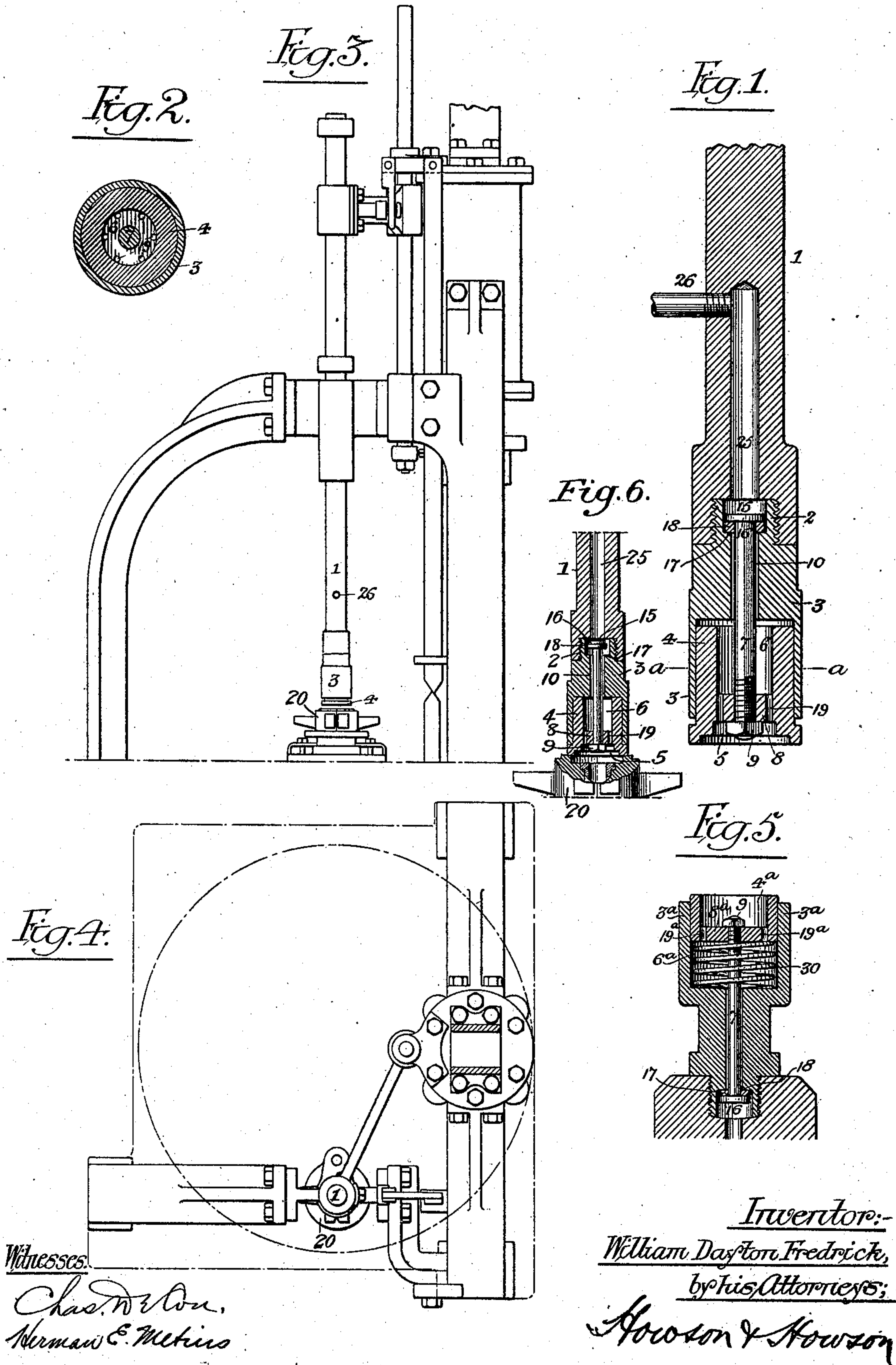


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PATENTED JULY 2, 1907.

W. D. FREDRICK.
BLOW HEAD FOR GLASS BLOWING MACHINES.
APPLICATION FILED JAN. 29, 1903.



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM DAYTON FREDRICK, OF BRIDGETON, NEW JERSEY, ASSIGNOR TO MILLVILLE MACHINE COMPANY, OF MILLVILLE, NEW JERSEY, A CORPORATION OF NEW JERSEY.

BLOW-HEAD FOR GLASS-BLOWING MACHINES.

No. 858,379.

Specification of Letters Patent.

Patented July 2, 1907.

Application filed January 29, 1903. Serial No. 141,038.

To all whom it may concern:

Be it known that I, WILLIAM DAYTON FREDRICK, a citizen of the United States, and a resident of Bridgeton, New Jersey, have invented certain Improvements in Blow-Heads for Glass-Blowing Machines, of which the following is a specification.

My invention relates to bottle blowing machines and consists of an improved form of blow-head designed to fit over the mold and to carry a self acting valve for controlling the fluid pressure, such valve being open when the head is seated over the mold and automatically closed when it is lifted from the same.

My invention is fully shown in the accompanying drawing, in which:

Figure 1, is a sectional elevation of the blow-head and its self contained valve; Fig. 2, is a cross sectional plan view of the same taken on the line *a-a*, Fig. 1; Fig. 3, is a view in elevation of a part of a glass blowing machine showing the blow-head in the position of use; Fig. 4, is a plan view of Fig. 3, Fig. 5, is a sectional elevation illustrating a modified form of blow-head and Fig. 6, is a sectional elevation showing the blow-head in contact with the mold.

In the drawing herewith, 1 represents a rod or stem suitably guided in its upper part, and having secured to its lower end, by the threaded stem and socket joint 2, a cupped member 3 arranged to receive the movable member 4, such members constituting the blow-head. The movable member fits the cupped member and is recessed on its under side at 5 to fit over the mouth of the mold. The movable member 4 is hollowed at 6 and is held in place by means of a bolt 7 threaded into the bottom 8 of the same, such bolt being secured against removal and the head against displacement by means of a nut 9. This bolt extends up through a passage 10 in the cupped member 3, and the latter is provided with an enlarged recess 15 at the top, disposed within the threaded stem of the same, such recess serving to receive the head 16 of the bolt. This enlarged recess serves also to form the valve seat 17, and a valve 18 in the form of a washer is carried by the bolt and fits between the head of the same and the valve seat. The bottom 8 of the movable member 4 is provided with a series of apertures 19 for the passage of fluid under pressure to effect the blowing or shaping of the article under operation.

Provision is made for a sliding movement of the movable member 4 within the cupped member, and this movement takes place as soon as the rod or stem carrying the blow-head is released, permitting the latter to drop onto the mold 20. This contact of the blow-head with the mold, raises the bolt 7 and with it the valve 18 permitting the entrance of fluid under pressure to the hollow portion of the blow-head, and thence through the outlet apertures 19. These apertures are arranged around the wall of the recess 6, as shown in Fig. 2, so as

to give uniform pressure to the article under operation. The connection of the bolt and blow-head insures the lifting of the valve from its seat in a direct vertical line, the whole valve seat being uncovered simultaneously, and when said valve is seated the contact of all parts of the same is simultaneous, insuring an even pressure upon the article under operation.

The stem carrying the cupped member 3 and movable member 4 comprising the blow-head is hollow for a short distance, as shown at 25 and the pressure inlet pipe 26 is connected to the same. Connection is made with this pipe and the source of the fluid under pressure by means of a flexible pipe (not shown).

In some forms of glass blowing machines, the blow-head may be disposed during a part of the operation of the machine, in a horizontal position, or one directly opposite to that shown in Figs. 1 and 3. With such arrangement, a valve operating by gravity would not answer, and in Fig. 5, I have shown a form of blow-head and valve in the inverted position, in which a spring or other compressing or cushioning member is employed to keep the sliding member 4^a of the blow-head in the extended position, such spring being interposed between the bottom 8^a of this member and the top of the hollow space 6^a within the cupped member 3^a; the valve at the same time being maintained in a closed position by such spring. When in operation, the movement of the carrier supporting the blow-head, actuated by any suitable means causes the latter to engage the mold and open the valve against the pressure of the spring. As soon as the carrier is retracted, the spring will force the movable member out in the extended position, as shown in the drawing, closing the valve and such spring will be sufficient to hold the structure in this position until again brought into contact with the mold. The bottom 8^a of the member 4^a is perforated at 19^a for the outlet of the fluid under pressure to blow the article under operation.

In some instances, the vertically mounted blow-head may be supplied with a spring or other form of cushioning device to insure its closing when raised from the mold.

Having thus described my invention, I claim and desire to secure by Letters Patent:

1. The combination with a mold, of a depending blow head comprising an inverted-cup-shaped end, a movable member having a series of openings fitting within said cupped end, an adjustable stem connected to said movable member, and a valve carried by the adjustable stem and opened by said movable member when the latter is brought into engagement with the mold.

2. The combination with a mold, of a depending blow head having an inverted-cup-shaped end, a movable member having a series of openings fitting within said cupped end and connected to the valve whereby the latter may be opened by contact of the movable member with the mold, and means for keeping said valve closed when in the inoperative position.

3. The combination with a mold, of a movable blow-

head carrying a valve, said blow-head having a cupped
end, a movable member having a series of openings dis-
posed within said cupped end, said members being secured
to the valve whereby the latter may be opened by contact
5 of the movable member with the mold, and a spring for
keeping said valve normally closed.
4. The combination with a mold, of a blow-head having
a cupped end, a movable contacting member having a
series of openings disposed within said cupped end, a
10 valve member, both of which members are connected to-

gether and controlled by the contact of the movable mem-
ber with the mold, and means for maintaining said parts
in the normally closed position.

In testimony whereof, I have signed my name to this
specification, in the presence of two subscribing witnesses. 15

WM. DAYTON FREDRICK.

Witnesses:

WM. A. LOGUE,

FRANK R. LOGUE.