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R. W. HEMPHILL

2,384,741

HOLLOW FORM

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Fig. 1.

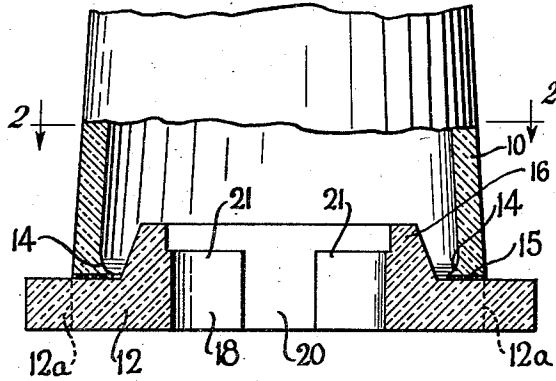


Fig. 2.

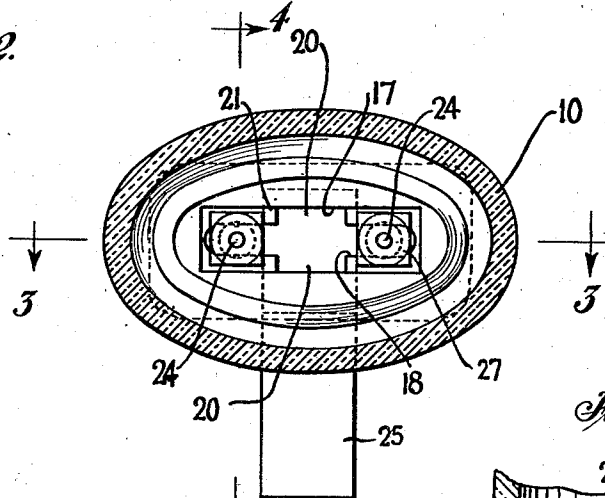


Fig. 3.

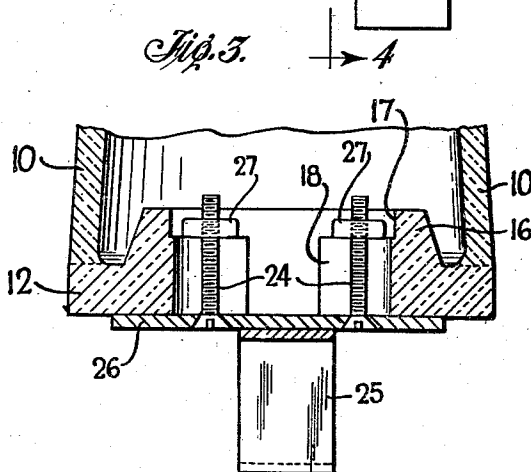
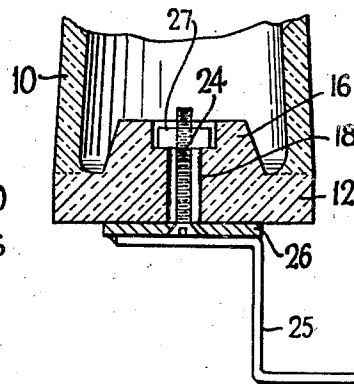


Fig. 4.



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HOLLOW FORM

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Application November 16, 1944, Serial No. 563,777

4 Claims. (Cl. 18—41)

The present invention relates to the manufacture of hollow forms such as employed in the making of rubber gloves or other goods of a like nature. These articles are generally known as "dipped goods." The forms are commonly made of porcelain or other ceramic material and are coated with a glaze, the forms being usually dipped in solutions or dispersions of rubber which deposit thereon thin films which are subsequently dried and vulcanized. For facilitating the handling of these forms during the dipping, drying and vulcanizing operations, they are usually secured to metal straps or clips which are attached through the base of the form. Ordinarily, the base of the form is a slab of ceramic material similar to that composing the body of the form and the bolts or other securing means by which the form is attached to the strap or clip are passed through this base. Alternatively, the base of the form may be a plug which is inserted in the lower end of the form body.

The forms are apt to be handled roughly during the manufacturing operations and the danger of cracking the bases of the forms about the points where the fastening means enter is quite a serious one and results in much loss of costly dipping equipment. Also in forms provided with a plug type base such as shown in the expired patent to Criner No. 1,410,169 of March 21, 1922, the danger of breaking the cement which holds the plug in place is a serious objection.

The present invention has for its object the design of a ceramic form of the general type set forth in which the slab of ceramic material which constitutes the base of the form is provided with a heavily reinforced internally located projection or enlargement which is specially formed so as to provide a secure anchorage for the bolts or other attaching devices by which the form is attached to the clip or support.

In the drawing and description is disclosed one example of the invention as it has been perfected, but it will be understood that the details are not essential and these may be varied or improved within the scope of the invention as set forth in the appended claims.

In the drawing in which the best known and preferred form of the invention is illustrated:

Fig. 1 is a side view of the form partially completed, the lower portion of the form being in section;

Fig. 2 is a horizontal section on the line 2—2 of Fig. 1, showing a completed form with a metal strap attached thereto;

Fig. 3 is a section on the line 3—3 of Fig. 2; and Fig. 4 is a section on the line 4—4 of Fig. 2.

The method followed in the manufacture of the form is similar to that shown in the prior patent to James R. Hemphill, No. 2,261,583 dated November 4, 1941. The main body of the hollow ceramic form is indicated at 10 and is usually made of a high grade porcelain stock. The upper part of the form, which is omitted from the drawing, is of the shape desired for the completed rubber article. The base 12 of the form is of the same stock and is usually formed in the raw state somewhat larger than the perimeter of the body, as shown in Fig. 1, being subsequently trimmed along the dotted line 12^a to the finished dimensions.

During the formation of the body an enlarged fillet, indicated at 14, is provided around the inside lower edge of the body and an intervening layer of slip 15 is applied to the lower edge of the body so as to adhere the base in place. When the form is trimmed and baked it is almost impossible to discern any line of division between the base and the lower edge of the body. This procedure makes a very strong union between base and body and there is no tendency whatever to fracture at the line of junction between these two portions of the form. This method of joining the base to the hollow body is particularly desirable in forms which are attached to metal clips or straps.

The difficulty with forms as shown in the prior Hemphill patent referred to above is that a base slab of the uniform thickness shown therein will easily fracture at the points of attachment when a form is roughly handled by the attached clip. It has been customary to use metal plates on either side of the base through which the clamping bolts pass and the breakage with this type of fastening has been quite an important item of expense in the manufacturing operations.

In order to improve upon and strengthen the form at this point, the base of the form is provided with a substantially thickened portion or projection 16 which in the particular form shown is elliptical in shape and projects into the interior of the body for a substantial distance. The upper portion of this enlargement is cut away to provide a rectangular recess 17 which usually extends about one-third of the depth of the enlargement. Coextensive longitudinally with the recess 17 is the slot 18 which extends through the base. At the central portion of the slot its walls are cut away on either side to the width of the recess as at 20, giving the slot 18 a somewhat cross-shaped configuration, but leaving pairs of

ledges 21 at either end of the recess which form abutments for the securing bolts.

The clip or form support usually consists of a metal plate 26 which lies against the base of the form and to this plate the angular arm 25 of the clip is welded. Screw threaded bolts 24, the heads of which are seated in the plate 26 pass through the slot 18 and at their upper ends engage the nuts 27 which rest upon the ledges 21 and are prevented from turning by the walls of the recess 17. In assembling the clip on the form the bolts 24 are first inserted in the plate 26 and the nuts started on the ends of the bolts. Sufficient looseness of the bolts permits the nuts to be passed successively through the wide central portion of the slot and then moved to positions over their final seats. The screws are then rotated, drawing the nuts to their seats and tightening the clip. This method of attaching the clip may be varied, if desired. The nuts 27 constitute the clamping means in association with the screw-threaded bolts, but an obvious variation would be to substitute ordinary headed bolts for those shown and to reverse the position of the bolts, in which case the heads of the bolts would be the clamping means which rest upon the ledges 21.

Such forces as may be exerted due to rough handling of the form are transmitted by the bolts to the massive enlargements which are capable of resisting them and the tendency to breakage or chipping of the base is greatly reduced. When the device is assembled the clips 25, 26 and the form are rigidly held together and a much superior unit is thereby obtained.

It will be understood and appreciated that the invention may be capable of embodiment in other specific forms than that shown and that it is not the intention to limit the scope thereof by the details set forth. It will be seen, however, that by the use of the improved method of mounting and attaching the clip and the form, a more rigid and stronger connection has been provided.

What is claimed is:

1. A form for use in the manufacture of dipped goods comprising a hollow ceramic body, a ceramic slab having a baked union with the lower edge of the body, a clip and a securing bolt for the clip, an enlargement on the inner face of the slab and extending into the body, the upper portion of the enlargement being provided with a recess, the wall of which is adapted to contact a clamping means carried by the securing bolt, said enlargement being provided with a relatively narrow elongated slot substan-

tially coextensive with the recess and communicating at its upper end with the recess, said slot being adapted to receive the stem of the bolt, said slot being enlarged at one point to provide passage for the clamping means.

2. A form for use in the manufacture of dipped goods comprising a hollow ceramic body, a ceramic slab extending across the open end of the body, a clip and securing bolts for the clip, an integral enlargement on the inner face of the slab and projecting into the body, the upper portion of the enlargement being provided with a recess, the walls of which are adapted to contact clamping means associated with the securing bolts, said enlargement being provided with a relatively narrow elongated slot substantially coextensive with the recess and communicating with the recess, said slot being adapted to receive the stems of the bolts and providing ledges on either side thereof to act as abutments for the clamping means, said slot having a centrally located portion of sufficient width to permit the insertion of the clamping means.

3. A form for use in the manufacture of dipped goods comprising a hollow ceramic body, a ceramic slab extending across the open end of the body and permanently united to the edge of the body by a baked union, an integral enlargement on the inner face of the slab and projecting into the body, bolts passing through the base and extending into the projection, the upper portion of the projection being provided with a recess the walls of which contact nuts on the bolts, said base having a through passage for the nuts, and reduced slots communicating therewith to receive the stems of the bolts, ledges at the base of the recess to form abutments for the nuts, and a form support held against the under side of the base by the bolts.

4. A form for use in the manufacture of dipped goods comprising a hollow ceramic body, a ceramic slab extending across the open end of the body and permanently united to the edge of the body by a baked union, an integral enlargement on the inner face of the slab and projecting into the body, a form support resting against the underside of the base, a bolt and nut for securing the support to the base, the stem of said bolt passing through the body and the support, and means on the projection to hold one of the elements of the nut and bolt against rotation and to form an abutment for tightening the bolt, the base being provided with an enlarged passage for permitting the insertion of the bolt into the form.

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