

(No Model.)

O. W. MINARD.

GRINDING THE BASES OF GLASS TUMBLERS.

No. 280,941.

Patented July 10, 1883.

FIG. 1

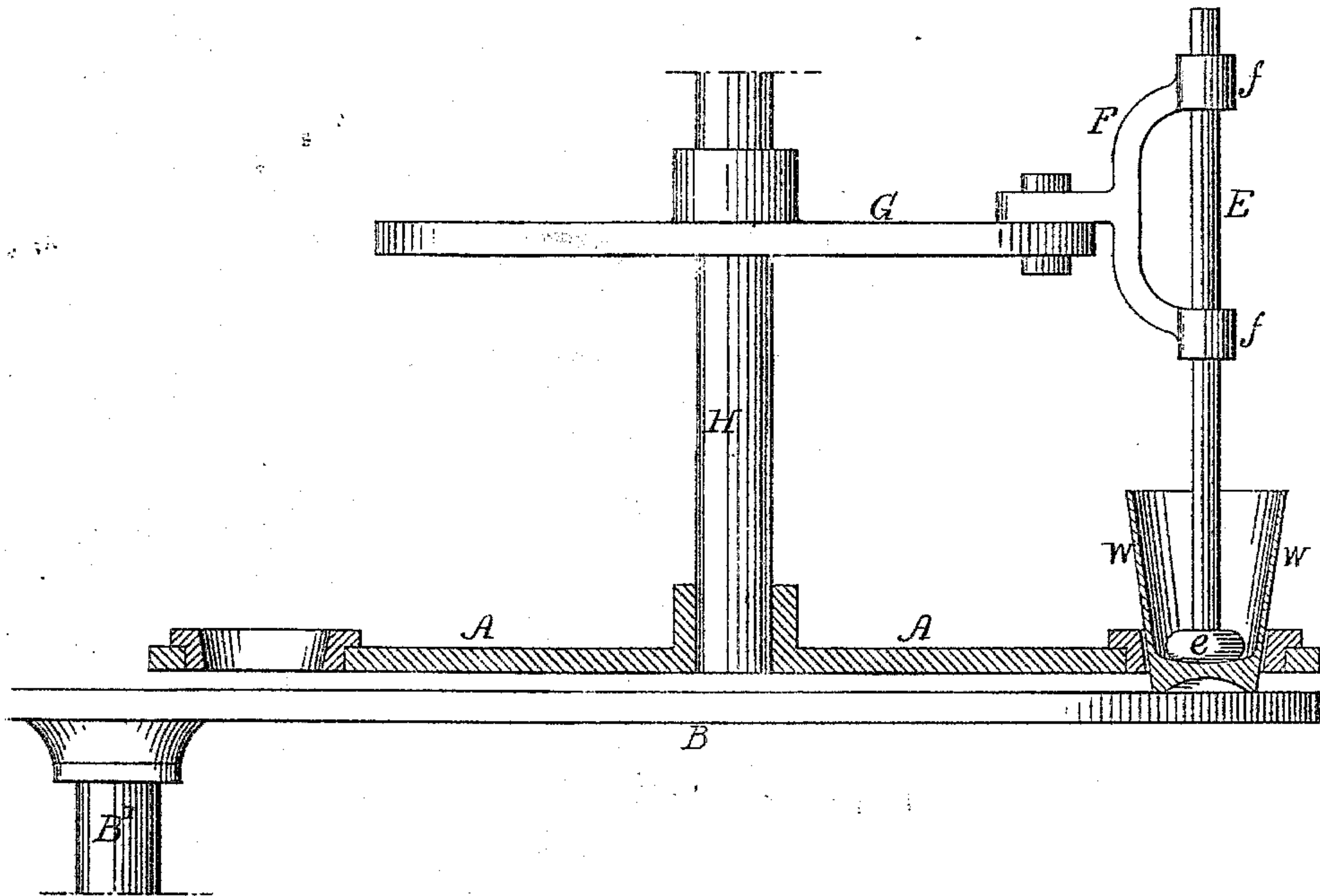
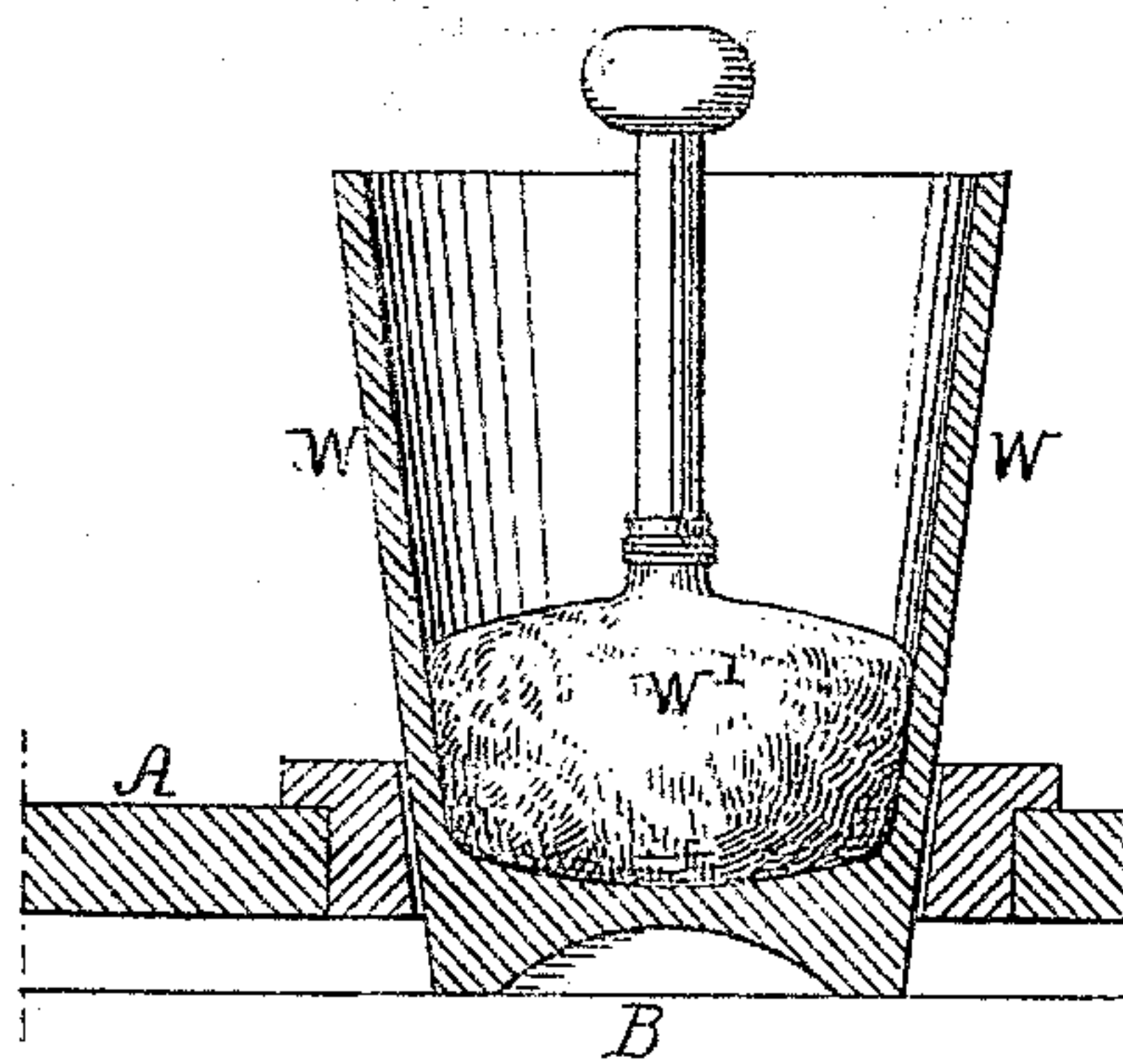


FIG. 2



WITNESSES:

Harry Drury
Alexander Barkoff

INVENTOR:

Orlando W. Minard
By his Attys:
Howson and Jones

UNITED STATES PATENT OFFICE.

ORLANDO W. MINARD, OF JOHNSVILLE, PENNSYLVANIA.

GRINDING THE BASES OF GLASS TUMBLERS.

SPECIFICATION forming part of Letters Patent No. 280,941, dated July 10, 1883.

Application filed September 25, 1882. (No model.)

To all whom it may concern:

Be it known that I, ORLANDO W. MINARD, a citizen of the United States, and a resident of Johnsville, Bucks county, Pennsylvania, have invented an Improvement in Grinding the Bases of Glass Tumblers, of which the following is a specification.

My invention relates to an improvement in finishing the bases of glass tumblers, the object of my invention being to insure a uniform pressure of all parts of the base of the tumbler upon the grinding-disk.

In the accompanying drawings, Figure 1 represents part of a machine by which I prefer to carry my invention into effect, and Fig. 2 a view showing the simplest way in which the invention may be carried out.

I prefer to use a machine substantially like that in common use for grinding the mouths of fruit-jars and other glass vessels. A portion of such a machine, with appliances for conducting the process which constitutes my invention, is illustrated in Fig. 1, where B represents part of a rapidly-revolving grinding-disk secured to a vertical shaft, B', A being the carrier, secured to the slowly-revolving vertical shaft H, to which is also secured a plate, G, the carrier A having a number of openings for the reception of the tumblers the bases of which have to be ground. I secure to the plate G a series of guiding-brackets, F, one for each opening in the carrier, and to each bracket I fit a sliding spindle, E, each spindle being situated centrally in respect to one of the openings in the carrier. Each spindle carries a suitable weight, and has an enlargement, e, preferably clothed with leather or tipped with rubber, said enlargement resting on the bottom of the tumbler W, in the inside of the same. A spiral spring may surround the spindle and press the tumbler against the grinding-surface; but this is not essential. When a tumbler has been sufficiently ground at the base, it may be easily removed from the

carrier, after first raising the spindle, to make way for the introduction of an unground tumbler into the opening of the said carrier from which the ground tumbler was removed.

I am aware that in machines for grinding the bases of glass tumblers it has been proposed to use a spindle having a chuck adapted to the interior of the tumbler, and serving to rotate the same and press the base against a grinding wheel or disk; but in such cases the chuck must be adapted to the sides as well as the bottom of the tumbler, and the parallelism of said tumbler with the spindle depends upon the truth of its sides, so that any defect of the tumbler in this respect will result in defective grinding of the base, whereas when the tumbler is pressed against the grinding-disk by means of a weight having an effective bearing on the bottom only of the tumbler there must be a uniform pressure of all parts of the base against the grinding-disk, and the base being true as delivered by the mold, there must necessarily be a true grinding of the base. The pressure may, if desired, be imparted by a weight—such as shown in Fig. 2, in which W' represents a small bag of shot resting on the bottom of the tumbler—such a weight being loose and self-leveling, so that the sides of the tumbler have no influence on its action.

I claim as my invention—

The mode herein described of finishing the bases of glass tumblers, said mode consisting in forcing the base of the tumbler against the grinding-surface by means of a weight bearing on the bottom of the tumbler and uninfluenced in its action by the sides of the same, as set forth.

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

ORLANDO W. MINARD.

Witnesses:

HARRY DRURY,
HARRY SMITH.