

No. 830,463.

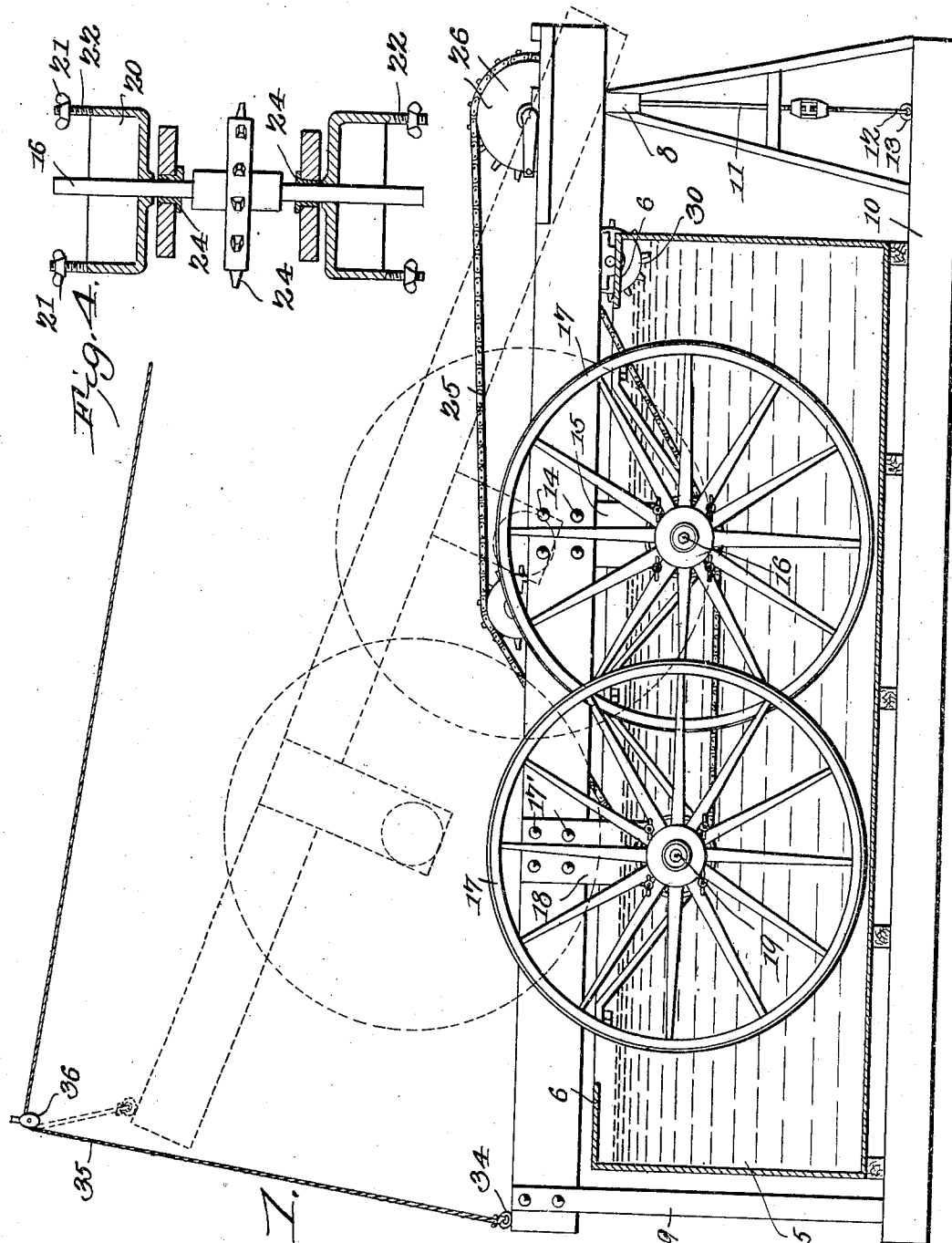
PATENTED SEPT. 4, 1906.

R. M. SUTHERLIN.

APPARATUS FOR WASHING VEHICLE WHEELS.

APPLICATION FILED NOV. 2, 1905.

2 SHEETS--SHEET 1.



Witnesses

Witnesses
E. J. Stewart
L. N. McKen

L. M. McKen

Fig. 1.

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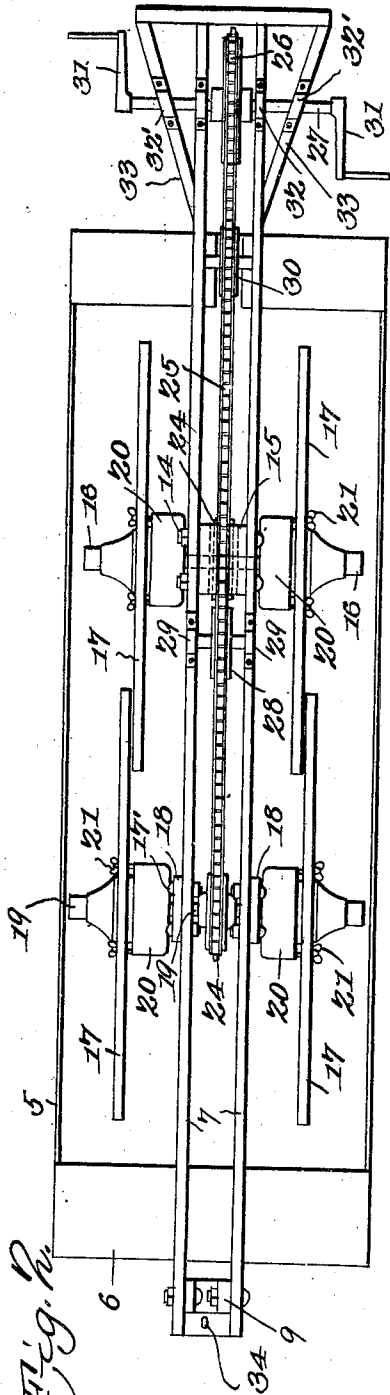


Fig. 2.

Witnesses

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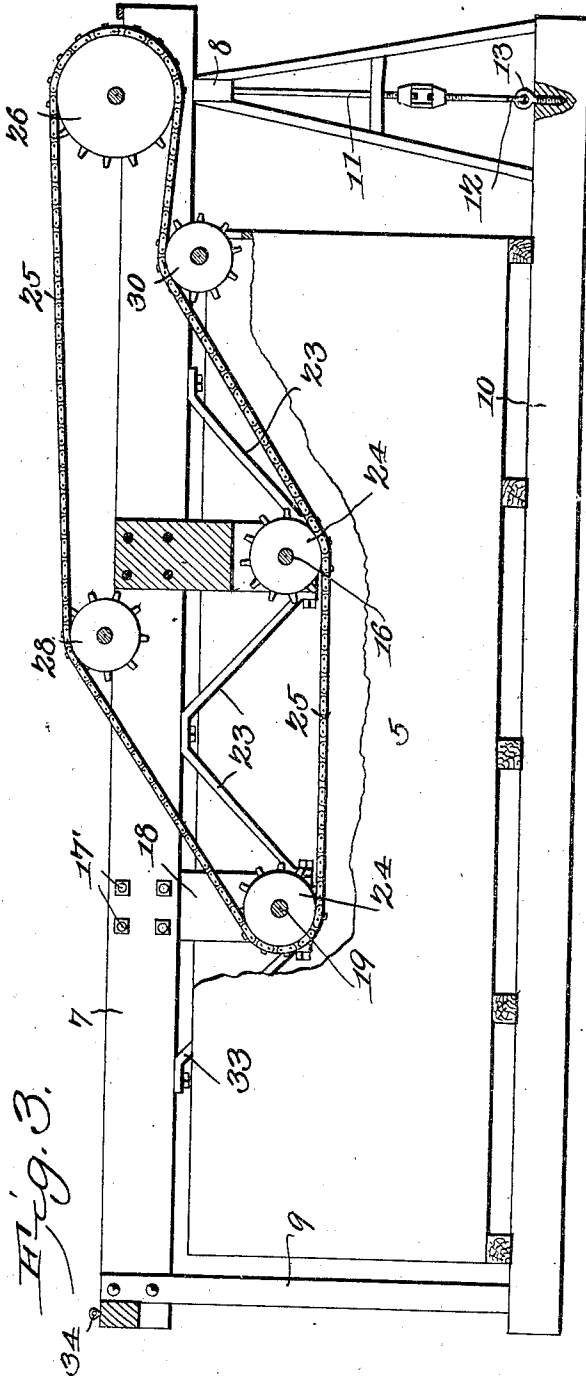


Fig. 3.

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UNITED STATES PATENT OFFICE.

ROBERT MARION SUTHERLIN, OF MARSHALL, MISSOURI.

APPARATUS FOR WASHING VEHICLE-WHEELS.

No. 830,463.

Specification of Letters Patent.

Patented Sept. 4, 1906.

Application filed November 2, 1905. Serial No. 285,648.

To all whom it may concern:

Be it known that I, ROBERT MARION SUTHERLIN, a citizen of the United States, residing at Marshall, in the county of Saline and State of Missouri, have invented a new and useful Apparatus for Washing Vehicle-Wheels, of which the following is a specification.

This invention relates to apparatus for washing vehicle-wheels, and has for its object to provide an improved machine of this character in which the wheels are partly submerged in a body of liquid and manually or otherwise rotated, so as to effectually remove any particles of dirt or other foreign matter adhering to the wheels without danger of abrading or otherwise marring the polished surfaces of the same.

A further object of the invention is to provide a wheel-supporting frame coöperating with the liquid-containing tank and provided with a plurality of stub-shafts upon which are journaled the wheels to be washed, said frame being movable to inoperative position above the tank to permit the ready attachment and removal of the wheels.

A still further object of the invention is to provide the stub-shafts with oppositely-disposed hub-engaging cups having threaded extensions adapted to pass between the spokes of the wheel for engagement with suitable clamping members.

With these and other objects in view the invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended, it being understood that various changes in form, proportion, and minor details of construction may be resorted to within the scope of the appended claims without departing from the principle or sacrificing any of the advantages of the invention.

In the accompanying drawings, forming a part of this specification, Figure 1 is a side elevation, partly in section, of a wheel-washing machine constructed in accordance with my invention. Fig. 2 is a top plan view of the machine. Fig. 3 is a side elevation, partly in section, of the machine with the wheels removed. Fig. 4 is a detail transverse sectional view showing the hub-receiving cups.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

The improved device consists of a suitable liquid-containing tank 5, open at the top and provided at each end thereof with an inwardly-extending flange 6 to prevent the water or other liquid from splashing over the top of the tank when the liquid is agitated.

Arranged above the tank 5 is a wheel-supporting frame comprising a pair of spaced longitudinally-disposed beams 7, which extend beyond the opposite ends of the tank and are supported at one end of the latter by a trestle 8 and at the opposite end thereof by a depending leg or standard 9. The trestle 8 is anchored to a suitable base 10 by means of adjustable rods 11, the hooked ends 12 of which engage suitable eyes 13, secured to the base, as shown.

Rigidly secured to the adjacent faces of the beams 7, as by bolts or similar fastening devices 14, are depending hangers 15, in which are journaled stub-shafts 16, adapted to receive the vehicle-wheels 17, and spaced from the hangers 15 and rigidly secured to the outer faces of the beams 7, as shown at 17', are similar hangers 18, in which are journaled stub-shafts 19, also adapted to support the wheels 17.

Secured to the opposite ends of the stub-shafts 16 and 19 and mounted for rotation therewith are cups 20 for the reception of the hubs of the wheels 17, said cups being provided with suitable wheel-engaging devices preferably in the form of threaded extensions 22, which extend between the adjacent spokes of the wheel for engagement with winged nuts 21, as best shown in Fig. 1 of the drawings.

Attention is here called to the fact that by having the hangers secured to the longitudinal beams of the supporting-frame in the manner described the wheels on one shaft will be spaced laterally from but overlap the wheels on the adjacent shaft, thereby economizing in space and permitting a plurality of wheels to be washed at one operation of the machine without danger of contact with each other.

The hangers 15 and 18 are connected to each other and to the longitudinal beams 7 by inclined braces 23, and said hangers may be provided with suitable bearing-boxes 24 to prevent excessive wear on the hangers and to assist in keeping the shafts in proper alignment.

As a means for imparting motion to the stub-shafts 16 and 19 suitable sprocket-

wheels 24 are keyed or otherwise rigidly secured thereto between the adjacent hangers and over which passes a sprocket-chain 25, which engages the teeth of a master-sprocket 26, secured to a shaft 27 at one end of the wheel-supporting frame. The chain 25 engages the teeth of an idle sprocket-wheel 28, journaled on suitable bearings 29 on the upper edges of the beams 7, and also engages a second idle sprocket 30, journaled on the lower edges of the beams 7, as shown, the chain being rotated by turning the terminal handles 31 of the shaft 27. The shaft 27 extends transversely of the beam 7 and is journaled in main bearings 32 and auxiliary bearings 32', carried by lateral braces 33.

Secured to one end of the wheel-supporting frame is an eye 34, to which is attached a rope or cable 35, the free end of which passes over a pulley 36, secured to a suitable overhead support, and extends rearwardly toward the trestle 8, so that after the wheels have been thoroughly washed the forward end of the frame may be elevated to permit the attachment and removal of the wheels from the stub-shafts by exerting a longitudinal pull on the rope, as shown by dotted lines in Fig. 1.

In operation the wheel-supporting frame is elevated in the manner before described and the vehicle-wheels placed in position on the stub-shafts with the hubs of the wheels seated in the adjacent cups and the threaded extensions projecting between the spokes of the wheel, in which position they may be firmly secured by adjusting the clamping-nuts. The frame is then lowered and the cranks rotated, which causes the wheels to revolve in the water or other liquid within the tank, thereby effectually removing all deposits of mud and other foreign matter. When the washing operation is finished, the frame is again elevated to permit the removal of the wheels.

The machines may be made in different sizes and, if desired, one set of depending hangers and operating sprockets may be dispensed with.

Having thus described the invention, what is claimed is—

1. In a device of the class described, a liquid-containing tank, a frame disposed above the tank and provided with wheel-supporting members adapted to enter the tank, and means for elevating the frame.

2. In a device of the class described, a liquid-containing tank, a wheel-supporting frame disposed above the tank and provided with depending hangers adapted to enter the tank, shafts journaled in the hangers and adapted to receive the wheels, means for rotating the shafts, and means for elevating the frame.

3. In a device of the class described, a liquid-containing tank, a wheel-supporting frame disposed above the tank and provided with spaced depending hangers adapted to

enter the tank, shafts journaled in the hangers and provided with hub-receiving cups, wheel-engaging devices carried by the cups, and means for rotating the shafts.

4. In a device of the class described, a liquid-containing tank, a wheel-supporting frame disposed above the tank and provided with depending hangers adapted to enter the tank, shafts journaled in the hangers and adapted to receive the wheels, said wheels being spaced laterally from each other and having their peripheries overlapping, means for rotating the shafts and means for elevating the wheel-supporting frame.

5. In a device of the class described, a liquid-containing tank, a wheel-supporting frame disposed above the tank and provided with depending hangers adapted to enter the tank, shafts journaled in the hangers and adapted to receive the wheels, cups secured to the shafts for the reception of the hubs of said wheels and provided with threaded extensions, nuts engaging the threaded extensions and adapted to bear against the spokes of the wheels, and means for rotating the shafts.

6. In a device of the class described, a liquid-containing tank, a wheel-supporting frame arranged above the tank and consisting of a pair of spaced beams extending longitudinally of the tank, hangers secured to the beams and adapted to enter the tank, shafts journaled in the hangers and adapted to receive the wheels, hub-receiving cups secured to the shafts, wheel-engaging devices carried by the cups, sprocket-wheels secured to the shafts, and a sprocket-chain engaging the sprocket-wheels for rotating said shafts.

7. In a device of the class described, a liquid-containing tank, a wheel-supporting frame disposed above the tank and consisting of a pair of spaced beams extending longitudinally of the tank, a pair of depending hangers secured to the adjacent inner faces of the beams and adapted to enter the tank, a second pair of hangers spaced from the first-named hangers and secured to the outer faces of the beams, shafts journaled in said hangers and adapted to receive the wheels, cups secured to the shafts and provided with wheel-engaging devices, means for rotating the wheels, and means for elevating the supporting-frame.

8. In a device of the class described, a liquid-containing tank provided at the top thereof with inwardly-extending flanges, a wheel-supporting frame comprising a pair of spaced longitudinal beams the opposite ends of which extend beyond the ends of the tank, supports at opposite ends of the frame for supporting the latter above the top of the tank, depending hangers secured to the spaced beams and adapted to enter the tank, shafts provided with sprocket-wheels journaled in the hangers and adapted to receive

the wheels, a transverse shaft journaled in the beam at one end of the frame and provided with terminal operating-handles, a master-sprocket secured to the transverse shaft, and a sprocket-chain engaging the master-sprocket and the sprocket-wheels on the shafts for rotating the latter.

9. The combination with a liquid-containing tank, of a support, a wheel-supporting frame arranged above the tank and resting at one end on said support, hangers carried by the frame and adapted to enter the tank, shafts journaled in the hangers and adapted to receive the wheels, means for rotating the shafts, and a flexible medium secured to one end of the frame for elevating the same with the support as a fulcrum.

10. In a device of the class described, a liq-

uid-containing tank, a wheel-supporting frame disposed above the tank and provided with spaced hangers adapted to enter the tank, shafts journaled in the hangers, hub-receiving cups carried by the shafts and provided with threaded extensions adapted to pass between the adjacent spokes of the wheel, and clamping-nuts engaging the threads on said extension for holding the wheels on the supporting-frame.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ROBERT MARION SUTHERLIN.

Witnesses:

WM. S. JACKSON,
L. P. VILEY.