

No. 654,621.

Patented July 31, 1900.

M. W. GLEASON.
ROTARY ETCHING MACHINE.

(Application filed Mar. 31, 1899.)

(No Model.)

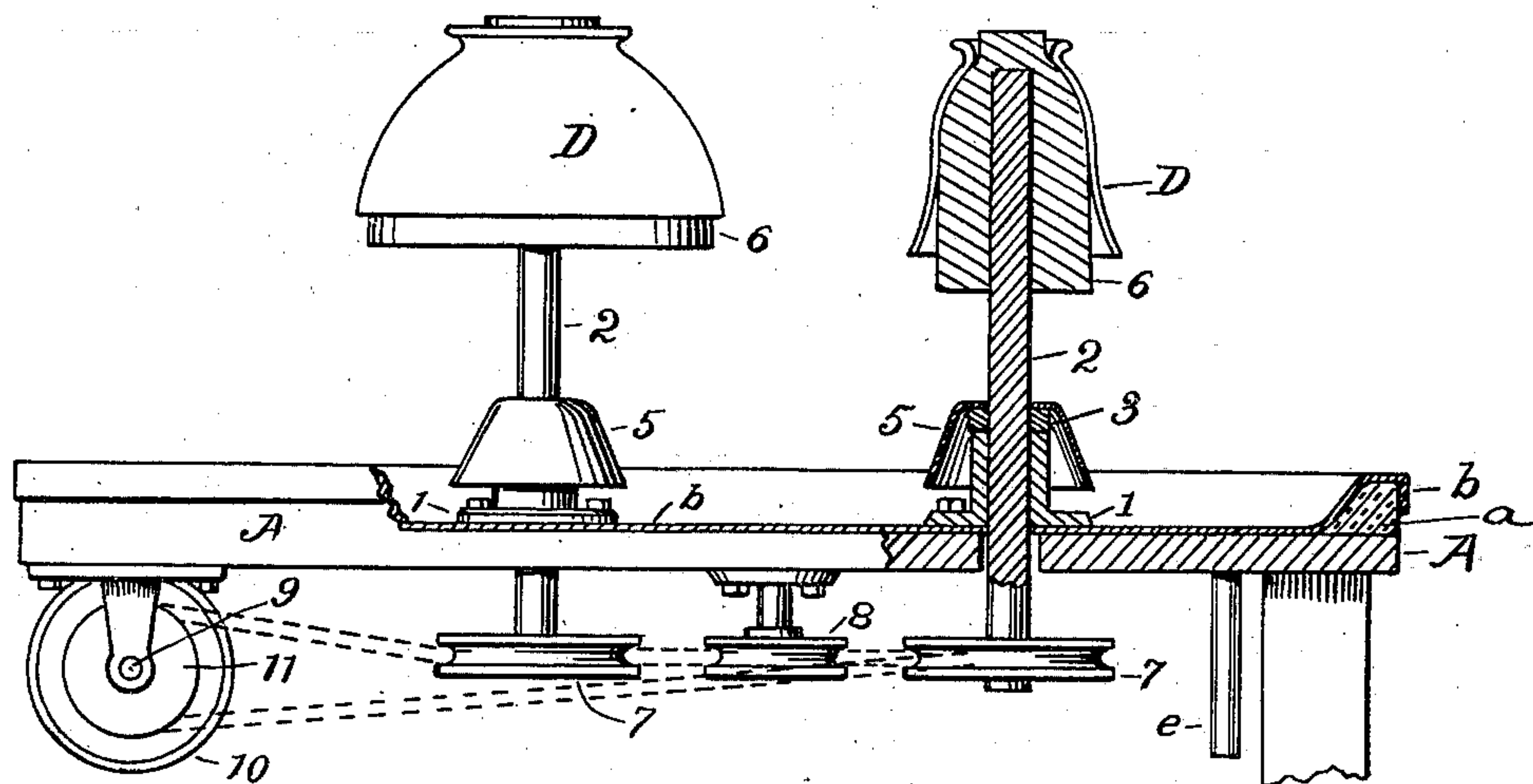


FIG. 1

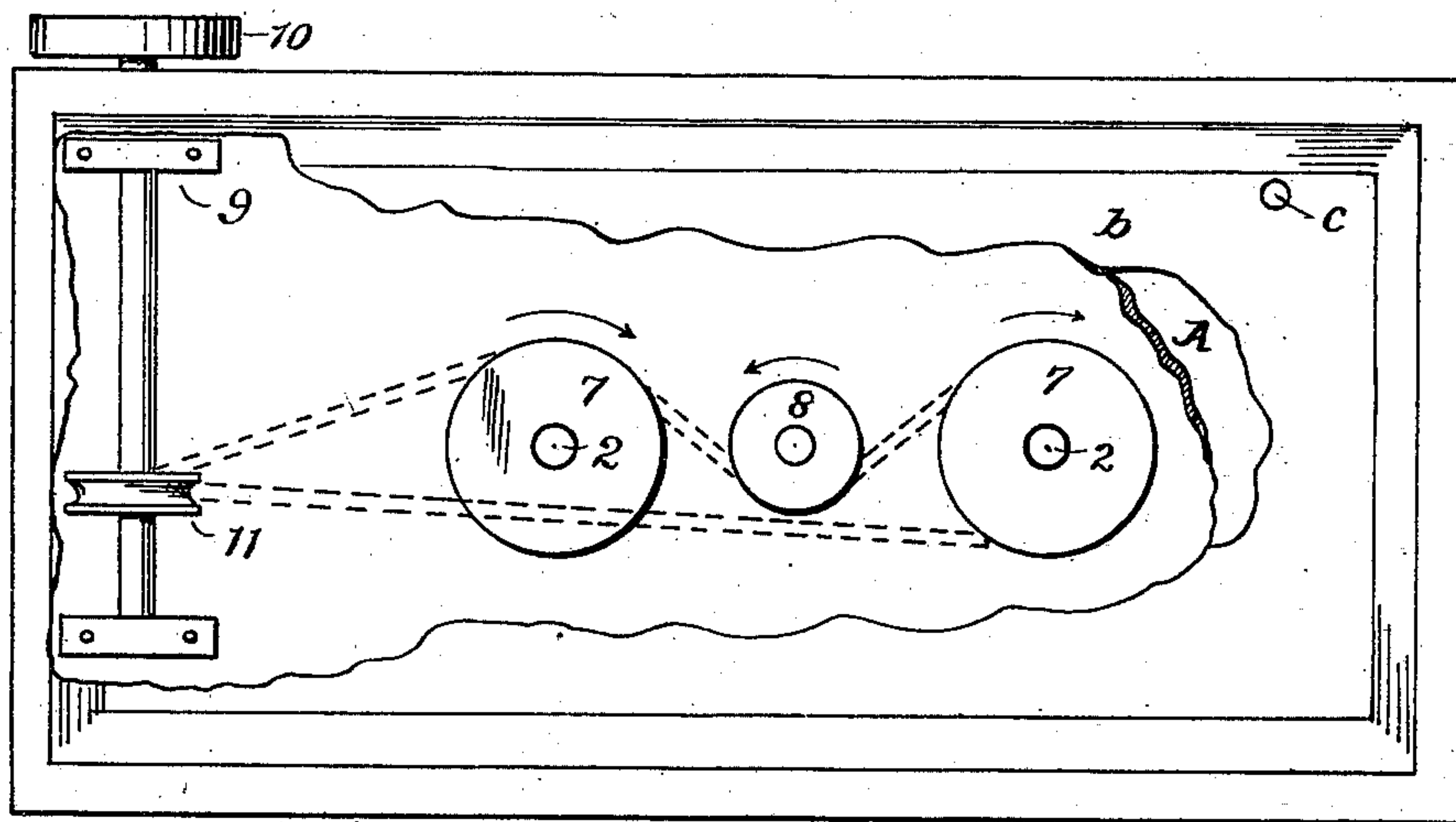


FIG. 2.

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ROTARY ETCHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 654,621, dated July 31, 1900.

Application filed March 31, 1899. Serial No. 711,201. (No model.)

To all whom it may concern:

Be it known that I, MARSHALL WILFRED GLEASON, a citizen of the United States, and a resident of New York, (Brooklyn,) in the county of Kings and State of New York, have invented certain new and useful Improvements in Rotary Etching-Machines, of which the following is a specification.

My invention relates to an improvement in rotary glass-etching machines upon which hollow articles of glassware—such as globes, shades, goblets, tumblers, and similar wares—may be placed for white-acid etching, the object being to provide a means for decorating such wares by etching without “waxing-in” or protecting the interior of the glassware.

To more fully describe my invention, I refer to the accompanying drawings, which form part of this specification, in which—

Figure 1 represents a two-spindle machine in elevation embracing my improvement, one spindle being shown in section; and Fig. 2 is a plan view of Fig. 1, the table being broken away to show the transmission used for rotating the spindles.

Similar characters of reference refer to similar parts in the two views.

A is a table having strips *a* secured around the upper edges, so as to form a valley that the drippings of the etching-acid will not run off on the floor and be wasted. The table and strips are covered by sheet-lead, gutta-percha, or other protective sheathing *b*. An opening *c* is made near one corner of the table in the valley, the opening communicating with a leader *e*, through which the waste acid will run into a vessel to be saved and used over again.

Any number of upright spindles can be used in my machine. I show two such spindles, the description being applicable to any required number. A combined support and bearing for the spindle consists of a flanged hub 1, which is firmly bolted down upon the table A, so that there will be no chance for leakage between the flange and the lead *b*, upon which it rests. A hole corresponding with the hole in the hub, but a little larger in diameter, is cut through the lead and table, and a spindle 2 of suitable length is passed through. A collar 3, held in place by a set-screw, (not shown,) is slipped over the spin-

dle and fastened thereto. This collar bears upon the upper edge or face of the hub 1, thus keeping the spindle in its place at the desired height. An inverted cup 5, having a central perforation, is passed down on the spindle and protects the collar and hub from the drippings of acid. A chuck or block 6, preferably of wood, having the general contour of the inside of the article to be etched, is fastened to the upper end of the spindle. On the bottom of the spindle beneath the table a grooved pulley 7 is fastened. When a plurality of spindles are used and if desired to rotate them all in one direction, I make use of an idler 8, secured also beneath the table in a proper place to be on a line with the belting which transmits the power to the spindles. The idlers are not essential, however. The transmission may be made in any preferred manner. I show a counter-shaft 9 under the table, having a flat belt-driven pulley 10 and a grooved driving-pulley 11, the belting being shown in dotted lines. It is obvious that any other method of transmission of power which rotates the upright spindles may be used. I prefer to put the transmission beneath the table to protect it from the etching-acid.

D is a glass globe as used for illumination.

Such being the construction, the operation is as follows: When power is applied to the driven pulley 10, the spindles and idler rotate. The glass article to be etched is placed upon the chuck and so-called “white acid” is applied by means of a soft wide camel’s-hair brush. By rotating the spindle slowly and by applying the acid evenly over the surface of the glass article the acid will evenly frost the glass, care being taken not to permit any acid to run down on the inside of the glass through the top when the same has an opening, as is the case in common gas-globes. Any superfluous acid will drip or be thrown off from the lower end of the glass, and if the chuck is less in depth than the article to be etched the lower edge will extend below the chuck and there will be no danger of the chuck becoming saturated with acid. The latter will drip from the lower edge of the glass on the table and, running down through the leader, is caught up in a vessel placed under the table and used over again. The cup 5

protects the bearing and hub in which the spindle rotates, and if the flange of the hub is tightly bolted to the table the transmission beneath the table will be fully protected
5 against spattering of the acid. In this manner white-acid etching can be quickly and cheaply done, and as the glassware is not immersed in acid or handled in any manner which would cause acid to run down on the
10 inside there is no necessity to "wax-in" or protect the inside of the glass article which is to be etched. The chuck may be coated with wax or other protective material.

Having fully described my invention, what
15 I claim as new, and desire to secure by Letters Patent of the United States, is—

The herein-described machine for etching upon glass, the combination with a suitable supporting-table, of a plurality of upright

spindles journaled in said table, and project- 20
ing above and below the same, pulleys carried upon the lower ends of said spindles, a band connected to said pulleys to revolve the same, a horizontal shaft mounted in bearings
25 secured to the lower portion of the table, a pulley carried upon said shaft and adapted to transmit power to said spindles through the band, a collar surrounding each of said spindles, an inverted cup to protect said collar, and a chuck to support glassware carried
30 upon the upper end of each spindle.

Signed at Brooklyn, in the county of Kings and State of New York, this 29th day of October, A. D. 1898.

MARSHALL W. GLEASON.

Witnesses:

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JOHN A. MCKAY.