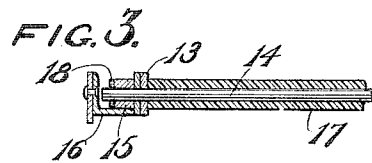
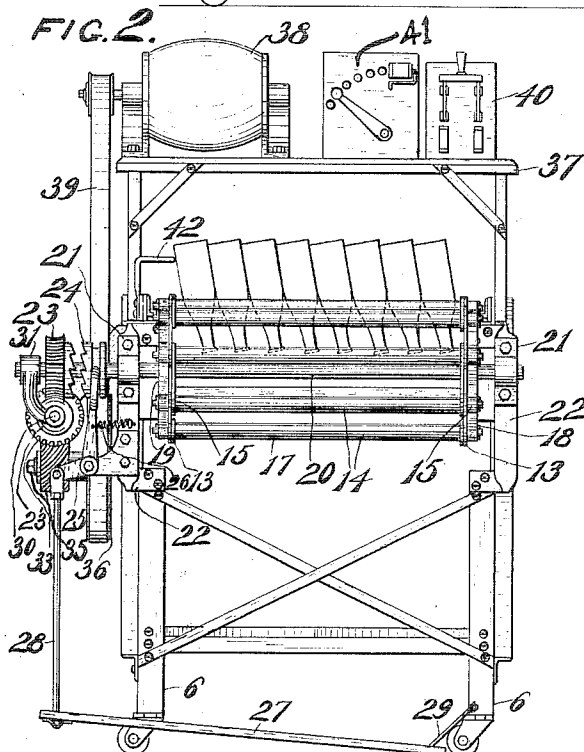


1,044,606.



INVENTOR.
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ATTORNEYS.

UNITED STATES PATENT OFFICE.

SIMON VOLZ, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO THE TWENTIETH CENTURY MACHINERY COMPANY, OF MILWAUKEE, WISCONSIN, A CORPORATION OF ILLINOIS.

BOTTLE CONVEYER AND DRAINER.

1,044,606.

Specification of Letters Patent.

Patented Nov. 19, 1912.

Application filed March 29, 1909. Serial No. 486,444.

To all whom it may concern:

Be it known that I, SIMON VOLZ, residing in Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Bottle Conveyers and Drainers, 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 conveyers and drainers particularly adapted for use in breweries and other places where a large number of bottles are constantly being washed and drained preparatory to filling.

One of the objects of this invention is to provide a bottle conveyer and drainer which is adapted to support the bottles in position to be drained and at the same time convey the bottles from one end of the machine to the other.

A further object of this invention is to provide a bottle washer and drainer of the before mentioned type which is adapted to be operated only during the time the operator is in a position to remove the drained and conveyed bottles from the machine.

With the above, and other objects in view, the invention consists of the devices and parts, and their combinations.

In the accompanying drawing, in which the same reference characters indicate the same parts in all of the views; Figure 1 is a side view of the complete machine, a medial portion removed for convenience of illustration, and other parts in section; Fig. 2 is a front view thereof; and, Fig. 3 is a detail view in section of one of the transverse conveyer bars and a portion of the supporting frame.

Referring to the drawing the numeral 5 indicates the main frame of the machine which is of angle iron construction and may be of any convenient size or shape, but is preferably formed as shown with supporting legs 6 provided with casters and connected together by horizontal side members 7 and 8 properly reinforced and braced to form a rigid stand or table. Brackets 9 forming part of the main frame and extending rearwardly therefrom and provided with adjustable bearing blocks 10 support a transverse shaft 11 mounted in the blocks thereof.

Sprocket wheels 12 fast to said shaft are

adapted to carry an endless bottle conveyer and draining means consisting of sprocket chains 13 connected together by transverse holding rods or members 14 which are spaced apart a distance slightly less than the largest diameter of the bottles which the machine is adapted to drain. These holding rods or members also serve as pivot pins for the sprocket chain links and extend through said links and on their outer ends are provided with anti-friction rollers 15 which are positioned to roll and have their bearing on angle iron rails 16 connected by rivets to the horizontal side members 7. The two sprocket chains are transversely spaced apart on the holding rods by rubber tubes 17 which surround each rod and are adapted to present a yielding surface for the bottles to rest upon. The anti-friction rollers are held in position on the rods by cotter pins 18 connected thereto.

The conveyer chain is supported and driven from the front or right hand end of the machine by sprocket wheels 19 fast on a transverse shaft 20 mounted in blocks 21 connected to brackets 22 extending forwardly from the front end of the machine.

A worm wheel 23 meshing with a worm 23' is loosely mounted on the shaft 20 and is adapted to be clutched thereto by a sliding clutch member 24 splined to the shaft. This clutch member is provided with teeth or jaws which are adapted to engage corresponding teeth formed on the worm wheel, and the clutch member is adapted to be slid on the shaft by means of a forked bell crank lever 25 pivotally connected to the bracket. The clutch member is normally held out of engagement with the companion teeth formed on the worm wheel by a coiled spring 26 connected to the vertical arm of the bell crank lever and to the bracket. The short arm of the bell crank lever is connected to an operating member 27 upon which the operator stands by means of a connecting rod 28. The lower end of the operating lever is connected to the frame by means of a link 29 to prevent displacement thereof in moving the frame from place to place.

The worm 23' is fast on a shaft 30 which has its bearings in a bracket 31 suspended from the shaft 20 and another bracket 32 depending from the horizontal member 7 of the frame. A spiral gear 33 fast to the inner end of the shaft 30 and meshing with

another spiral gear 34 mounted on a short stud shaft 35 projecting from the bracket 32 is connected to a belt wheel 36 also mounted on the stud shaft.

5 A super frame 37 extends transversely across the machine from one horizontal side member to the other and at a sufficient height to permit the passage of bottles carried on the endless conveyer therebeneath. An elec-
10 tric motor 38 positioned on said platform has a belted connection with the belt wheel 36 by a belt 39 and is adapted to transmit motion to the endless conveyer. A knife switch 40 and a starter 41 mounted on the
15 super frame are adapted to control the electric current supplied to the motor.

In order to hold the bottles substantially upright while being moved by the endless conveyer in order to permit free drainage
20 of the contents of said bottles, a guard rail 42 is connected to one of the horizontal side members and extends from one end of the machine to the other and bottles placed be-
25 tween the holding members in rows, are all inclined toward the guard and rest against each other and the last bottle in each row rests against the guard rail.

The use and operation of the machine are as follows: The bottles are washed and in-
30 serted between the holding members of the endless conveyer at the left hand end of the machine in an inverted position to thoroughly drain the contents thereof. The
35 bottles are draining during the period of time the bottles are traveling with the conveyer from the rear end of the machine to the front end and when the front end of the
40 machine is reached the operator standing on the operating platform or member removes the drained bottles from the conveyer for filling. As long as the operator who
45 removes the bottles stands on the platform or operating member the conveyer will continue to travel and the operator who places the bottles into the conveyer, and who may
50 be at a considerable distance from the other operator, will continue to place the bottles in the conveyer as long as it continues to move, if however, the operator should leave the machine for any cause, the coiled spring connected to the bell crank lever would disengage the clutch member from the worm wheel and the movement of the endless conveyer would immediately stop and the filling

operator would not have any empty spaces 55 to fill, and would be compelled to stop. As soon as the other operator returned and stepped on the operating member the clutch would be moved into engagement with the worm wheel and the movement of the con- 60 veyer immediately start again. Also, if the speed of feed of the bottles is too fast for the operator to handle he can step off of the operating member from time to time and stop the feed until he catches up to the work. 65

If it is desired to move the machine from place to place the self-contained feature of the machine provides the opportunity to do so without disconnecting any of the mechanism. 70

When the rubber tubes covering the holding rods become worn they may be individually replaced by removing a cotter pin and withdrawing the rod from one sprocket chain and from the tubing and replacing 75 a new piece of tubing on the rod and connecting the parts as before.

If the rail should wear it may be easily replaced with a piece of commercial angle iron. 80

What I claim as my invention is:

1. A bottle conveyer and drainer, comprising a frame, an endless conveyer mounted on the frame, a motor carried by said frame, a motion transmission means between the 85 motor and the endless conveyer, a clutch for operatively connecting the endless conveyer to the motor, a bell crank lever for moving said clutch, and an operating platform positioned adjacent to the frame and connected 90 to said bell crank lever.

2. A bottle conveyer and drainer, comprising a frame, an endless bottle conveyer mounted on the frame, a guard rail provided on the frame for holding in upright 95 position bottles carried by the conveyer, a means for driving the conveyer, a clutch for operatively connecting the driving means to the conveyer, a bell crank lever for moving said clutch, and an operating platform 100 positioned adjacent to the frame and connected to said bell crank lever.

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

SIMON VOLZ.

Witnesses:

ANNA F. SCHMIDTBAUER,
ALMA A. KLUG.