

Nov. 15, 1927.

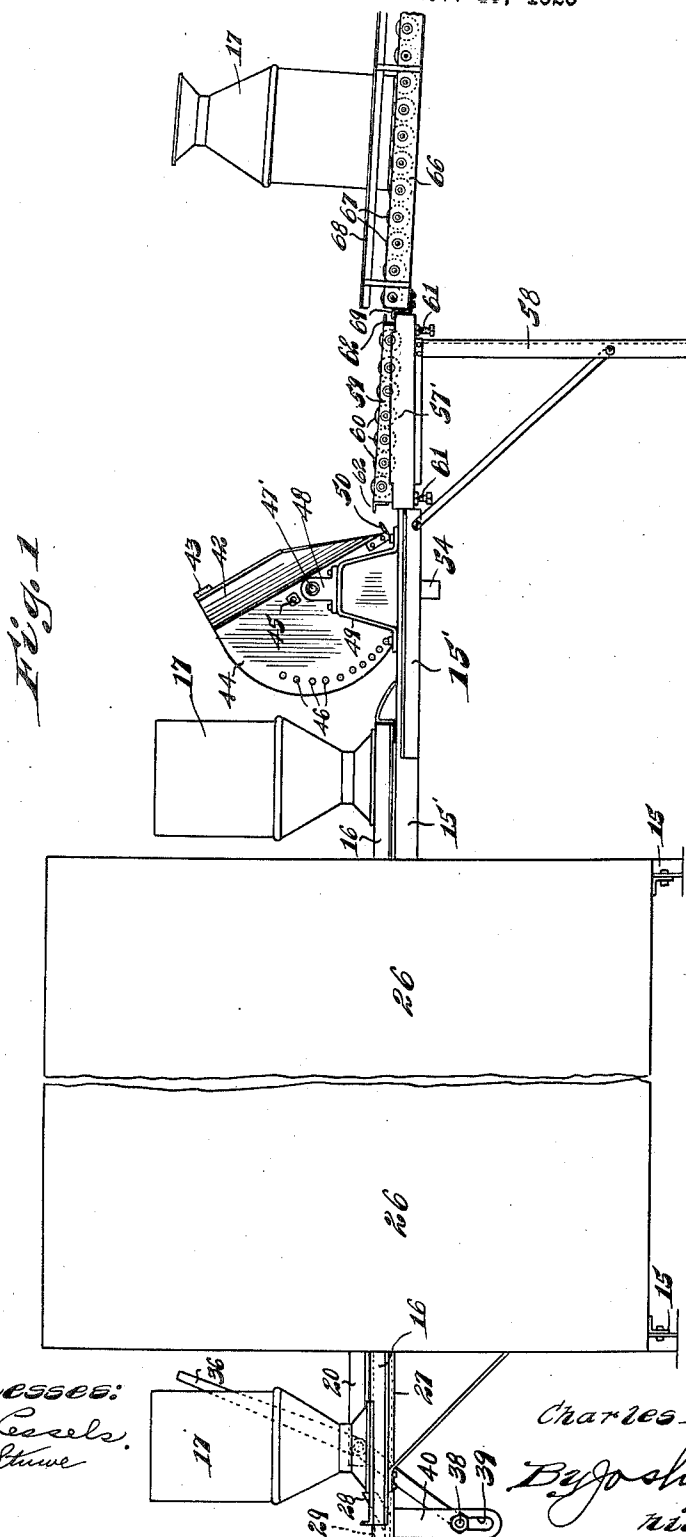
C. F. McEWAN

1,649,073

CAN CONVEYING, INVERTING, AND DISCHARGING MECHANISM

Filed Nov. 19, 1925

5 Sheets-Sheet 1



Witnesses:
C. E. Wessels,
J. D. Stine

Inventor:
Charles F. McEwan,
By *Boysen & Sons*
his Attorney.

Nov. 15, 1927.

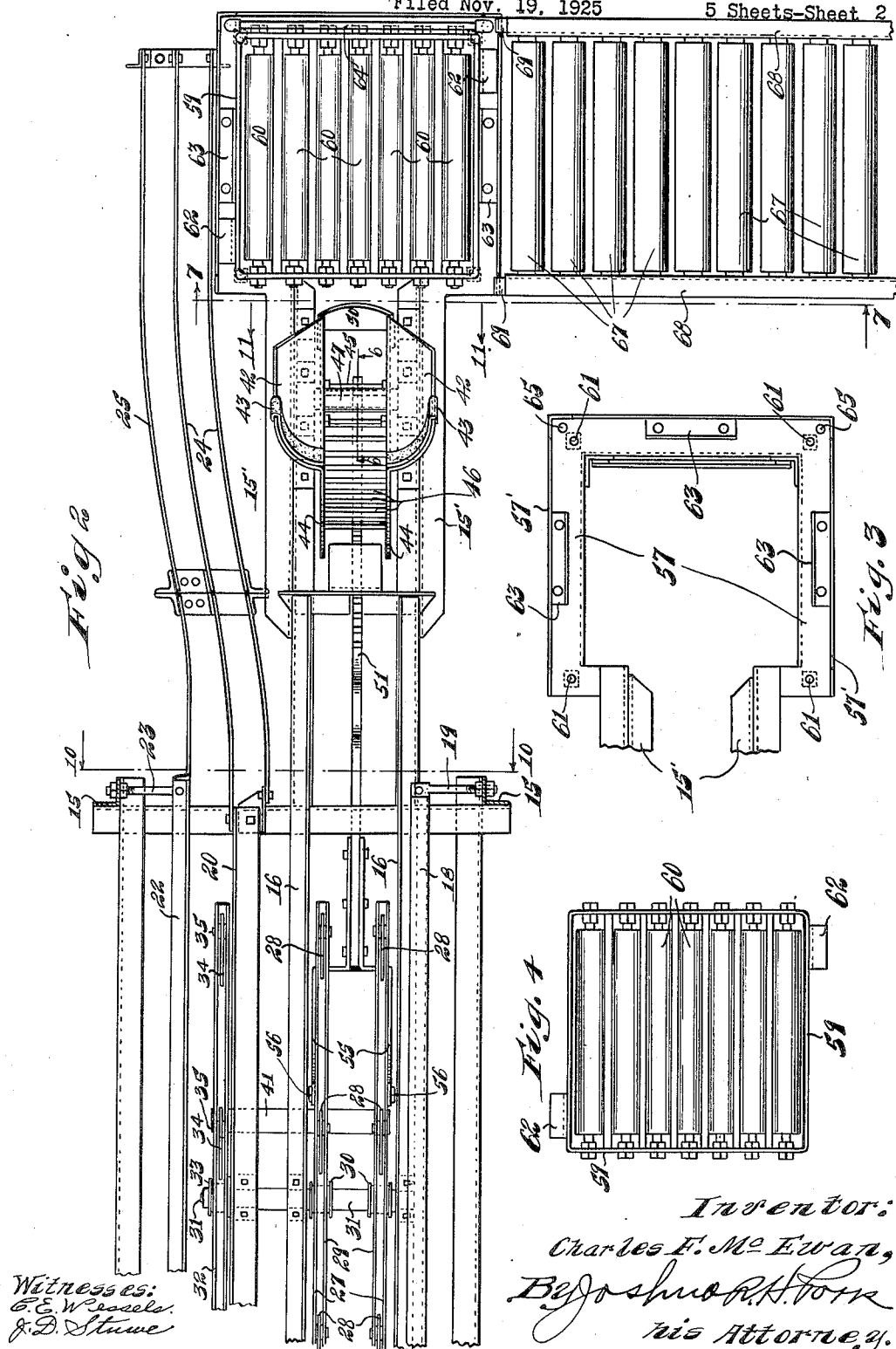
C. F. McEWAN

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CAN CONVEYING, INVERTING, AND DISCHARGING MECHANISM

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5 Sheets-Sheet 2



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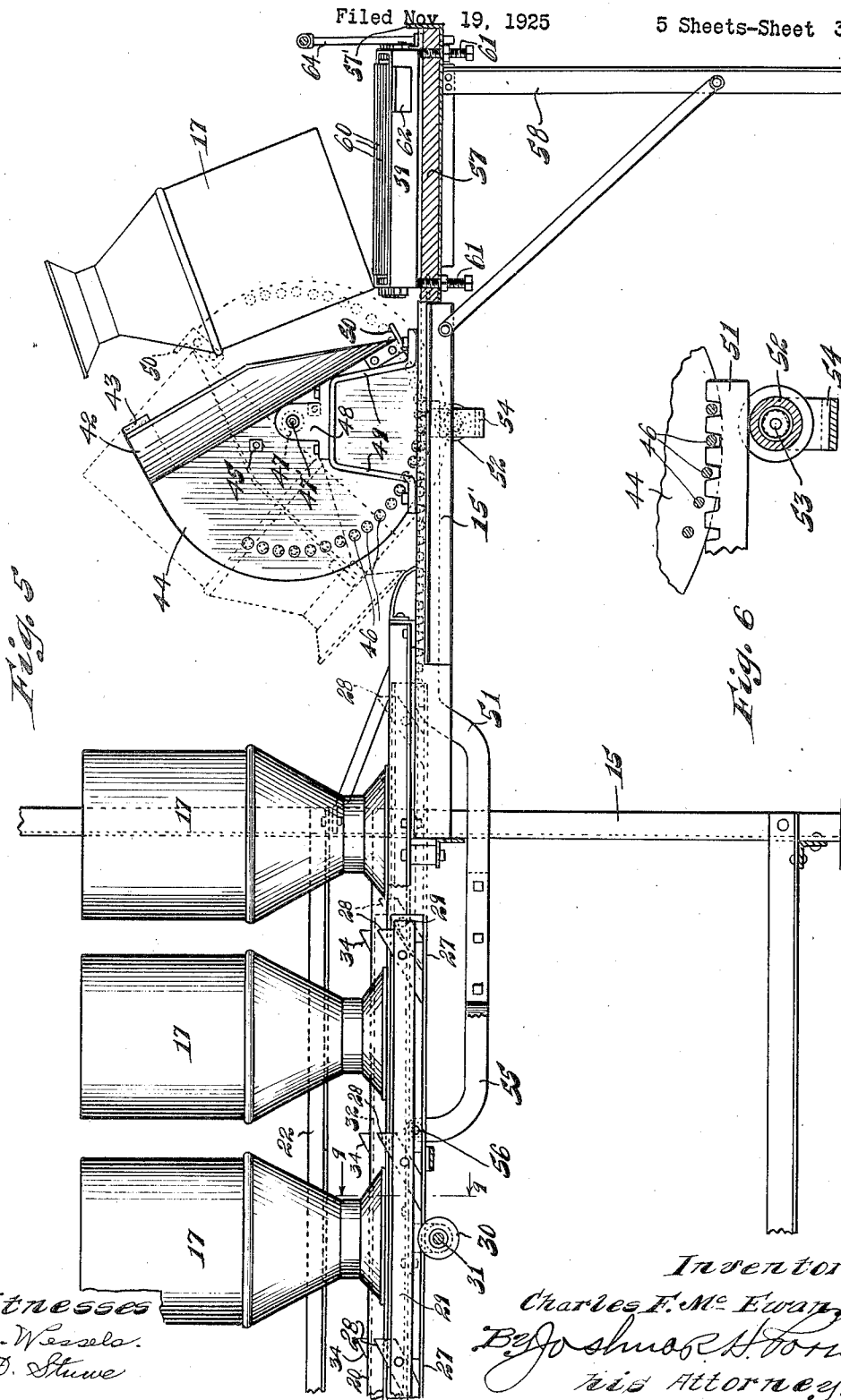
C. F. McEWAN

1,649,073

CAN CONVEYING, INVERTING, AND DISCHARGING MECHANISM

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5 Sheets-Sheet 3



Witnesses
C. E. Wessels.
J. D. Stueve

Inventor:
Charles F. McEwan,
By Joshua H. Horn,
His Attorney.

Nov. 15, 1927.

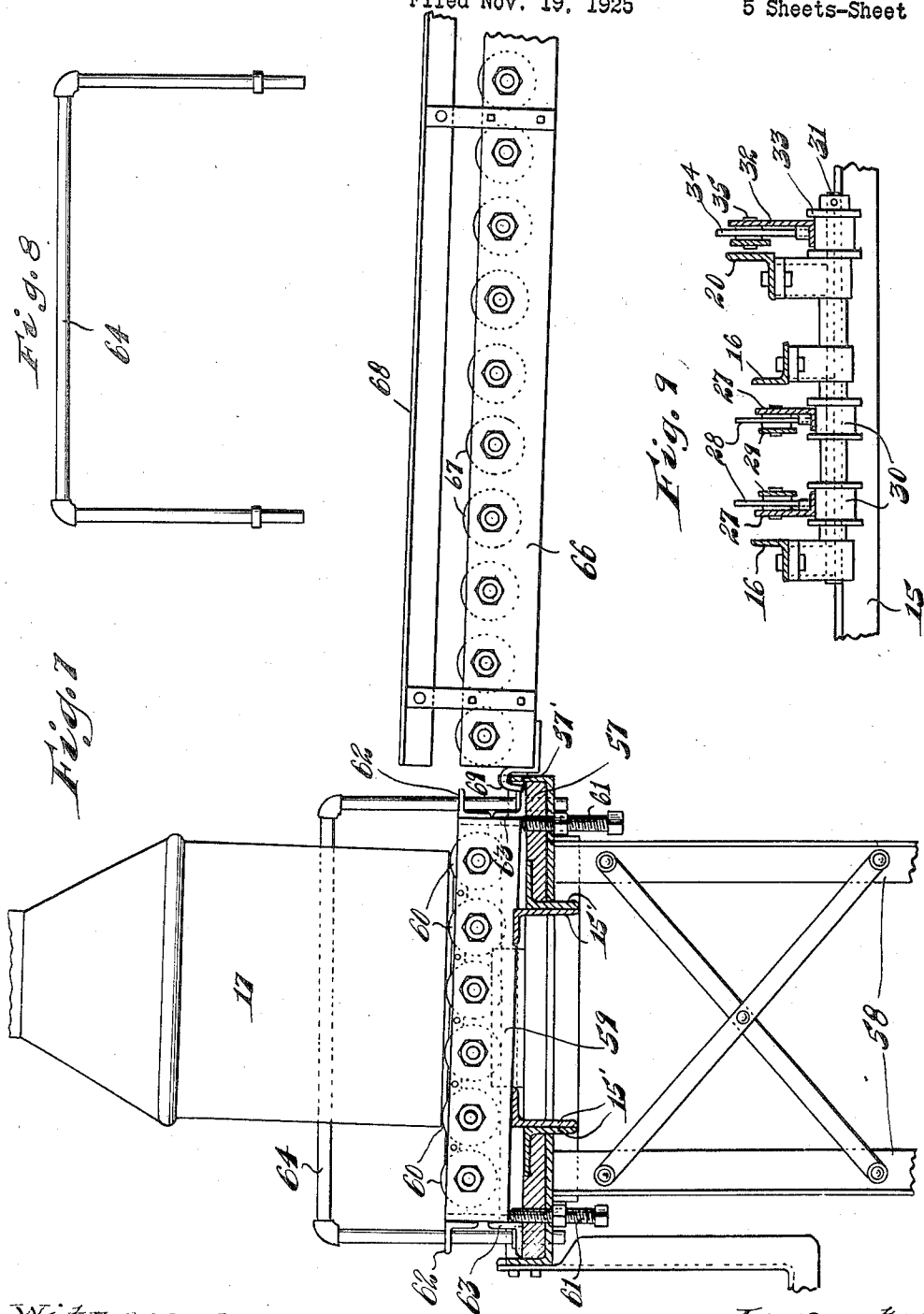
C. F. McEWAN

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CAN CONVEYING, INVERTING, AND DISCHARGING MECHANISM

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5 Sheets-Sheet 4



Witnesses:
 C. E. Wessels.
 J. D. Stume

Inventor:
 Charles F. McEwan,
 By Joshua H. Davis
 his Attorney.

Nov. 15, 1927.

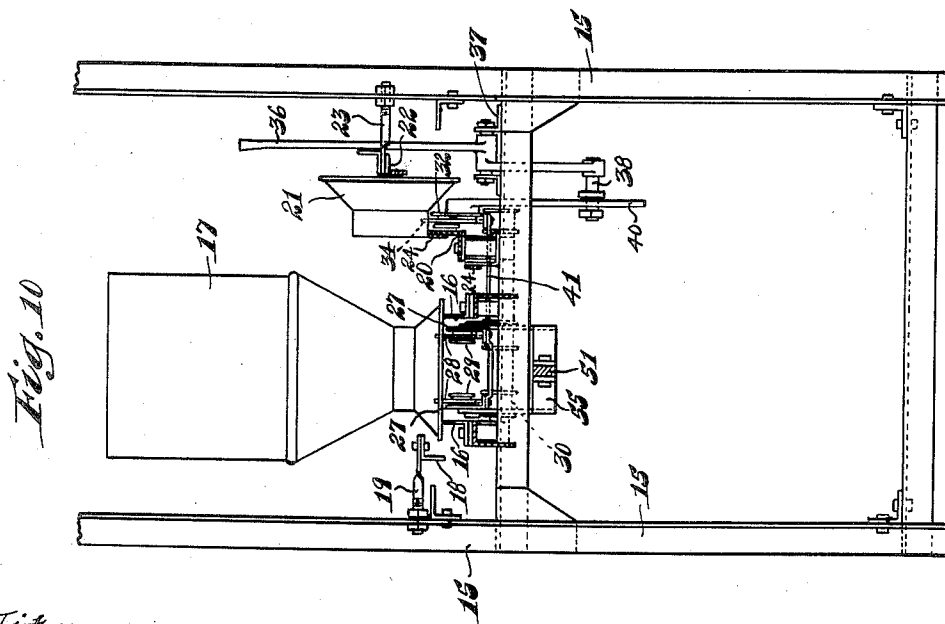
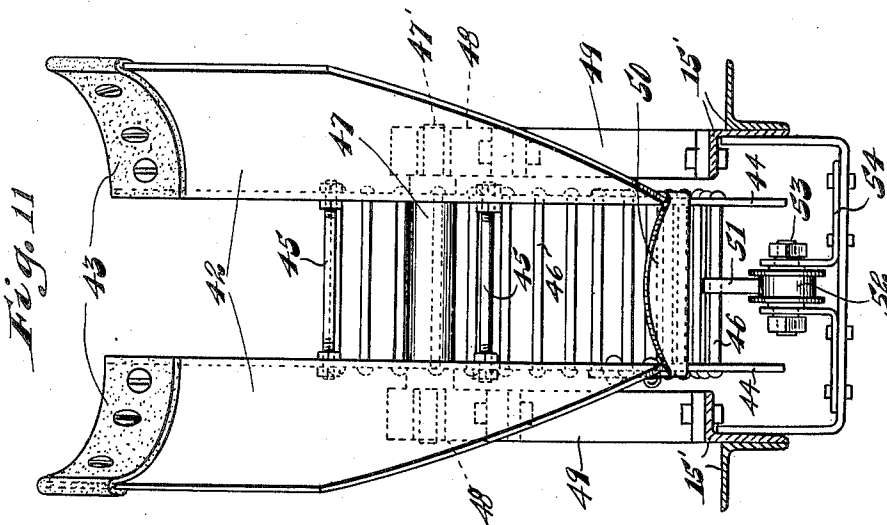
C. F. McEWAN

1,649,073

CAN CONVEYING, INVERTING, AND DISCHARGING MECHANISM

Filed Nov. 19, 1925

5 Sheets-Sheet 5



Witnesses:

E. E. Wessels.
J. D. Stume

Inventor:

Charles F. McEwan,
By Joshua A. Horn
his Attorney.

UNITED STATES PATENT OFFICE.

CHARLES F. McEWAN, OF CHICAGO, ILLINOIS, ASSIGNOR TO HARRY D. LATHEROP, OF CHICAGO, ILLINOIS.

CAN CONVEYING, INVERTING, AND DISCHARGING MECHANISM.

Application filed November 19, 1925. Serial No. 69,972.

My invention relates to a can conveying, inverting and discharging mechanism, and an object of the invention is to provide efficient means for conveying and properly inverting the can back to its upright position after the can has travelled through the washing machine in its upside-down position; another object is to provide means which may be variously arranged and adjusted for delivering or discharging the cans in a selected or certain one of several directions; and another object is to provide a gravity platform which may be variously arranged on the mechanism, and which has means for adjusting its inclination, so as to transfer cans from the inverting means in one of several directions.

Other objects will appear hereinafter.

The invention consists in the combination and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings forming a part of this specification, and in which,

Fig. 1 is a side elevational view of a construction embodying my invention, with the discharging means arranged for discharging cans longitudinally of the mechanism;

Fig. 2 is an enlarged plan view of the main part of the invention, showing the can discharging means arranged for discharging the cans transversely, to one side of the mechanism;

Fig. 3 is a plan view of the fixed frame of the can advancing and discharging means;

Fig. 4 is a plan view of the gravity means or platform which is variously mountable in the frame shown in Fig. 3, so as to advance the cans in either one of several directions;

Fig. 5 is a side elevational view of the construction shown in Fig. 2, omitting the removable discharge means;

Fig. 6 is an enlarged detail view of the elements used for swinging the can inverting means;

Fig. 7 is an enlarged cross sectional view of the can advancing and discharging means, taken on line 7—7 of Fig. 2;

Fig. 8 is an elevational view of the guard rail;

Fig. 9 is an enlarged elevational view

showing the can and cover tripping fingers or pawls;

Fig. 10 is an elevational cross section taken on line 10—10 of Fig. 2; and

Fig. 11 is an elevational cross section of the can inverting means, taken on line 11—11 of Fig. 2.

The form of invention illustrated in the drawings briefly comprises means for conveying the can in its inverted or upside-down position through the washing and cleaning machine; also means for tilting or inverting the can back into its upright position; and means for receiving the inverted or tilted can and for discharging it in a selected one of several directions.

The means for conveying the can comprises a supporting frame 15 with stationary rails 16 fastened thereon for slidably supporting the cans 17 thereon as indicated in the drawings. A guard rail 18 is mounted with bolts or members 19 on the main frame 15, slightly above and outward of the supporting rails 16, as best shown in Figs. 2 and 10. A rail 20 is mounted on the frame, adjacent the rail 16, for slidably supporting the cover 21 thereon, and a guide rail 22 is mounted with bolts or members 23 on the main frame, to engage intermediate the side of cover 21 for guiding the same, as best shown in Fig. 10. Track means 24 extends from track 20 to the discharging means, and a guide rail 25 extends from guide rail 22 likewise to the discharge means of the machine, as best indicated in Fig. 2.

The means for actuating the can to advance them in a step-by-step movement through the washing machine 26 comprises a pair of bars 27 having trip fingers or pawls 28 pivotally mounted thereon and having strips or plates 29 provided at the inward sides of said pawls. Said bars 27 are preferably in the form of angle bars reciprocated on rollers 30 mounted on shafts 31 supported in the main frame 15, as best shown in Figs. 2 and 9. The means for moving the covers 21 simultaneously with the cans includes a bar 32, which is preferably an angle bar and reciprocates on a roller 33 mounted on said shaft 31. Trip fingers or pawls 34 are pivotally mounted with pins 35 on said bar 32. An operating lever 36 is fulcrumed on a

bracket 37 on the main frame 15, and has on its lower end a pivot pin 38 engaging in a slot 39 provided in an arm 40 which extends downwardly from the angle bar 32, said bars 32 and 27 being fastened together by means of a cross bar 41 or the like, and the movement of the handle 36 thus reciprocates the bars 27 and 32 with their attached trip fingers or pawls 28 and 34, to intermittently move the cans and the covers forward.

The means for tilting or inverting the cans preferably comprises a swingable means including a pair of curved members 42 shaped to receive and hold the cans therein, and members 43 of rubber or other suitable pliable frictional material are mounted at the ends of the curved members 42 for closely engaging and embracing the can and preventing the same from slipping out of said curved members during the initial swinging or rotating thereof. Flanges 44 extend in a parallel direction from members 42 and are fastened together by bolts 45 and by rods 46 which are arranged in semi-circular form adjacent the outer edges of said flanges. The tilting means is swingably mounted by means of a pivot member 47 which has its ends 47' journaled in a bearing 48 mounted with a bracket 49 on the supporting members 15' which extend from the main frame 15. A holding flange or plate 50 is provided at the ends of members 42, opposite the frictional members 43, to prevent the can from slipping longitudinally from the frame during the final part of the swinging movement of the tilting means. A rack bar 51 engages the rods 46 for swinging the tilting or inverting means, and said rack bar is supported at its forward end on a roller 52 pivoted with a pin 53 in bracket means 54 fastened to supporting members 15'. The rear end of said rack bar is provided with forked members 55 which are fastened with bolts 56 or the like to the reciprocating members 27, as best shown in Figs. 2 and 5.

The means for advancing and discharging the cans delivered by the inverting means comprises a frame 57 fastened to the ends of the supporting members 15', and supported on legs or supporting means 58, as best shown in Figs. 5 and 7. A gravity conveyor or platform 59 is mountable on the frame 57 in various positions, and has rollers 60 provided thereon. Threaded members 61 extend upwardly through frame 57 and engage the lower part of said platform 59, and said threaded members are adjustable so as to give said platform the desired inclination to permit the can to travel over the platform at a proper rate of speed. Plates 62 are also provided on the platform for convenient engagement by the hand to rearrange the platform on the frame, and flange members 63 are provided on the

frame to retain the platform in proper position thereon.

The platform 59 may be arranged with the rollers extending transversely of the main frame 15, said frame being inclined longitudinally of said main frame, as indicated in Fig. 1 of the drawings, to advance the cans longitudinally or axially of the main frame; or the platform may be arranged and adjusted so that the rollers extend longitudinally of the main frame and the platform is inclined towards one side of said main frame, as indicated in Figs. 2 and 7 of the drawings, in order to move the cans towards one side of the main frame, and when thus arranged a guard bar 64 may be used and mounted in opening 65 on the frame 57, to prevent the cans from sliding longitudinally of the rollers and falling therefrom, and to assure their movement laterally or transversely of said main frame. The platform 59 also has its side bars extending sufficiently upwardly so as to receive the bottom of the can as it slides from the tilting means, in an inclined direction, as indicated in Fig. 5, and thereafter the can automatically moves onto the rollers in its upright position and is automatically moved by the force of gravity along the inclined rollers.

Discharge means, or a further gravity conveyor is arranged to be mounted on either side of frame 57, in harmony with the arrangement of the platform 59 on said frame, as variously indicated in Figs. 1 and 2, and this discharging means preferably comprises frame bars 66 with rollers 67 rotatably mounted therein, and with guide bars 68 extending upwardly above said frame bars. Hooks 69 are provided on said frame bars 66 to engage over and on the side flanges 57' of frame 57, as best shown in Fig. 7. This discharging means may be mounted at the rear end of frame 57 or may be mounted at the side of frame 57 to discharge in harmony with the arrangement of platform 59 on said frame 57, and to discharge the cans either longitudinally from the end of the main frame or transversely to one side thereof.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

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

1. A device comprising means for conveying a can, means for tilting a can, and ad-

vancing means including rollers and a stationary side bar on which the can lands when it leaves the tilting means and wherefrom it moves onto said rollers as it assumes an upright position.

5 2. A device comprising conveying means including stationary tracks to support the can, reciprocating means with trip fingers

and a rack bar attached to and moved with said reciprocating means, swingable means 10 having rods arranged in a semi-circle engaged by said rack bar for swinging said means and inverting the cans.

In testimony whereof I have signed my name to this specification.

CHARLES F. McEWAN.