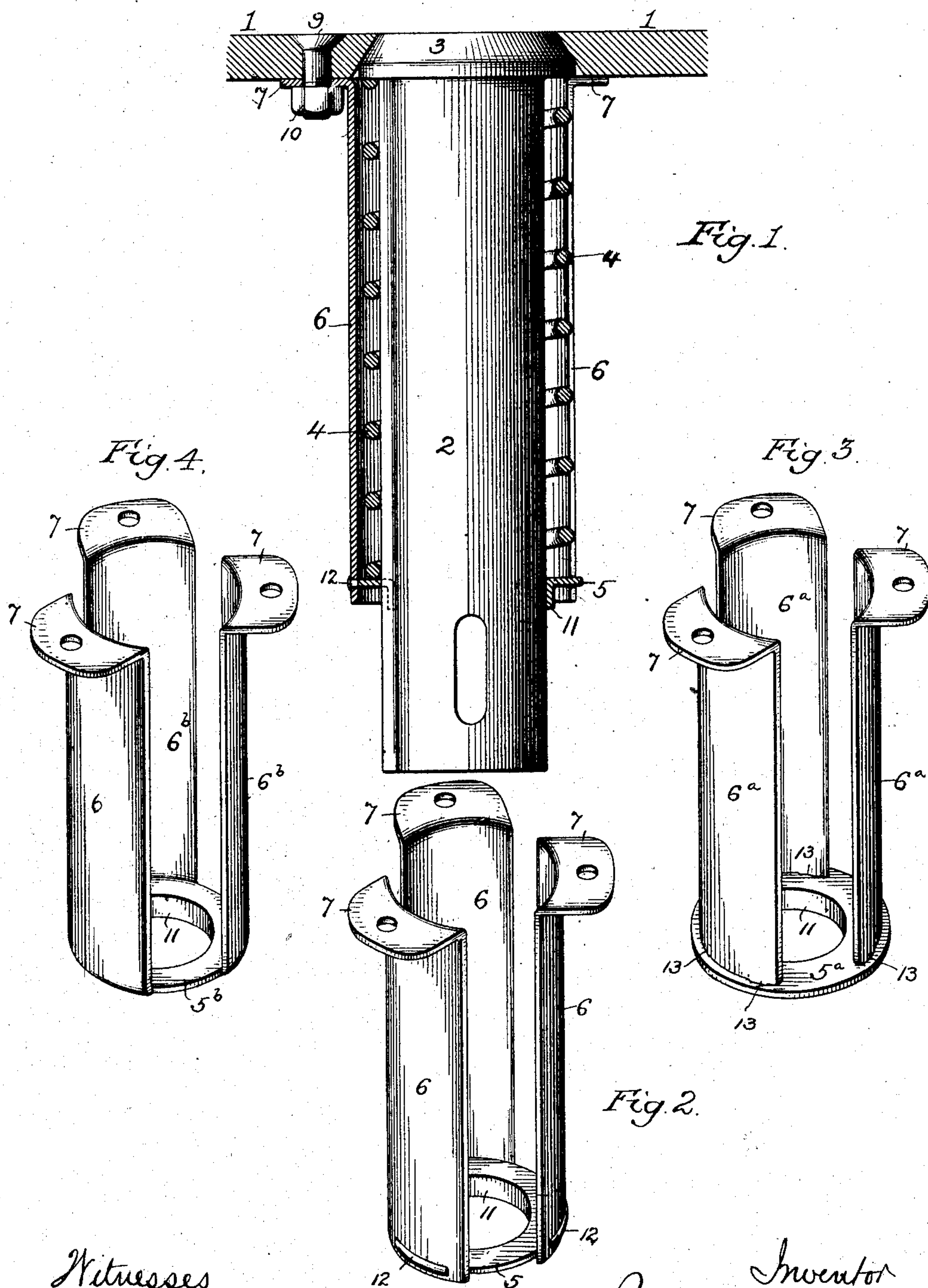


No. 865,192.

PATENTED SEPT. 3, 1907.

B. E. LINFOOT.  
BOTTLE WASHING MACHINE.  
APPLICATION FILED MAY 1, 1907.



Witnesses  
Hamilton J. Turner  
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# UNITED STATES PATENT OFFICE.

BENJAMIN E. LINFOOT, OF PHILADELPHIA, PENNSYLVANIA.

## BOTTLE-WASHING MACHINE.

No. 865,192.

Specification of Letters Patent.

Patented Sept. 3, 1907.

Application filed May 1, 1907. Serial No. 371,302.

*To all whom it may concern:*

Be it known that I, BENJAMIN E. LINFOOT, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Bottle-Washing Machines, of which the following is a specification.

My invention relates to that class of bottle washing machines in which the brush spindle is free to rotate and move vertically in reference to a spring-supported sleeve or nozzle whose upper end constitutes a bearing for the mouth of the inverted bottle to be cleaned by the brush, the object of my invention being to provide a simple, cheap and efficient form of cage or casing for supporting said nozzle and guiding the same during any vertical movement which may be imparted to it. This object I attain in the manner hereinafter set forth, reference being had to the accompanying drawing, in which

Figure 1 is a view, partly in vertical section and partly in elevation, of sufficient of a bottle washing machine to illustrate my present invention; Fig. 2 is a perspective view of the guiding and supporting cage constituting my invention, and Figs. 3 and 4 are similar views of other forms of guiding and supporting cage embodying certain features of the invention.

In Fig. 1 of the drawing, 1 represents part of the top plate of the brush containing box or casing of a bottle washing machine of the type to which my invention relates, and 2 represents a vertical tubular sleeve or nozzle, one of these nozzles being employed for each brush of the machine, and said brush and its spindle being free to rotate within the nozzle, either part being free to move vertically relative to the other.

The upper end or head 3 of the nozzle 2 constitutes a bearing for the mouth of the inverted bottle and retains the same in such position that the brush can freely enter and leave it, and as more or less vertical movement of the nozzle is necessary in the operation of the machine, said nozzle is supported by means of a coiled spring 4 interposed between the under side of the head 3 and the base plate 5 of a cage which surrounds the nozzle, and is secured to the under side of the top 1 of the brush-containing box or casing, said cage having, in the present instance, three vertical legs 6, secured to the base plate 5, and each having, at its upper end, an outwardly projecting flange 7, which bears against the under face of the plate 1 and is secured thereto by means of a bolt 9 and nut 10, or in any other convenient way.

The base plate 5 has a central opening for the reception of the lower portion of the nozzle 2, this opening being surrounded by a depending flange 11 which provides a bearing for the nozzle and serves to aid in preventing any deflection of the same from a vertical position.

As shown in Figs. 1 and 2 the base plate 5 is secured to the lower ends of the legs 6 of the cage by means of radially projecting lugs 12, which are passed through corresponding slots in the legs and are riveted on the outside of the latter, as shown in Fig. 1, thereby providing a strong and rigid construction at the bottom of the cage.

In that form of cage shown in Fig. 3, vertical lugs 13 on the legs are passed through corresponding slots in the base plate 5 and riveted on the underside of the latter, while in the construction shown in Fig. 4 the base plate and the legs of the cage are integral. In all cases, however, the legs of the cage and preferably the base also, are composed of sheet steel or other available sheet metal, properly shaped and bent, the purpose being to provide a cage which will be at once cheap, light and easily applied or removed, no machine work or other expensive fitting being required in order to properly adapt and secure said cage to the top plate 1, since the flanges 7 at the tops of the legs 6 of the cage are sufficiently flexible to adapt themselves to the underside of said top plate without the necessity of being specially fitted thereto, while, owing to the resiliency of the legs 6, and to the fact that they are disconnected at their upper ends, the flanges 7 can be moved in one direction or the other in order to cause their openings to register with those in the top plate 1, hence the same care need not be exercised in forming the latter as would be necessary if the upper end of the cage was rigid.

Cages of the character shown in Figs. 2 and 3, in which the legs are separate from the base, are preferable to a cage having its different members integral, since the separate parts can be made of relatively small and consequently cheap pieces of metal not available for other uses.

I claim:—

1. The combination of the casing and the spring-supported sleeve or nozzle of a bottle washing machine, with a cage comprising a base member for the support of the spring and a plurality of legs, each composed of sheet metal and having, at its upper end, a bent flange secured to the top of the casing.

2. The combination of the casing and the spring-supported sleeve or nozzle of a bottle washing machine, with a cage consisting of a base member, and a plurality of sheet metal legs separate from but secured to said base member, and each having, at its upper end, a flange secured to the top plate of the casing.

3. The combination of the casing and the spring-supported sleeve or nozzle of a bottle washing machine, with a cage consisting of a base member with outwardly projecting lugs thereon, and a plurality of sheet metal legs slotted for the reception of said lugs and each having, at its upper end, a projecting flange secured to the top plate of the casing.

4. The combination of the casing and the spring-supported sleeve or nozzle of a bottle washing machine, with a cage comprising a base member composed of sheet metal

and having a central opening surrounded by a depending flange and a plurality of sheet metal legs connected to said base member and each having, at its upper end, a flange secured to the underside of the top plate of the casing.

5 The within described cage for the spring-supported nozzle of a bottle washing machine, said cage consisting of a base member and a plurality of sheet metal legs, said members being connected by means of lugs on one passed

through notches in the other, and then riveted, the upper 10 ends of the legs being disconnected, and each having a bent portion forming a flange.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.  
BENJAMIN E. LINFOOT.

Witnesses:

EDW. B. POTTS,

THOS. S. LOUDERBACK.