W. M. Kirchner,

Glass Tool.

No. 109,825. Patented Dec. 6. 1870.

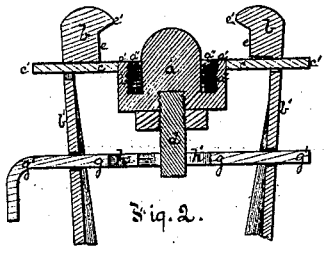

Fig. 2.

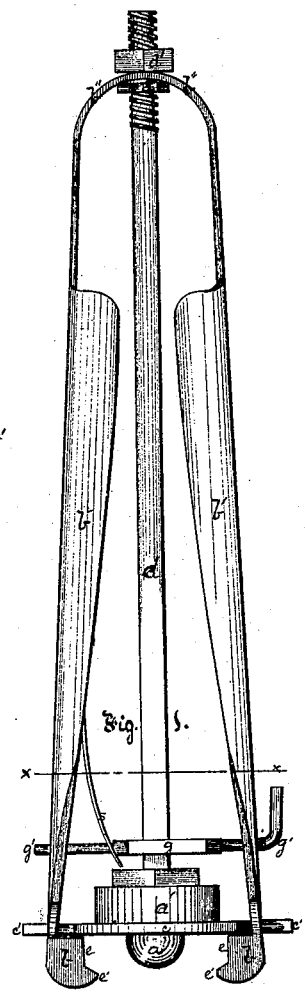

Fig. 1.

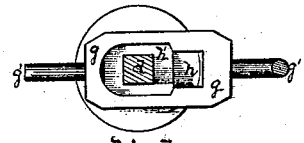

Fig. 3.

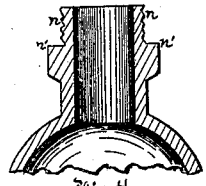

Fig. 4.

Witnesses:

Thos. Ekers

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Inventor:

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by Bakewell, Lehnig,
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United States Patent Office.

WILLIAM M. KIRCHNER, OF PITTSBURG, PENNSYLVANIA.

Letters Patent No. 109,825, dated December 6, 1870.

IMPROVEMENT IN TOOLS FOR FORMING SCREW-THREADS ON GLASS JARS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, WILLIAM M. KIRCHNER, of the city of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvements in Tool for Forming Screw-Thread on Glass Jars; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a side view of my improved tool,

Figure 2 is a vertical sectional view of the jaws and plug;

Figure 3 is a cross-section, through *x*, fig. 1; and

Figure 4 illustrates the operation of my improved tool in forming a thread and gasket-seat on the outside of the neck of a bottle.

Like letters of reference indicate like parts in each.

In many articles of glass-ware, such as fruit-jars, bottles, &c., a screw-thread is desired on the outside of the neck, onto which to screw a threaded cap or cover; and also a seat is sometimes desired at the base of the screw-thread, on which to place a gasket, whereby to secure an air-tight joint. My improved tool is designed for such purposes.

To enable others skilled in the art to make and use my improvement, I will proceed to describe its construction and operation.

The spring bow *b''* and handles *b'* are of the usual or any known construction, as also the stem *d* and adjusting nuts *d'*.

To the lower or outer end of the stem *d* is fixed the plug *a*, which is surrounded, through a part of its length equal to the length of screw-thread *n*, desired in the jar or bottle, by an annular flange, *a'*, the annular space *a''*, between such flange *a'* and the body *a* of the plug, being equal to the thickness of the threaded neck *n*.

This plug *a*, with its flange *a'*, rotates freely in a guiding ring, *c*, which, by its projections, *c'*, is connected with the handle *b'*, the diameter of the ring *c* being such as to limit, at the proper point, the inward movement of the jaws *b*.

The inner face of the annular flange *a'* is threaded, as shown in fig. 2.

The jaws *b* are so made and adjusted that their plane faces *e* shall not, when brought close together, come quite flush with the threaded face of the flange *a'*, whereby will be left a space for the formation of a gasket-seat, *n'*, fig. 4.

The lower ends *e'* of the jaws *b* project inwardly a short distance, and with an inner face downwardly inclined, as shown, so as when pressed against the plastic glass ring previously formed on the neck of the bottle or jar, to press the plastic glass up against the end of the flange *a'*, and thereby give a well-formed gasket-seat, *n'*, and also force the glass up into the annular space *a''*, and cause it to fill the threads therein.

In forming the threaded neck and gasket-seat, the plug *a* being inside the neck, the stem *d*, plug *a*, flange *a'*, and jar or bottle all revolve together, with the jaws *b* pressed against the outside of the neck.

When the work is done, in order to remove the bottle or jar I shift the wrench-plate *g*, fig. 3, by its stems *g'*, which pass through the handles *b'*, till the square part *h* of its aperture shall engage the square part of the stem *d*, whereby plug and flange will be held stationary; and then I screw the neck *n* of the bottle or jar, out of the annular space *a''*.

The return of the wrench-plate *g* to the position shown is secured by a spring, *s*, so that the stem *d* may be free to revolve in the aperture *h'*.

The jar or bottle is then, after being fitted with a cover or cap and gasket, ready for use or market.

The size of the parts described will vary, of course, with the size of the jar or bottle-neck to be threaded, and I claim the tool set forth, in its application to all articles of glass-ware in which a screw-thread is desired on the outside of the mouth or neck.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The plug *a*, surrounded through the whole or a part of its length by an annular flange, *a'*, so as to leave an annular space, *a''*, between, the inner face of the flange *a'* being threaded, substantially as and for the purposes set forth.

2. In connection with plug *a*, flange *a'*, and stem *d*, the arrangement of wrench-plate *g*, with its apertures *h h'*, and spring *s*, substantially as set forth.

In testimony whereof, I, the said WILLIAM M. KIRCHNER, have hereunto set my hand.

WILLIAM M. KIRCHNER.

Witnesses:
W. N. PAXTON,
G. H. CHRISTY.