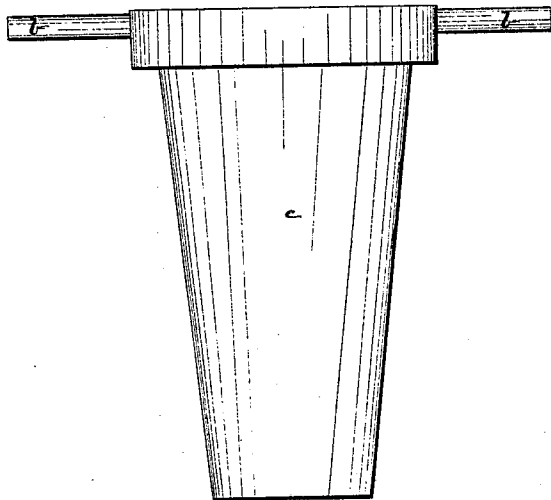


*J. M. Cord,*

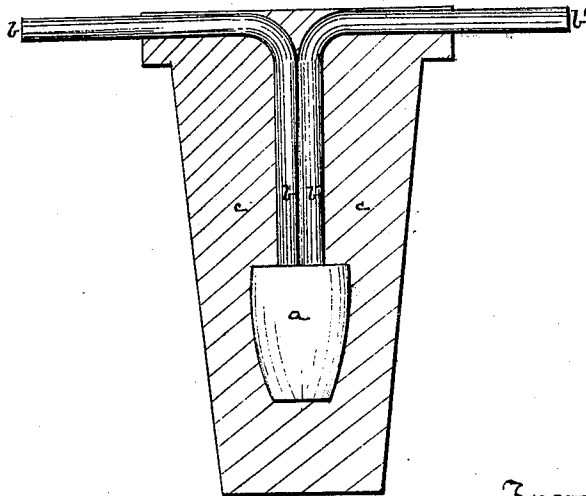
*Glass Mold Plunger.*

*No. 101,485.*

*Patented Apr. 5. 1870.*



*Fig. 1.*



*Fig. 2.*

*Witnesses:*

*R. C. Wrenshall*  
*Thos. J. Herr*

*Inventor:*

*John M. Cord,*  
*by B. Kewell & Christy,*  
*his Attys.*

# United States Patent Office.

JOHN McCORD, OF EAST BIRMINGHAM, PENNSYLVANIA, ASSIGNOR TO HIMSELF AND JOHN BRYCE, OF SAME PLACE.

Letters Patent No. 101,485, dated April 5, 1870.

## IMPROVED PLUNGER FOR GLASS-MOLDS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOHN McCORD, of East Birmingham, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Glass-Mold Plunger; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a side elevation of my improved plunger, and

Figure 2, by a sectional elevation, illustrates the construction thereof.

Like letters of reference indicate like parts in each.

In the manufacture of hollow articles of pressed glass-ware a metal plunger is required in order to form the inside or hollow part of the article.

To keep such plungers from becoming overheated they have been cast hollow and fitted with water-pipes so as to keep up a supply of cold water in the hollow chamber or cavity.

I have found that plungers so constructed frequently crack, especially at or near the lower end, in consequence of the unequal expansion and contraction caused by cold water inside the plunger, and melted glass outside, the plunger cracking the more readily as it is commonly made of cast metal. They are then spoiled for use, and, as they are fitted up with water-pipe connections at a considerable cost, the loss thereby occasioned to glass manufacturers is considerable.

My improvement relates to the construction of such plungers.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and manner of use.

The water-chamber *a* I make in any desirable way, one way being to take a piece of gas-pipe of the desired length, and close each end by an iron cap or disk.

In any part or parts of the chamber so made I make two holes into which I insert, by a screw-joint

or otherwise, two pipes, one, *b*, for the inflow, and the other, *b'*, for the outflow of water.

These pipes, *b b'*, extend upward or outward, or both, far enough to leave the body of the plunger above its pressing surface, and are connected when in use with suitable water-supplying and discharging devices.

The water-chamber *a* and pipes *b b'* so made, I then insert in the cavity of the mold in which the body *c* of the plunger is to be cast. The casting is then done in the usual way, and the plunger is produced ready for use, as soon as the connections of the pipes *b b'* with the desired water-supplying and discharging devices are made.

By this construction I can make plungers at about one-fourth the cost of the hollow plungers heretofore in use.

Also, by having a wrought-iron chamber *a*, I almost wholly avoid the liability of the plunger to crack under the unequal expansion and contraction occasioned by the introduction of water, since the wrought iron possesses greater tenacity than the cast-iron.

The relative size of chamber and plunger may be varied at pleasure, and other metals than iron be employed, if so desired, and other kinds of iron than wrought iron.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A hollow cast-metal glass-mold plunger, the cavity of which has a wrought-metal lining, substantially as described.

2. The manufacture of glass-mold plungers by first preparing a hollow water-chamber and then casting the body of the plunger onto and around the chamber, substantially as described.

In testimony whereof, I, the said JOHN McCORD, have hereunto set my hand.

JOHN McCORD.

Witnesses:

AUGUST AMMON,  
C. J. SCHULTZ.