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Nelson

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[54] **FRAME FOR PRODUCING CASTING FLASKS**

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[52] **U.S. Cl.** **425/175**, 249/91, 425/128

[51] **Int. Cl.** **B29c 1/00**

[58] **Field of Search** 425/175, 176, 124, 425/128, 129; 249/91, 93, 94

[56] **References Cited**

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[57] **ABSTRACT**

A frame for producing casting flasks is provided with pin-and-socket means for locating fixedly within the frame a model to be impressed within a flask.

5 Claims, 4 Drawing Figures

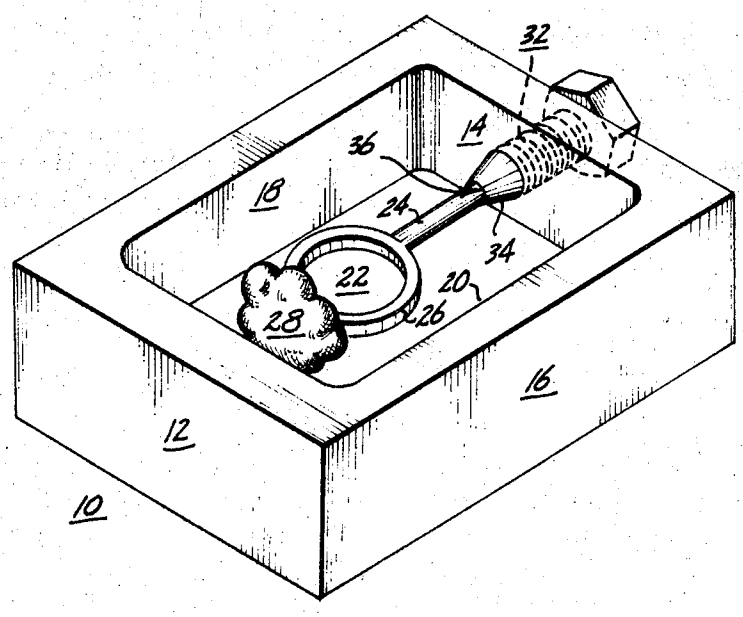
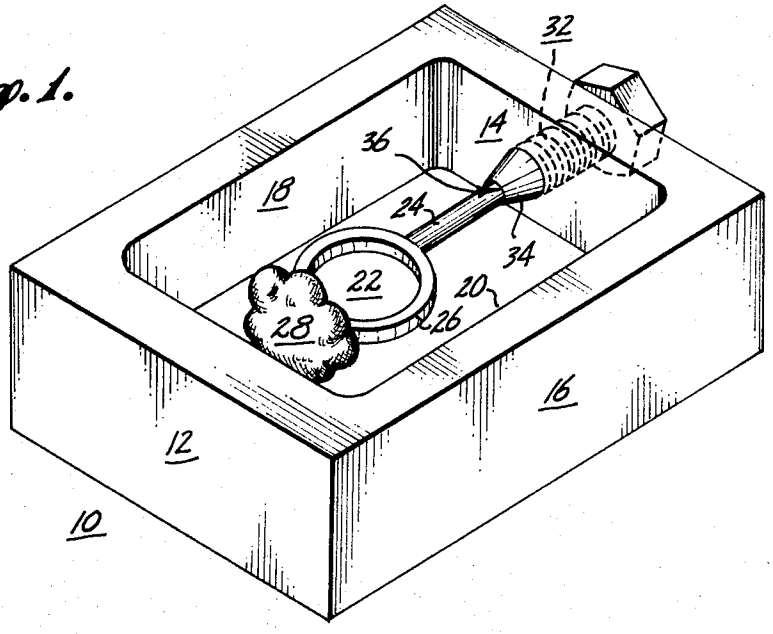


Fig. 1.



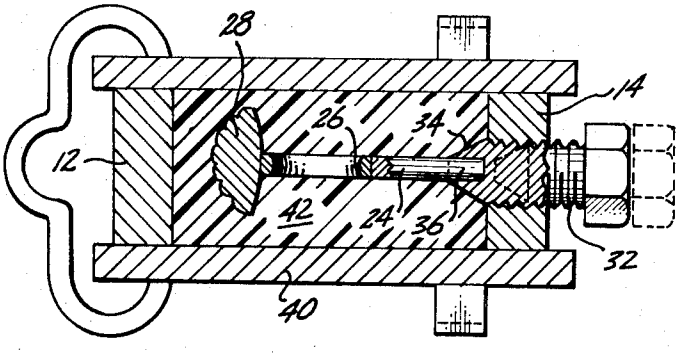


Fig. 2.

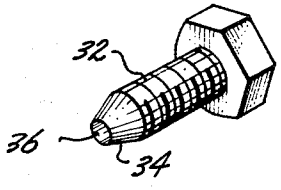
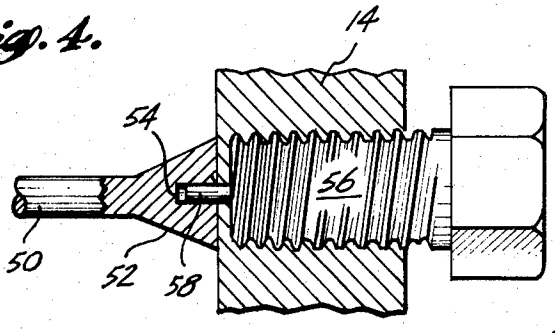


Fig. 3.

Fig. 4.



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FRAME FOR PRODUCING CASTING FLASKS

SUMMARY OF THE INVENTION

Various types of flask frames or boxing frames are used to form resilient flasks having a model therein which, when removed, leaves a molding cavity. It is customary to mount the model on a sprue former so that the finished flask will include a sprue passage for the introduction of cavity reproduction material such as wax, for example. Ordinarily the model on its sprue former is only loosely placed in the boxing frame and is easily dislodged or moved during the filling of the frame with the impression material of which the flask is to be formed. The main object of this invention is to provide apparatus to fixedly locate the model and its sprue-former with respect to packing the frame and the solidifying of the impression material. It is also an important object of this invention to arrange such apparatus that the model and sprue-former embedded within the flask may be freed of its fixed location within the boxing frame to facilitate removal of the formed flask therefrom. These and other objects of this invention are disclosed in the following description of a preferred and alternative structure taken with reference to the accompanying drawings.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a flask frame embodying the sprue holder of this invention;

FIG. 2 is a cross-sectional view of an assembled flask showing a rubber mold formed about a model supported by the sprue holder;

FIG. 3 is a perspective view of the screw sprue holder; and

FIG. 4 shows an alternative sprue holder.

DETAILED DESCRIPTION

A flask body or boxing frame **10**, formed of **16, 18**, provides the pattern chamber **20** to first receive the model **22** on sprue **24**, and then to receive and be filled a mass of uncured rubber or the like. Model **22** is here shown as a pattern ring **26** having an ornamental design pattern element **28** to be reproduced. Sprue or shank **24** is attached to the pattern ring **26**. Screw **32** passes through wall **14** and in its inner conical end **34** has socket **36** to receive the end of sprue **24**.

When model **22** is properly positioned in pattern chamber **20** and seated in socket **36**, as shown in FIG. **1**, the fixed location of socket **36** and cone **34** in the middle of the inner surface of wall **14** insures that the model is correctly centered in chamber **20**.

The pattern model **22** is then suitably coated, as also are the chamber walls, with a suitable release or parting agent. Then the flask frame **10**, resting on a base plate **40**, is filled with the natural or synthetic rubber or rubber-like impression material which ultimately forms the flask **42**. Cover plate **44** is applied. Clamps such as **46** are engaged to firmly hold the frame and plates assembled while vulcanization or polymerization takes place.

When it is desired to remove the solid but flexible flask **42**, including the model, from the frame **10**, the clamps **46** are released and plates **40,44** removed. In the event it is then desired to apply pressure to the model, to aid the parting of the rubber-like flask therefrom, screw **32** may be turned to inwardly project the socket **36** and thereby apply pressure to shank **24** and the model **22**. To remove the flask **24** from the frame **10**, screw **32** is retracted to draw the cone **34** into wall **14** and disengage socket **36** from the end of sprue or shank **24**. Thereupon the flask **42** may easily be extruded from chamber **20** without hindrance.

The removal of the pattern model from the rubber flask **42** is accomplished in the usual manner by cutting and parting the flask so as to separate it into two distinct but matching parts. It will be found that cone 34 has modelled a funnel-like mouth leading to a passage formed by stem **42**. The mouth is provided for the filling of the pattern cavity with melted wax in the production of an identical duplicate model of the original pattern **22**.

In the alternative construction of FIG. **5**, the sprue former shank or stem **50** has a flared, conical base **52** provided with a central or axially located socket **54**. Screw **56** threadedly engaged in wall **14** has a pin **58** which fits into socket **54** and locates the sprue former in its desired medial location within the frame **10**.

There has been disclosed above a preferred and alternative form of structure embodying the invention. It may occur to others skilled in the art and stimulated by this disclosure that other modifications or alterations could be desirable. All such as reasonably fall within the scope of the subjoined patent claims, according them an appropriately liberal construction and applying the doctrine of equivalents, will be deemed protected hereby.

What is claimed is:

1. In combination:

a open ended boxing frame having all inner wall surfaces parallel to the axis of the cavity of said frame to receive rubber-like impression material;

a screw member passing through a wall of said boxing frame into its cavity;

a sprue-former and a model to be reproduced located wholly within said cavity; and

inter engaged pin-and-socket means within said cavity joining said sprue-former and said screw to fixedly support said sprue-former and model on the axis of said screw within the frame cavity.

2. Structure according to claim **1** in which the socket is carried by the screw member and the sprue-former includes a pin seating in said socket.

3. Structure according to claim **1** in which the socket is carried by the sprue-former and the screw member includes a pin seating in said socket.

4. Structure according to claim **1** in which the sprue-former comprises a pin and the inner end of the screw member is conical and has a central socket to receive said pin.

5. Structure according to claim **3** in which the sprue-former includes a conical base having the socket axially located therein.

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