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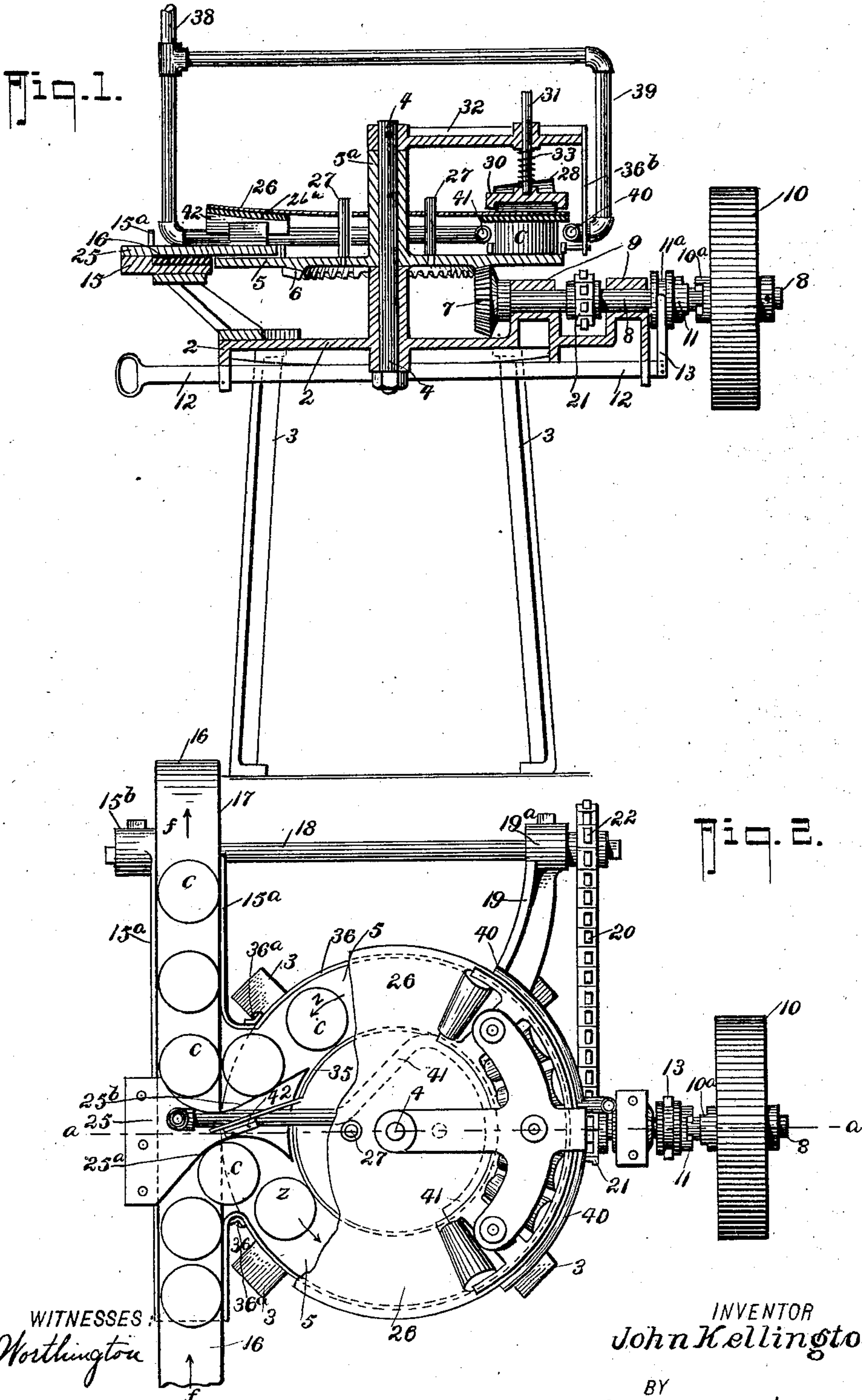
Patented Oct. 14, 1902.

J. KELLINGTON.
MACHINE FOR WASHING CANS.

(Application filed Mar. 4, 1902.)

(No Model.)

2 Sheets—Sheet 1.



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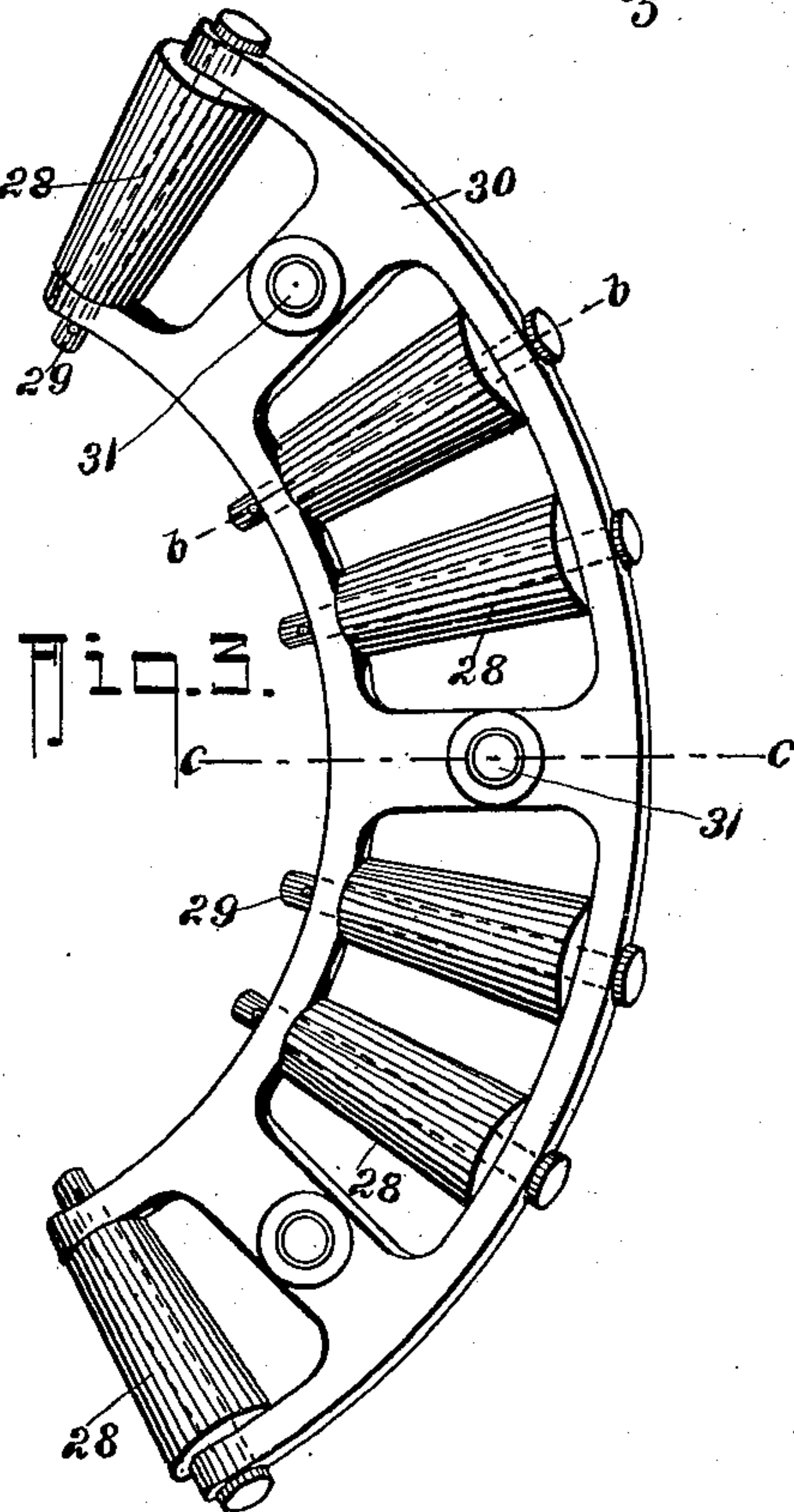
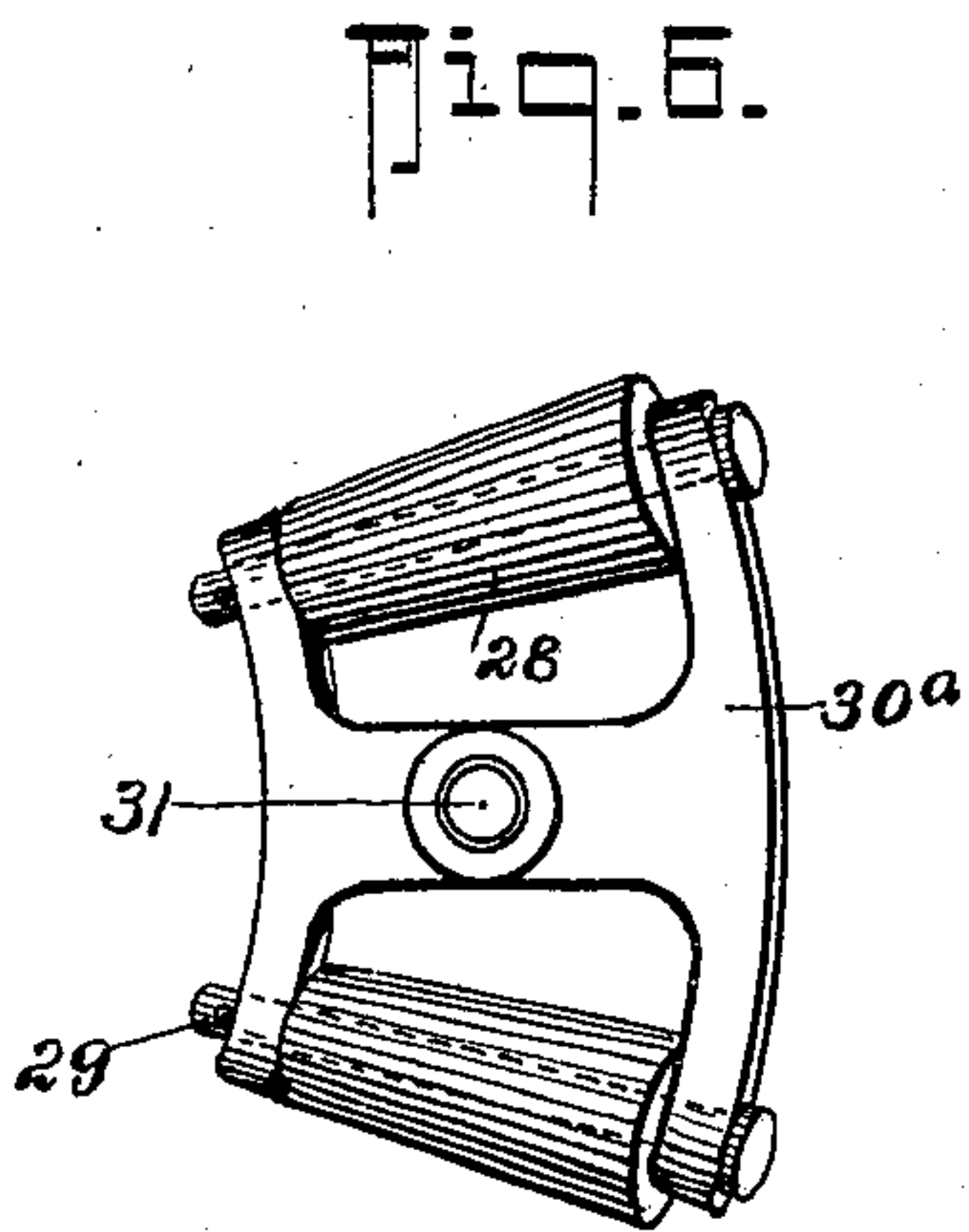
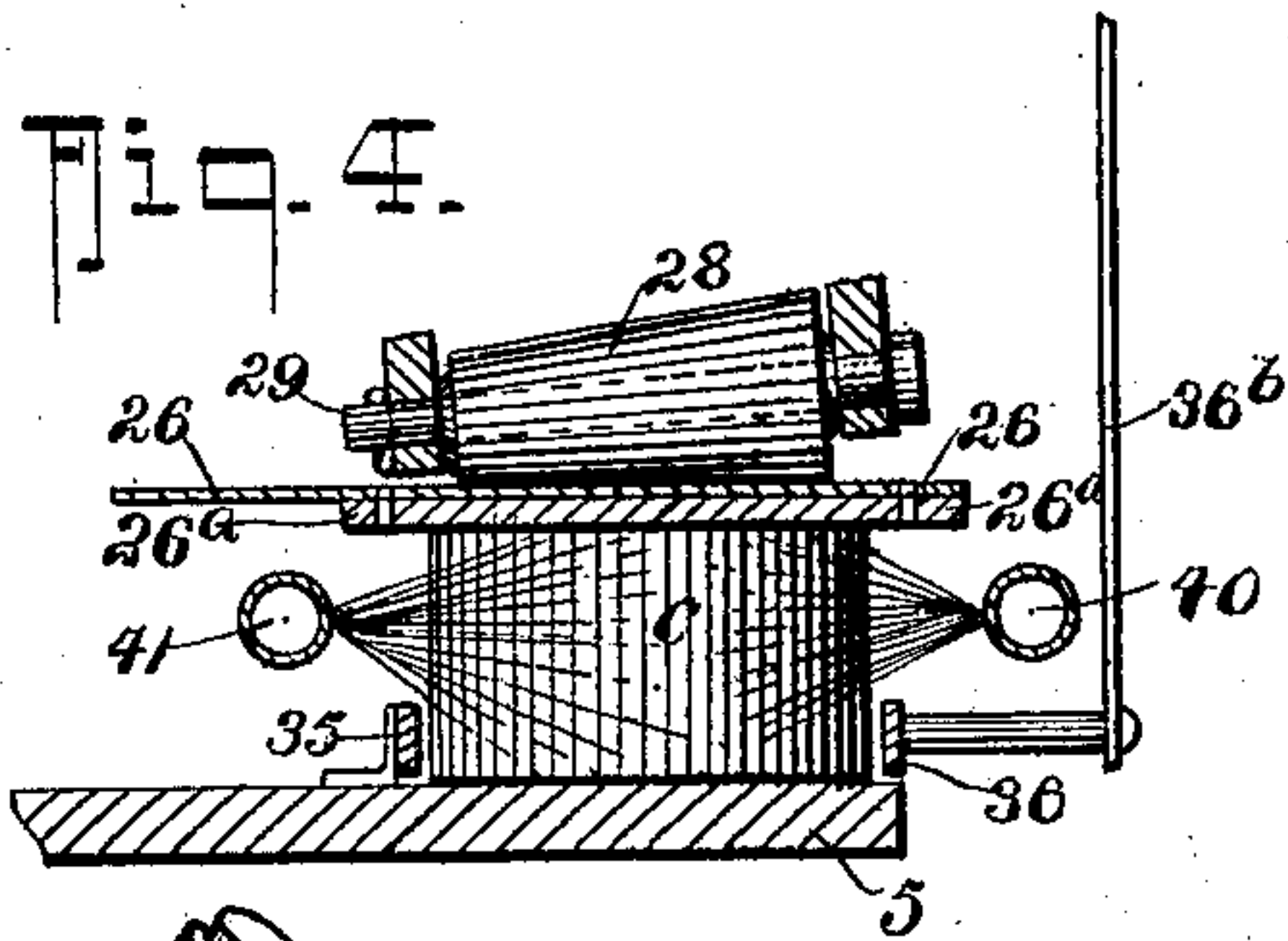
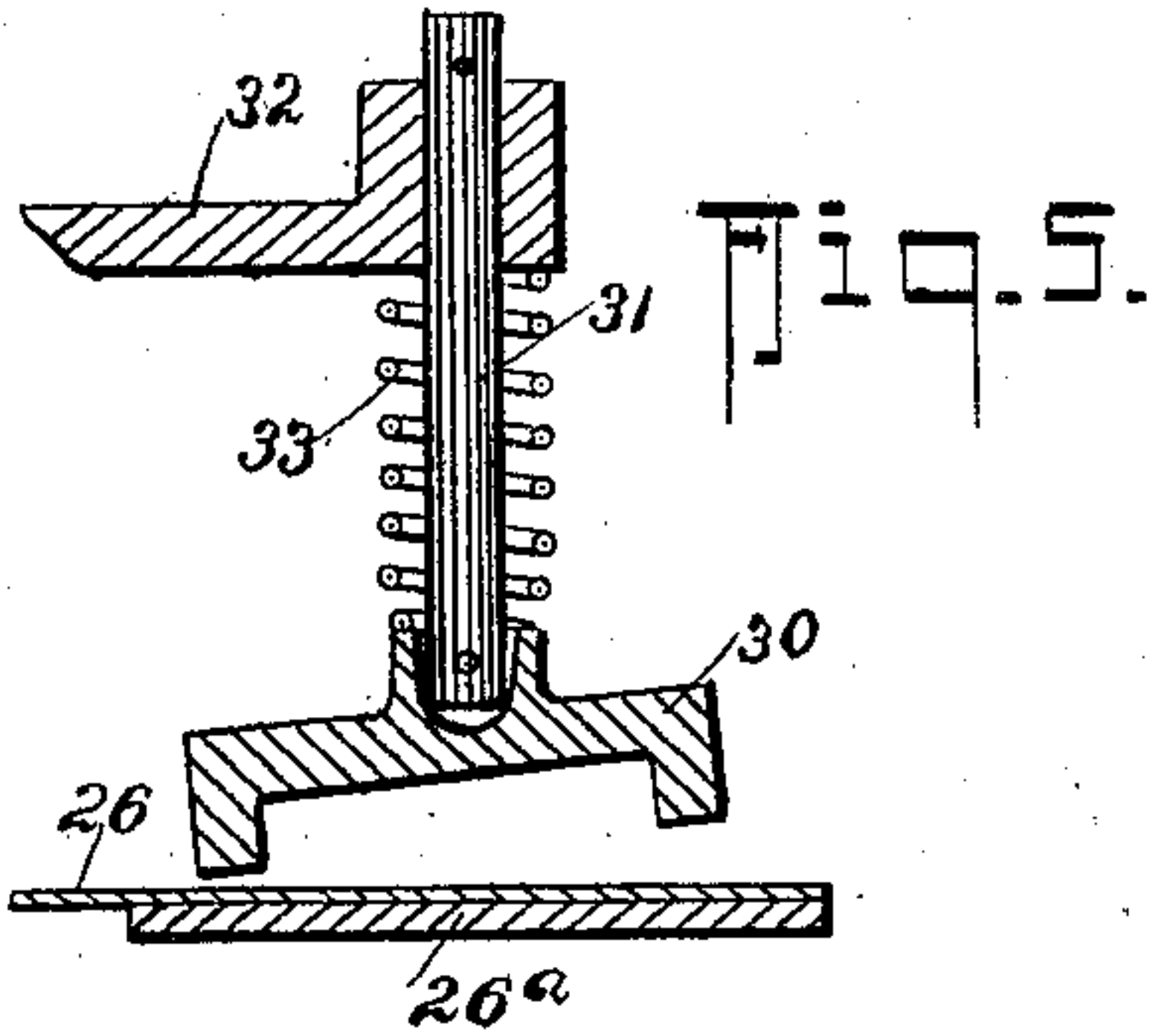
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UNITED STATES PATENT OFFICE.

JOHN KELLINGTON, OF NEW WESTMINSTER, CANADA, ASSIGNOR OF ONE-HALF TO DANIEL J. MUNN AND ALEXANDER EWEN, OF NEW WESTMINSTER, CANADA.

MACHINE FOR WASHING CANS.

SPECIFICATION forming part of Letters Patent No. 711,427, dated October 14, 1902.

Application filed March 4, 1902. Serial No. 96,678. (No model.)

To all whom it may concern:

Be it known that I, JOHN KELLINGTON, a citizen of the Dominion of Canada, residing at New Westminster, in the Province of British Columbia, Canada, have invented a new and useful Machine for Washing Cans, of which the following is a specification.

My invention relates to a machine for washing cans, and is especially designed for cleaning the outside of such as are used in packing salmon after they have been filled and preparatory to the application of the covers. The difficulty with such has been the necessity of covering up the open end of the can during the operation of washing the cylinder of it without the use of a comparatively elaborate and expensive machine.

A further object I have in view is to provide a machine that can readily be interposed in the line of conveyer-belt used in canneries to move the cans from place to place during the various operations without interfering in any way with the arrangement of such as they may be at the present time.

The machine and its mode of operation are clearly illustrated by the drawings herewith, in which—

Figure 1 is a section on the line *a a* in Fig. 2. Fig. 2 is a plan with parts removed to show the underlying portions. Fig. 3 is an enlarged detail of the bearing-roller frame; Fig. 4, a section on *b b* in Fig. 3; Fig. 5, a section on *c c* in Fig. 3, and Fig. 6 a plan of an alternative roller-frame.

In the drawings, 2 represents the circular bed-plate of the machine, supported at a suitable height from the floor on the legs 3 and having secured to it through a boss at its center the upright stem 4, on which is the revoluble table 5. This table 5 is turned by means of a bevel-pinion 7, meshing with a geared wheel 6, integral with or secured to the under side of the table, the pinion 7 being secured to the end of a shaft 8, rotatable in bearings 9, attached to or cast with the bed-plate 2. On the shaft 8 is the loose pulley 10, the boss or hub being provided with half of a claw-coupling 10^a, the corresponding half of which, 11, is slidable on a feather on the

shaft and may be thrown in or out of gear by means of the handle-rod 12 and fork 13, engaging in the groove 11^a of the coupling.

Tangential to the periphery of the revoluble table 5 and approximate to the plane of its upper surface is a flanged platform 15, secured to the bed-plate 2 by the bracket 14. This platform 15 is adapted to receive between its flanges 15^a the conveyer-belt 16, which brings the cans to and conveys them from the machine. The belt 16 may be driven by a pulley on a shaft 18, rotatable in bearings 15^b and 19^a, the former at the end of the platform 15 and the latter of a bracket 19 secured to the bed-plate 2. The shaft 18 being driven by the sprocket-chain 20 over the chain-wheels 21 and 22 from the first motion-shaft 8.

Secured to the outer edge of the conveyer-belt platform 15 is a can-guide 25, projecting over the surface of the belt 16 and the upper surface of the table 5 and adapted in its outline 25^a to direct the cans from the belt 16, traveling in the direction of the arrow *f* onto the surface of the table 5, revolving in the direction of the arrow *z*. The opposite edge 25^b of the guide is shaped to remove the cans from the table 5 and return them to the conveyer-belt 16.

Fitting loosely over the upwardly-projecting boss of the bearing 5^a of the revoluble table 5 at a height to suit the cans to be washed is a thin flexible disk 26 to the under side of which is attached an annular ring or pad 26^a, of rubber or similar material, at a diameter to correspond with the position of the cans on the table 5. This disk 26 is caused to rotate with the table by means of the studs 27, projecting through it, and immediately over the disk 26 and on the arc of it opposite to the conveyer-band and the can-guide 25 are a series of rollers 28 on axles 29, the rollers being coned, as shown, to insure them rolling on the upper surface of the disk without slip. The rollers are mounted in a frame 30, having stems 31 loosely attached to its upper side and slidable in the overhead frame 32, secured to the upper end of the stem or spindle 4, on which the table 3 rotates, each stem 31 having a spring 33 between the roller-frame

and the overhead guide-frame 32, by which means a general flexibility is permitted and the pressure from the rollers is freed from rigidity and they are allowed to adapt a yielding pressure to slight variations in the depths of the cans between the disk 26 and the table 3. If found desirable to insure a greater flexibility, I may support the rollers in a series of separate frames 30^a, carrying two rollers, as shown in plan in Fig. 6, each frame loosely connected to one spindle slidable in the upper frame 32 and spring-controlled in its movement, as before.

The revolving table 5 is provided with an inner guard-ring 35, integral with or secured to it, and an outer guard 36, supported at its ends by attachments 36^a to the belt-platform 15 or its flanges and suspended in the middle by 36^b from the overhead frame 32.

A water-service pipe 38 is brought from a source of supply exterior to the machine, and one branch 39 is connected to a pipe 40, bent to an arc concentric with the revolving table and vertically opposite the can-space between the table 5 and the cover-disk 26. The other branch enters this space over the can-guide 25 and is bent to a similar concentric arc 41 within the inner guard-ring 35. The inner side of the outer arc 40 and the outer side of 41 are perforated with a series of small holes to permit the water to spray on the bodies of the cans as they pass with the table. These pipe arcs 40 and 41 correspond in position with the arc acted on by the bearing-rollers 28.

Attached to the upper surface of the can-guide 25 is a scraper 42, of thin resilient material, which bears against the under surface of the rubber ring 26^a of the disk 26. This scraper is high enough to lift the disk clear of the cans at the entering and leaving side of the machine and being set at slight angle to a radius of the disk, so as to aid the centrifugal action, effectually removes any water which may be on the rubber pad before the same is brought in contact with the incoming cans.

The operation and object of the various parts of my machine can now be clearly followed and understood. The cans *c*, traveling in the direction of the arrow *f* on the conveyer-band 16, are deflected by the contour 25^a of the can-guide 25 onto the surface of the table 5, traveling in the direction of the arrow *z*. As they approach the arc opposite to the point of entry where the spraying-pipes 40 and 41 are placed the disk 26, traveling with the table, is pressed down onto the upper edges of the cans, and the pad 26^a effectually seals them against the entrance of any water which is sprayed against the can-bodies through the perforations in the pipes 40 and 41. As the further rotation of the table carries the cans from the arc of the spray, the downward pressure of the rollers is relieved, and the disk being lifted by the scraper 42 the cans are free to leave the table by their contact with the contour 25^b of the

guide 25, and they are restored to the conveyer-band 16, which carries them from the machine.

It is obvious that the conveyer-band pulley, with its shaft and operating-chain, is not necessarily an essential part of the machine, as the machine may be interposed in a length of conveyer-band at present in the cannery service and driven by existing mechanism.

The machine is extremely simple in its mechanism, and the general design of its frame, revolving table, and can-guide so closely resemble similar parts of other machines invented and patented by me that the cost of manufacture may be considerably reduced. The washing of the cans is very effectual, as the water may be under considerable pressure and if found necessary for the removal of grease or oil may be hot.

Having now particularly described my machine and the manner of its operation, what I claim as new, and desire to be protected in by Letters Patent, is—

1. In a machine for washing cans; a revolving table rotatable on a bed-plate at a suitable height from the floor; a flexible disk rotating with the table at a height above it to suit the depth of the cans to be operated upon; a band of yielding material attached to the under side of the disk and adapted to cooperate with the cans to exclude water from the inside thereof; a flanged belt-platform adapted to sustain a conveyer-belt in an approximate plane to the upper surface of the revolving table, to the periphery of which the contiguous edge of the belt forms a tangent; a can-guide supported on the farther side of the belt-platform and projecting over the conveyer-belt and a portion of the revolving table, the contour of which is on one edge adapted to divert the cans from the belt onto the table, and its other edge to restore them from the table to the band, and means for driving the conveyer-belt and rotating the table in opposite directions.

2. In a machine of the class described, having a suitably-supported conveyer-belt tangential to a table rotatable in an opposite direction to the motion of the belt, and means for diverting the cans from the belt to the table, and from the table to the belt; a flexible disk rotating with the table at such a height above it as will suit the depth of the cans to be washed; a ring of yielding material attached to the under side of the disk; means for pressing the disk and its rubber pad onto the upper edges of the cans, through an arc opposite to where they enter; and for raising the disk from off the cans where they enter and leave the revoluble table.

3. In a machine for the purpose specified, having a revolving table adapted to receive cans and carry them around on the outer portion of it, and means for sealing their upper edges through an arc opposite to the point of entry; perforated pipes concentric with the table edge through the arc of sealing, de-

signed to project a spray of water on both sides of the cans on the table.

4. In a machine for washing cans, having a revoluble table on which the cans to be washed may be placed, and a flexible disk rotating with the table at a suitable height above it; water-pipes concentric with the edge of the table, within and without the position of the cans on it, and both perforated toward the cans through an arc opposite to their delivery onto the table so as to spray water on them as they pass; a series of conical rollers suitably supported above the disk, adapted to press the disk down on the upper edges of the cans and seal them against the entry of water while they are passing the spraying-pipes; and a flexible scraper adapted to lift the disk from the tops of the cans where they enter and leave the machine, and remove any water from the under side of it.

5. In a machine for the purpose specified, having a disk and rubber pad adapted to seal the cans during spraying, and means for pressing such seal down on the cans through the arc of spraying; a scraper of thin resilient material toward the point of entry and departure adapted to lift the disk clear of the cans at such point, and remove any water from the under surface of the rubber pad.

6. In a machine for the purpose specified, in which a revolving table carries cans past perforated pipes adapted to spray water on the cans from both sides; an inner guard-

ring on the upper surface of the table attached to or integral with the same; and an outer guard-ring around the outer edge of the table from the point of entry to the point of exit, supported to the frame of the machine clear of its rotating parts.

7. In a machine for washing cans, the combination with a conveyer-band of the bed-plate 2, the center stem 4, the revolving table 5, the bevel-wheel 6, the pinion 7, the shaft 8 in bearings 9, the pulley 10 loose on the shaft, the clutch 10^a and 11, the handle-rod and fork 12 and 13 for actuating such, the platform 15 sustaining the conveyer-belt, the shaft 18 in bearings 15^b and 19^a driven by the chain 20 from the shaft 8, the can-guide 25, the disk 26 driven by studs 27 from the revolving table 5, the rollers 28 in frame 30 having stems 31 slidable in the overhead frame 32 attached to the upper end of the center stem 4, the springs 33 on each stem 31, the guard 35 attached to the table 5, the guard 36 attached to the machine-bed free from the rotating table, the perforated water-pipe 40 and 41, the scraper 42 attached to the guide 25.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN KELLINGTON.

In presence of—

ROWLAND BRITAIN,
ELLICE WEBBER.