Nov. 4, 1941. J. R. HEMPHILL 2,261,583

METHOD OF MAKING HOLLOW FORMS

Filed June 27, 1941

Fig.-1

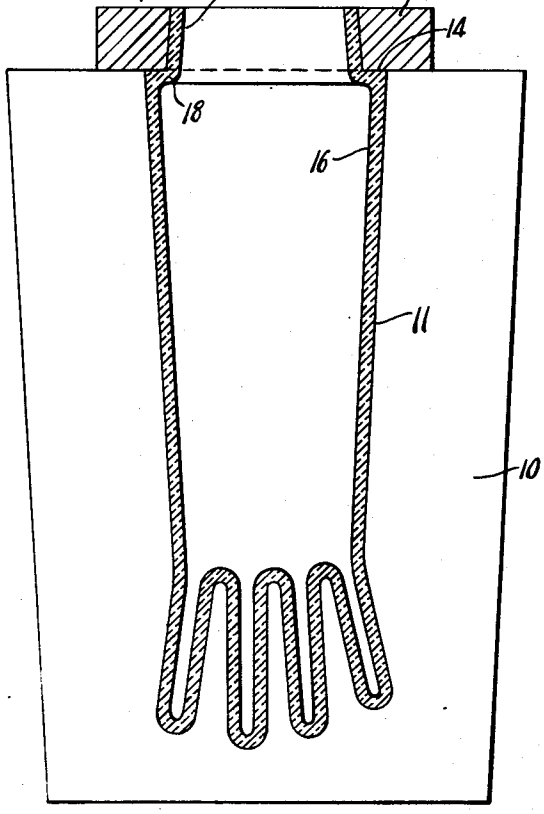


Fig.-2

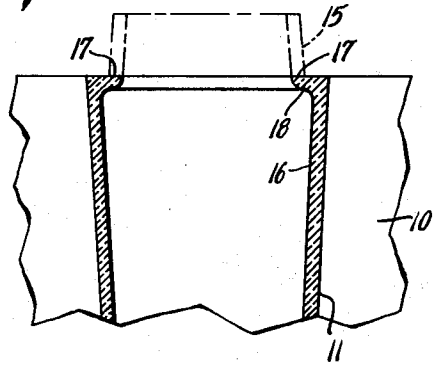


Fig.-3

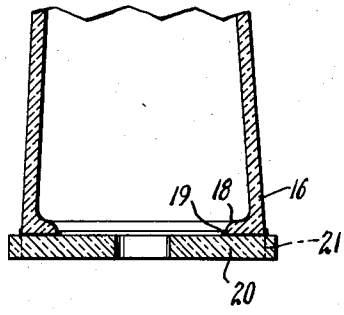
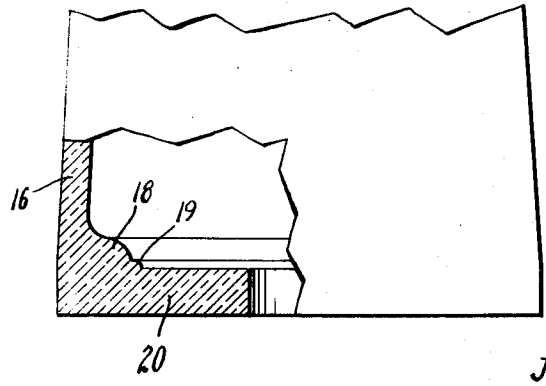


Fig.-4



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METHOD OF MAKING HOLLOW FORMS

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3 Claims. (Cl. 25—156)

The present invention relates to the manufacture of hollow forms which are usually employed in the making of rubber gloves, or other goods of a like nature. These forms are commonly made of porcelain or other ceramic material and are coated with a glaze, the rubber being deposited thereon and subsequently cured. In large forms of this type, and particularly those used in the manufacture of gloves, the form consists of a hollow body portion across the bottom of which is located a base to which the customary fastening elements are secured.

In former methods of manufacturing forms of this character, the main or body portion is deposited in the cavity of a mold and across the top of the form is placed a slab of porcelain, the two parts being united by the usual slip. The forms are then fired and the union between the base and the body of the form is completed. It has been found, however, that forms made in this manner fracture readily at the seam between the base and the body of the form.

In order to correct this fault in the old type of form and to construct a form in which the separation at the base of the form is eliminated, the process of manufacturing the forms shown and described herein has been created. By the process which is here disclosed, a form is created in which the base of the form is connected to the body in such a manner that breakage or cleavage of the form along the seam is eliminated. Forms made by the process herein described will break at other points rather than at the junction between the base and the body of the form.

While the description and drawing are detailed in order to disclose the preferred method, it will be understood that exact conformity with the details of the process is not essential and modifications and changes may be made within the scope of the invention as set forth in the appended claims.

In the drawing in which the best known method of practising the invention is disclosed:

Fig. 1 is a sectional view of a mold in which the body of the form is cast, this being shown, by way of example, for the making of a rubber glove form;

Fig. 2 is a fragmentary view of the second step in the process;

Fig. 3 is a view showing the manner of applying the base to the form; and

Fig. 4 is a view showing a portion of the completed form after firing.

Briefly stated, the process consists in casting the body of the form in the usual mold, but providing around the top or mouth of the mold an overhanging ring or cap member so that an angular recess is provided around the mold at that portion which will form the lower edge of the form. In this manner the edge of the form, which is uppermost in the casting operation, will be provided with an overhanging flange. This overhanging portion is trimmed along the top of the mold, leaving a tapered flange about the interior wall of the hollow form. When the porcelain casting is sufficiently dry to permit handling, it is removed from the mold, the form reversed and pressed firmly against a slab of porcelain which forms the base. The lower edge of the body is dipped in the slip so as to perfect the union. The base is then trimmed and the form glazed and baked.

The method described will provide a substantial fillet across the angle between the wall of the form body and the base and the excess slip will tend to form a bead at the junction of the fillet and base.

Referring to the drawing in detail, the mold, which is usually in two parts, is indicated by the numeral 10 and is made from plaster of Paris or similar porous material. The cavity is indicated at 11 and is shown in the shape of a glove. Over the top of the mold is placed a forming ring, indicated at 12, which is likewise made of porous material, but overhangs the cavity of the form, as shown at 14. The extent of the overhang may be varied as desired, but is sufficient to provide for the formation of a substantial inwardly projecting flange about the opening in the body portion.

When the mold and the superposed cap are assembled, the cavity is filled with the slip of the desired composition and permitted to stand until a sufficient body of the porcelain has been deposited on the walls of the porous mold and ring. As the cap or ring is also porous, a reduced collar 15 will be deposited at the mouth of the form 16. The cap, the inner wall of which is tapered so as to permit its withdrawal, is then lifted from the mold and the upwardly projecting collar 15 is cut off along the line 17 which is preferably in line with the top of the mold. This will leave the overhanging tapered flange 18 about the mouth of the form, which latter forms the fillet.

When the casting is sufficiently dry, the mold is removed and the partially finished form is reversed and pressed firmly against a slab 20 of similar porcelain to form the base. The bottom of the form is dipped in slip before it is applied

to the base, and when the body is pressed against the base, the excess slip will be forced out around the inner line of the seam to form a bead 19. The base is then trimmed off along the line 21, which also removes any bead which would form on the outside of the body.

The form is now dried and baked and, when completed, will be a single, integral structure provided with the fillet at the base. This new structure will have great strength and will resist any tendency to fracture at the seam. While it is preferred to form the fillet as a continuous ring, it might be desirable to form the fillet in segments only, and other modifications might be suggested to those skilled in the art.

What is claimed is:

1. The method of making a hollow form of ceramic material consisting of a base and a body portion, the steps of casting the body portion in the cavity of a porous mold provided with a removable cap, the cap overhanging the mouth of the cavity so that a deposit of the ceramic material is made in the angle between the mold and the cap and a collar is formed on the interior of the cap, removing the cap, trimming the body portion at the base of the collar, applying a base of ceramic material to the edge of the body portion, and baking the completed form.

2. The method of making a hollow ceramic article consisting of a hollow body portion and a base enclosing the body portion, said method consisting in casting the body portion in the cavity of a porous mold provided with a removable portion overhanging the mold cavity so that the ceramic material deposits on the walls and in the angle at the overhanging portion, trimming the edge of the casting thus formed adjacent the said angle to leave a flange about the interior of the casting, uniting a base of the ceramic material to the edge of the body portion and the flange, and baking the completed structure.

3. The method of making a hollow ceramic article consisting of a hollow body portion and a base enclosing the body portion, said method consisting in casting the body portion in the cavity of a porous mold provided with a removable portion overhanging the mold cavity so that the ceramic material deposits on the walls and in the angle at the overhanging portion, trimming the edge of the casting thus formed adjacent the said angle to leave a flange about the interior of the casting, applying slip to the edge of the body portion, uniting a base of the ceramic material to the edge of the body portion and the flange, and baking the completed structure.

JAMES R. HEMPHILL.