then discontinued, the bolt 66 is removed from the clamping members 60, the cover 22 is opened and the vinyl sheet 78 with the ornament 72 molded therein is removed from the draw box 18.

The resultant ornament 100 is constituted by the ornamental member 72 and the light permeable member 78 secured together as a unit. In said unit the raised outer surface contour 102 of member 78 is matched to the raised outer surface contour 104 of member 72, with the inner surface contour of member 78 defining a cavity therein corresponding to the raised outer surface contour of member 72 so that the two members are disposed in interfitting relation with the raised surface of member 72 nested within member 78.

In the ornament 100 illustrated in Fig. 5, the member 78 is molded in the form of a frame 80 about the ornamented member 72, said frame having been molded over the die frame portion 51. Pursuant to one method of practicing the invention, the light permeable member 78

of the ornament 100 is cut about the frame portion 80 thereof to define a peripheral sealing flange 82 which extends completely thereabout and which encompasses the frame portion 80 thereof. A prefabricated ornamental frame member 74 is then inserted into the molded frame portion 80 of the ornament 100 and the assembly is secured to the thermoplastic sheet material member 76 which will constitute a wall of the wallet 70.

A heat sealing press 106 (Fig. 6) is employed to seal the ornament 100 to the sheet material member 76. Said press is provided with a stationary bed or base 108 and has a reciprocable ram 110 provided with a head 112 which mounts a die 114. The sheet material member 76 is disposed on the base 108 and the ornament 100, provided with the frame 74, in registry within the portion 80, is mounted thereon, as best shown in Fig. 7. The die 114 is provided with a sealing edge 116, complementary to the peripheral edge 82 and is recessed, as at 118, to clear the remainder of the ornament 100. The die may be directly heated, as by the heating element 120, or the press 106 may be provided with well known means to heat the members 80 and 76 by dielectric heating. In either case, the die 114 is pressed against the peripheral edge 82 to fuse the latter to the sheet material member 76 about the ornamental frame member 74 for securing both said frame member and the ornamental element 72 in position on the surface of the sheet material part 76, as illustrated in Fig. 2.

Referring now to Figure 8, a modified form of heat sealing die 90 is illustrated. The die 90 differs from the die 114 in the provision of a marginal projection or edge portion 92 which is adapted to form a tear edge 94 in the light permeable sheet material member 78. Where the die 90 is utilized, the vinyl sheet 78 need not be initially cut to provide the peripheral sealing edge 82 as in Fig. 7. As illustrated in Figure 8, the die 90, in one operation, defines a peripheral edge 82A about the element 74, seals said edge to the sheet material part 76, and provides the tear edge 94, as fully illustrated and described in our previously identified copending application. The excess material 96 outwardly of the tear edge 94 may readily be removed therefrom by tearing the latter off along a tear edge.

It is within the scope of the present invention to secure the ornamental element 72 in position on the sheet material part 76 without the addition of a second ornamental element as in Fig. 7. In this connection, the previously described portion 51 of the die 50 which molds the frame portion 80 within the plastic sheet 78 is eliminated. The ornamental element 72 would be placed on the die 50, in the same manner as previously described, and would be molded into the vinyl sheet 78 to form an ornament 100A (Fig. 9) which comprises only the ornamental member 72 molded in surface relation to the thermoplastic light permeable member 78A. A peripheral sealing edge 82B is provided on the light permeable element 78A, about the marginal edge of the decorative element 72, it being noted that the member 78A has a peripheral outline 121 formed therein which is complementary to the periphery 122 of the member 72, in the same manner that a similar peripheral outline 121 is defined in member 78 complementary to the periphery 122 of the ornamental element 72 thereof. The sealing edge 82B can be provided on member 78A, either by first cutting the excess material outwardly of the peripheral edge 82B from the sheet 78A and then fusing the peripheral edge 82B to the sheet material part 76, as previously described in connection with Figure 7 or the edge 82B may be provided and heat sealed or fused to the part 76, in one operation, through the provision of a die which is provided with a tear part 92, as described in connection with Figure 8. In either case, the wall 76 of the wallet 70, would have a decoration thereon which terminates at the broken line 124 in Fig. 2, which indicates the outer margin of the peripheral edge 82B.

5

In the previously described embodiments, the ornament 100, or 100A, is sealed or fused to a thermoplastic member 76, with the light permeable overlying member 78 or 78A exposing to view the underlying ornamental element 72 which is retained in position on the member 76 solely by the fusing of the member 78 or 78A, thereto. Referring now to Fig. 10, the ornament is shown secured to a textile or fabric sheet material member 76A. As described in our copending application, Serial No. 490,869, filed February 28, 1955, now Patent No. 2,729,010, dated January 3, 1956, this is accomplished by placing a thermoplastic sheet 126 against one surface of the textile sheet 76A. The ornament 100 or 100A, as the case may be, is disposed against the other surface of the textile sheet 76A. A suitable die 90 or 114, as the case may be, is used to seal the peripheral edge 82A or 82B, as the case may be, in Fig. 10, by fusing the thermoplastic member 78A to the thermoplastic member 126 through the interstices 128 of the textile material. As previously described, the heat may be applied either directly to the die or by dielectric heating to the elements to be fused together, so as to effect said fusing along the peripheral edge of the ornament 100A.

While the ornamental elements have been illustrated and described as being constituted by an ornamental horse and an ornamental frame element, it will be apparent that any other suitable prefabricated ornamental elements, available on the open market may be used, and further, that the sheet material part 76 or 76A may be used in various other applications in addition to constituting a wall of a wallet.

While we have shown and described the preferred embodiments of our invention, it will be understood that various changes may be made in the idea or principles of the invention within the scope of the appended claims.

Having thus described our invention, what we claim and desire to secure by Letters Patent is:

1. The method of providing a decorative inlaid ornamental applique element on the surface of a thermoplastic part with the applique element being normally non-heat sealable to said part, said method comprising molding a light permeable member in surface-to-surface relation with the applique element with a part of the light permeable member extending outwardly of the outer edge of the applique element to form a unitary inlaid ornamental article comprising said applique element and said light permeable member, and securing said ornamental article on the surface of said thermoplastic part with the applique element disposed between the thermoplastic part and the light permeable member by heat sealing the outwardly extending part of the light permeable member outwardly of the outer edge of the applique element.

2. The method of providing a decorative inlaid ornamental applique element on the surface of a thermoplastic part with the applique element being normally non-heat sealable to said part, said method comprising vacuum-

6

molding a light permeable thermoplastic sheet material member in surface-to-surface relation with the applique element with a part of the light permeable member extending outwardly of the outer edge of the applique element to form a unitary inlaid ornamental article comprising said applique element and said light permeable member, and securing said ornamental article on the surface of said thermoplastic part with the applique element disposed between the thermoplastic part and the light permeable member by heat sealing the outwardly extending part of the light permeable member outwardly of the outer edge of the applique element.

3. The method of providing a decorative inlaid ornamental applique element of predetermined raised surface contour on the surface of a thermoplastic part with the applique element being normally non-heat sealable to said part, said method comprising molding a light permeable thermoplastic sheet material member in surface-to-surface relation with the applique element so as to provide a member overlying said applique element and having a raised contoured surface corresponding to the raised contoured surface of the applique element with a part of the light permeable member extending outwardly of the outer edge of the applique element and simultaneously forming a unitary inlaid ornamental article comprising said applique element and said thermoplastic sheet material member, and fusing said ornamental article on the surface of said thermoplastic part with the applique element disposed between said thermoplastic part and the light permeable member by heat sealing the outwardly extending part of the light permeable member inwardly of the outer edge of said thermoplastic part adjacent to and outwardly of the outer edge of the applique element.

4. The method of providing a decorative inlaid ornamental applique element on the surface of a textile material, said method comprising molding a light permeable thermoplastic sheet material member in surface-to-surface relation with the applique element with a part of the light permeable member extending outwardly of the outer edge of the applique element to form a unitary inlaid ornamental article comprising said applique element and said light permeable member, interposing said textile material between a thermoplastic sheet material and said unitary inlaid ornamental article, and fusing the outwardly extending parts of said light permeable member to the last mentioned thermoplastic sheet material through the textile material.

References Cited in the file of this patent

UNITED STATES PATENTS

1,980,022	Whitehouse	Nov. 6, 1934
2,620,289	Douglas	Dec. 2, 1952
2,718,484	Baroumes	Sept. 20, 1955
2,726,941	Markus et al.	Dec. 13, 1955
2,729,009	Markus et al.	Jan. 3, 1956