July 5, 1927. 1,634,323

A. T. FLETCHER

GLASS CUTTER

Filed Jan. 17, 1927

Fig. 1

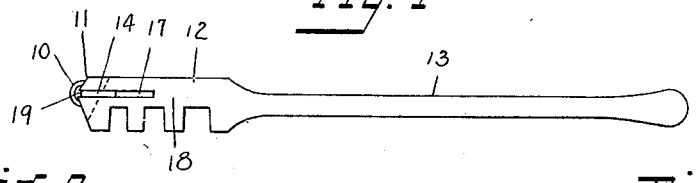


Fig. 2

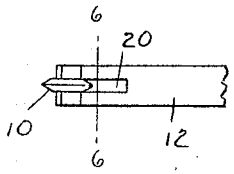


Fig. 3

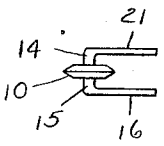


Fig. 4

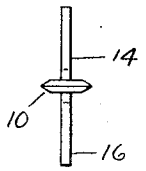


Fig. 5

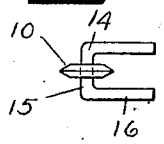


Fig. 6

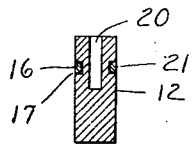


Fig. 7

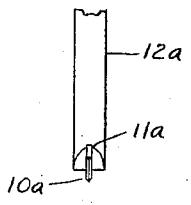


Fig. 9

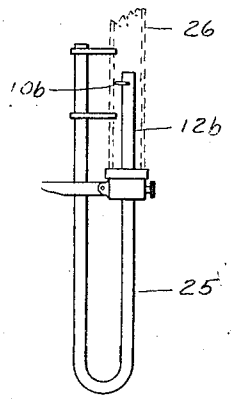


Fig. 8

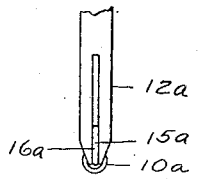


Fig. 10

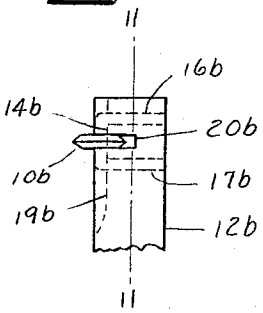
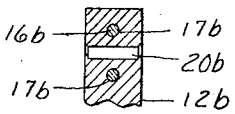


Fig. 11



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Patented July 5, 1927. 1,634,323

UNITED STATES PATENT OFFICE.

ARTHUR TERRY FLETCHER, OF BRISTOL, CONNECTICUT, ASSIGNOR TO THE FLETCHER-TERRY COMPANY, OF FORESTVILLE, CONNECTICUT, A CORPORATION.

GLASS CUTTER.

Application filed January 17, 1927. Serial No. 161,531.

My invention relates to improvements in glass-cutters, having particular relation to the detail of supporting the cutter wheel, and the object of my improvement is to provide means for operatively supporting the cutter wheel that permit of readily removing the cutter wheel from the frame or supporting body, as for replacement by a new cutter or the like, and thus serving to permit of providing cutters independent of and separate from the frame or body and supplying a plurality of cutters for each frame or body.

In the accompanying drawing:—

Figure 1 is a side elevation of a glass-cutter corresponding to the hand device of standard form and in which the cutter supporting means correspond to my invention.

Figure 2 is a plan view on an enlarged scale of the cutter and adjacent parts.

Figure 3 is a plan view of the cutter and wire support.

Figure 4 is a similar view of the same before bending the wire.

Figure 5 is a similar view of the same after bending the wire and before reducing the outer face portions of the supporting legs.

Figure 6 is a sectional view on the line 6—6 of Fig. 2.

Figure 7 is a side elevation of a pillar post for use in cutting circular pieces of glass and in which the cutter support is in accordance with my invention.

Figure 8 is another view of the same.

Figure 9 shows my invention embodied in a cutter frame for use in cutting gauge glasses or tubing.

Figure 10 is an enlarged view of the cutter and support.

Figure 11 is a sectional view on the line 11—11 of Fig. 10.

My improved glass-cutter as pertains to the substantially standard form of cutter that is used for ordinary hand operation comprises a cutter wheel or cutter 10 that projects outwardly beyond one end 11 of the cast body 12 and at the other end of which is the handle 13. The cutter 10 is operatively supported by means of a diminutive shaft 14 of wire and the invention in the present instance pertains to this particular detail.

Said shaft 14 is virtually the yoke portion of a U-shaped structure 15 of wire and serves to inter-connect the ends of the side arms 16. The body 12 is grooved or recessed to admit the major portion of said U-shaped structure 15. Thus at the sides are the grooves 17 in the outer faces 18 of the body 12 for the side arms 16 and at the end is the cross-groove 19 for the outer ends of the shaft 14, the latter being interrupted by the slot 20 for the inner portion of the cutter 10.

Under normal conditions the cutter is held in place by reason of the resiliency of the U-shaped wire structure 15 and under conditions of use the pressure applied to the cutter is such as to retain the parts in place, and the cutter and support are readily removable for replacement or the like. Also, while removed from the body the cutter remains in place on the wire 15. Said wire is initially in the form of a straight piece of wire that is inserted in the opening in the cutter and is then bent to the U-shape.

Finally, in order to permit of the use of a relatively shallow groove 17 and at the same time keep within the limits of the standard form as to thickness, the outer side face portions of the legs or arms 16 may be ground off, leaving flat side face portions 21.

In the application to the pillar post 12^a shown in Fig. 7 that is used in machines for cutting glass discs and which is substantially a rod-like structure the cutter 10^a is supported in the grooved end portion 11^a by the U-shaped structure 15^a of wire in a manner similar to that already described. In this instance it may be noted that there would usually be no need of grinding off the outer side faces of the supporting arms 16^a so that the cross-section of said arms would conform to that of the full size of the wire.

Some difference in detail would be involved in the application of the invention to the gauge cutter 25 that is used for cutting glass tubing 26 into lengths for use in glass gauges and the like and in which devices there is provided an elongated body 12^b for insertion within the tubing. The cutter 10^b is supported by the body 12^b and the cutting is done on the inner face of the tubing wall.

The body 12^b has the cross-slot 20^b for housing the inner portion of the cutter 10^b. The cross-groove 19^b is provided that extends across the slot 20^b and which extends in the longitudinal direction of the body

12^b. The cutter shaft 14^b is housed in the cross-groove 19^b and the arms 16^b of the U-shaped structure 15^b are entered into suitable holes 17^b in the body 12^b.

Thus, as described, the operation of the unit composed of the cutter and the U-shaped support is substantially the same in all of the different forms that are shown and described. Also, generally, cutters that are adapted for one form will also be usable in any of the others.

I claim as my invention:—

1. In a glass-cutter, a body having a slot, a disc-like cutter entered in said slot and having an opening, a shaft of wire entered through said opening, arms extending from the ends of said shaft and forming therewith a U-shaped structure, and said body having means for operatively housing the portions of said U-shaped structure that are exterior to said cutter.

2. A unit for use in a glass-cutter comprising a disc-like cutter having an opening and a U-shaped structure of wire comprising a pair of laterally spaced arms that are cross-connected by means of a yoke, and said yoke being entered through said opening so as to be adapted to serve as a shaft for said cutter.

ARTHUR TERRY FLETCHER.