Dec. 20, 1938. S. E. LANNMARK 2,140,589

BOTTLE WASHING APPARATUS

Filed April 29, 1937

Fig. 1.

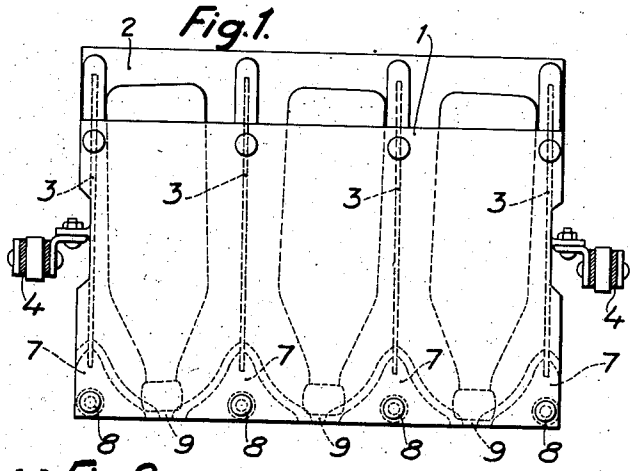


Fig. 2.

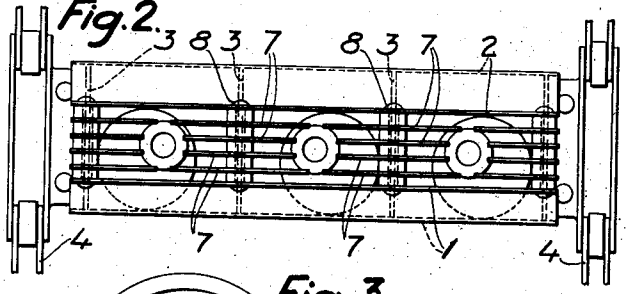
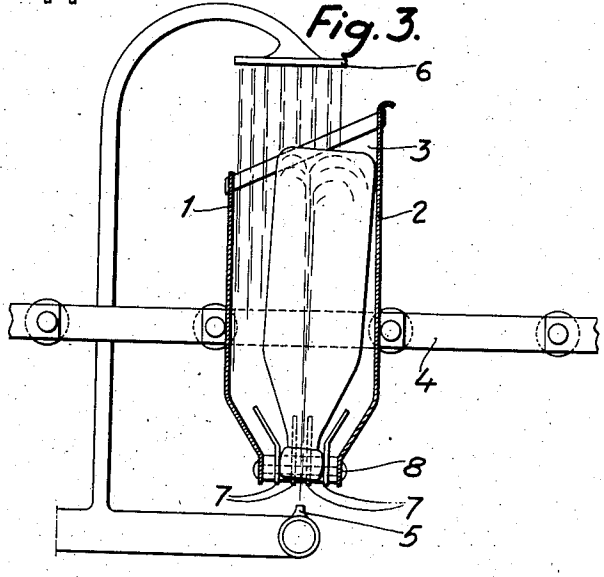


Fig. 3.



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BOTTLE WASHING APPARATUS

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4 Claims. (Cl. 198—131)

The present invention relates to improvements in bottle washing apparatus of the kind provided with a number of receptacles attached to conveyer chains or the like and serving to receive a line of bottles. The said receptacles are adapted to cooperate with squirting means for cleansing liquid and are quite open at one end to enable the insertion and the removal of the bottles. The invention consists substantially therein that each receptacle is divided into cells by means of transversal partitions. At the other end of each cell there are provided plates placed on edge and spaced in relation to each other, said plates being parallel with each other at the mouth of the cell and fastened in such a manner as to guide the bottles, when the same are being inserted, and to support the mouths of the bottles during the cleansing.

The accompanying drawing illustrates a constructional form of the invention.

Figure 1 shows the device, in front view, provided with three cells.

Figure 2 shows the same device, viewed from the under side.

Figure 3 is a cross section of one of the cells.

The drawing, by way of example, illustrates a receptacle divided into three cells. The receptacle is formed by two side plates 1, 2, which are suitably spaced and bent inwards at their lower portions. The said plates 1, 2 are interconnected by means of a number of transversal partitions 3. The receptacles may be attached to two conveyer chains 4, which move the receptacles past squirting nozzles 5, through which cleansing liquid is thrown into the bottles, and also past a shower device 6 for washing the outsides of the bottles, see Figure 3. Those ends of the cells, which in the drawing are shown to be the upper ends, are quite open so as to make it possible to insert the bottles in and remove the same from the cells.

Those ends of the cells, which in the drawing are shown to be the lower ends, consist of a number of thin plates or lamellae 7 placed on edge and at some distance from each other in such a manner that they serve to guide the bottles when the latter are being inserted, and also to support the mouths of the bottles during the cleansing operation. The said plates or lamellae 7, which at the mouths of the cells are parallel with each other, are interconnected by means of rivets 8 with distance pieces between the plates 7, the said rivets holding the side plates 1, 2 together. The inner portions of the plates or lamellae are attached to the partitions 3. Those edges of the plates or the lamellae 7, which are turned towards the interior of the cell, converge from the partitions 3 outwards in such a manner that the bottles are centered, when they contact the said inner edges during the inserting operation, see Figure 1. The inner portions of the two outermost plates or lamellae 7 are bent outwards from the adjacent plate or lamellae, see Figure 3, so as to facilitate the centering of the bottle during the inserting operation and so as to prevent the neck of the bottle from getting between one of the outermost plates 7 and the adjacent side plate 1 or 2. As will be seen from Figures 1 and 2 the plates or lamellae 7, in the constructional form shown, are arranged in groups in such a manner that between two such groups there is formed an opening 9 for the mouth of the bottle, the said opening being located in the centre of the end of the cell.

On account of the said arrangement of the plates or lamellae 7 the cleansing liquid from the shower device 6 for washing the outsides of the bottles will pass through the cells practically without impediment, thereby removing remainders of labels or the like on the outsides of the bottles, by which a better cleansing is obtained.

Having now described my invention, what I claim as new and desire to secure by Letters Patent is:

1. As an element of a bottle washing machine, a receptacle for bottles to be washed, said receptacle comprising a cell open at one end thereof for receiving a single bottle, and a grill provided at the other end of the cell, said grill consisting of a plurality of upright plates arranged in spaced relationship with their outer edges parallel to one another and being cut out obliquely to form a substantially conical recess in said grill for centering and supporting the mouth of the bottle.

2. A receptacle, as claimed in claim 1, in which the two outermost plates have inner portions flared sidewardly towards the cell walls.

3. As an element of a bottle washing machine, a receptacle for the bottles to be washed, said receptacle comprising a cell open at one end thereof for receiving a single bottle, and a grill provided at the other end of said cell, said grill being composed of two groups of upright spaced plates of substantially triangular shape leaving between them a central opening and a substantially conical recess leading towards said opening.

4. Bottle receptacle for use in bottle washing machines having means for conveying bottle containing receptacles past cleansing liquid nozzles, said receptacle comprising two spaced side walls arranged substantially parallel to each other and having lower portions inclined towards each other,

transverse partitions subdividing the receptacle into a plurality of cells, each of said cells being adapted to receive a single bottle, two groups of upright plates in the lower portion of each of said cells, the plates of one group in each cell being disposed with their lower edges in spaced parallel relationship to each other and in alignment with the corresponding plates of the other group, the two plate groups of each cell forming a grill with a central, substantially circular opening therein, each plate having its greatest height corresponding substantially to that of the inclined wall portion adjacent the wall of the cell and being cut away obliquely towards said central opening.

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