No. 622,487. Patented Apr. 4, 1899.

T. R. JONES.

STREET SWEEPER.

(Application filed Nov. 10, 1897.)

(No Model.)

Fig. 1

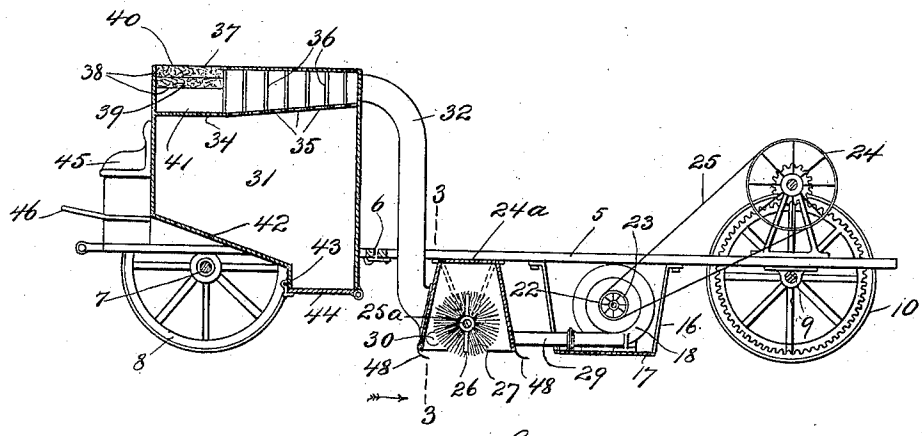


Fig. 2

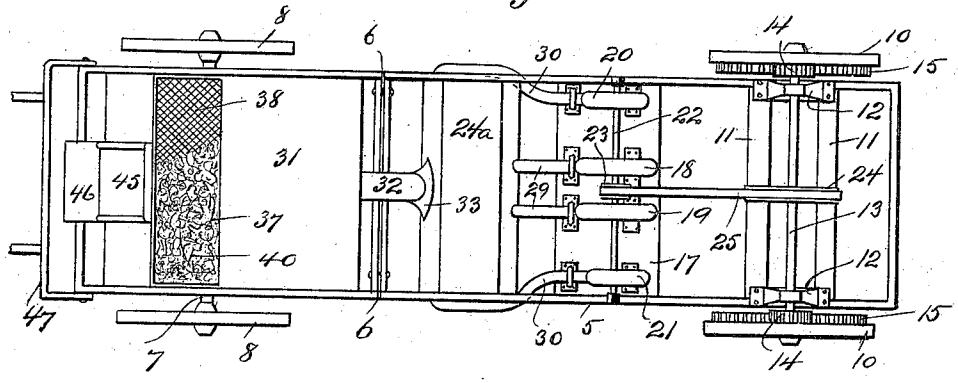
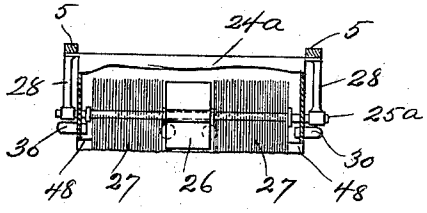


Fig. 3



WITNESS

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THOMAS RICHARD JONES, OF SACRAMENTO, CALIFORNIA.

STREET-SWEEPER.

SPECIFICATION forming part of Letters Patent No. 622,487, dated April 4, 1899.

Application filed November 10, 1897. Serial No. 658,084. (No model.)

To all whom it may concern:

Be it known that I, THOMAS RICHARD JONES, a citizen of the United States, residing at Sacramento, in the county of Sacramento and State of California, have invented certain new and useful Improvements in Street-Cleaning Apparatus, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to street-cleaning apparatus; and the object thereof is to provide an improved apparatus of this class which is simple in construction and operation and which may also be employed for cleaning the floors of houses, factories, and similar structures.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—

Figure 1 is a sectional side view of my improved cleaning apparatus. Fig. 2 is a top plan view thereof, and Fig. 3 is a detail transverse section through the brush-casing.

In the drawings forming part of this specification the separate parts of my improvement are designated by the same numerals of reference in each of the views, and in the practice of my invention I provide a truck-frame 5, which is divided transversely at 6, the separate parts being detachably connected in any desired manner, and the forward end of the truck-frame is supported by an axle 7, provided with wheels 8, and the rear end thereof by an axle 9, provided with wheels 10.

The side bars of the truck-frame are connected directly over the rear axle by cross-plates 11, and mounted thereon at each side of the truck-frame are standards 12, which support a supplemental shaft 13, and said shaft 13 is provided at each end with a pinion 14, and the truck-wheels 10, which are mounted on the rear axle, are provided on their inner sides with circular gears 15, which operate, in connection with the pinions 14, to revolve the shaft 13.

Suspended from the truck-frame directly in front of the rear axle are hangers 16, which support a cross-plate 17, on which are mounted four blowers, two of which, as shown at 18 and 19, are arranged centrally of the plate 17, and the other two, as shown at 20 and 21, are arranged near the end of said plate and just within the sides of the truck-frame, and a shaft 22 passes through all of said blowers and is provided with a belt-wheel 23, which is geared in connection with a larger belt-wheel 24, mounted on the shaft 13, by a power-belt 25.

Suspended in front of the hangers 16, by which the blowers are supported, is a brush or broom casing 24^a, which is open at the bottom and which extends transversely of the truck-frame and downwardly almost to a level with the plate or support 17 of the blowers, and said casing is wider at the bottom than at the top, and mounted therein, longitudinally thereof and transversely of the truck-frame, is a shaft 25^a, centrally of which is a fan or fans 26, and said shaft is provided at each side of the fan or fans with cylindrical brooms or brushes 27. The shaft 25^a passes through the ends of the brush or broom casing 24^a and is supported in hangers 28, secured to the truck-frame or the opposite sides thereof, and the two central blowers 18 and 19 are provided with pipes 29, which pass through the front side of the casing 24^a and are designed to operate upon the fan 26, so as to revolve the shaft 25^a, the fan 26 being rigidly secured to said shaft, and the outside blowers 20 and 21 are each provided with a pipe 30, which extends outwardly around the ends of the brush or broom casing 24^a and inwardly through said ends, at or near the bottom thereof and also near the forward side of said brush or broom casing, as clearly shown in Figs. 1 and 2.

Mounted over the front of the truck and extending over the front axle is a dust and dirt receptacle 31, and connected with the forward part of the brush or broom casing 24^a is a pipe 32, which extends upwardly and communicates with the central rear portion of the receptacle 31, near the top thereof. That part of the pipe 32 which communicates with the brush or broom receptacle 24^a is bell-shaped or enlarged, as shown at 33, and the upper portion of the receptacle 31 is provided with a partition-plate 34, the rear portion of which is perforated or provided with oblong slots or openings 35, and placed vertically between

said partition-plate and the top of the receptacle 31 are a plurality of screens 36, which may be composed of vertical rods or reeds or of ordinary perforated plates, and the top of the receptacle 31 is open, as shown at 37, and placed therein are two wire screens 38, and between said wire screens is placed a layer 39 of sponge or similar material, and above the upper screen is another layer 40 of sponge or similar material, and in practice the layers 39 and 40 of sponge are saturated with water, and beneath the bottom screen 38 is an open chamber 41, formed by said screen and the partition-plate 34.

The front portion of the bottom of the receptacle 31 is inclined backwardly and downwardly, as shown at 42, and hinged at 43 is a transverse door 44, which is intended to close a corresponding opening formed in the rear portion of the bottom of the receptacle 31, and in front of the receptacle 41 is a seat 45, below which is placed a support for the feet, as indicated at 46, and the front portion of the truck-frame is provided with any suitable means 47, by which a horse or horses may be hitched thereto.

The object of forming the truck-frame in both and detachably connecting the same, as shown at 6, is to provide means for detaching the forward part of the truck and the receptacle 31 in order that said receptacle may be taken to any suitable place for emptying the same without taking the entire apparatus, and the pipe 32 may be detachably connected with said receptacle in any desired manner.

The operation will be readily understood from the foregoing description when taken in connection with the accompanying drawings and the following statement thereof.

In practice the shaft 13 is operated by the circular gears 15, connected with the wheels 10 on the rear axle, and the shaft 22, by which the blowers are operated, is driven by the belt 25. In this operation the air is forced through the pipes 29, which are connected with the central blowers 18 and 19, and this air strikes the fan 26 and revolves the brush or broom 27, and at the same time air passes through the pipes 32 into the ends of the casing 24^a, in which the broom is mounted, and these pipes are so arranged that the air which passes therethrough strikes the ground or other surface over which the apparatus is moving directly in front of the brush or broom, so as to stir up and agitate the dust or dirt, and the air and the dust and dirt pass through the pipe 32 in the upper portion of the receptacle 31. The dust or dirt mingled with air passes downwardly through the perforations or openings 35 in the partition-plate 24 and the air passes backwardly into the space or chamber 41 and then upwardly through the screen 38 and the moistened sponges 39 and 40.

It will be understood that any suitable absorbing material may be substituted for the sponges 39 and 40, the only object in this connection being to provide a material through which the air will pass, and the receptacle 31 may be emptied whenever desired, as hereinbefore described.

The bottom of the brush or broom receptacle 24^a is provided at the front and back and at the ends thereof with flexible strips 48, which rest upon the ground or other surface over which the apparatus is operated, and said strips may be composed of leather, rubber, or any suitable material and operate to confine the air, together with the dust or dirt, in the brush or broom casing and to cause said air and dust or dirt to pass through the pipe 32, and the force of the blowers will, as will be readily understood, depend upon the rapidity of the revolution of the wheels 10 on the rear axle.

My invention is not limited to the exact form, construction, and arrangement of the various parts thereof as herein shown and described, and it will be apparent that changes in and modifications of the construction described may be made without departing from the spirit of my invention or sacrificing its advantages.

Having fully described my invention, I claim as new and desire to secure by Letters Patent—

1. An apparatus for sweeping streets, floors and other surfaces, said apparatus consisting of a truck which is provided with a rear and forward axle and front and rear wheels connected with said axles, a supplemental shaft supported over the rear axle, and geared in connection therewith, blowers mounted in front of the rear axle and below said truck, and adapted to be operated by said supplemental shaft, a brush or broom casing mounted below the truck and in front of said blowers, pipes which connect said blowers with said brush or broom casing, a brush or broom mounted in said casing and adapted to be operated by said blowers, a receptacle mounted over the front axle and communicating with said brush or broom casing, substantially as described.

2. An apparatus for sweeping streets, floors and other surfaces, said apparatus consisting of a truck which is provided with a rear and forward axle, and truck-wheels mounted thereon, blowers mounted in front of the rear axle below the truck-frame and in connection with said rear axle, a brush-casing suspended from the truck-frame in front of said blowers and opening downwardly, a brush mounted in said casing and adapted to be operated by said blowers, a receptacle mounted over the front axle and in communication with said brush-casing, substantially as shown and described.

3. An apparatus for sweeping streets, constructed as herein described and provided with a broom or brush mounted in the casing, a receptacle mounted in front of said casing, said receptacle being provided at the top thereof with a horizontal perforated partition-plate, a plurality of vertical screens mounted in the chamber formed above said partition-

plate, the front of said chamber being open at the top and provided with a screen or screens, and the rear portion thereof being in communication with the brush or broom casing by means of a pipe, substantially as shown and described.

4. An apparatus for sweeping streets, floors and other surfaces, said apparatus consisting of a truck-frame provided with front and rear axles, and wheels connected therewith, a supplemental shaft mounted above the rear axle and geared in connection therewith, blowers supported below the truck in front of the rear axle, a brush or broom casing supported below the truck in front of said blowers two of said blowers being in communication with the ends of said brush or broom casing, and the others in communication with the central rear portion thereof, a revoluble brush or broom mounted in said brush or broom casing and adapted to be operated by the latter blowers, a receptacle mounted over the front axle communicating with said brush or broom casing, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 30th day of October, 1897.

THOMAS RICHARD JONES.

Witnesses:

CHARLES JOHN HAMMES,

JOHN JAMES HENDERSON.