M. P. JANISCH.

BOTTLE COATING MACHINE.

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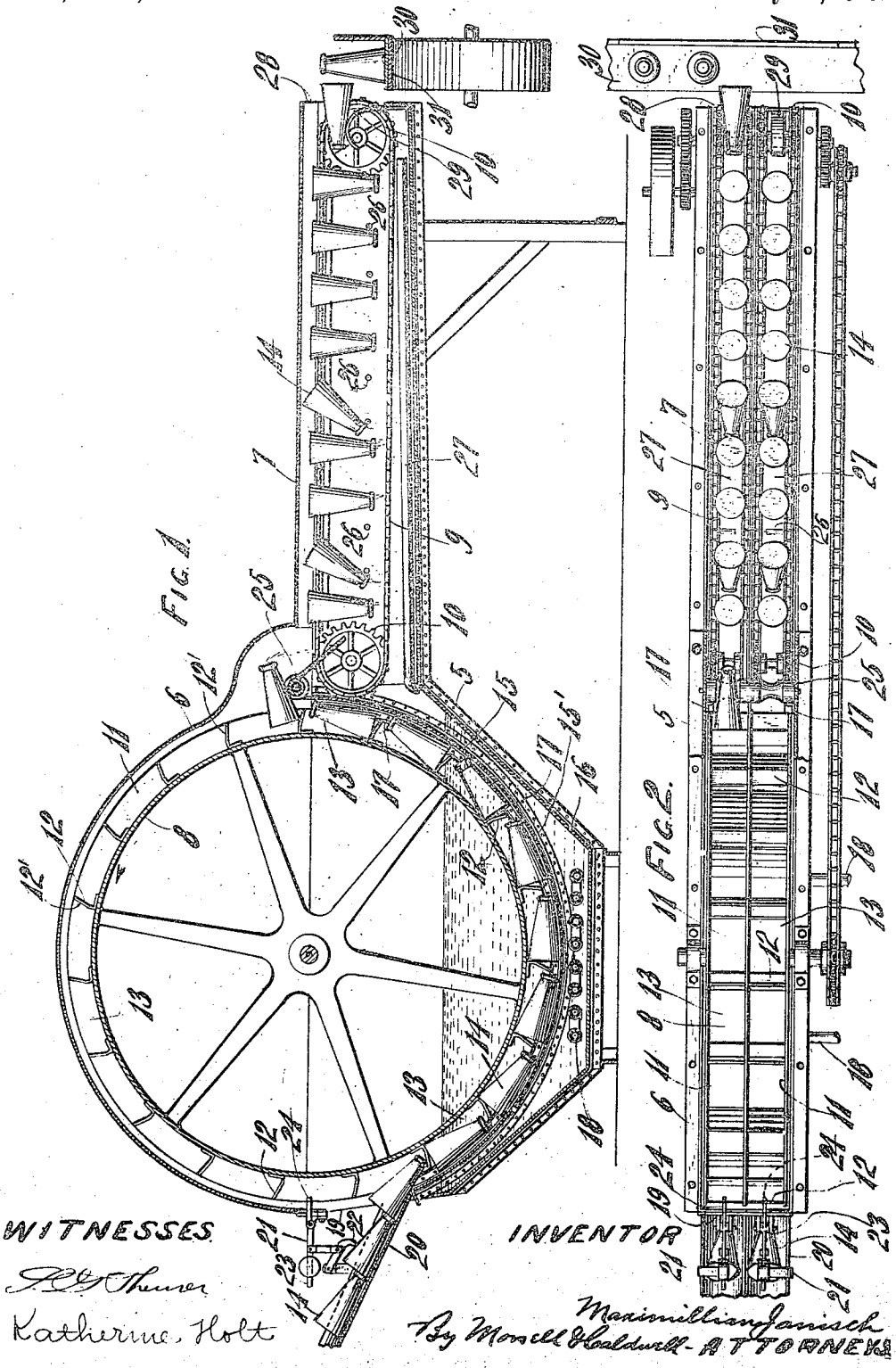


FIG. 1.

FIG. 2.

WITNESSES

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MAXIMILLIAN P. JANISCH, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO U. S. FIBER BOTTLE MACHINERY COMPANY, OF MILWAUKEE, WISCONSIN, A CORPORATION OF WISCONSIN.

BOTTLE-COATING MACHINE.

1,185,329. Specification of Letters Patent. Patented May 30, 1916.

Application filed August 22, 1913. Serial No. 786,096.

To all whom it may concern:

Be it known that I, MAXIMILLIAN P. JANISCH, a citizen of the United States, and resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Bottle-Coating Machines, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

This invention relates to improvements in bottle coating machines and more particularly to machines for coating fiber bottles used for containing milk and other liquids with paraffin.

It is one of the objects of the present invention to provide a machine for coating fiber bottles with paraffin in which the bottles are fed, immersed and coated, drained and discharged from the machine automatically.

A further object of the invention is to provide a machine for coating fiber bottles with paraffin in which means are provided for vibrating the bottles to discharge the surplus amount of paraffin from the bottles after being immersed in the paraffin.

A further object of the invention is to provide a machine for coating bottles with paraffin in which the paraffin is kept in a liquid state.

With the above and other objects in view, the invention relates to the improved machine for coating bottles with paraffin and its parts and combinations as set forth in the claims, and all equivalents thereof.

In the accompanying drawing in which the same reference characters indicate the same parts in all of the views: Figure 1 is a longitudinal sectional view of the improved machine for coating bottles with paraffin; and Fig. 2 is a top view thereof, parts broken away to show interior construction.

Referring to the drawing the numeral 5 indicates the inclosed casing of the machine which is formed with a circular portion 6 and with a horizontal extension 7. A drum 8 is mounted in the circular portion of the casing and an endless conveyer 9 mounted on sprocket wheels 10 extends from the periphery of the drum to the outer end of the extension. The drum is provided with circumferential flanges 11 and with angled transverse members 12 which form a plurality of peripheral pockets 13 to receive the bottles 14 to be coated.

In order to prevent the bottles from dropping out of the pockets while being carried downwardly into the paraffin, a semi-circular guard plate 15 in three sections, the intermediate one 15′ being perforated, is provided which is positioned within the lower half of the casing close to the peripheries of the circumferential flanges 11. The guard plate 15 is held between and spaced from the bottom portion 16 of the casing by semi-circular angle plates 17 which are secured to the side portions of the casing. By forming the guard plate in three sections the plates may be easily removed for cleaning purposes. The perforations of the intermediate section of the plate serve to permit the paraffin to freely circulate around the heating pipes and to keep the bulk of the paraffin at an even temperature. Heating pipes 18 extend into the space in the case below the guard plate to keep the paraffin in a liquid state.

The casing 6 is provided with an inlet opening 19 and an inclined trough 20 directs the bottles into said opening. Trip mechanisms 21 positioned just in front of the inlet opening are adapted to temporarily hold the bottles in successive order until the peripheral pockets register with the said pockets. Each trip mechanism comprises a bottle engaging pawl 22 which is linked to and controlled by a weighted lever 23 fulcrumed on the case. The inner end 24 of the lever is in the path of travel of the transverse angled members 12 and is moved thereby to release a bottle when each peripheral pocket is in position to receive the same.

The bottles are carried downwardly and immersed in the heated paraffin by the drum and become filled and covered with the paraffin during their travel. As each filled bottle is moved upwardly out of the paraffin, it is turned upside down over a fixed grooved roller and guide 25 and then drops between chains of the endless conveyer 9. The outer portions 12′ of the angled transverse members 12 recede rearwardly from the direction of travel of the drum to incline the bottles outwardly so they will positively tip over the grooved roller when they engage

the same. The chains of the endless conveyers are spaced a distance apart less than the diameter of the base of the bottle so that when the bottles are dropped between the chains they will be held upside down by the conveyer and the surplus paraffin drained therefrom during their travel through the extension portion 7 of the casing. During their travel on the conveyers the bottles strike against transverse rods 26 positioned in their path of travel and are swung or knocked sidewise to more completely shake off and out the surplus paraffin. The paraffin discharged from the bottles drops into the return trough 27 and flows back into the circular portion of the casing. When the bottles are carried to the discharge end 28 of the casing extension 7 they are tilted over a curved end plate 29 and deposited right end up upon an endless belt 30 extending transversely across the end of the extension. The upper portion of the endless belt is supported on a table 31.

From the foregoing description it will be seen that the bottle coating machine is of simple construction and is well adapted for coating the outer and inner surfaces of bottles with paraffin or other waterproofing material.

What I claim as my invention is:

1. A bottle coating machine, comprising a receptacle for containing a coating material and having extensions projecting from opposite end portions thereof, a drum mounted to have its lower peripheral portion extend into the receptacle and having a plurality of peripheral pockets for receiving and holding bottles in endwise position, means on one of the extensions for feeding bottles in successive order and in endwise position into the pockets, said feeding means being controlled by engagement with the peripheral pockets, an endless conveyer mounted above the other extension for conveying bottles in inverted position from the drum pocket to a point of discharge, said last mentioned receptacle extension directing the surplus coating material drained from the inverted bottles back to the receptacle, means for inverting the bottles from an upright position on the drum to an inverted position on the endless conveyer, and means for discharging the bottles from the endless chain and turning them to an upright position on a removal member.

2. A bottle coating machine, comprising a casing for containing a coating material and having an extension projecting therefrom, a drum mounted within the casing and having a plurality of peripheral pockets for receiving and holding bottles in endwise position, said endwise positions permitting the bottles to fill with the coating material and to remain filled until they are inverted in being discharged from the drum, a guard plate mounted in the casing and curved concentrically with the drum and co-acting with the peripheral pockets of the drum in holding the bottles in endwise position, means for feeding the bottles in successive order and in endwise position into the pockets, an endless conveyer mounted within the casing extension, means for tilting the bottles from the pockets upon the conveyer in inverted position, and means for tilting the bottles from the chain to a support.

3. A bottle coating machine, comprising a casing for containing a coating material and having an extension projecting therefrom, a drum mounted within the casing and having a plurality of peripheral pockets for receiving and holding bottles in endwise position, said endwise positions permitting the bottles to fill with the coating material and to remain filled until they are inverted in being discharged from the drum, a guard plate mounted in the casing and curved concentrically with the drum and co-acting with the peripheral pockets of the drum in holding the bottles in endwise position, means for feeding the bottles in successive order and in endwise position into the pockets, an endless conveyer mounted within the casing extension, means for tilting the bottles from the pockets upon the conveyer in inverted position, an endless belt extending adjacent to the outer end of the casing extension, and means for tilting the bottles from the conveyer upon the belt.

In testimony whereof, I affix my signature in presence of two witnesses.

MAXIMILLIAN P. JANISCH.

Witnesses:
C. H. KEENEY,
EMILY SCHOWALTER.