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J. MÜLLER.
BARREL WASHING MACHINE.
APPLICATION FILED SEPT. 19, 1908.

Patented Mar. 8, 1910.

3 SHEETS—SHEET 1.

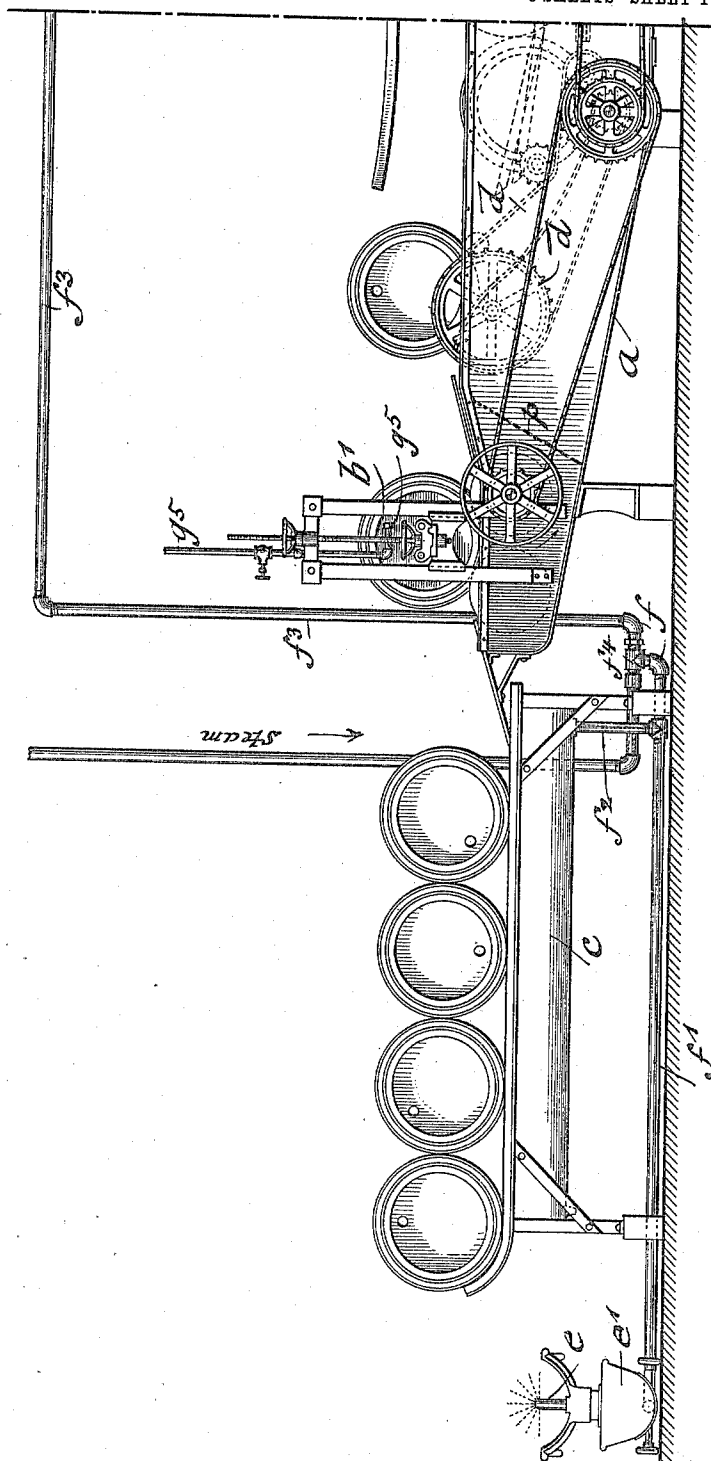


Fig. 1

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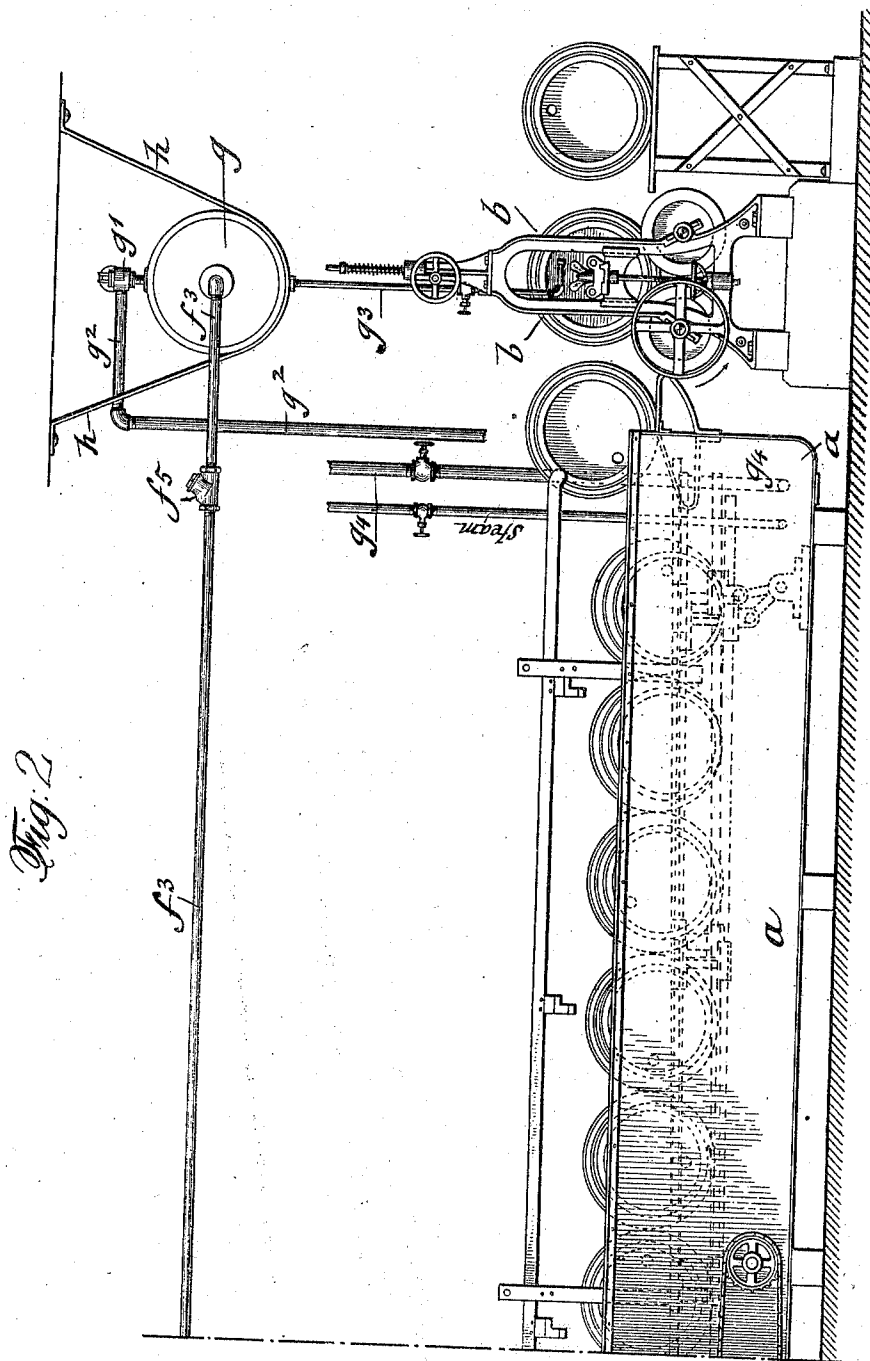


Fig. 2

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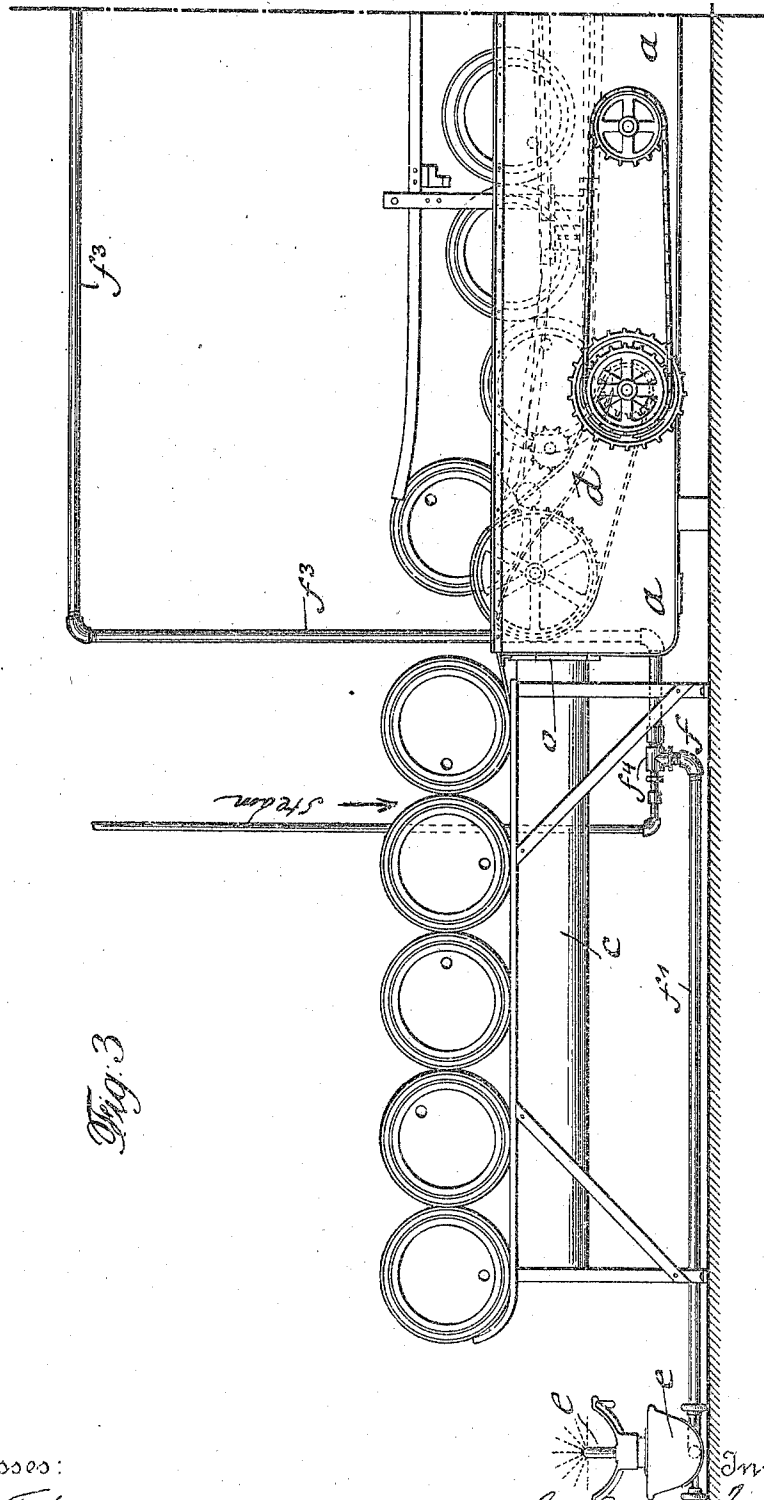


Fig. 3

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UNITED STATES PATENT OFFICE.

JACOB MÜLLER, OF NEW YORK, N. Y., ASSIGNOR TO CAROLINE H. MÜLLER, OF
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BARREL-WASHING MACHINE.

951,572.

Specification of Letters Patent.

Patented Mar. 8, 1910.

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To all whom it may concern:

Be it known that I, JACOB MÜLLER, a citizen of the United States of America, residing in New York, in the borough of the Bronx, county and State of New York, have invented certain new and useful Improvements in Barrel-Washing Machines, of which the following is a specification.

This invention relates to an apparatus for washing barrels, and more specifically to a machine for scrubbing the outside of the barrels, then soaking and washing them at the inside, then again scrubbing the outside of the barrels, and finally sprinkling the inside of the barrels; the different parts of the machine, namely, the scrubbers, washing tank, water-collecting tank and sprinkler-tank, being supplied with fresh water, whereby the water collected in the sprinkler-tank and collecting tank is utilized for the incoming scrubber and thereby a considerable saving in water obtained and the effectiveness of the machine greatly augmented.

In the accompanying drawings, Figures 1 and 2 represent a side-elevation of my improved barrel-washing machine with its water-saving attachment, Fig. 1 showing the left-hand end and Fig. 2 the right-hand end of the machine, and Fig. 3 is a side-elevation of a modified construction of the left-hand or outgoing end of the barrel-washing machine.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, *a* represents a washing tank of any suitable construction. At the ingoing end of the washing tank is arranged a scrubber *b* of any approved construction, which serves for cleaning the outside of the barrel by top and head scrubbing brushes. From the scrubber *b* the barrels are delivered to the washing tank and moved over the guide-rails of the same by being laterally rocked for washing the inside of the barrels, until they arrive at the outgoing end of the washing tank and are taken up by a transfer mechanism *d* and conducted to a second scrubber *b*¹ at the outgoing end, by which the barrels are cleaned at the circumference and at the heads, and then delivered to the water-collecting tank *c*, into which the water taken up by the barrels and still contained in the same during their passage through the washing tank is delivered through the bung-holes. From the guide-

rails of the collecting tank one barrel after the other is lifted by hand and transferred to a sprinkler *e*, of any approved construction, which is provided with the usual sprinkler-tank *e*¹ for collecting the water sprinkled into the barrel after the same is thoroughly washed at the inside by the fresh water delivered by the sprinkler.

The sprinkler-tank and collecting tank are connected by a water-circulating system *f* with a cylindrical auxiliary tank *g*, which is supported above the scrubber at the ingoing end of the washing tank. The auxiliary tank *g* is preferably suspended by hanger-straps *h* from the rafters of the ceiling of the wash-house, and provided with a safety-valve *g*¹ and an overflow-pipe *g*² for preventing overpressure in the auxiliary tank. The water-circulating system which connects the sprinkler and water-collecting tanks with the auxiliary tank is composed of a suction-pipe *f*¹ which is connected with the bottom of the sprinkler-tank, a branch-pipe *f*² which connects with the bottom of the collecting tank, and a delivery-pipe *f*³ which is connected with one of the heads of the auxiliary tank *g*. In the suction-pipe is arranged an ejector *f*⁴ to which steam is applied by a steam-pipe *h*¹ provided with a stopcock, so that the water is forced by the ejector from the sprinkler-tank and collecting tank into the auxiliary tank. The delivery-pipe *f*³ is provided with a check-valve *f*⁵ for preventing the return of the water from the auxiliary tank when the ejector is placed out of action.

From the auxiliary tank *g*, a supply pipe *g*³ extends to the top and head brushes of the scrubber at the ingoing end of the washing-tank. The relatively clear water flowing into the tank *g* intermittently from the sprinkler-tank and the water collecting tank is delivered uniformly to the ingoing scrubber. A pipe *g*⁵ delivers a supply of clear water directly to the out-going scrubber. A pipe *g*⁴ delivers steam to the washing tank for heating the water in same. Suitable means (not shown) are provided to supply clean water to the sprinkler.

In the outgoing end of the washing tank is arranged an inclined screen *p* that extends transversely across the tank and that serves to collect the revenue-stamps and labels that are soaked and washed off from the barrels, so as to prevent them from being returned

into the body of the washing tank and permit their being easily removed from time to time before the barrel-washing machine is stopped.

5 By means of the auxiliary tank and the water-circulating system connecting the same with the sprinkler and collecting tanks water that has already been used in the operation of sprinkling and washing the barrels on the inside is used for the top and
10 head brushes of the ingoing scrubber for cleaning the outside of the barrels, so that no fresh water is used for this purpose, but only the waste water from the sprinkler and
15 collecting tanks. By thus utilizing the water from the sprinkler and collecting tanks a second time a considerable saving in the use of water is obtained, the water at the same time being heated by the live steam
20 which operates the ejector, so as to be supplied at a high temperature to the ingoing scrubber and thereby effectively clean the outside of the barrels.

In some cases, the second scrubber, located
25 at the outgoing end of the washing tank, may be dispensed with, as shown in Fig. 3. In this case the water-collecting tank is attached directly to the outgoing end of the washing tank, which latter is provided with
30 a communicating opening *o* in its end-wall, so that the water in the washing tank is at the same level with the water in the collecting tank. The water-circulating system before described only serves for connecting the
35 sprinkler-tank with the auxiliary water-tank above the ingoing scrubber. This arrangement in which the out-going scrubber is omitted is used in cases in which a second scrubbing of the outside of the barrels is not
40 desired, and forms a cheaper modification of my improved barrel-washer with water-saving attachment.

From the description of the machine the operation of the same is to a great extent
45 apparent. To describe the operation more in detail, stress has to be laid on the fact that the scrubber at the ingoing end of the washing tank, the supply-pipe of which is fed by the water in the auxiliary tank, removes the dirt adhering to the exterior circumference of the barrels so that the same is
50 not dissolved and removed during the passage of the barrels through the washing tank, preventing thereby the pollution of the fresh washing water in the tank. The
55 water delivered by the auxiliary tank and used for the scrubbing of the barrels may then be conducted away. The barrel after being cleaned on the outside by the ingoing
60 scrubber, is automatically transferred into the washing tank by passing over brackets

at the ingoing end of the same and a new barrel is placed on the scrubber and cleaned on the outside as before described. The
65 barrels pass automatically through the washing machine, being conducted by the driving and rocking mechanism until they are taken up by the transferring mechanism and then conducted by the same and suitable inclined
70 runways onto the second scrubber at the outgoing end of the machine. The revenue-stamps and labels are washed off and collected in the outgoing end of the washing tank and prevented from being returned into
75 the water of the washing tank by the stationary screen in the same. The second scrubber is supplied directly with fresh water, which is then run off into the washing tank. The barrels are then conducted
80 from the second scrubber on the collecting tank and the water in the barrels is drained through the bung-holes into the collecting tank. From the runways of the collecting
85 tank one barrel after the other is lifted onto the sprinkler and rinsed with fresh water supplied to the same. The waste
90 water is collected in the sprinkler-tank and forced by the suction of the ejector of the water-circulating system, together with the water in the collecting tank, to the auxiliary
95 tank, so that thereby a two-fold use of the water in the sprinkler and collecting tanks and a considerable saving of fresh water is obtained. The fundamental idea, namely,
100 the scrubbing of the outside of the barrels by means of water which has been used for washing and sprinkling the inside of the barrels, is successfully carried out by my improved barrel-washer, preventing thereby the contamination of the fresh washing water
105 supplied to the washing tank by exterior impurities carried in by the barrels.

Having thus described my invention, I claim as new and desire to secure by Letters
110 Patent:

In a barrel-washing machine, the combination of a rinsing apparatus, a scrubbing apparatus, spaced from said rinsing apparatus, a tank supported above the machine and provided with a pipe leading to the
115 scrubbing apparatus, means to pump the relatively clear water in the rinsing apparatus into the tank, and an overflow-pipe connected with the tank and provided with a safety-valve.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

JACOB MÜLLER.

Witnesses:

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