

(No Model.)

R. HEMINGRAY.

Glass Press for the Manufacture of Insulators.

No. 242,825.

Patented June 14, 1881.

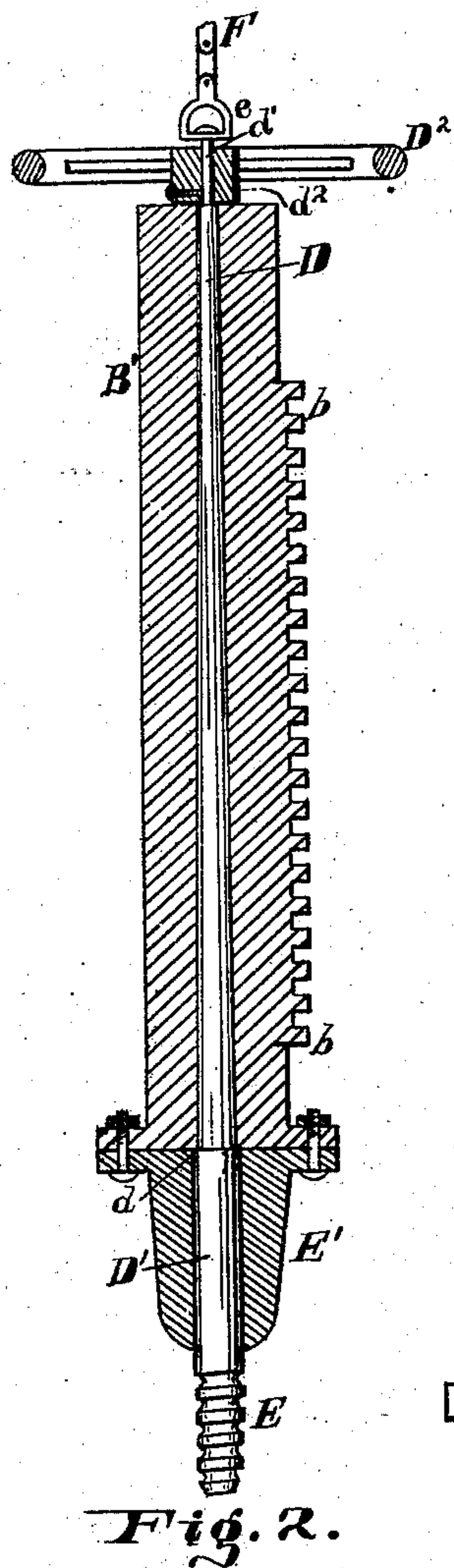


Fig. 2.

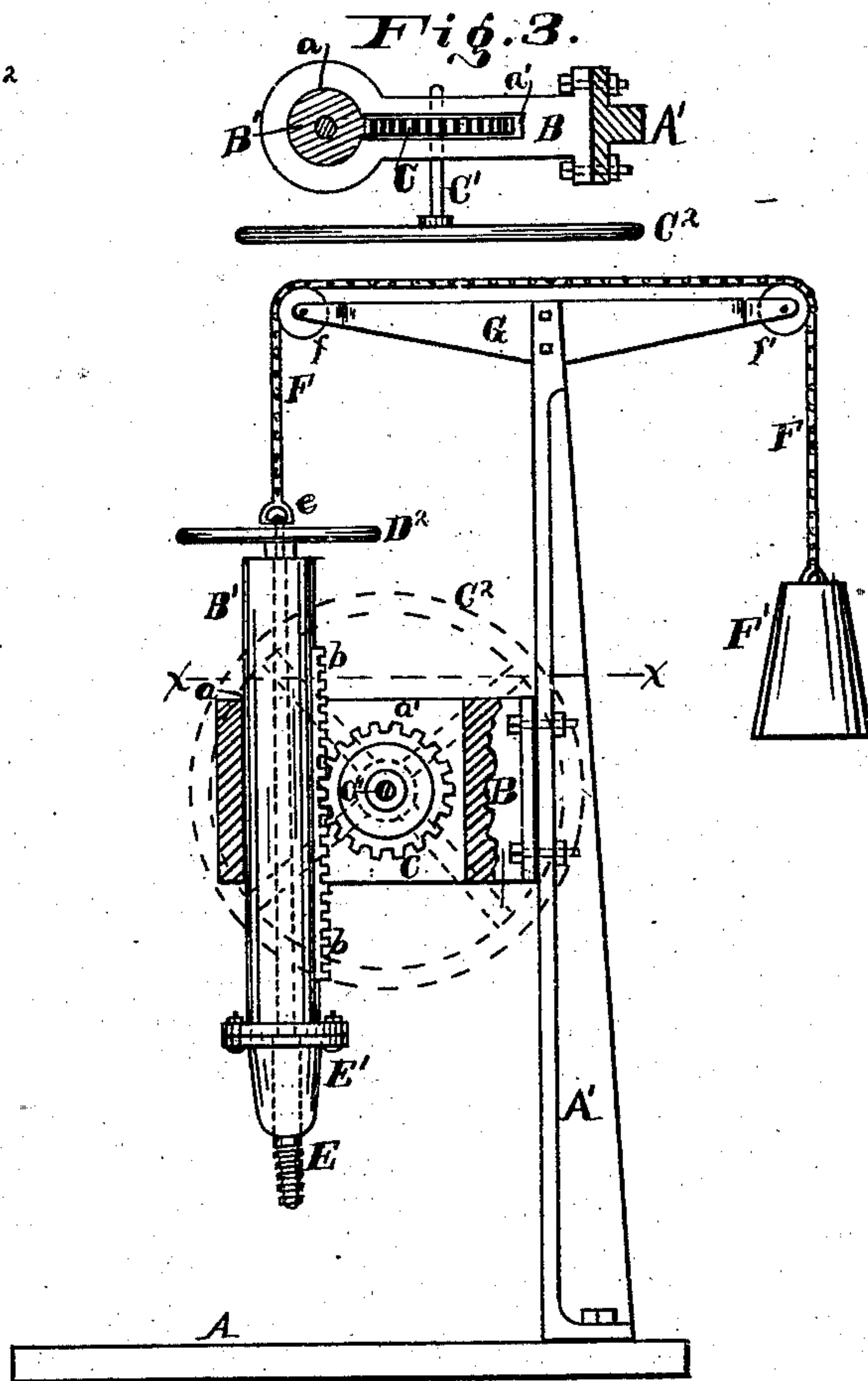
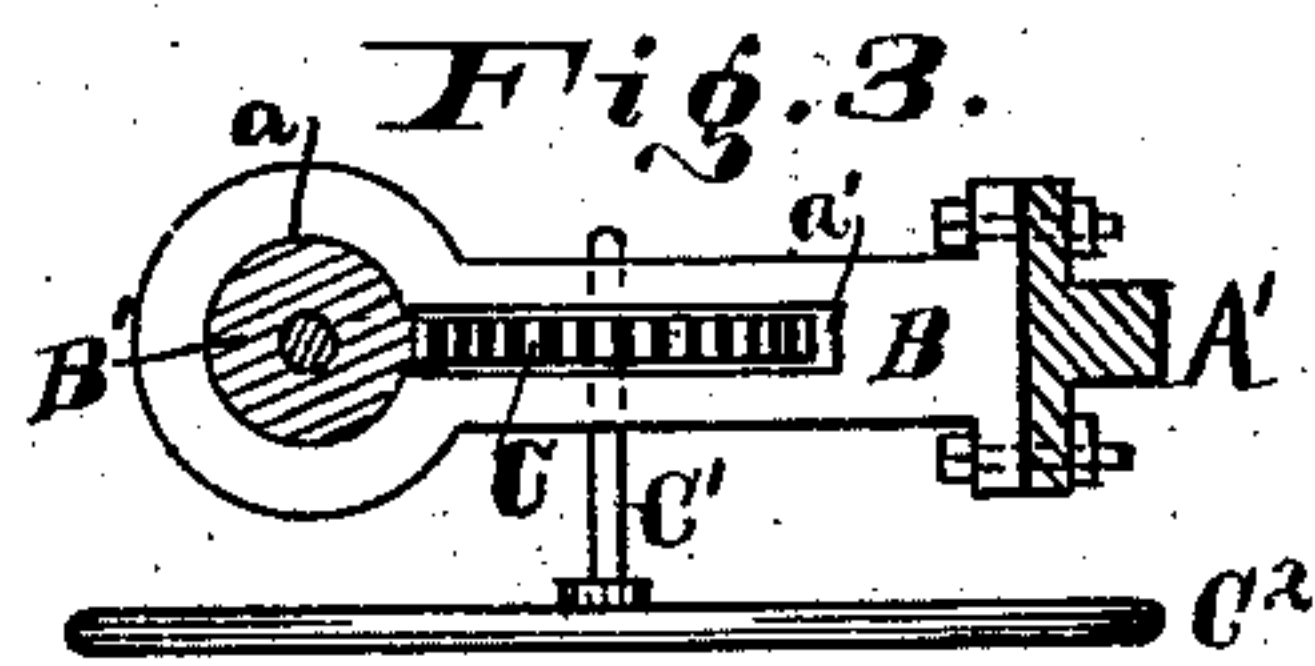


Fig. 1.



Inventor.  
Robert Hemingray  
per Wm. Hubbell Fisher.  
Atty.

Attest.  
E. Hill  
J. W. Smith



# UNITED STATES PATENT OFFICE.

ROBERT HEMINGRAY, OF COVINGTON, KENTUCKY.

## GLASS-PRESS FOR THE MANUFACTURE OF INSULATORS.

SPECIFICATION forming part of Letters Patent No. 242,825, dated June 14, 1881.

Application filed January 29, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT HEMINGRAY, of Covington, Kenton county, Kentucky, have invented certain new and useful Improvements in Glass-Presses for the Manufacture of Insulators and other Articles of Glassware, of which the following is a specification.

The object of my invention is to provide a glass-press that will be simple in construction yet effective in operation, and it relates especially to the manufacture of insulators or other articles of glassware in which it is desirable to form an interior screw-thread.

As described in the present instance, my invention relates to the manufacture of insulators; and its precise construction and operation will be obvious from the following description.

Referring to the drawings, forming part of this specification, Figure 1 represents a side elevation of my machine, partly in section. Fig. 2 is an enlarged sectional view of a portion of my invention, and Fig. 3 represents a section taken through the line *xx* of Fig. 1.

A represents the table upon which the mold containing the plastic glass is placed. At one side of this table the standard *A'* is secured.

To one side of the standard *A'* is bolted the bracket *B*, the free end of which is provided with a vertical circular opening, *a*, in which slides the spindle-carrier *B'*.

Extending from the opening *a* toward the upright *A'* is the vertical recess *a'*, in which is located a pinion, *C*, which is attached to and capable of being turned by the shaft *C'*, extending through the bracket *B* from side to side. To the end of the shaft *C'* is also attached the hand-wheel *C<sup>2</sup>*, by which the shaft *C'* and pinion *C* are turned. The teeth of the pinion *C* mesh with the teeth of the rack *b* on the spindle-carrier *B'*, as shown in Fig. 1, so that when the pinion *C* is turned the spindle-carrier *B'* will be elevated or depressed.

Extending longitudinally through the spindle-carrier *B'* is the spindle *D*, which preferably tapers from below upward, as shown in Fig. 2. The lower portion, *D'*, of the spindle *D* is somewhat larger than the upper portion.

The spindle *D* is prevented from passing entirely through the carrier *B* partly by the taper of the upper portion, but principally by

the shoulder *d*, which comes in contact with the lower end of the spindle-carrier *B'*. The spindle *D* is inserted into the carrier *B'* until the shoulder *d* comes in contact with its lower end, and the hand-wheel *D<sup>2</sup>* is secured to the end *d'*, which projects beyond the end of the carrier *B'*, the hub *d<sup>2</sup>* of the wheel *D<sup>2</sup>* resting against the upper end of the spindle-carrier, and the shoulder *d* resting against the lower end of the spindle-carrier. The spindle is thus prevented from moving up or down in the carrier, while it is permitted to turn freely therein. The lower end of the portion *D'* of the spindle is provided with a screw-thread, *E*.

To the lower end of the carrier *B'* is attached the head *E'*, which, together with the screw-threaded portion *E* of the spindle, constitutes the plunger which forms the interior of the insulator. This head *E'* may, if preferred, be formed in one piece with the carrier *B'*, instead of being, as herein shown, made of a separate piece and bolted to the carrier; but the latter construction is preferable, as it is sometimes desirable to form a larger or smaller cavity in the base of the insulator, and also desirable to vary the shape of said cavity, and these objects can readily be accomplished by attaching a head of the desired size and shape to the carrier *B'*.

To the upper end of the spindle *D* a chain, *F*, is connected by means of a swivel-connection, *e*. This chain *F* passes over the pulleys *f f'*, which are journaled in either end of the cross-piece *G*, which is bolted to and supported by the upper end of the standard *A'*. A weight, *F'*, is suspended from the end of the chain *F*, which weight is just sufficiently heavy to counterbalance the carrier *B'* and its appendages.

The operation of my invention is as follows: A mold, having been filled with the molten glass, is placed on the table *A*, directly under the plunger, and the pressman then, by means of the hand-wheel *C<sup>2</sup>*, or its equivalent, turns the pinion *C* in the proper direction to cause the carrier *B'* to be depressed, and thus forces the plunger *E E'* into the glass in the mold. He now lets go of the hand-wheel *C<sup>2</sup>* and takes hold of the hand-wheel *D<sup>2</sup>*, which he turns in the proper direction to unscrew the threaded portion *E* from the insulator. The swivel connection *e* between the chain *F* and the spindle



D permits the latter to be turned without twisting the chain. As the weight of the carrier B' and its appendages is counterbalanced by the weight F', the screw E has no weight to lift as it is unscrewed from the insulator, and therefore the thread in the insulator is not liable to be distorted, and I am thus enabled to form a perfect thread on the interior of the insulator. When my machine is in operation I purpose directing a stream of cold air against the screw E and head E', which will aid in keeping them sufficiently cool.

Having thus described my invention and its mode of operation, what I claim as new, and desire to secure by Letters Patent, is as follows:

1. The combination of the standard A' and bracket B, and the spindle-carrier B', pinion C, hand-wheel C<sup>2</sup>, and the chain F and weight F', substantially as and for the purposes specified.

2. The spindle-carrier B', in combination with the spindle D, hand-wheel D<sup>2</sup>, chain F, and swivel e, substantially as and for the purposes specified.

3. The spindle-carrier B', provided with head E', in combination with the spindle D, provided with shoulder d, and the hand-wheel D<sup>2</sup>, substantially as and for the purposes specified.

4. The combination of the spindle-carrier B' and removable head E', and the spindle D, provided with enlarged portion D' and screw E, and the hand-wheel D<sup>2</sup>, substantially as and for the purposes specified.

5. The combination of the spindle D, chain F; weight F', and the spindle-carrier B', provided with rack b and the pinion C' and hand-wheel C<sup>2</sup>, and a suitable supporting-frame, substantially as and for the purposes specified.

6. The combination of the spindle-carrier B', provided with the head E' and rack b, spindle D, provided with enlarged portion D' and shoulder d, hand-wheel D<sup>2</sup>, chain F, and weight F', pinion C, and hand-wheel C<sup>2</sup>, and suitable supporting-frame, substantially as and for the purposes specified.

ROBERT HEMINGRAY.

Attest:

A. S. LUDLOW,  
E. R. HILL.