

(No Model.)

F. E. HOWLAND.
BOTTLE CLEANER.

No. 463,835.

Patented Nov. 24, 1891.

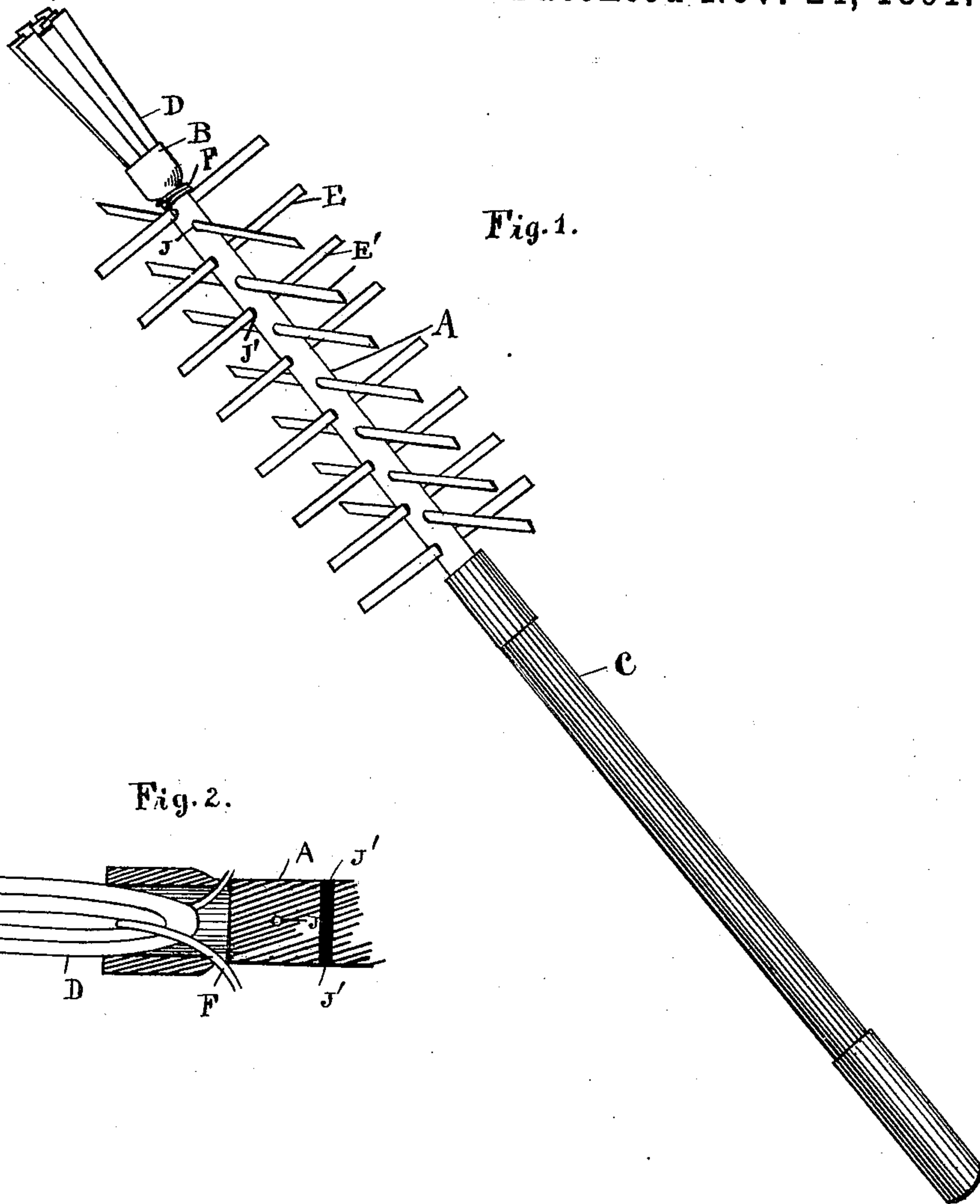


Fig. 1.

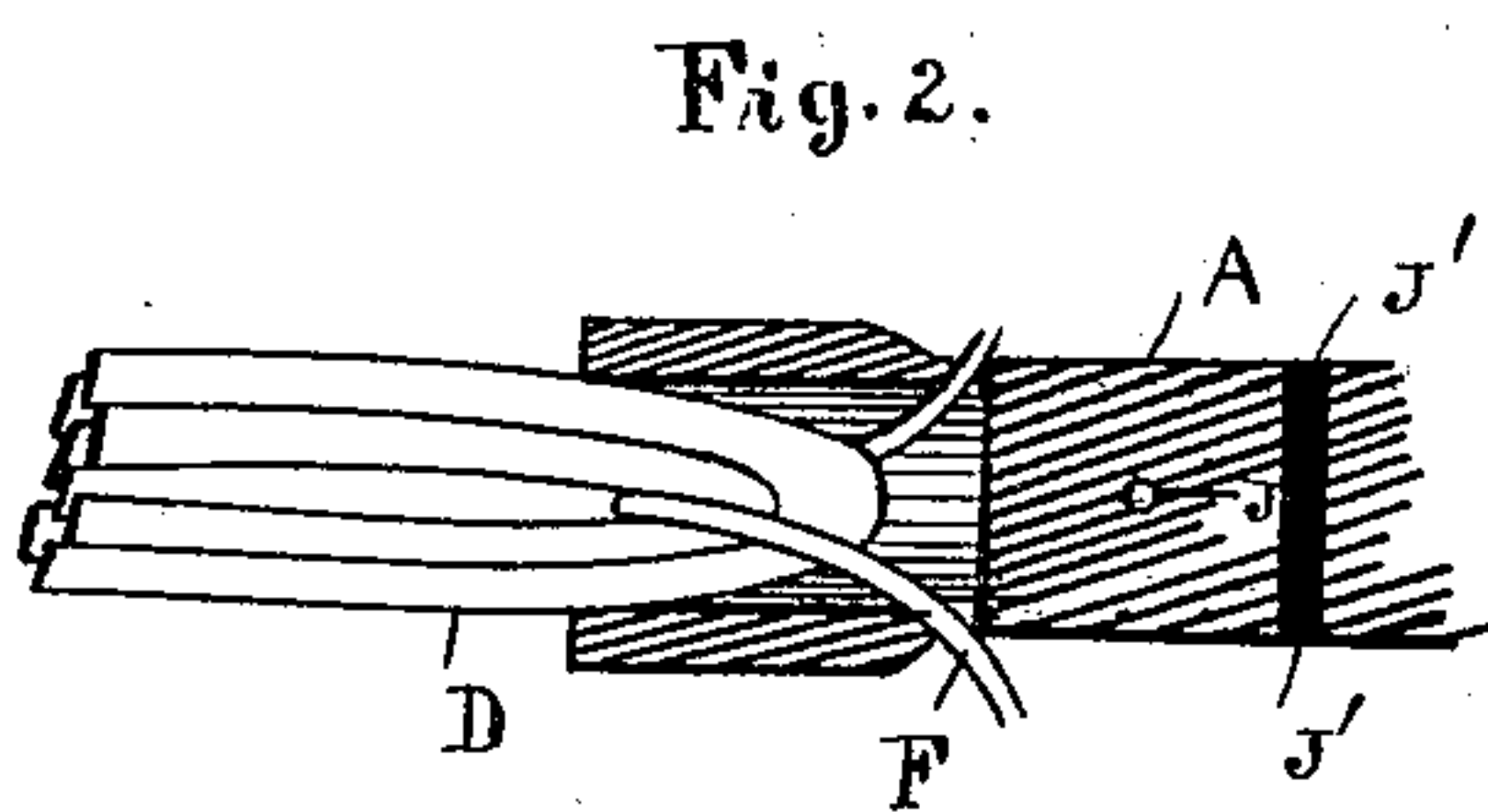


Fig. 2.

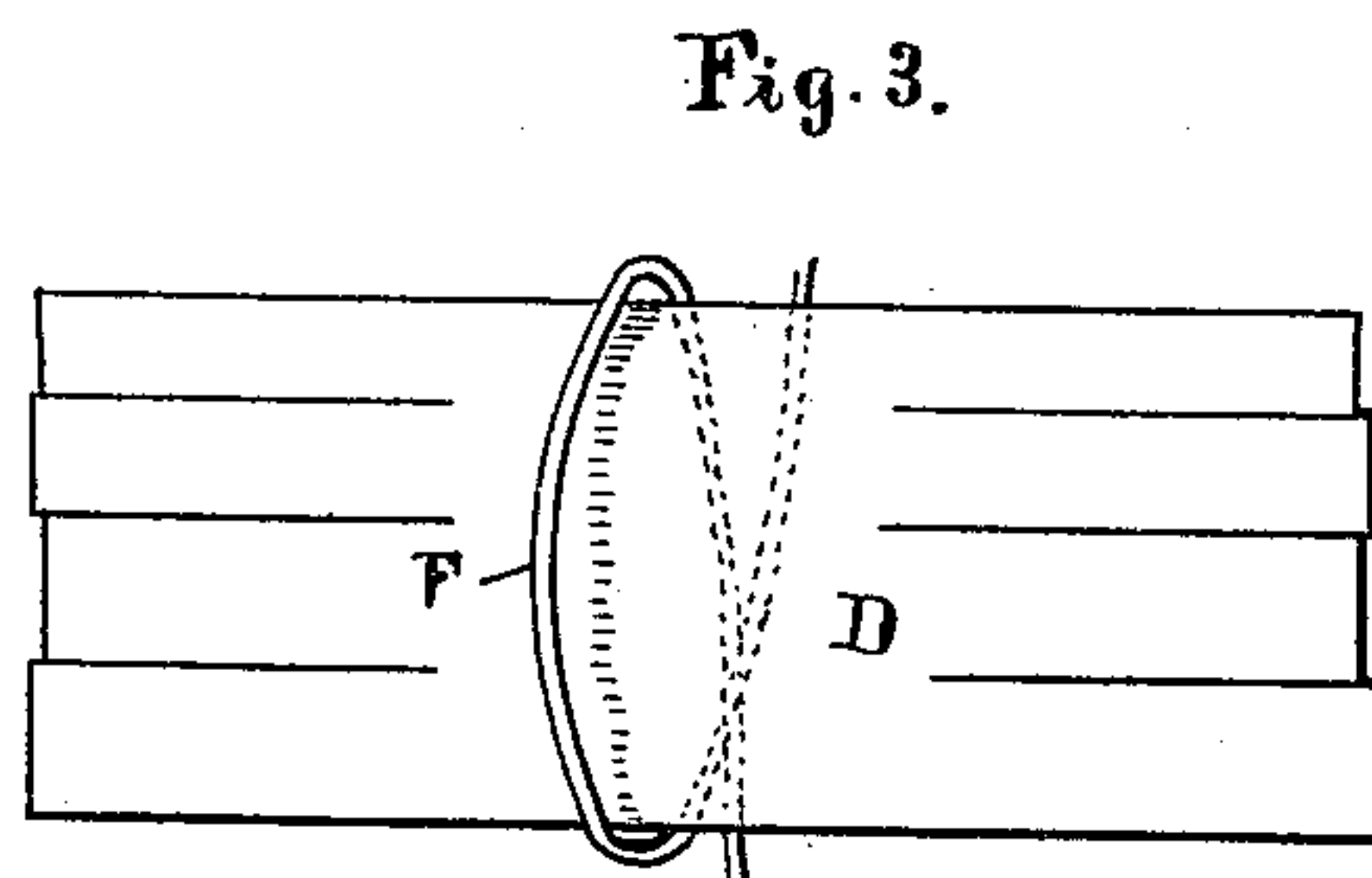


Fig. 3.

Witnesses—
C. J. Slough
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UNITED STATES PATENT OFFICE.

FRANK E. HOWLAND, OF PEORIA, ILLINOIS.

BOTTLE-CLEANER.

SPECIFICATION forming part of Letters Patent No. 463,835, dated November 24, 1891.

Application filed December 28, 1889. Serial No. 335,291. (No model.)

To all whom it may concern:

Be it known that I, FRANK E. HOWLAND, a citizen of the United States, residing at Peoria, in the county of Peoria and State of Illinois, have invented certain new and useful Improvements in Bottle Cleaners; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain new and useful improvements in bottle-cleaners, by means of which a cleaner is provided which is simple in construction, durable, and cheap in first cost; one which may be used in cleaning any bottle with any size of neck or body.

That my invention may be more fully understood, reference is had to the accompanying drawings, in which—

Figure 1 is a perspective view showing my improved bottle-cleaner. Fig. 2 is a cut section of a bar, showing manner of drawing cut strips of rubber into the neck at the end of the bar. Fig. 3 shows a section of rubber cut in strips with a wire drawn around its middle portion.

This invention is in the line of bottle-cleaners which are adapted to be used in connection with steam or other power which gives a rotary motion to an axis, on which or through which are drawn radiating strips of rubber or other material, said axis being provided at the end with a neck, into which are drawn rubber strips.

My invention relates especially to a mechanism which is so complete in all its parts and operation as to enable it to be used and effectually clean any bottle.

In Fig. 1, C represents a shaft. A is a continuation of the shaft C. B is a collar or neck on the end of the shaft A. The shaft A is provided with perforations J J', &c. E E' refer to rubber strips. F is a wire.

In Fig. 2, A refers to a section of a shaft provided at the end with a collar or neck B. F is a wire wound around the rubber strip D. J J' are perforations in the bar A.

In Fig. 3, F refers to a wire wound around the strips D.

It will be seen that the shaft A forms an axis, from which and through which the strips E E' radiate and form a sort of circular brush. The strips D are drawn into the neck or collar B, and held in place by means of the wire F, which is carried through the perforations in the shaft A and wound around it.

In operation, the shaft C being inserted into and connected with a power which gives it a rotary movement, it will be seen that the rotary motion will throw the strips D apart and in a direction corresponding with the strips E. Now, by carrying a bottle over the shaft which carries the radiating strips the rotary motion forces the strips into contact with the sides of the bottle in such a way and with such a force as to completely remove from the inside surface of the bottle all dirt that may be there accumulated. By means of the rubber strips D being radiated by the centrifugal force given them by the rotating axis they contact with the end of the bottle in such a way as to completely clean it.

The particular advantage possessed by my bottle-cleaner is that it may be used in any bottle with any size of neck; also, that by means of the rubber strips used there will be no fragments or portions broken from the brush to adhere to the sides of the bottle after the cleaning process has been completed, as is the case when a bristle brush is used, and, further, that by means of the rubber strips D a cleaner is provided for the end of the bottle.

The form and construction of my improved bottle-cleaner may be varied to suit the use to which it is desired to be put.

The radiating strips E E' and the strips D are preferred to be made of rubber; but any suitable material may be used.

Having thus fully described my invention, so that others can make and use the same, what I claim, and desire to secure by Letters Patent, is—

A bottle-washer comprising a rod A, formed

with perforations entirely through the rod, the adjacent perforations being at right angles with each other, with the forward end of the rod enlarged and provided with a cup-
5 shaped depression, the rubber strips E E, carried through the perforations in the body of the rod A and extending out some distance upon either side, with the adjacent strips at right angles with each other, and with the
10 rubber strips D, secured in the cup-shaped de-

pression in the end of the rod A and extending outward therefrom, all substantially as described and set forth.

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

FRANK E. HOWLAND.

Witnesses:

C. H. SUESS,
NELLIE FOLEY.