

No. 635,265.

Patented Oct. 17, 1899.

C. E. MANNING.
GLASS CUTTING MACHINE.

(Application filed Mar. 21, 1899.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

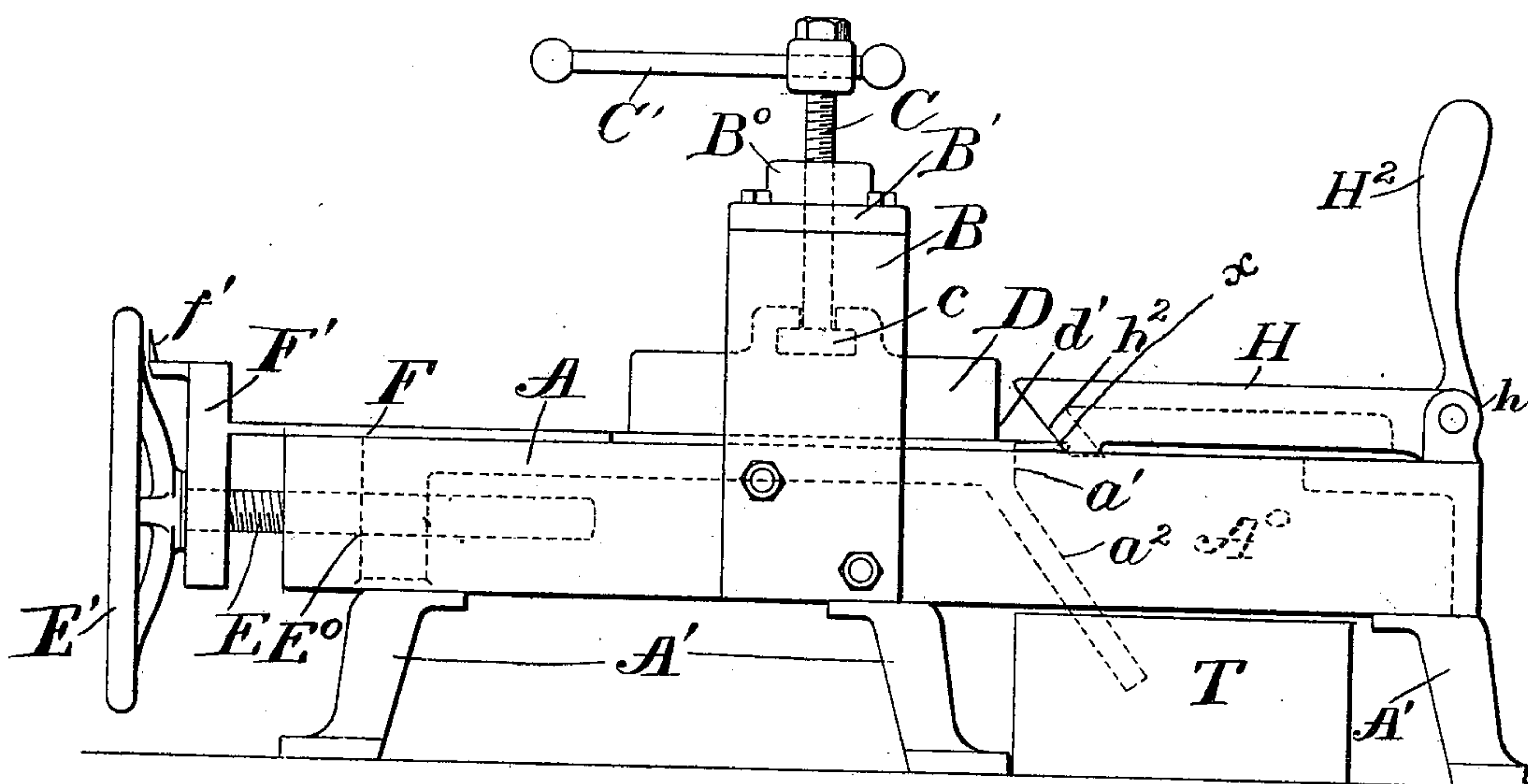
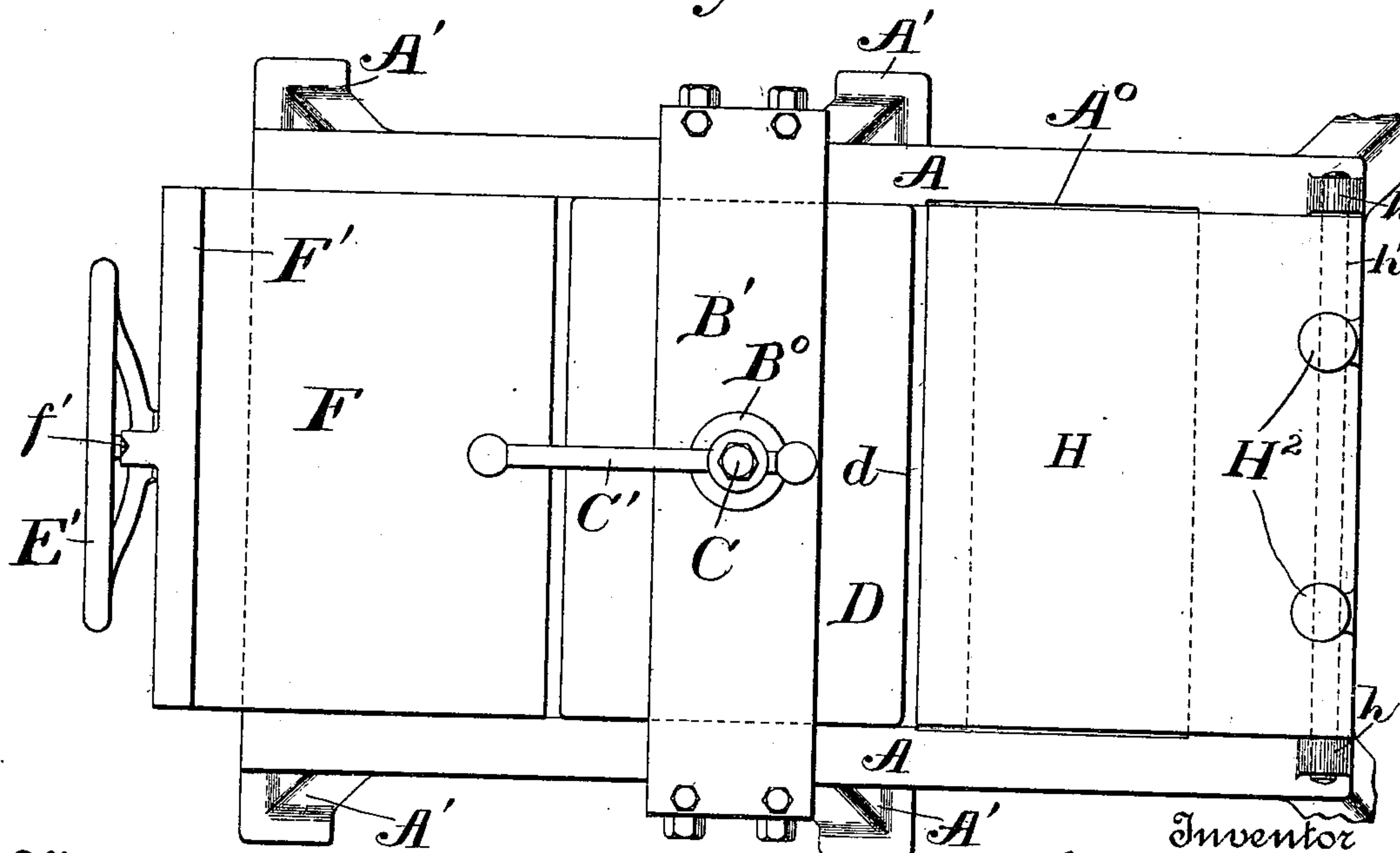


Fig. 2.



Witnesses
C. W. Smith
John Chalmers Wiley

Inventor
C. E. Manning
by Wilkinson & Fisher,
Attorneys.

UNITED STATES PATENT OFFICE.

CHARLES E. MANNING, OF CHICAGO, ILLINOIS.

GLASS-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 635,265, dated October 17, 1899.

Application filed March 21, 1899. Serial No. 709,930. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. MANNING, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Glass-Cutting Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in machines for cutting strips of glass; and its object is to provide a machine which will cut strips of glass from waste cutting as well as from large sheets, the strips so cut to be used for forming prismatic and reflecting panels for illuminating purposes.

My invention will be understood by reference to the accompanying drawings, wherein the same parts are indicated by the same letters throughout the several views.

Figure 1 is a side elevation of my apparatus, hidden outlines being indicated in dotted lines for the sake of a clear understanding. Fig. 2 is a top plan view. Fig. 3 is a view similar to Fig. 1 of a modified form of machine; and Fig. 4 is a section taken on the line 4 4 in Fig. 3, looking in the direction of the arrows.

A represents a flat rectangular table mounted upon short legs A'. This table may be of wood or may be cast of iron. The upper surface, however, should be smooth. Upon the sides of this table and opposite each other are mounted a pair of uprights B B, which may be bolted to the sides of the table, or in the event of the table being cast of iron said uprights would preferably be cast integral with the sides of the table. A cross-beam B' is rigidly mounted upon the upper end of these uprights and is provided centrally with an opening for the passage of a screw C, which screw engages a threaded boss or collar B⁰, concentric with the opening through the cross-timber B'. The screw C has a circular boss c upon its lower end, which engages the holding-plate D and serves to raise or lower said holding-plate, as shown in dotted lines in Fig. 1. The screw is provided with a turning-arm C', as shown, or its equivalent—a wheel—by means of which the same may be operated. The uprights B B serve as guides for the holding-plate D as the latter moves

up or down. At one end of the table, which may be called the "rear" end, is mounted a horizontal screw E, which engages in a threaded nut at E⁰, as indicated in dotted line in Fig. 1, and the screw carries upon its rear end a hand-wheel E', by means of which the same may be turned.

F represents a flat plate which extends over the rear end of the table A, lying flat thereon, and is connected to a head-piece F', so mounted upon the screw E, adjacent to the turning-wheel E', as to advance and recede therewith, but not to turn. This head-piece F' carries a fixed pointer f' in close relation to the rim of the hand-wheel, and this pointer f', in connection with a scale upon the adjacent surface of the wheel-rim, serves as a gage by means of which the feed-plate F may be set.

Near the forward end of the table A is a transverse opening A⁰, at the rear side of which is formed a straight-edge a', over which the glass is broken in the operation of the machine. This edge a' should be slightly in advance of the forward edge d' of the holding-plate D in order to allow for the width of the cutting-tool, which is run along the forward edge d' of the said holding-plate as a guide, as will hereinafter more fully appear. An incline chute a², extending from the breaking edge a', serves to deliver the strips into the tray T. The breaker may be either pivotal, as shown in Figs. 1 and 2, or reciprocal, as shown in Figs. 3 and 4.

In Figs. 1 and 2, H represents a heavy plate pivoted to the front end of the table by means of a cross-rod h' passing through lugs h h upon the table. The plate H extends rearwardly over the opening A⁰ and has its rear edge provided with an under bevel, as seen at h², which edge in operation is made to bear upon the strip to be broken off, as seen in Fig. 1. This breaking-plate is provided with one or more rigid handles H², by means of which the attendant may operate the said breaking-plate.

Instead of the pivotal plate above described I may use a vertically-reciprocated breaking-bar, as shown in Figs. 3 and 4. In this arrangement a pair of uprights I I are mounted upon the sides of the table at opposite points and have guideways i⁰ i⁰, in which engage the ends of the vertically-movable breaker-bar I', which is beveled, as shown in Fig. 3. This breaker-bar I' is operated through the me-

dium of a screw I², which engages within to screw-threaded boss i² on the cross-beam I³, mounted upon the uprights I I, the said screw having a rotary connection with a boss i³ on said breaker-bar. The screw I² is operated by means of a hand-wheel I⁴, as shown.

The operation of the machine is as follows: The holding-plate D is elevated to a desired extent. The feed-plate F is run backward by means of the screw E to a sufficient extent to admit the plate of glass to be cut. The plate of glass is then inserted beneath the holding-plate D and the feed-plate run forward again, pushing the plate of glass into the position shown in Figs. 1 and 4, the forward edge thereof, as seen at *x* in Figs. 1 and 4, extending beyond the breaking edge *a'* a distance equal to the width of the strip desired, or in case of the first break from a plate of glass having an uneven edge a distance simply sufficient to secure a clean break across the plate. After adjusting the plate of glass as desired the holding-plate D is then lowered, binding the said glass plate securely in position upon the table. An attendant then runs a diamond or other cutting-tool across the plate of glass, using the forward edge *d'* of the said holding-plate as a guide, after which the breaking-plate H, or in case of a vertically-reciprocating breaker the bar I', is brought down upon the strip with sufficient force to impart thereto a sharp strain, which causes it to break along the cut previously made by the cutting-tool, and the strip slides down the chute into the tray provided therefor.

Many modifications in the details of my machine might be made without departing from the spirit of my invention.

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

1. In a machine for producing narrow strips of glass, the combination with a flat table having a straight transverse edge, a vertically-movable holding-plate for resting upon a plate of glass upon said table; a feed-plate adjustable longitudinally of said table; means for adjusting said feed-plate; and means for breaking a strip of glass along the said transverse straight-edge of said table, substantially as described.

2. In a machine for producing narrow strips of glass, the combination with a flat table, uprights upon the sides of said table; a screw-operated vertically-movable holding-plate supported above and across said table by said uprights; a screw-controlled feed-plate mounted upon the end of said table; a gage for regulating the setting of said feed-plate; a straight-edge upon the forward side of said holding-plate for a cutter-guide; a straight-edge upon said table and a vertically-movable breaker acting in conjunction with the straight-edge on said table for breaking strips by pressure against said straight-edge, substantially as described.

3. In a machine for producing narrow strips

of glass from flat sheets; the combination with a flat table having a transverse opening at or near one end, and a sharp-angled straight-edge at the rear of said opening; a vertically-adjustable holding-plate mounted above said table, and having a straight-edge thereon transversely of said table for the purpose of guiding a cutter, parallel to and a short distance in rear of the straight-edge on the table; means for intermittently feeding a plate of glass along said table; and means for breaking off the strip along the said straight-edge on the table, substantially as described.

4. In a machine for producing narrow strips of glass from flat sheets, the combination with a flat table; uprights upon the sides of said table; a screw-operated vertically-movable holding-plate supported above and across said table by said uprights; a feed-plate mounted upon the end of said table; a screw for operating said feed-plate; a hand-wheel on said screw; a pointer acting in conjunction with a scale on the rim of said hand-wheel for regulating the setting of said feed-plate; a straight-edge upon the forward side of said holding-plate for a cutter-guide; a straight-edge upon said table and a vertically-movable breaker acting in conjunction with the straight-edge on said table for breaking strips by pressure against said straight-edge, substantially as described.

5. In a machine for producing narrow strips of glass from flat sheets; the combination with a flat table having a transverse opening at or near one end, and a sharp-angled straight-edge at the rear of said opening; a vertically-adjustable holding-plate mounted above said table, and having a straight-edge thereon transversely of said table for the purpose of guiding a cutter, parallel to and a short distance in rear of the straight-edge on the table; means for intermittently feeding a plate of glass along said table; a transverse vertically-movable bar having a beveled edge for striking and breaking off the strip along the said straight-edge on the table, substantially as described.

6. In a machine for producing narrow strips of glass from flat sheets, the combination with a flat table having a straight transverse edge, a vertically-movable holding-plate above said table; a feed-plate adjustable longitudinally of said table; means for adjusting said feed-plate; and a breaker having a straight beveled edge parallel to said straight-edge on the table arranged to be brought into contact with the edge of a sheet of glass extending beyond said straight-edge for breaking a strip therefrom, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES E. MANNING.

Witnesses:

M. J. STURM,

W. H. MERWIN.