

J. W. DOUGHERTY.
STREET CLEANING MACHINE.
APPLICATION FILED JULY 16, 1908.

948,164.

Patented Feb. 1, 1910.

Fig. 1.

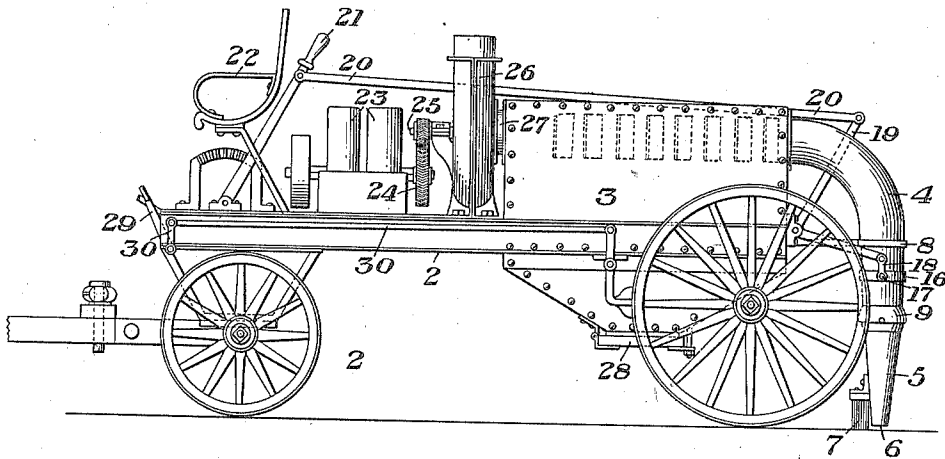


Fig. 2.

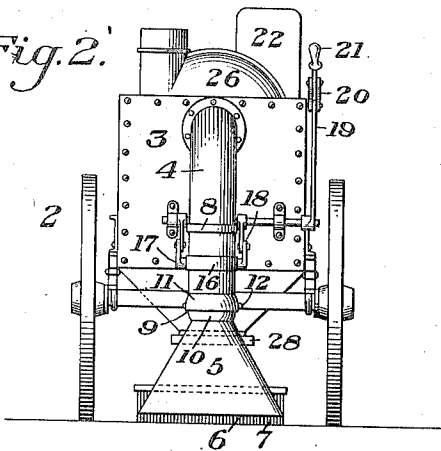
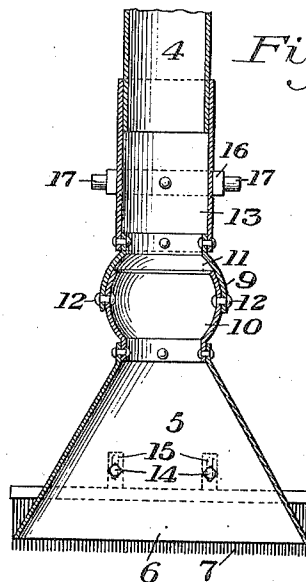


Fig. 3.



WITNESSES

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STREET-CLEANING MACHINE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JAMES W. DOUGHERTY, a citizen of the United States, residing at McKeesport, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Street-Cleaning Machine, of which the following is a full, clear, and exact specification, reference being had to the accompanying drawings, in which—

Figure 1 is a side view of one form of machine embodying my invention; Fig. 2 is an end elevation of the same; Fig. 3 is a sectional view of the inlet pipe.

My invention has relation to street cleaning machines and is designed to provide a simple and efficient machine by which dirt and refuse may be removed from the surface of streets.

The precise nature of my invention will be best understood by reference to the accompanying drawings which will now be described, it being premised, however, that various changes may be made in the details of construction and arrangement of the parts by those skilled in the art without departing from the spirit and scope of my invention as defined in the appended claims.

Referring first to the form of my invention shown in Figs. 1, 2 and 3, the numeral 2 designates a vehicle of any suitable character upon which the cleaning apparatus is mounted. Carried upon this vehicle is a dirt or refuse bin 3 into the rear end of which leads a suction collector pipe 4 having a depending nozzle portion 5 adapted to travel in more or less close proximity to the surface of the street to be cleaned. This nozzle portion is elongated or widened transversely and is provided with an inlet opening 6. Secured to this nozzle portion is a loosening brush 7 of any suitable character. The pipe 4 is preferably supported and held in proper position by suitable connection at 8 with the frame of the vehicle, or with the refuse bin 3. The lower end of the nozzle portion of the collector pipe is preferably formed with a flexible joint 9, as shown in Fig. 3. This joint may be formed in various ways. As shown in Fig. 3 the nozzle portion 5 has a hollow spherical or ball portion 10 at its upper end which fits within a socket 11 of corresponding form and in which it is secured by the pivots 12 upon which the nozzle portion is free to swing in a backward or forward direction. The socket member 11 is preferably carried by a short pipe sec-

tion 13 which telescopically engages the pipe 4 to permit the vertical adjustment of the nozzle. The loosening brush 7 is also preferably connected to the nozzle so as to be capable of vertical adjustment, as by means of the bolts 14 passing through the slots 15.

Secured to the telescoping pipe section 13 is a ring or collar 16 having the projecting trunnions 17 which are connected by links 18 with the lever 19 to which is attached an operating rod or bar 20 leading to a hand lever 21 adjacent to the driver's seat 22. By means of this lever and connections, the nozzle portion of the pipe can be raised and lowered and also swung upwardly out of the path of obstructions or for any other desired purpose.

23 designates a motor of any suitable character, such as a gas engine, mounted on the vehicle 2 and connected by suitable gearing 24 with the shaft 25 of an air exhauster 26. This air exhauster may be of any approved type, preferably a rotary pressure blower, having its inlet connected by a pipe 27 with the refuse bin 3.

The bin 3 is provided at its bottom with the discharge door 28 controlled by the foot lever 29 and connections 30.

The operation will be readily understood. The brush 7 loosens the dirt and refuse in advance of the collecting nozzle 5 and such dirt or rubbish is drawn upwardly into the pipe 4 and into the bin 3 by the action of the air exhauster. Owing to the comparatively large area of the bin 3, the latter acts as a separator for the dirt and refuse which is deposited in the bin without being drawn through the exhauster to any appreciable extent.

For the purpose of assisting in the separation of the dirt and refuse drawn into the refuse bin, any suitable arrangement of baffling may be provided within said box or bin in the path of the incoming material. These baffles are also illustrated in dotted lines in Fig. 1.

It will be apparent that many changes can be made in the apparatus without departing from the spirit and scope of my invention. Thus it can be mounted on any desired form of vehicle driven by any suitable power; suitable brushes, such as are common in street sweeping machines may be attached to the apparatus for sweeping the dirt to a convenient position for entering the inlet or collector pipe; the arrange-

ment of baffling within the refuse bin may be changed and the details of construction and arrangement can be departed from in many respects.

5 I claim:—

1. In a street cleaning machine, a movable vehicle, a bin or receptacle mounted thereon, an air exhaustor connected to the bin or receptacle, and a suction inlet pipe extending
10 from the bin to a position near the surface to be cleaned, said collector pipe having a vertically telescoping section terminating in a nozzle at its lower end, the nozzle portion
15 being connected to said section by a joint which permits forward and back movement of the nozzle; substantially as described.

2. In a street cleaning machine, a movable vehicle, a bin or receptacle mounted thereon, an air exhaustor connected to the bin or receptacle, and a suction inlet pipe extending
20 from the bin to a position near the surface to be cleaned, said collector pipe having a vertically telescoping section terminating in a nozzle at its lower end, the nozzle portion
25 being connected to said section by a joint which permits forward and back movement of the nozzle, together with lever connections for raising and lowering the telescoping section; substantially as described.

3. In a street cleaning machine, a movable vehicle, a bin or receptacle mounted thereon, an air exhaustor connected to the bin or receptacle, and a suction inlet pipe extending
30 from the bin to a position near the surface to be cleaned, said collector pipe having a vertically telescoping section terminating in a nozzle at its lower end, the nozzle portion
35 being widened laterally at its lower end and connected to said section by a joint which permits forward and back movement of the
40 nozzle; substantially as described.

4. In a street cleaning machine, a movable vehicle, a bin or receptacle mounted thereon, an air exhaustor connected to the bin or receptacle, and a suction inlet pipe extending
45 from the bin to a position near the surface to be cleaned, said collector pipe having a vertically telescoping section terminating in a nozzle at its lower end, the nozzle portion
50 being connected to said section by a joint which permits forward and back movement of the nozzle, together with a dirt loosening device secured to the nozzle at the front side of the same; substantially as described.

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Witnesses:

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W. C. SOLES.