Sept. 9, 1924. 1,507,971

L. LOMP

BOTTLE WASHER

Filed Aug. 20, 1923

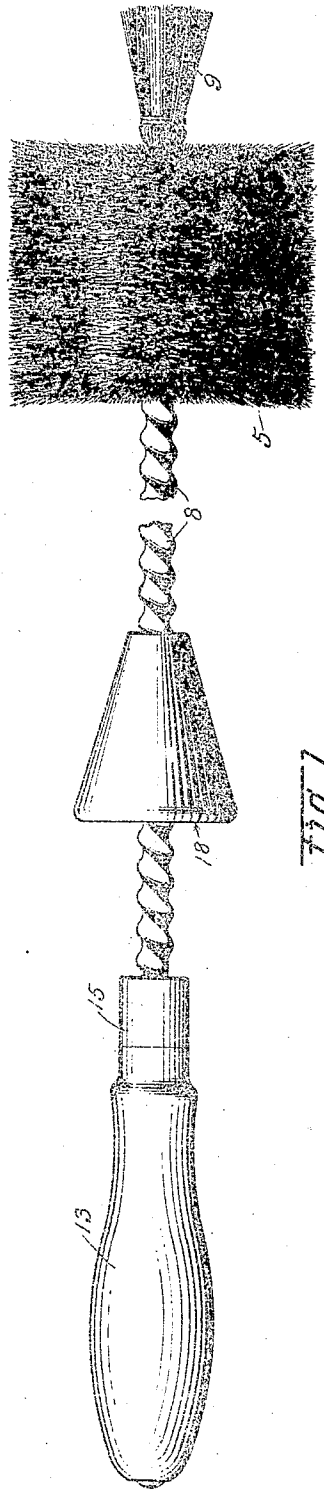


Fig. 1.

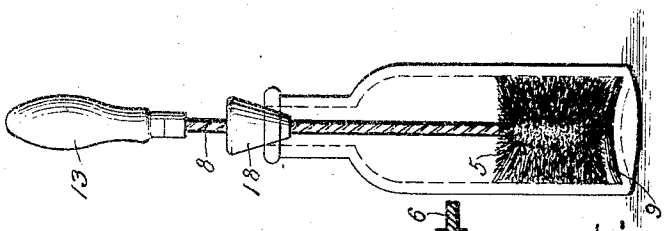


Fig. 5.

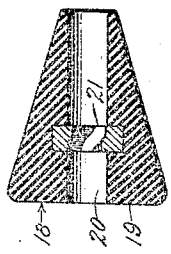


Fig. 8.

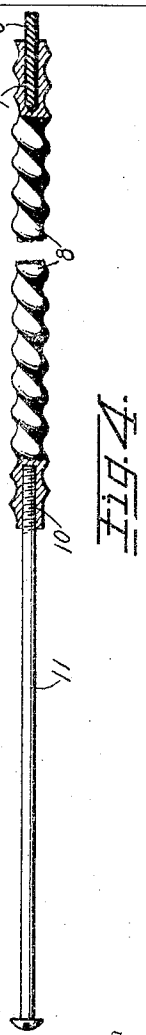


Fig. 4.

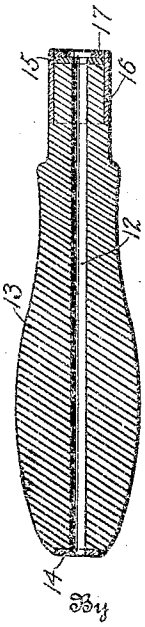


Fig. 9.

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Patented Sept. 9, 1924. 1,507,971

UNITED STATES PATENT OFFICE.

LEWIS LOMP, OF BALTIMORE, MARYLAND.

BOTTLE WASHER.

Application filed August 20, 1923. Serial No. 658,385.

To all whom it may concern:

Be it known that I, LEWIS LOMP, a citizen of the United States, residing at Baltimore city, in the State of Maryland, have invented certain new and useful Improvements in Bottle Washers, of which the following is a specification.

This invention relates to rotary brushes, and more specifically, to an improved bottle washer.

One object of this invention is to provide an improved, yet exceedingly simple, comparatively inexpensive, practical and thoroughly efficient and convenient bottle washer which is applicable in washing bottles of practically all sizes and shapes within certain limits.

A further object is to provide a bottle-washer which closes the mouth of the bottle while operating to wash the bottle, and whose bottle-closer or stopper also serves as a practical and convenient means for holding the bottle steady on a table or other support while being washed.

A further object is to provide an improved combination of brushes, in combination with the other elements of the invention, for reaching the remote corners and crevices of bottles so as to thoroughly wash them.

Other objects and advantages will be pointed out or implied in the following details of description, in connection with the accompanying drawings in which,—

Fig. 1 is a longitudinal or side elevation of a bottle washer constructed in accordance with this invention, a section of the screw being broken out. Fig. 2 is a longitudinal sectional view of the handle and the adjuncts affixed thereto. Fig. 3 is an axial or central sectional view of the combined stopper, holder and screw-actuator. Fig. 4 is an assembly view of the axle or journal-rod and the screw, parts of the latter being in axial section, and a part being broken out. Fig. 5 is an elevation, on a reduced scale, of the device in a bottle, showing the natural working position of the brushes and other parts.

Referring to these drawings in detail, in which similar reference characters refer to similar parts throughout the several views:

The cylindrical or rotary brush 5 is preferably of the type in which the bristles or fibers are fixed to and extend radially from a twisted wire axis or core 6 (Fig. 4). One end of this axis is soldered or otherwise secured in an axial bore of a screw 8, and to the other end is secured (by any appropriate means) a brush 9 whose bristles or fibers extend substantially axially parallel when not in use, but which are capable of being deflected in the radial or lateral direction, as shown in Fig. 5, when it rests on or is rotated on the bottom of a bottle, so that it reaches the remote corners of the bottle's bottom, and thoroughly cleanses the bottom while the brush 5 cleanses the vertical wall of the bottle.

The other end of the screw 8 is axially bored and internally screw-threaded to mesh with the external threads of a screw or axis 11 which is journalled in an axial bore 12 of a handle 13. This handle is preferably (though not essentially) an ordinary wooden handle, and has a metal washer 14 countersunk in its upper or outer end, and another metal washer at its inner end, shown at 15. These washers are centrally apertured to provide bearings for the adjacent parts of the axle 11. A ferrule 16 surrounds the washer 15, and also surrounds or is integral with a metal washer or plate 17 whose axial aperture or circular bore serves as a bearing for the cylindrical end of the screw 8 that engages with the rod 11.

When all parts are assembled, the parts 5 to 11, inclusive, constitute a unitary member or integral unit, and this unit is rotatable in the handle 13 by means of the member 18, or by cooperation of the members 13 and 18. The member 18 comprises an outer element 19, of relatively soft and elastic material, preferably (but not essentially) of rubber, formed with an axial bore or passage 20, and an inner member or nut 21, preferably (but not essentially) of metal, having its central opening of a shape to conform to the wide-pitch threads of the screw 8, so that an axial movement of the screw relative to the stopper 18, or an axial movement of the stopper relative to the screw, will also cause a rotary movement of the screw and brushes if the stopper is held against rotation; it being understood that the nut 21 is square or non-cylindrical, so it is securely fixed relative to the stopper, or is in fact a part of the stopper or combined stopper and screw-actuator. The exterior of the member 18 is frusto-conical, its base being very considerably larger in diameter than its truncated end, so it will not only fit various diameters of bottle-mouths, but is capable of being turned at dif-

ferent angles to the normal axis of rotation shown in Fig. 5, this feature being especially desirable when washing bottles having an internal diameter greater than that of the brush 5.

In operating the device, the brushes 5 and 9 are forced through the bottle's mouth, and the member 18 is then seated as shown in Fig. 5. One hand of the operator is then used to hold and press down the member 18, and the other hand is used to grasp the handle 13 and move it up and down. This movement causes the brushes to rotate while also moving up and down, thus cleansing all parts of the wall of the bottle. For cleaning the bottom of the bottle, it is preferable to hold the brushes down with the handle 13 while moving the member 18 up and down, thus imparting exclusively rotary motion to the brushes.

The screw here shown at 8 is such as is produced by twisting a square rod, but it is not intended to limit the invention to the specific form of screw. Neither is it intended to limit the invention to the other details here shown, but changes may be made within the scope of the inventive idea as implied and claimed.

What I claim as my invention is:—

1. The bottle washer which includes a screw, a brush on the screw, a handle journalled on the screw and held against longitudinal movement relative to the screw, a nut meshing with the screw and movable along said screw to rotate the screw and brush, and a frusto-conical member of relatively soft and elastic material having an axial passage through which said screw extends, said nut being imbedded within said conical member and secured against rotation relative to the latter, substantially as described, for the purpose specified.

2. In a combined bottle stopper and brush actuator; the combination of an outer part which is soft, elastic, frusto-conical and axially apertured; an inner part which consists of a screw adapted to carry a brush and provided with a handle journalled thereon; and an intermediate part consisting of a relatively hard nut meshing with the screw and imbedded between the upper and lower ends of said outer part; the said screw extending through the axial aperture of the outer part.

In testimony whereof I affix my signature.

LEWIS LOMP.