E. F. FLETCHER.
GLASS GAGE CUTTER.
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1,028,870.

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Witnesses:

Edward F. Fletcher;

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EDWARD F. FLETCHER, OF WORCESTER, MASSACHUSETTS.

GLASS-GAGE CUTTER.

1,028,870.

Application filed October 23, 1908. Serial No. 459,009.

To all whom it may concern:

Be it known, that I, EDWARD F. FLETCHER, a citizen of the United States, and a resident of Worcester, in the county of Worcester, and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Glass-Gage Cutters, of which the following is a specification.

This invention is in the line of implements or tools for cutting glass tubes, and particularly those composing a part of glass gages. Prior to my invention improvements have been constructed for this purpose wherein a pair of resiliently held rods were arranged to carry a tube-supporting saddle or seat at the end of one, and a small cutting wheel at the end of the other; the glass tube or gage being supported in said saddle, with the other rod within the tube, so that by pressing the rods toward each other and then rotating the tube within said seat, the cutting wheel was made to traverse the entire inner periphery of the tube, and so cause the latter to be scored or cut and thereupon broken and parted on this cut line. When the implement is to be stowed away to occupy the least possible space the trigger is then inserted between said neck and the under surface of said rod, as shown in Fig. 4, in order to give a friction-pressure to said annuli down upon the rod, and so retain the member in position thereon. A sheet metal strap 14 is placed over said rod and neck and down past the rod 2; and the trigger-operated cam 15 pivoted between its ends. By pulling upward on the trigger 16 said cam is made to force the rods nearer together, and thereby perform the cutter-engaging function required. I prefer to press inward a trifle the sides of this strap, as indicated in Figs. 1 and 2, in order to retain it more perfectly in position; inasmuch as without the same the strap may become canted fore and aft. The larger annulus 10 is located nearer the cutting-wheel, and forms the stop against which the end of the glass tube is pressed during the cutting operation.

In using this tool, the glass tube is telescoped onto the rod 1 and upon the rest 4 until its end comes against the stop annulus or stop 10; the latter having been previously moved to the proper point to bring the cutting wheel at the proposed line of severance. The operator then grasps the two rods in his right hand and pulls up on the trigger with his forefinger until the cutting wheel is pressed strongly against the inner surface of the glass tube. With the said parts thus held firmly in his right hand, the operator revolves the glass tube with his left until said wheel has engaged and cut the whole inner periphery. The glass is now removed and broken apart on this cut line.

When the implement is to be stowed away to occupy the least possible space the trigger

In addition to providing means for pressing the rods 1 and 2 toward each other and thereby forcing the cutting-wheel into operative engagement with the inner surface of the glass tube held on the rest 4 it is necessary to furnish the rods with a stop for the tube in order to keep the cutting wheel in the same transverse plane of the tube. To make the tool more convenient to operate and at the same time more economically to manufacture, I combine said two functions in a single mechanism, as follows: Having stamped from sheet metal a member consisting of two annuli 10 and 11 joined by a neck 12, the holes in said annuli snugly fitting the rod 1, said annuli are bent up at right angles to the neck 12 and slipped onto the rod 1. A leaf spring 13 is then inserted between said neck and the under surface of said rod, as shown in Fig. 4, in order to give a friction-pressure to said annuli down upon the rod, and so retain the member in position thereon. A sheet metal strap 14 is placed over said rod and neck and down past the rod 2; and the trigger-operated cam 15 pivoted between its ends. By pulling upward on the trigger 16 said cam is made to force the rods nearer together, and thereby perform the cutter-engaging function required. I prefer to press inward a trifle the sides of this strap, as indicated in Figs. 1 and 2, in order to retain it more perfectly in position; inasmuch as without the same the strap may become canted fore and aft. The larger annulus 10 is located nearer the cutting-wheel, and forms the stop against which the end of the glass tube is pressed during the cutting operation.

In using this tool, the glass tube is telescoped onto the rod 1 and upon the rest 4 until its end comes against the stop annulus or stop 10; the latter having been previously moved to the proper point to bring the cutting wheel at the proposed line of severance. The operator then grasps the two rods in his right hand and pulls up on the trigger with his forefinger until the cutting wheel is pressed strongly against the inner surface of the glass tube. With the said parts thus held firmly in his right hand, the operator revolves the glass tube with his left until said wheel has engaged and cut the whole inner periphery. The glass is now removed and broken apart on this cut line.

When the implement is to be stowed away to occupy the least possible space the trigger
16 is turned up toward the rest 4 against the under surface of the rod 2. The under surface of the rod 1 may be roughened, as indicated at 22 in Fig. 4, for the purpose of making the slip of the stop and rod-pressing members less easy when the tool is being used.

What I claim as my invention and for which I desire Letters Patent is as follows, to wit:

In a glass tube cutter, the combination of a pair of parallel resiliently separated rods, one of which is provided with a rest at its extremity and the other a cutting means, a stop slidable on one of said rods, a U-shaped strap embracing said stop and rods, a spring carried by said strap and pressed against the first named rod, and a trigger and cam pivotally held between the ends of said strap.

In testimony that I claim the foregoing invention, I have hereunto set my hand this 16th day of October, 1908.

EDWARD F. FLETCHER.

Witnesses:
BURTON PAYNE GRAY,
A. B. UPHAM.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."