C. A. MILLER.

BOTTLE RINSING AND CONVEYING MACHINE.

APPLICATION FILED AUG. 4, 1913.

1,207,592.

Patented Dec. 5, 1916.

2 SHEETS—SHEET 1.

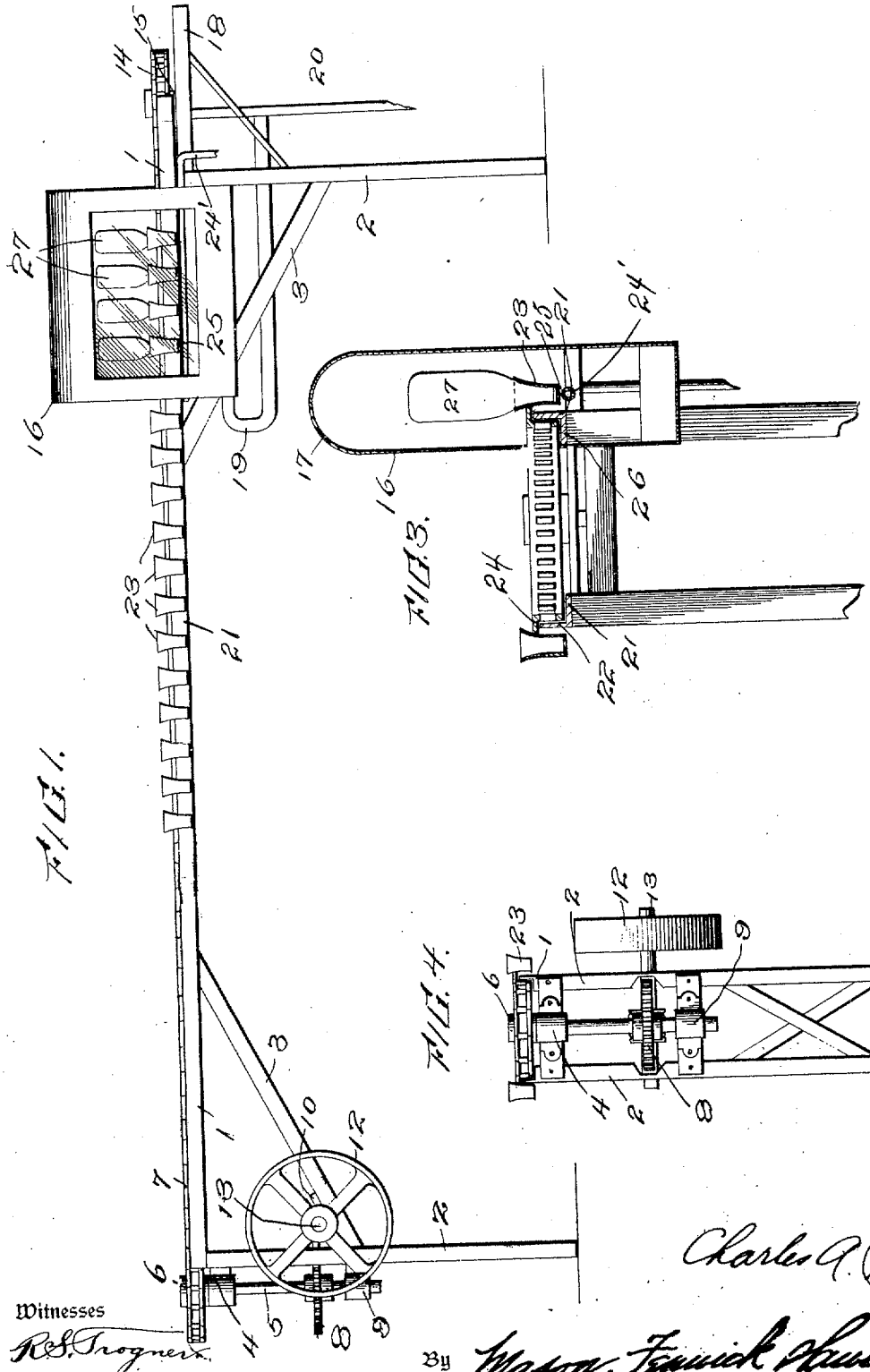


FIG. 1.

FIG. 3.

FIG. 4.

Witnesses

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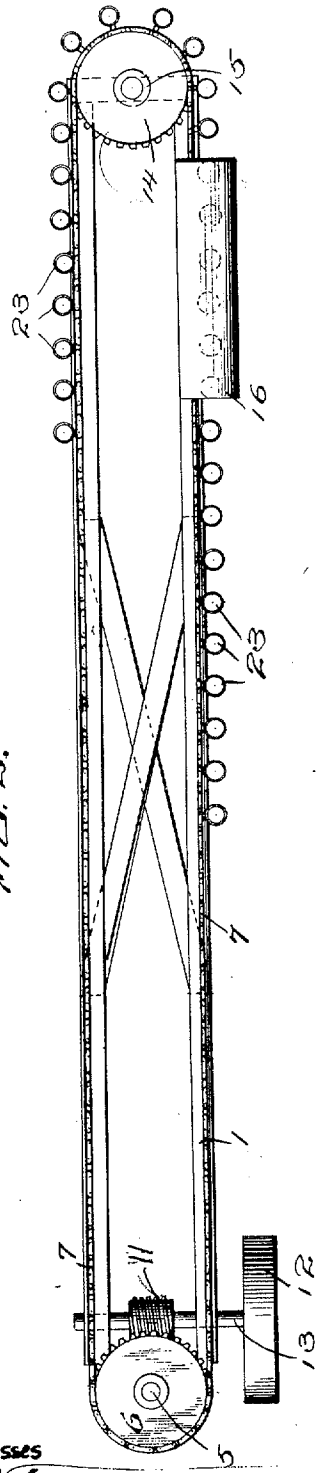


FIG. 2.

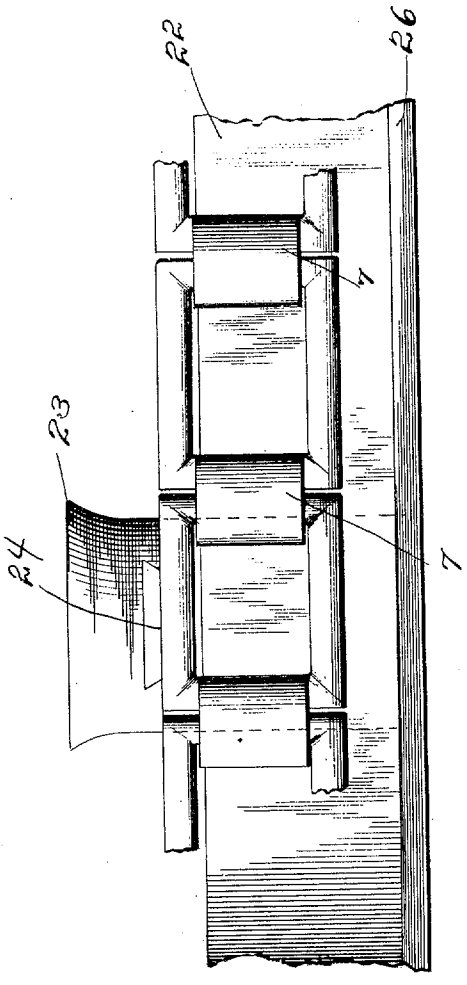


FIG. 5.

Witnesses

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UNITED STATES PATENT OFFICE.

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BOTTLE RINSING AND CONVEYING MACHINE.

1,207,592. Specification of Letters Patent. Patented Dec. 5, 1916.

Application filed August 4, 1913. Serial No. 782,939.

To all whom it may concern:

Be it known that I, CHARLES ALVIN MILLER, citizen of the United States, residing at Bainbridge, in the county of Decatur and State of Georgia, have invented certain new and useful Improvements in Bottle Rinsing and Conveying Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to bottle rinsing and conveying machines, and an object of the invention is to provide such a machine which will be simple and more efficient than machines at present used for accomplishing the same result.

In order to disclose my invention, reference is to be had to the following drawings, wherein the simplest form is shown.

Figure 1 is a side view of the machine, Fig. 2 is a top plan view of the machine, Fig. 3 is an enlarged vertical transverse section taken through the rinsing housing, Fig. 4 is an end view of the machine, and Fig. 5 is an enlarged view of one of the bottle carrying cups and adjacent parts.

Like reference characters designate corresponding parts throughout the views.

Referring to the drawings, 1 designates the body or frame of the machine supported by suitable legs 2 and provided with desirable braces 3. One end of the frame 1 has extending therefrom a bearing 4 which receives the shaft 5 of a sprocket wheel 6 which is adapted to engage a chain or other flexible conveyer 7. The shaft 5 carries a spur gear 8 and its lower end is mounted upon a bearing 9 secured to one of the legs 2, while there is mounted upon one of the braces 3 as in bearing 10, a worm gear 11 which meshes with the spur gear 8 and is adapted to drive the latter when the pulley 12, which is splined to the shaft 13, is driven by any suitable means (not shown). The other end of the frame 1 carries a second sprocket 14 similar to sprocket 6, the shaft of said sprocket 14 being mounted in any suitable bearing 15. The chain 7 is adapted to pass around these sprockets 6 and 14, and the latter are so spaced that there is comparatively no slack in the chain.

Located at that end of the frame opposite the end carrying the driving mechanism is a housing 16 shown more particularly in Fig. 3, wherein said housing is shown as comprising a semi-cylindric top 17 with open ends, while the front of said housing is provided with an opening which may be filled with a pane of glass or other material allowing the operator to watch the operation of the rinsing within the housing.

There is provided a drip pan 18 embracing the bottom of the housing 16 and adapted to receive the used water, said drip pan 18 being connected with a discharge pipe 19 connecting with a waste pipe 20.

As shown in Fig. 3, the frame has side bars of L-shaped irons 21 along the inner faces of the upright leaves 22 of which slide the links of the chain 7. At intervals the chain carries tubular bottle holders or open-bottomed cups, each connected to the upper portion of a link by means of a stud 24 which rests upon and slides along the upper edge of the leaf 22. Since the cups 23 are provided with the studs 24, it will be seen that no rollers are necessary in order to convey the chain from one of the sprocket wheels to the other. By referring to Fig. 2, it will be seen that the cups 23 are mounted upon the outside of the chain 7 so that they will not interfere in any way with the driving sprocket 6 or the guide sprocket 14.

Fig. 2 shows only part of the chain provided with the cups 23, but it is to be understood that the entire chain may be provided with these cups or that spaced groups of the cups may be arranged along the chain.

As shown in Fig. 1, there is a feed pipe 24′, led from any suitable source of water pressure (not shown), said pipe entering the housing 16 and lying under the adjacent angle iron 21. The pipe 24′ is provided with a plurality of jet openings 25 in its upper side.

In the operation of the machine, when it is desired to rinse bottles, the latter are inverted and inserted in the cups 23 in any part of the machine and when the same enter the housing 16, water pressure may be applied to the pipe 24′, which will result in the playing of several jets of water through the openings 25 and cups 23, said jets serving to rinse the outside as well as the inside of the moving bottles. It will be noted that each bottle will be subjected to as many rinsings or as many jets of water as there are openings 25 in the pipe 24′. Of course, the housing 16 could be extended so as to

admit of the use of more openings 25. It is also desirable, in order to effect more complete washing of the bottles, to have the openings 25 separated by a distance equal to the distance between the central lines of adjacent cups 23. It will be seen of course, that when the bottles move from the position shown in Fig. 1 to a position where the cups 23 are intermediate the openings 25, the jets of water will serve to rinse the outside of the bottle, and inasmuch as several of the openings 25 are provided, both the front and back sides of the bottles will be rinsed as well as the inside. Inasmuch as the top of the housing 16 is curved as shown at 17, the water which issues from the openings 25 and passes between the adjacent bottles will be deflected downwardly into the drip pan 18 and the glass closing the opening in the housing will serve to prevent water from splashing upon the machinery and operator and at the same time enable the condition of the rinsing water of the machine to be inspected.

What I claim is:

In a bottle rinsing machine, the combination with a frame having side bars of L-iron, each with one leaf upright and the other leaf horizontal and projecting inward from the lower edge of said upright leaf, a water pipe at one point outside the L-iron and having perforations in its top, a housing surrounding the side bar and pipe, and a drip pan beneath the perforated portion of such pipe; of a chain carrier moving around the frame and through said housing with its links standing on edge above the horizontal leaves and traveling inside and in contact with the upright leaves of said side bars, studs carried by certain links and passing over the upper edges of said upright leaves whereby the chain is supported, and tubular bottle holders carried rigidly by said studs wholly outside the upright leaves and traveling over said perforated pipe, for the purpose set forth.

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

CHARLES ALVIN MILLER.

Witnesses:

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