No. 734,281. PATENTED JULY 21, 1903.

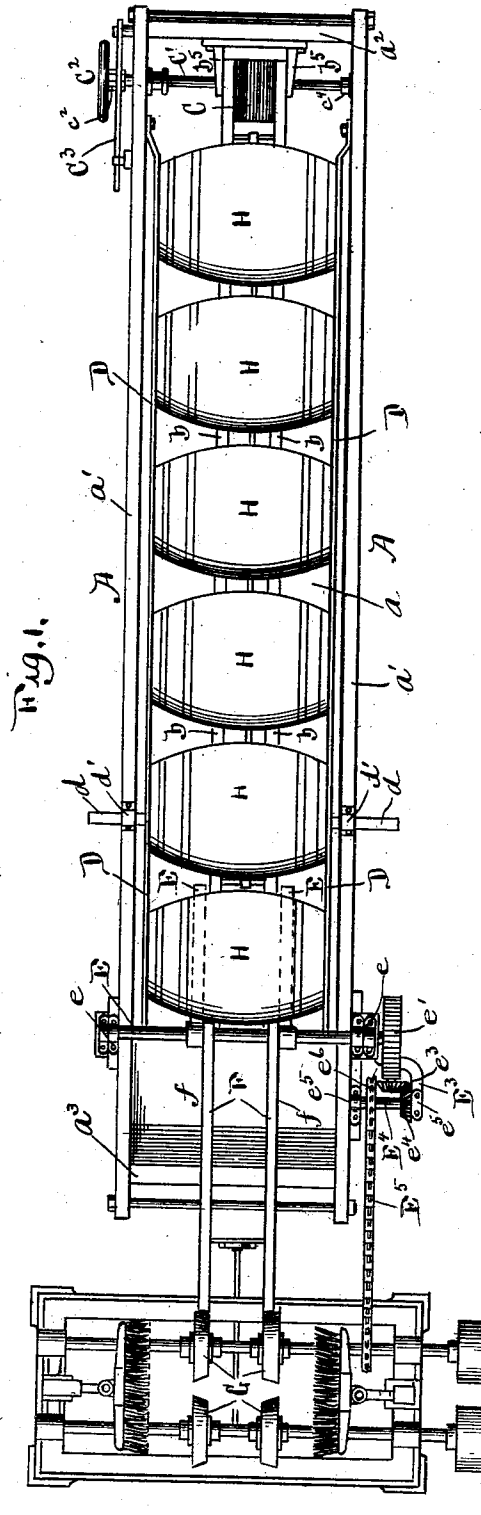
H. OLSEN.

BARREL WASHING TANK.

APPLICATION FILED NOV. 10, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.



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Walker Banning.

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 734,281. PATENTED JULY 21, 1903.

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NO MODEL. 2 SHEETS—SHEET 2.

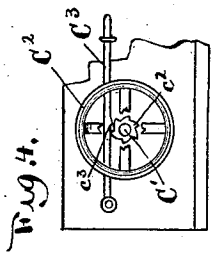


Fig. 4.

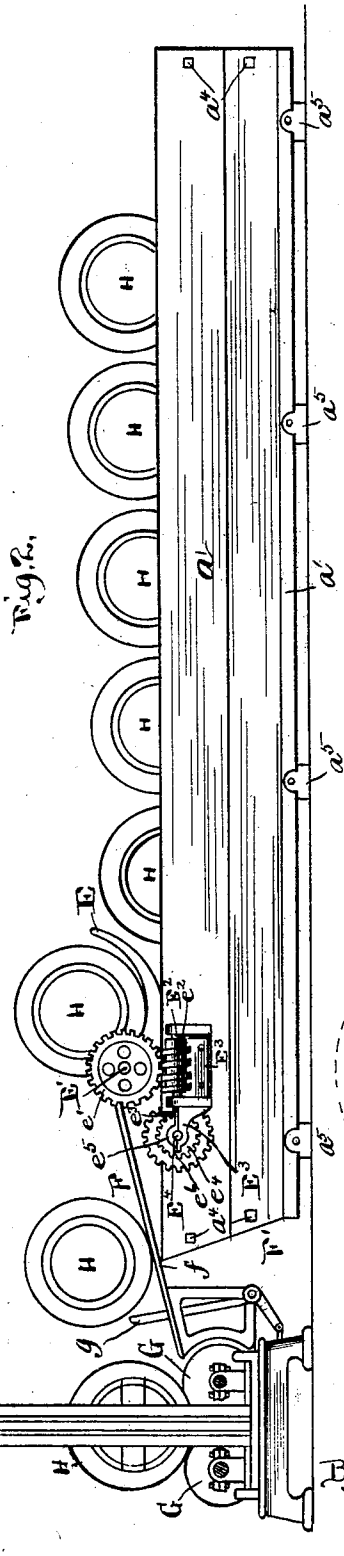


Fig. 2.

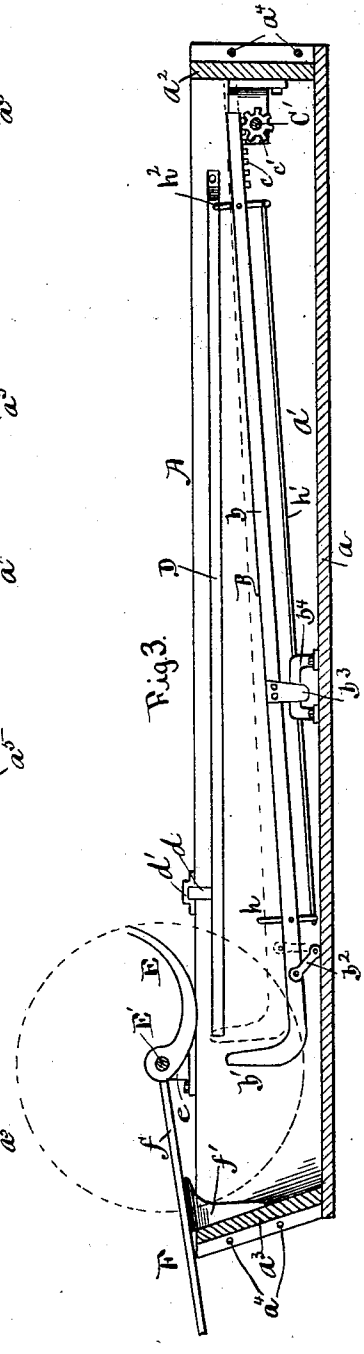


Fig. 3.

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No. 734,281. Patented July 21, 1903.

UNITED STATES PATENT OFFICE.

HENRY OLSEN, OF CHICAGO, ILLINOIS, ASSIGNOR TO OLSEN & TILGNER MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

BARREL-WASHING TANK.

SPECIFICATION forming part of Letters Patent No. 734,281, dated July 21, 1903.

Application filed November 10, 1902. Serial No. 130,803. (No model.)

To all whom it may concern:

Be it known that I, HENRY OLSEN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Barrel-Washing Tanks, of which the following is a specification.

The objects of this invention are to improve the construction and operation of the trackway on which the barrels descend in their passage from the receiving end of the tank to the delivery end thereof; to cause the act of raising and lowering the delivery end of the trackway to recede and advance the delivery end coincidingly; to raise and lower and recede and advance the delivery end of the trackway to accommodate barrels, half-barrels, or kegs and bring the different-sized articles in proper relation to the arms or lifters by which the barrel, half-barrel, keg, or other receptacle is raised and discharged; to improve the connection between the tank and the scrubbing-machine; to automatically release a barrel on the trackway at the delivery end thereof with the placing of a barrel on the receiving end, and to improve generally the construction and operation of the devices cooperating with the tank as a whole.

The invention consists in the features of construction and combinations of parts hereinafter described and claimed.

In the drawings illustrating the invention, Figure 1 is a top or plan view showing the tank in connection with a scrubbing-machine; Fig. 2, a side elevation of the tank in connection with a scrubbing-machine, the scrubbing-machine in Figs. 1 and 2 not being shown in full detail; Fig. 3, a longitudinal sectional elevation of the tank, and Fig. 4 a detail showing the hand-wheel and ratchet and pawl for operating the trackway.

The tank A can be made of wood or other suitable material and of any length desired and of a width to accommodate a barrel lengthwise across the tank, and when completed the tank has a bottom a, sides a', and end a^2, and an end a^3, and, as shown, at each end tie-rods a^4 assist in holding the sides to the ends, and the tank rests upon chairs or other suitable supports a^5 in the construction shown; a trackway B, consisting of two side rails b, each side rail at the delivery end of the trackway having an upward turn forming a stop or rest against which a barrel will lie in position to be caught and raised by the arms or lifters. Each side bar of the trackway rearwardly from the delivery end thereof swings on a link b^2, one end of the link pivotally attached to the side bar and the other end pivotally attached to the floor or bottom of the tank, so that the trackway at its delivery end can rise and fall and can be receded and advanced as a whole through the swinging support furnished by the links. Each side bar b of the trackway has depending therefrom guide-plates b^3, which coact with guides b^4 on the floor or bottom of the tank to give the trackway a straight-line movement in rising and falling and in advancing and receding. A plate C is located between the side rails of the trackway at the receiving end, and this plate on its under face has a rack c, which is engaged by a pinion c' on a shaft C', so that by turning the shaft the pinion will act on the gear and move the trackway bodily forward and backward, the forward movement, through the swinging links b^2, lowering the delivery end of the trackway coincidingly with the advance and the backward movement, through the links b^2, raising the delivery end of the trackway coincidingly, thus producing both a rising and falling and a receding and advancing of the delivery end of the trackway through the action of the rack and pinion. The shaft C' has on one end thereof a hand-wheel C^2, by which the shaft can be turned, and the hub of the hand-wheel or the shaft adjacent to the hand-wheel has thereon a ratchet-wheel c^2, which is engaged by a catch or pawl c^3 on a lever C^3 for holding the shaft against return movement when the trackway is receded. The receiving end of the trackway is entered between guides b^5, in the construction shown, so as to maintain a direct-line movement in advancing and receding the trackway, and, as shown, the guides b^5 also serve as an intermediate support for the shaft C', the inner end of which is supported in a box c^4 on the side of the tank.

The interior of the tank, on each side thereof, has a guide-piece D, each guide-piece fixedly attached at the receiving end of the tank to the side wall of the tank, and at the receiving end of the tank the guides D are located a sufficient distance apart to furnish a space of the required width for the longest receptacle to be treated in the tank. The guides D at the delivery end of the trackway are movable inwardly and outwardly laterally, so that the free ends of the guides can be adjusted nearer to or farther from the sides of the trackway to furnish a space varying in width to accommodate receptacles of different lengths and have the receptacles properly guided at the delivery end of the trackway to lie sufficiently across the trackway to be caught at each end by the arms or lifters which raise the receptacle from the trackway at the delivery end. As shown, the free end of each guide D is moved inward and outward by a bar d, passing through a clip d' on the top of each side wall of the tank, allowing of the required lateral movement of the free ends of the guides to suit the requirements as to the proper width for the length of different receptacles. This lateral adjustment of the free ends of the side guides insures the passage of receptacles of different lengths in proper position to be raised.

The arms or lifters E, two of which are employed, are each curved or bent so as to receive on their upper faces the barrel, half-barrel, or other receptacle to be raised and discharged from the tank. The arms or lifters are fixedly attached to a revolving shaft E', supported in suitable journal-boxes e on the sides of the tank, and one end of the shaft has thereon a gear-wheel e', which meshes with a worm-gear e^2 on a shaft E^2, which shaft is supported in suitable bearings on a plate E^3, attached to the side of the tank. The shaft E^2, at one end thereof, has fixed thereto a bevel-gear e^3 which meshes with a bevel-gear e^4 on a shaft E^4, which shaft is supported in suitable bearings e^5, one of which is on the side of the tank and the other one of which is on an arm of the plate extending out from the plate E^3, and on the shaft E^4 is a sprocket-wheel e^6, driven by a chain E^5, which chain in the arrangement shown is driven from one of the shafts for the wheels which support the barrel in the scrubbing-machine. The rotation of the worm-gear e^2 from the bevel-gears e^3 and e^4 revolves the shaft E' through the gear e', and with the revolving of the shaft the arms or lifters E are carried around, passing in their circle of travel, as shown by the dotted lines in Fig. 3, below the first barrel at the delivery end of the trackway, and the continued revolution of the arms raises the caught barrel and carries the barrel or other receptacle around until the vertical position of the arms or lifters allows the barrel to roll from the arms or lifters and be discharged from the tank to pass to a scrubbing-machine or other place of reception. The barrels, half-barrels, or other receptacles raised and discharged successively by the arms or lifters fall or roll onto a platform or table F, consisting, as shown, of two side rails f, having a downward inclination from a point adjacent to the base end of the arms or lifters, as shown in Figs. 1, 2, and 3. The outer end of the platform or table F is supported on a standard F', adjacent to and in front of the wheels which receive the barrel in the scrubbing-machine, so that the barrels descending on the platform or table will roll therefrom, and, as shown, the platform or table is connected with the end bar a^3 by a bracket-arm f', the face of which abuts against the inner face of the end a^3, as shown in Fig 3.

The barrels descending on the table or platform pass directly in the arrangement shown onto the supporting-wheels G of the scrubbing-machine, and, as shown, a trip-arm g, as a barrel rolls down the platform or table, is actuated to move the scrubbing-brushes for the barrel to enter between the brushes. The barrels, half-barrels, or other receptacles H are placed on the receiving end of the trackway B and roll by gravity down the trackway. An arm h, located rearwardly of the stop or rest b' at a sufficient distance to allow of a space between the arm and the stop or rest for the reception of a barrel, serves to hold the barrels against crowding onto the first barrel which is to be raised by the action of the arms or lifters, and this stop-arm h is connected by a rod h' with an arm h^2, projecting above the face of the trackway and located at the receiving end of the trackway, against which arm h^2 a barrel or other receptacle placed on the receiving end of the trackway will contact, forcing the arm h^2 forwardly at its upper end and rearwardly at its lower end, giving a corresponding movement to the arm h, lowering the upper end of such arm sufficiently for the barrel caught thereagainst to pass thereover into the space therefor adjacent to the stop or rest at the delivery end of the trackway, and with the passage of a barrel over the stop-arm h the arms h and h^2 return to normal position for the arm h to stop the next succeeding barrel and hold the row of barrels so that the barrel which has passed the arm and is in position for the arms or lifters E to raise the same will be clear of any binding from the row of barrels, thus facilitating the action of the arms or lifters in raising and discharging the barrels.

The operation is as follows: The trackway is adjusted through the rack and pinion for its delivery end to be in correct relation with the arms or lifters E to suit the size of the receptacle passing through the tank. The receptacles—either barrels, half-barrels, kegs, or other receptacles—are entered one by one on the receiving end of the trackway and roll down the trackway and in their passage are soaked or wetted by the water in the tank, and with the bungs out more or less water

will enter the interior of the receptacle. The first receptacle received at the delivery end of the trackway is caught by the arms or lifters and raised from the trackway and above the tank and is discharged onto the table or platform from the arms or lifters and descends to the scrubbing-machine or other place of delivery. The next barrel or receptacle received at the delivery end of the trackway is likewise caught by the arms or lifters, raised, and discharged, and so on until the number of receptacles to be operated upon have been passed through the tank. The barrels, after the trackway is once filled, are held so as to pass to the delivery end and into position for the action of the arms or lifters by the stop-arm h, and with the placing of another barrel on the receiving end of the trackway the barrel or other receptacle caught by the stop-arm h is automatically released and descends into lifting position by the placed-on barrel through the contact of such barrel with the trip-arm h^2, which releases the stop-arm h and allows the barrel or receptacle adjacent to the stop-arm to descend, and after the release of a barrel or receptacle from the stop-arm the stop-arm and trip-arm return to normal position and so remain until the next barrel or receptacle is placed on the receiving end of the trackway, and when all the barrels have been placed on the trackway which it is desired to pass through the tank each barrel on the trackway can be successively passed to the delivery end of the trackway by the operator or workman, who releases the stop-arm by moving the trip-arm.

It will be seen that the trackway is adjustable as to height and distance from the path of circular travel of the arms or lifters E to accommodate different-sized receptacles, and this adjustment as to height and distance is attained by one and the same movement of the trackway as a whole—that is, the advance of the trackway lowers the delivery end thereof and the recession of the trackway raises the delivery end, it being understood that the lowermost and the advanced position places the delivery end of the trackway in position for the arms or lifters to act on barrels, and the uppermost and receded position places the delivery end of the trackway in position for small receptacles, and the intermediate positions place the delivery end of the trackway in position for receptacles between barrels and the smallest receptacle to be acted on. This adjusting of the delivery end of the trackway both as to height and distance enables the arms or lifters to act on the largest and smallest receptacles without liability of the ends of the arms or lifters passing a distance beyond the first receptacle so as to engage the second receptacle and raise or partly raise the second receptacle and creating confusion in the position and run of the receptacles; and by providing the stop-arm, located at a sufficient distance back of the delivery end of the trackway for the largest receptacle, each arm holds the receptacles back so that only one receptacle at a time can come into position to be caught and raised by the arms or lifters.

What I regard as new, and desire to secure by Letters Patent, is—

1. In a barrel-washing tank, the combination of an endwise-movable inclined trackway with its receiving end in a higher plane than its delivery end, a swinging support for the delivery end of the trackway, a support for the receiving end of the trackway on and by which the trackway can be traveled back and forth, and means for advancing and receding the trackway endwise bodily, the endwise backward movement operating to raise the delivery end and the endwise forward movement operating to lower the delivery end of the trackway, substantially as described.

2. In a barrel-washing tank, the combination of an endwise-movable inclined trackway with the receiving end in a higher plane than its delivery end, swinging links pivotally connecting the forward end of the trackway with the bottom of the tank, a support for the receiving end of the trackway on and by which the trackway can be traveled back and forth, and means for advancing and receding the trackway endwise bodily, the endwise backward movement operating to raise the delivery end and the endwise forward movement operating to lower the delivery end of the trackway through the rising and falling movements of the pivotally-connecting links derived by the backward and forward movements of the trackway, substantially as described.

3. In a barrel-washing tank, the combination of an endwise-movable inclined trackway, swinging links pivotally connecting the delivery end of the trackway with the bottom of the tank, a rack at the receiving end of the trackway, and a pinion having a fixed relation and engaging the rack, the rack and the pinion furnishing a support on and by which the trackway can be advanced and receded endwise bodily for the swinging links to lower and raise the delivery end of the trackway, substantially as described.

4. In a barrel-washing tank, the combination of an endwise-movable trackway, means for giving endwise movements forward and backward to the trackway and have the forward movement lower and the backward movement raise the delivery end of the trackway, revoluble lifters at the delivery end of the trackway operating to raise a receptacle from the trackway at the delivery end thereof, and means for revolving the lifters, substantially as described.

5. In a barrel-washing tank, the combination of an endwise-movable inclined trackway, means for giving endwise movements forward and backward to the trackway and have the forward movement lower and the backward movement raise the delivery end of the trackway, revoluble lifters at the de-

livery end of the trackway operating to raise a receptacle from the trackway at the delivery end thereof, means for revolving the lifters, and a platform at the delivery end of the tank onto which receptacles are deposited from the lifters, substantially as described.

6. In a barrel-washing tank, the combination of an endwise-movable inclined trackway, means for giving endwise movements forward and backward to the trackway and have the forward movement lower and the backward movement raise the delivery end of the trackway, revoluble lifters at the delivery end of the trackway operating to raise a receptacle from the trackway at the delivery end thereof, means for revolving the lifters, a platform at the delivery end of the tank onto which receptacles are deposited from the lifters, and a scrubbing-machine into which the receptacles pass from the platform, substantially as described.

7. In a barrel-washing tank, the combination of an inclined trackway, a retainer-arm projecting above the upper face of the trackway and located rearwardly of the delivery end of the trackway, a trip-arm at the receiving end of the trackway, and a connection between the retainer-arm and the trip-arm for operating the retainer-arm to release a receptacle with the deposit of a receptacle on the receiving end of the trackway, substantially as described.

8. In a barrel-washing tank, the combination of an inclined trackway, a retainer-arm projecting above the upper face of the trackway and located rearwardly of the delivery end of the trackway, and means for lowering and raising the retainer-arm to release the advance receptacle and hold back the remaining receptacles on the trackway, substantially as described.

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