

W. T. GILLINDER.  
BLOW PIPE FOR GLASS BLOWERS.

No. 51,386.

Patented Dec. 5, 1865.

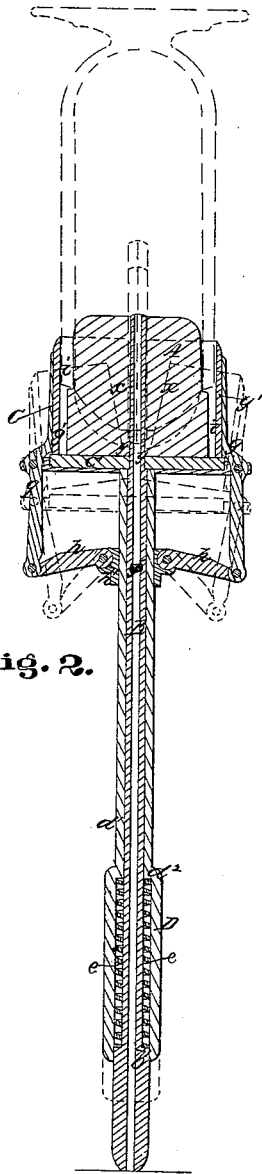


Fig. 2.

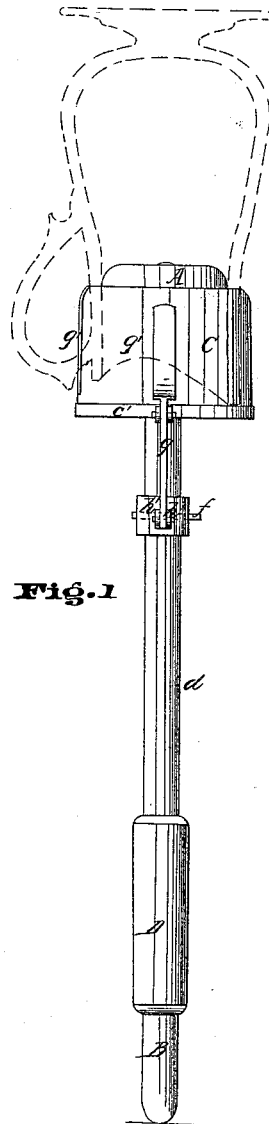


Fig. 1

Witnesses:  
By *Wharton*  
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# UNITED STATES PATENT OFFICE.

WILLIAM T. GILLINDER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HIMSELF AND EDWIN BENNETT, OF SAME PLACE.

## IMPROVEMENT IN BLOW-PIPES.

Specification forming part of Letters Patent No. 51,386, dated December 5, 1865.

*To all whom it may concern:*

Be it known that I, WILLIAM T. GILLINDER, of the city of Philadelphia, in the State of Pennsylvania, have invented a new and useful Improvement in Blow-Pipes for Glass-Blowers; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a geometrical representation of the said improved blow-pipe; and Fig. 2 a longitudinal half of Fig. 1, showing the interior construction of the said blow-pipe, like letters of reference indicating the same parts when in the different figures.

In making glass vessels requiring handles or similar protuberances, as pitchers, mugs, &c., they are first cast or pressed in molds provided with a plunger, which must subsequently be withdrawn from the vessel molded, and therefore it has heretofore been necessary to subsequently expand or shape and form them properly by rotating them in direct contact with suitable hand-tools, and then to form and attach the handles, &c.

The object of my improvement is to enable the glass-blower to shape or form such vessels with their handles or other similar projections attached or simultaneously formed with the vessel in the mold, and thus to facilitate in the manufacture, and to produce more uniform and better finished articles.

The nature of my invention consists, substantially as hereinafter described, in a perforated plunger with a blow-pipe attached, and also in the employment of the usual snap in combination with the said perforated plunger and blow-pipe.

In the drawings, A is the perforated plunger, B the blow-pipe, and C D the snap.

The plunger A is made of the same diameter as the solid plunger, which forms a part of the particular mold in which the melted glass receives its first form, and is also slightly tapered in the same manner. It is perforated or bored longitudinally through its center, and in this hole one end of the blow-pipe B is fixed (see Fig. 2) so that the mouth or open end of the vessel from the mold will fit over the plunger A in such a manner that the operator can safely expose it to the heat of the furnace and

expand it by blowing into it through the said pipe A. See the faint lines in the figures.)

For the purpose of more securely and safely fixing the vessel upon the plunger A, the snap C D is applied. It consists of a flat disk, *c*, which is perforated in its center, and thereby fixed permanently over the upper end of a tube, *d'*, which fits and moves like a sleeve over the upper portion of the blow-pipe B. Its lower end is enlarged sufficiently to receive within it a spiral spring, *e*, which abuts against a shoulder, *d*<sup>2</sup>, and allows the blow-pipe A to move within it longitudinally, the lower end of the said blow-pipe being enlarged sufficiently to fit the bore of the enlarged end of the tube *d'*, and thus present a shoulder, *b'*, which will abut against the lower end of the spring *e*. (See Fig. 2.) Near the upper end of the tube *d'* there is a slot (not seen in the drawings) made, about an inch or more long, through its sides, and in this slot a small pin, *f*, which is fixed across in the blow-pipe, operates so as to keep the shoulder *b'* thereof within the larger end of the tube *d'* and in an abutting contact with the lower end of the spring *e*, and also so as to allow the blow-pipe B to be moved upward through the spring for the length of the said slot in the tube *d'* on the operator's pressing it against the said spring *e* for the purpose. To two opposite edges of the disk *c* two levers, *g g*, are pivoted, and attached respectively to their upper ends there are two thin plates, *g' g'*, which are curved so as to be concentric with the plunger A, and also so as to leave a thin annular space, *i*, between them and the said plunger when the snap is closed, as seen in Fig. 2. The lower ends of the levers *g g* are connected to the tube *d'* by means of the respective pivoted bars or shackles *h h* and the sliding-collar *h'*, as seen in the same figure. At one side of the plunger A the edges of the two curved plates *g' g'* meet, while at the opposite side their edges are recessed or cut away so as to leave sufficient space for the handle of the glass vessel, when the latter is on the plunger A, to project from between them. (See Fig. 1, and also the dotted lines *x y* in Fig. 2.) Operation: The lower end of the blow-pipe, having the snap C D applied, is rested upon the floor or other unyielding support in the furnace-room, when the operator presses the tube *d'* downward, and thus causes the plates

*g' g'* to open outward and downward, as indicated by the dotted lines in Fig. 2. He then places the mouth of the glass vessel to be enlarged over the plunger A so that its handle will project through the opening which will be left between the recessed portions of the plates *g' g'* when the latter are closed around the plunger A, as seen in the drawings.

The closing is effected automatically simply by lifting the whole implement free from the floor or place of rest, and the vessel being thus securely held by the snap, as set forth, the operator proceeds to expand and finish it by heating and blowing in the well-known manner, the handle having been previously formed and finished by pressure in the mold.

For some vessels the snap C D is not required, as such vessels will be held sufficiently tight and secure simply by the friction between them and the plunger A.

It will be readily seen that by means of this blow-pipe molded vessels can be more expe-

ditionously, uniformly, and perfectly expanded and finished with the handles on as parts of the same than by the old modes, which required the handles to be formed and attached after the body of the vessel had been finished, as before mentioned.

Having thus fully described my improved blow-pipe, what I claim as new therein, and desire to secure by Letters Patent, is—

1. A perforated plunger, A, having a blow-pipe, B, attached thereto, the same being constructed and united together so as to operate substantially as and for the purpose described.

2. In combination with the subject-matter of the above claim, the employment of the snap C D, constructed and applied so as to operate substantially as and for the purpose described.

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Witnesses:

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