

A. L. DUNCAN.
 COMBINED WASHING AND CONVEYING APPARATUS.
 APPLICATION FILED MAY 11, 1909.

962,628.

Patented June 28, 1910.

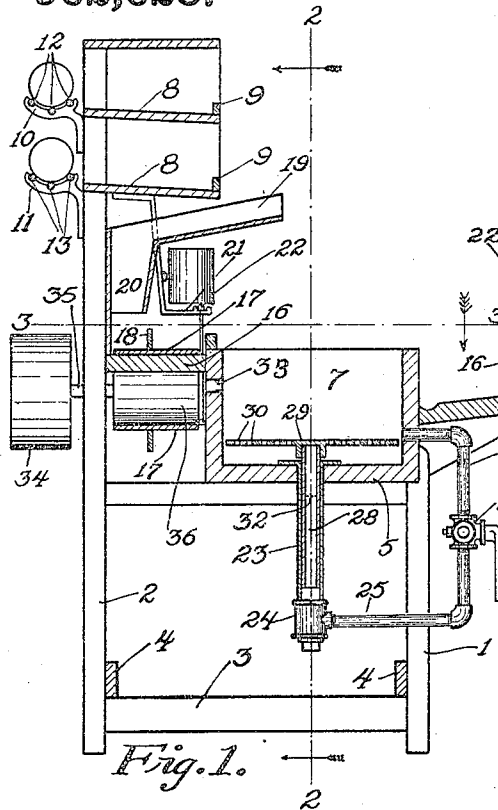


Fig. 1.

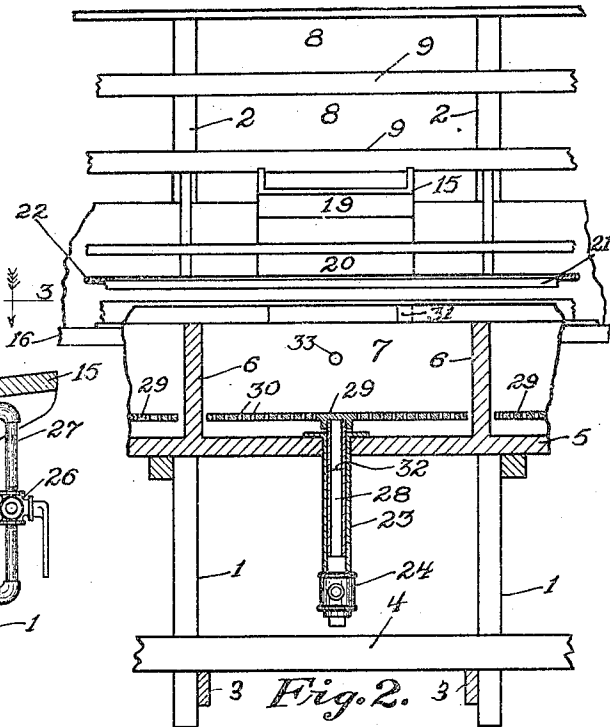


Fig. 2.

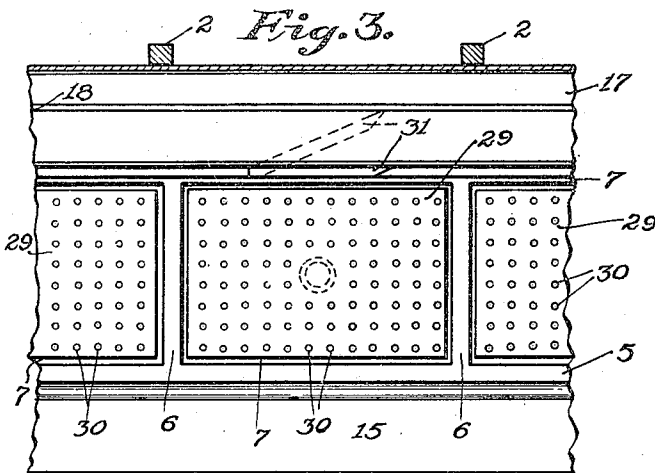


Fig. 3.

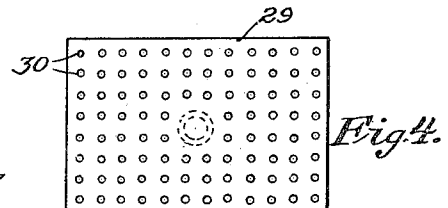


Fig. 4.

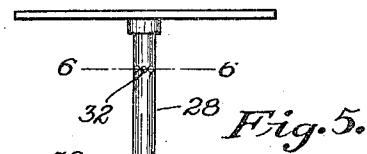


Fig. 5.

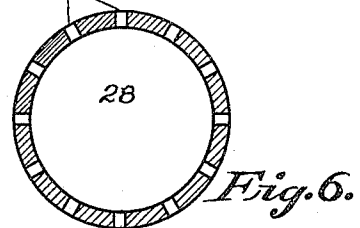


Fig. 6.

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COMBINED WASHING AND CONVEYING APPARATUS.

962,628.

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To all whom it may concern:

Be it known that I, ARTHUR L. DUNCAN, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented certain new and useful Improvements in Combined Washing and Conveying Apparatus, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to the subject of canning preserved fruits, vegetables, and the like, and the principal object of the same is to provide an improved apparatus whereby the articles to be canned may be thoroughly washed, the rejected articles carried away, and the canned material conveyed to a point where the cans may be syruiped.

In carrying out the objects of the invention generally stated above it is contemplated employing a table or bench which is provided with an elongated trough partitioned to provide a plurality of washing vats in which a tray is mounted and adapted to be raised by hydraulic power, said vats being each provided with an independent communication with a source of hydraulic pressure whereby its tray is operated and also whereby the water is kept at a predetermined level within the vats.

The invention also contemplates a system of rope or other suitable conveyers for delivering the cans to each washing vat and for removing the filled cans therefrom and for conveying the rejected articles away from the vat.

In the practical application of an invention capable of performing the above stated functions, it will, of course, be understood that the essential features thereof are susceptible of changes in details and structural arrangements, one preferred and practical embodiment of which is shown in the accompanying drawings, wherein—

Figure 1 is a transverse vertical sectional view of a table or bench showing the present invention applied thereto. Fig. 2 is a central longitudinal sectional view of the same taken on the line 2—2, Fig. 1. Fig. 3 is a horizontal sectional view taken on the line 3—3, Fig. 1. Fig. 4 is a top plan view of one of the trays used in connection with the washing vats. Fig. 5 is a side elevation of the same. Fig. 6 is a sectional view taken on the line 6—6, Fig. 5.

Referring to said drawings by numerals, it will be seen that the improved table or bench

is composed of front standards 1 and rear standards 2, which are connected by the brace rods 3 and 4, and which form a support for an elongated trough 5 which is provided with a plurality of equally spaced apart partitions 6 which divide the same into a plurality of washing vats 7. The rear standards 2 project above the said vats 7, and support a plurality of inclined shelves 8 the front ends of which are provided with strips 9 which prevent cans from rolling from the same. The rear faces of said standards 2 carry two conveyer frames 10 and 11 through which rope or other suitable conveyers 12 and 13 pass and which are used for delivering empty cans to the rear ends of the shelves 8, the cans being removed from said conveyers by an operative and placed into said shelves so that they will slide down the same and rest against the abutment strips at the ends thereof and thereby be within easy reach of another operative stationed in front of the vats 7.

The trough 5 carries an inclined shelf 15 at its front side upon which the cans may be supported while being filled. The rear portion of the trough has a board or plate interposed between itself and the rear standards 2, said plate being designated by the numeral 16 and having an endless belt 17 passing over it, said endless belt being divided by a longitudinal partition 18 so as to provide a compartment thereon for bringing the fruit, vegetables or the like, which are to be washed and canned, and for removing the rejected article. A chute 19 is carried by said rear standards, the front end of the same projecting over the washing vats 7, and the rear end terminating in a hopper whose discharge outlet is directly over the partitioned compartment of the belt 17 which removes the rejected articles.

A conveyer frame 21 depends from the front portion of the shelves 8 and over and through which a rope conveyer 22 passes, said conveyer 22 being adapted for removing filled cans from the vats.

Each vat 7 has an opening centrally located in its bottom from which is suspended a tube or cylinder 23 the base of which carries a coupling 24 which is in communication with a pipe 25 equipped with a three-way valve 26 and having an extension 27 which enters said vats through its front side. Said three-way valve 26 has its casing in communication with a source of hydraulic

pressure. A plunger or ram 28 is slidably mounted in the cylinder 23 and has one end projecting into the vat 7. A flat tray 29 provided with perforations 30 is mounted
5 on the projected end of each ram 28.

In operation, the empty cans are brought to the shelves 8 and removed from the conveyers 12 and 13 and placed upon said shelves so as to be within reach of an operative stationed at the front of each vat 7. The cans as needed are placed upon the shelf 15 at the front of the vats, and the fruit or other articles to be placed in the cans is brought to the vats by means of the
10 endless belt or conveyer 17, and by means of a switch or deflecting bar 31 carried by each vat and adapted to be swung over the fruit compartment of said belt, the contents or a part thereof is deflected into each vat and onto the tray 29 therein. The three-way valve 26 having been manipulated so that water in flowing through the pipe 25 and acting upon the ram 28 raises the tray and also said ram so that its escape ports
15 32 will be within the vat, holds said tray above the bottom of the vat and also assures of water being delivered for washing purposes. By further manipulation of the valve 26 the water may be exhausted partially from the vat through the pipe extension 27, to lower the tray, and thereby assure of the necessary agitation of the water to assure of a proper washing of the material on the tray. After the articles have been thoroughly washed, the better grade of the same are deposited in the cans on the shelf 15 until the cans are filled after which they are placed on the conveyer 22 and carried thereby to one end of the table for syrumping &c.
20 The rejected articles are dropped onto the chute 19 and from thence discharged onto the compartment therefor of the belt 17 which carries the same to a suitable receptacle. The vats 7 are each provided with the usual overflow opening 33 in their rear sides, as is shown in Fig. 1.

In Fig. 1 the conveyers 12 and 13 have been shown with cans mounted thereon and ready to deliver the same to the shelves 8. The conveyer 22 is also shown with a can on the same, the can being shown in an upright position and on its way to the end of the table to be syrumped. Said figure also shows a power pulley or the like 34 adapted for
25 connection with a source of power and mounted on a shaft 35 which carries another pulley 36 for operating the partitioned belt 17.

It will be seen from the foregoing that through the described system of rope conveyers the empty cans are being constantly delivered and the filled cans removed from the vats, and also that a constant supply of material is being fed to each vat so that the

same may be deflected thereto, and also provision is made for conveying the rejected articles from the vats. Another prominent and distinctive feature of the invention is in the use of the valve controlled source of water supply which provides the necessary
65 pressure to raise the plunger or ram; to permit the exhaust from the ram to return to the supply pipe so that said exhaust is not wasted but may be used to wash the fruit or vegetables; and also that through the described manner of permitting the pressure to exhaust from the ram that the water in the vats will be agitated and thereby prevent sediments lodging on the bottom of the vats, as well as assure of a thorough washing of
70 the fruits or vegetables.

What I claim as my invention is:—

1. An apparatus of the character described comprising a plurality of vats, means for supplying cans thereto, means for
75 removing filled cans therefrom, a tray for each vat, means for feeding material to each tray, a ram for each tray, and a source of hydraulic pressure for raising said rams and also providing a circulation through each
80 vat.

2. An apparatus of the character described comprising a plurality of vats, means for supplying empty cans thereto, means for removing filled cans therefrom, a tray for
85 each conveyer, a conveyer provided with compartments one of which carries material to said trays and the other removes rejected material therefrom, and a source of hydraulic pressure for actuating said trays and also providing a circulation through each
90 vat.

3. An apparatus of the character described comprising a plurality of washing vats, conveyers for delivering empty cans
95 thereto, conveyers for removing filled cans therefrom, a tray mounted in each vat, a belt for delivering material to said vats and removing rejected material therefrom, and a source of hydraulic pressure supply for each
100 vat for actuating the trays therein and also providing a circulation therethrough.

4. In an apparatus of the character described a plurality of washing vats, a ram slidably mounted in each vat, a perforated
105 tray carried by one end of said ram and positioned in said vat, a source of hydraulic pressure supply for providing water for washing purposes and also to actuate the rams, and a valve for controlling said pressure supply.
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In testimony whereof I hereunto affix my signature in presence of two witnesses.

ARTHUR L. DUNCAN.

Witnesses:

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