

No. 687,582.

Patented Nov. 26, 1901.

H. SEVERIN.
GLASS BLOWING MACHINE.

(Application filed Mar. 29, 1901.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

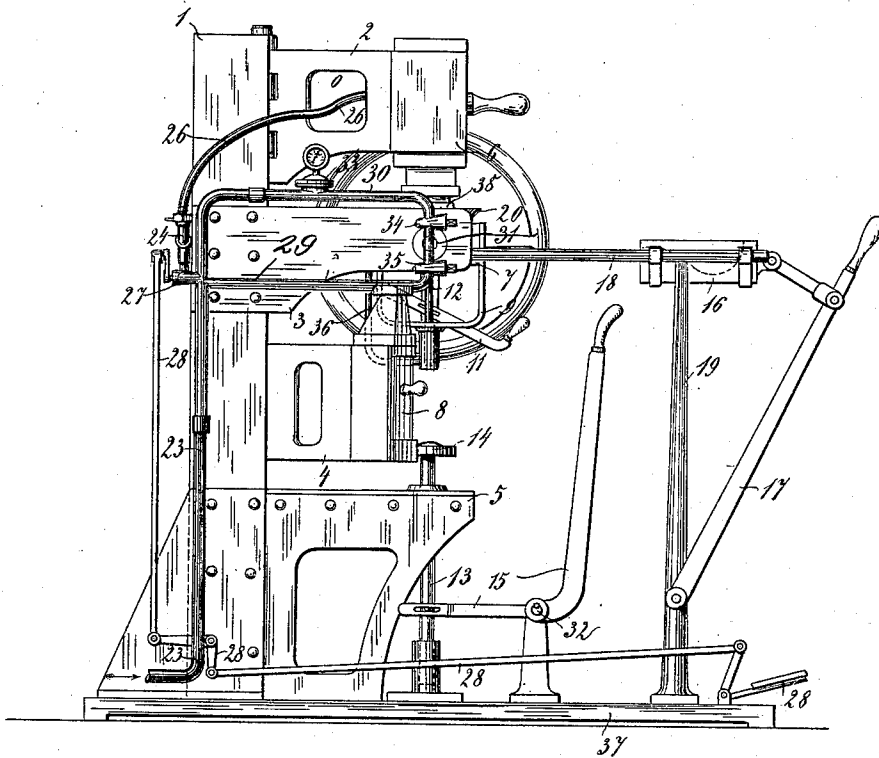
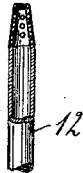


Fig. 1.



Witnesses

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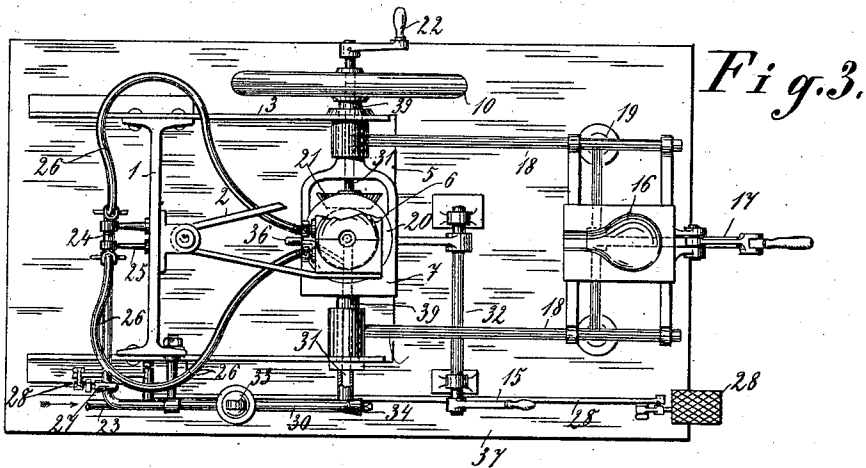
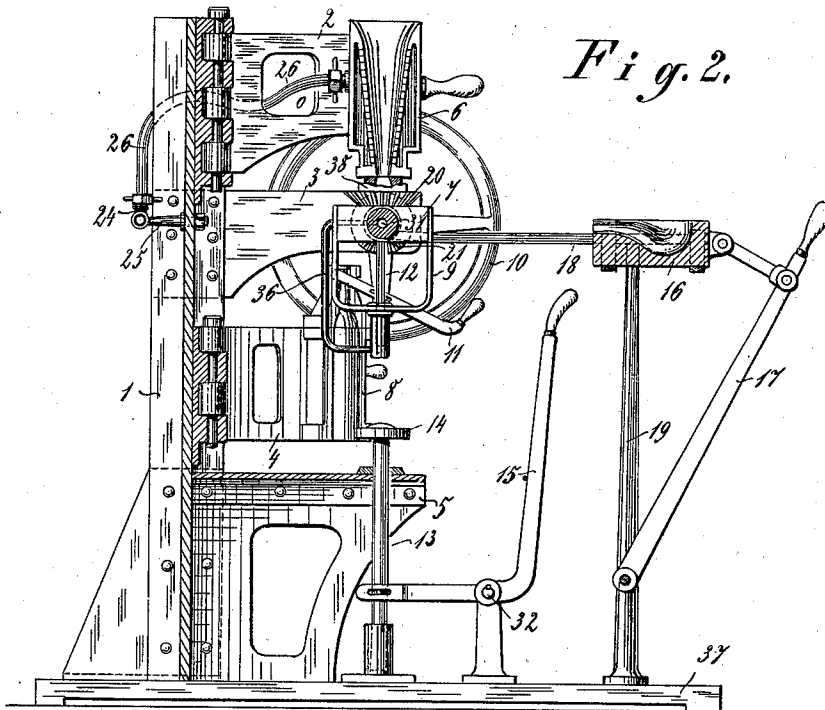
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2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

HEINRICH SEVERIN, OF ACHERN, GERMANY.

GLASS-BLOWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 687,582, dated November 26, 1901.

Application filed March 29, 1901. Serial No. 53,456. (No model.)

To all whom it may concern:

Be it known that I, HEINRICH SEVERIN, a citizen of the Empire of Germany, and a resident of Achern, Germany, have made certain new and useful Improvements in Glass-Blowing Machines, of which the following is a specification.

The object of the present invention is to provide a machine by which hollow glass articles—i. e., bottles and the like—can be manufactured by the same subsequent operations as when making bottles and the like by hand.

A machine embodying my invention is shown in the accompanying drawings, in which—

Figure 1 represents a side view of the new machine. Fig. 2 is a vertical section; Fig. 3, a plan view, the receiving-mold being partly broken away. Fig. 4 is a detached sectional view of the hollow stamp for pressing the mouth part of the bottle, showing the fine sieve-like holes at its upper part.

1 is the frame of the machine, mounted on a base-plate 37. To the frame the following parts are secured, namely: the receiving-mold 6 by means of the pivoting-brackets 2, the mouth-mold 38 by means of the plates 7, the axles 31, and the fixed brackets 3, and the two-part bottle-mold 8 by means of the pivoting-brackets 4. The plate 7, which by means of the hand-wheel 10 can be rotated around the axles 31, carries the mouth-mold, which latter is rigidly fastened to the miter-wheel 20 and can be rotated by means of the miter-wheel 21, mounted on the axle 31 and operated by the crank 22. The axle 31 of the miter-wheel 21 passes through the hollow shaft 39.

In front of the machine a marver 16 is slidably mounted on horizontal guide-rods 18, secured to vertical standards 19. The marver is of the well-known shape and provided with a groove for molding the neck of the bottle and can be moved toward the mouth-mold by means of the hand-lever 17.

Below the bottle-mold 8 a stamp 14 is arranged, which can be moved up and down and serves for supporting the lengthening-bulb. It is mounted on a vertical rod 13, guided through the table 5, and is operated by means of the hand-lever 15.

The plate 7 carries a yoke 9 for guiding

the stamp 12, which serves for pressing the mouth and which is lifted or lowered by means of the lever 11.

One of the axles 31 is hollow and forms a connecting-pipe between the air-inlet pipe 30 and the mouth-mold 38. By means of the stop-cock 34, provided in the pipe 30, compressed air may be blown into the bulb at the different stages of working. The pipe 30 is further connected with a reduction-valve 33 in order to regulate the pressure of the air.

The flap-like parts 6 of the receiving-mold, as well as the stamp 12 for pressing the mouth, are made hollow and provided with very fine sieve-like apertures. The hollow spaces are connected with the inlet-pipe 23 for the highly-compressed air by means of the pipes 26 and the T-piece 24. A branch pipe 29, provided with a cock 35, leads from the main pipe 23 to the hollow axle of the plate 7 and by means of the branch pipe 36 into the lower widened part of the stamp 12, Figs. 1 and 2.

In order to enable the operator to pass compressed air into the hollow receiving-mold and stamp during the time they are not working without using his hands, a cock 27 is provided in the branch pipe 23, which may be operated by the pedal-lever system 28.

The manner of manufacturing bottles by means of the new machine is as follows: The liquid glass is filled into the receiving-mold 6, (the parts of the machine assuming the positions shown in Figs. 1 and 2,) and by raising the stamp 12 by means of the lever 11 the mouth of the bottle is formed. Immediately thereafter the stamp 12 is withdrawn and the receiving-mold 6 is opened. The cock 27 is then opened by means of the pedal-lever system 28, and highly-compressed air, with its full pressure, admitted to the hollow spaces of the receiving-mold and of the mouth-stamp, whereby in consequence of the rapid expansion of the air these parts are thus cooled, so that the liquid glass is prevented from adhering to them during the following operation. Meanwhile by opening the cock 34 air has been blown into the bulb, standing freely upright and being held only by the mouth mold. By means of the hand-wheel 10 the plate 7, the mouth-mold 38, and therewith the bulb, are turned through an angle of ninety degrees after the marver 16 had been moved by means of

the hand-lever 17 so far toward the mouth-mold that the bulb shall rest in it. According to the hand method of marvering bottles the bulb is now rotated or whirled in the marver 16 by turning the crank-lever 22, thereby giving rotary movement to the mouth-mold 38, arranged on the plate 7, while at the same time admitting air under pressure, as required, through pipe 30 into the bulb. By swinging the turn-plate 7, with the mouth-mold, backward the neck part of the bottle is formed, and by pressing the bottom of the bulb against the marver an even distribution of the glass over the bottom of the bottle is obtained. The marver 16 is then moved backward and the mouth-mold is swung another ninety degrees by means of the hand-wheel 10. Should the bulb not have the necessary length, it may be swung in one and the other direction. By operating the lever 15 the stamp 14 is then raised in order to support the bulb, which extends when air is further admitted. After the bottle has attained the necessary length the mold 8 is closed and the bottle completed by further admission of air.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In a machine for blowing hollow glass articles, the combination with a horizontally and vertically rotatable mouth-mold, of a hollow receiving-mold formed in two sections and having its wall provided with a series of

perforations, means for suitably supplying pressure to the said receiving-mold, and a bottle-mold arranged in suitable relation to said receiving-mold.

2. In a machine for blowing hollow glass articles, a horizontally and vertically rotatable mouth-mold, a bottle-mold formed in two sections, a receiving-mold formed in two sections and having its walls provided with a series of apertures, means for supplying pressure to said receiving-mold, a hollow stamp for pressing the mouth of the bottle having its upper end provided with a series of perforations, and means for supplying pressure to said stamp.

3. In a machine for blowing hollow glass articles, a horizontally and vertically rotatable mouth-mold, a bottle-mold formed in two sections, a receiving-mold formed in two sections and having its walls provided with a series of apertures, means for supplying pressure to said receiving-mold, a hollow stamp for pressing the mouth of the bottle having its upper end provided with a series of perforations, means for supplying pressure to said stamp, a marver, and means for operating said molds, stamp and marver, respectively.

In witness whereof I have hereunto set my hand in presence of two witnesses.

HEINRICH SEVERIN.

Witnesses:

KARL SCHUMACHER,
FRIEDRICH WUNSTER.