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REVERSIBLE GLOVE DIPPING FORM

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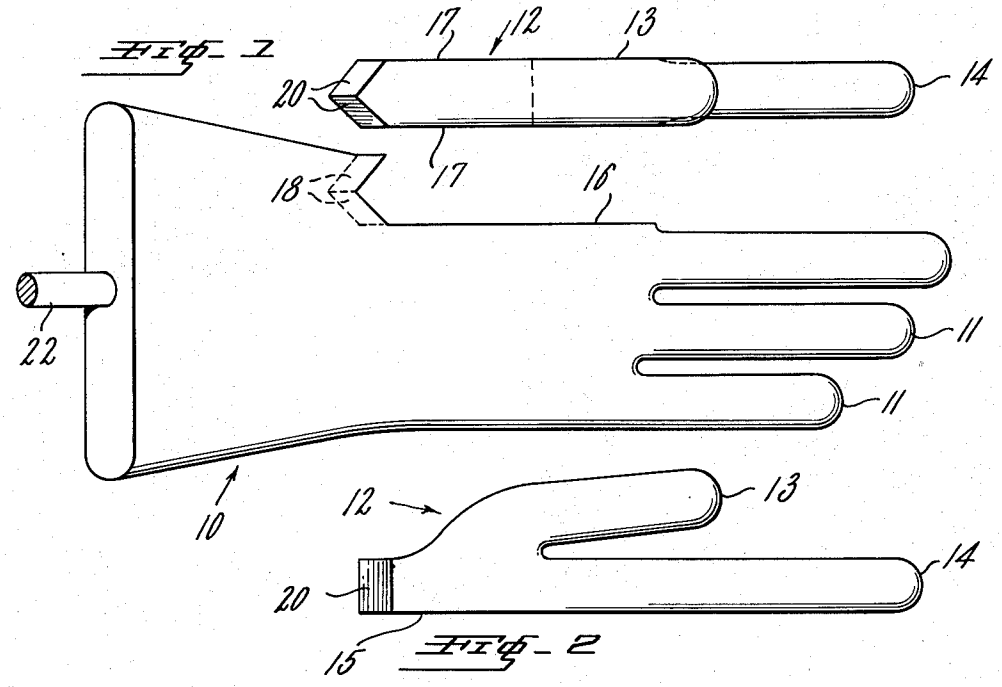


Fig. 1

Fig. 2

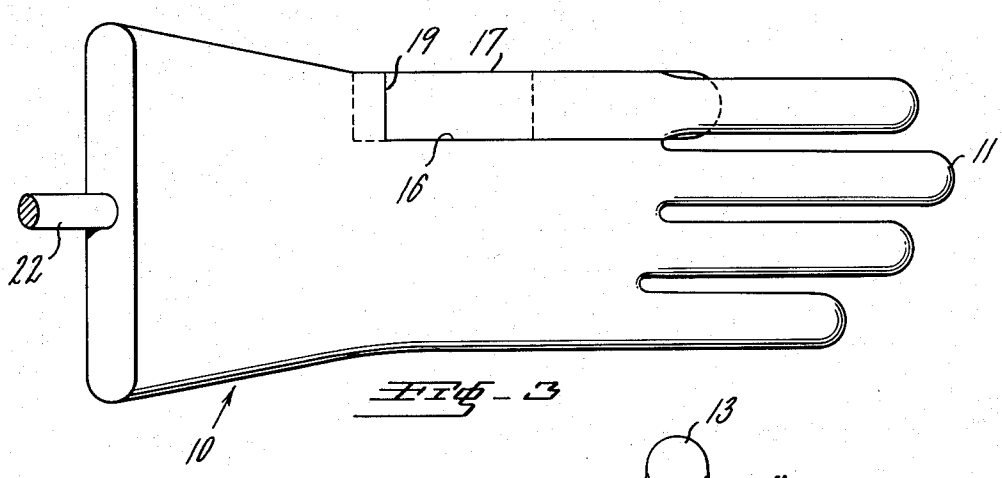


Fig. 3

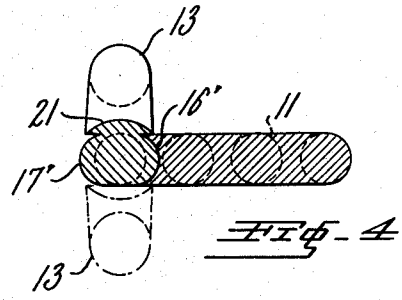


Fig. 4

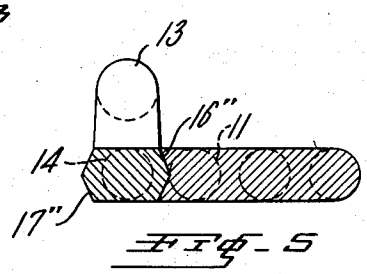


Fig. 5

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REVERSIBLE GLOVE DIPPING FORM

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3 Claims. (Cl. 18—41)

This invention relates to a reversible glove form and is particularly useful for filling and shaping textile gloves which are to be coated with a latex or other coating material by a dipping process.

Gloves having a fabric lining and covered either in whole or in part by rubber or other suitable coating material are manufactured in great numbers because this construction provides a warmer or stronger glove than the unlined dipped glove and because in those applications where only a portion of a glove need be impervious, a fabric glove which is coated in part may be less expensive than an all rubber glove. These gloves are manufactured by stretching a textile glove on a form so that the surface of the textile glove is smooth, and then coating the stretched glove by a dipping or other suitable coating process. These gloves are normally made in pairs and great numbers of right and left glove forms are used by manufacturers of these gloves.

In the manufacture of these gloves by a dipping process, a great many pairs of glove forms are mounted on a dipping rack to be dipped as a single unit. The glove forms on the rack are covered with the appropriate right or left hand textile glove, and the forms are immersed in the dipping bath simultaneously to coat the gloves. It frequently happens that, at any given time, any defective gloves produced by this process are largely gloves for one hand only. Therefore to complete the required numbers of pairs of gloves, either the form for the unwanted glove must be removed from the rack to preclude its fouling during the dipping operation, or spare glove forms must be used. In either event the result is increased manufacturing cost, for many glove forms are idle while the defective gloves are being replaced.

It is an object of this invention to provide a glove dipping form which is reversible so that it can be used to make gloves of the type described for either the right or left hand as desired. Thus when the reversible glove form of this invention is used, substantial savings in the manufacturing costs of these gloves may be achieved both by reducing the investment in glove forms and by reducing the idle time of each glove form.

A more specific object of this invention is to provide a glove form made of two units, in which the thumb and forefinger form a separable, so called, thumb unit which can be reversed on the remainder of the glove form and locked in place to produce either a right or left hand glove form as desired. The reversible thumb unit is generally symmetrically constructed, excepting for the thumb portion thereof, so that when reversed the only substantial change in the hand outline resides in the direction in which the thumb projects from the glove form. The other unit of the glove form is similarly arranged to receive either a right or a left hand glove. The thumb and hand units are so constructed that when they are assembled in a textile glove, the forces exerted on the form by the glove will hold the units as a unitary form. Yet these units are constructed so that the two parts may be

separated and assembled readily; hence the form may be inserted and removed from a glove with ease.

For a better understanding of the nature of this invention, reference should be had to the following description and the accompanying drawing illustrating the invention, wherein:

Fig. 1 is an exploded view substantially in plan of a glove form embodying this invention;

Fig. 2 is a side elevation of the thumb unit of the glove form of Fig. 1;

Fig. 3 is a plan view of an assembled glove form having a slightly modified thumb unit and showing the thumb unit reversed with respect to Fig. 1;

Fig. 4 is a sectional view through an assembled glove form looking toward the finger tips showing a further modification of the thumb unit; and

Fig. 5 is a sectional view similar to Fig. 4 showing still another modification of a glove form according to this invention.

Referring now to Fig. 1 of the drawing, there is shown a reversible glove form according to this invention comprising a palm unit **10** having fingers **11** thereon. This palm unit carries the post **22** by which it may be fixed to a dipping rack. In order that this glove form may be reversed to receive both a left and a right hand glove, the fingers **11** project substantially in a common plane with the palm as best shown in Figs. 4 and 5, so the palm member fits either glove of a pair. Adapted to be joined with this palm unit to complete the glove form, but separable therefrom, is a thumb unit **12** comprising a thumb **13**, a forefinger **14** and a base portion **15**. The thumb unit is constructed to fit either glove of a pair, for the forefinger **14** projects in a common plane with the other fingers **11** when the thumb is in either the right or left hand glove position.

As best shown in Figs. 1 and 3 of the drawing, the forefinger area of the palm unit **10** has a plurality of faces which define shoulders that are adapted to engage the thumb unit **12**. A longitudinal face **16** extends substantially in the finger direction to form a shoulder which will prevent lateral movement of the thumb unit **12** relative to the palm unit when the glove form is assembled. Further faces angularly disposed to the finger direction form a transverse shoulder which is adapted to limit the longitudinal movement of the thumb unit when the thumb and palm units are assembled in a completed glove form. In the embodiment shown in Fig. 1 this transverse shoulder comprises a pair of faces **18** symmetrically disposed for a purpose which will be pointed out hereinafter. In the embodiment shown in Fig. 3 this shoulder comprises a single face **19** disposed substantially at right angles to the longitudinal face **16**. Together the longitudinal and transverse shoulders define a cut-out portion in the forefinger area through the palm unit **10** which is adapted to receive the body portion **15** of the thumb unit **12** when the glove form is assembled.

As best shown in Figs. 1 and 3 the thumb unit **12** is constructed to present the same appearance when reversed excepting that the direction of thumb projection is reversed. Thus it is provided with the two symmetrically disposed longitudinal faces **17** which are adapted to cooperate with the face **16** of the palm unit when the glove form is assembled. Similarly in the embodiment of the invention shown in Fig. 1, the thumb unit has a plurality of transverse faces **20** which are symmetrically disposed at the base of the body portion **15** on the thumb unit and which are adapted to cooperate with the faces **18** of the transverse shoulder of the palm unit **10**. The embodiment shown in Fig. 3 has a corresponding single transverse face which is adapted to cooperate with the transverse face **19** on the thumb unit.

The symmetrically disposed longitudinal faces **17** will

cooperate with the longitudinal face **16** when the glove form is assembled, and will thereby prevent lateral movement of the thumb unit relative to the palm after the form is assembled. Since these faces **17** are symmetrically disposed on the thumb unit, it will be apparent that one face will cooperate with the face **16** to prevent such movement regardless of whether the form is assembled to fit a right or left hand glove. Similarly, since the faces **20** are symmetrically disposed on the thumb unit **12**, they will cooperate with the symmetrical faces **18** on the palm unit when the glove form is assembled for either hand. These transverse faces on the thumb unit abut against the transverse shoulder on the palm unit and thereby the thumb unit will be locked against longitudinal movement relative to the palm unit **10** when the glove form is assembled.

To use the glove form of this invention, the units are inserted separately in a glove, such as a textile glove, with the fingers of the palm unit positioned in the glove fingers, and with the thumb unit positioned in the glove thumb and first finger. The separate units are assembled in the glove by moving the body portion **15** of the thumb unit **12** into the cut-out portion of the palm unit **10**. This can be done quite readily for the gloves, which are normally cloth gloves, will flex and stretch while the thumb unit is being positioned properly. After the thumb unit has been positioned in the cut-out portion of the palm unit it will be locked securely in place by the contracting forces which the textile glove will exert on the glove form, for the glove is stretched on the form to provide a smooth outer surface to receive the coating. The stretched glove exerts a contracting transverse force on the glove form to hold the longitudinal faces **16** and **17** in abutting relation, and it exerts a longitudinal contracting force on the glove form to hold the transverse faces **18** and **20** in abutting relation.

Referring now to Figs. 4 and 5, there is shown a slightly modified type of glove form according to this invention, in which the cooperating longitudinal faces are given a somewhat varied configuration to effect a better locking of the units in the assembled position. Thus in the embodiment shown in Fig. 4 the planar surface **16** of Fig. 3 has been changed to an arcuate surface **16'**, and the faces of the thumb unit **12** have been given a complemental arcuate configuration **17'**. In the embodiment shown in Fig. 5 these faces have an angular configuration **16''** and **17''**. Although generally the contracting forces exerted by a glove on the assembled glove form will be sufficiently strong to hold a form such as those shown in Figs. 1 and 3 assembled during a dipping operation, the modifications shown in Figs. 4 and 5 provide a longitudinal key-way lock which increases the rigidity of the assembled form without detracting from the ease of assembly.

In the embodiment shown in Fig. 4, the thumb unit is provided with an overhanging lip **21** which is adapted to extend beyond the plane of the shoulders **16'** on the palm unit when the unit is assembled. This lip **21** helps hold the two units in the assembled position, and is useful in assembling the glove. Since the units must be assembled by "feel" inside a glove, a lip **21** which can be pressed into place against the surface of the palm unit **10** greatly facilitates the assembly of the glove form.

Although specific embodiments of this invention have been shown in the drawing, it will be appreciated that the construction may be varied from those shown without departing from the scope of this invention. Thus, the cooperating faces **16** and **17** may be disposed at a slight angle to the finger direction, should it be desired to provide the upper portion of the palm with a slight inward taper toward the fingers. Further, although the body portion of the thumb unit should be substantially symmetrical so that it may be reversed on the palm unit without altering the functional interlocking of the thumb and palm units, it will be appreciated that it need not be constructed to provide the glove form with a perfectly symmerical hand outline. Thus the lip **21** and the curved face **17'** which break the symmetry of the hand outline do not detract from the functional effectiveness of the glove form.

From the foregoing, it will be evident that this invention provides an efficient reversible glove form which can be assembled readily, yet which, because of the positioning of the cooperating faces to secure the benefit of the contracting forces of a stretched glove, will be locked securely into a unitary glove form when it is used in a glove.

Having thus described my invention, what I claim and desire to protect by Letters Patent is:

1. A reversible glove dipping form including in combination, a thumb unit comprising a thumb and forefinger, a palm unit having thereon fingers, the forefinger on said thumb unit and the fingers on said palm unit being adapted to extend in a common direction and said thumb being adapted to project from the plane of said fingers when the units are assembled, a first face on said palm unit adapted to receive the thumb unit and to arrest its lateral movement, a second face on said palm unit angularly disposed to the finger direction and adapted to receive the base of said thumb unit to prevent longitudinal movement thereof toward the base of said form, two faces constituting the sides of said thumb unit, said faces on said thumb unit being substantially symmetrically disposed relative to an axis substantially parallel to the axis of the forefinger and about which said thumb unit is adapted to be rotated to reverse said thumb unit, said faces on said thumb unit being adpated to abut against the first face on said palm unit alternately when said form is assembled to receive a right or left hand glove, and a face at the base of said thumb unit adapted to abut against said second face on said palm unit when said form is assembled.

2. A dipping form in accordance with claim 1 including on said unit a lip adapted to extend over the juncture of two of the cooperating faces on said thumb and palm unit when said form is assembled to arrest movement of said units relative to each other in a plane substantially perpendicular to the plane of the fingers of the form.

3. A dipping form in accordance with claim 1 including a key formed on one of said units at a face adapted to abut against the other of said units and a cooperating key-way on the face of the other of said units adapted to receive said key to lock said units together in the assembled position of said form.

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