

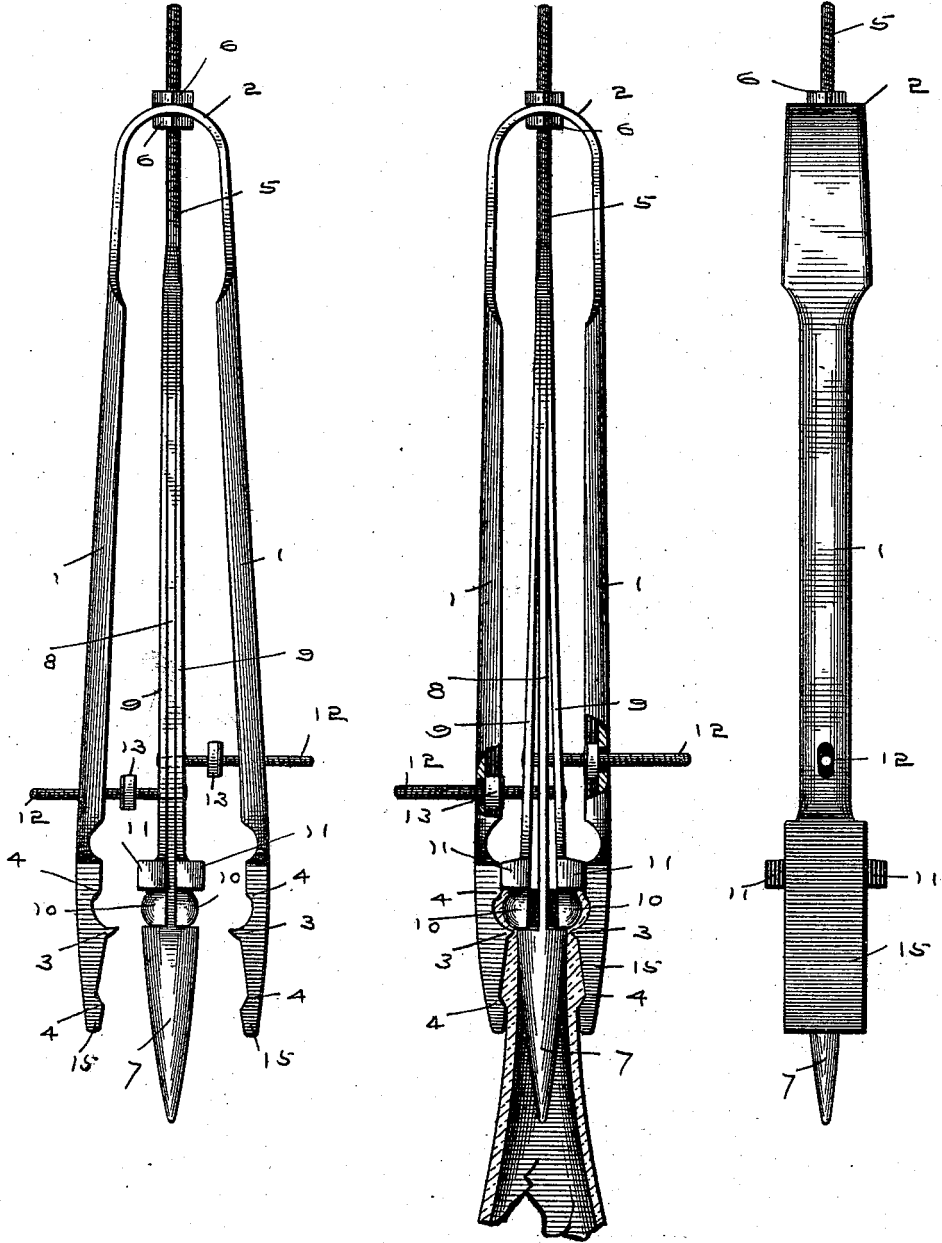
(No Model.)

T. K. SHELDON & M. N. LYNN.
FINISHING TOOL FOR GLASS BOTTLES.

No. 500,960.

Patented July 4, 1893.

FIG. 1. FIG. 2. FIG. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

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FINISHING-TOOL FOR GLASS BOTTLES.

SPECIFICATION forming part of Letters Patent No. 500,960, dated July 4, 1893.

Application filed June 13, 1892. Serial No. 436,505. (No model.)

To all whom it may concern:

Be it known that we, THOMAS K. SHELDON, of Marion, county of Grant, and MIRABEAU N. LYNN, of Indianapolis, county of Marion, State of Indiana, have invented certain new and useful Improvements in Finishing-Tools for Glass Bottles; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like figures refer to like parts.

Our invention relates to a new and useful improvement in tools for finishing glass bottles, and it consists mainly in the construction of tools for finishing the ends of the bottles in such a manner as to provide an extension on the mouth of the same; and at the same time to form the glass of the extension at the point of connection with the bottle of less thickness than the rest, so that the extension may be readily broken off, but it can also be used to form the neck and mouth of any bottle, where it is desired to make the inside of the neck corrugated, or concave, or any other irregular form.

In the drawings, Figure 1 is an elevation of our finishing tool, showing the spring jaws open. Fig. 2 is a similar view, partly broken away, showing the spring jaws closed, and in the act of finishing the bottle, such bottle shown in section. Fig. 3 is an edge view of the finishing tool.

In detail, 1 represents a pair of jaws connected at their upper end by a spring 2, and 15 are finishing dies secured to their lower ends to finish the exterior of the bottle, 3 being a rib on the face of each jaw for the purpose of forming the glass in the bottle thinner at this point, 4 being other ribs or projections across the face of the finishing dies for otherwise shaping the outside of the bottle.

5 is a screw threaded rod working loosely through an opening in the spring connecting the two jaws 1, and is adjustable and retained in position by means of the nuts 6, 8 being a flat extension of the rod 5, and has formed on its lower end a tapering plug or spindle which is in line with and between the dies 15 to form the corkage of the bottle.

9 are spring arms which are riveted or

welded to the central rod 5, and carry on their lower ends the bulbous heads or interior dies 10, whose inner sides are flat, and which are adapted to fit up against the central arm 8 just above and in contact with the tapering spindle or plug 7, 11 being an enlargement formed integral with and just above these heads or interior dies, and which with the corresponding parts of the jaws form the end of the bottle extension, and also serve as stops to the exterior finishing dies when they are closed.

12 are screw threaded pins, one connected to each of the spring arms 9, and passing loosely through the central piece 8, the opposite spring arm 9, and through one of the spring jaws 1, a nut working on the pin on the inside of such jaw for adjusting the movement of the spring arms with their heads or dies, for by screwing the nuts outward when the spring jaws are closed, as shown in Fig. 2, the heads or dies will be forced farther out, thus making the extension and the end of the bottle slightly larger, thereby enabling many different sized bottles to be finished with one tool.

The manner of operating our device is as follows: The bottles, which have been completed, and whose necks, mouths and extensions it is desired to finish, are heated to such an extent that the necks become soft and plastic to a degree as to be readily formed or molded in any desired shape. The spindle 7 of the finishing tool is then inserted in the mouth of the bottle, and the spring jaws 1 gradually closed until the finishing dies come in contact with the glass. At the same time the bottle is turned, the dies operating on the outside of the bottle neck, and gradually bringing it in the shape of the dies. At the same time the dies are being brought together on the outside of the bottle. The interior die or divided head 10 on the inside, which is of less diameter than the spindle, is gradually spread as the spring jaws are closed, until the finishing dies come in contact with the enlargements 11, when the parts of the bottle neck will have all been worked down to the desired size, as shown in Fig. 2, and the ribs 3 being in line with the lower edge of

the head 10 at that point, the glass will be thinnest and readily breakable, as shown. After the end of the bottle has been finished off as mentioned, by releasing the pressure of the spring jaws 1, the divided head will close into place, and the head being smaller than the spindle may be drawn out of the bottle, which is done and cold enough to retain its shape and may then be removed, and another bottle operated on.

We do not desire to limit the heads or interior dies attached to the ends of the divided spring arms which are attached to the central arm, to a bulbous or any other particular shape, but the same may be corrugated, spindle-shaped, or made in any shape so as to make the inside of the neck or extension thereto of any desired shape.

What we claim as our invention, and desire to secure by Letters Patent, is the following:

1. In a tool for finishing bottles, a spindle carried on a central arm, and interior dies carried on spring arms and lying immediately above such spindle, substantially as shown and described.

2. In a tool for finishing bottles, a spindle carried on a central arm, interior dies carried on spring arms and lying immediately above such spindle, with their backs against such central arm, substantially as shown and described.

3. In a tool for finishing bottles, a spindle carried on a central arm, and interior dies carried on spring arms and lying immediately above such spindle with their backs against such central arm, and suitable collars immediately above and integral with such interior dies, substantially as shown and described.

4. In a tool for finishing glass bottles, a pair of spring jaws carrying on their lower ends exterior finishing dies, a central arm carrying a spindle, interior dies carried on spring arms, and lying in recesses above the spindle, and adapted to be sprung out upon the bringing together of the spring jaws, whereby such heads will extend out beyond the face of the

spindle proper, substantially as shown and described.

5. In a tool for finishing glass bottles, a pair of spring jaws carrying on their lower ends exterior finishing dies, a central adjustable arm carrying on its lower end a spindle between and in line with such dies, spring arms carrying on their lower ends interior dies having a collar above the same, such interior dies adapted to fit against the central arm above the spindle, and screw pins with nuts working thereon connected to each of the spring arms, and working loosely through openings within the spring jaws, whereby upon closing such dies the heads will be forced outward, and upon releasing the same they will be drawn inward, substantially as shown and described.

6. In a tool for finishing glass bottles, a pair of jaws connected together by a spring, exterior finishing dies secured to the lower ends of such jaws, an adjustable rod working loosely through such spring and retained in position by nuts, a spindle or plug mounted on the lower end of an extension of such rod and in line with and between the finishing dies, interior dies formed on the ends of spring arms secured to the central rod and adapted to fit in the recess above such spindle, screw pins carrying nuts thereon each working loosely through a spring jaw, and through the central arm and one of the spring arms of the spindle and secured to the opposite spring arm, the heads of the tapering spindle adapted to be forced outward beyond the line of such spindle as the spring jaws are brought together, and collars above such interior dies adapted to stop the movement of such jaws, substantially as shown and described.

In witness whereof we have hereunto set our hands this 7th day of May, 1892.

THOMAS K. SHELDON.
MIRABEAU N. LYNN.

Witnesses:
H. D. NEALY,
E. B. GRIFFITH.