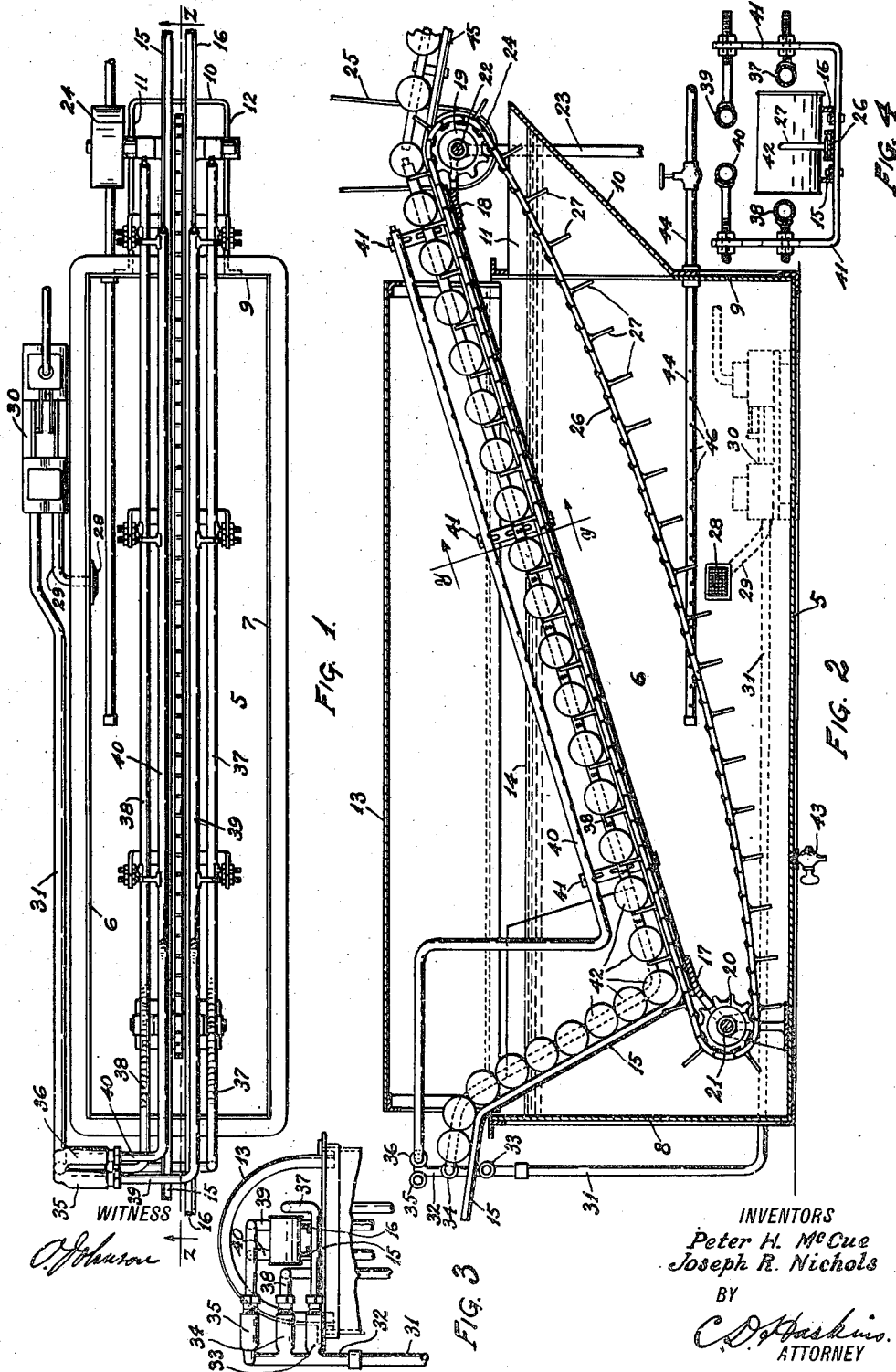


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CAN WASHING MACHINE.
APPLICATION FILED DEC. 6, 1915.

1,178,166.

Patented Apr. 4, 1916.



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Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, PETER H. McCUE and JOSEPH R. NICHOLS, citizens of the United States, residing at Seattle, in the county of King and State of Washington, have invented a certain new and useful Improvement in Can-Washing Machines, of which the following is a specification.

Our invention relates to improvements in can-washing machines of that class which is employed in canneries for washing cans that have been filled with food products and sealed, to prepare such cans for the final operation of placing labels thereon, and the object of our invention is to provide a can-washing machine which shall be simple in its plan of construction and efficient in its operation, and which shall be adapted automatically to operate to conduct cans successively over the top edge of one end wall of a tank, thence downwardly to submerge them in cleansing fluid contained in said tank and there subject their surfaces to strong currents of such cleansing fluid, and then carry them obliquely upward to and over the top edge of the other end wall to the exterior of said tank, there to dispose them on a chute or other form of conveyer for delivering them to a desired point, said strong current of said cleansing fluid being produced by a pump in connection with a system of circulating pipes associated with said tank whereby the same body of said cleansing fluid may be continuously used. We accomplish this object by devices illustrated in the accompanying drawings wherein—

Figure 1 is a plan view of a can-washing machine embodying our invention as it appears with its cover removed; Fig. 2 is a view of the same in vertical section on broken line *z, z* of Fig. 1 as it appears with its cover in place; Fig. 3 is a fragmentary view in elevation of the upper portion of the intake end of the structure shown in Fig. 2; and Fig. 4 is an enlarged view in cross-section, on broken line *y, y*, of parts of the structure shown in Fig. 2.

Referring to the drawings throughout which like reference numerals indicate like parts, Figs. 1 and 2 show an oblong tank comprising a bottom wall 5, two vertical side walls 6 and 7 one vertical end wall 8 and another oppositely disposed vertical end wall 9 a portion of which is cut away and which portion is replaced by a wall 10 that extends

outwardly and obliquely upwardly to a plane adjacent to the top edges of the side walls 6 and 7 and by side walls 11 and 12, thus to provide said tank with a coverless portion that projects outwardly from one of its ends, its larger portion being covered by a hood 13 of semi-circular cross-section, as more clearly shown in Fig. 3, said hood 13 being open at both of its ends.

As indicated by the several broken lines 14, the tank is nearly filled with a cleansing fluid made of water and suitable chemicals, and two bars 15 and 16 of angle iron, spaced from each other, to form a trackway for cans, are disposed to extend into the can-receiving end of said tank over the top edge of the end wall 8, thence obliquely downward beneath the surface of said cleansing fluid for a distance equal to about two thirds of the depth of said tank where said bars 15 and 16 are secured to a bracket 17, thence in an inclined plane out of said cleansing fluid to and through the open end of the hood 13 at the delivery end of said tank, thence to a bracket 18 to which said bars 15 and 16 are also fastened, and thence to and over a sprocket wheel 19 where they again decline to form a chute 45 as more clearly shown in Fig. 2. The bracket 17 is secured to the bottom wall 5 and it also serves to support a sprocket wheel 20 which is rotatably mounted on a stud 21 fixed therein. The sprocket wheel 19 is fixed on a shaft 22 that is rotatably mounted in bearings which are provided on a supporting frame 23 to which the bracket 18 is also attached, and the shaft 22 is provided with a pulley 24 that may be rotated by a belt 25. The sprocket wheels 19 and 20 are disposed to rotate in a vertical plane that registers with the center of the space between the trackway bars 15 and 16, and mounted on said sprocket wheels 19 and 20 to be actuated thereby is an endless sprocket chain 26 whose links alternately are provided with flights 27 which project from the outer side thereof whereby when the sprocket chain 26 is actuated by rotation of the shaft 22 then the flights 27 will successively travel between the bars 15 and 16 of the trackway to project upwardly therethrough to engage each with a can that may be disposed on said trackway thus to move successive cans up the inclined portion of said trackway to deliver such cans to the chute 45 in the manner indicated in Fig. 2. A strainer covered outlet passageway 28

is disposed in the lower portion of the side wall 6 and said passageway 28 is connected by a pipe 29 with the suction inlet passageway of a force pump 30 whose delivery outlet passageway is connected by a pipe 31 to a branch fitting 32 which has four branch connectors 33, 34, 35 and 36, within which are adjustably disposed the terminals respectively of pipes 37, 38, 39 and 40. The branch fitting 32 is disposed adjacent to the top of the end wall 8 at the can receiving end of the tank so that the pipes 37 and 38 may extend therefrom, each in a course adjacent to and parallel with the trackway formed by bars 15 and 16, to the opposite end of the tank, and each in such position and at such distance from said trackway as will adapt them to serve as guides for cans, as cans 42, moving on said trackway as more clearly shown in Fig. 4, said pipes 37 and 38 being adjustably supported in their positions by brackets 41 secured to said trackway.

Those portions of the pipes 37 and 38 which are within the tank are provided with rows of small holes through that side of each of them which is next to the path of cans moving on said trackway, through which holes cleansing fluid may be projected with great force against the ends of adjacent cans. The pipes 39 and 40 are adjustably connected to the branch fitting 32 to extend therefrom directly into the tank to a point over the lowest portion of the trackway, thence vertically downward to points near the path of cans that may move on said trackway, thence to the delivery end of the tank in parallelism with said trackway, they being adjustably secured in such positions by said brackets 41, as shown more clearly in Fig. 4, and both of said pipes 39 and 40 are perforated along their under side adjacent to said trackway whereby cleansing fluid may be projected downwardly on to cans moving on said trackway.

A drain cock 43 is disposed to extend through the bottom wall 5 of the tank whereby said tank may be readily emptied for purpose of cleaning it.

Disposed to extend through the end wall 9 beneath the obliquely disposed wall 10 is a valve-controlled inlet pipe 44 which extends into the tank to a point near the middle of the length thereof said inlet pipe 44 within the tank being provided with numerous holes, as holes 46, through its walls, whereby steam may be introduced into the tank to cause such cleansing fluid to be heated to a desired temperature.

The operation of the machine thus described and illustrated may be described as

follows: Cans, as cans 42, are fed into the tank through the opening of the cover 13 at the can-receiving end of the tank to roll downwardly on the trackway bars 15 and 16 while guided by the pipes 37 and 38 until they reach the lowest portion of said trackway bars 15 and 16 where successive ones of said cans 42 are engaged by successive ones of the flights 27 of the sprocket chain 26 which is being moved in response to the rotation of the sprocket wheel 19 to be carried up the inclined portion of said trackway bars 15 and 16 and out of the open end of the cover 13 at the delivery end of the tank to deliver such cans 42 into the chute 45 and during the travel of such cans 42 over the inclined portion of said trackway bars 15 and 16 the force pump 30 is actuated to pump the cleansing fluid from the bottom portion of the tank through the strainer-covered passageway 28 to force such cleansing fluid through the pipe 31 into the branch fitting 32, thence into the pipes 37, 38, 39 and 40 from which pipes jets of the cleansing fluid are emitted with great force through the rows of holes which are provided in their sides adjacent to the moving cans 42 to impinge against the surfaces of said cans 42 to dislodge dirt therefrom, in an obvious manner, the extreme ends of all the pipes 37, 38, 39 and 40 being closed with a plug as shown.

Manifestly, changes may be made in the forms, dimensions and arrangement of parts of our invention without departing from the spirit thereof.

What we claim is:

A can washing machine of the class described, including a tank adapted to contain cleansing fluid, a can conveyer disposed to adapt it to convey cans into one end of said tank, thence downwardly into the lower portion of the interior of said tank beneath the cleansing fluid, thence upwardly in an inclined plane above the cleansing fluid to and out of the other end of said tank, whereby the cans so conveyed shall in the course of their travel be submerged in cleansing fluid that may be contained in said tank, and means arranged adjacent the conveyer adapted to direct jets of cleansing fluid on to the cans while the cans are submerged and above the cleansing fluid.

In witness whereof, we hereunto subscribe our names this 1st day of December A. D., 1915.

PETER H. McCUE.
JOSEPH R. NICHOLS.

Witnesses:

FRANK WARREN,
A. HASKINS.