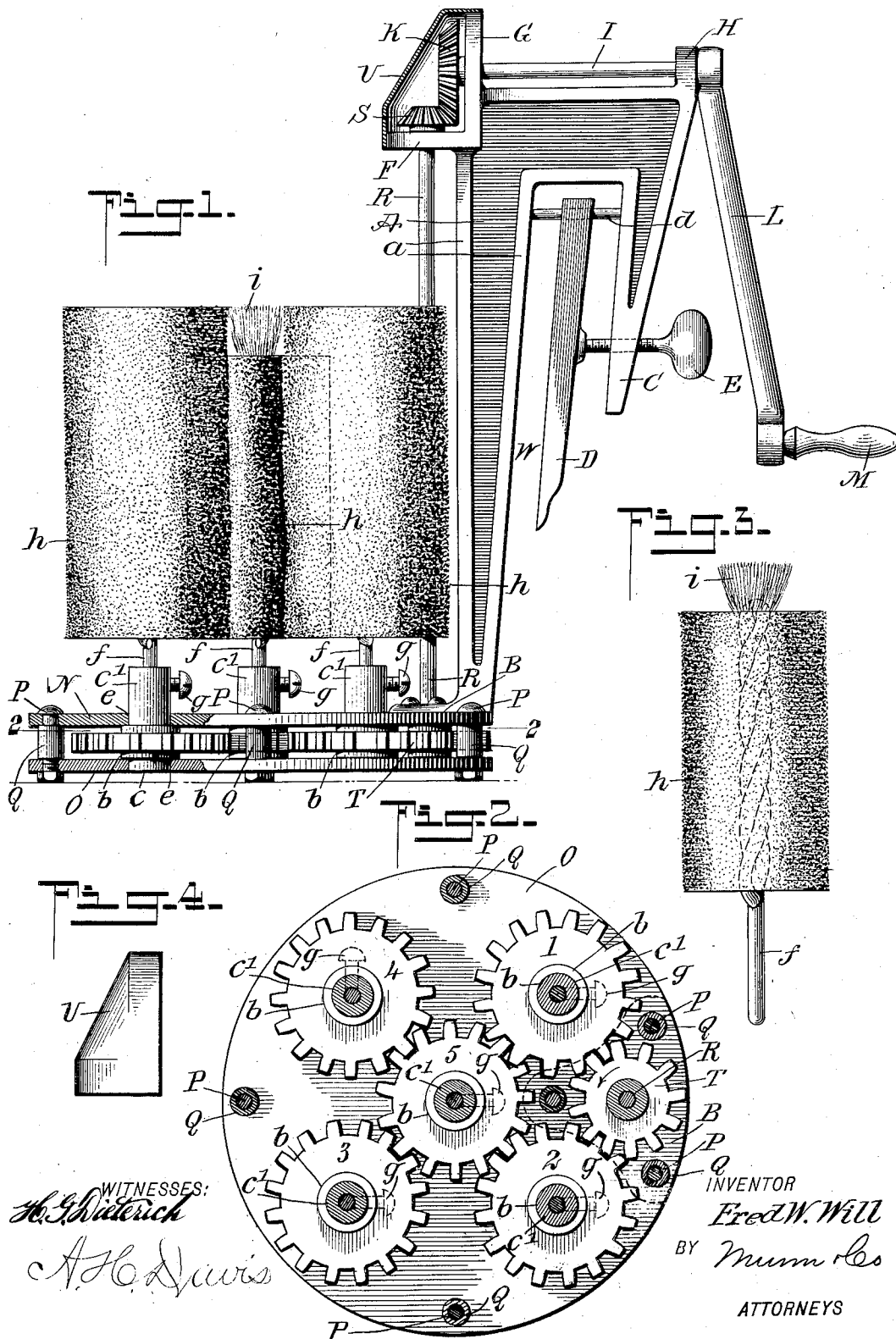


No. 835,925.

PATENTED NOV. 13, 1906.

F. W. WILL.
 ROTARY TUMBLER WASHER.
 APPLICATION FILED MAR. 7, 1906.



WITNESSES:
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FRED W. WILL, OF AURORA, OREGON.

ROTARY TUMBLER-WASHER.

No. 835,925.

Specification of Letters Patent.

Patented Nov. 13, 1906.

Application filed March 7, 1906. Serial No. 304,690.

To all whom it may concern:

Be it known that I, FRED W. WILL, a citizen of the United States, and a resident of Aurora, in the county of Marion and State of Oregon, have invented a new and Improved Rotary Tumbler-Washer, of which the following is a full, clear, and exact description.

My invention relates to a device for cleaning tumblers, glasses, mugs, bottles, and articles of a similar nature.

The object of my invention is to provide a device of this character at a small cost which will be simple and durable in construction and which is adapted to rapidly and thoroughly cleanse both the inside and outside simultaneously of tumblers, glasses, mugs, bottles, &c.

A further object of my invention is to provide a device of this character which is light and may be easily but securely applied to any tub, pail, or sink and which comprises a convenient means by which it may be operated.

A further object of my invention is to provide a simple but efficient mechanism which will automatically adapt itself to the various sizes and shapes of the articles to be washed without any adjustment whatever.

With the above-mentioned and other objects in view I have shown in the accompanying drawings the construction of a device embodying the principles of my invention, in which drawings similar characters of reference indicate corresponding parts in all the views.

Figure 1 is an elevation of a form of my invention with certain parts in section, showing the rotary brushes mounted in place and ready for operation. Fig. 2 is a horizontal section taken on the line 2 2 of Fig. 1, showing the relative position of the several operating gear-wheels and one of the bearing-disks therefor. Fig. 3 is an elevation of the central rotary brush, showing by dotted lines a convenient means of securing the bristles thereof to the spindle; and Fig. 4 is a perspective view of the casing for the bevel-gear mechanism.

Referring in detail to the drawings, A represents a rigid supporting-frame, which may be of cast metal, such as iron, and I have found it advisable, although not necessary, to form this frame with a strengthening beading or rim *a*, so that the frame has a substantially I-bar cross-sectional form, and strength and lightness is thereby afforded.

The frame A has a foot B and also a de-

pending arm C, which is adapted to fit over the edge of any pail, tub, or sink when the washer is lowered into the same, and this arm C forms a convenient means to support a clamping member D, which is loosely mounted on a pin *d* and which may be moved into and out of clamping position by a thumb-screw E; but this clamp is merely illustrated as one attaching means, as obviously any other well-known clamp could be substituted, if desired.

Conveniently secured at one corner of the frame A are two bearing-plates F and G, which are here shown as being at substantially right angles to each other, and at the opposite upper edge is a bearing-shoulder H, which may be an integral extension of the frame A. Journaled in the plate G and shoulder H is a shaft I, to one end of which is secured a bevel-gear K and to the opposite end of which is secured a crank L, having an operating-handle M secured to the end thereof. It is to be understood, of course, that the illustrated manual operating means is merely shown by way of example, as obviously other well-known means may be employed to impart a rotary motion to the shaft I.

Rigidly mounted on the foot B is a metallic disk N, the diameter of which is not too great to prevent it from being easily lowered into a washing pail, tub, or other similar receptacle, and secured rigidly to the disk N is a similar disk O of substantially the same diameter by a series of appropriate bolts P; and the two disks N and O are spaced apart an appropriate distance and in parallel planes by sleeves or washers Q.

Journaled in the plate F and in the disks N and O is a rotary shaft R, to the upper end of which is keyed a bevel-gear S, which meshes with the gear K, and at the lower end of the shaft R is keyed a spur-pinion T, which pinion rotates freely between the spaced disks N and O. Mounted to freely rotate between the disks also is a series of gear-wheels 1, 2, 3, 4, and 5. (See Fig. 2.) The pinion T is in mesh with both the gear-wheels 1 and 2, and these two last-mentioned wheels are both in mesh with the central gear 5, which in turn is in mesh with both gear-wheels 3 and 4. The gears 1, 2, 3, 4, and 5 are each provided, preferably, with a central hub or shoulder *b* and with reduced bearings *c* and *c'*, which rotate freely in appropriate apertures *e* in the disks N and O, as clearly shown in section at

the left of Fig. 1. The parts *c'* extend upwardly a short distance above the disk *N* and are centrally bored to receive the rotary brush-spindles *f*, which are easily removed therefrom and may be secured therein by suitable binding-screws *g*. The rotary brushes are made of suitable material, such as bristles or fibrous material *h*, which is held in position by twisting the flexible spindle *f*, as well-known in the art and shown by dotted lines in Fig. 3. When the device is used for washing tumblers, mugs, and the like, the central brush is preferably a little shorter than the others and may be provided with additional bristles *i* at the free end to more effectually clean the inner bottom of the tumbler or other similar article which is placed thereover. Such a central brush is shown separately in Fig. 3.

The bevel-gears *K* and *S* may be protected by a metallic casing *U*, (shown in elevation in Fig. 4 and in section in Fig. 1,) thereby protecting the operator from danger of any injury therefrom and preventing the bevel-gears from being interfered with. The metallic parts of my washer are preferably made of a strong light material, such as iron, and may be galvanized to prevent any detrimental action of the cleansing liquid and atmosphere.

From the foregoing description the operation of my device will be readily understood. The washer may be lowered into a pail or other receptacle containing a cleansing fluid, such as water and soap-suds, with the rim or edge of the receptacle entering the space *W* between the frame *A* and the clamp *D*, and then clamped by the screw *E*, so that the brushes will be submerged to the desired degree in the cleansing fluid. The tumbler, mug, or bottle is now slipped over the central brush *I*, while the crank *L* is turned by the handle *M*, which rotates the shaft *I* and bevel-gears *K* and *S*, thereby imparting a rapid rotation to the shaft *R* and pinion *T*. The rotation of this pinion is imparted to the gear-wheels 1, 2, 3, 4, and 5, which revolve their respective spindles *f*, carrying the rotary brushes, and both the inside and outside of the tumbler, mug, or bottle is cleaned simultaneously.

It is to be noticed that the brushes which rotate around the outer surface of the article being washed and which might contact with the handle of a mug, for instance, or any extension from a tumbler or bottle will not injure

the same and also that each brush is rotated by a resilient spindle *f*, so that the brushes will adapt themselves automatically to the various sizes of the articles washed without any adjustment whatever. In case a mug or other article having a handle or irregular extension is being washed the handle or extension passes in between two adjacent brushes and does not interfere in the least with the operation of the device.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A tumbler-washer, comprising a frame having a depending arm at its upper end, and a foot at its lower end, spaced disks connected with the foot, said disks having alined openings, hubs journaled in the openings and each provided with a gear, the gears meshing with each other, a shaft journaled at one end in the frame and having its other end secured to one of the hubs, flexible shafts provided with brushes secured to the other hubs, and means for rotating the first-named shaft.

2. A tumbler-washer, comprising a frame having a depending arm at its upper end and a foot at its lower end, spaced disks connected with the foot, said disks having alined openings, hubs journaled in the openings and each provided with a gear, the gears meshing with each other, a vertical shaft journaled at one end in the frame and having its other end secured to one of the hubs, flexible shafts provided with brushes secured to the other hubs, a horizontal shaft journaled on the frame and provided with a handle whereby to rotate the same, and a connection between the vertical and the horizontal shafts.

3. A tumbler-washer, comprising a frame having a foot at its lower end, spaced disks secured to the foot, said disks having alined openings, hubs journaled in the openings and each provided with a gear, said gears meshing with each other, a shaft journaled at one end in the frame and having its other end secured to one of the hubs, flexible shafts provided with brushes adjustably secured to the other hubs, and means for rotating the first-named shaft.

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

FRED W. WILL.

Witnesses:

HENRY A. SNYDER,
MABEL KRAUSE.