

No. 724,734.

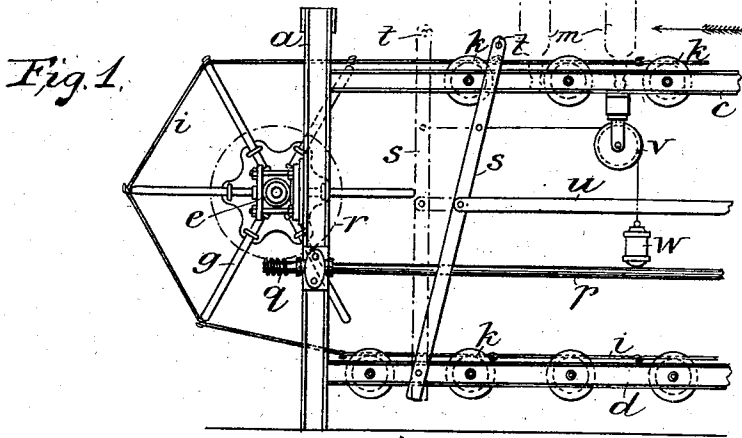
PATENTED APR. 7, 1903.

A. A. PINDSTOFTE.

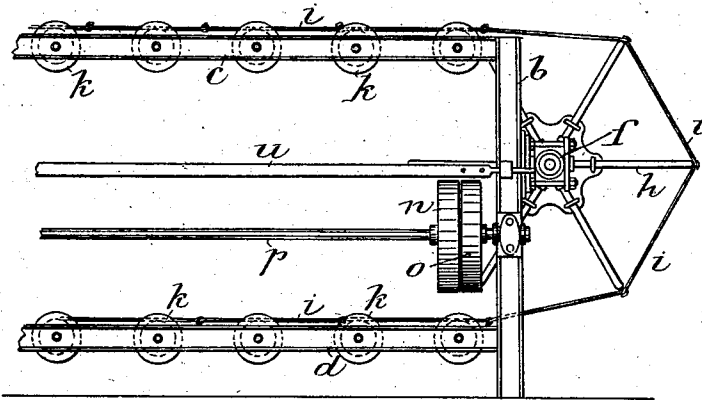
CONVEYING AND DRAINING DEVICE FOR BOTTLES AFTER HAVING
BEEN WASHED.

APPLIOATION FILED NOV. 25, 1901.

NO MODEL.



FJG 2



FJG 3

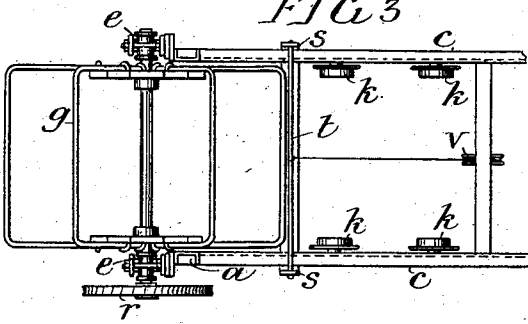
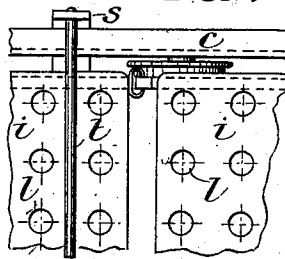


FIG 4



Witnesses

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UNITED STATES PATENT OFFICE.

ANDERS ANDERSEN PINDSTOFTE, OF COPENHAGEN, DENMARK.

CONVEYING AND DRAINING DEVICE FOR BOTTLES AFTER HAVING BEEN WASHED.

SPECIFICATION forming part of Letters Patent No. 724,734, dated April 7, 1903.

Application filed November 25, 1901. Serial No. 83,506. (No model.)

To all whom it may concern:

Be it known that I, ANDERS ANDERSEN PINDSTOFTE, manufacturer, of Copenhagen, in the Kingdom of Denmark, have invented certain new and useful Improvements in Conveying and Draining Devices for Bottles after They Have Been Washed, (for which I have applied for patents in Denmark on the 25th of April, 1901, No. 539/01; in Sweden on the 30th of April, 1901, No. 805/01, and in Germany on the 8th of May, 1901, No. 1,254/01,) of which the following is a specification.

This invention relates to a conveying and draining device for bottles after they have been washed, in which the bottles are placed mouth downward in order that the washing-water may drain from them during their transport from the washing to the filling place.

The apparatus is illustrated in the accompanying drawings, in which—

Figures 1 and 2 are side elevations of the two extremities of the apparatus. Fig. 3 is a plan view corresponding to Fig. 1, but without the conveyer-band; and Fig. 4 is a plan view of a portion of the conveyer-band.

The apparatus consists of a frame equal in length to the distance separating the washing from the filling stations. The two similar ends of the frame, which are connected one with the other by means of longitudinal supports, consist of two end pieces *ab*, connected by the two rails or ledges *cd*. At each end of the frame is a bearing *e* or *f* for a windlass *g* or *h*, around which windlasses an endless conveyer-band composed of coupled plate-shaped links or members *i* is passed. These members *i* are of a length equal to the interval separating each of the radial arms of the windlass at the periphery of the latter. Upon the inner side of the latter rails *cc* and *dd* of the frame are arranged rollers *k*, on which the outer edge of the endless conveyer-band is supported between the two windlasses. In the plate-shaped links or members *i*, which may consist either of solid plates, wicker, or lattice work, or the like, apertures *l* (see Fig. 4) are formed, suitable for the insertion of the necks of the bottles, which latter are placed in the conveyer-band mouth downward, as shown at *m* in Fig. 1. The windlasses are caused to rotate by means of a

driving-shaft *p*, provided with fast and loose pulleys *no*, a worm *q* upon this shaft gearing with a toothed wheel upon one of the windlasses. (See Figs. 1 and 3.) The washed bottles are inserted in the apertures *l* in the upper length of the conveyer-band at the washing-station (the windlass *h*, for example) with their mouths downward, so that they are transported to the filling-station (at the windlass *g*, for example) while draining.

In order to prevent the bottles which reach the filling-station from passing over the windlass *g*, owing to omission to remove them at the proper time, which would cause them to fall from the conveyer-band, a locking device is provided consisting of two upwardly-directed arms *s*, which are pivotally mounted upon the sides of the frame. The upper extremities of these arms are connected by means of a cross-piece *t*, arranged at a suitable height above the conveyer-band. To one of the arms *s* is attached a rod *u*, which seizes the driving-belt of the shaft *p* and throws it out of gear. In the position of rest the arms *s* occupy the oblique position shown in Fig. 1, in which they are maintained by means of a cord passing over a roller *v* and provided with a counterweight *w*. In this position the driving-belt runs upon the fast pulley *n*, the windlasses are rotated, and the conveyer-band travels in the directions indicated by the arrow in Fig. 1. If the bottles have not been removed when they reach the filling-station, the first row of bottles bears against and displaces the cross-bar *t* and causes the arm *s* to occupy the position indicated in dotted lines in Fig. 1, so that the belt-fork *u* is displaced and the driving-belt shifted onto the loose pulley *o*, thus bringing the machine to rest. When the bottles have been removed, the counterweight *w* causes the arms *s* to resume their inoperative position, so that the belt-fork *u* again shifts the driving-belt onto the fast pulley and restarts the machine.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. In apparatus of the character described, the combination of an endless bottle-carrying belt, a suitable support or structure equipped with means for bearing or guiding said belt, means for actuating said belt, and means

adapted to be engaged by a bottle carried by said belt at a predetermined point, and to arrest or stop the movement of said belt-actuating means at that time, substantially as set forth.

2. In apparatus of the character described, the combination of an endless bottle-carrying belt, a suitable support or structure equipped with means for bearing or guiding said belt, means for actuating said belt, means for shipping the driving-belt, and means connected to said driving-belt-shipping means and adapted to be engaged by an object carried by said bottle-carrying belt at a predetermined point, substantially as set forth.

3. In apparatus of the character described, the combination of an endless bottle-carrying belt, a suitable support or structure equipped with means for guiding or bearing said belt, means for shipping the driving-belt, means connected to said belt-shipping means and adapted to be engaged by an object carried by said bottle-carrying belt at a predetermined point, and means for automatically restoring said belt-shipping means to its initial position, substantially as set forth.

4. In an apparatus of the character described, the combination of an endless bottle-carrying belt, a suitable support or structure equipped with means for actuating said belt, means for shipping the driving-belt, means connected to said belt-shipping means and adapted to be engaged by an object carried by said bottle-carrying belt at a predetermined point and to arrest the movement of said belt-actuating means, and a gravity-ac-

tuated contrivance connected up with the belt-shipper-actuating means, substantially as set forth.

5. In apparatus of the character described, the combination of an endless bottle-carrying belt, a support or structure equipped with means for guiding or bearing said belt, means for actuating said belt, a tripping device adapted to be engaged by an object carried by said bottle-carrying belt at a predetermined point, and to arrest the movement of said belt-actuating means at such time, and means connecting up said tripping device with the driving-belt-shipping means, substantially as set forth.

6. In apparatus of the character described, the combination of an endless bottle-carrying belt, a support or structure equipped with means for guiding or bearing said belt, means for actuating said belt, a tripping device adapted to be engaged by an object carried by said bottle-carrying belt at a predetermined point, and to arrest the movement of said belt-actuating means at such time, and means connecting up said tripping device with the driving-belt-shipping means, and a driving-shaft geared up with said belt-actuating means, and carrying fast and loose pulleys engaged by the driving-belt, substantially as set forth.

In witness whereof I have hereunto set my hand in presence of two witnesses.

ANDERS ANDERSEN PINDSTOFTE.

Witnesses:

MARCUS MÖLLER,
MAGNUS JENSEN.