

(No Model.)

2 Sheets—Sheet 1.

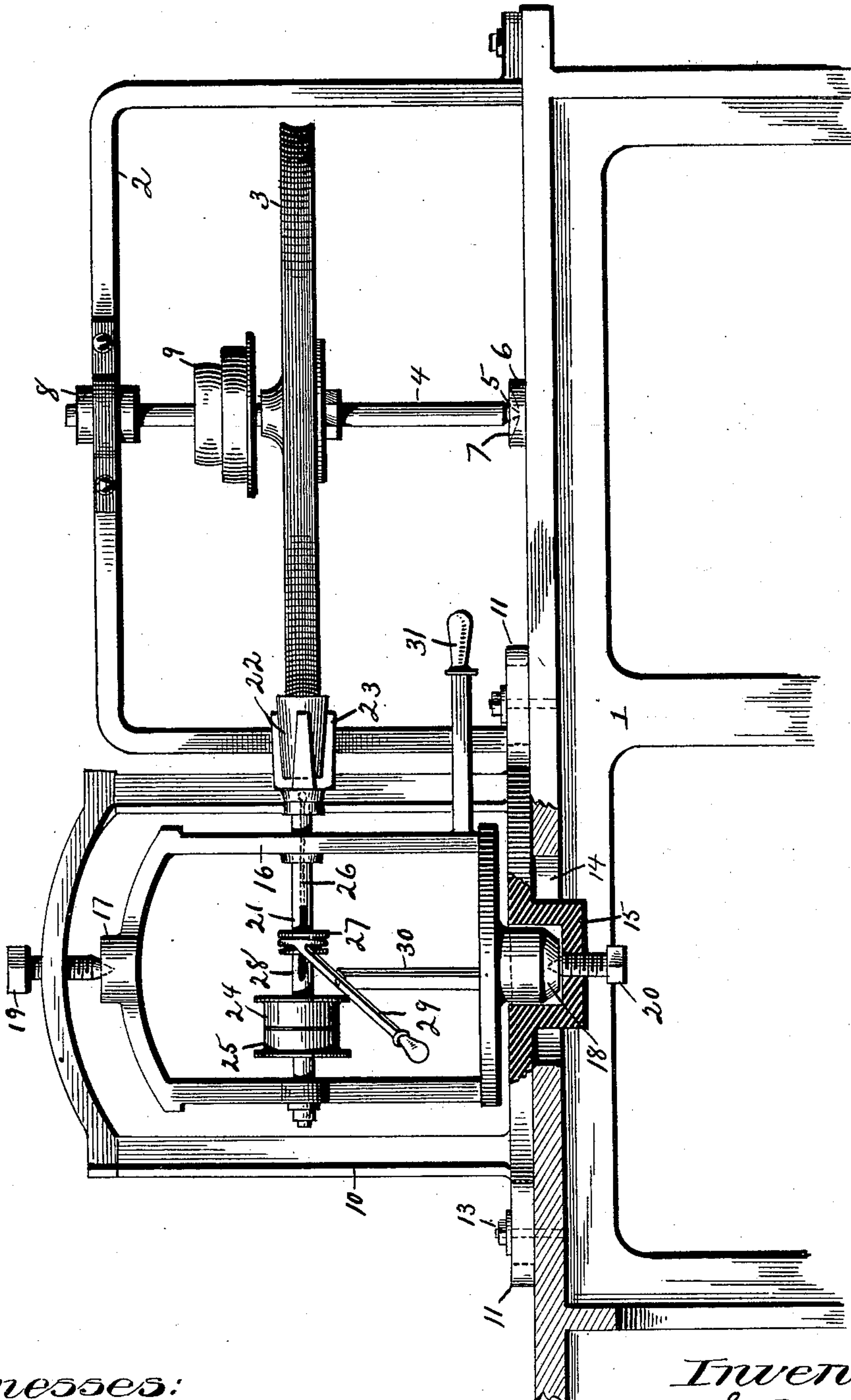
A. STENGER.

MACHINE FOR CUTTING AND SMOOTHING TUMBLERS.

No. 601,685.

Patented Apr. 5, 1898.

Fig. 1.



Witnesses:

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Inventor:

August Stenger
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(No Model.)

2 Sheets—Sheet 2.

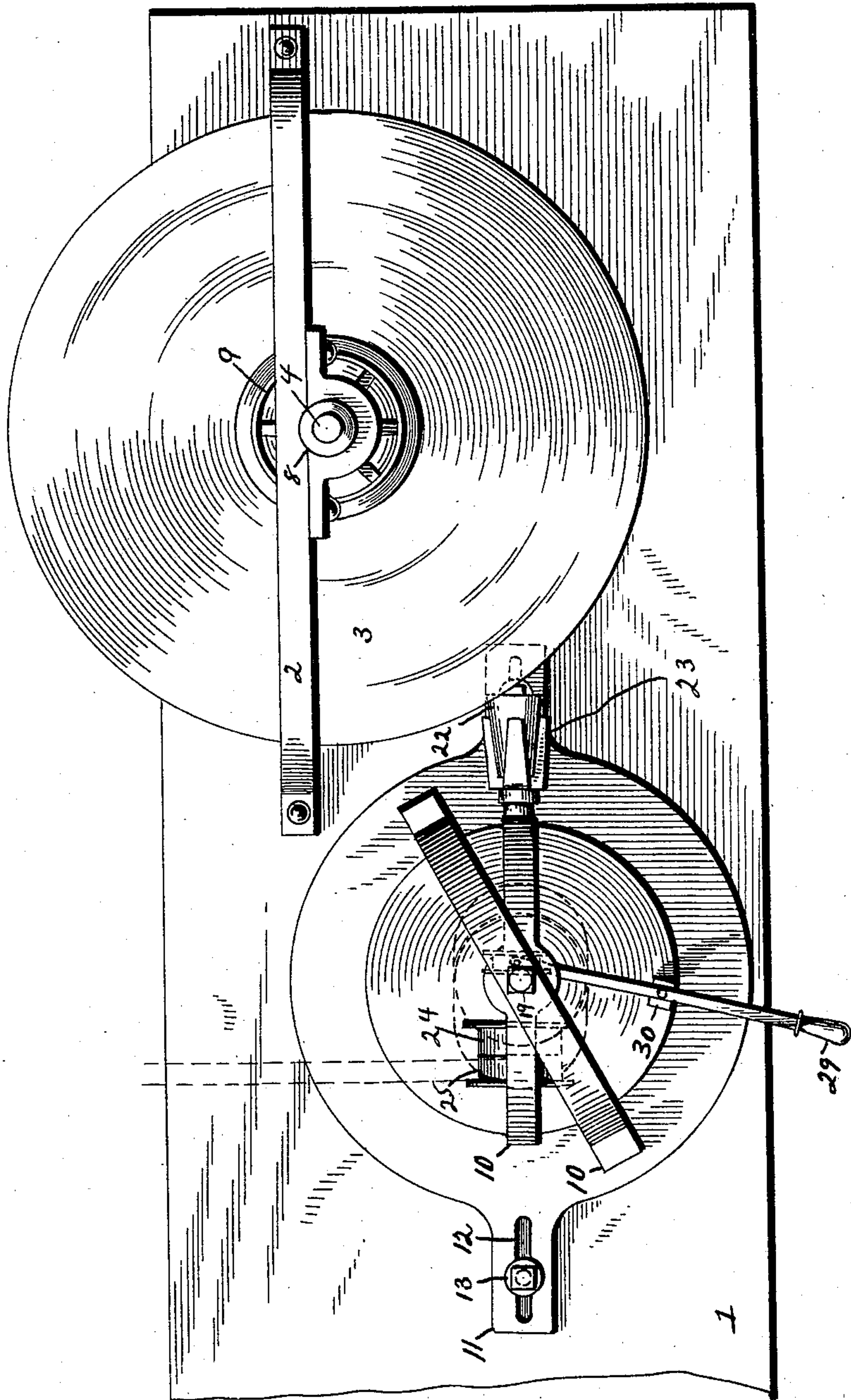
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Fig. 2.



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UNITED STATES PATENT OFFICE.

AUGUST STENGER, OF MORGANTOWN, WEST VIRGINIA, ASSIGNOR TO THE
SENECA GLASS COMPANY, OF SAME PLACE.

MACHINE FOR CUTTING AND SMOOTHING TUMBLERS.

SPECIFICATION forming part of Letters Patent No. 601,685, dated April 5, 1898.

Application filed November 3, 1897. Serial No. 657,245. (No model.)

To all whom it may concern:

Be it known that I, AUGUST STENGER, a citizen of the United States, residing at Morgantown, in the county of Monongalia and State of West Virginia, have invented certain new and useful Improvements in Machines for Cutting and Smoothing Tumblers, &c.; and I do hereby 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.

This invention relates to improvements in machines for grinding tumblers and the like.

The object of the invention is to provide a machine of the character mentioned which is so constructed that the upper edges of tumblers may be readily ground and polished in order that the same may present a smooth surface to the mouth of persons drinking therefrom and also to provide a machine which shall be simple in construction and efficient in operation.

A further object of the invention is to embody in the construction of the grinding-machine simple and efficient means for holding the tumbler in proper relation to the grinding-wheel and also in connection with such to provide further means whereby the tumbler or glass may be easily removed from the holder after being properly ground.

With these and other objects in view, which will appear as the nature of the improvements is better understood, the invention consists, substantially, in the novel construction, combination, and arrangement of parts, as will be hereinafter fully described, illustrated in the drawings, and pointed out in the appended claims.

In the drawings, Figure 1 is a side elevation, partly in section, of a grinding-machine constructed in accordance with the present invention; and Fig. 2 is a top plan view thereof.

Referring to the drawings, the numeral 1 designates the stand or table of a grinding-machine, which may be of any approved construction, and mounted upon said table at one side of its longitudinal center is an inverted-U-shaped yoke 2. Arranged within said yoke is a horizontally-disposed grinding-wheel 3, the periphery of which is concaved, so as to adapt the wheel for grinding the edges

of the tumblers. The grinding-wheel 3 is mounted upon a vertically-disposed shaft 4, the lower end of which is pointed, as at 5, and said lower end is seated in a bearing 6, which bearing is secured to the table or stand 1 and is provided with a concavity 7, which receives the pointed end 5 of the shaft 4. The wheel 3 is rigidly secured to the shaft 4, the upper end of the latter rotating in a suitable bearing 8, carried by the yoke 2, and also mounted upon the shaft 4 is a stepped or cone pulley 9, over which a suitably-driven belt is adapted to pass for imparting rotation to the wheel 3. A supporting-frame 10 is also arranged upon the table 1 and adjacent to the yoke 2, and the base of said supporting-frame is provided with oppositely-disposed outwardly-projecting ears 11, each of which is provided with an elongated slot 12. The slots 12 receive bolts 13 or their equivalent, by which means the frame 10 is secured to the table or stand 1, and by reason of the slots 12 it will be seen that said frame is capable of adjustment toward and away from the grinding-wheel 3. In this connection it is to be noted that the table or stand 1 is provided with an elongated opening 14, through which passes a depending U-shaped bearing 15, carried by the base of the supporting-frame 10. This bearing is arranged at the center of said frame, and disposed within the latter is a rotatable holding-frame 16, provided, respectively, at its upper and lower ends with bearing-lugs 17 and 18. These bearing-lugs are in vertical alinement, the lower lug 18 normally lying within the bearing 15, and in order that the frame 16 may be retained within the supporting-frame 10 and at the same time be capable of rotation therein adjusting-screws 19 and 20 are employed, the ends of said screws being pointed and entering the bearing-lugs 17 and 18. It will thus be seen that the screws 19 and 20 form pivots upon which the holding-frame 16 is adapted to move, the purpose of which will presently appear.

A horizontal tubular shaft 21 is carried by the holding-frame 16, and mounted upon the end of said shaft which is adjacent to the grinding-wheel 3 is a tumbler-holder 22, the latter being formed of a series of spaced fin-

gers 23, which are adapted to grasp a tumbler, so as to retain the same in proper relation to the grinding-wheel 3 for action by the latter. It will be noted, however, that the shaft 21 is arranged in the same horizontal plane as the wheel 3, and thus the holder 22 is always retained in the position described, fixed and idle pulleys 24 and 25, respectively, being carried by the tubular shaft 21 for the application of a suitably-driven belt.

An ejecting-rod 26 is arranged within the shaft 21, the outer end of which is adapted to contact with, when suitably operated, the tumbler within the holder 22 for removing the same from the latter after having been ground, and for effecting movement of the ejecting-rod 26 within the shaft 21 a grooved collar 27 is slidably mounted upon said shaft and is suitably connected with the rod 26 through oppositely-arranged elongated slots 28, an operating-lever 29 being connected to said collar for sliding the same along the shaft 21, said handle being pivoted to a supporting-standard 30. A horizontally-disposed handle 31 is also secured to the holding-frame 16, whereby the latter may be rotated in order that the tumbler may be moved toward or away from the grinding-wheel 3.

The operation of the herein-described grinding-machine is as follows: A tumbler having been placed in the holder 22, as shown in Fig. 1, it of course being understood that the grinding-wheel 3 and shaft 21 are suitably geared with any source of power for rotating the same, the handle 31 is grasped, so as to move the tumbler toward the rotating grinding-wheel 3, whereby the tumbler may be brought into contact with the concaved periphery thereof. The tumbler being thus brought into contact with said wheel, the latter rotating in a horizontal plane and the tumbler also rotating in a plane at right angles to the plane of rotation of the wheel 3, it will be seen that the edge of the tumbler within the holder 22 will be gradually ground until the same becomes smooth and free from projections which are liable to cut the mouth of the person using the tumbler. After the tumbler has been ground to the desired extent it is simply necessary to swing the frame 16 in such direction that the tumbler moves away from the grinding-wheel 3, after which said tumbler may be removed from the holder 22 by applying pressure to the lever 29, through which medium the rod 26 forces the tumbler from the fingers 23. Any desired adjustment of the supporting-frame 10 may be had by suitably positioning the bolts 13 in the slots 12.

While the construction herein shown and described is believed to be a preferable embodiment of the invention, it is to be understood that the same is susceptible of various changes in the form, proportion, and minor details of construction, and hence such may

be resorted to without departing from the spirit or scope of the invention.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. In a machine of the class described, a grinding-wheel, a supporting-frame arranged adjacent to said grinding-wheel and capable of adjustment, a holding-frame rotatably mounted within said supporting-frame, and a rotating tumbler-holder carried by said holding-frame, said holder rotating at right angles to the plane of rotation of said grinding-wheel, substantially as described.

2. In a machine of the class described, a grinding-wheel, a supporting-frame arranged adjacent to said grinding-wheel and capable of adjustment, a holding-frame rotatably mounted within said supporting-frame, a rotating tumbler-holder carried by said holding-frame, said holder rotating at right angles to the plane of rotation of said grinding-wheel, and means for removing the tumbler from the holder, substantially as described.

3. In a machine of the class described, a grinding-wheel, a supporting-frame arranged adjacent thereto and capable of adjustment, a bearing carried by the supporting-frame, a holding-frame arranged within the supporting-frame and provided at its upper and lower ends with bearing-lugs, the lower of said lugs being arranged within the bearing carried by the supporting-frame, adjusting-screws for retaining the holding-frame within the supporting-frame, a tumbler-holder carried by the holding-frame and arranged in the same plane as the grinding-wheel, and means for removing the tumbler from said holder, substantially as described.

4. In a machine of the class described, a grinding-wheel, a supporting-frame arranged adjacent thereto and capable of adjustment, a bearing formed in the supporting-frame, a holding-frame rotatably mounted within said supporting-frame and provided at its upper and lower ends with bearing-lugs, the lower of said lugs being disposed within the bearing of the supporting-frame, adjusting-screws for retaining the holding-frame within the supporting-frame, a tubular shaft carried by the holding-frame, a tumbler-holder mounted upon said shaft and arranged in the same plane as the grinding-wheel, an extracting-rod disposed within said tubular shaft for removing the tumbler from the holder, and means for actuating said rod, substantially as described.

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

AUGUST STENGER.

Witnesses:

S. VIGWART,
FRANK CAPLES.