W. R. PERRY.

STREET CLEANER.

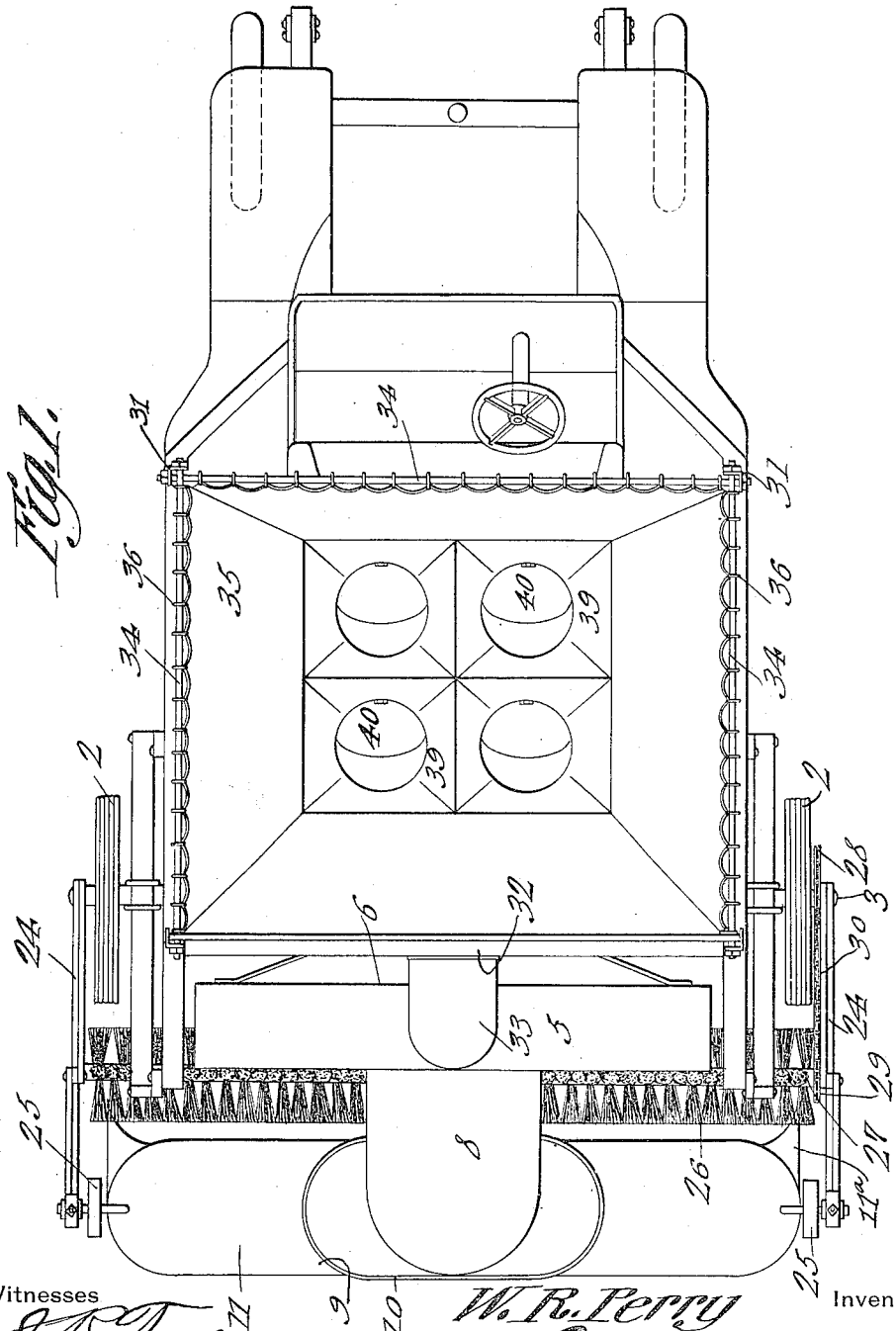
APPLICATION FILED FEB. 4, 1915.

1,143,133.

Patented June 15, 1915.

3 SHEETS—SHEET 1.

Fig. 1.



Witnesses

J. Tomeis

M. E. McCarthy.

W. R. Perry

Inventor

by C. A. Snow & Co.

Attorneys

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

W. R. PERRY.

STREET CLEANER.

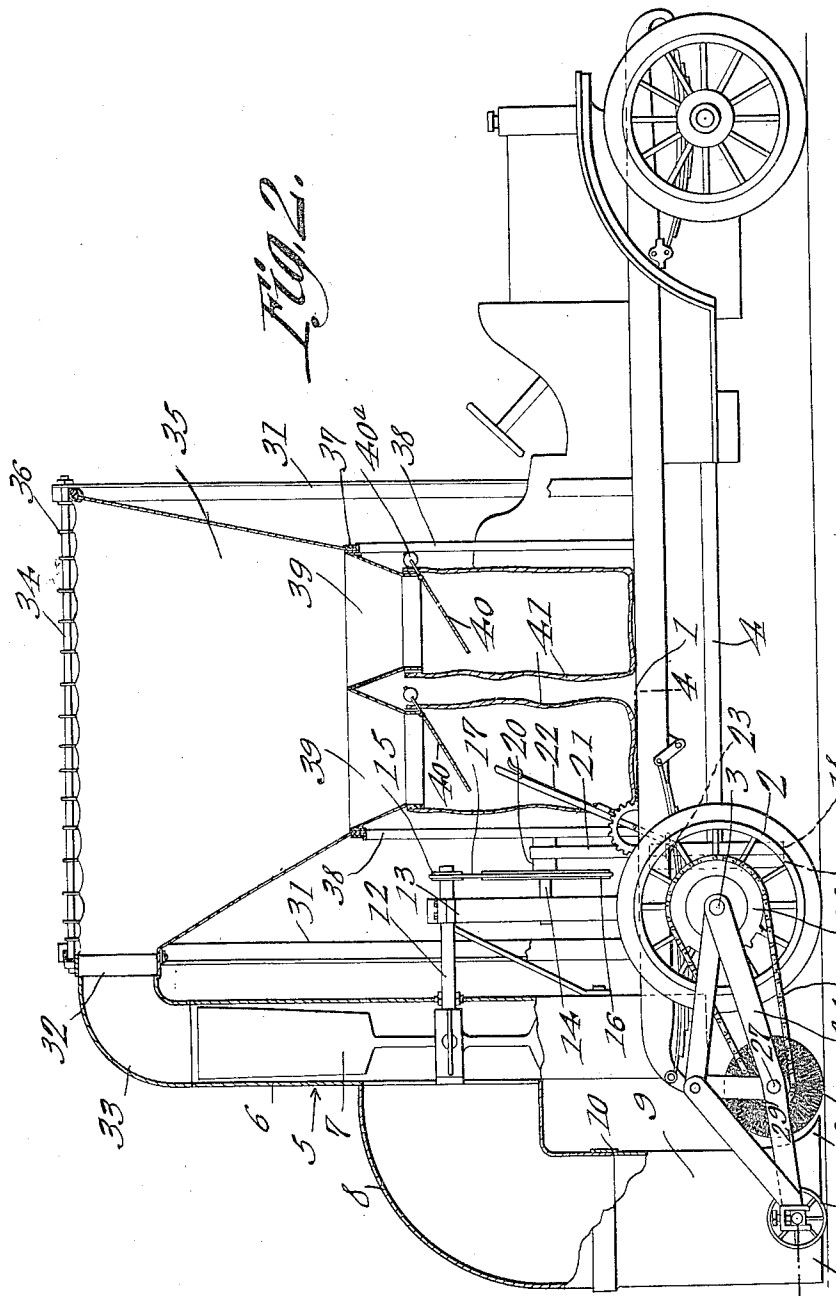
APPLICATION FILED FEB. 4, 1915.

1,143,133.

Patented June 15, 1915.

3 SHEETS—SHEET 2.

Fig. 2.



Witnesses

J. R. Tomlin.

M. E. McCarthy.

W. R. Perry

Inventor

by C. A. Snow & Co.

Attorneys

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

W. R. PERRY.

STREET CLEANER.

APPLICATION FILED FEB. 4, 1915.

1,143,133.

Patented June 15, 1915.

3 SHEETS—SHEET 3.

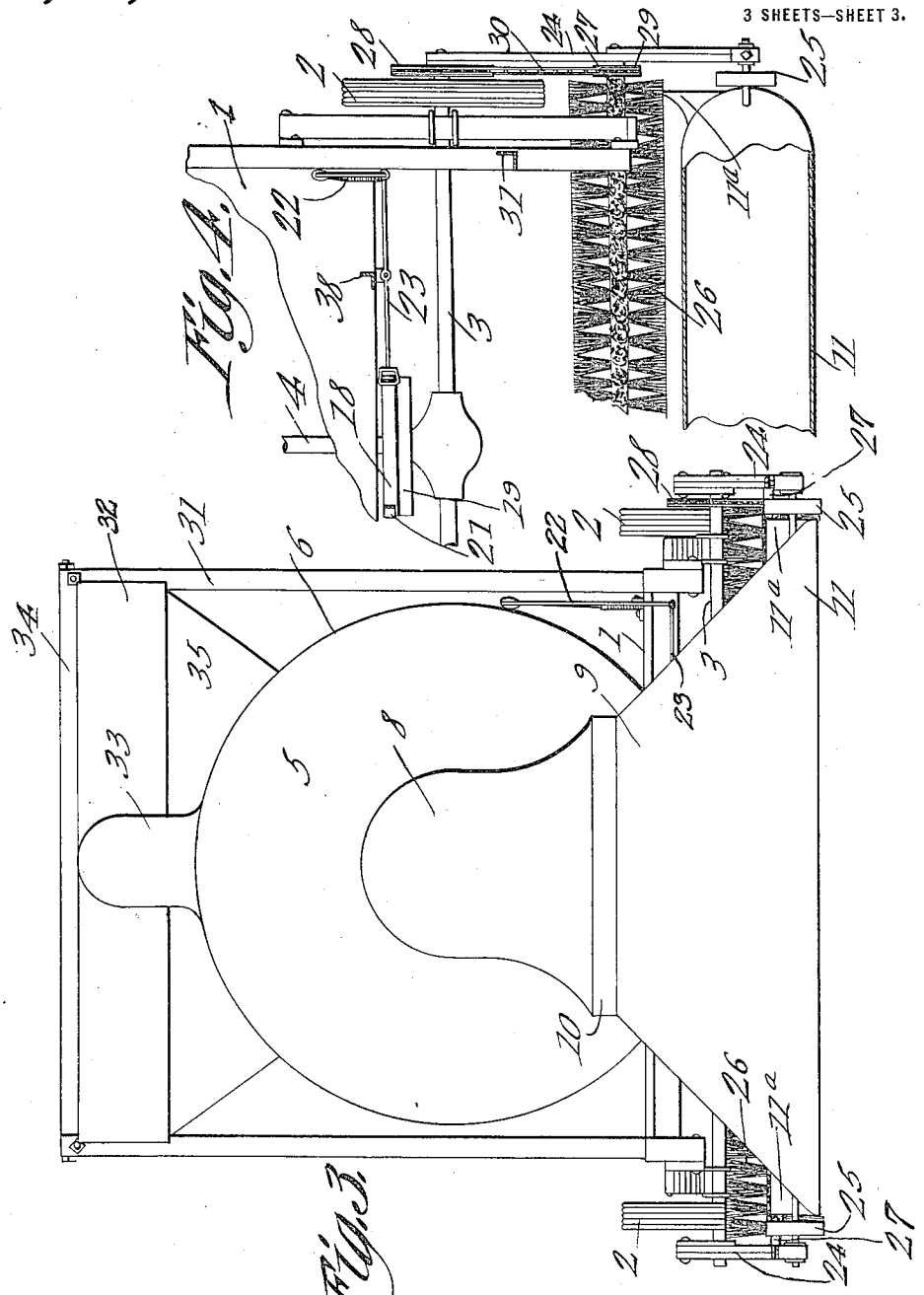


Fig. 3.

Witnesses

J. R. Jones

M. E. McCarthy

W. R. Perry Inventor

by C. A. Snow & Co.

Attorneys

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

UNITED STATES PATENT OFFICE.

WILLIAM R. PERRY, OF HAZLETON, PENNSYLVANIA.

STREET-CLEANER.

1,143,133. Specification of Letters Patent. Patented June 15, 1915.

Application filed February 4, 1915. Serial No. 6,142.

To all whom it may concern:

Be it known that I, WILLIAM R. PERRY, a citizen of the United States, residing at Hazleton, in the county of Luzerne and State of Pennsylvania, have invented a new and useful Street-Cleaner, of which the following is a specification.

The present invention appertains to street cleaners, and aims to provide a novel and improved machine of that character for removing the dirt and dust by air suction.

This invention contemplates the provision of a motor truck having applied or attached thereto, a street cleaning mechanism operable upon the vacuum principle for removing the dirt and dust from the pavement or street, and provided with means for collecting the dirt and refuse in sacks, or similar receptacles.

It is also within the scope of the invention, to provide a unique mechanism of the character indicated, which will be improved generally in its construction to enhance the utility thereof.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

The invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a plan view of the improved street cleaner. Fig. 2 is a side elevation thereof, parts being shown in section. Fig. 3 is a rear view of the machine. Fig. 4 is a fragmental section taken approximately on the line 4—4 of Fig. 2.

The vehicle employed for the cleaning mechanism, is preferably a motor truck having the central platform 1. The rear or driving wheels 2 of the truck are mounted upon the ends of the rear axle 3, as usual, and the axle is connected in the usual manner to the longitudinal driving shaft 4 which extends forwardly to the internal combustion engine (not shown).

The present attachment embodies a centrifugal blower 5 disposed immediately in rear of the platform 1, and embodying a circular case 6 disposed in a transverse vertical plane, and having mounted therein, the rotary fan 7. The rear side or back of the case 6 is provided with a central inlet or intake pipe 8, the free end of which projects downwardly. The blower or fan case 6 is rigidly mounted in place in any suitable manner, which need not be illustrated or described in detail.

Engaged to the lower or depending end of the intake pipe 8 of the blower, is a nozzle 9, having the upper reduced portion 10 slipped or telescoped over the lower end of the intake pipe 8, whereby the nozzle may vibrate sufficiently relative to the intake pipe 8 during the operation of the cleaner. The lower or mouth portion of the nozzle is elongated transversely, as at 11, whereby the suction will be distributed laterally to a considerable distance for increasing the path of operation of the cleaner. The ends of the mouth portion 11 of the nozzle 9 are provided with forwardly projecting deflectors 11^a for assisting in directing the dirt and dust properly under the nozzle.

The actuating means for the rotary fan 7, includes the fan shaft 12 carrying the fan 7 and projecting forwardly through the front side of the case 6 and journaled through the upper end of a pedestal 13 carried by the rear end portion of the platform 1. A counter shaft 14 is journaled to the pedestal 13 between the fan shaft 12 and the driving shaft 4 of the motor truck, and pulley wheels 15 and 16 are secured upon the fan shaft 12 and counter shaft 14, respectively, and have trained therearound a belt 17. Mounted upon the rear end portion of the driving shaft 4 is a fixed pulley wheel 18, and a loose pulley wheel 19 adjacent the same, the pulley wheels 18 and 19 being of the same diameter and being relatively large, and a relatively small pulley wheel 20 being secured upon the counter shaft 14. A belt 21 is passed around the pulley wheel 20 and the pulley wheels 18 and 19. A hand lever 22 is fulcrumed to the platform or frame of the motor truck, and is arranged to actuate a suitable belt shifter 23 operatively connected to one run of the belt 21, in order that the hand lever 22 may be operated for shifting the belt 21 from the pulley wheel 18 onto the pulley wheel 19, or vice versa. When the belt 21 is shifted upon the pulley wheel 18, it will be noted that the fan shaft 12 will be rotated at a relatively high velocity, with respect to the driving shaft 4, in order that the fan 7 may be rotated with sufficient velocity

to create a strong current of air, and to produce the required suction through the intake pipe 8.

Pivotally engaged to the ends of the rear axle 3, are the two oscillatory frames, or frame-like links 24, which project rearwardly, to trail in rear of the axle 3. The rear or free ends of the links 24 are adjustably carried by wheels 25 journaled to the ends of the mouth portion of the nozzle 9. The wheels 25 carry the nozzle 9, so that the mouth thereof is spaced properly above the pavement, and the links 24 connecting the axle 3 and the supporting wheels 25, will hold the nozzle in place, but will enable the same to vibrate freely when passing over uneven surfaces.

A transverse rotary brush 26 is disposed between the links or frames 24, immediately in advance of the nozzle 9, the shaft 27 of the brush being journaled through the links 24. Thus, the brush 26 is carried by the links 24 for properly engaging the pavement to loosen and disintegrate the dirt and other refuse.

The brush 26 is rotated through the medium of a relatively large sprocket wheel 28 secured to the outer side of one of the driving wheels 2, and a relatively small sprocket wheel 29 secured upon the corresponding end of the brush shaft 27, a sprocket chain 30 being trained around the sprocket wheels 28 and 29, whereby the brush 26 will be rotated at a greater speed than the rear axle 3 of the truck. The lower portion of the brush will therefore work rearwardly, to loosen the dirt, and to assist in working the dirt under the nozzle 9. The deflectors 11^a assist in directing the dirt from the ends of the brush 26 under the nozzle.

The dirt collecting appliance embodies four standards or uprights carried by the chassis or frame of the motor truck, at the sides of the machine, a pair of the standards 31 being disposed at the forward end of the platform 1, while the other pair are disposed at the rear end thereof. Carried by the upper ends of the rear standards 31, is a transverse outlet member 32 for the blower, an elbow or outlet pipe 33 connects the upper portion of the periphery of the fan case 6, and the central portion of the outlet member 32. Beams 34 are carried by the upper ends of the standards 31, for supporting a hopper 35, the upper edges of the hopper 35 being connected to the lower edge portion of the outlet member 32, and to the beams 34 by means of the snap hooks, or other supporting elements 36. The hopper 35 is thus hung upon the upper ends of the standards 31, to receive the dirt or refuse discharged from the blower through the outlet pipe 33.

The lower edge of the hopper 35 is clamped or otherwise attached to a rectangular frame 37 disposed within the standards 31, and supported by corner standards or uprights 38 carried by the platform 1. Carried by the frame 37 are a plurality of sheet metal spouts 39, there being four of the spouts 39 in the structure illustrated. The spouts 39 are disposed within the frame 37, and provide outlets for the hopper 35.

Valves 40 are pivoted within the lower ends of the spouts 39 for controlling the discharge of the dirt and foreign matter from the hopper 35, and the valves 40 are provided with outwardly projecting handles 40^a for swinging them closed, when desired.

Suitable receptacles 41 are adapted to be supported upon the platform 1 underneath the spouts 39, so that the mouth portions of the receptacles 41 may be slipped upwardly into engagement with the lower ends of the depending spouts 39. The mouth portions of the receptacles may be attached to the spouts 39 in any suitable manner, to hold the receptacles 41 in place while being filled.

In operation, when the truck is being propelled forwardly, the links or frames 24 trailing in rear thereof, will carry the brush 26 and nozzle 9 therewith, and the brush 26 being rotated will loosen and disintegrate the dirt and foreign matter upon the pavement in order that the nozzle 9 may readily pass thereover. When the hand lever 22 is swung to shift the belt 21 to operative position upon the pulley 18, the fan 7 will be rotated at a high speed, to draw the air upwardly through the nozzle 9 and intake pipe 8, so that the dirt and dust will be sucked into the fan case 6, and then discharged through the pipe 32 into the foraminous hopper 35, from which the air escapes, while the dirt drops downwardly into the spouts 39. When the valves 40 are opened, the dirt will drop into the receptacles 41 hung from the spouts 39, and as the receptacles 41 become filled, they may be detached from the spouts 39 after the valves 40 have been closed to prevent the escape of the dirt in the meantime, until the receptacle is replaced.

When it is desired to render the fan inoperative, the hand lever 22 is swung to shift the belt 21 to idle position upon the loose pulley 19, which will break the operative connection between the driving shaft 4 and fan 7.

The component parts of the present mechanism are conveniently carried by the motor truck, and coact in such a manner, as to render the present device thoroughly efficient in use.

With the present device, the pavement or street may be cleaned quickly and thoroughly, and the dirt accumulated in the bags 41 which may be handled conveniently.

The other advantages and attributes of the present invention will be apparent from

the foregoing, taken in connection with the drawings, it is thought, without further comment being necessary.

Having thus described the invention, what is claimed as new is:—

In a street cleaner, a vehicle including a driving axle, and wheels secured thereto, a blower carried by the vehicle and having a depending intake pipe, dirt collecting means carried by the vehicle and connected to the outlet of the blower, a nozzle telescopically engaged to the lower end of the said intake pipe, supporting wheels journaled to the nozzle, links engaged to the said axle and supporting wheels, a rotary brush having a shaft journaled to the said links, and means operatively connecting the brush shaft and said axle.

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

WILLIAM R. PERRY.

Witnesses:
E. O. SCHICK,
CHRIST L. SCHIMPF.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."