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MOLD FOR SHAPING HOLLOW GLASSWARE AND METHOD
OF CONTROLLING TEMPERATURE THEREOF
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Fig. 1.

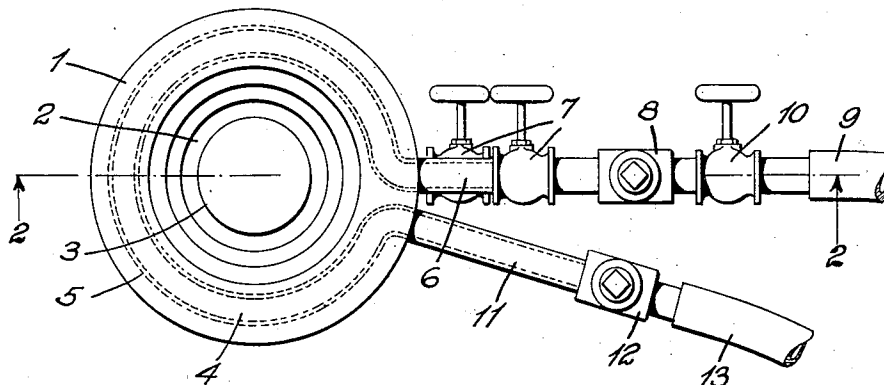
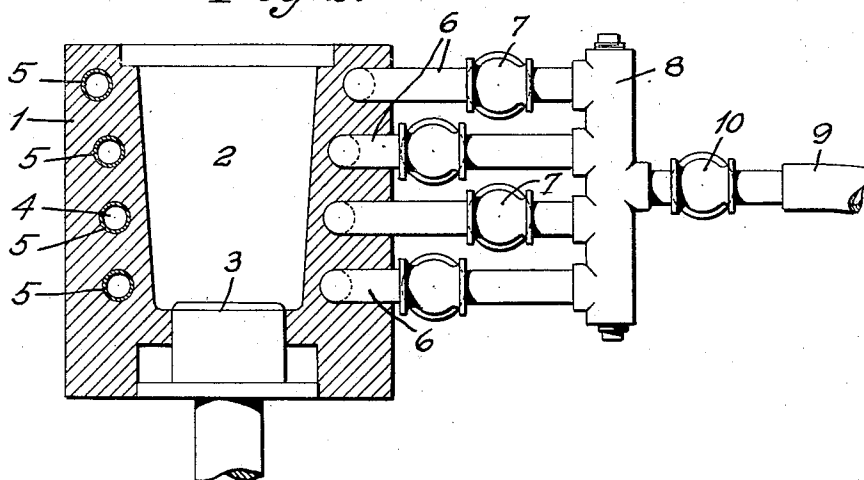


Fig. 2.



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MOLD FOR SHAPING HOLLOW GLASSWARE AND METHOD OF CONTROLLING TEMPERATURE THEREOF

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This invention relates to molds and it has particular relation to molds for shaping hollow glassware.

In machines having two or more blow molds cooperating with a single blank mold, there is the danger of the blank mold becoming too hot owing to its being in almost continuous operation.

One of the objects of the present invention is to avoid the difficulty mentioned by providing means for circulating a cooling medium such as air, water or steam through the body of the mold in order to maintain the mold at the desired working temperature.

Another object of the invention is to cool different portions or zones of the mold independently of each other according to their individual temperature requirements, by providing separate ducts in the body of the mold, each having a valve for controlling the volume of the cooling medium circulating there-through.

Other objects will appear from the following description and the appended claims.

In the accompanying drawings,

Figure 1 is a plan view of a press mold constructed according to the invention, and

Fig. 2 is a vertical sectional view taken on line 2—2 of Figure 1.

Referring to the drawing, a press mold is shown as comprising a body portion 1 having a mold cavity 2 provided therein and equipped with a vertically movable bottom plate 3, which latter imparts the desired configuration to the bottom of the ware and which may be actuated in any suitable manner to elevate the ware from the mold at the conclusion of the pressing operation.

A plurality of concentric ducts 4 are provided in the body 1 of the mold and are arranged in spaced superimposed relation with respect to each other. A cooling medium in the desired quantity may be circulated through the ducts 4 independently of one another. The ducts 4 may be formed in the body of the mold in any desired manner, but for the purpose of illustration the ducts are shown as comprising a plurality of pipes 5 which are bent into substantially circular form and which are initially cast in the metal

of the mold with their ends projecting radially therefrom.

The inlet ends 6 of the pipes 5 are each provided with a flow-regulating valve 7 and communicate with a common manifold 8. The cooling medium, whether air, water or steam, is admitted to the manifold 8 from a source of supply through a pipe 9 provided with a flow-regulating valve 10.

The outlet ends 11 of the pipes 5 communicate directly with a common manifold 12 provided with an outlet pipe 13.

The valves 7 may be adjusted to regulate the volume or the rate of flow of the cooling medium in the several pipes 5 according to the temperatures of the different portions or zones of the mold and the amount of metal therein and thereafter the flow in all of the pipes may be regulated by the valve 10 according to the temperature of the glass and without disturbing the relative proportions of the cooling medium flowing in the respective pipes.

The pipes 5, owing to their bent circular form, have a certain degree of resiliency which permits them to accommodate themselves to expansion and contraction of the mold occasioned by changes in temperature.

While, for convenience, a press mold has been illustrated as embodying the invention, it will be understood that the invention is not limited in this respect as it may be employed with other types of molds, whether divided or of block type.

In this and in other respects the invention may be modified in construction and arrangement and mode of operation, without departing from the scope of the invention as defined in the appended claims.

I claim as my invention:

1. A mold for glassware, comprising a body portion and a plurality of separate non-communicating ducts formed therein for the circulation of independently variable volumes of a temperature-controlling medium.

2. A mold for glassware, comprising a body portion and a plurality of independent superimposed ducts formed therein for the independent circulation of a temperature-controlling medium.

3. A mold for glassware, comprising a body portion and a plurality of independent spaced superimposed ducts formed therein for the circulation of independently variable
5 volumes of a temperature-controlling medium.

4. A mold for glassware, comprising a body portion, means for simultaneously circulating different volumes of a temperature-controlling medium in non-communicating
10 passages respectively adjacent to separated zones thereof, and means for simultaneously controlling the flow of said medium in all of said zones.

5. A mold for glassware, comprising a body portion and a plurality of pipes cast therein and concentrically arranged in spaced superimposed relation with respect to each other for the circulation of a temperature-controlling medium.
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6. A mold for glassware, comprising a body portion having a plurality of separate ducts formed therein for the independent circulation of a temperature-controlling medium, means for independently controlling
25 the volume of said medium flowing in each duct, and means for controlling the volume of said medium flowing in all of said ducts while maintaining constant the relative proportions thereof.
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7. A mold for glassware, comprising a body portion, a plurality of pipes cast integrally therein and arranged in spaced relation relative to each other for the circulation of a temperature-controlling medium, a common manifold communicating with the inlet ends of all of said pipes, a valve in each of said pipes for independently controlling the volume of the medium circulating therein, a supply pipe communicating with said manifold, and a valve in said supply pipe for simultaneously varying the amount of temperature-controlling medium circulating in all of said pipes while maintaining
40 constant the relative proportions thereof.
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8. The method of controlling the temperature of a mold for glassware which comprises subjecting different parallel zones spaced longitudinally of the mold to independently controllable thermal conditions.
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Signed at Hartford, Connecticut, this 1st day of June, 1926.

WILLIAM T. BARKER, Jr.