

D. E. SPRINGER.

GLASS CUTTER.

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992,819.

Patented May 23, 1911.

Fig. 1.

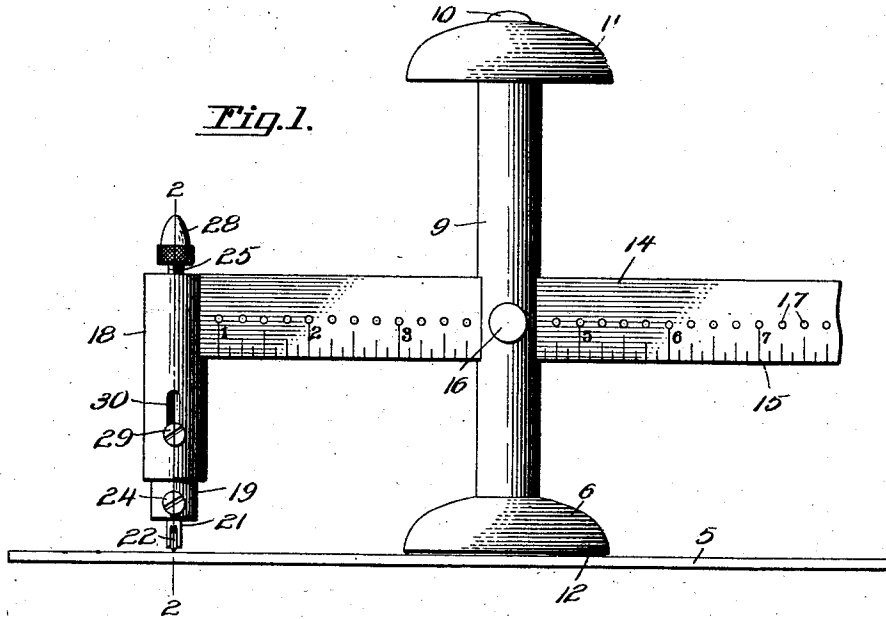


Fig. 2.

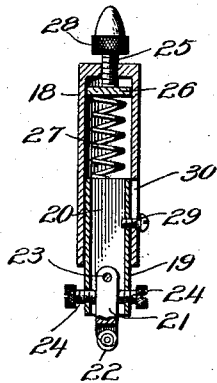


Fig. 3.

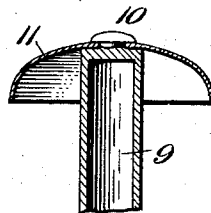
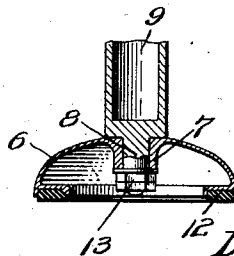


Fig. 4.



Witnesses

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GLASS-CUTTER.

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To all whom it may concern:

Be it known that I, DANIEL E. SPRINGER, a citizen of the United States, residing at Tamaqua, in the county of Schuylkill and State of Pennsylvania, have invented new and useful Improvements in Glass-Cutters, of which the following is a specification.

The invention relates to a glass cutter, and more particularly to the class of rotatable glass cutters.

The primary object of the invention is the provision of a glass cutter of this character in which circular glass panels may be cut from glass sheets, the cutter being adjustable, whereby the size of the panels may be varied as the occasion may demand.

Another object of the invention is the provision of a glass cutter in which the cutting element is at all times held under tension and supported by a rotatable standard whereby circular shaped panels may be cut from a glass sheet as required.

A further object of the invention is the provision of a glass cutter in which the cutting element is rotatably supported for cutting circular shaped panels, the cutter being so mounted as to permit its adjustment to vary its arc of movement for increasing or decreasing the size of panel to be cut from a glass sheet during the operation of the device.

A still further object of the invention is the provision of a device of this character which is simple of construction, efficient and reliable in operation, and inexpensive of manufacture.

With these and other objects in view, the invention consists of the construction, combination and arrangement of parts, as will be more fully described hereinafter, illustrated in the accompanying drawings, and pointed out in the claim hereunto appended.

In the drawings: Figure 1 is a side elevation of a device constructed in accordance with the invention, showing the same superimposed upon a glass sheet. Fig. 2 is a sectional view on the line 2—2 of Fig. 1. Fig. 3 is a fragmentary vertical longitudinal sectional view through the upper end of the rotatable standard. Fig. 4 is a vertical longitudinal sectional view through the lower supporting end of the base and rotatable standard.

Similar reference characters indicate corresponding parts throughout the several views of the drawings.

Referring to the drawings by numerals, 5 designates generally a glass sheet from which is adapted to be cut a circular-shaped panel by the glass cutter, as will be herein-
after more fully described. This glass sheet 5 is merely shown to illustrate the position and manner of operation of the cutting device.

The cutting device comprises a hollow convex base 6 having a central depending boss 7 provided with suitable openings in which is rotatably mounted the reduced circular lower end 8 of a rotatable staff or standard 9, the latter being preferably of cylindrical shape in cross section and of uniform diameter throughout the greater portion of its length, the upper end of the standard or staff 9 being provided with a headed lug 10 with which is connected a rotatable convex circular-shaped hand knob 11. The base 6 is formed at its lower edge with an annular channel in which is fitted a resilient washer or ring 12 adapted to rest upon the upper face of the glass sheet 5, so as to prevent the standard or staff 9 from slipping or injuring the surface of the glass when the device is being operated. The reduced lower end 8 is threaded and engaged by a lock nut 13 of the usual type, whereby the said base will be rotatably secured to the said standard or upright. This standard or upright 9, medially of its length, is provided with a transverse guide slot in which is disposed an adjustable gage beam or arm 14, one face of which is provided with suitable scale marks 15 which enable an operator to determine the extent of adjustment of the arm or beam 14 relatively to the standard or upright, the arm 14 being held in adjusted position by a suitable thumb or binding screw 16, the latter being threaded in one side of the standard or upright 9 at right angles to the path of movement of the said arm 14, and its inner end is adapted to engage in suitable indentures or circular recesses 17 arranged in spaced relation to and alinement with each other directly above the scale 15.

Formed at one end of the arm or beam 14 is a hollow stem or sleeve 18, the same being at right angles to the said arm or beam and in which is mounted a cylindrical-shaped cutter holder 19, the latter being provided with a central rectangular-shaped bore or opening 20 in which is fitted the shank 21, in the lower end of which is pivoted a rota-

table cutter roller 22, the opposite end of the shank 21 being pivoted, as at 23, to the said holder 20 for swinging movement in the bore 20. This bore 20 is of considerably
 5 greater size than the shank 21, so that the latter may be swung in opposite directions. Threaded in the holder at diametrically opposite points and intersecting the bore 20 are set screws 24, the inner ends of which
 10 are adapted to engage opposite side faces of the stem 21 of the cutter, so as to hold it in adjusted position when swung to the desired position within the bore of the holder.

In the upper closed end of the hollow
 15 stem or sleeve 18 is centrally threaded an adjusting screw 25, the latter being formed at its inner end with a follower head 26, between which latter and the inner end of the holder 19 is disposed a coiled expansion
 20 spring 27, one end thereof having its bearing against the inner end of the holder and its opposite end against the follower head, so that the said spring will serve as a tensioning means for the holder 19 to maintain it in
 25 such position as to sustain the cutting roller 22 in constant contact with the upper surface of the glass sheet 5 during the cutting operation thereof. The outer end of the adjusting screw 25 is formed with a knurled head
 30 28, whereby it may be turned by the hand of an operator for adjusting the tension of the spring 27, as may be required.

In the operation of the device, the same is positioned in superimposed position upon
 35 the upper surface of the glass sheet 5, it being understood that the cutting roller 22 will contact with the said upper surface of the glass sheet 5 and sustained under tension, so that on rotating the standard or up-
 40 right 9 by manually gripping the sleeve 18, this cutting roller 22 will penetrate the glass sheet and during the arcuate movement of the said roller 22, a circular panel will be severed from the said glass sheet. It
 45 is clearly obvious that the beam or arm 14 may be adjusted so as to bring the sleeve 18 toward or away from the standard or up-right 9, thereby decreasing or increasing

the circular movement of the cutter concentrically with respect to the base of the
 50 device.

The cutter holder 19 is provided with a detachable guide screw 29, the latter working in an elongated guide slot 30 formed longitudinally in the wall of the sleeve 18,
 55 and in this manner the said holder is retained in the said sleeve and guided in its vertical movement within the same.

The beam or arm 14 can be detached from the standard or staff 9, so that the cutter
 60 may be manipulated in severing glass sheets by a rule so that a sheet will be cut along straight lines, as may be required.

What is claimed is:

In a device of the class described, an inverted cup-shaped base having a centrally
 65 depending perforated boss, a standard having a reduced end engaging in said boss, a nut engaged with the said reduced end of the standard, a headed lug formed integral
 70 with the opposite end of the standard, an inverted cup-shaped handle rotatably engaged with said lug, a scale beam horizontally mounted for adjustment in said standard and having a right angular tubular end,
 75 a hollow stem mounted in said tubular end, means limiting the movement of the stem longitudinally within the tubular end, a spring interposed between the inner end of the said stem and the adjacent end of said
 80 tubular end of the scale beam, whereby the said stem will be held under tension, an arm pivoted in the said stem, a cutter roller journaled in the said arm, set screws threaded in opposite sides of the stem and work-
 85 ing against the arm for laterally adjusting the latter, and means threaded in the tubular end of the scale beam for tensioning the said spring.

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

DANIEL E. SPRINGER.

Witnesses:

JOHN DICKMAN,
 WM. F. BRENNAN.