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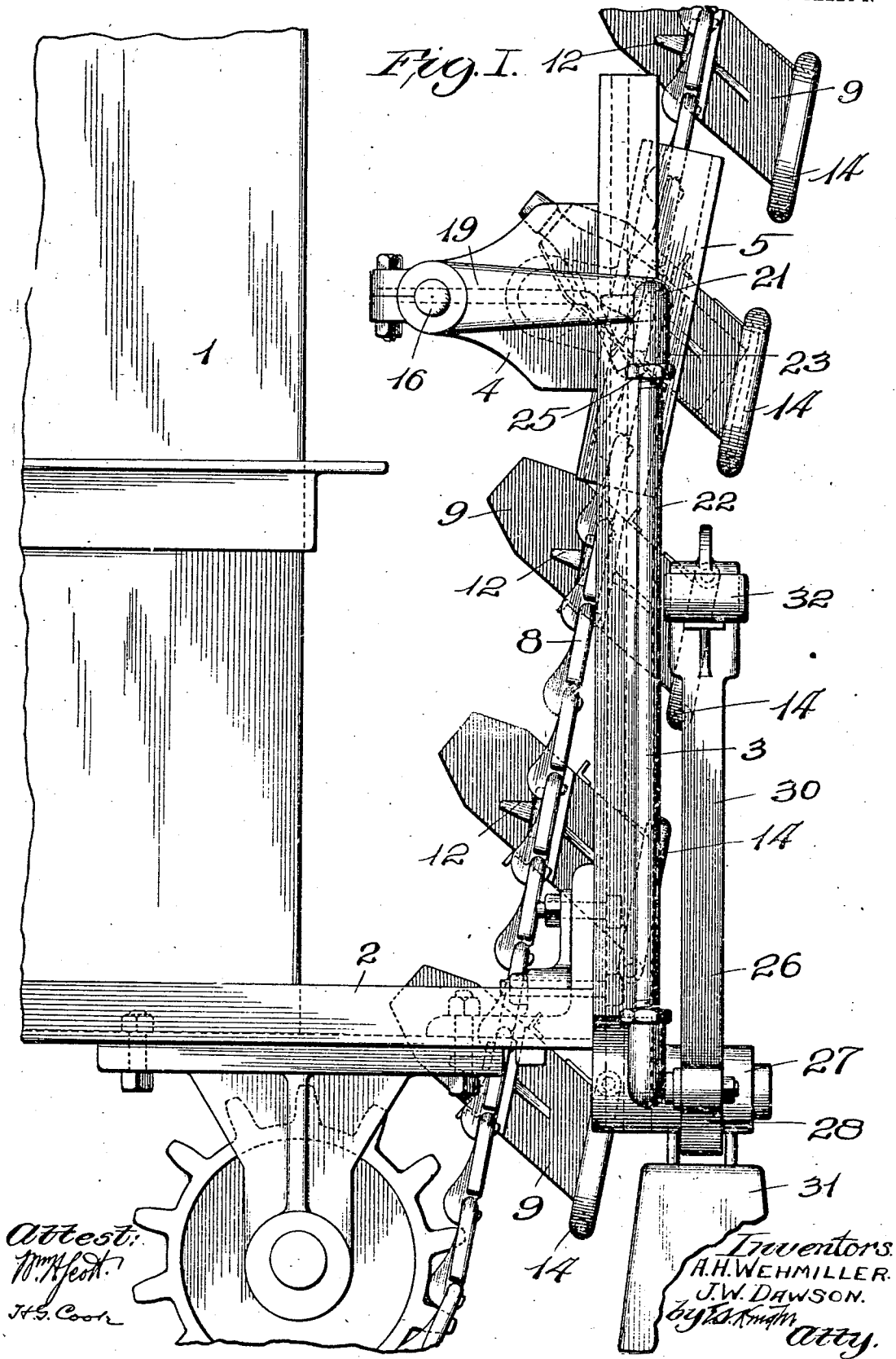
BOTTLE WASHING MACHINE.

APPLICATION FILED MAR. 10, 1910.

Patented Jan. 17, 1911.

3 SHEETS—SHEET 1.

981,960.

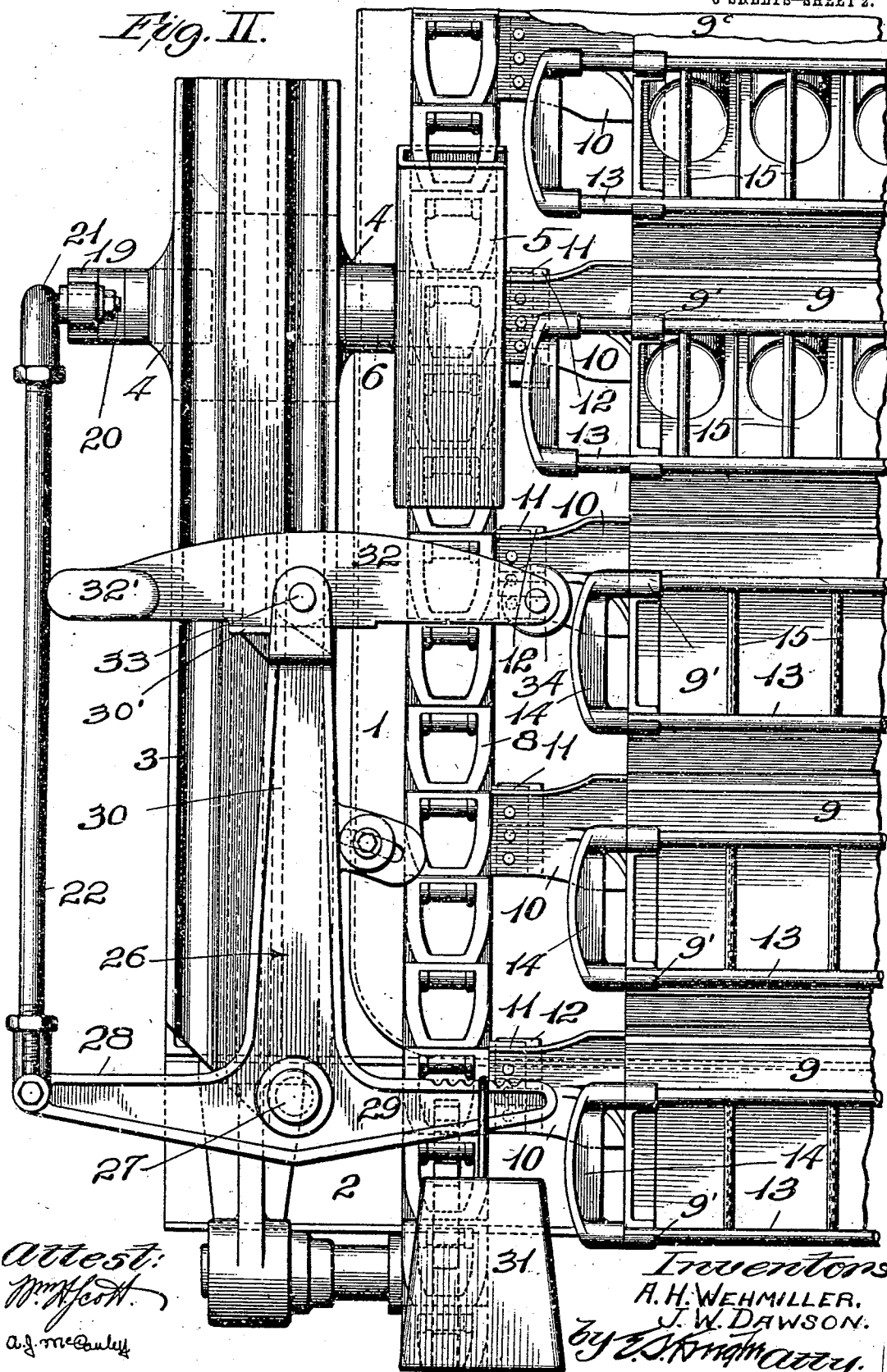


BOTTLE WASHING MACHINE.

Patented Jan. 17, 1911.

3 SHEETS—SHEET 2.

Fig. II.



Attest:
J. H. Scott.
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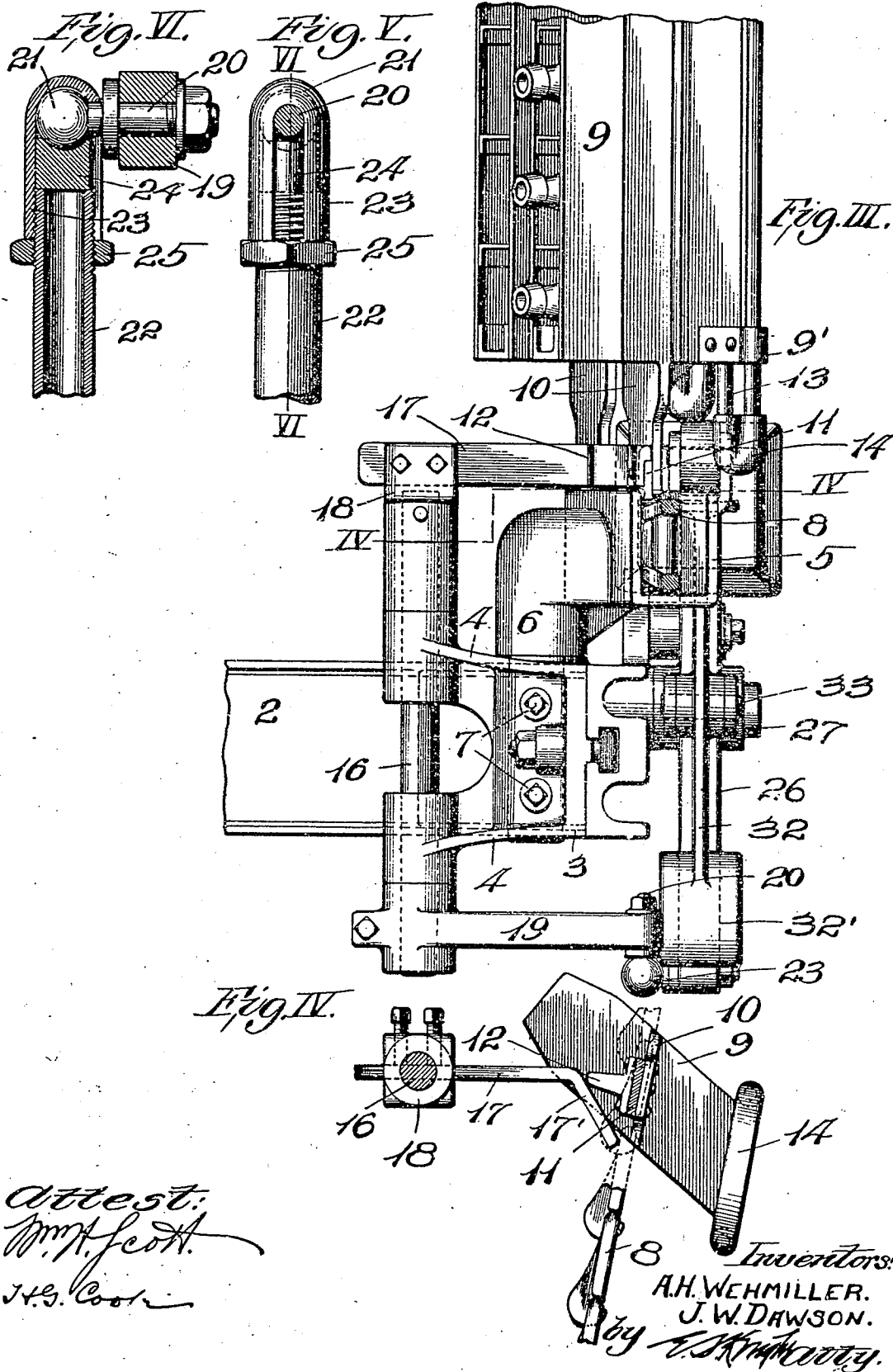
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BOTTLE WASHING MACHINE.

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981,960.



UNITED STATES PATENT OFFICE.

ALFRED H. WEHMILLER AND JOSEPH W. DAWSON, OF ST. LOUIS, MISSOURI, ASSIGNORS
TO BARRY-WEHMILLER MACHINERY COMPANY, OF ST. LOUIS, MISSOURI, A COR-
PORATION.

BOTTLE-WASHING MACHINE.

981,960.

Specification of Letters Patent.

Patented Jan. 17, 1911.

Application filed March 10, 1910. Serial No. 548,404.

To all whom it may concern:

Be it known that we, ALFRED H. WEHMILLER and JOSEPH W. DAWSON, citizens of the United States of America, residing in the city of St. Louis and State of Missouri, have invented certain new and useful Improvements in Bottle-Washing Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

Our invention relates to that class of machines used for washing bottles by conducting them in carriers through a tank containing a cleansing fluid, and the invention has for its object the production of means whereby the gates of the bottle receptacles may be quickly and efficiently operated previous to each discharge of the bottles from the receptacles after the bottles have been cleansed. The gates just referred to have commonly been opened by means which actuated them slowly with the result of permitting some of the bottles in each carrier receptacle escaping previously to the other bottles in the receptacle with resultant breakage of the bottles by one striking against another as they descend into the bottle receiving tank, and by our improvement we obviate this objectionable occurrence during the operation of the machine.

Figure I is a side elevation of a portion of a bottle soaking machine having our improvement incorporated therein. Fig. II is a front elevation of the parts shown in Fig. I. Fig. III is a top or plan view. Fig. IV is a vertical section taken on irregular line IV—IV, Fig. III. Fig. V is an elevation of the upper end of the connecting rod in our mechanism and the coupling by which this connecting rod is attached to the trip mechanism. Fig. VI is a vertical section taken on line VI—VI, Fig. V.

In the accompanying drawings: 1 designates the tank of a bottle washing machine and 2 is a bearer extending laterally from the base upon which said tank is supported. This bearer has adjustably attached to it an upright frame 3 near the upper end of which is a bracket arm 4.

5 designates a guide box that is located adjacent to the upright frame 3 and is provided with a stem 6, see Fig. III, which is rotatably mounted in the bracket arm 4 and is adjustably held in a set position in

said bracket arm by set screws 7. The guide box is adjustably supported in order that it may be set in a vertical position or at any desired angle to accommodate the movement of a carrier chain, as will hereinafter more fully appear.

8 designates one of the endless chains, preferably two in number, of the carrier by which the bottles to be washed are conducted through the bottle washing machine. This chain operates through the guide box 5 and serves in conjunction with its companion chain to carry the bottle baskets or receptacles 9. The bottle baskets are connected at intervals to the chains by connecting pieces 10 carried by the baskets and bolted or riveted to arms 11 carried by certain links of the chains, whereby the baskets are held in proper positions relative to the chains. The carrier chain 8 has attached to it at the location of the connection thereto of each basket a lip or arm 12 which is preferably bolted or riveted to the arms 11 extending from the chain links and the connection pieces 10 of the baskets, as seen most clearly in Fig. IV. The lips 12 are located exteriorly of the guide box 5 and are adapted to engage a trip arm as will hereinafter more fully appear.

Each basket 9 is so attached to the endless carrier chains 8 as to cause the baskets to occupy inclined positions relative to the chains and with the mouths of the baskets positioned lowermost when the baskets are in the discharging positions shown in the drawings in order that the cleansed bottles may escape therefrom when the gates controlling the mouths of the baskets are open. The gates just referred to comprise side rods 13 loosely mounted in guides 9' carried by the basket heads 14 at the ends of the rods and cross rods 15 located at intervals between and attached to the side rods 13. The cross rods 15 serve to hold the bottles in their compartments in the baskets during the movement of the carrier through the washing machine and they are adapted to be shifted longitudinally of the baskets to expose the mouth ends of said compartments in order that the bottles may be discharged therethrough when the gates are shifted by our mechanism. The heads 14 of the gates are preferably curved at their outer faces, as seen most clearly in Fig. II, and are adapted to receive the engagement of

a member to be hereinafter more particularly referred to.

16 designates a rock shaft journaled in the bracket arm 4 supported by the upright frame 3 and located at the rear of said upright frame.

17 is a trip arm adjustably secured to a head 18 fixed to the inner end of the rock shaft 16, see Figs. III, and IV. This trip arm extends forwardly from the rock shaft 16 and is provided with a downwardly inclined inner end 17' which is disposed in the path of travel of the lips 12 attached to the carrier chain 8 opposite to each basket 9, the trip arm being adapted to be moved in a downward direction by each of said lips for the purpose of rotating the rock shaft 16.

19 is a lever arm fixed to the outer end of the rock shaft 16 and in the free end of which is mounted a bolt 20, see Figs. II, III, V and VI, that is provided with a ball head 21 at its outer end and aside from the lever arm 19.

22 is a connecting rod having a screw threaded upper end and which is united to the bolt 20 by a coupling socket sleeve 23 fitted to the ball head of said bolt and arranged in threaded engagement with said connecting rod. Between the ball head of the bolt 20 and the upper end of the connecting rod is a socket block 24 and beneath the coupling sleeve is a jam nut 25. The coupling provided by the members just recited between the lever arm 19 and the connecting rod 22 is of universal type, due to the described construction, and freedom of movement of the connecting rod both vertically and laterally during the movement of the lever arm, is permitted.

26 designates a rocker pivoted at 27 to the frame of the machine, for instance to the bearer 2, and provided with an outer lower arm 28 and an inner lower arm 29 and an upright arm 30. The connecting rod 22 is adjustably attached to the outer arm 28 of the rocker 26 and the inner arm 29 of said rocker has adjustably fitted to it a weight 31 by which the rocker is moved inwardly toward the path of travel of the gates of the baskets 9 during the operation of the mechanism as will hereinafter more fully appear.

32 is a bumper pivoted at 33 to the upper end of the upright 30 of the rocker 26 and which normally rests in a horizontal position upon a ledge 30' carried by said rocker arm. At the outer end of the bumper is a counterbalance 32' and mounted in the inner end of the bumper is an antifriction roller 34.

The operation of our mechanism is as follows: When the baskets 9 of the carrier of the washing machine have been filled with bottles, the gates that close the mouths of

said baskets are moved into the positions seen in the upper portion of Fig. II, so that the cross rods 15 of said gates will act to hold the bottles in their compartments in the baskets and the gates remain in such positions until they are in proper positions to be actuated by our mechanism to permit the discharge of the bottles from the baskets, as each basket moves into juxtaposition with the trip arm 17 projecting from the rock shaft 16. At this time the lip 12 upon the carrier chain 8 which is opposite the basket that has reached the trip arm, engages the inclined inner end of said trip arm by pressing thereagainst and moves the trip arm downwardly with the result of causing it to impart rotation to the rock shaft 16. As a consequence of the rotation of said rock shaft, the lever arm 19 fixed to said shaft is moved downwardly to a degree corresponding to the degree of movement of the trip arm and acts in turn to impart movement to the connecting rod 22. Said connecting rod in its turn acts upon the outer arm 28 of the rocker 26 with the result of moving the upright arm 30 of said rocker outwardly, in which action the power of the weight 31 is overcome. As the upright arm of the rocker moves outwardly it carries with it the bumper 32 and said bumper is thereby withdrawn from the path of downward movement of the heads 14 of the basket gates to remain so withdrawn from said path until the trip arm 17 has been freed during the movement of the carrier chain 8 by the escape of the lip 12 from engagement therewith. When the escape of the lip from the trip arm occurs the weight 31 acts to return the rocker 26 to its normal position, and the bumper 32 is carried inwardly into forcible impact against the head 14 of the basket gate opposite it. The bumper in this inward movement acts to shift the gate from a position similar to that illustrated in the upper portion of Fig. II, wherein the cross rods 15 serve to retain the bottles in the baskets to a position similar to that illustrated in the lower portion of Fig. II, wherein said cross rods have been moved into positions opposite the partitions in the baskets, thus completely opening the mouths of the basket compartments for the simultaneous discharge of all of the bottles in the basket. The bumper is pivotally mounted in the rocker 26 in order that it may be capable of tilting in the event of its inner end being struck by the head of a gate that is descending to the bumper before the bumper is retracted to shift the gate in its forward movement and the counterbalance at the outer end of the bumper serves to return the bumper to its horizontal position after it has been tilted in order that it may be properly positioned to move in a direct course toward the gate it is to operate.

We claim:

1. The combination with the carrier of a bottle washing machine including bottle receptacles provided with gates, of a bumper for moving said gates, a weight tending to move the bumper toward the gates, and means adapted to be operated by said carrier for moving said bumper away from the gates, substantially as set forth.
2. The combination with the carrier of a bottle washing machine including bottle receptacles provided with gates, of a bumper for imparting movement to said gates, a rockable support for said bumper, a weight tending to rock the bumper toward the gates and means adapted to be operated by said carrier for actuating said weight, substantially as set forth.
3. The combination with the carrier of a bottle washing machine including bottle receptacles, provided with gates, of a rockable bumper for imparting movement to said gates, a rockable weight controlled support for said bumper, and means adapted to be operated by said carrier for actuating said support, substantially as set forth.
4. The combination with the carrier of a bottle washing machine including bottle receptacles provided with gates, of a rockable

bumper for imparting movement to said gates, a support to which said bumper is tiltably fitted, and means adapted to be operated by said carrier for moving said support, substantially as set forth.

5. The combination with the carrier of a bottle washing machine including bottle receptacles provided with gates, of a rockable bumper for imparting movement to said gates, a support to which said bumper is tiltably fitted, and means adapted to be operated by said carrier for moving said support; said bumper being provided with a weighted outer end, substantially as set forth.

6. The combination with the carrier of a bottle washing machine including bottle receptacles provided with slidable gates, of a rockable bumper adapted to strike said gates, a weight tending to rock the bumper into engagement with the gates, means for moving the bumper away from the gates and then releasing it, said means being controlled by the carrier.

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In presence of—
HOWARD G. COOK,
EDNA B. LINN.