To all whom it may concern:

Be it known that I, AVERY S. TURNER, a citizen of the United States, residing at Butte, in the county of Silverbow and State of Montana, have invented new and useful Improvements in Bottle-Washing Brushes, of which the following is a specification.

The invention relates to a bottle washing brush for use in bottle washing machines.

The primary object of the invention is the provision of a brush of this character wherein the interior of a bottle will be thoroughly washed for the cleaning thereof, the brush being of novel construction to assure the perfect scrubbing of the entire inner surface of the bottle.

Another object of the invention is the provision of a brush of this character which is constructed to open and close, thereby conforming to the internal size of the bottle, and which is flexible to respond to the shape of the said bottle and thereby perfectly clean the same.

A further object of the invention is the provision of a brush of this character which is simple in construction, reliable and efficient in operation, strong, durable, and inexpensive in manufacture.

With these and other objects in view, the invention consists in the construction, combination and arrangement of parts as will be hereinafter fully described, illustrated in the accompanying drawing, and pointed out in the claim hereunto appended.

In the drawing: Figure 1 is a fragmentary side elevation of a brush constructed in accordance with the invention. Fig. 2 is a vertical transverse sectional view through the bristles of the brush. Fig. 3 is a fragmentary vertical longitudinal sectional view through the ferrule and spindle.

Similar reference characters indicate corresponding parts throughout the several views in the drawing.

Referring to the drawing in detail, the brush comprises a ferrule 5 formed with a solid end 6 in contradistinction to its hollow end 7 into which fits the spindle 8 which is a part of the bottle washing machine, the solid end 6 being bifurcated to form spaced ears 9 between which are arranged the looped ends 10 of spring arms 11, each being formed from a single strand of relatively stiff wire which is bent on itself to form double stretches twisted together for a major portion of the length of the arms. The loop ends have passed therethrough a pivot 12 which is engaged in the walls of the recess in the end 8 of the ferrule, and in this manner the said arms 11 are swingingly connected to the ferrule, the solid end 6 being formed with a substantially V-shaped recess 13 forming a clearance for the loop ends 10 of the arms to permit the same to swing toward and away from each other during the working of the brush.

Fastened to the twisted portions of the arms 11 are the bristles 14 constituting the body of the brush, and these bristles 14 are massed to form semi-cylindrical shaped brush sections so that when the same are brought together they will constitute a circular body in cross section throughout the extent thereof.

Fastened to the free ends of the arms 11 in any suitable manner are bristle tips 15 which constitute brush terminals on the ends of the arms for the cleaning of the bottom and adjacent portions of the inner side wall of a bottle while the brush body made up from the bristles 14 will scrub the inner side wall of the body throughout the extent thereof during the operation of the washing machine, the said brush being inserted in a bottle in the usual manner.

Formed in the hollow end 7 of the ferrule 5 is an aperture 16 so that the column of water delivered through the ferrule will be discharged without the same into the bristles 14, and on the rotation of the body of the brush within the bottle the same will be thoroughly washed for the cleaning thereof.

From the foregoing description, taken in connection with the accompanying drawing, the construction and manner of operation of the device will be clearly understood, and therefore a more extended explanation has been omitted.

What is claimed is:

The combination with a spindle having a bore therethrough, of a ferrule fitted on the end of the spindle and having a recess in its outer end, ears on opposite sides of the recess, a pivot disposed transversely in the recess and supported in the ferrule, a pair of wire lengths, each twisted together to provide an arm and a loop at one end thereof
for loose engagement with the pivot between the ears which serve to hold both arms parallel with each other, brush tips on the outer ends of the arms, and semi-cylindrical brush bodies fastened in the twisted portions of the arms, said ferrule being formed with an outlet aperture for the bore in the spindle.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D.C."

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

AVERY S. TURNER.

Witnesses:
HARRY F. RUST,
GEO. W. BOWEN.