

975,408.

Patented Nov. 15, 1910.

FIG.1.

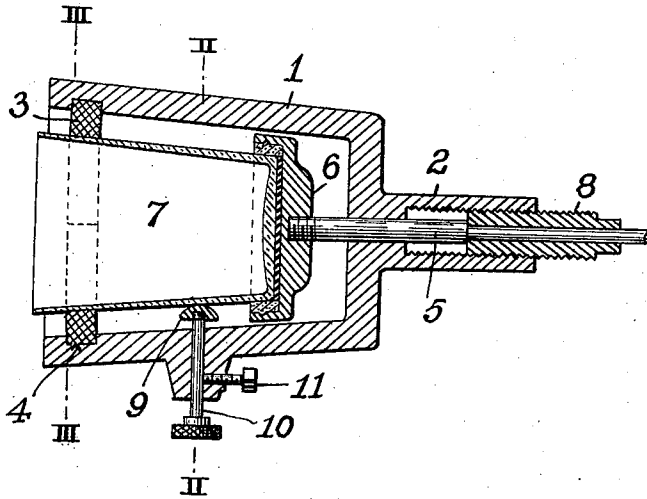


FIG.3.

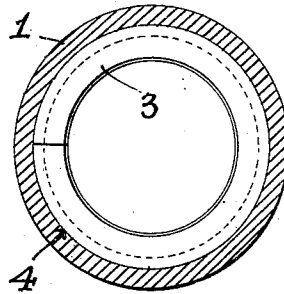
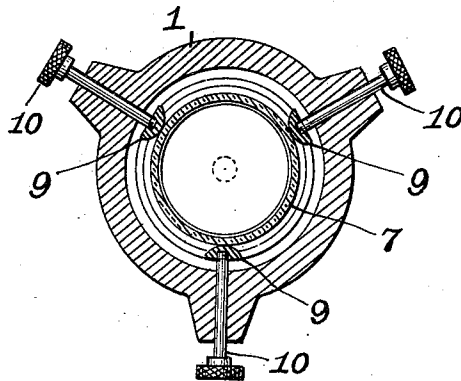


FIG.2.



WITNESSES:

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GRINDING-CHUCK.

975,408.

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Application filed April 6, 1910. Serial No. 553,739.

To all whom it may concern:

Be it known that I, GEORGE W. FRY, residing at Morgantown, in the county of Monongalia and State of West Virginia, a citizen of the United States, have invented or discovered certain new and useful improvements in Grinding-Chucks, of which improvements the following is a specification.

Two kinds of chucks or holders are in general use for grinding tumblers etc. One consists of a cup lined with cork or other suitable material adapted to form a cushion and to frictionally engage the exterior of the article. The other kind consists of movable jaws for gripping the glass. The first kind are objectionable as the lining rapidly deteriorates and must be renewed and further a separate chuck is required for every size and shape of tumbler manufactured. It has been attempted to overcome the latter difficulty by employing comparatively narrow bands of suitable material to form the bearing surfaces in the cup shaped chuck, the thickness of band varying with the diametric dimensions of the tumblers. This expedient serves to reduce somewhat the number of chucks, but does not afford sufficient support to prevent vibrations of the article during the grinding, or to center the article in the chuck. The chucks having movable gripping jaws are objectionable as when working rapidly or when the tumblers are not carefully placed in position, a large number are broken.

The invention described herein has for its object a construction wherein the advantages of the cup shaped chucks are obtained while greatly increasing the range of sizes of tumblers which can be held in such a chuck and insuring the centering of the article therein. The invention is hereinafter more fully described and claimed.

In the accompanying drawing forming a part of this specification Figure 1 is a sectional elevation showing an improved chuck and Figs. 2 and 3 are transverse sections on planes indicated respectively by the lines 11-11 and 111-111 Fig. 1.

In the practice of my invention I employ a cup-shaped member 1, provided at its closed end with a stud 2 whereby it may be attached to a support by any suitable means. This cup is made of such internal length and diameter, as to be capable of use in holding articles ranging largely in

length and diameter. Adjacent to its open end, the cup is provided with an internal groove 3 for the reception of a strip 4 of rubber or other suitable resilient material. This strip forms a yielding support for the article adjacent to the part operated on by the grinding tool and also a frictional grip for engagement with the article.

The inner end of the rod 5 which passes through the stud or stem 2 and has heretofore been employed to push the article from the chuck, is provided with means for engaging the rear end of the article to center the same when being placed in position and to prevent any lateral movement thereof. It is preferred to employ a recessed disk 6 for this purpose. The recess is made of an internal diameter preferably greater than the largest tumbler to be held in the chuck and to fill the recess with plaster or other suitable material. When the chuck is to be used, and it is generally though not necessarily, first used with the smallest size of tumbler, a recess is cut in the filling of a diameter approximately equal to that of the bottom of the tumbler. When a larger size of tumbler is to be ground, it is only necessary to suitably enlarge the recess in the filling. It is preferred to employ a cushion in this recess in the form of a disk 7 of rubber or other resilient material. It will be readily understood that by interlocking the rod 5 with the stem or stud or the disk 6 with the cup and employing for the cushion a material adapted to frictionally engage the end of the tumbler, this disk will coöperate with the strip 4 to hold the article as against rotation in the cup. The disk 6 and rod 5 also serve as a stop to limit the movement of the article into the chuck and that without interfering with its use as a pusher to dislodge the article when ground. To this end adjustable means are provided for limiting the inward movement of the disk. A suitable means for that purpose consists of an externally threaded sleeve 8 fitting into a threaded axial opening in the stem. The inner end of this sleeve engages a shoulder on the rod 5, and will prevent any movement of the rod and disk in one direction while permitting of its movement to eject an article. This construction permits of the holding of tumblers varying greatly in length.

As the distance between the front bearing formed by the strip 4 and the rear bearing

formed by the disk may in some instances be considerable, thus permitting of considerable vibration of the article, it is preferred that the article be supported intermediate of such bearings. This intermediate support is preferably formed by buttons 9 formed of rubber or other suitable material and secured to the inner ends of radially arranged rods 10. For the adjustment of these rods to suit different sizes of tumblers, they are movably mounted in openings in the wall of the cup, and held in position by set screws. These intermediate supports serve to guide the article into position in the chuck.

It will be readily understood that to adapt the chuck to a different size of articles, as a larger one, it is only necessary to introduce a thinner strip 4, enlarge the recess in disk 6 and move the buttons inwardly. If the article is longer or shorter than the one previously operated on, the position of the disk 6 in the cup is changed by adjusting the sleeve 8.

I claim herein as my invention.

1. A chuck for tumblers having in combination a cup, a removable frictional member adjacent to its open end adapted to engage the tumbler adjacent to its top and means within the cup for engaging and centering the rear end of the article and holding it as against lateral movement.

2. A chuck for tumblers having in combination, a cup, a removable frictional member adjacent to its open end a recessed disk within the cup for centering the rear end of the tumbler and means for adjusting the disk.

3. A chuck for tumblers having in combination, a cup, a removable frictional member adjacent to its open end variable means within the cup for holding the rear end of the tumbler as against lateral movement and adjustable intermediate supports for the tumbler.

4. A chuck for tumblers having in combination a cup, means adjacent to its open end for frictionally engaging the article, means within the cup for engaging the rear end of the article and means for adjusting such engaging means along the cup.

5. A chuck for tumblers having in combination a cup, removable means adjacent to the open end of the cup for frictionally engaging the article and a disk within the cup and provided with an easily removable material in which to form a recess for the reception of the end of the tumbler.

In testimony whereof, I have hereunto set my hand.

GEORGE W. FRY.

Witnesses:

ALICE A. TRILL,
THOS. J. ELBEL.