O. P. Shinkle,

Glass Mold.

No. 54,617. Patented May 8, 1866.

Fig: 1.

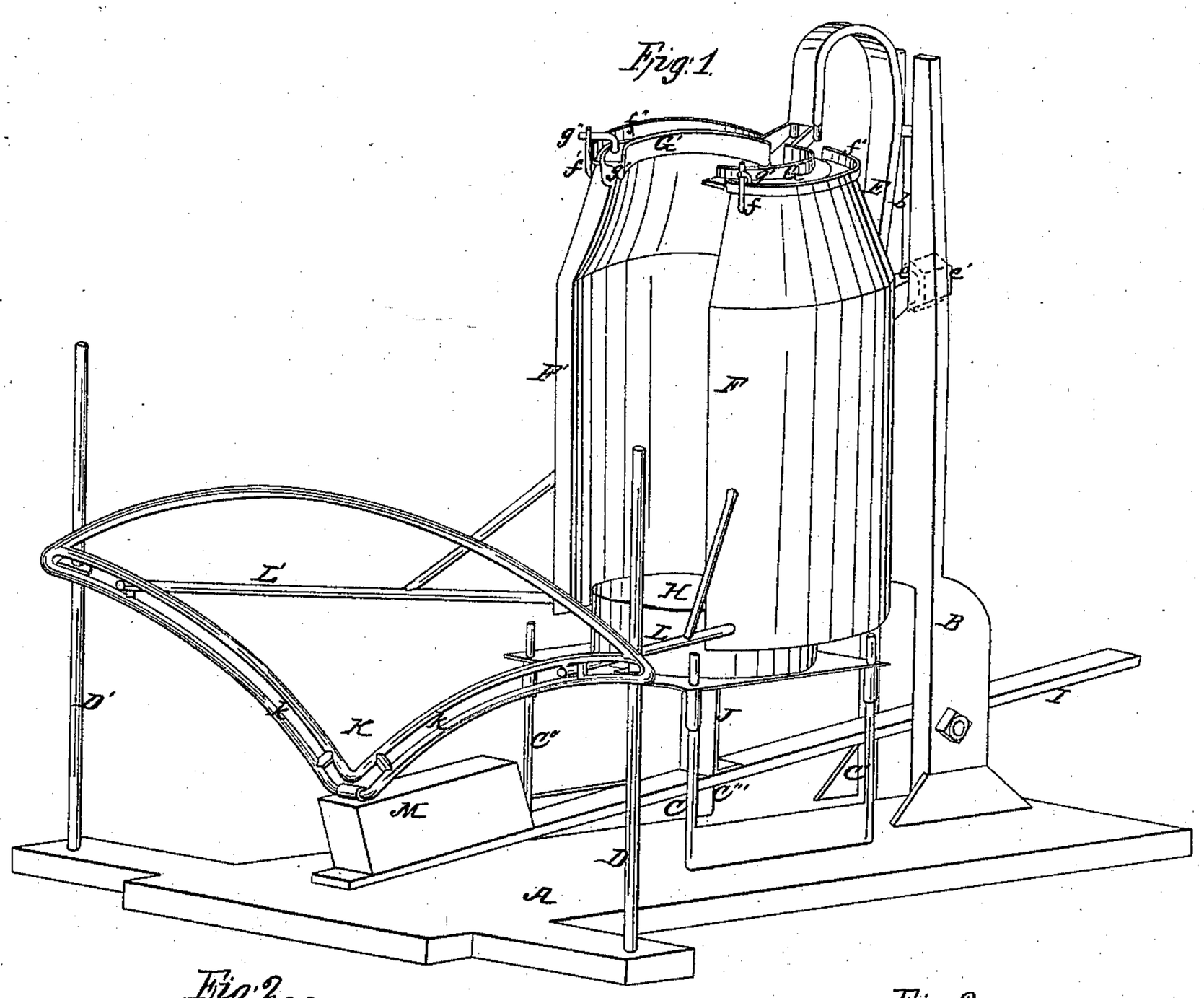


Fig: 2.

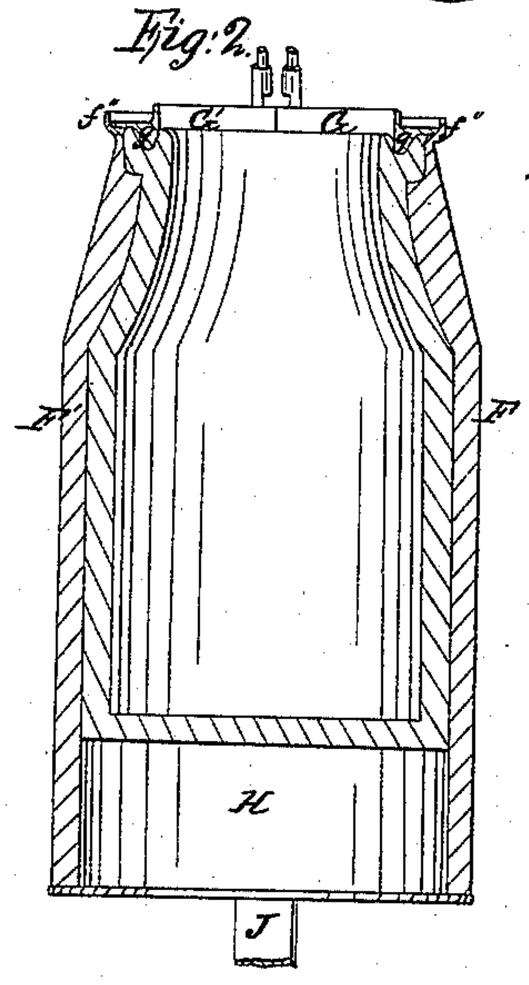
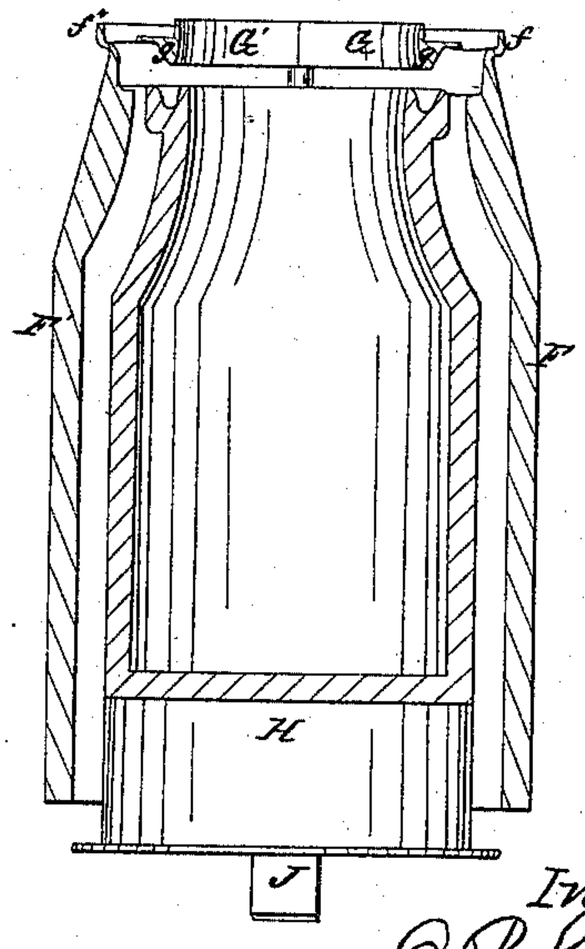


Fig: 3.



Witnesses.

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Attys

AM. PHOTO-LITHO. CO. N.Y. (OSBORNE'S PROCESS)

UNITED STATES PATENT OFFICE.

OLIVER P. SHINKLE, OF COVINGTON, KENTUCKY.

GLASS-BLOWERS' MOLDS.

Specification forming part of Letters Patent No. **54,617**, dated May 8, 1866.

To all whom it may concern:

Be it known that I, OLIVER P. SHINKLE, of Covington, Kenton county, Kentucky, have invented a new and useful Glass-Blower's Mold; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

My invention is designed to enable the glass-blower to manufacture all kinds of bottles, preserve-jars, and other vessels which have an annular groove, crease, or gutter at top.

Figure 1 is a perspective view of my mold in its open condition. Fig. 2 is an axial section of the mold in its closed condition. Fig. 3 is an axial section of the mold at that stage of the operation which immediately precedes the opening of the crease parts.

A is a bed-plate, having cast or otherwise rigidly secured to it a post or standard, B. The said bed-plate also supports a number of guide-rods, C C′ C″ C‴ D D′.

A vertical slot, *b*, in the standard B enables the attachment at a greater or less elevation, by means of a screw, *e*, and nut *e′*, of a bracket, E, to whose lower portion are hinged the side parts, F F′, of the mold, which parts are so shaped interiorly as to impress the proper form upon the sides of the jar in the act of blowing. The said side parts are so hinged to the said bracket as to part or open at an axial plane of the mold and in a horizontal direction.

The top of my mold is composed of two semi-annular pieces, G G′, which I designate the "crease parts," and which are hinged to the upper portion of the bracket E, so as to open horizontally from a parting joint in the same axial plane as do the side parts above alluded to.

From the under side of each crease part there projects a tongue, *g*, which, when the mold is closed up, presents a continuous annular ridge or bead, which corresponds in form to the desired groove, crease, or channel in the top of the jar. Projecting from the crease parts are fingers *g′*, which at a certain stage of the opening of the side parts are caught by fingers *f′* thereon, causing the crease parts during the latter portion of the sweep of the side parts to open therewith. A rim, *f″*, on the top of each side part enables the latter in the act of closing to press together, and close the crease parts.

H is a circular disk or plate forming the bottom of the mold, and being restricted to a vertical path by the guide-rods C C′ C″ C‴.

The side parts F F′, together with the bottom H, and subsequently the crease parts G G′, open automatically, and are all closed simultaneously by the foot of the blowman, by means of the following mechanism:

I is a treadle in form of a lever of the first kind, having hinged to its upper side a stem, J, which is hinged to and supports the bottom H of the mold. Hinged to the outer extremity of the treadle, and guided to a vertical path by means of the rods D D′, is a reciprocating cam, K, whose groove *k*, receiving arms L L′, which project from the respective side parts, causes the opening or closure of the said parts at each depression and elevation of the said cam. Attached to the outer extremity of the treadle is a weight, M, which causes said extremity to fall of its own accord, and thus to automatically open the mold the moment that the treadle is relieved from the weight of the molder's foot.

The operation of this apparatus is as follows: The blowman takes his position in the rear of the machine, which is in the opened condition, as shown in Fig. 1, and having withdrawn a proper quantity of melted glass from the kiln by means of his blowing-tube, he inserts the lower end of said tube into the molds F F′, and instantly closes the latter by pressing his foot down upon the treadle I. The mold being closed the blowman blows into the tube and forces the glass into every recess of the mold, thus obtaining a complete fac-simile of the latter. The glass being retained in the mold for a few moments in order to allow it to allow it to cool and obtain the proper set, it is then released in the following manner: The blowman raises his foot a slight distance, which causes a corresponding depression of the disk H, when the bottle or jar drops a sufficient distance, so as to withdraw the tongue *g* of the crease parts G G′ from the top of the bottle. The blowman now removes his foot entirely from off the treadle I, and the weight M causes the treadle to drop to its lowest position, by which means the mold is automatically opened its full width, and the bottle is removed from it by means of the blowing-tube to which it still adheres. If an attempt should be made to open the mold to its full width without this

slight previous depression of the bottle, the tongue *g* would completely destroy the top of the jar or bottle.

I have selected for illustration the form preferred by me; but various modifications are obviously possible. For example, the treadle may be replaced by a hand-lever under control of an attendant, so as to leave the blowman at liberty to devote his attention to the blowing.

I claim herein as new and of my invention—

1. A mold for forming jars, &c., with channeled tops, having a downwardly opening bottom, two horizontally-opening side parts, and two crease parts, which open parallel with but subsequently to said side parts, substantially as and for the purpose set forth.

2. The arrangement of parts, substantially as described, for the automatic opening, first of the bottom and side parts, and subsequently of the crease parts, and for their simultaneous closing by the foot of the blowman or otherwise.

In testimony of which invention I hereunto set my hand.

O. P. SHINKLE.

Witnesses:
GEORGE H. KNIGHT,
JAMES H. LAYMAN.