(No Model.)

N. F. OLSON.

DISH CLEANER.

No. 567,769. Patented Sept. 15, 1896.

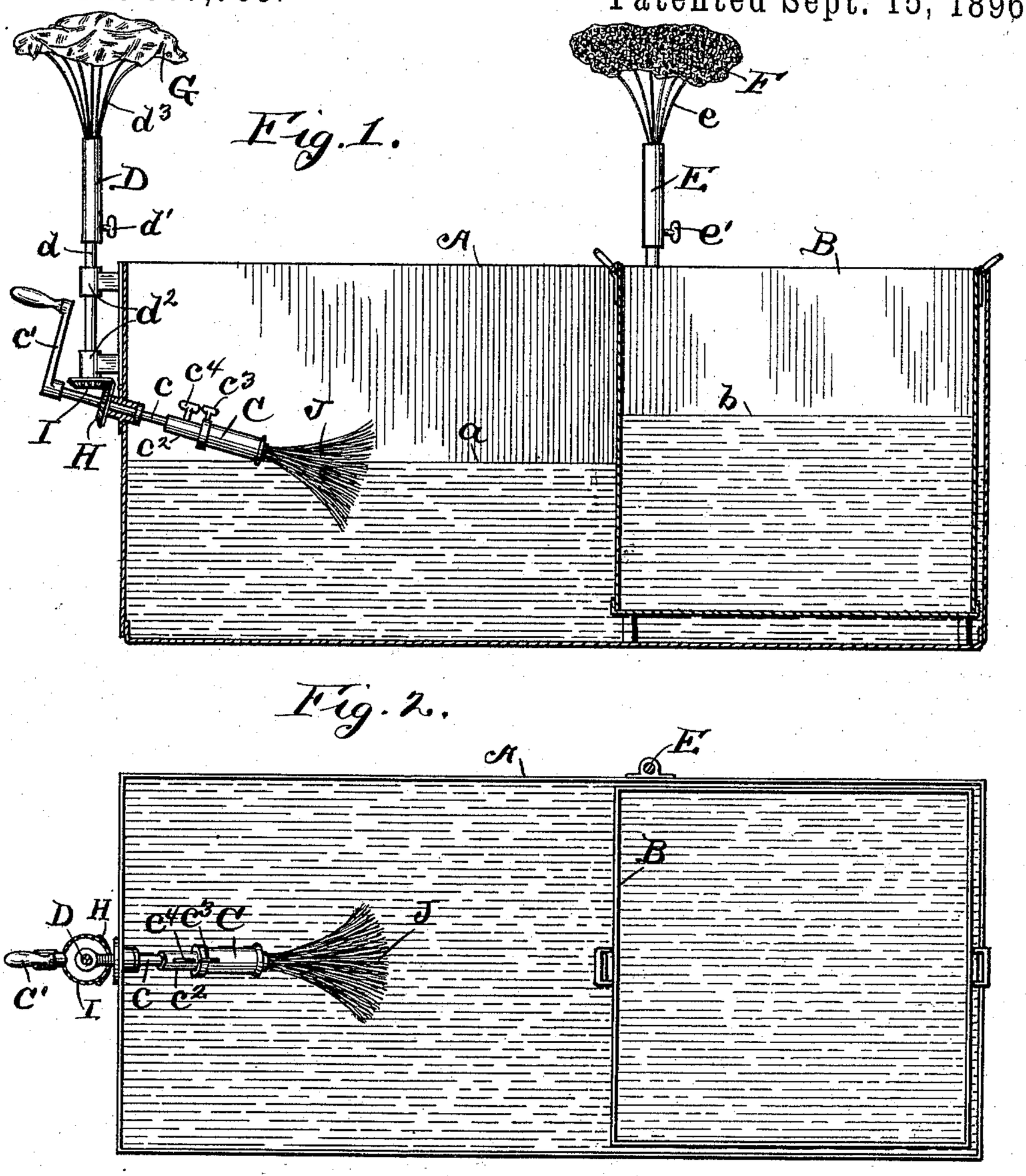


Fig. 1.

Fig. 2.

Fig. 3.

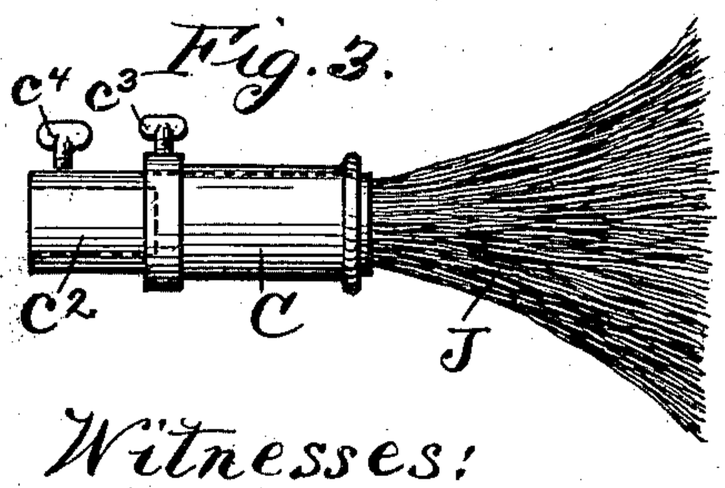
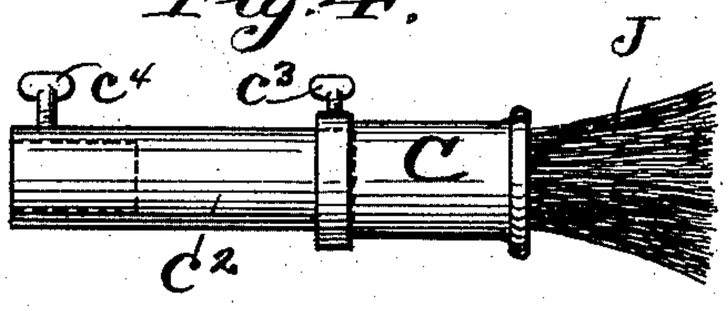


Fig. 4.



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NILS FERDINAND OLSON, OF CHICAGO, ILLINOIS.

DISH-CLEANER.

SPECIFICATION forming part of Letters Patent No. 567,769, dated September 15, 1896.

Application filed December 22, 1893. Serial No. 494,422. (No model.)

To all whom it may concern:

Be it known that I, NILS FERDINAND OLSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Dish-Cleaners, of which the following is a specification.

My invention relates to improvements in machines for washing dishes; and my object is to provide such a machine of novel and improved construction, adapting it readily for use in washing dishes of all kinds, whether in the form of plates, cups, or saucers.

It is further my object to provide with the washing device a rinsing device, and also means for use in drying and polishing the dishes.

To the above ends my invention consists in the general construction of my improvements, as well as in details of construction and combinations of parts, all as hereinafter more fully set forth and claimed.

In the drawings, Figure 1 is a longitudinal section of the device; Fig. 2, a plan section; and Figs. 3 and 4, enlarged detail views of a rotary brush, showing it in the first said figure spread for use in washing plates and larger articles and in the second instance showing it contracted for use in washing small articles, such as cups.

A is a vessel adapted to be placed upon a stove and form a boiler, open at its upper side. In the vessel is a rinsing-compartment B, which, as shown, may be a separate vessel supported in the vessel A. Extending through a journal-bearing in the end wall of the vessel A is an inclined rotary shaft *c*, provided at its outer end with a crank *c'*, and adapted at its inner or lower end to support a brush J. The brush is mounted in a sleeve c^2, having an end socket which fits over the end of the shaft *c*, and is provided with a set-screw c^4, by means of which it is fastened in place. Sliding upon the sleeve c^2 is a ferrule C, provided with a set-screw c^3. The ferrule may be slid from the position shown in Fig. 3 to that shown in Fig. 4. The bristles of the brush J spread normally, as shown in Fig. 3, and the movement of the ferrule toward the position shown in Fig. 4 causes it to move along the bristles and contract them, as shown. On the shaft *c* at the outer side of the vessel A is a beveled gear-wheel H, engaging a similar gear-wheel I, which is upon the lower end of a vertical shaft *d*. The shaft *d* is journaled in brackets d^2, secured to the end wall of the vessel.

D is a towel-support comprising a sleeve portion which fits over the end of the shaft *d* and is fastened in place by means of a set-screw *d'*. Upon the sleeve is a flaring wire frame d^3, upon which a towel G may be placed, as shown.

In any convenient position, as at the side of the vessel B, is a support E, mounted in a bracket on the side wall of the vessel A, and comprising a sleeve provided with a spreading wire frame *e*, and fastened in place upon a rod at the side of the vessel by means of a set-screw *e'*. The frame *e* is adapted to receive a sponge F or a piece of any suitable absorbent material.

In operation the cleaning fluid, such as soap and water, is poured into the vessel A, preferably to about the line *a*, and clear water is poured into the vessel B, say to the line *b*. The fluids are heated to a suitable temperature. If large articles, such as plates, are to be washed, the ferrule C of the brush J is adjusted, as shown in Fig. 3, to cause the bristles to spread; and if small articles, such as cups, are to be washed, the ferrule is moved to the position shown in Fig. 4. To wash the article, it is held in the hand against the brush J, and the brush is rotated by means of the crank *c'*. One or two rotations are usually sufficient to free the article from any substance adhering thereto. The article is then dipped into the vessel B to rinse therefrom the washing fluid, after which it is passed across the sponge F, which absorbs the water, leaving the article partially dry. The article is then pressed upon the towel G and the latter is rotated by means of the crank *c'*, whereby the article is thoroughly dried and polished.

If clear water is employed in the vessel A, and there is no necessity for rinsing the articles after they are washed, the vessel B may be unprovided with water and employed merely as a drying-chamber, the heat of the fluid in the vessel A keeping the vessel B sufficiently hot to dry the articles therein quickly.

As illustrated in the drawings, the shafts

c d must be turned by hand. If desired, however, the shafts may be rotated by means of a suitable motor geared thereto.

It is always a matter of difficulty, without employing an expensive stuffing-box, to make the bearing of a shaft passing through and rotating in the wall of a vessel to remain water-tight. In the present construction, by inclining the shaft *c*, the brush J is in a convenient position for use and may, as shown, be caused to dip into a liquid which extends to a height below the shaft-journal.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a dish-washing machine, the combination with the washing vessel, of an inclined shaft journaled in the side wall of the vessel and inclining downward into the vessel, a brush on the end of the shaft inside the vessel and rotating means for the shaft outside the vessel, substantially as described.

2. In a dish-washing machine, the combination of a washing vessel A, a shaft extending through and journaled in the wall of the vessel A and extending in a downwardly-inclined direction into the vessel A, a brush on one end of the shaft in the vessel, rotating means for the shaft at the outer side of the vessel, and a rotary polishing towel-support geared to the said shaft, substantially as and for the purpose set forth.

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