

(No Model.)

P. LANGE & E. LINDNER.

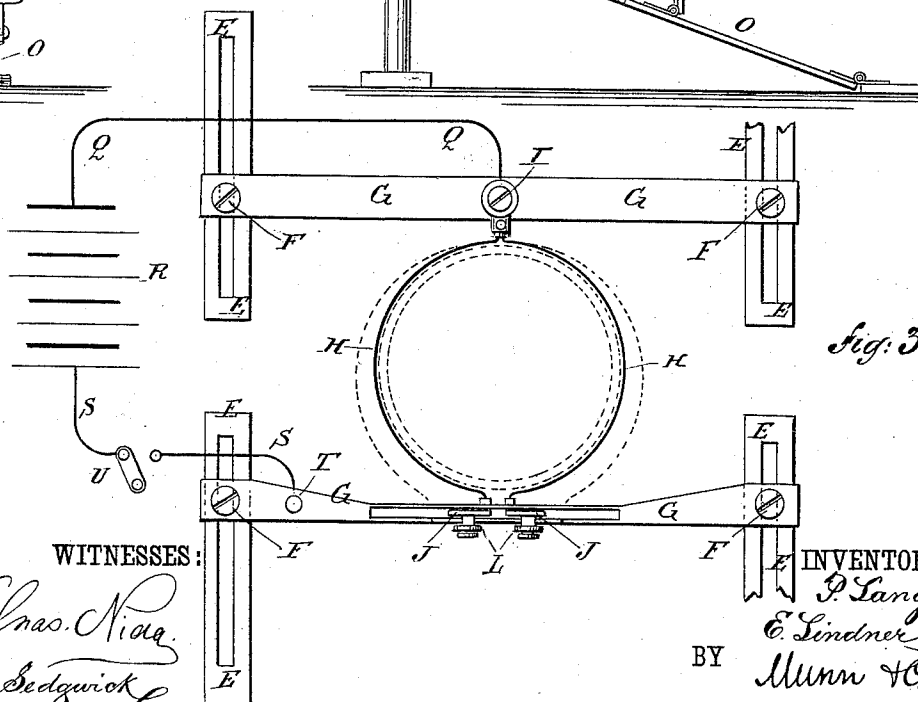
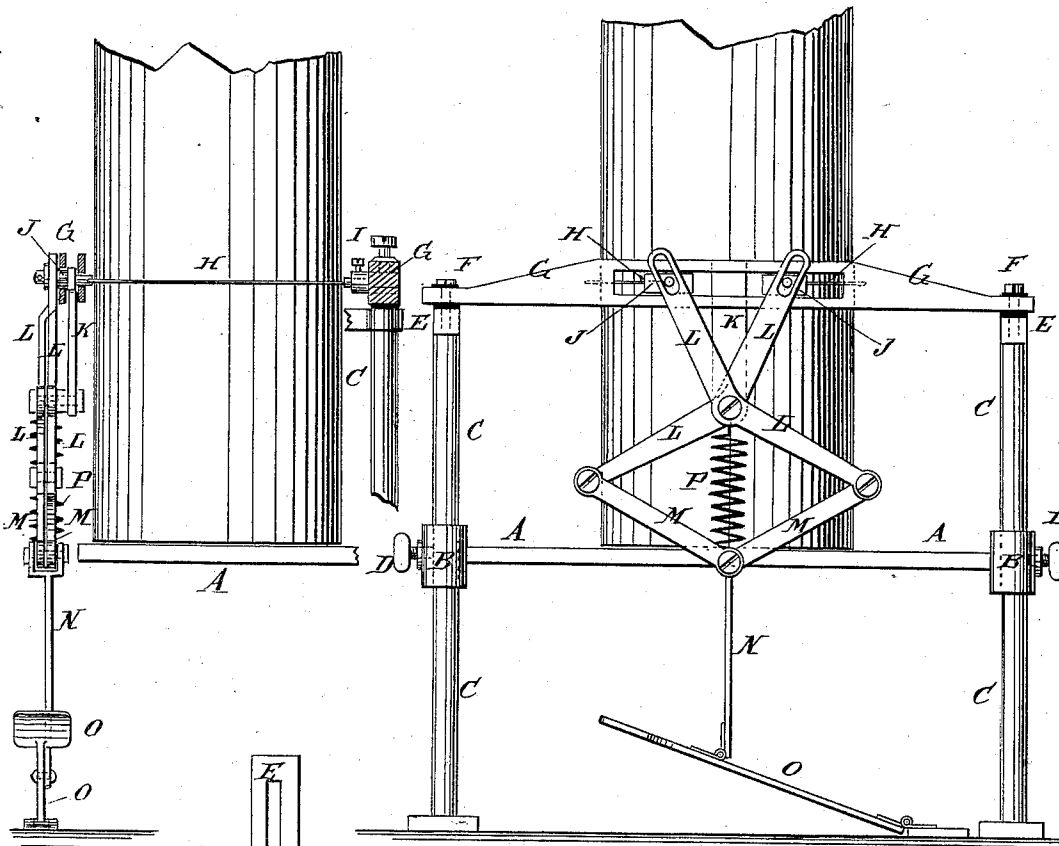
ELECTRIC GLASS CUTTING MACHINE.

No. 317,805.

Patented May 12, 1885.

Fig: 2.

Fig: 1.



WITNESSES :

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UNITED STATES PATENT OFFICE.

PHILIPP LANGE AND ERNEST LINDNER, OF NEW YORK, N. Y.

ELECTRIC GLASS-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 317,805, dated May 12, 1885.

Application filed December 6, 1884. (No model.)

To all whom it may concern:

Be it known that we, PHILIPP LANGE and ERNEST LINDNER, both of the city, county, and State of New York, have invented new and useful Improvements in Electric Glass-Cutting Machines, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of one of our improved machines. Fig. 2 is a side elevation of the same, partly in section and part being broken away. Fig. 3 is a plan view of the same, parts being broken away.

The object of this invention is to facilitate the cutting of glass tubes, globes, and other glass articles.

The invention relates to an electric glass-cutting machine constructed with a platform having tubular sockets and set-screws, and supported by posts having at their upper ends slotted bars to receive adjustable insulated bars, with which are connected the circuit-wires of an electric generator, which are provided with a switch, and are connected with a wire tightened by elbow-levers operated by a treadle connected with the said levers by pivoted bars, the said wire being slackened by a spiral spring, as will be hereinafter fully described, and then claimed.

A represents a platform or table, to the corners of which are attached tubular sockets B, to receive posts C. The sockets B are secured to the posts C by set-screws D, so that the table A can be readily adjusted higher or lower, as may be desired.

To the upper ends of the posts C are attached cross heads or bars E, which are slotted longitudinally to receive the screws F, by means of which the cross-bars G are secured to the said slotted bars E. The cross-bars G are insulated from their supports by rubber or other non-conducting material.

H is a wire of platinum or other substance having a high electric resistance. The wire H is bent into circular form, and is secured at its center to a binding-post, I, secured to the center of one of the cross-bars G. The ends of the wire H are secured to blocks J, which

slide in a slot in the middle part of the other cross-bar G. To the center of the cross-bar G, between the slides J, is attached the upper end of a hanger, K, to the lower end of which are pivoted the angles of two elbow-levers, L. The upper ends of the levers L are slotted to receive pins or screws formed upon or attached to the slides J, so that the said slides can be moved toward or from each other by operating the levers L.

To the lower ends of the levers L are pivoted the upper ends of two connecting-bars, M, the lower ends of which are brought together, and are pivoted to the upper end of a connecting-bar, N. The lower end of the connecting-bar N is hinged to the foot lever or treadle O, which is hinged to the floor or other suitable support. With this construction, by pressing down upon the treadle O the upper ends of the levers L will be drawn toward each other, drawing the wire H closely around the glass tube, globe, or other object placed within it.

The lower ends of the connecting-bars M are drawn upward, forcing the upper ends of the levers L apart and loosening the wire H, by a spiral spring, P, the upper end of which is attached to the lower end of the hanger K, and its lower end is attached to the lower end of the said connecting-bars M.

To the binding-post I is secured the end of a conducting-wire, Q, the other end of which is connected with a pole of a battery, a dynamo-electric machine, or other generator, R, of electricity. The other pole of the generator R is connected by a conducting-wire, S, with a binding-post, T, attached to the slotted cross-bar G. The conducting-wire S is made in two parts the adjacent ends of which are connected by a switch, U, so that the electric circuit can be readily closed and opened when desired.

In using the machine the tube or other article to be cut is placed upon the table A, and the wire H is drawn closely around it by pressing the treadle O downward. The switch U is then closed, sending a current of electricity through the wire H, heating the said wire red hot, and at the same time heating the part of the glass beneath the said wire. The switch U is then opened and the pressure upon the

treadle O is removed, loosening the wire H. The tube or other article is then removed from the table A and plunged into cold water, which causes the glass to separate where the wire H
5 passed around it.

We have described our improvement as applied to round articles of glass, but do not limit ourselves to that application, as it can be used with advantage for cutting plates of
10 glass and glass articles of various shapes.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In an electric glass-cutting machine, the
15 combination, with a suitable support and insulated bars supported thereon, of a platinum wire, an electric generator having one pole connected to said platinum wire and its other to one of the insulated bars, and means for
20 tightening the said platinum around the object to be cut, substantially as herein shown and described.

2. In an electric glass-cutting machine, the combination, with the insulated cross-bars G and the circuit-wires Q S of an electric gen- 25 erator provided with a switch, U, of the wire H, the elbow-levers L, the connecting-bars M N, the treadle O, and the spring P, substantially as herein shown and described, whereby a wire can be heated by electricity while
30 in contact with the glass to be cut, as set forth.

3. In an electric glass-cutting machine, the combination, with an adjustable table and the insulated bars G, adjustably supported above the same, of the platinum wire H, the electric
35 generator R, circuit-wires Q S, the elbow-levers L, connected to the ends of the said platinum wire, and means for operating said levers, substantially as herein shown and described.

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Witnesses:

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