

(No Model.)

A. HARCUM.

Apparatus for Crimping Lamp Chimneys and
Similar Articles.

No. 232,492.

Patented Sept. 21, 1880.

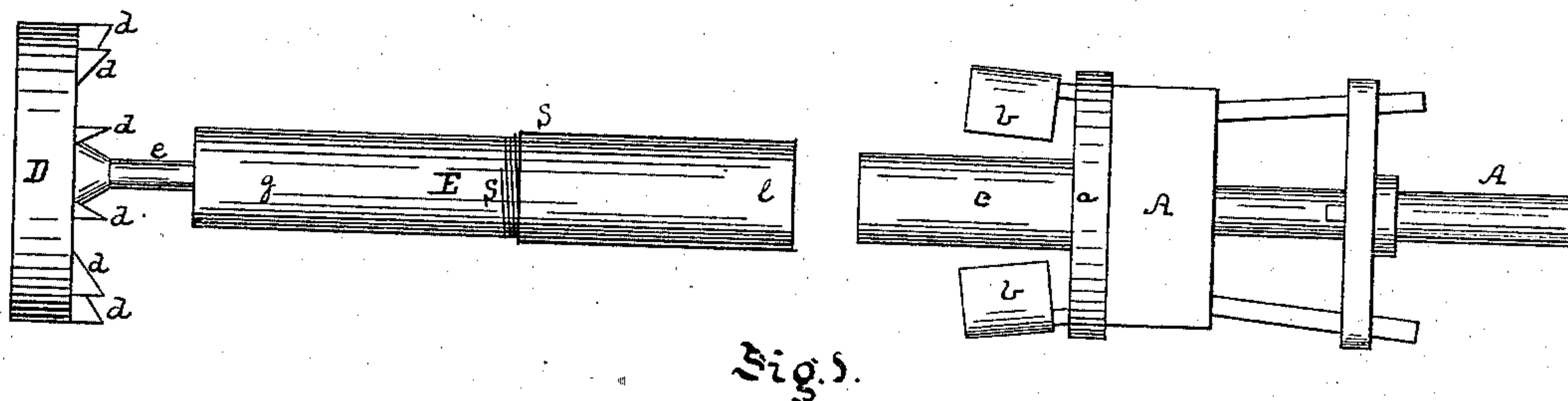


Fig. 5.

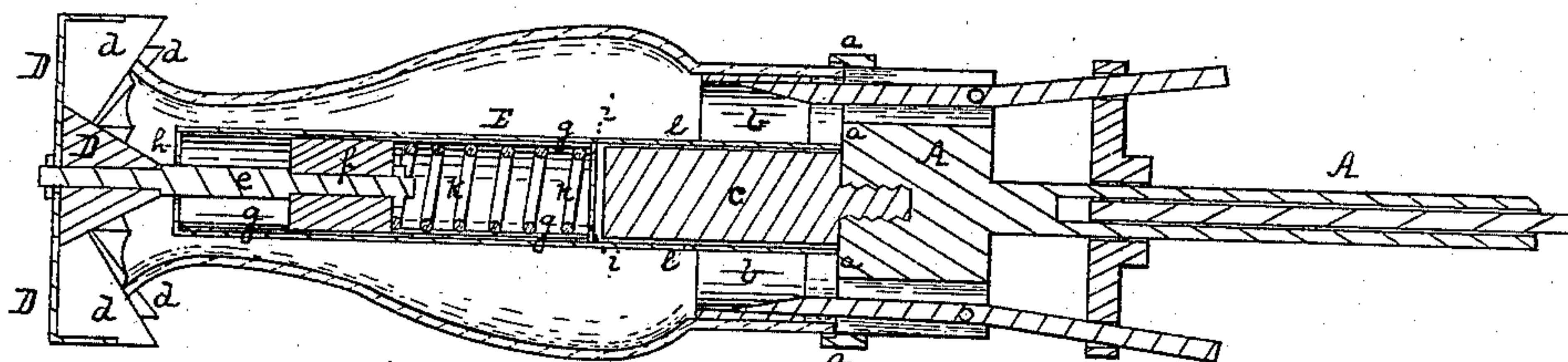


Fig. 2.

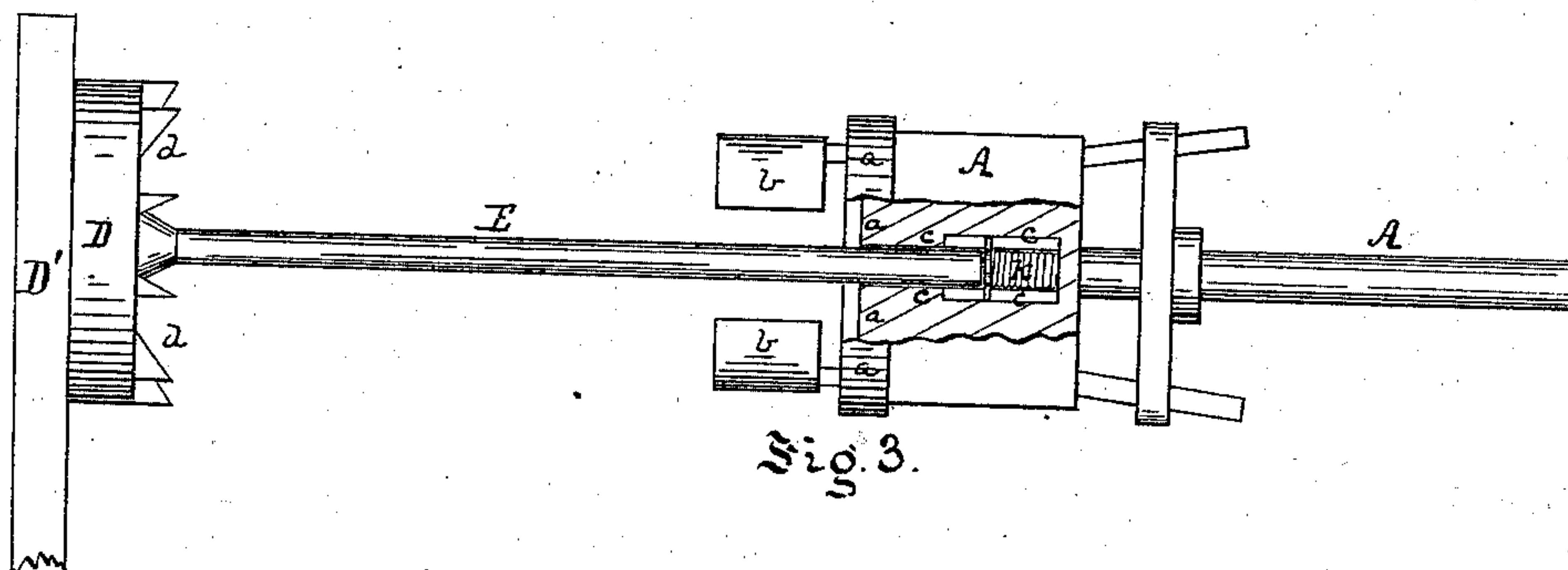


Fig. 3.

Witnesses

F. G. May
Geo. Elphinstone

Inventor

Andrew Harcum
by James L. Ray
Attorney

UNITED STATES PATENT OFFICE.

ANDREW HARCUM, OF SCOTT TOWNSHIP, ALLEGHENY COUNTY, ASSIGNOR
TO HIMSELF AND GEORGE A. MACBETH, OF PITTSBURG, PA.

APPARATUS FOR CRIMPING LAMP-CHIMNEYS AND SIMILAR ARTICLES.

SPECIFICATION forming part of Letters Patent No. 232,492, dated September 21, 1880.

Application filed July 22, 1880. (No model.)

To all whom it may concern:

Be it known that I, ANDREW HARCUM, of Scott township, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Apparatus for Crimping Lamp-Chimneys and Similar Articles; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side view of my improved apparatus for crimping lamp-chimneys. Fig. 2 is a longitudinal central section of the same; and Fig. 3 is a side view, partly broken away, of another form of my improved apparatus.

Like letters of reference indicate like parts in each.

My invention relates to apparatus for crimping the ends of glass lamp-chimneys and similar open-ended articles. These chimneys have generally been crimped by means of a tool provided with radial arms or edges, designated a "crimper," the tool being pressed against the end of the chimney after it was reheated and flared, and forming a series of crimps or flutes around the edge. It has been found exceedingly difficult to crimp the chimneys perfectly uniform and true when the crimper was used by the workman without any guide, as it was almost impossible to place the crimper in the center and press with the same force in each chimney. For this reason a machine has been adopted for crimping the chimneys in which the snap carrying the chimney was placed in rests in axial line with the crimper, and either the chimney pressed against the crimper or the crimper against the chimney. This machine has, however, been found objectionable, as it was expensive, complicated, and inaccurate, as the snap would slip in the rests and throw the chimney out of line with the crimper.

My invention not only overcomes these objections, but provides a cheap, simple, and accurate means for finishing the chimney, capable of being used by unskilled labor and without any separate stand or rest for the snap during the operation.

It consists, first, in a tool for crimping lamp-chimneys provided with a guide adapted to

fit within or around a corresponding guide on the snap and guide the crimping-tool in its movement against the end of the chimney, or the snap carrying the chimney in its movement against the crimper; and, second, in combining with the crimping-tool having a guide for guiding the movement of the crimper or snap a snap provided with a corresponding guide and a spring for retracting the tool after the crimping of the chimney.

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

In the drawings hereto annexed two different forms of my improved crimping apparatus are shown, one being illustrated by Figs. 1 and 2 and the other by Fig. 3, the parts being arranged in a different position.

A is the snap or tool for holding the chimney during the reheating and finishing, provided with the seat *a*, against which the chimney rests, and the clamping-jaws *b*, or other suitable means for holding the chimney on the snap during the finishing operation.

When the apparatus illustrated in Figs. 1 and 2 is used I place in the center of the seat *a* the guide *c*, which projects from the seat and serves as guide in the operation of crimping the chimney. The guide *c* is rigidly attached to the snap, and may be secured thereto by screwing it in, or by any suitable fastening.

D is the crimping-tool, which is of the usual or any desired shape, having a series of arms or edges, *d*, extending radially from the center, and, if desired, a flaring tool placed before the crimper for opening the chimney before the crimper is pressed against it. The crimping-tool is either held in the hand and pressed against the chimney on the snap or rigidly attached to a stationary arm, and the snap carrying the chimney pressed against it. Extending from the center of the crimping-tool D is the guide E, which fits around the guide *c* on the snap and directs the movement of the crimper D in axial line with the snap. The guide E is provided with the rod or piston *e*, rigidly attached to the crimper, and having at its end the piston-head *f* and the cylinder *g*, which is capable of a longitudinal movement on the rod. This rod *e* ex-

tends into the cylinder *g*, the piston-head being guided in its movement by the sides of the cylinder and confined therein by the head *h*, through which the rod *e* passes. Across the cylinder *g* is formed the diaphragm *i*, and between the diaphragm and piston-head is placed a spiral or other suitable spring, *k*, by means of which the piston-head is held at the end of the cylinder when the tool is not in use. At the other end of the cylinder, beyond the diaphragm, is the guiding-sleeve *l*, fitting over the rigid guide on the snap and holding the crimper in axial line therewith.

The sleeve *l* may be made extensible, to adapt the crimper for use with different lengths of chimneys, by screwing it on the guide *E*, as shown at *s*, Fig. 1.

When the chimney is to be finished it is placed upon the snap *A* and held thereon by the clamping-jaws *b*, and is then taken to the glory-hole and reheated. It is then given the proper flare by any suitable tool, and is ready for crimping. This operation is quickly performed by my improved apparatus, the workman in one case placing the guide *E* on the crimper within the chimney on the guide *c* attached to the snap and pressing the crimper against the end of the chimney, and in the other placing the guide *c* on the snap within the guide *E* attached to the stationary crimper, and pressing the chimney against the crimper. The snap-guide *c* holds the crimper and its guide in axial line with the snap, so that upon the compression of the spring *k* by the piston-head the crimper is brought against the chimney in true axial line, and forms a series of crimps around the end of the chimney uniform in size and shape. The spring *k* prevents the operator from forcing the crimper too suddenly against the chimney, and when the pressure is withdrawn from the crimper retracts it and throws it clear of the chimney, when it may be removed. If a flaring-tool is placed before the crimper, the chimney may be both flared and crimped by the tool, the chimney being revolved on the flaring-tool, which is held in proper position by the guides and the crimper pressed against the chimney after it is flared.

In Fig. 3 is shown another form of apparatus illustrating my invention.

Instead of projecting from the snap, the guide *c* extends down into the snap in the form of a cylindrical slot, and the spring *k* for retracting the crimper is placed in the bottom of the slot. The crimper is provided with the rod or guide *E*, the end of which fits into the guide *c* and presses against the spring *k*, being thus guided during the crimping opera-

tion, and retracted by the spring when the pressure is removed. The end of the guide *c* is preferably flared to direct the crimper-guide to place.

By my improved apparatus I am enabled to dispense entirely with any separate crimping-machine, as the snap is in no way dependent on the rests to hold it in axial line with the crimper, and the apparatus can be used equally well upon the stand where the article is subjected to the other finishing operations.

The apparatus is cheap, simple in construction and use, and is adapted to use by unskilled labor.

It is evident that different modifications of my improved apparatus can be devised by the skilled workman, such as arranging one or more guides on the snap outside of the chimney and corresponding guides on the crimper, and these I consider within my invention.

The direction of the movement of other formers than flaring and crimping tools can also be controlled by the use of corresponding guides on the former and snap in finishing open-ended glassware.

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

1. In apparatus for crimping lamp-chimneys and similar articles, the combination of a crimper provided with a guide and a snap or holder having a corresponding guide adapted to fit within or around the guide on the crimper and guide the movement of the parts in the operation of crimping, substantially as described.

2. In combination with the crimping-tool having a guide, a snap provided with a corresponding guide adapted to fit within or around the guide on the crimper and a spring for retracting the tool after the crimping of the chimney, substantially as and for the purposes set forth.

3. The combination of the crimping-tool *D*, the guide *E*, provided with the rod *e* and cylinder *g*, sliding longitudinally thereon, the spring *k*, inclosed within said cylinder, and the guide *c* on the snap, substantially as and for the purposes set forth.

4. The combination of the crimping-tool *D*, the guide *E*, having the extensible end *l*, and the guide *c* on the snap, substantially as and for the purposes set forth.

In testimony whereof I, the said ANDREW HARCUM, have hereunto set my hand.

ANDREW HARCUM.

Witnesses:

GEO. A. MACBETH,
JAMES I. KAY.