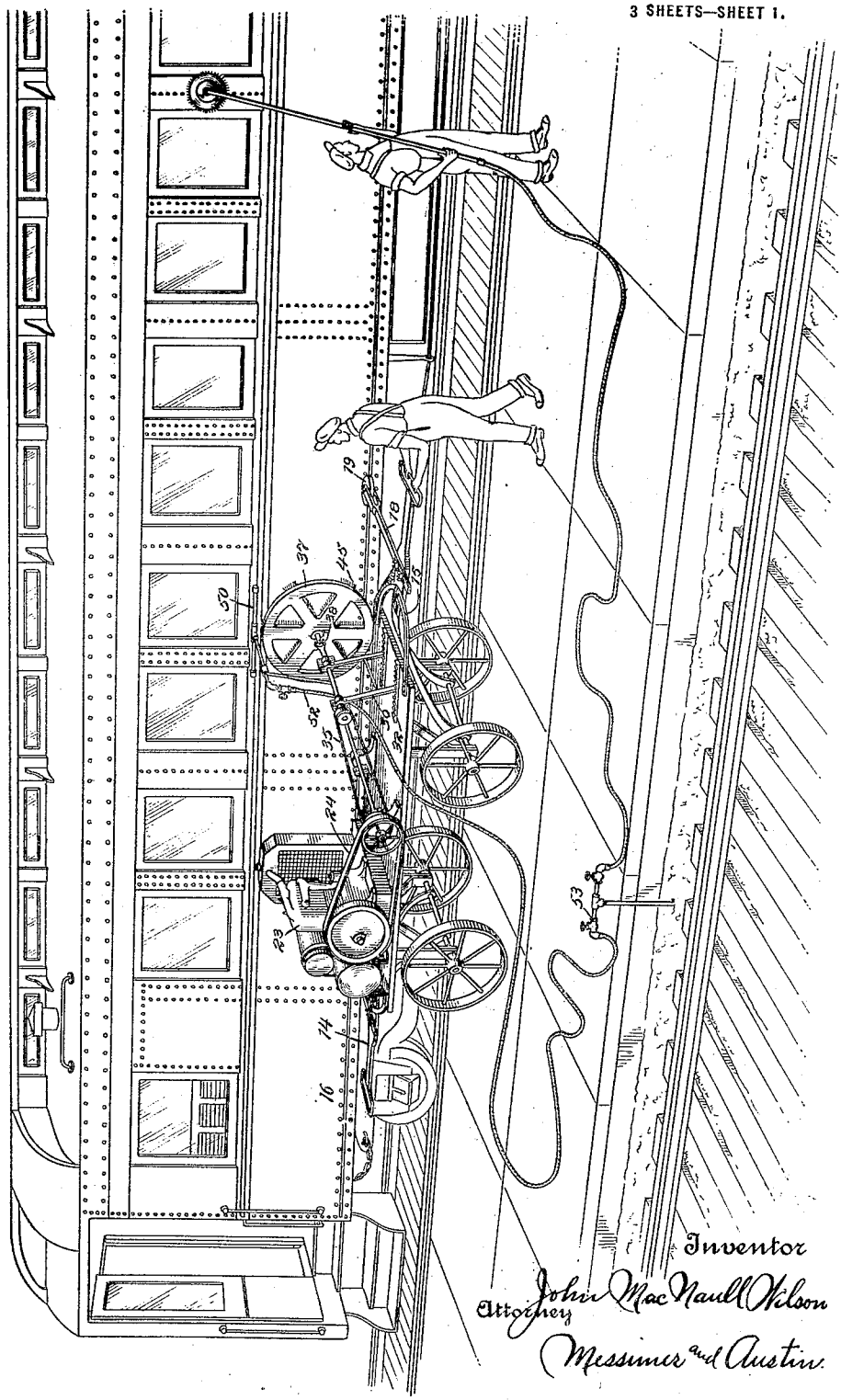
J. McN. WILSON, DEC'D.
C. E. WILSON, EXECUTRIX.
PORTABLE APPLIANCE FOR CLEANING CAR SIDES.
APPLICATION FILED MAY 17, 1918.

1,411,949. Patented Apr. 4, 1922.

3 SHEETS—SHEET 1.

Fig. 1.



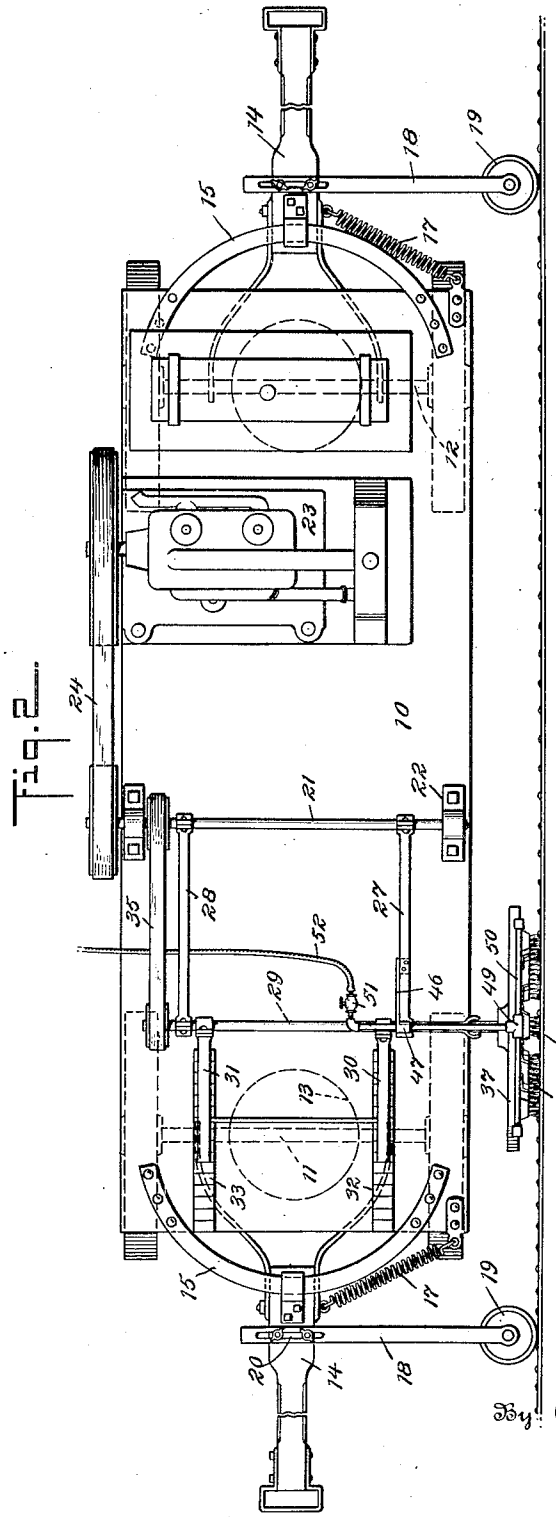
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3 SHEETS—SHEET 2.

Fig. 2.



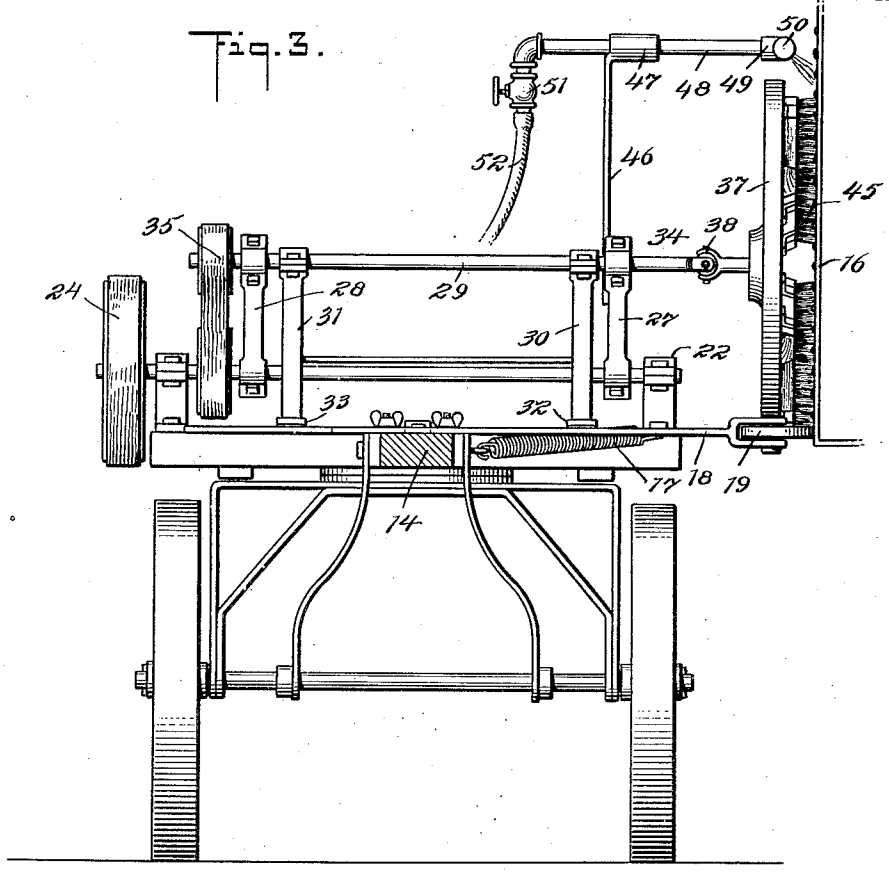
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3 SHEETS—SHEET 3.

Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN MACNAULL WILSON, OF MONTCLAIR, NEW JERSEY; CORA ELLSWORTH WILSON, EXECUTRIX OF SAID JOHN MACNAULL WILSON, DECEASED, ASSIGNOR TO WILSON-IMPERIAL COMPANY, A CORPORATION OF DELAWARE.

PORTABLE APPLIANCE FOR CLEANING CAR SIDES.

1,411,949. Specification of Letters Patent. Patented Apr. 4, 1922.

Application filed May 17, 1918. Serial No. 235,094.

To all whom it may concern:

Be it known that I, JOHN MACNAULL WILSON, a citizen of the United States, and resident of Montclair, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Portable Appliances for Cleaning Car Sides, of which the following is a specification.

The invention relates in general to a portable appliance for cleaning vertically disposed surfaces and specifically relates to a brushing machine for scrubbing and rinsing the exterior surfaces of passenger cars and similarly substantially flat surfaces.

Such surfaces are usually provided with numerous bolts, rivet heads, ridges, and other small projections which collect the dirt and which render a unform cleaning of the whole surface extremely difficult even when manually actuated means are employed.

The device herein disclosed is utilized in connection with a process for cleaning car sides and the like, which process consists in the application of a chemical cleaning substance to the surface which solution is allowed to remain in contact therewith for a period of time necessary to effect a loosening of the dirt and grime. The surface with the loosened dirt thereon is subjected to a surface agitation, preferably in connection with a rinsing operation which rinses off the loose dirt while agitating the same. The device constituting the subject matter of this application is used as a mechanical means for effecting the surface agitating and rinsing step of this process. The invention contemplates in its perfected refinement the use of a large revolving brush to effect a light scrubbing action and which brush is flexibly mounted so as to engage flatly against the surface to be cleaned by a wet or dry process and maintained in preset bearing engagement against the surface while revolving at high speed.

One of the objects of the invention is to provide a simple form of wheel truck construction for carrying a revolving brush in brushing engagement with the surface to be cleaned and which will maintain a preset position relative to the service preferably by automatically actuated means.

Various other objects and advantages of the invention will be in part obvious from an inspection of the accompanying drawings and in part will be more fully set forth in the following particular description of one form of mechanism embodying my invention, and the invention also consists in certain new features of construction and combination of parts hereinafter set forth and claimed.

In the accompanying drawings:—

Figure 1 is a perspective view of a portion of a passenger car showing a preferred embodiment of my invention in operative engagement therewith;

Figure 2 is a plan view of a portion of the showing in Figure 1; and

Figure 3 is a view substantially in end elevation of the truck shown in Figure 2.

In the accompanying drawings there is shown a wheeled truck which includes a platform 10 provided with a pair of running gears 11 and 12 supporting the platform and coacting to form a four wheel truck similar to the baggage trucks now in general use. In order to provide a steering mechanism for both ends of the truck the running gears are each pivotally attached to the platform by fifth wheel constructions 13 which permits either end of the truck to be guided by means of draft tongues 14 fastened to the running gears and projecting respectively forwardly and rearwardly from the adjacent ends of the platform. The tongues are each mounted to slide about segment arches 15 and are moved towards the surface to be cleaned represented by the car side 16. This is attained by means of coiled springs 17 attached to the platform and tongue and which act on the tongue to move a guiding arm 18 into engagement with the surface thereby to maintain the truck in position to move along a line parallel to the surface. The guiding arm 18 is provided with a roller 19 at its outer end for engaging with the surface and to provide an anti-friction bearing between the truck and the surface 16. For the purpose of adjusting the position of the truck relative to the surface the arms are each adjustably mounted on their supporting tongues by means of wing nut and slot constructions 20 for adjusting the arm lengthwise and laterally of the length of the tongue. This construction also permits the

reversal of the direction in which the arms extend from the tongues.

As both of the springs 17 act in the same direction the tendency of the forward end of the truck in its movement in either longitudinal direction is to approach the surface 16 laterally of the length of the truck and this movement is stopped by the engagement of the rollers 19 with the surface. With a straight surface 16 the running gears will be in normal straight running position and the truck will move along a path parallel to the surface and spaced from the surface a distance controlled by the projecting length of the arm 18.

The platform constitutes a support for a revolving brush and its driving mechanism, including the power plant for actuating the mechanism. This mechanism includes a power shaft 21 rotatably mounted in brackets 22 on top of the platform 10. The shaft is operatively connected to a power plant 23 by means of belting 24. In the device illustrated the power plant is an internal combustion engine but it is to be understood that the mechanism may be driven from an electric motor or in fact any other suitable source of power. A brush carrying bracket is rockably mounted upon the shaft 21 and includes two laterally extending arms 27 and 28 connected at their free ends by a sleeve 29 which sleeve is supported in adjustable position by means of legs 30 and 31 engaging one-way racks 32 and 33 on the platform 10. The sleeve 29 carries a brush wheel actuating shaft 34, power to which is conveyed through a belted pulley connection 35 with the power shaft 21.

A brush wheel 37 is connected to the outer end of the brush shaft by means of a universal joint 38 which permits the outer working face of the wheel to assume a position contacting flatly with the surface to be cleaned.

It is to be understood that this brush is of relatively large diameter and in commercial form of the same, as shown in Figure 1, it has a diameter sufficient to extend across the bottom panel of the passenger car and include both the upper and lower lines of rivets.

The truck may also be utilized as a carrier for a liquid distributing device for working in co-action with the brush. For this purpose the rocking bracket is provided with an upstanding support 46 terminating in a horizontally disposed pipe carrying tube 47. The pipe stem element 48 of a T-shaped sprinkling head 49 is slidably mounted in the sleeve 47 and is designed to be adjusted therein to and from the surface under treatment. The head 50 of the sprinkling device is designed to extend parallel to the surface 16 and is provided with a series of apertures constituting a spraying head designed to direct the liquid onto the surface and preferably onto that portion of the surface immediately above the portion agitated by the revolving brush. The sprinkling device is provided with a control valve 51 and is supplied with liquid through a flexible tubing 52 from some suitable source of supply which obviously may be mounted on the platform or, when the sprinkling device is used for conducting rinsing water, the supply may be from a water faucet or plug 53. This liquid distributing device is adapted in addition to its function as a rinsing device to co-act with the brush in its agitating action and additionally acts to distribute the water over the surface to constitute a lubricant thus preventing frictional heating of the car's finish.

In operation, it is understood that the truck with its arms 18 in preset adjusted position, is moved into engagement with the side of the car at one end thereof and is propelled either manually, as shown in Figure 1, or by suitable driving power along the side of the car from end to end. During this action no care need be exercised in maintaining the device in brushing engagement with the car sides, for the automatic steering device will maintain the preset relation between the brush and car side. With the truck thus maintained in a position to move along a line parallel to the car side, the brush will adjust itself to any slight angular changes in the surface under treatment by means of the universal connection provided by the joint 38.

The peculiar difficulty inherent in cleaning car sides is to remove the dirt from all sides of small projections, such as the rivet heads. The brush herein disclosed due to its large diameter will, during the course of its action across the car sides, rotate about all sides of each rivet head or other projection, thus effectively cleaning the same while cleaning the surrounding flat surface.

Should the panels of succeeding cars be differently spaced vertically, the proper adjustment is provided by adjusting the position of the legs 30 and 31 in their supporting racks and through this means it is even possible to move the brush actuating shaft somewhat out of its normal horizontal position and into a tilting position so as to maintain the efficiency of a straight line drive between the brush and its driving shaft 34.

Where it is desired to simultaneously feed liquid to the surface under treatment the tube 52 is connected to a suitable source of liquid supply under pressure and in the embodiment of the invention illustrated this liquid is sprinkled over the portion of the surface above the brush. This disposition of sprinkler and brush is so arranged that

as the liquid flows down onto the brush it will be picked up by the brush and worked into the surface thus performing a liquid brushing step in place of a dry brushing step which could be employed under some conditions of treatment.

In one preferred process in which this device is utilized, the brush is revolved at high speed and this high speed is particularly efficient when the device is used as a polishing device for placing a high finish on the car sides.

Having thus described my invention, I claim:

1. A machine for cleaning car sides and the like comprising a trackless vehicle, means for guiding the same, a cleaning device carried by the vehicle and including a brush having a work face offset beyond one side of the vehicle and adapted to be moved by the vehicle into working engagement with the side of the car to be cleaned, power means carried by the vehicle and operatively connected to the brush to drive the same, resilient means acting on the guiding means and tending to cause the vehicle to move towards the side adjacent the brush and thus cause the vehicle to approach the car side acted upon by the brush and spacing means acting on the guiding means for engaging said car side thereby to cause the vehicle to be guided relative to the said car side to maintain the brush in a present relation thereto controlled by said spacing means.

2. A machine for cleaning car sides and the like comprising a trackless vehicle, means for guiding the same, a cleaning device carried by the vehicle and including a brush having a work face offset beyond one side of the vehicle and adapted to be moved by the vehicle into working engagement with the side of the car to be cleaned, power means carried by the vehicle and operatively connected to the brush to drive the same, resilient means acting on the guiding means and tending to cause the vehicle to move towards the side adjacent the brush and thus cause the vehicle to approach the car side acted upon by the brush and spacing means acting on the guiding means for engaging said car side thereby to cause the vehicle to be guided relative to the said car side to maintain the brush in a preset relation thereto controlled by said spacing means and means for adjusting the length of said spacing means thereby to vary the position of the brush relation to the car side.

3. In a device of the class described, the combination of a wheel truck provided with steering mechanism at both ends, a tool carried by the truck and projecting beyond one side thereof, means operatively connected to both mechanisms for causing the truck to move in the direction towards the side of the truck from which the tool projects and guiding arms projecting from the steering mechanisms beyond said side of the truck for maintaining the truck in spaced relation to a guiding surface engaged by the tool.

Signed at Newark, in the county of Essex and State of New Jersey this 22nd day of April, A. D. 1918.

JOHN MacNAULL WILSON.