

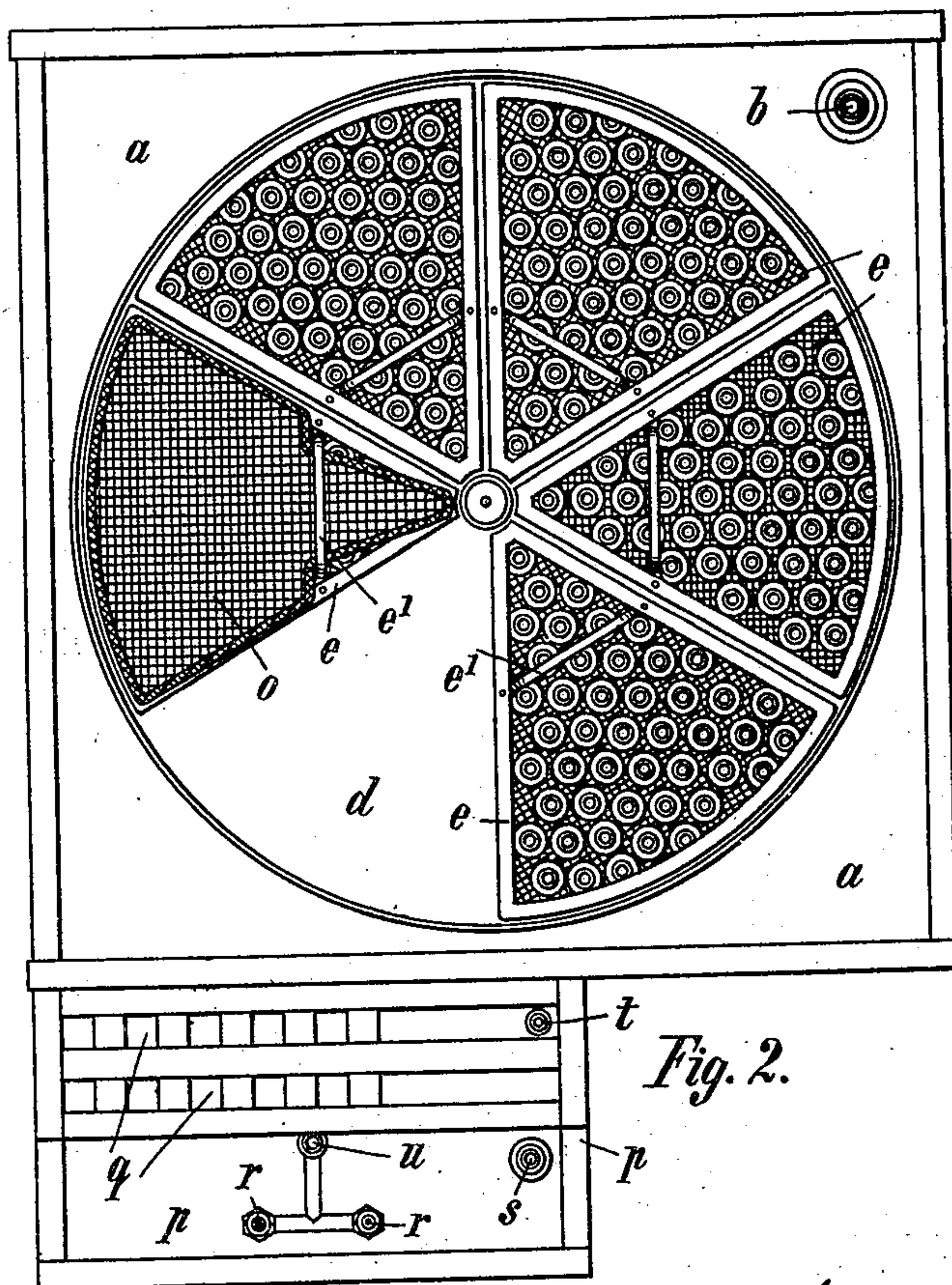
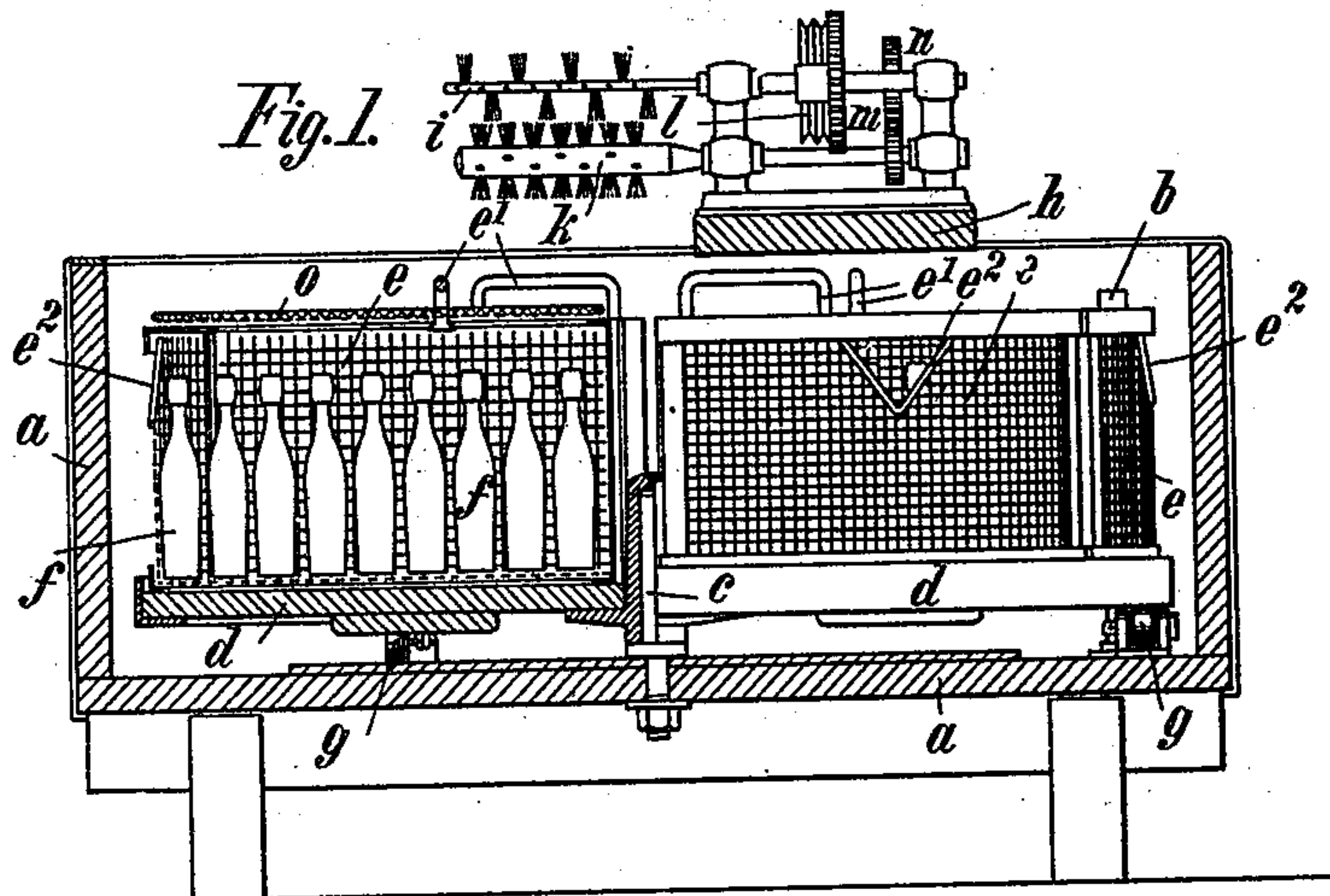
No. 667,817.

Patented Feb. 12, 1901.

C. F. G. BUROW.  
BOTTLE CLEANING APPARATUS.

(Application filed July 13, 1900.)

(No Model.)



Witnesses:  
*Attest*  
*Wm. Sommers*

Inventor,  
*Carl Franz Gustav Burow.*

by *Henry J. M. M.*



# UNITED STATES PATENT OFFICE.

CARL FRANZ GUSTAV BUROW, OF HAMBURG, GERMANY.

## BOTTLE-CLEANING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 667,817, dated February 12, 1901.

Application filed July 13, 1900. Serial No. 23,530. (No model.)

*To all whom it may concern:*

Be it known that I, CARL FRANZ GUSTAV BUROW, a subject of the German Emperor, and a resident of Hamburg, in the German Empire, have invented certain new and useful Improvements in Bottle-Cleaning Apparatus, of which the following is a specification.

This invention has for its object an apparatus for cleaning glass and stone bottles and similar vessels.

The cleaning apparatus in question, in combination with a suitable brushing-machine, permits of uninterrupted working—that is to say, consecutive soaking and brushing of the bottles to be cleaned—thus combining expedition of labor and simplicity of construction with easy manipulation. In using this new cleansing device, which fits any size of bottle, the thorough soaking of the bottles is insured and breakage impossible.

In the accompanying drawings I have shown a practical form of my improved soaking apparatus in combination with a brushing-machine.

Figure 1 is a vertical central sectional view of the cleaning apparatus and of a brushing-machine. Fig. 2 is a top plan view or plan of the cleaning apparatus with the brushing-machine removed.

The cleaning apparatus consists of a box or vat *a*, suitably connected with a water-supply, steam-tube, or the like and provided with an overflow-pipe *b*. An upright shaft or pivot *c* is fixed in the center of said vat *a*, and a disk or turn-plate *d* is placed movably on the former. This turn-plate is furnished with sector-shaped boxes or receptacles *e* of wire-netting, each being provided with a handle *e'* and an opening or recess *e''* to enable them the better to be lifted out and replaced. The bottles *f* to be cleaned are placed in an upright position in the said wire boxes *e*. In case the turn-plate should be unequally weighted the bottom of the soaking-box *a* is provided with three or more rollers *g*, which support the turn-plate and facilitate its manual rotation. The bottles placed in the wire receptacles *e* are always under water, and in consequence of their upright position every part of them is thoroughly soaked without the risk of being partially empty, and thus ex-

posed to the drying influence of the surrounding air.

A bridge *h* spans the apparatus, and any kind of suitable brushing-machine is fixed to said bridge. The former consists of the well-known combination of a bottle-supporting spindle *i* and a brush-spindle *k*. The spindles are set in motion by means of a pulley *l* and a suitable transmitting-gear *m n*, connected therewith.

By means of the above-described arrangement the workman or operator has the bottle-supporting spindle and brush-spindle right in front of him and can easily, without altering his position, remove the bottles from the soaking-box and put them on the supporting-spindle *i* of the brushing-machine. As soon as one wire receptacle has been emptied the turn-plate is rotated on its pivot sufficiently to render the next wire receptacle accessible to the workman in front of the brushing-machine. The emptied wire receptacle is now removed by a second workman, while another wire receptacle, which has been meanwhile filled with bottles, is substituted, thus allowing the soaking apparatus to be uninterruptedly used. To prevent the bottles from rising to the surface of the water and to insure the speedy filling of same when the wire receptacle containing the empty bottles is placed in the soaking box or vat *a*, wire cover *o* is placed over the bottles and upon the receptacle *e* before placing the latter into the soaking-vat *a* and is held down in this position for an instant after the immersion of the said receptacle, thus allowing all the bottles to fill up simultaneously with water, whereupon the wire cover is again removed.

Adjoining the water-vat *a* a separate vat *p*, containing two compartments, may be placed. One of these compartments is fitted with crossed bars, forming a grating *q*, into the openings of which the brushed bottles may be inserted, bottom upward, for the purpose of draining, and the second compartment is fitted with one or more nozzles *r* for the inside rinsing of the bottles. This latter compartment serves also to rinse and cleanse the outside of the bottles. Both compartments above mentioned are fitted with an overflow-pipe *s* or an outlet *t*, respectively.



The rinsing-nozzles *r* are connected by means of a pipe *u* to a suitable water-supply or the like.

Having fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A bottle-cleaning apparatus comprising a tank for the cleansing liquid, a revoluble support in said tank, non-cellular bottle-holders loosely seated on said support and having foraminous vertical walls and means for holding the bottles against rising and tilting when the holders are lowered onto their support through the cleansing liquid, for the purpose set forth.

2. A bottle-cleansing apparatus comprising a tank for the cleansing liquid, a revoluble support in said tank, bottle-holders seating loosely on the support and having foraminous vertical walls, a handle extending across the top of said holder near one end, and a hand hole or holes or recesses in the vertical wall diametrically opposite said handle, and a

foraminous removable cover for the holders, for the purpose set forth.

3. A bottle-cleansing apparatus, comprising a tank for the cleansing liquid, a revoluble support in said tank, rolling bearings for said support, non-cellular bottle-holders seating on said support and having foraminous vertical walls, and a similar removable cover, for the purpose set forth.

4. In a bottle-cleansing apparatus, the combination with a tank for the cleansing liquid in which the bottles to be cleaned are soaked, parallel revoluble brushes mounted on said tank for cleansing the inside and outside of such bottles, and means connected with the tank for rinsing the cleansed bottles both inside and outside and draining the same, substantially as and for the purpose set forth.

CARL FRANZ GUSTAV BUROW.

Witnesses:

MAX LEMCKE,

E. H. L. MUMMENHOFF.