F. G. FARNHAM.

DEVICE FOR MANIPULATING CUT GLASS ARTICLES.

APPLICATION FILED JAN. 23, 1906. RENEWED MAR. 31, 1908.

903,071. **Patented Nov. 3, 1908.**

2 SHEETS—SHEET 1.

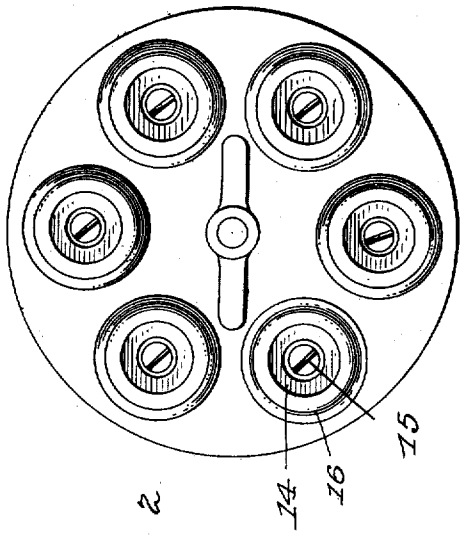

Fig. 2

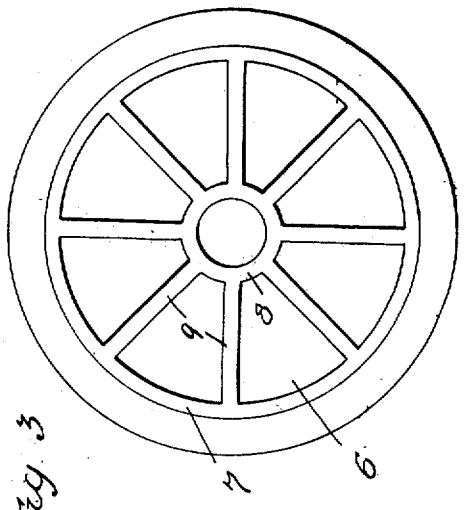

Fig. 3

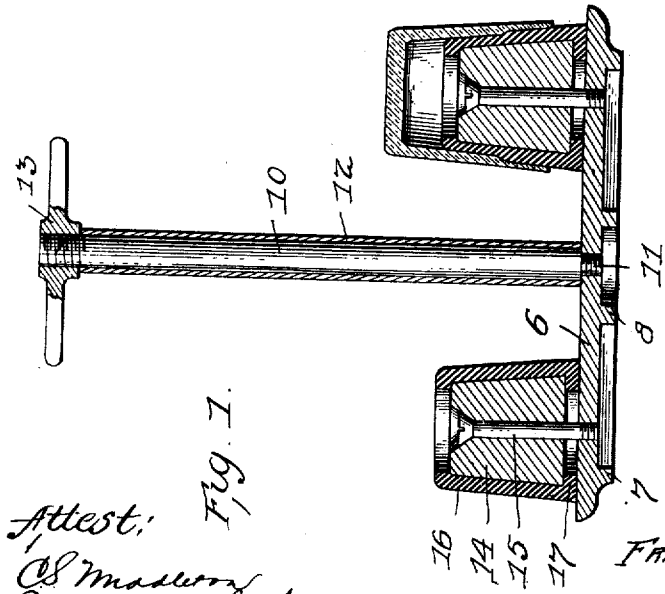

Fig. 1

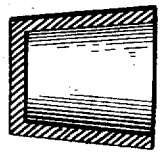

Fig. 4.

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2 SHEETS—SHEET 2.

Fig. 5.

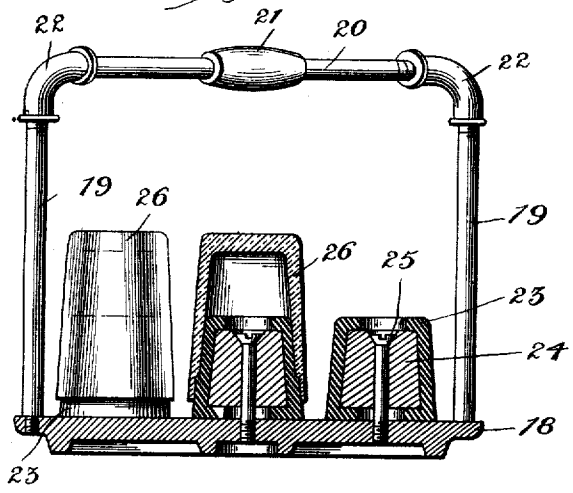


Fig. 8.

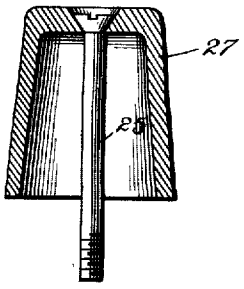


Fig. 6.

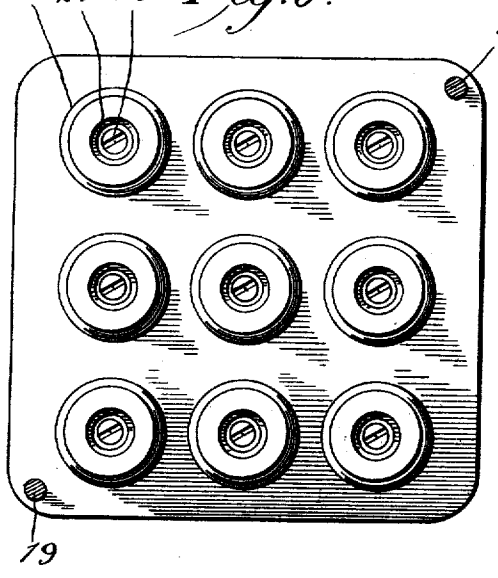
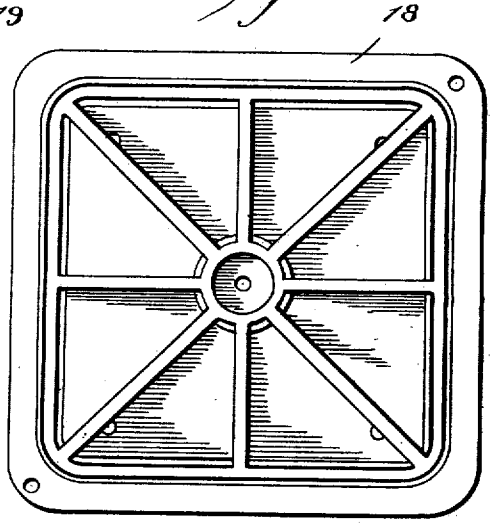


Fig. 7.



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UNITED STATES PATENT OFFICE.

FRANK GUNN FARNHAM, OF HONESDALE, PENNSYLVANIA.

DEVICE FOR MANIPULATING CUT-GLASS ARTICLES.

No. 903,071. Specification of Letters Patent. Patented Nov. 3, 1908.

Application filed January 23, 1906, Serial No. 297,504. Renewed March 31, 1908. Serial No. 424,422.

To all whom it may concern:

Be it known that I, FRANK GUNN FARNHAM, a citizen of the United States, residing at Honesdale, Pennsylvania, have invented certain new and useful Improvements in Devices for Manipulating Cut-Glass Articles, of which the following is a specification.

My present invention relates to improved means or apparatus for handling or manipulating cut glass articles during the finishing process when it is desired to subject the cut surfaces to the action of an acid bath.

In applications filed by me in the United States Patent Office on the 3rd day of Feb. and the 1st day of May 1905, and numbered respectively 244047 and 258273, I have disclosed devices of this character in which the glass articles are supported by carriers provided with rubber plugs which project within and close the mouths of the articles to keep the acid from contact with the interior thereof. In the one case the articles are held pressed against the plugs by pneumatic means and in the other by a follower.

There are certain classes of smaller articles which have almost vertical walls with a slight flare at the mouth, such for instance as wine glasses, tumblers of different size and the like. Articles of this nature may be pressed sufficiently tight upon the rubber plugs of the carriers to enable them to be held thereon by friction without other holding means.

The object of the present invention, therefore, is to provide an extremely simple, and economical device for dipping articles of this nature.

The invention, therefore, includes a support or carrier and a plurality of interchangeable rubber plugs detachably connected to said carrier.

The invention further includes the various features of construction hereinafter described and particularly pointed out in the appended claims.

The invention is illustrated in the accompanying drawings, in which,—

Figure 1 is a central vertical section. Fig. 2 a plan view. Fig. 3 a bottom view of the base. Fig. 4 a detail view. Fig. 5 is a modification. Fig. 6 a plan view thereof. Fig. 7 a bottom view of the base. Fig. 8 a detail view.

Referring by reference characters to these figures, 6 designates a carrier or bed plate of suitable acid resisting material, preferably of hard rubber, the bottom of which is strengthened by the annular ribs 7 and 8 and radial ribs 9. A standard 10 projects upwardly from the center of the base and this may be in the form of a metal rod having its lower end screwed into a threaded opening in the base plate as shown at 11. It is surrounded by a tubular rubber sleeve 12, serving to protect it from the acid, the sleeve 12 being held in place by the handle 13 threaded upon the upper end of the rod serving as a lifting device. Any number of plugs may be used according to the shape and size of the device and the number of articles it is required to dip at one time. Each of these plugs comprises a core 14 held to the base by a screw 15 passing through the center of same and engaging a threaded opening in the base plate. Over this core is stretched a soft rubber cover 16 which is molded to the desired shape. While the friction of the rubber upon the core will ordinarily be sufficient to hold it against displacement, I may provide the cover 16 with an inwardly extending flange 17 clamped between the base of the core and bed plate. The core 14 I prefer to make from wood on account of its light weight and cheap construction, but other material may be substituted, for instance a core cast from aluminum and made hollow as shown in Fig. 4. When an article having a slightly flaring mouth is pressed tightly upon one of these plugs the soft rubber cover adapts itself to any slight inequalities in the surface of the glass and effectually excludes the acid from entering the interior of the article while the frictional contact will prevent the article from slipping off the plug when it is being submerged in the acid bath. When tumblers or like articles of different size or slightly different shape are to be dipped, the plugs can be readily removed and new plugs substituted.

While in Fig. 1 I have shown a device with a standard and handle placed in the center for handling six tumblers, and while it will handle six smaller pieces and more, larger pieces could not be dipped on account of the standard 10 interfering with them. I have shown in Fig. 5 a modification of the device wherewith without materially increasing either the size or cost, nine similar sized articles may be dipped. The bed 18 in

this case I make practically square with rounded corners and instead of distributing the plugs in a circle as in the other circular shape, I place them in rows of three each or nine in all. I employ two standards 19—19 instead of one, which are screwed into the flange of the base plate at two corners, leaving the whole central space open. A cross bar 20 with a handle 21 is connected to the two standards by means of the elbow unions 22 into which the three pieces are threaded. This acts as a handle to lift and manipulate the device. I have shown a plug 24 with its rubber cover 23 secured in position by screw 25 on the right ready to receive a tumbler and in the middle a sectional elevation of the tumbler 26 and plug and on the left the same as it will appear when ready for dipping. A plan view of the upper face of the bed is shown in Fig. 6 with nine plugs as they could be arranged, and in Fig. 7 I show a bottom view of the device, the ribs preventing undue wear to the bed plate without materially adding either to its cost or weight.

Having thus described my invention what I claim is:—

1. A portable device for dipping glass articles, having open mouths, in an acid bath comprising a supporting member having a suitable handle and a plurality of tapered plugs carried by said supporting member and having elastic surfaces, substantially as described.

2. A portable device for dipping glass articles having open mouths in an acid bath comprising a supporting member having a suitable handle, and removable and interchangeable tapered plugs with means for detachably connecting them to the supporting plate, substantially as described.

3. A device for dipping cut glass articles in an acid bath comprising a supporting plate, a suitable handle therefor, a plurality of plugs, means for detachably connecting the plugs to the plate and rubber covers for said plugs, substantially as described.

4. A device for dipping cut glass articles in an acid bath comprising a supporting plate, a plurality of removable and interchangeable plugs, screws passing through the plugs and securing them to the supporting plate, and a rubber cover for each plug having an inwardly extending flange to be clamped between the plug and plate and an opening in the upper end to permit access to the screw, substantially as described.

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

FRANK GUNN FARNHAM.

Witnesses:
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