H. C. MARTINELLI.

BOTTLE WASHER.

APPLICATION FILED AUG. 30, 1918.

1,323,604. Patented Dec. 2, 1919.

Fig. 1.

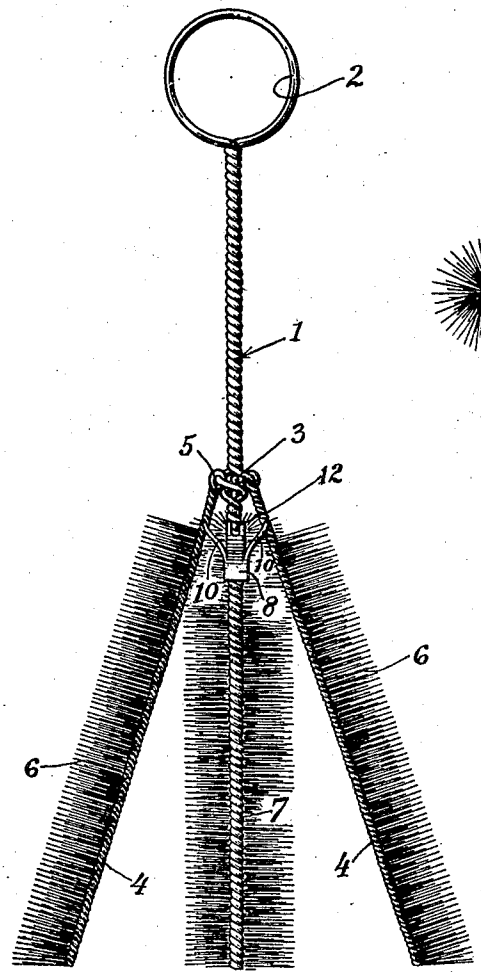


Fig. 2.

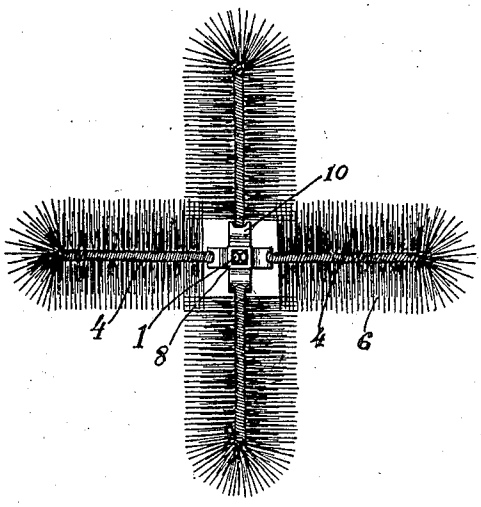
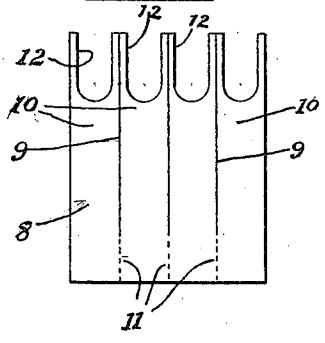


Fig. 3.



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BOTTLE-WASHER.

1,323,604. Specification of Letters Patent. Patented Dec. 2, 1919.

Application filed August 30, 1918. Serial No. 252,064.

To all whom it may concern:

Be it known that I, HENRY C. MARTINELLI, a citizen of the United States, and a resident of Springfield, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Bottle-Washers, of which the following is a specification.

This invention relates to a bottle washer, and an object of the invention is to provide a bottle washer which may be used for effectively and conveniently cleaning bottles of the type which have relatively large bodies and comparatively small throats or necks leading into the bottle, the bottle washer comprising, the main supporting stem or handle which has a plurality of auxiliary stems pivotally connected thereto intermediate its ends which stems carry bristles, projecting outwardly therefrom, and which stems are forced and held into an expanded cleaning position by a suitable spring structure carried upon the main body stem of the bottle washer.

A further object of this invention is to provide a bottle washer as specified, adapted to be contracted for insertion through the neck of a bottle and automatically expanded after it has entered the body of the bottle, which washer is comparatively simple in construction and can be manufactured for a low cost, permitting its universal use.

Other objects of the invention will appear in the following detailed description, taken in connection with the accompanying drawing, forming a part of this specification, and in which drawing:

Figure 1 is a side elevation of the improved bottle washer having one of the auxiliary bristle carrying arms removed.

Fig. 2 is a bottom plan view of the bottle washer.

Fig. 3 is a side elevation of the blank of which the spring structure is made for forcing and normally holding the auxiliary bristle carrying arms expanded.

Referring more particularly to the drawing, 1 designates the main body stem or support of the bottle washer, which is formed of a single length of wire looped intermediate its ends to form the handle or finger receiving loop 2 and twisted, to provide a relatively strong stem for carrying and operating the washer. The twisted lengths of the strand of wire of which the main body stem 1 is formed have their twisted portions spread, intermediate the ends of the body as shown at 3, to permit the connection to the main body stem of the auxiliary bristle-carrying stems 4. These auxiliary bristle-carrying stems 4, like the main body stem 1 are formed of single strands of wire looped, to form eyes 5 which pivotally engage over the expanded portions of the twist of the body stem 1 and they are twisted, to increase the strength of these auxiliary arms and also to attach the bristles 6 thereto. It will be noted, by reference to the drawing that the bristles 6 extend outwardly from the auxiliary arm 4, leaving the inner surfaces of these arms which face the depending portion 7 of the body stem 1 free from bristles so as to allow the arms 4 to be folded to lie against or in close proximity to the depending portion 7 of the body stem 1, thereby allowing the insertion of the washer through a relatively small neck or throat of a bottle.

The arms 4 are normally held extended from the body 1 by a spring structure generically indicated by the numeral 8. This spring structure 8 is formed of a flat sheet of spring metal cut longitudinally along the lines 9 to form a plurality of tongues 10 which are joined at their inner ends so that when the blank 8 is folded, along the dotted lines 11, to form a rectangular collar at its lower end, for embracing the stem 1, the separate tongues 10 are bent outwardly, for engagement against the arms 4. The outer upper ends of the tongues 10 are provided with cut-out portions 12, communicating with the upper free ends, and of sufficient size to engage over the arms 4, to provide connection between the arms 4 and the tongues 10 to prevent accidental disconnection of the spring member 8 from the arms 4 during the use of the device.

In use, the arms 4 are moved inwardly toward the body 7, against the action of the spring tongues 10, and when in this collapsed position may be forced through the neck of a bottle. After the spread portion 3 of the body stem 1 has been passed through the neck or mouth of the bottle into the main body of the same, the pressure against the tongues 10 will be relieved, and they will force the arms 4 outwardly, into the position shown in Fig. 1 of the drawing, and permitting the thorough cleansing of the interior of the body of the bottle. Upon withdrawing the washer from a bottle, the pulling of

the same outwardly through the neck of the bottle will cause the arms 4 to be moved inwardly toward the body stem 1 against the action of the spring tongues 10, permitting the easy removal of the washer from the bottle.

Changes in details may be made without departing from the spirit of this invention; but,

I claim:

1. In a bottle washer, a body stem formed of a single strand of wire bent to form a pair of lengths, said lengths being twisted one with the other, said twist being spread at a point intermediate the ends of the body stem, a plurality of auxiliary bristle-carrying arms formed of lengths of wire bent to form eyes engaging over the spread portions of the twist of the body stem, the lengths of wire of each of said auxiliary bristle-carrying arms being twisted to form a single length, a plurality of bristles carried by each of said auxiliary bristle-carrying arms, said bristles projecting outwardly from the arms whereby the inner portions of the arms facing said body stem will be free from bristles, and a plurality of spring tongues carried by the body stem and engaging said auxiliary bristle-carrying arms for holding the bristle carrying arms extended from the body stem, said tongues provided with recesses in their outer ends for receiving portions of the bristle carrying arms to prevent accidental disconnection between the arms and tongues.

2. In a bottle washer, a main body stem formed of a strand of wire bent to form equal lengths, said lengths being twisted one with the other, said twist end portions being spread intermediate the ends of the body stem to provide loops, auxiliary bristle carrying stems pivotally connected to the spread portions of the twist of the body stem, and a plurality of spring tongues carried by the body stem and engaging said auxiliary bristle carrying stems for holding the bristle carrying stems extended from the body stem, said tongues provided with recesses in their outer ends for receiving portions of the bristle carrying stem to prevent accidental disconnection between the stems and tongues.

3. In a bottle washer, a main body stem, a plurality of auxiliary bristle carrying stems pivotally connected to said body stem intermediate of its end, and a plurality of spring tongues carried by the body stem and engaging said auxiliary bristle carrying stem for holding the latter extended from the body stem, said tongues provided with recesses in their outer ends for receiving portions of the bristle carrying stem to prevent accidental disconnection between the bristle carrying stem and tongues.

HENRY CLETO MARTINELLI.