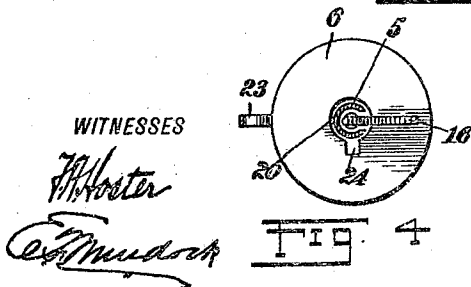
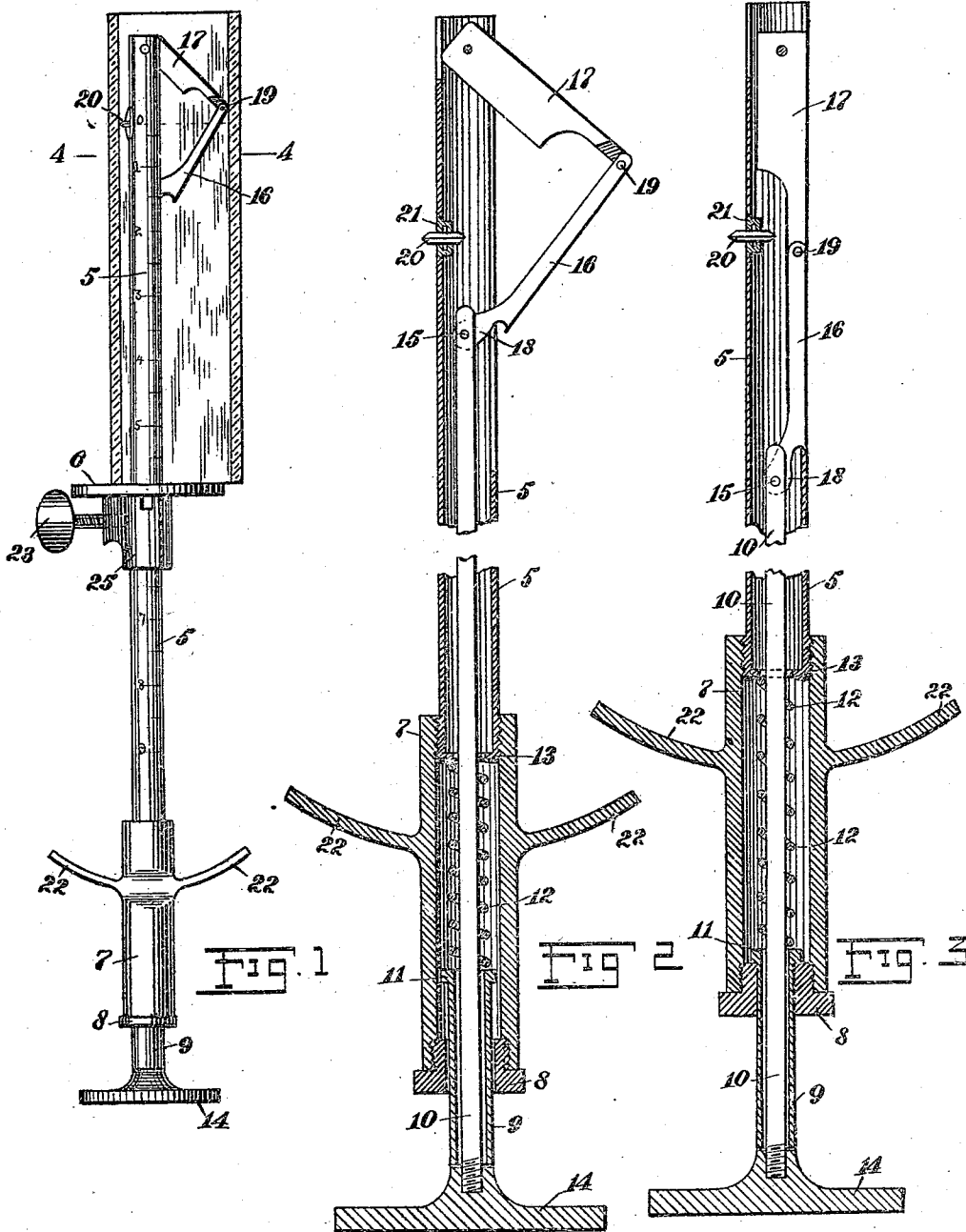


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 WATER GLASS GAGE CUTTER.
 APPLICATION FILED JUNE 25, 1909.

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WATER-GLASS-GAGE CUTTER.

950,273.

Specification of Letters Patent. Patented Feb. 22, 1910.

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To all whom it may concern:

Be it known that I, FRANK BLODGETT, a citizen of the United States, and a resident of Butte city, in the county of Silver Bow and State of Montana, have invented a certain new and useful Water-Glass-Gage Cutter, of which the following is a full, clear, and exact description.

The principal objects which the present invention has in view are: to provide an implement for cutting glass tubing from the inside thereof, to form water gage columns; to provide an implement of the character specified, wherein the cutter may be set to sever the article to the size desired; to provide an implement adapted to cut the inside surface of a tube, having means for exerting an outward pressure upon the point of operation, and to provide an implement wherein the parts are held and returned to their normal position by automatic means.

One embodiment of the present invention is disclosed in the construction illustrated in the accompanying drawings, wherein like characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of an implement constructed in accordance with the present invention shown in conjunction with a glass tube, the tube being illustrated as in section; Fig. 2 is a longitudinal section of the implement illustrated in Fig. 1, and shown in the operative position; Fig. 3 is a longitudinal section of the implement shown in Fig. 1, the parts being illustrated as in their normal or inoperative position; and Fig. 4 is a cross section of the implement, taken on the line 4—4 in Fig. 1.

While I have herein shown the implement as peculiarly applicable to the cutting of tubes for water gages, I do not wish to be understood as limiting myself to this use, as the implement is capable of being used in other ways.

The tube 5 is constructed of any suitable material and is preferably provided with scale rulings and numerals thereon, to show the number of inches from the cutting point at which the gage head 6 is secured upon the tube. The tube is screw threaded at one end, to receive in screw thread engagement, a handle 7 wherein it is rigidly held. The handle 7 which is tubular and of larger dimensions than the tube 5, is closed at the end by a perforated cap 8, which is likewise

screwed into the end of the handle 7. The cap 8 is perforated to pass a tube 9 which is extended over a thrust rod 10 and placed within the tube 7 before the cap 8 is placed in position. The tube 9 is provided with an end flange 11 to receive a spiral spring 12, which rests against a head or washer 13 with which the inner end of the tube 5 is provided. In its operation, the spring 12 thrusts the tube 9 outward, until the end flange 11 of the tube 9 rests against the cap 8. The thrust rod 10 is adapted to pass through the tube 9, and is provided with a screw threaded end to receive the head 14. By means of the tube 9 and the spring 12, the head 14 and with it the rod 10, are normally maintained in the position shown in Fig. 3 of the drawings. The rod 10 is extended within the tube 5, and at the forward end thereof is pivotally connected to a free link 16 which, with a link 17, constitutes a knuckle whereby pressure is applied upon the cutter transversely to the extension of the tube 5. The link 16 is provided with a rounded end section 18, which is adapted to slide on the surface of the tube 5 when pressure is being exerted at the joined ends of the links 16 and 17 where they are connected by a pivot 19. The cutter 20 in the present instance is shown as a steel wheel, which is suitably mounted within an inserted block 21, inserted in the side of the tube 5. The handle formed by the tube 7 is provided with finger extensions 22, which are provided to receive the fingers of the hand of the operator, when the heel of the palm is resting under or back of the head 14.

With an implement thus constructed the operation is as follows: When it is desired to cut a glass tube as illustrated in Fig. 1, the tube 5 bearing the cutter 20 is inserted within the tube to be cut until the end thereof rests upon the head 6 which has been set to the gage scale shown upon the tube 5, at the point needed to produce the proper length of cut tube when severed by the cutter 20. The head 6 is set by means of a set screw 23, and the operator then presses the head 14 and with it the rod 10 toward the extensions 22. This movement of the rod 10 advances the pivot 15 at the outer end of the said rod toward the end of the tube 5, causing the links 16 and 17 to assume the position shown in Fig. 2 of the drawings. Such position of the links 16 and 17 forces their

joined ends against the side of the tube within which the implement is inserted, and opposite the cutter 20, to produce a pressure upon the cutter 20. In this position of the parts, the implement is rotated around the inside of the tube being cut. The pressure is sufficient to embed the cutting edge of the cutter 20 into the surface of the glass, and when the cut is produced in the tube sufficiently deep, the parts thereof can be separated by the usual method.

In Figs. 1 and 4 of the drawings, I have shown the implement as provided with a gage head 6, while in Figs. 2 and 3 I have shown the implement without the gage head 6. It will be understood that the gage head 6 is not essential to the operation of the present invention, though of advantage thereto. The gage head 6 is removable from the tube 5 the barrel thereof being provided with a suitable slot 24 provided to pass the cutter 20.

While I have herein described the cutter 20 as being a steel wheel, I wish it understood that the cutter 20 may be a diamond point, such as shown in Fig. 4 of the drawings.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A water glass gage cutter comprising a tubular body; a glass cutting device mounted in fixed bearings in said body; a plu-

rality of levers one of which is pivotally mounted in said body, said levers pivotally connected each to the other; a thrust rod extended within said body and pivotally connected to said levers arranged to protrude the connected ends thereof outwardly from said body; a spring to extend the said thrust rod from said body; laterally extended gripper members mounted on said body; and a pressure head mounted on said thrust rod in operative relation to said gripper members.

2. A water glass gage cutter comprising a tubular body; a glass cutter fixedly mounted on said body; scale markings formed on said body with relation to said cutter as a base; a plurality of pivotally connected levers mounted within said body arranged to be laterally extended therefrom by pressure on one of said levers; a thrust rod adapted to engage said levers to extend the same laterally from said body; and a gage head slidably mounted on said body to register with said markings and adapted to be locked in fixed relation to the said body.

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

FRANK BLODGETT.

Witnesses:

J. R. DAVENPORT,
JAS. CONLEY.