H. FALVEY.

GLASS CUTTING MACHINE.

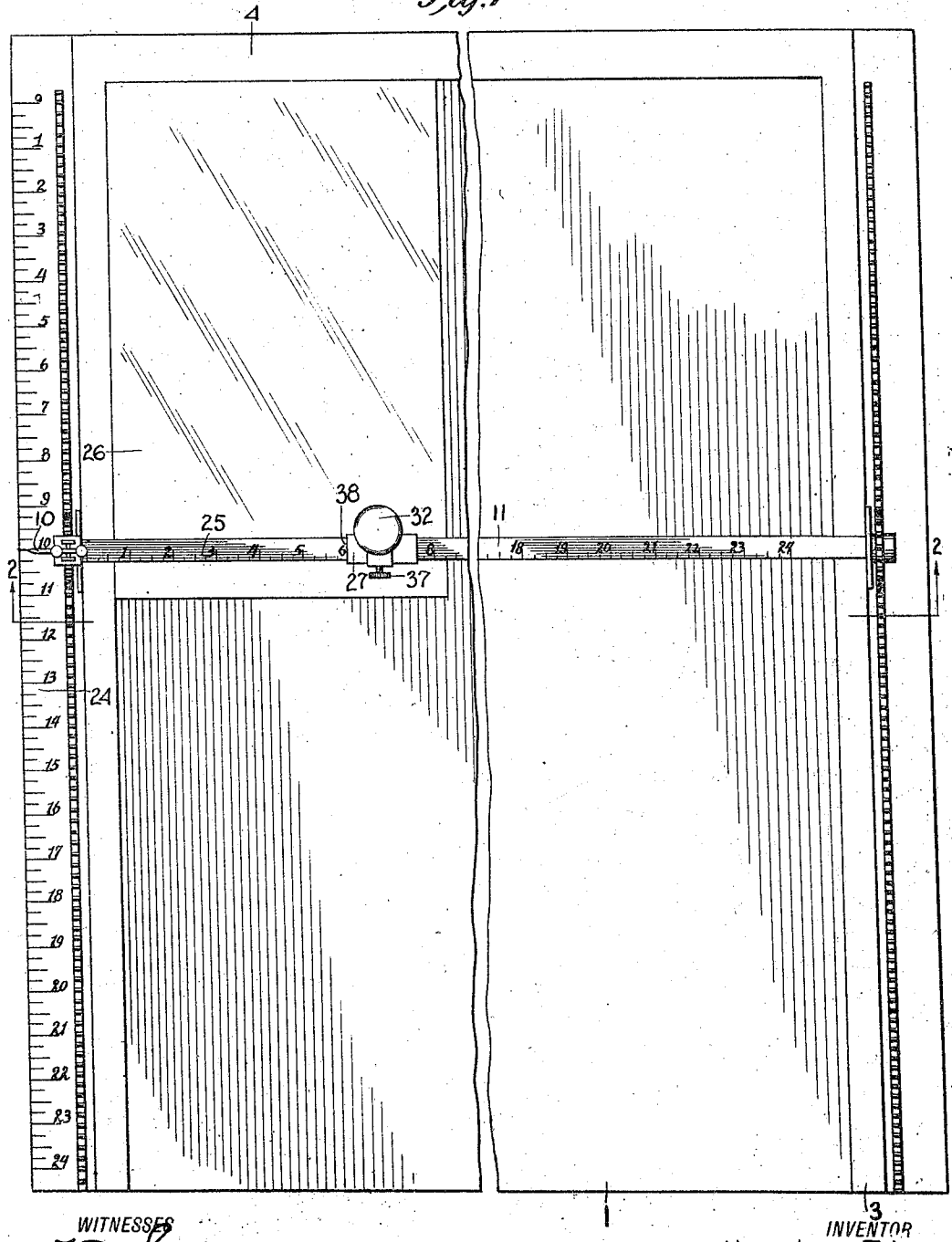
APPLICATION FILED NOV. 19, 1914.

1,140,143.

Patented May 18, 1915.

2 SHEETS—SHEET 1.

Fig. 1



WITNESSES

F. D. Sweet

A. L. Ritchie

INVENTOR

Humphrey Falvey

BY Munn & Co.

ATTORNEYS

H. FALVEY.

GLASS CUTTING MACHINE.

APPLICATION FILED NOV. 19, 1914.

1,140,143.

Patented May 18, 1915.

2 SHEETS—SHEET 2.

Fig. 2

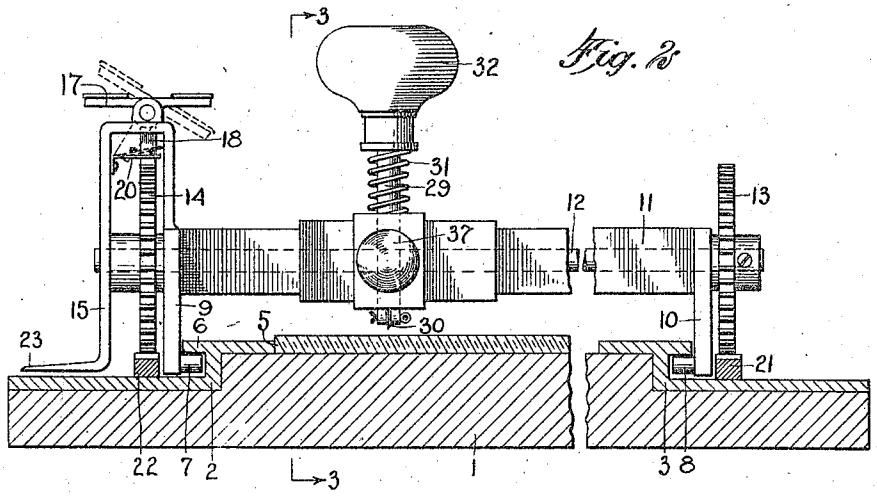


Fig. 3

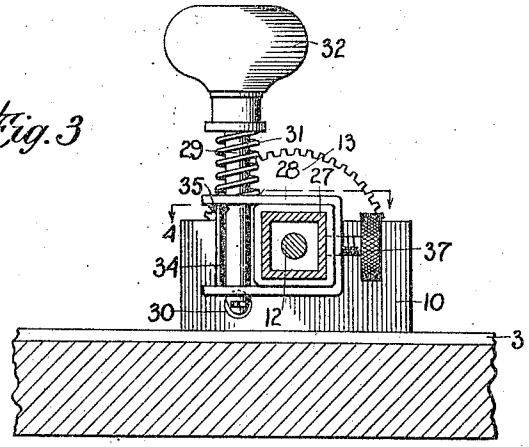
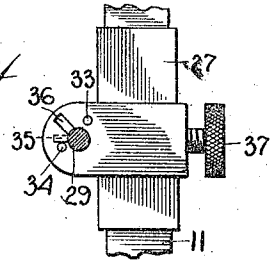


Fig. 4



WITNESSES

F. D. Sweet.

A. L. Ritchie

INVENTOR

Humphrey Falvey

BY Munn & Co

ATTORNEYS

UNITED STATES PATENT OFFICE.

HUMPHREY FALVEY, OF NEW YORK, N. Y.

GLASS-CUTTING MACHINE.

1,140,143. Specification of Letters Patent. Patented May 18, 1915.

Application filed November 19, 1914. Serial No. 872,996.

To all whom it may concern:

Be it known that I, HUMPHREY FALVEY, a citizen of the United States, and a resident of the city of New York, Parkville, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Glass-Cutting Machine, of which the following is a full, clear, and exact description.

This invention relates to improvements in glass cutting devices, and particularly to a device for quickly cutting plate glass of any size, and has for an object to provide an improved arrangement which will adapt itself to plate glass of different thicknesses, and also glass which may not be perfectly flat.

Another object in view is to provide a device with a supporting platform for plate glass, and means movable in two directions across the support so as to cut plate glass arranged thereon in two directions and thereby produce a perfectly square product.

In the accompanying drawings—Figure 1 is a plan view of an embodiment of the invention; Fig. 2 is a section through Fig. 1 approximately on line 2—2, the same being on an enlarged scale; Fig. 3 is a section through Fig. 2 on line 3—3; Fig. 4 is a detailed fragmentary sectional view approximately on line 4—4 of Fig. 3.

Referring to the accompanying drawings by numerals, 1 indicates a support or foundation of any desired kind to which are secured guiding strips 2, 3 and 4, which guiding strips may be made of any desired material, as for instance metal. These guiding strips are shown more in detail in Fig. 3 wherein it will be seen there is provided a straight edge 5 on each strip and an overhanging member 6 on strips 2 and 3. The overhanging members 6 are designed to form tracks for the rollers 7 and 8 mounted on suitable pins provided in the depending arms 9 and 10. Arms 9 and 10 are rigidly secured to the cross bar 11 which is preferably square though some other shape may be used without departing from the spirit of the invention. The cross bar 11 has rigidly secured thereto a shaft 12, which shaft extends beyond bar 11 and has journaled thereon the gear wheels 13 and 14. The shaft 12 extends through the arms 9 and 10, and also the arm 15, which arm extends upwardly and forms a U-shaped bracket 16 for carrying a tiltable manually operated member 17. Member 17 carries a depending lug 18 adapted to fit in any of the cogs or teeth of gear wheel 14 so as to lock the gear wheel against rotation. The lug 18 is provided with a pin 19 which is pressed by spring 20, whereby the lug is held positively either in a closed or locked position as shown in full lines in Fig. 2, or in an unlocked position as shown in dotted lines. The gear wheels 13 and 14 continually mesh with racks 21 and 22, whereby each end of the shaft 12 progresses or moves at the same speed and thereby holds the bar 11 continually at right angles to the straight edge 5. Arm 15 extends downwardly and is formed into a pointer 23, which pointer travels over a scale 24, and which scale may be shown as inches, meters, or any other desired scale. On the cross bar 11, also, a scale 25 is provided which is similar to scale 24, but indicates the width of the glass 26 which is to be cut while scale 24 indicates the length.

Arranged on the bar 11 is a sliding member 27 which is naturally hollow and formed square so as to easily slide on the bar 11. Rigidly secured to the sliding member 27 is a substantially U-shaped bracket 28 provided with apertures for receiving the shaft 29, which rod carries at its lower end the cutting wheel 30. At the upper end rod 29 carries a spring 31 and a knob 32, spring 31 pressing against knob 32, and against bracket 28 so as to normally hold the rod 29 in an elevated position. Connected with the bracket 28 are pins 33 and 34 which extend from the upper end of the bracket to the lower end as shown in Fig. 3, and thereby limit the pivotal movement of the lug 35, which lug is rigidly secured to rod 29. An opening 36 is provided in the upper part of bracket 28 so that the lug 35 may pass therethrough when it is desired to remove rod 29 and associated parts. The pins 33 and 34 are set at such a distance apart as to allow the lug 35 to move ninety degrees so that the wheel 30 may cut an edge parallel with guiding strip 4, or may be arranged to cut an edge parallel with guiding strip 2. A set screw 37 is provided in the bracket

28, and also extends through sliding member 27 so as to press against the bar 11 and thereby lock sliding member 27 and associated parts at any desired point on bar 11.

In operation if it should be desired to cut the piece of glass 26 six inches wide as shown in Fig. 1, the sliding member 27 is arranged so that the edge 38 will be on the line of number six, and set screw 37 is then tightened. The bar 11 is then moved to a point adjacent the guiding strip 4 and wheel 30 depressed until the same enters slightly into the glass. The knob 32 and associated parts are then moved longitudinally of glass 26 and wheel 30 will thereby cut the plate or piece of glass 26 six inches wide, measuring from guiding strip 2. If it is desired to make the piece of glass or plate 26 ten inches long the parts are arranged as shown in Fig. 1 wherein the pointer 23 is on the line 10 of scale 24. The knob 32 is then depressed, wheel 30 being turned to the proper position, and after being depressed is moved across the piece of glass 26. During the cutting operation the glass 26 may be held in place by any desired means, as for instance by merely placing the hand thereon so as to prevent an accidental dislodgment thereof. If the piece of glass is irregular and has no straight edge it will be necessary to place the piece of glass somewhere on the base 1 and cut one straight edge. The straight edge thus cut may be placed against the guiding strip 2 or 3 and a second straight edge cut after which the two straight edges are placed in contact with guiding strips 2 and 4 and then the remaining piece of glass cut to the size desired. It will be noted that by reason of the racks 21 and 22 and the gear wheels associated therewith the bar 11 is continually maintained in proper position, namely, at right angles to the straight edge 5 of strip 2. It will be evident also that other forms of cutting members besides wheel 30 could be provided without departing from the spirit of the invention, this form being found very desirable. It will also be noted that when the wheel 30 is cutting transversely or parallel with bar 11 it is desirable to lock bar 11 against movement, and in order to do this bar 11 is tilted to the position shown in full lines in Fig. 2 wherein knife 18 will engage certain of the teeth of wheel 14 and thereby prevent any rotation of this wheel. This will lock bar 11 in one position. The space between the wheel 30 when elevated and the base or support 1 is preferably sufficient for cutting standard glass plate up to the usual thickness now on the market.

What I claim is—

1. In a device of the character described, a base, a straight edge arranged on said base, a pair of racks arranged on said base and extending longitudinally thereof, said straight edge extending transversely thereof, a gear wheel journaled on said straight edge adjacent each end thereof, said gear wheels meshing with said racks, a bracket connected with said straight edge adjacent one end thereof, a pivotally mounted locking member arranged on said bracket and designed to engage the gear wheel at that end for preventing rotation thereof when the cut is being made transversely of the base, and a sliding cutting structure arranged on said straight edge, said sliding cutting structure being formed so as to cut transversely of the base when set in one position and longitudinally of the base when set in another position.

2. In a device of the character described, a base, a pair of rack bars arranged on said base and extending longitudinally thereof, a transversely arranged straight edge positioned on said base, a gear wheel arranged adjacent each end of said straight edge meshing with the teeth of said racks whereby said straight edge is maintained parallel with the end of the base as the straight edge moves back and forth over the base, means for supporting a cutting member on said straight edge, a bracket arranged on said straight edge, and a lock mounted on said bracket adapted to engage one of said gear wheels for locking the same against rotation when said cutting member is being moved transversely of said straight edge.

3. In a device of the character described, a base, a pair of rack bars arranged on said base and extending longitudinally thereof, a gear wheel arranged on each of said rack bars, a transversely arranged straight edge supported by said gear wheels, a cutting member arranged on said straight edge and adapted to cut both longitudinally and transversely of said base according to the movement thereof, a bracket secured to said straight edge at one end, a pivotally mounted locking member arranged on said bracket provided with a pair of thumb operating extensions, a lug engaging the teeth of said last mentioned gear wheel, a pin extending through said lug, and a spring connected with said bracket and acting on said pin for resiliently locking said lug in engagement with said last mentioned gear wheel and out of engagement therewith according to the position of the lug.

4. In a device of the character described, a base, a pair of edge members arranged on said base, said edge members having overhanging longitudinal shoulders, racks arranged on said base parallel with said shoulders, a gear wheel arranged on each of said racks, a transversely arranged straight edge supported by said gear wheels, a bracket arranged adjacent each end of said straight

edge, a projection extending from each of said brackets to a position beneath said overhanging shoulders whereby said gear wheels cannot leave said racks and said straight edge cannot move away from said base, and a cutting member arranged on said straight edge.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HUMPHREY FALVEY.

Witnesses:
A. L. KITCHIN,
PHILIP D. ROLLHAUS.