(No Model.)

# A. H. BAGGS.

## GLASS LAMP MOLD.

No. 277,402. Patented May 8, 1883.

Fig. 1.

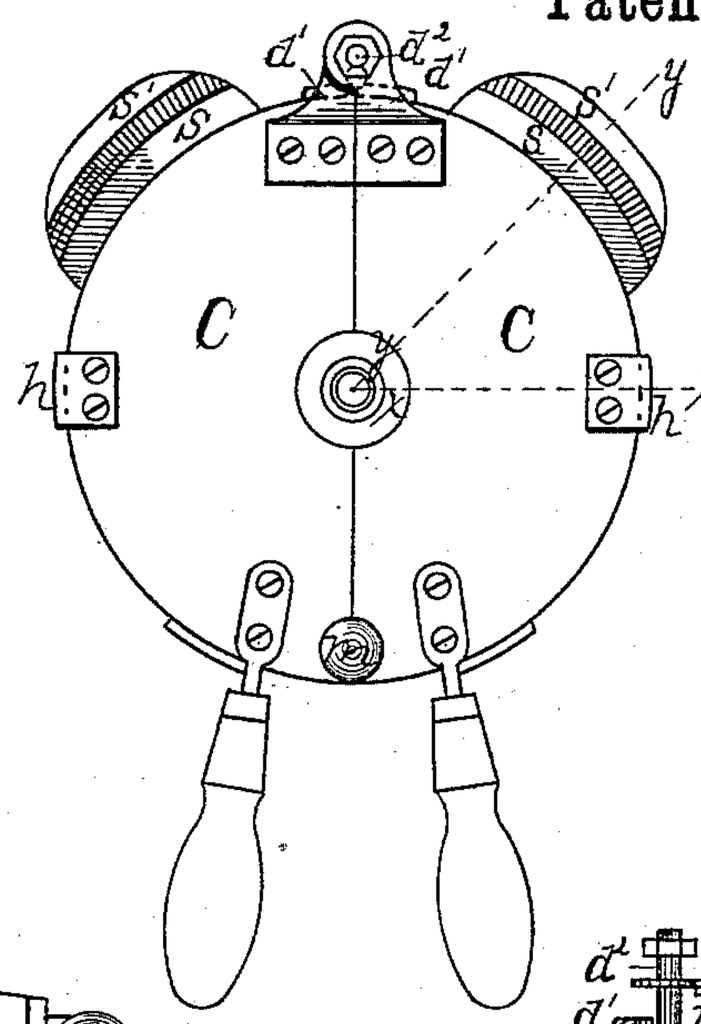



Fig. 3.

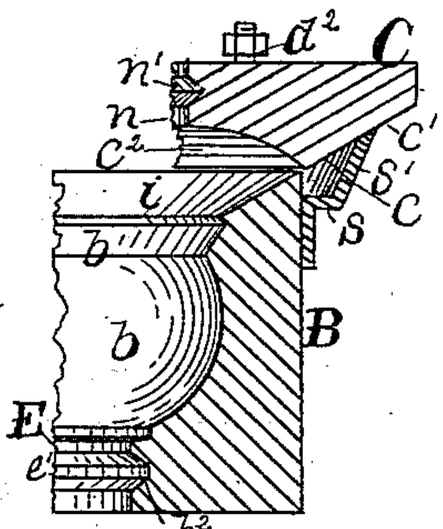



Fig. 2.

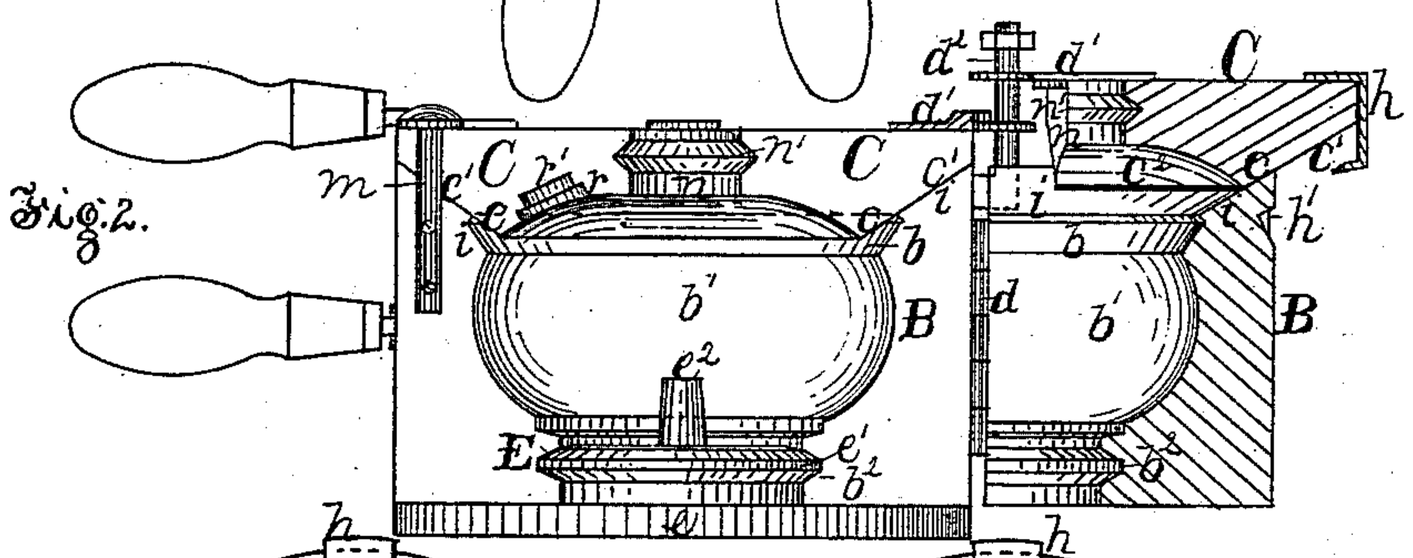
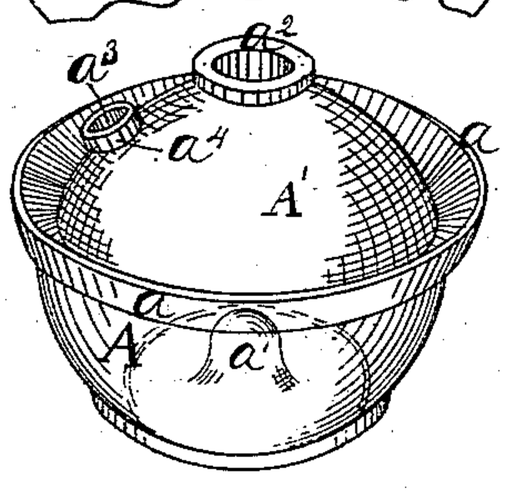



Fig. 4.




Witnesses—
C. L. Parker
W. P. Potter

Fig. 5.




Inventor—
Andrew H. Baggs
by George H. Christy.
His Attorney.

# UNITED STATES PATENT OFFICE.

ANDREW H. BAGGS, OF BRIDGEPORT, OHIO, THE LABELLE GLASS COMPANY, OF SAME PLACE, LEGATEE UNDER THE WILL OF SAID BAGGS, DECEASED.

## GLASS-LAMP MOLD.

SPECIFICATION forming part of Letters Patent No. 277,402, dated May 8, 1883.

Application filed November 20, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, ANDREW H. BAGGS, a citizen of the United States, residing at Bridgeport, county of Belmont, State of Ohio, have invented or discovered a new and useful Improvement in Glass-Lamp Molds; and I do hereby declare the following to be a full, clear, concise, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—like letters indicating like parts—

Figure 1 is a plan view of my improved mold, showing the parts closed. Fig. 2 is a view in elevation, showing one half opened out and in section, the plane of section being indicated by the dotted radial line *x x*, Fig. 1. Fig. 3 is a sectional view of a detached portion, the plane of section being indicated by the dotted radial line *y y*, Fig. 1. Fig. 4 is a plan view, showing the mold fully opened; and Fig. 5 is a perspective view of the lamp bowl or fount blown in my improved mold.

My invention relates to the manufacture of lamp bowls or founts of the class represented in Fig. 5, having a bowl, A A′, of general spherical form, with an upwardly-projecting flange or rim, *a*, surrounding the bowl above its central plane.

Lamps of this class have heretofore been made, in whole or in part, by pressing, in which the rim *a* and lower body, A, are pressed, sometimes with a projection above the rim *a*, which is subsequently warmed in and shaped into the upper body, A′. In other cases the lower body, A, and rim *a* are pressed in one piece, the upper body, A′, pressed in a separate piece, and these separate pieces subsequently united. In still other cases the lower body, A, and rim *a* are pressed in one piece and the upper body, A′, subsequently blown onto the same. All these methods involve repeated handling of the pieces, and in the end considerable expense in manufacture.

The purpose of my invention is to cheapen materially the cost of manufacture of such lamps, and this I do by making the whole bowl and flange at one operation and in one piece by blowing, as distinguished from pressing; and to this end I have invented an improved construction of mold, by which I am enabled to make the lamp, as hereinafter more fully described and claimed.

In the drawings, B B and C C represent four parts of my improved mold, which are hinged at the back, the two lower parts, B B, being hinged together by the usual form of butt-hinge, *d*, (see Fig. 2,) and the two upper parts, C C, being hinged or pivoted by ears *d′* to a common post, $d^2$, which is rigidly secured at its foot by casting, bolting, or otherwise, to one of the lower parts B.

A base, E, is also employed, which may be of the usual or any desired form and construction with reference to giving the desired form to the base of the lamp-bowl. As shown, this base is secured to a base-plate, *e*, and has surrounding it a projecting bead or tongue, *e′*, adapted to enter a corresponding groove, $b^2$, in the hinged side pieces, B B, whereby a tight joint is secured when the parts are closed. In the center of the base is also a raised plug or punta, $e^2$, for forming a socket, *a′*, in the base of the lamp-fount A A′. The cavity *b b′*, formed by the lower hinged parts, B B, is designed in form and proportions to shape the lower body, A, and the under face of the rim *a* of the lamp-bowl. These parts of the mold present no special difficulties to the skilled workman in manufacture or operation, and therefore need not be described in detail. One special feature of difficulty is in forming the rim *a* upon the body and then in removing the upper parts of the mold from the same. In order to do this without danger of injury to the blown article, I incline the upper face, *i*, of the parts B B in line with the inner or upper face of the rim *a*, (see Fig. 2,) and also form a corresponding incline, *c c′*, on the under face of the parts C C. These inclines *c c′* are made longer than the inclines *i*, and the inner part, *c*, extends inward and downward, forming the upper wall of that part of the cavity which shapes the rim *a*, as represented at the left-hand side of Fig. 2. The central under face, $c^2$, of the parts C C forms that part of the cavity corresponding to the upper body, A′, of the lamp, and in these parts, on either side of the plane of division, is formed the neck-cavity *n*, having V-grooves *n′* therein for "blow-over." Between this neck-cavity and the inner corner, *c*, are also made

the parts $r$ $r'$ of a cavity for forming a filling-hole, $a^3$, in the upper body part of the lamp-bowl. The larger part, $r$, of this cavity corresponds to the rim $a^4$ of the filling-hole, and the smaller part, $r'$, is designed to form a thin wall or cap of glass over and closing the rim $a^4$, which is cut, broken, or ground off in finishing the bowl, thereby forming the opening $a^3$.

It will be observed that the pivot-post $d^2$ is made of sufficient length to allow vertical movement of the ears $d'$, thereon sufficient to allow the inclines $c$ $c'$ to ride up and clear the inclines $i$ as the parts C of the mold are opened. This combined vertical and horizontal movement of the upper parts, C, is an important feature of my invention, since by means of it they clear the article freely on opening; also by making these incline faces in the line of inclination of the rim $a$ the opening parts will be guided in their movement, so as to prevent possibility of injury to the inclosed article.

In order to bind the parts of the mold securely together, the usual or any desired fastening, $m$, may be employed; also, in addition, clamps $h$ are fastened to the sides of the parts C C, the lower free ends of which engage inclined notches $h'$ in the sides of parts B B as the parts are closed, and thereby draw and hold the faces $c$ $c'$ and $i$ tightly together. In order to support the parts C C, when opened out, tables or wing-plates are extended out from the upper edge of parts B, such tables having upwardly-inclined flanges $s'$ thereon, adapted in height and position to bear upon the inclines $c'$, thereby supporting the parts without danger of marring the faces $c$, which form part of the wall of the mold-cavity.

In blowing I prefer to make use of some suitable power-blower—for example, what is known as the "French" blower—in order to secure full and perfect outline by forcing the glass well into the recesses in the cavity-walls, and also to secure comparatively heavy and strong glass walls in the bowl. The blowing may be done by the workmen, however, if desired. This operation of blowing, and also the method of operating my improved mold, will be readily understood and applied by those skilled in this branch of the art, and therefore I do not consider it necessary to describe the same in detail.

Any desired marking or ornamentation may be made upon the bowl by forming its counterpart upon the walls of the mold-cavity in the usual way; also, other and different forms may be given to the bowl, still retaining the elevated rim for catching drippings, but for strength as well as beauty of form I prefer the general spherical form shown.

By the means described I am enabled to make an all-blown lamp-bowl, having the rim $a$ thereon, in one piece and by one operation, as distinguished from one made in whole or in part by pressing in separate pieces and by a succession of operations, as heretofore done. Lamp-bowls of this form are recognized in the trade as a special class, and one which could be made with commercial success only by pressing, and that at a considerable expense. By my improvement I secure an all-blown lamp-bowl having all the features of advantage resulting from the shape of bowl and the upwardly-extended rim $a$, and these I secure at much less cost of manufacture than heretofore.

Instead of making the upward extension in the mold-cavity for rim $a$ immediately below the parts C, it may be made in the body of such parts, provided in opening they be moved upward and outward in the same line of inclination as the rim; also, instead of hinged parts B B the mold may, for certain forms of bowls, be made solid below the parts C, or the parts B B be solid instead of hinged, and such modifications or equivalents I consider as coming within my invention.

I claim herein as my invention—

1. A glass-mold having in combination four parts, the two lower, B B, being hinged together and having upwardly-inclined faces $i$, the two upper parts, C C, having inclined lower faces, $c$ $c'$, and a vertically and horizontally movable hinge-connection between the upper parts, C, substantially as and for the purposes set forth.

2. A glass-mold having in combination two lower hinged parts, B B, with upwardly and outwardly inclined upper faces, $i$, two upper parts, C C, having vertically and horizontally movable pivot-connection with lower inclined faces, $c$ $c'$, longer than the inclines $i$, and side tables, $s$ $s'$, secured to the parts B, and adapted to support the parts C, when open, by bearing upon the outer parts, $c'$, of their inclines, substantially as set forth.

3. In a glass-mold, the combination of the two lower hinged parts, B B, the two upper parts, C C, pivoting-ears $d'$, and extended pivot-post $d^2$, substantially as set forth.

4. A mold for blowing glass-lamp bowls, having in combination four side parts, two above and two below, and a bottom, with a bowl-cavity therein, having an annular upward projection immediately under or into the two upper parts, a vertically and horizontally movable hinge-connection between such upper parts, and an inclined guide for directing the movement of the upper parts in the direction of the annular projection of the cavity, substantially as set forth.

5. In a horizontally-divided glass-lamp mold, a lower portion having a cavity therein for shaping the lower part of the lamp-bowl, with inclined upper guide-face, $i$, thereon, in combination with hinged upper portions, C C, having thereon inclined guide-faces $c$ $c'$, pivoting-ears $d'$, and extended pivot-post $d^2$, substantially as set forth.

In testimony whereof I have hereunto set my hand.

A. H. BAGGS.

Witnesses:
FRANK FISHER,
F. C. ROBINSON.