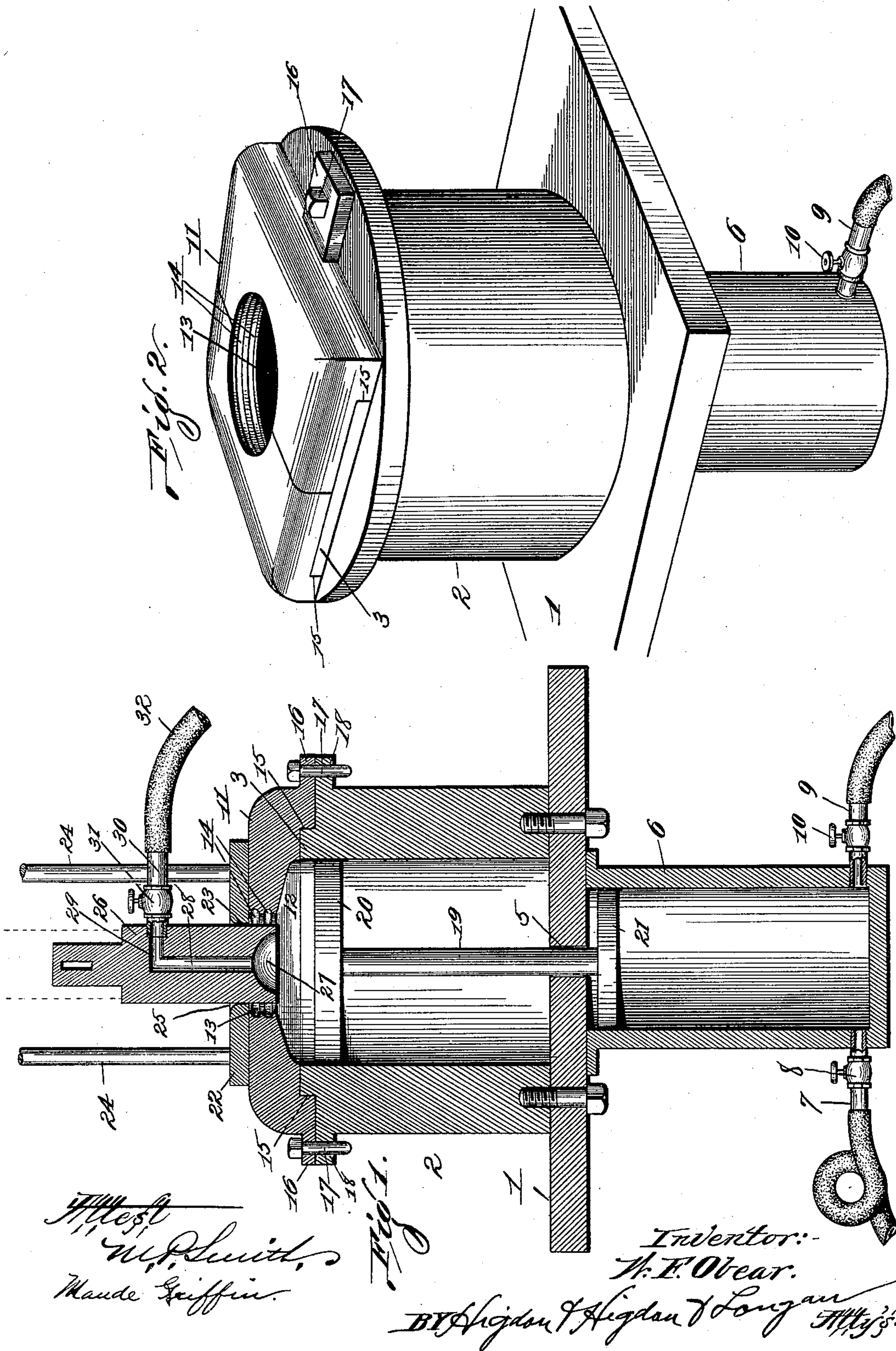


(No Model.)

W. F. OBEAR.
BOTTLE OR JAR BLOWING MACHINE.

No. 594,646.

Patented Nov. 30, 1897.



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Fig. 1.

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UNITED STATES PATENT OFFICE.

WILLIAM F. OBEAR, OF ST. LOUIS, MISSOURI.

BOTTLE OR JAR BLOWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 594,646, dated November 30, 1897.

Application filed February 6, 1896. Serial No. 578,269. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. OBEAR, of the city of St. Louis, State of Missouri, have invented certain new and useful Improve-
5 ments in Bottle or Jar Blowing Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part thereof.

My invention relates to an improved bottle
10 and jar blowing machine; and it consists in the novel construction, combination, and arrangement of parts hereinafter described and claimed.

In the drawings, Figure 1 is a vertical sectional view taken approximately through the
15 center of my improved bottle and jar blowing machine. Fig. 2 is a view in perspective of my improved machine, portions thereof being removed to more clearly illustrate the
20 same.

Referring by numerals to the accompanying drawings, 1 indicates a suitable metallic table or base, the same having bolted to its top surface a cylindrical mold 2. Formed
25 integral with and extending transversely across the top of this mold 2 is a raised portion 3. An aperture 5 is formed in the table 1 at such a point as that it is in direct alinement with the axial center of the mold 2.
30 Formed on or fixed to the under side of the table 1 is a cylinder 6, having a closed lower end, and into the lower end of said cylinder is tapped an inlet-pipe 7, the same being provided with a valve 8. Tapped into the cyl-
35 inder 6 directly opposite this inlet-pipe 7 is an exhaust-pipe 9, provided with an outlet-valve 10.

A rectangular cap 11 forms the top of the mold, said cap being constructed in mating
40 halves and concave on its under side, as indicated by 12, and provided with a centrally-arranged aperture 13, the edge of the cap around said aperture being provided with continuous grooves 14. The under side of
45 this cap 11 is so formed and provided with shoulders 15 as that it will readily engage upon the top of the cylindrical mold 2, said shoulders 15 engaging against the edges of the raised portion 3. The mating parts of
50 said cap are provided with perforated ears 16, through which ears pass keys 17, said keys also passing through perforations 18 in

the flange at the top of the cylindrical mold, thus normally locating the cap in proper position upon said cylindrical mold. 55

A rod 19 operates freely through the aperture 5 in the table 1, the upper end of said rod being provided with a disk 20, that fits snugly within and operates freely through the mold 2. Located upon the lower end of
60 said rod 19 is a disk 21, that freely operates through the cylinder 6. A ring 22, similar to the ring usually employed on a tumbler-mold press, is provided with a centrally-arranged aperture 23, the diameter of which is slightly
65 less than the diameter of the aperture 13, and said ring is secured to the usual operating-lever of a glass-pressing machine by means of connecting-rods 24. The upper edge of the material of which this ring 22 is formed ad-
70 jacent the aperture 23 is cut away or flared, as indicated by 25, and formed to operate freely through the aperture 23 is a plunger 26, that is connected in any suitable manner
75 to the operating-lever of the machine. The under side of this plunger 26 is concaved, as indicated by 27, and passing upwardly through said plunger is a bore 28, that communicates with a horizontally-arranged bore
80 29, into which is tapped an inlet-pipe 30, in which is located a cut-off valve 31. A section of rubber tube 32 or like flexible connection that leads from the air-blast is located upon the outer end of the pipe 30.

The operation of my improved bottle and
85 jar blowing machine is as follows: The valve 10 is closed and the valve 8 opened. The pipe 7, being connected to a suitable air-blast, will discharge air into the cylinder 6, which will necessarily raise the disk 21 to the top of the
90 cylinder 6, and this movement will consequently carry the disk 20 to the top of the cylindrical mold 2, which mold has previously been heated to a proper degree. The cap 11 is now properly positioned upon the mold 2
95 and held in such position by the keys 17, after which the melted glass is placed directly upon the disk 20, within the mold 2. The operating-lever of the machine is now manipulated in the usual manner, which movement
100 will bring the ring 22 into proper position upon the cap 11, and immediately after the plunger 26 will be brought to a proper position, which is with its lower end passed

through the aperture 23 in said ring. As said plunger is brought into proper position a portion of the melted glass is forced upwardly into the annular space formed between the lower end of the plunger and the edge of the aperture 13 in the cap 11. This forms the neck of the bottle or jar, after which the valve 31 is opened, thus allowing the blast of air required to blow or form the jar or bottle. As the bottle or jar is formed the disk 20 is necessarily moved downwardly to the bottom of the cylindrical mold 2. The air beneath the disk 21 during this movement discharges through the outlet-pipe 9. When the bottle or jar is formed, the operating-lever is manipulated so as to raise the ring 22 and plunger 26, after which the cap 11 is moved from its normal position. The valve 10 in the outlet-pipe is now closed, after which the air is turned into the cylinder 6 through the inlet-pipe 7, this operation raising the disks 21, carried by the rod 19, this movement necessarily raising the bottle or jar and delivering the same at the top of the cylindrical mold 2. By concaving the under side of the plunger 26 the top portion of the melted glass that is located upon the disk 20 is not suddenly chilled or cooled.

A bottle or jar blowing machine of my improved construction possesses superior advantages in point of simplicity, durability,

and general efficiency, is easily manipulated, and can be produced at minimum cost.

I claim—

1. In a machine for blowing glass, the rectangular cap 11 constructed in mating halves, each half having a semicircular notch or groove forming together a central opening concaved on its inner side and having the grooves 14 in the edge around the central aperture, perforated ears upon said cap through which ears keys operate to hold said cap, bolts in said ears engaging the mold to hold said cap in position, the mold 2 covered by said cap, and the disk 20 operating in said mold, substantially as specified.

2. In a machine for blowing glassware, the ring 22, connecting-rods for operating said ring, said ring having the flared aperture 23, the plunger 26 designed to operate in said aperture, said plunger having the vertical bore 28 and the horizontal bore 29 intersecting each other, an inlet-pipe tapped into said bore 29, an inlet-valve in said inlet-pipe, and the under side of said plunger being concaved, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM F. OBEAR.

Witnesses:

JOHN C. HIGDON,
MAUD GRIFFIN.