June 9, 1925. 1,541,159

J. MACCALLUM, JR

SANDER FOR MOTOR VEHICLES

Filed Feb. 11, 1924 2 Sheets-Sheet 1

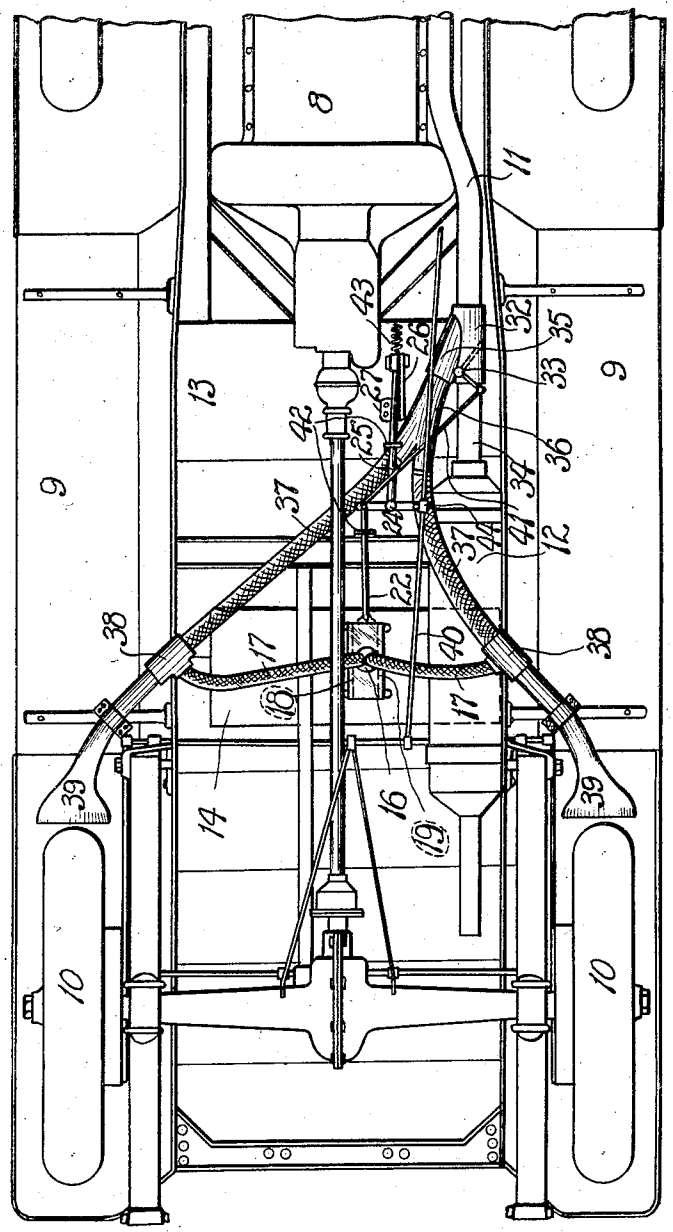


Fig. 1.

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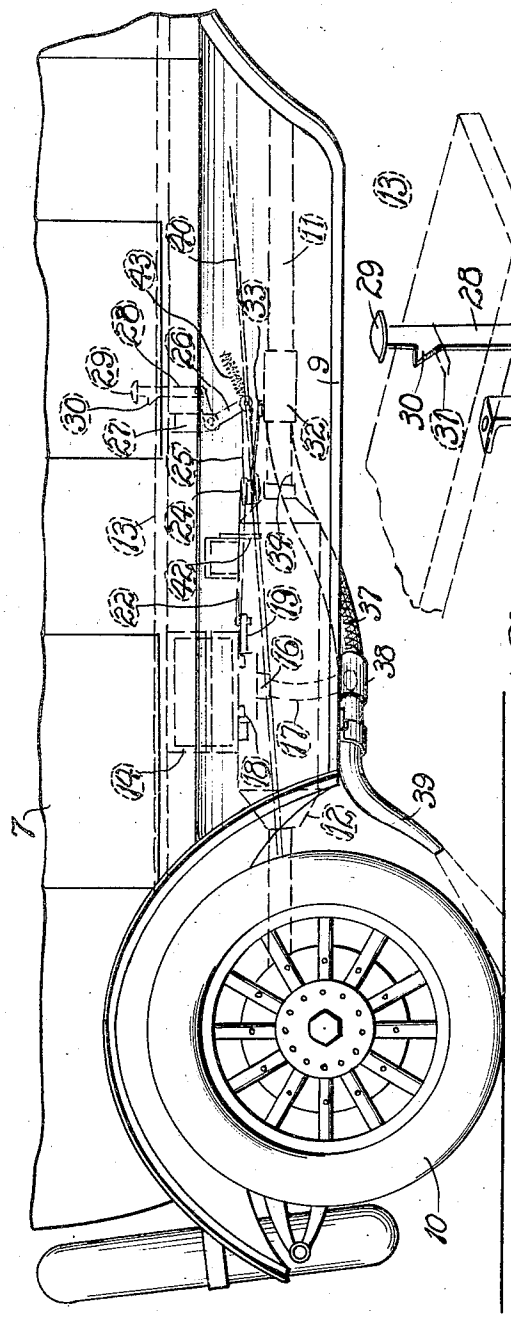


Fig. 2.

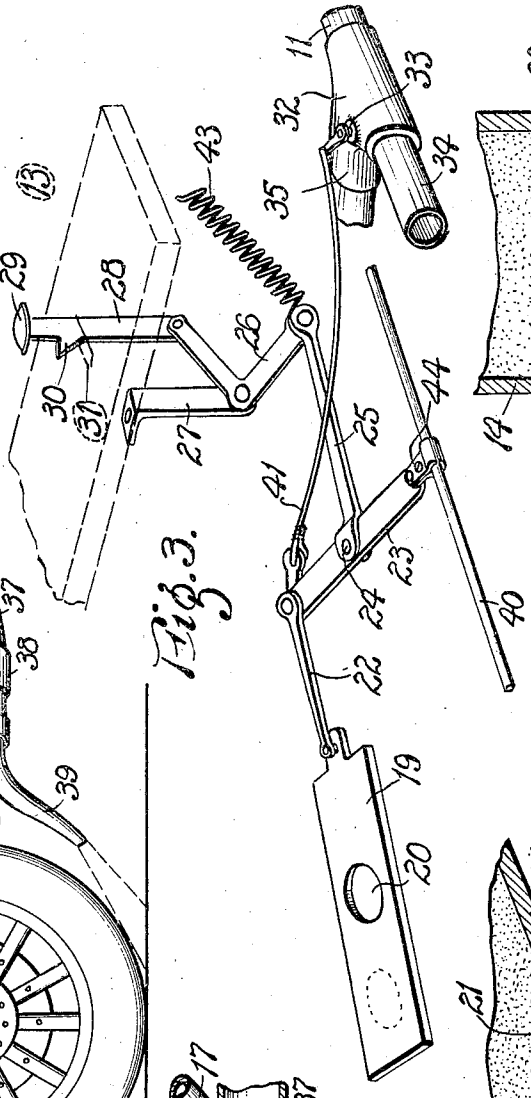


Fig. 3.

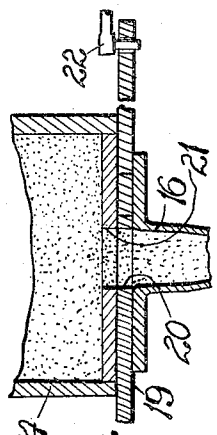


Fig. 4.

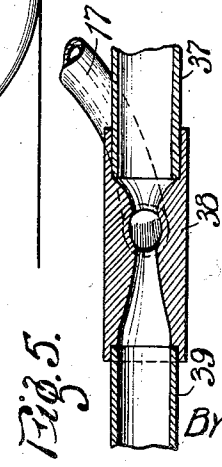


Fig. 5.

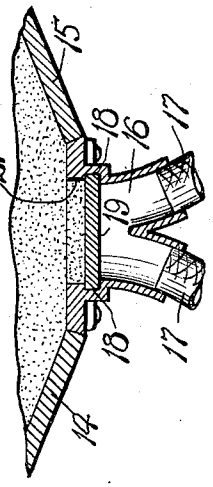


Fig. 6.

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UNITED STATES PATENT OFFICE.

WILLIAM JOSLIN, OF CLEVELAND, OHIO.

IMPROVED CLOTHES-WRINGING MACHINE.

Specification forming part of Letters Patent No. **36,218**, dated August 19, 1862.

To all whom it may concern:

Be it known that I, WILLIAM JOSLIN, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and useful Improvement in Clothes-Wringers; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making part of this specification.

The nature of my invention consists in a simple arrangement of levers and springs for pressing the rubber rollers together, and in the employment of a double right and left hand circular inclined plane or section of a double-thread screw for holding the machine upon the tub.

Figure 1 is a front elevation of my improved wringing-machine. Fig. 2 is an inside end elevation. Fig. 3 is a top view of the same. Fig. 4 is a view edgewise of one of the double circular inclined planes. The red lines represent a face view.

A and A^2 in Fig. 1 are the ends or standards, each having jaws, between which the tub passes when fastened to it, as shown by K and K^2 in Fig. 2.

B and B^2 are the rubber rollers, between which the clothes pass in the operation of wringing.

C and C^2 are crooked or somewhat S-shaped levers, being fastened to the standards by means of pins in the ears *d* and d^2 on the outside of the standards A and A^2 and working parallel with the rollers B and B^2.

D and D^2 are bars or rods which hold the ends or standards A and A^2 firmly in their position.

E and E^2 are caps or boxes (shown by red lines) resting upon the tops of the axis of the upper roller, B. The tops of the caps or boxes upon which the levers C and C^2 rest are rounded, so that the levers may work or rise and fall with ease. The bottom of the cap E and the bottom of the cap E^2 are made concave, to fit the pins or axis of the upper roller, B, as shown at E^2 in Fig. 2. The caps E and E^2 work in vertical slots, as shown at E and E^2 in the top view of Fig. 3.

F and F^2 in Fig. 1 are loop-form rubber springs. The loop-spring F is passed under the lever C, toward the cap E, and over the top of the small end of the lever C^2. The spring F is adjusted to make more or less pressure on the roller B by moving it in the notches made in the bottom of the lever C and notches made in the top of the lever C^2. The spring F^2 is attached to the opposite ends of the levers C and C^2 and adjusted by the notches on the bottom of the lever C^2 and the notches on the top of lever C in the same manner as the spring F. Metallic springs may be applied and adjusted in the same manner as the rubber springs. By moving the springs F and F^2 toward the center of the levers C and C^2 the pressure is diminished, so that any desired pressure may be produced with very little trouble. By this arrangement of levers and springs the pressure is nearly the same with a thick or thin article, because the springs move up and down with the levers, and the pressure does not increase as fast as if one end of the springs were fastened to some stationary part of the machine. The difference of pressure upon a thick or thin article seems to be the difference between the spaces moved through by the notches on the bottom of the levers C and C^2 and the notches on the top of the levers C and C^2. If the springs F and F^2 are placed in the notches indicated by the red lines V and V^2, when the notches in the bottom of the levers C and C^2 move up on the curved lines X and X^2 to the points O and O^2 the notches on the top of the levers C and C^2 will have moved on the curved lines W and W^2 to the points S and S^2, thereby causing the springs V and V^2 to expand one-half less than they would have expanded if the lower end of the springs were attached to a stationary part of the machine. It will now be seen that the expansion or pull of the spring V is up on the lever C and down on the lever C^2, and the expansion or pull of the spring V^2 is up on the lever C^2 and down on the lever C, thereby causing nearly the same pressure on a thick or thin article when passed between the rollers B and B^2, which is a result in mechanics very much desired by spring and lever pressure. I have said the difference of pressure upon a thick or thin article seems to be the difference between the spaces moved through by the notches on the levers. This would be true if the springs did not pull up on the levers; but the springs, pulling up on the levers as well as down, produce nearly an equal pressure, as above stated, the thickest article receiving the greatest pressure.

K and K^2 in Fig. 2 are the jaws which hold

attached to the lever 23 is a cable 41 which is for the purpose of operating the valve in a manner to be described in detail later.

The links 22 and 25 are supported on the underside of the vehicle by means of brackets 42 so that the same will not jolt up and down while the vehicle is in operation.

The valve 19 is normally held in inoperative position by means of a coil spring 43 one end of which is secured to the vehicle at any desired point, and the other end preferably to the bell crank lever 26 so as to hold the plunger 28 in raised position.

The operation of my device is as follows:— After the proper connections have been made and the reservoir filled with sand, the device is ready for operation and in case the vehicle is being driven over slippery roads all that is necessary is for the driver to depress the plunger 28 and cause the tooth 30 to engage with the underside of the floor board. This movement will force the pivot of the lever 23 backward and allow the lever to pivot in the clamp 44 which is attached to the brake rod 40. This backward movement shifts the valve 19 so that the opening 20 assumes the position indicated by dots in Fig. 4. This movement also tightens up the cable 41 sufficiently so that the valve 33 will be in position to operate thereby. As soon as pressure is exerted on the brake lever the brake rod 40 and clamp 44 are moved forward while the line 22 moves backward, this brings the opening 20 in alinement with the opening 21 and permits sand or grit from the reservoir to pass into the conduits 17. This movement also pulls the valve 33 into the position indicated by dotted lines in Fig. 1 cutting off the exhaust from the muffler 20 and directing it into the Y 36 through the conduits 17, the venturi 38 and out through the nozzles 39. The exhaust passing through the venturi, speeds up the flow of the gases and forces the grit through the nozzles at high speed. These nozzles are preferably flattened at the end so that a wide thin spray of grit issues therefrom. This prevents the sand or grit from being dropped in heaps in front of the rear wheels.

When it is desired to operate the brakes without causing any discharge from the nozzles, the plunger 28 is moved forward so that the tooth 30 becomes disengaged from the floor board 13. This permits the spring 43 to pull forward on the bell crank lever 26 and place the apparatus in the position indicated in Fig. 3. When in this position it will be noted that the cable 41 is hanging slack so that movement of the lever 23 will not operate the valve 33. The valve 19 is also pulled sufficiently far forward so that the opening 21 formed in the sand reservoir will be over that portion of the valve 19 indicated by dotted lines in Fig. 3, and any rearward movement of the valve 19 will not be sufficient to permit the dropping of any sand, so that the brakes can be manipulated without any exhaust passing through the nozzles or without dropping of any sand.

While I have specified sand as being used, it is obvious that the reservoir 15 may be filled with any other kind of relatively fine grit and accomplish all the purposes of my invention.

I may also if desired eliminate the Y 32 and valve 33 and cause the exhaust to pass through the nozzles at all times without departing from the spirit of my invention. The essential feature being to utilize the exhaust or some other rapidly flowing body of gaseous medium through a venturi or tube into which grit is discharged so that the grit will pass from the nozzles at a relatively high or accelerated rate of speed.

Having fully described my invention, what I claim is:—

In a sander for motor vehicles a downwardly and rearwardly extending nozzle carried by said vehicle and located in front of and in close proximity to each of the rear wheels thereof, a venturi secured to each of said nozzles, a sand reservoir having an opening in its bottom, an inverted Y secured in said opening, a sliding valve carried by said Y for opening and closing said opening, a conduit secured to the side of each venturi and communicating with said venturi at its point of greatest restriction, the opposite ends of said conduit being secured to the branches of the wire, a conduit secured to the end of each venturi, the opposite ends thereof secured to the exhaust pipe of a motor vehicle, means carried by the exhaust pipe for directing the exhaust into said conduits, a lever having one end connected to the brake rod of said vehicle, a link pivotally secured to the opposite end of said lever and to the sliding valve, a flexible connection between the last mentioned end of the lever and the exhaust directing means, a support to which said lever is pivoted intermediate its ends, and means for moving said support whereby the valve operating and exhaust directing means can be placed in operation simultaneously with the braking mechanism of the vehicle when desired.

In testimony whereof, I have signed my name to this specification.

JAMES MACCALLUM, JR.