

Oct. 9, 1923.

1,470,533

W. R. JOHNSTON

CAN TURNING DEVICE FOR WASHING MACHINES

Filed Sept. 18, 1920

3 Sheets-Sheet 1

FIG. 1.

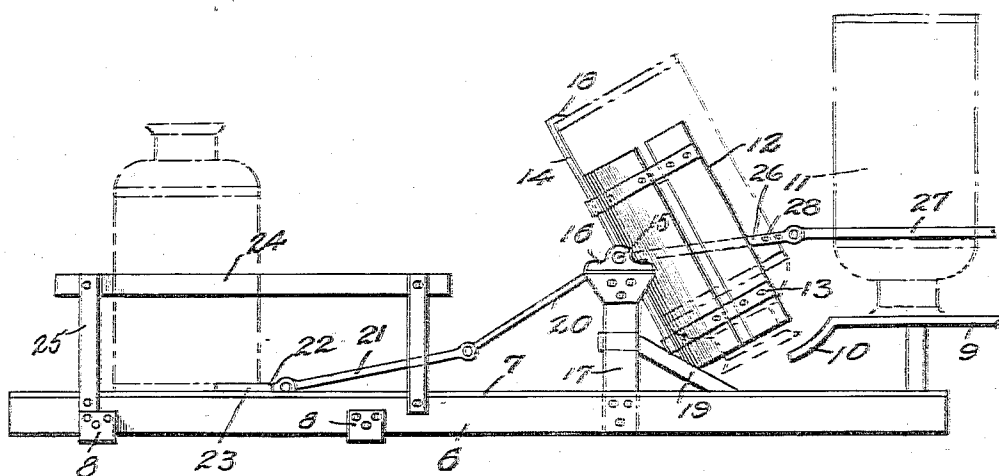
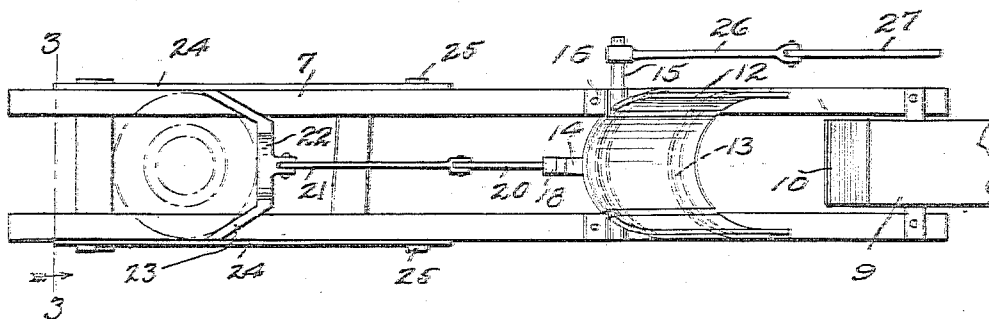


FIG. 2.



Witness

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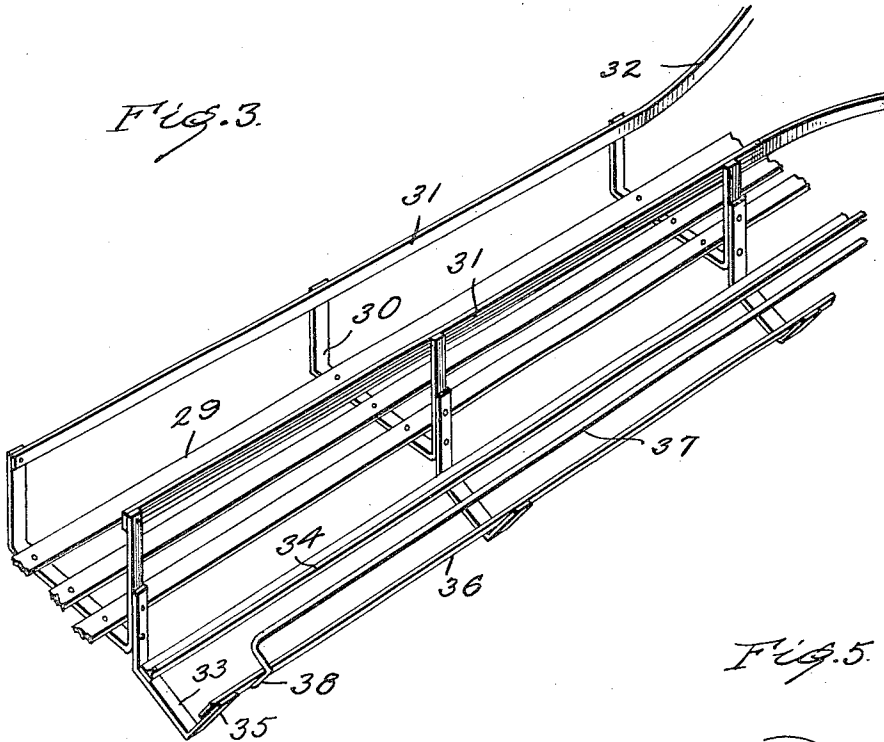


Fig. 4.

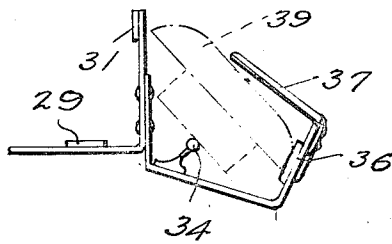


Fig. 5.

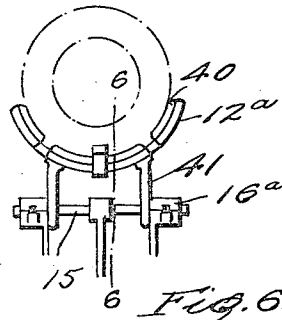
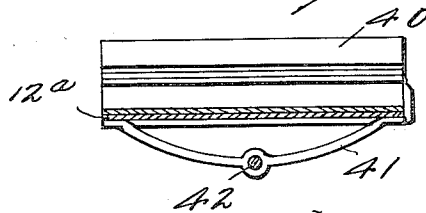


Fig. 6.



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Fig. 7.

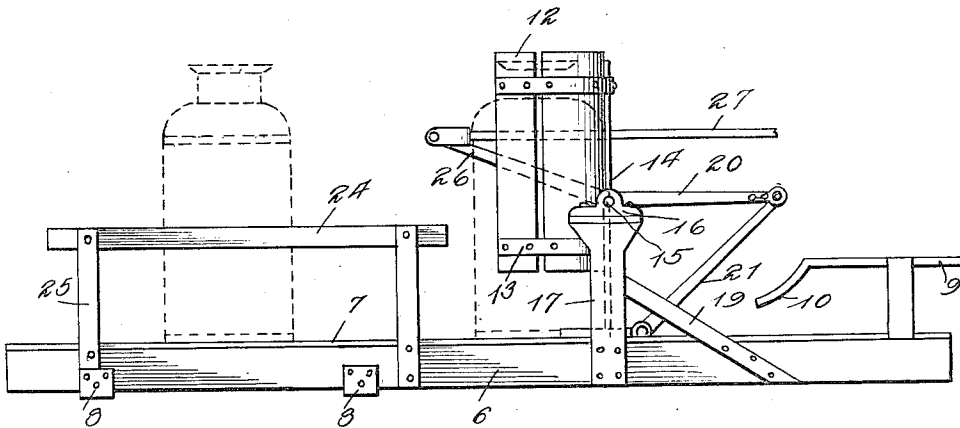
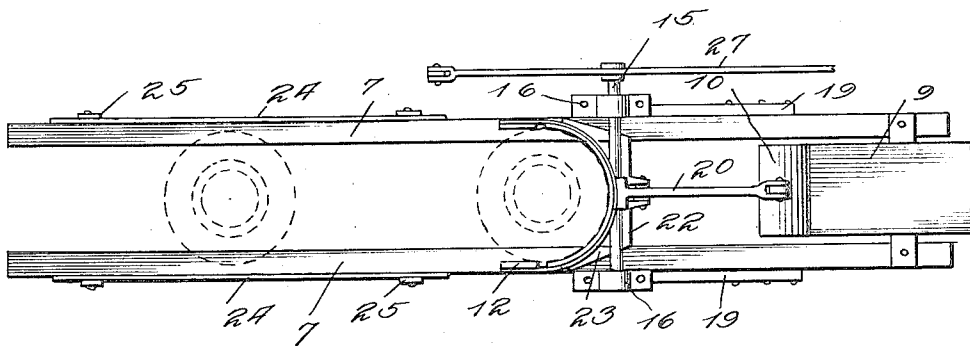


Fig. 8



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UNITED STATES PATENT OFFICE.

WALTER R. JOHNSTON, OF VALLEJO, CALIFORNIA.

CAN-TURNING DEVICE FOR WASHING MACHINES.

Application filed September 18, 1920. Serial No. 411,066.

To all whom it may concern:

Be it known that I, WALTER R. JOHNSTON, a citizen of the United States, residing at Vallejo, in the county of Solano and State of California, have invented certain new and useful Improvements in a Can-Turning Device for Washing Machines, of which the following is a specification.

This invention relates to a mechanism for turning milk cans after the same has passed through a washing machine by moving the cans from an inverted position to an upright position.

Another object of this invention is the production of a simple and efficient mechanism for receiving the cans from the delivery platform and swinging the cans from an inverted to an upright position and then moving the same longitudinally of the carrier platform where the cans may be removed and stored for renewed service.

A still further object of this invention is the production of a simple and efficient means for conveying the covers of the milk cans from the washing machine to a convenient point where the same may be assembled with the cans.

With these and other objects in view, this invention consists of certain novel constructions, combinations and arrangement of parts as will be hereinafter described and claimed.

In the drawings:—

Figure 1 is a side elevation of the can turning device.

Figure 2 is a top plan view thereof.

Figure 3 is a perspective view of a portion of the can delivering frame showing the cover carrying frame carried thereby.

Figure 4 is an end view of the cover carrying frame and a portion of the can carrying frame.

Figure 5 is an end elevation of the can turning cradle.

Figure 6 is a section taken on line 6—6 of Figure 5.

Figure 7 is a side elevation of the device with the can shown in its upright position.

Figure 8 is a plan view thereof.

By referring to the drawings it will be seen that the can turning device comprises a plurality of parallel rails 6, which rails support track plates 7 upon their upper edges. These rails 6 are braced by means of the transversely extending straps 8 which pass under the rails 6 as clearly shown in

Figure 1 and it of course should be understood that any suitable or desired bracing means may be employed without departing from the spirit of the invention. A delivery platform 9 is supported at one end of the rails 6 as clearly shown in Figures 1 and 2 of the drawings and this delivery platform is provided with a depending lip 10 for the purpose of supporting the can indicated in dotted lines and referred to by the numeral 11, could be tilted and swung into the cradle 12.

This cradle 12 may be preferably formed of rubber lined reinforced member formed substantially semi-circular in cross section. The cradle 12 may be braced by suitable bracing bands 13 at its inner end and may also be reinforced by any other suitable or desired manner. The cradle 12 is preferably lined with rubber or other resilient material for the purpose of receiving the cans and preventing injury to the cans. A supporting bar 14 carries the cradle 12 and pivotally supports the same upon a journal shaft 15. This journal shaft 15 is carried by the bearing plate 16 mounted upon the vertical standard 17. The bar is provided with an upturned end 18 which constitutes a track for the bottom of the can 11 as clearly shown in Figure 1. The standards 17 are braced by means of the angular braces 19 which may be formed of any suitable or desired structure without departing from the spirit of the invention.

The journal shaft 15 is provided with a crank arm 20 secured thereto, and this crank arm 20 is engaged by means of a link arm 21, the link arm 21 being secured to the can shifting shoe 22. This can shifting shoe 22 is formed so as to normally hang below the track plates 7 and the shoe 22 is provided with offset upwardly extending ends 23 which ends 23 travel upon the upper face of the track plates 7 as clearly illustrated in Figure 3 of the drawings. A plurality of can retaining rails 24 are supported near the discharge end of the can turning mechanism and these rails 24 are supported by vertically extending standards 25, as clearly shown in Figure 1 of the drawings. These rails 24 will hold the can against lateral swinging movement when being turned from the inverted to the upright position.

As shown in Figure 2 the journal shaft 15 is engaged by an operating crank handle

26, this handle being connected to an operating link 27, whereby the shaft 15 may be oscillated by any suitable mechanism desired for the purpose of turning the cans from an inverted to an upright position. Suitable adjusting apertures 28 are formed in the crank arm 26 to permit the link 27 to be adjustably connected thereto.

In Figures 3 and 4 is shown a conveying mechanism or chute which delivers the cans to the turning cradle and this delivering chute is preferably arranged at an incline so that the cans might move toward the lower ends thereof through force of gravity. The chute comprises a plurality of slats 29 which are arranged to have their lower ends abut against the platform 9. These slats 29 are supported in engagement with the substantially U-shaped members 30, these strap members carrying at their upper ends the side rails 31 clearly shown in Figure 3. These side rails 31 are diverged from each other as indicated at 32 in Figure 3 and may be connected or supported at their outer ends in any suitable or desired manner.

A cover supporting chute is carried upon one side of the can supporting chute and comprises a plurality of strap members 33, these supporting strap members 33 supporting a track rod 34, extending longitudinally of the chute as indicated in Figures 3 and 4. The upturned ends 35 of the strap members 33 support the longitudinally extending side rails 36 and upon this side rail 36 is secured the retaining bars 37, the retaining bar 37 having downwardly turned ends 38 for securely supporting them in engagement with the side rail 36. The retaining bar 37 is adapted to prevent the can covers indicated in dotted lines as at 39 from falling from the chute, the edge of the cover 39 traveling upon the rail 36 as indicated in Figure 4.

As shown in Figures 5 and 6 a cradle 12^a is provided which carries a resilient lining 40, for the purpose of supporting the cans. This cradle 12^a is supported upon a plurality of arms 41, which arms 41 have journals 42, through which the supporting shaft 15 extends. This shaft 15 may be supported in any suitable or desired manner from the journals 16^a as shown in Figure 5. It should be understood that the detailed construction of the cradle may be modified if so desired without departing from the spirit of the invention in order to accommodate itself to different size cans or cans having different designs.

The operation of the device is as follows.

The cans are moved along the platform 9 and upon reaching the depending lip 10, the cans will fall forwardly into the cradle 12. The crank arm 26 is then operated for swinging the cans to an upright position, the cans landing upon the bottom edge thereof

upon the track rails 7 and the cans will then be engaged by the shoe 22 and are pushed toward the discharge end of the can turning device as the cradle 12 is again swung to its original position for receiving the next can.

It should be understood that the cans are placed in the can chute upon the slat 29 and are fed downwardly toward the lower end. The covers of the cans are placed in the chute upon the side of the can chute as shown in dotted lines in Figure 4, these covers also feeding towards the lower or discharge end through the course of gravity.

I claim:

1. A can turning machine comprising a trackway, a delivery platform, a cradle supported upon said platform, a shaft co-operating with said cradle, a crank arm for actuating said shaft for swinging said cradle whereby a can delivered thereto will be swung from an inverted to an upright position, and means associated with said shaft and adapted to engage the can for moving the same longitudinally of said trackway as the cradle is swung to its original position.

2. A can turning machine comprising a trackway a delivery platform, a cradle supported upon said trackway and arranged in position to receive a can from said delivery platform, means for facilitating the swinging of said cradle whereby a can delivered thereto will be turned from an inverted to an upright position, a can engaging shoe slidably mounted upon said trackway, and means connecting said shoe to said cradle whereby said shoe will engage the lower edge of a can and move the same longitudinally of said platform as said cradle is moved to its initial position.

3. A can turning machine of the class described comprising a trackway, a delivery platform, said platform provided with a depending lip adapted to permit tilting of the can from an inverted to an inclined position, a cradle supported upon said trackway and adapted to receive the can as the same is swung from the delivery platform, a shaft carried by said cradle, a crank arm carried by said shaft, a link connected to said crank arm, a sliding shoe carried by said link and slidably mounted upon said trackway, said link adapted to be swung under said cradle as the same is swung to an upright position whereby said shoe will be positioned in the rear of a can delivered from said cradle, and said shoe adapted to engage a can for moving the same longitudinally of said trackway as said cradle is returned to its initial position.

4. A device of the class described comprising a trackway, said trackway provided with a plurality of rail plates, a shifting shoe slidably mounted upon said rail plates and provided with can engaging ends

adapted to engage the lower edge of a can
and shift the same longitudinally of said
rail plates as said shoe is moved longitudi-
nally, a link engaging said shoe, a crank
5 arm engaging said link, a cradle supported
upon said track-way and adapted to receive
a can, a shaft carrying said cradle and crank
and arranged to move the cradle and crank
simultaneously whereby the shoe will be
10 moved inwardly with respect to the dis-
charge end of the track-way as the cradle is
swung to an upright position and will be
moved outwardly with respect to the dis-
charge end of the track-way as the cradle
15 is moved to a receiving position.
5. In a can inverting mechanism a plat-

form, a swinging cradle adjacent the plat-
form and adapted to receive cans moved
from said platform, a trackway beneath said
cradle adapted to receive cans from the cra-
dle upon inversion of the latter from its po-
sition when receiving cans from the plat-
form, and means associated with the cradle
for moving the cans along the trackway as
the cradle is moved to position to receive a
can from the platform.

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

WALTER R. JOHNSTON.

Witnesses:

CHARLES E. HAGER,
THEO. L. WELT.