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WORK HOLDER FOR GLASS GRINDING MACHINES.

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NO MODEL.

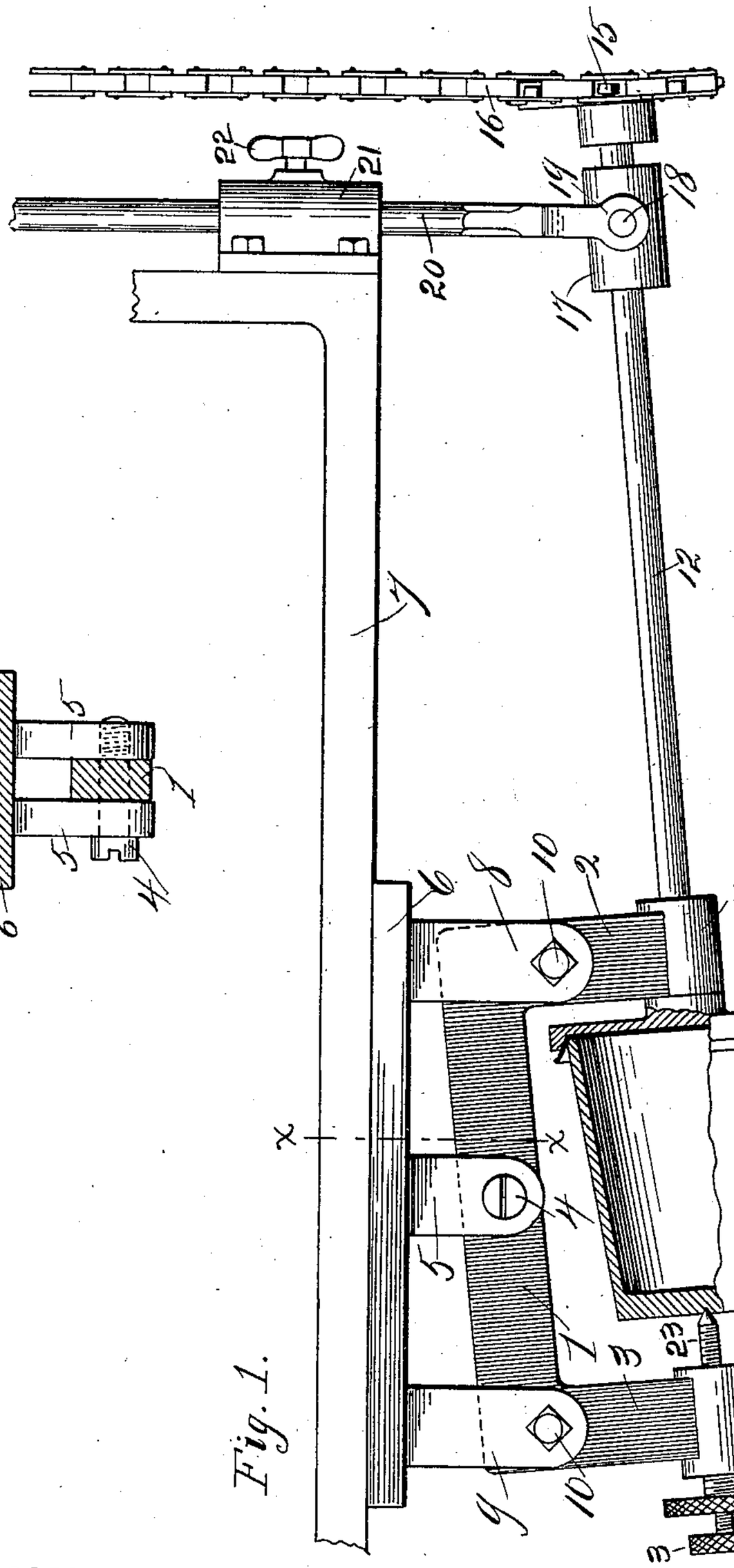

Fig. 2.

Fig. 1.

WITNESSES:

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UNITED STATES PATENT OFFICE.

FRANK J. STARR, OF TOLEDO, OHIO, AND HENRY W. GARRETT, OF ROCHESTER, PENNSYLVANIA; ROWLAND STARR ADMINISTRATOR OF SAID FRANK J. STARR, DECEASED.

WORK-HOLDER FOR GLASS-GRINDING MACHINES.

SPECIFICATION forming part of Letters Patent No. 763,439, dated June 28, 1904.

Application filed December 4, 1902. Serial No. 133,848. (No model.)

To all whom it may concern:

Be it known that we, FRANK J. STARR, of Toledo, Ohio, and HENRY W. GARRETT, of Rochester, Pennsylvania, citizens of the United States, have invented certain new and useful Improvements in Work-Holders for Glass-Cutting Machines; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

Our invention relates to a device for holding glass tumblers and other glass articles while they are operated upon by the glass-grinding mechanisms employed in the glass-grinding art, such mechanisms consisting of suitable abrading devices disposed in operative relation to the holder.

The object of our invention is to provide a holder which may be adjusted for the reception of articles, either cylindrical or having sides inclined at various angles to their axis, so that the grinding may always be performed in a uniform plane regardless of the flare of the article operated upon. We attain these objects by means of the devices and arrangement of parts hereinafter described, and shown and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of our holder and its driving mechanism, partly in section; and Fig. 2, a transverse sectional elevation of the same on line *x x*, Fig. 1.

Like numerals of reference indicate like parts in both views.

In the drawings, 1 is a bar having at one end an arm 2 and at the opposite end an arm 3, said two arms being at an angle to and in the same plane with each other and with the bar. The bar and the two arms form a rigid swinging frame. About midway of its length the bar is pivotally supported, as at 4, between two lugs 5 5, projecting from a plate 6, which is secured to a beam or arm 7 of the machine. One end of the bar 1 swings or tilts between a pair of lugs 8, secured to the plate 6, and the opposite end of the bar swings between a like pair of lugs 9, also secured to the plate 6.

10 10 are set-screws by means of which the bar 1 and its arms may be secured in any position to which the arm may be tilted. At the extremity of the arm 2 is a shaft-bearing 11, in which is journaled a shaft 12. One end of this shaft carries a disk 13, preferably faced with gutta-percha or some similar substance, as at 14. The opposite end of the shaft 12 carries a driving-wheel 15, which in the presence instance is, for illustration, a sprocket-wheel driven by chain 16. 17 is a bearing for the shaft 12 near the outer end of the shaft. This bearing has at opposite sides trunnions 18, journaled in the forks 19 at the end of the hanger-rod 20. This rod is movable longitudinally in a sleeve 21, secured to the extremity of the arm or beam 7, and the rod may be secured against movement by means of set-screw 22 passing through the sleeve and engaging the rod. The rod 20 and the parts 1, 2, and 3 are all disposed in the same plane.

The extremity of the arm 3 carries a screw-threaded centering-pin 23, axially coincident with the axis of the shaft 12. This pin carries a lock-nut 24, by means of which the pin is secured against axial movement.

The operation of our device is as follows: A tumbler or other article to be cut is secured with its mouth against the disk 13 and with the centering-pin against its closed end, as shown in Fig. 1. The bar 1 is tilted on its pivot to the desired position, the set-nuts 10 are tightened, the rod 20 is raised or lowered to bring the shaft 12 in proper alinement, and the chain 16 or its equivalent is tightened or loosened, as may be required, by means of a suitable idler. (Not shown in the drawings.) Motion being given to the wheel 15, the tumbler or other article in the holder is revolved, and the grinding device may now be applied to the surface of the tumbler or other article for the grinding of the required design.