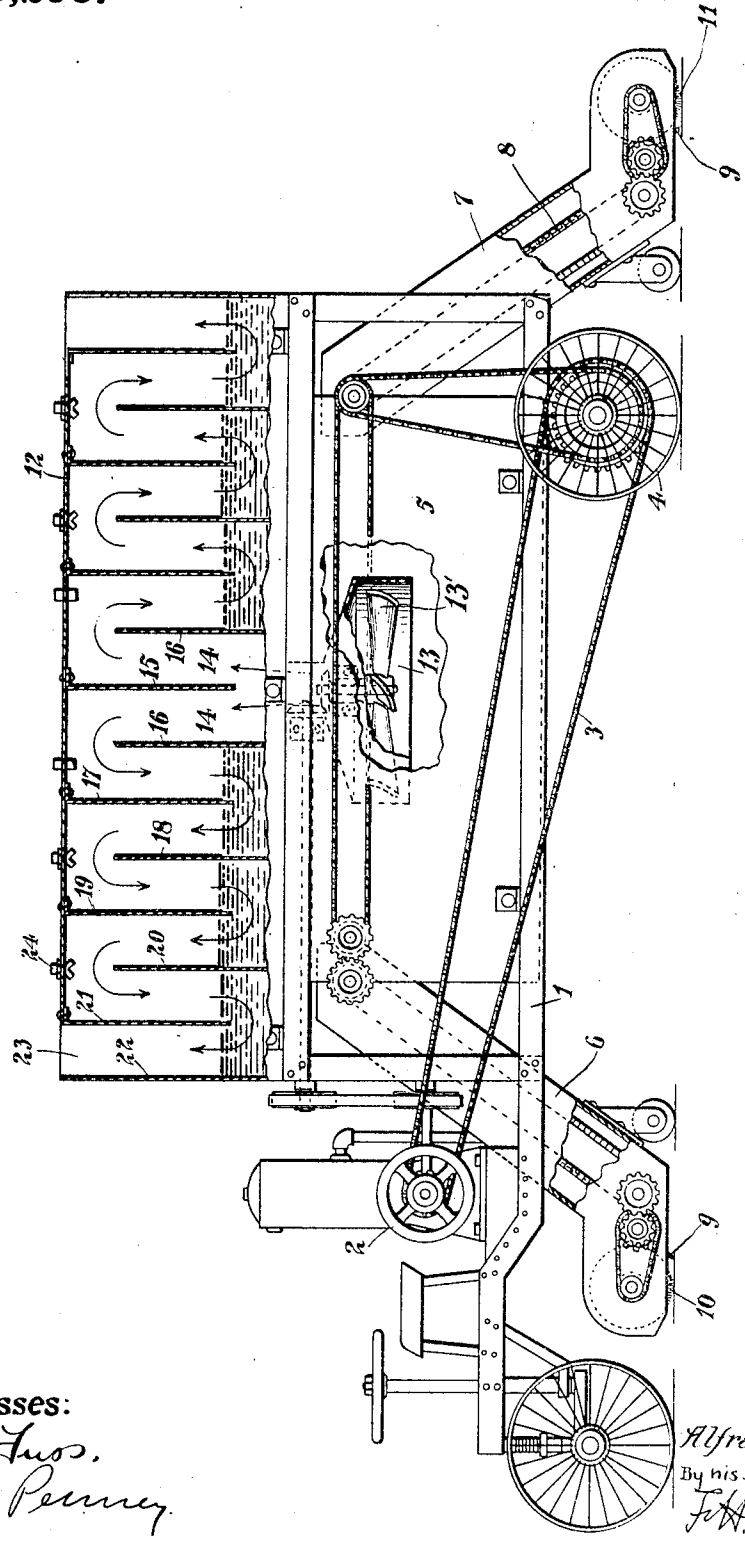
A. S. EMERSON.

STREET SWEEPER.

APPLICATION FILED DEC. 26, 1907.

920,295. Patented May 4, 1909.



Witnesses:

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UNITED STATES PATENT OFFICE.

ALFRED S. EMERSON, OF NEW YORK, N. Y.

STREET-SWEEPER.

No. 920,295. Specification of Letters Patent. Patented May 4, 1909.

Application filed December 26, 1907. Serial No. 408,074.

To all whom it may concern:

Be it known that I, ALFRED S. EMERSON, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Street-Sweepers, of which the following is a specification.

This invention relates to improvements in street sweepers, and has particular reference to sweepers for removing from the street surface fine particles of dust, and for properly taking care not only of the heavy portions of the sweepings but of the fine dust particles.

In the drawing accompanying and forming a part of this specification a practicable embodiment of a form of my invention is illustrated in side elevation with certain portions of the casing broken away and certain of the parts shown in central section.

Various portions of the apparatus are mounted upon a carriage, designated in a general way by 1, which will be propelled in some convenient manner. In the present instance there is shown a motor 2 for supplying power, it being connected by means of a chain 3 to the driving wheel 4. A suitable sweepings receptacle 5 is mounted upon the carriage and is entered at the top at the fore and rear ends by conveyer casings 6 and 7 respectively. Each of these conveyer casings has within it an endless belt 8 made up in such a manner that it will carry the sweepings up into the receptacle. These belts are shown as driven by means of suitable driving belt connections with the driving wheel of the carriage, and will receive the sweepings from the plates 9. The forward brush 10 will throw its sweepings on to the plate 9 and will remove the larger portion of the dirt and other materials which are upon the street. These will be carried up and thrown into the receptacle 5. The brush 11 will remove the finer portions of the material of the street, and also these will be delivered into the receptacle. A considerable amount of dust will arise as the sweepings are emptied into the receptacle, and particularly will this be the case where a double sweeping of the street is practiced, as with this mechanism, and it is to take care of the dust which is occasioned by the more thorough sweeping of the streets that one feature of this invention has to do.

In the form of dust collector herein illustrated there is a casing 12 mounted above the receptacle 5 which is divided into a number of compartments, and in the present instance produces two tortuous passages receiving the dust laden air at a point communicating with the center of the sweepings receptacle and discharging it at the respective ends of the machine. A hood 13 is mounted within the sweepings receptacle and opens into passages 14—14 which are formed by plate 15 and plate 16—16. The air from each of the passages 14 will pass over the top of the plate 16 and be directed past the end of the plate 17 into the body of water held between plate 16 and the plate 18, the plate 17 projecting into this body of water. As the dust laden air passes through the water with considerable force, communicated to it by the blower 13′ within the hood 13, it will agitate the water, splashing it up upon the plate 18 and by this means a considerable quantity of the dust will be removed. Of course it is a well known fact that the entrained dust carried by air will not be removed to any appreciable extent by passing the air gently through a body of water; but that it is only when the air and water are churned up together and each is more or less finely divided that the dust is removed. The air will pass over the top of the plate 18 and will be directed under the edge of the plate 19 which projects into the body of water between the plates 18 and 20, and again the churning action will take place, removing dust which was not removed in the previous action, but which dust had become partially moistened, and then the air will pass over the top of the plate 20 and be directed below the lower edge of the plate 21 which projects in the body of water between the plates 20 and 22, when the air, freed from all dust, will pass out at the outlet 23. Water may be supplied as occasion may demand through suitable inlets 24 provided for the purpose. It will thus be seen that there is provided a tortuous air passage from the sweepings receptacle embodying a number of traps containing water through which water the dust laden air from the sweepings receptacle will be forced. To assist the air in its agitation of the water it has been found best to have the air pass in the same direction as the carriage, and parallel with the direction of carriage movement and to have the water traps disposed transversely of the line of movement so that as the carriage moves along whatever agitation of the water is occasioned by the movement of the vehicle will be in the general direction of the agitation

caused by the passage of the air through the water.

Having described my invention I claim:

1. The combination with a dust collecting means comprising a receptacle having an outlet adjacent to each end thereof, and a divided inlet centrally thereof, said receptacle having at each side of said inlet alternately arranged partitions forming a tortuous passage to the outlet, the ends of all said partitions being immersed in a separating fluid, of means located adjacent to said divided inlet for positively conveying the dust and dust laden air into said inlet whereby it will be divided and moved in opposite directions through said fluid to the outlets.

2. The combination with a receptacle, a blower centrally located therein and means for delivering dust at opposite sides of the blower, of dust separating means comprising a receptacle having an outlet adjacent to each end thereof and a divided inlet centrally thereof and in communication with the discharge of the blower, said receptacle having at each side of said inlet alternately arranged partitions forming a tortuous passage to the outlet, the ends of all said partitions being immersed in a separating fluid, whereby the dust and the dust laden air will be divided and move in opposite directions through said fluid to the outlet.

Signed at Nos. 9–15 Murray street, New York, N. Y. this 12th day of December, 1907.

ALFRED S. EMERSON.

Witnesses:
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