

No. 781,773.

PATENTED FEB. 7, 1905.

T. E. GOFF.  
BOTTLE NECK CLEANER.  
APPLICATION FILED AUG. 22, 1904.

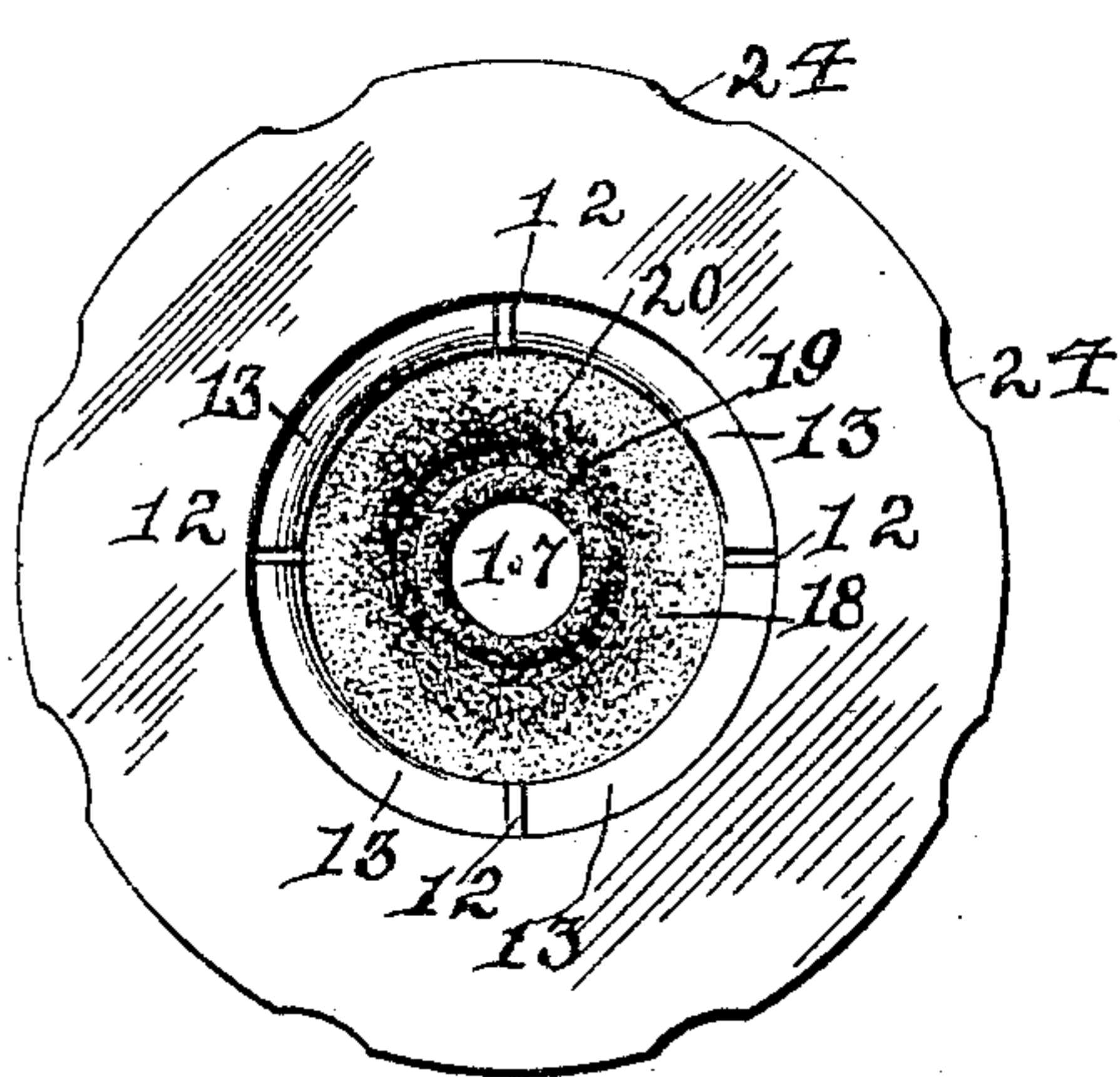
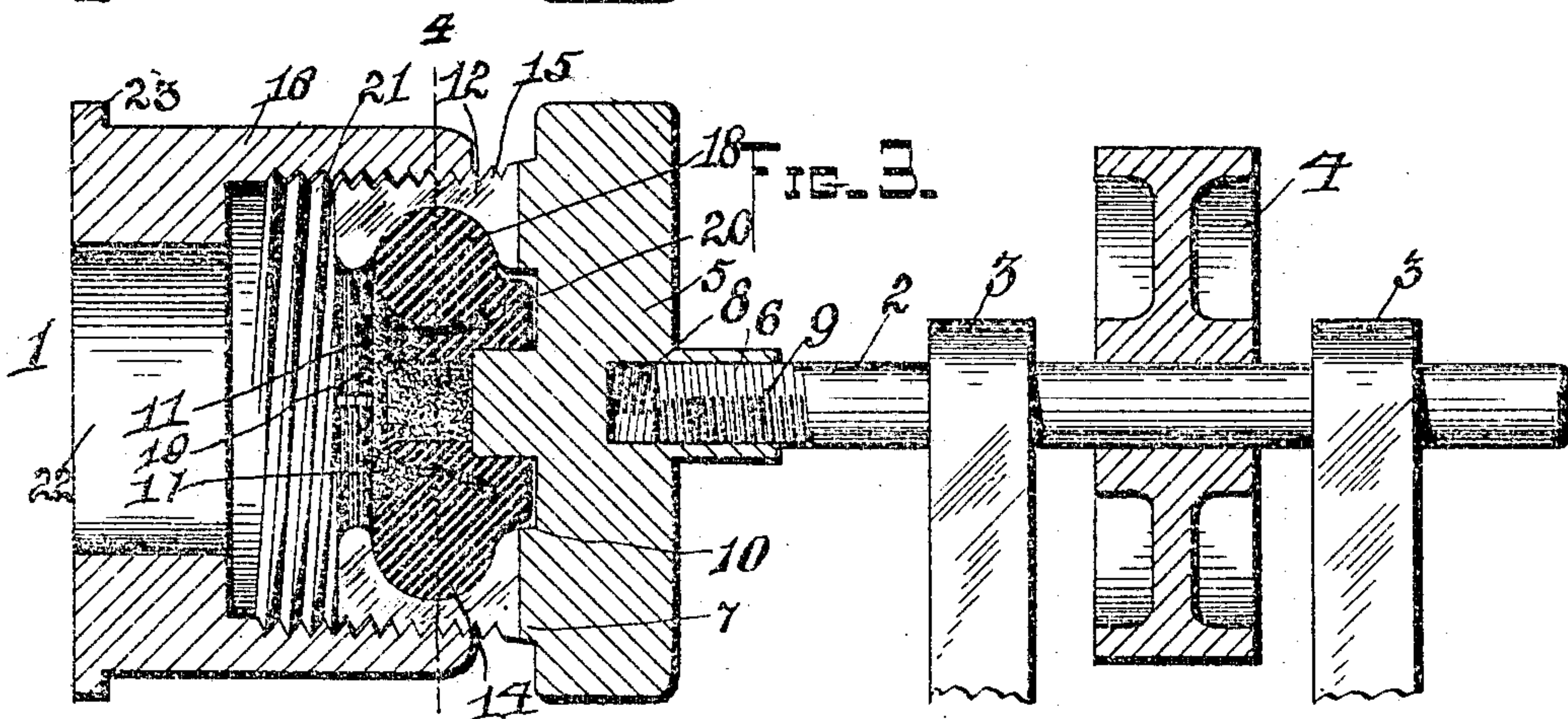
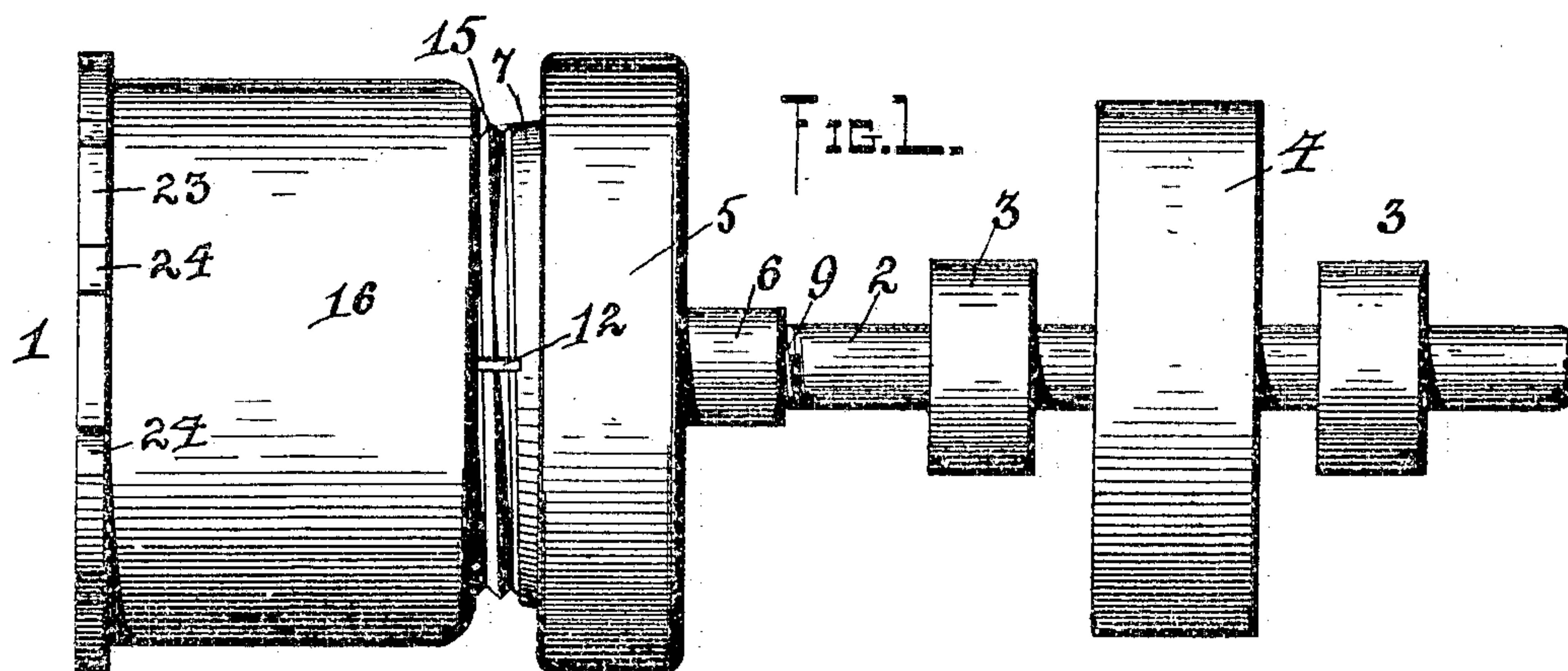


FIG. 2.

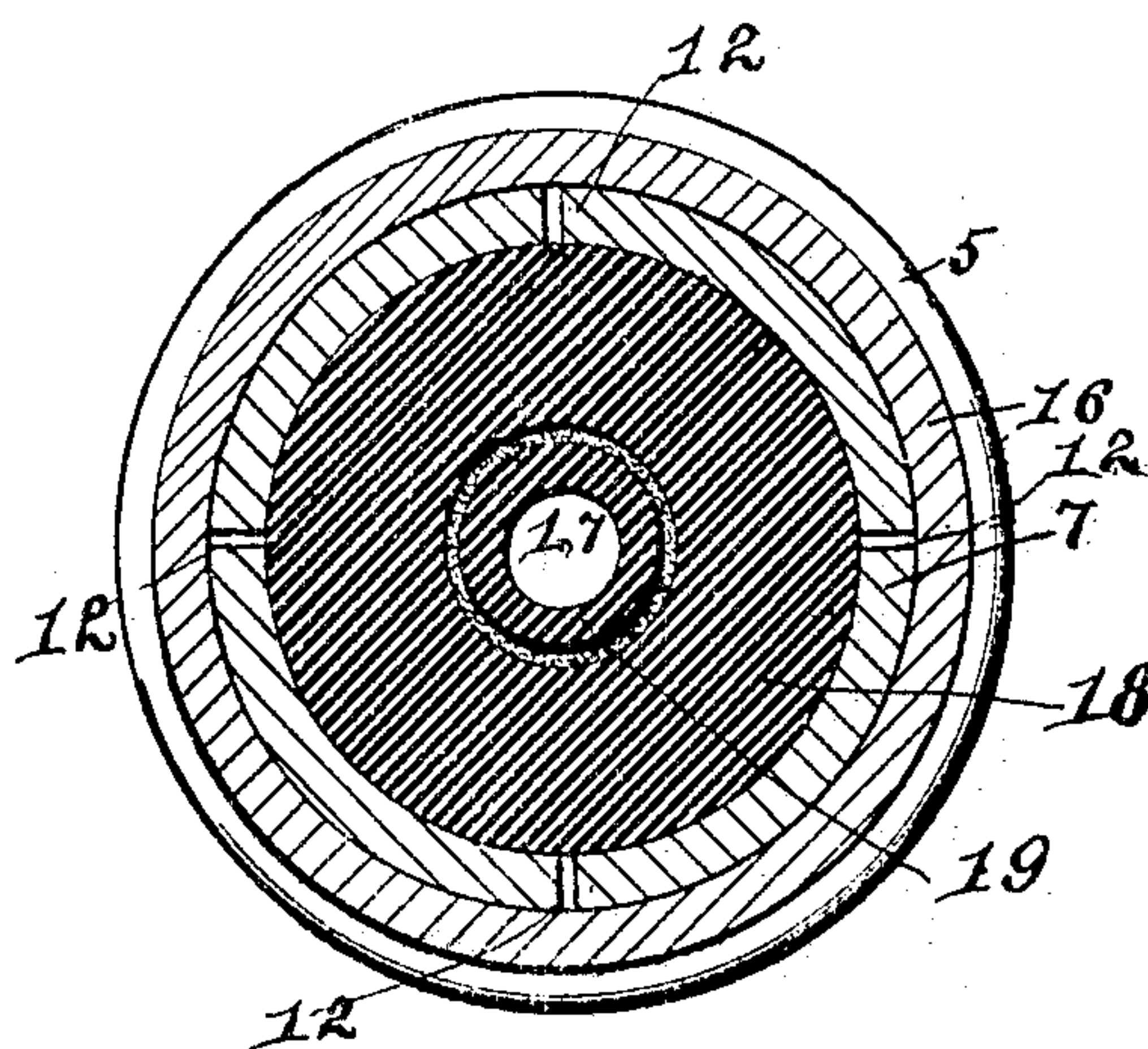


FIG. 4.

Witnesses  
Forrest Smith.  
C. H. Gaisbauer.

Inventor  
Thomas E. Goff  
by A. B. Wilson  
Attorney



# UNITED STATES PATENT OFFICE.

THOMAS EMMETT GOFF, OF MONTEREY, TENNESSEE.

## BOTTLE-NECK CLEANER.

SPECIFICATION forming part of Letters Patent No. 781,773, dated February 7, 1905.

Application filed August 22, 1904. Serial No. 221,731.

*To all whom it may concern:*

Be it known that I, THOMAS EMMETT GOFF, a citizen of the United States, residing at Monterey, in the county of Putnam and State of Tennessee, have invented certain new and useful Improvements in Bottle-Neck Cleaners; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in apparatus for cleaning the inside and outside of the necks or mouths of bottles or the like.

The object of my invention is to provide a simple, comparatively inexpensive, durable, and efficient apparatus of this character which may be used upon bottle-washing machines or as an independent cleaning device.

With the above and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be hereinafter more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a plan view of an apparatus embodying my invention. Fig. 2 is detail end elevation of the same. Fig. 3 is a longitudinal sectional view, and Fig. 4 is a transverse sectional view taken on the line 4-4 of Fig. 3.

Referring to the drawings by numeral, 1 denotes my improved cleaning device or apparatus, which is here shown secured upon a shaft 2, mounted to rotate in bearings in a suitable frame 3 and provided with a band wheel or pulley 4, about which a suitable drive belt or band (not illustrated) may be passed to rotate said device or apparatus 1. The latter may be mounted and rotated in any other suitable manner than the one illustrated, so that it may be used upon a bottle-washing machine or as an independent cleaning apparatus.

The cleaner 1 comprises a rotary head 5 of cylindrical form, provided upon the center of its rear face with a socket connection 6 and upon its front face with a concentrically-disposed reduced frusto-conical-shaped portion

7. The connection 6, by means of which the head is secured upon the end of the shaft 2 or upon a rotary spindle or shaft of a bottle-washing machine, may be of any suitable construction. As shown, it is in the form of a tubular stem, the bore of which is screw-threaded, as at 8, to receive the screw-threaded end 9 of the shaft 2; but, if desired, said bore and the end of said shaft may be smooth and the latter keyed or otherwise secured in the former. The said portion 7 is hollow, being formed with a circular cavity 10, which opens in the front end of said portion, as indicated at 11, and the said portion 7 is also formed with a series of longitudinal slits or slots 12; which separate the outer end of the same into arc-shaped sections 13, which form spring-fingers, as presently explained. Said sections or fingers 13 are undercut, as shown at 14, the sides of the cavity 10 being curved outwardly and longitudinally. The outer surface of the portion 7, which is tapered from its rear or inner end to its front or outer end, is screw-threaded, as at 15, to receive a clamping nut or sleeve 16, which is adapted to clamp said fingers or sections 13 upon a cleaning device proper, 17, seated in the said cavity 10. Said cleaning device 17 may be of any desired form and construction. In the drawings I have illustrated it in the form of a soft-rubber ring 18, surrounding and formed integral with a tubular tapered or frusto-conical-shaped nipple 19, the two being united by a web 20, as shown. If desired, the nipple 19 may be formed separate from the ring 18, with an annular flange, corresponding to the web 20, for the purpose of retaining the nipple in the ring, as will be readily understood. The ring 18 corresponds in shape to the cavity 10 and is inserted in the latter through the opening in the front end of the portion 7; but, if desired, said portion 7 may be made separate from the head 5 and screwed or otherwise removably secured thereto, so that the cleaning ring may be inserted in the cavity 10 through the rear end of the portion 7, as will be readily understood. The overhanging portions of the fingers or sections 13 will hold the



cleaner-ring and nipple in the cavity, and the clamping action of the nut 16 upon the fingers 13, and hence upon the ring, will prevent the latter from rotating in its cavity when a bottle neck or mouth is inserted in the apparatus.

The nut or sleeve 16, as shown, has its bore formed with a tapered screw-threaded portion 21, adapted to engage the similarly-screw-threaded portion 15, and a reduced plain portion 22, which is adapted to serve as a guide and support for the neck of a bottle inserted in the apparatus to be cleaned thereby. The outer surface or periphery of the nut 16 is formed with a flange 23, the edge of which is roughened, as at 24, to facilitate the tightening and loosening of the nut when adjusting the size of cleaner device 17.

The use, operation, and advantages of my invention will be readily understood from the foregoing description, taken in connection with the accompanying drawings. The neck of the bottle or the like to be cleaned is first dipped in a suitable fluid cleaning compound and then inserted through the bore or opening 22 into the cleaner device 17 while the apparatus is being rapidly rotated. The ring 18 will surround the outside of the bottle neck or mouth, and the nipple 19 will enter the inside of the same, as will be readily seen. Owing to the elasticity of the cleaner device, the neck of the bottle will be quickly and thoroughly cleaned.

While I have shown and described the preferred embodiment of my invention, it will be understood that I do not wish to be limited to the precise construction herein set forth, since various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

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

1. A cleaner of the class described comprising a rotary head having a portion formed with an undercut opening or cavity in one end, and longitudinally-disposed slits or slots in said end, a cleaning device in said cavity comprising an elastic ring and a concentrically-disposed nipple, and means for clamping the slitted end of said head upon said cleaning device, substantially as described.

2. A cleaner of the class described comprising a rotary head having a portion formed with an undercut opening or cavity in one end, and a series of longitudinally-disposed slits or slots in said end forming spring-fingers, a cleaning device in said cavity, and a screw-nut or sleeve upon the slitted end of said head for clamping said fingers upon said cleaning device, substantially as described.

3. A cleaner of the class described comprising a body or head formed with an externally-screw-threaded tapered portion having an undercut opening or cavity in its small end and a series of longitudinally-disposed slits in said end, means upon said body or head for attaching the same to a rotary shaft or spindle, a cleaning device in said cavity comprising a soft-rubber ring and a concentrically-disposed tapered nipple, and a clamping-nut upon said screw-threaded end of said body, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

THOMAS EMMETT GOFF.

Witnesses:

J. T. ODIUN,  
NATHAN HENDLEY.