

**J. LAMONT.
GLASS TOOLS.**

No. 183,267.

Patented Oct. 17, 1876.

Fig. 1.

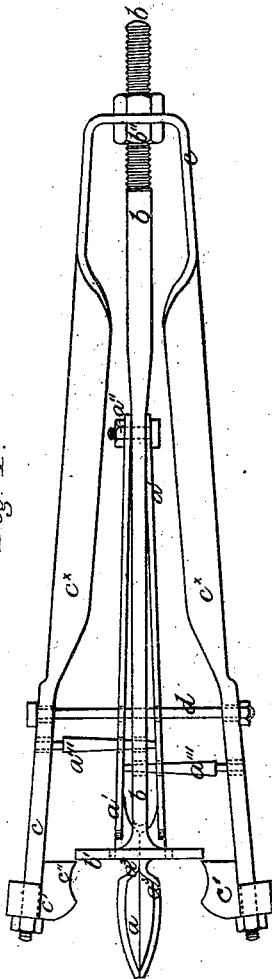


Fig. 3.

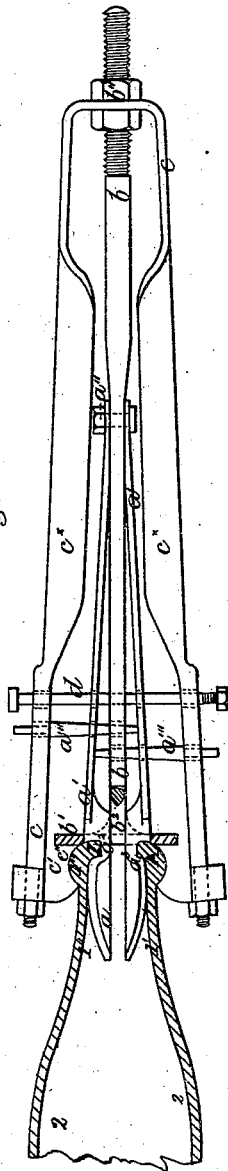


Fig. 4.

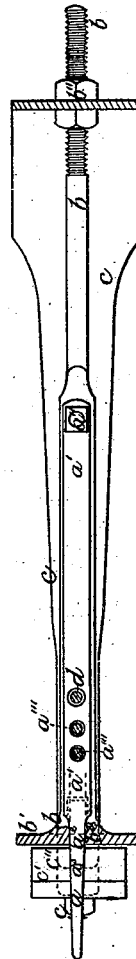


Fig. 2.

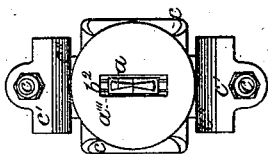
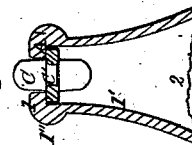


Fig. 5.



Witnesses,
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JOHN LAMONT, OF GLASGOW, NORTH BRITAIN.

IMPROVEMENT IN GLASS-TOOLS.

Specification forming part of Letters Patent No. **183,267**, dated October 17, 1876; application filed May 29, 1876.

To all whom it may concern:

Be it known that I, JOHN LAMONT, of Glasgow, in the county of Lanark, North Britain, merchant, have invented Improvements in Bottles and other Vessels for Aerated or Gaseous Liquids, and an improved tool for manufacturing such bottles, (English patent dated 2d June, 1874,) of which the following is a specification:

My said invention has reference to the manufacture of that class of bottles and other vessels for containing aerated or gaseous liquids in which the stopper is first placed in the inside, and when filled with the liquids and gases, the pressure of these within forces the stopper automatically into the neck or mouth of the bottle or vessel so tightly as to hold it properly (that is to say, liquid-pressure tight) and close in its place, and prevent all escape of the liquid; and the nature of the invention consists in a special construction, hereinafter described, of a spring hand-tool, composed of an expanding plug or mandrel made in two or more sectional parts, and inserted and pressed out by the same action of the hand instrument which forms or compresses the strengthening outer rim when finishing the neck of the bottles, while the glass or other material is soft or pliable.

To make my invention better understood I will proceed to describe the same by reference to the accompanying drawing, in which—

Figures 1 and 2 are, respectively, a side elevation and end view of the improved spring hand-tool for forming the new bearing-rim in the inside of the neck or mouth and outer strengthening-head of the bottle, showing the parts of the tool all in their normal position. Fig. 3 is a side elevation of the said spring hand-tool shown in Fig. 1, and corresponding thereto, but with the spring-arms as pressed in by the hand of the operator at the middle part, where they are rounded to receive the hand, and the parts of the plug or mandrel for forming the rim as pressed out, all as in the act of forming the throat or mouth of a bottle in accordance with my said improvements. Fig. 4 is a longitudinal edge section taken on the line 1 1 in Fig. 1, and at right angles thereto, of this improved tool for forming the head and new rim within the neck of

aerated or other liquid bottles in accordance with my said improvements.

The nature, novelty, and mode of performing my said invention consist, first, in forming the internal neck or mouth 1 1' of the bottle 2 (or other vessel) with a new bearing narrow annular flange or rim, A, near the outer end 1, (shown in Fig. 3,) and having the neck part 1' within wider than the mouth 1, and widening slightly or gradually toward the inside 2; or, when desired, this bearing-rim A might be of a beveled, curved, or other equivalent ridge or groove form for the said closing-rim A. Against the prominent parts of these rims A an elastic or flexible part or washer, B, of a stopper, B C, such as that shown in Fig. 5, is pressed when in the position of stoppering the vessel; and, as shown in Figs. 1 to 4, and particularly in Fig. 3, this rim part A may be formed by an expanding plug or mandrel made in two (or it might be more) sectional parts, *a a*, formed or fixed on the end of two springs, *a' a'*, attached at *a''* to the central spindle *b* of the hand-tool *a* to *d*, with an end disk, *b'*, which rests on and forms the end face of the neck or mouth 1 of the bottle 2, the main holding double spring-lever part *c c* being attached to the outer free screw end of the central spindle *b* by the two screw-nuts *b''*, the free ends of these spring-arms *c* having fixed on each the curved segmental matrix or block *c'*, for forming the outer thick part or head 1' of the bottle 2 at *c''*, close to the disk *b'*, the said pressing in of the spring-arms *c c'* pressing out the two parts *a a* of the mandrel *a a'* by the studs *a'''*, riveted to their spring-stems *a' a'*, which are guided in the slots *b²* of the disk *b'*, all as shown in Fig. 3, the act of forming a bottle-head so that the neck parts *a² a²* form the round narrow mouth 1, and the shoulder part *a³ a³* forming the bearing-rim part A by turning the hand instrument *a* to *d*, or the bottle, while the mouth or neck of the bottle is hot and ductile when made of glass, and when made of earthenware the mouth is so formed while the material is soft or plastic, the cross-pin *d* forming a guide for the moving arms *a'* and *c*.

What I claim is—

1. In a spring hand-tool for forming simultaneously the outer and inner parts of necks of bottles, the combination of the self-open-

ing outer formers, the self-closing inner formers, and the pushing-studs $a''' a'''$, each projecting through one of the stops or supports of the inner formers and through the central spindle or bar b , and both acting when the apparatus is compressed in the hand to abut against its opposite spring a' , substantially as and for the purpose set forth.

2. The combination, in a hand-tool for form-

ing the necks of bottles with a rim or groove, A , within the same, of the exterior formers $c c' c'' c^x$, the interior formers $a a' a^2 a^3$, studs a''' , spindle and disk $b b'$, and cross-pin or guide d , substantially as shown and described.

JOHN LAMONT.

Witnesses:

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