

J. B. D'HOMERGUE.
STREET CLEANING MACHINE.
APPLICATION FILED APR. 10, 1909.

981,652.

Patented Jan. 17, 1911.

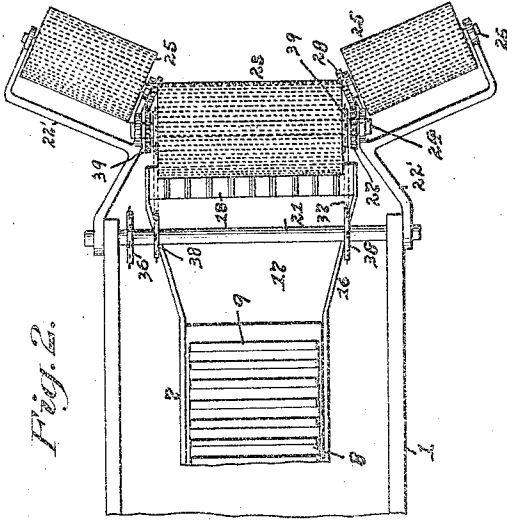


Fig. 2.

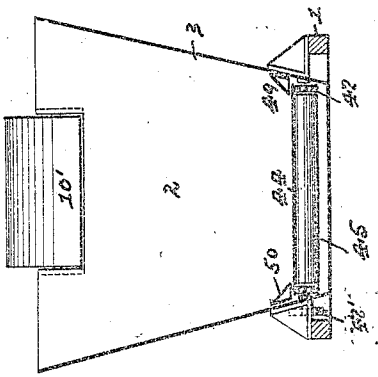


Fig. 3.

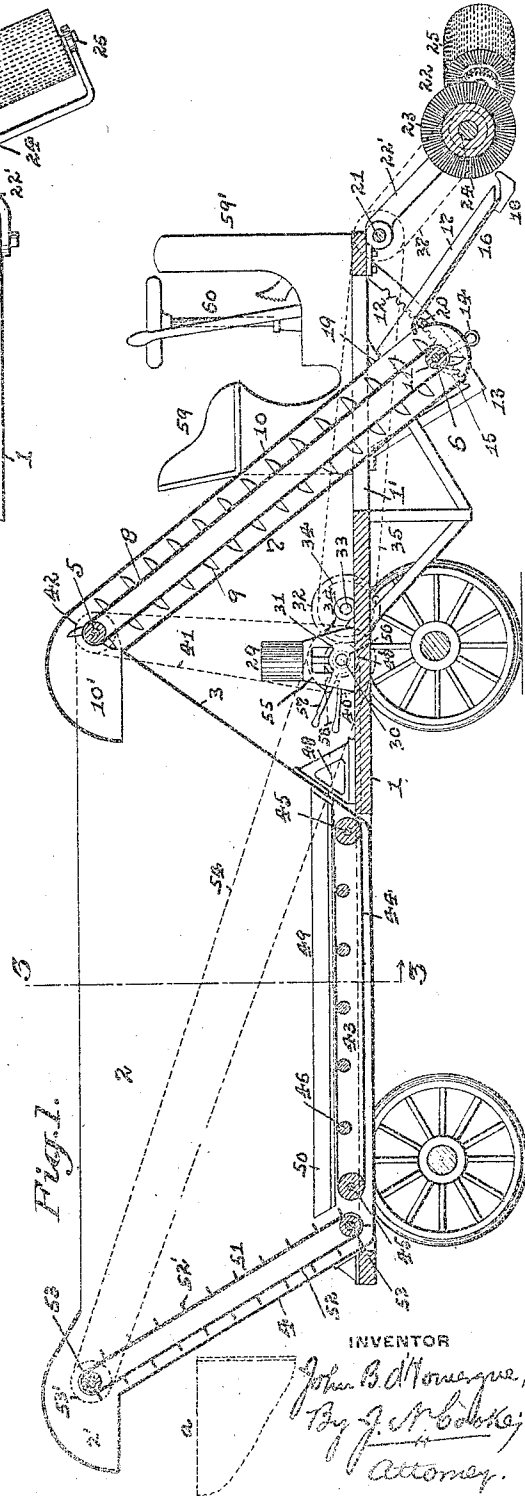


Fig. 1.

WITNESSES

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JOHN B. D'HOMERGUE, OF PITTSBURG, PENNSYLVANIA.

STREET-CLEANING MACHINE.

981,652.

Specification of Letters Patent. Patented Jan. 17, 1911.

Application filed April 10, 1909. Serial No. 489,208.

To all whom it may concern:

Be it known that I, JOHN B. D'HOMERGUE, a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Street-Cleaning Machines; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to street cleaning machines, and has special reference to such machines for use in scraping or sweeping snow, dirt, etc., from streets, roads, highways, etc.

The object of my invention is to provide a cheap, simple and efficient street cleaning machine which will scrape or sweep the snow, dirt and other matter from the street or other place on which it is used into the same to be carried thereby, as well as one which can discharge such snow or dirt therefrom into vehicles, such as wagons, carts, etc., for being hauled away to a suitable point for dumping or any other purpose desired.

To these ends my invention consists, generally stated, in the novel arrangement, construction and combination of parts, as hereinafter more specifically set forth and described, and particularly pointed out in the claims.

To enable others skilled in the art to which my invention appertains to construct and use my improved street cleaning machine, I will describe the same more fully, referring to the accompanying drawing, in which—

Figure 1 is a longitudinal section of my improved street cleaning machine, showing some of the parts in full lines. Fig. 2 is a top plan view of the front portion of the machine, with some of the parts removed. Fig. 3 is a cross-section on the line 3—3 Fig. 1, looking in the direction of the arrow.

Like symbols of reference herein indicate like parts in each of the figures of the drawing.

As illustrated in the drawing, my improved street cleaning machine is shown as applied to a motor vehicle by being mounted upon the frame 1 of the same, and upon said frame is the receptacle or body 2 having the inclined front and rear ends 3 and 4, respectively. A shaft 5 is mounted in the upper portion of the front end 3 on the body 2, and around this shaft and a shaft 6 below the

frame 1 is an elevator or conveyer 7, which is in the form of an ordinary endless belt 8 having the buckets 9 extending out from the same. The endless belt 8 is located within a casing 10 which extends around the shafts 5 and 6 and is provided with a hood 10' at the upper end of the same for extending over the upper end of the belt 8 and shaft 5 and opening into the body 2. The belt 8 and casing 10 form the conveyer 7 and are mounted at a downward and outward angle toward the front of the vehicle, so as to enable the same to be swung on the shaft 5 to the position desired through an opening 11 in the frame 1. This movement is accomplished by means of a pinion 11 (shown in dotted lines, Fig. 1) mounted on the shaft 6 and engaging with a rack 12 on a bracket 13, which is connected to and extends below the frame 1. The lower end of the conveyer 7 is adjusted to the inclination desired on the bracket 13 by means of a crank lever or handle 14 mounted on the shaft 6, and by turning the same acts to move the pinion 11 along the rack 12, and the position of said conveyer is then set by means of a pawl 15 mounted on said shaft and engaging with said rack.

Hung from the lower end of the conveyer casing 10, is the scraping device 16, which is preferably of the same construction as shown in my application filed September 9, 1908, Serial No. 452,194, and it consists generally of an inclined trough 17 having a series of scrapers 18 pivoted flexibly to the forward end of the same. This trough 17 leads into the conveyer 7 at its upper end through an opening 19 in the lower end of the conveyer casing 10 and it is hinged to said casing as at 20, so as to extend at a downward and outward angle toward the front of the vehicle and adjust itself to the position of the said conveyer.

Pivottally hung from a shaft 21 at the forward end of the vehicle through the frame 22' is the sweeping device 22, which is adapted to be raised and lowered on said shaft in the usual manner, and preferably consists of a central cross broom 23 and outside brooms 25. The broom 23 is mounted on a shaft 24 extending across and journaled in the frame 22', and the outside brooms 25 are mounted on shafts 26 in said frame and extend forward and outward at an angle on

each side of said central broom 23. A pinion 27 is mounted on the shaft 24 and on each end of the broom 23 for engaging with a pinion 28 mounted on each of the shafts 26 and on the inner end of the brooms 25.

An engine or motor 29 is mounted on the frame 1 and the shaft 30 of the same has a pinion 31 mounted thereon for meshing with a gear wheel 32 mounted on a shaft 33, which is journaled in a bearing 34 hung from the engine casing 29', and such shaft 33 is provided with a sprocket-wheel 34 on one side of the same. A sprocket-chain 35 passes around the sprocket-wheel 34 and around the sprocket-wheel 36 on the shaft 21, and sprocket-chains 37 pass around sprocket-wheels 38 on said shaft and around sprocket-wheels 39 on the shaft 24 for operating the brooms 23 and 25. A sprocket-wheel 40 is also mounted on the engine shaft 30 and has a sprocket-chain 41 passing around the same and around a sprocket-wheel 42 on the shaft 5 for operating the belt 8 of the conveyer 7.

Located in the bottom of the body 2 is the conveyer 43, which is formed of an endless belt or apron 44 passing around roller shafts 45 at each end of the same, and journaled in the sides of the said bed. The apron 44 has its upper portion supported by the idlers 46, which are positioned within the belt 44 and under the said portion and are mounted in the sides of said bed. The apron is positively driven by means of sprocket-chains (not shown) and passing over sprocket-wheels 47 on each end of the shafts 45. The front shaft 45 of the conveyer 43 has a sprocket-wheel 47' on one end of the same, and a sprocket-chain 48 passes around the same and around a sprocket-wheel 48' on one end of the engine shaft 30 for operating said conveyer. Guides 49 having inclined sides 50 are secured to the sides of the body 2 and extend from said sides out to the side edges of the conveyer apron 44 for directing the material onto said apron.

Extending upward and outward from the rear end of the conveyer 43 and within the body 2 is the conveyer or elevator 51, which is formed of the endless belt 52 passing around shafts 53 mounted in the upper and lower portions of said bed and, is provided with the buckets 52' thereon. The upper end of the belt 52 leads into a hood 2' formed on the rear of the body 2, and the upper shaft 53 at said end is provided with a sprocket-wheel 53' having a sprocket-chain 54 passing around the same and around a sprocket-wheel 55 on the engine shaft 30 for operating the conveyer or elevator 51.

A clutch 56 (shown in dotted lines, Fig. 1) is mounted on the engine shaft 30 and is controlled by the clutch lever 57 for operating the conveyer 7 and sweeping device 22 separately or together, as desired, and a clutch (not shown) is mounted on said shaft

and controlled by a clutch lever 58 for operating the conveyer 43 and elevator 51 at different times, or both at the same time, as may be desired.

The operation of my improved street cleaning machine is as follows.—The machine can be propelled by the engine or motor 29 through any suitable connections, or by a separate engine or motor, as desired, and with the conveyer 7 and sweeping devices 22 operated from said engine 29, as described, the snow, dirt or other material on the street will be swept into a windrow in front of the central sweeper 23 through the outside brooms 25 and by reason of said brooms 25 being revolved away from the machine as it moves ahead. The central broom 25 being revolved in the opposite direction from the brooms 25 will turn toward the machine and sweep the material of the windrow toward the scrapers 18 and trough 17, where it is caught by said scrapers and trough and passes up the same to the conveyer 7 through the opening 19 in the casing 10 of the same. When the material reaches the conveyer 7 it will be carried up the same through the belt 8 and its buckets and delivered into the body 2, where it falls or slides down the front end 3 of said body and onto the conveyer 43. As the conveyer 43 and elevator 51 are operated from the engine 29, as before described, the material so delivered onto said conveyer will be carried to the elevator 51 on the apron 44 of such conveyer and such elevator will carry the said material from said conveyer up the same by the belt 52 and buckets 52' and discharge the same into a wagon, cart or other receptacle, as shown at a in Fig. 1. It will be obvious that the conveyer 7 will deliver the material into the forward end of the body 2 and onto the conveyer 43, so that the said conveyer can be operated by the lever 58 to move the said material backward on the same to permit more material to enter said body; and when the body has become filled the elevator 51 can be operated to discharge the material from said body and conveyer while said conveyer is in operation or at a different time through the clutch lever 58.

At the forward end of the machine, and as shown in Fig. 1, the usual parts of a motor vehicle are provided, such as the radiator 59' and operator's seat 59, adjacent to which are the usual steering and operating devices 60 for the vehicle, and from which the different mechanisms connected to the engine 29 can be controlled or a separate engine or motor for operating the vehicle, or both, as desired.

It will thus be seen that my improved street cleaning machine will provide for the rapid and easy cleaning of the street, and the material gathered from the street can

be carried on the machine and discharged at the point of delivery, or can be gathered and discharged continuously, as may be desired. It will also be evident that my improved street cleaning machine can be used without forming part of a motor vehicle, and that the same can be used with the scraping devices without the sweeping devices or with the sweeping devices and without the scraping devices, and various other modifications and changes in the construction and operation or design of the machine may be resorted to without departing from the spirit of the invention, or sacrificing any of its advantages.

The machine can be used to automatically gather, collect and discharge snow, dirt and other material from streets, roads, highways, pavements, sidewalks and other places, and the parts of the same can be mounted on any suitable vehicle and moved by horses or other suitable power. By the use of the machine in cities, the streets, alleys, pavements, highways, etc., can have the snow, dirt or other material removed therefrom in a very short space of time and without the employment of a great number of men and wagons or carts usually engaged in such work, thereby greatly cheapening the cost for this kind of work and enabling traffic and comfort to be had rapidly and conveniently.

What I claim as my invention and desire to secure by Letters Patent, is—

1. In a street cleaning machine, the combination of a vehicle having a body thereon, means for gathering the material from the street, a power-driven inclined conveyer for delivering the material to said body, and power-driven means within said body for moving the delivered material along said body.

2. In a street cleaning machine, the combination of a vehicle having a body thereon, means for gathering the material from the street, a power-driven adjustably inclined conveyer for delivering the material to said body, and power-driven means within said

body for moving the delivered material along said body.

3. In a street cleaning machine, the combination of a vehicle having a body thereon, means for gathering the material from the street, a power-driven adjustably inclined endless belt having buckets thereon for delivering the material to said body, and power-driven means within said body for moving the delivered material along said body.

4. In a street cleaning machine, the combination of a vehicle having a body thereon, means for gathering the material from the street, power-driven means for delivering the gathered material to said body, power-driven means within said body for moving the delivered material along said body, and a power-driven inclined conveyer within said body for discharging the delivered material therefrom.

5. In a street cleaning machine, the combination of a vehicle having a body thereon, means for gathering the material from the street, power-driven means for delivering the gathered material to said body, power-driven means within said body for moving the delivered material along said body, and a power-driven endless belt having buckets thereon within said body for discharging the delivered material therefrom.

6. In a street cleaning machine, the combination of a vehicle having a body thereon, means for gathering the material from the street, power-driven means for delivering the gathered material to said body, power-driven means within said body for moving the delivered material along said body, and a power-driven inclined endless belt having buckets thereon within said body for discharging the delivered material therefrom.

In testimony whereof, I, the said JOHN B. D'HOMERGUE, have hereunto set my hand.

JOHN B. D'HOMERGUE.

Witnesses:

JAMES L. WEHN,
J. N. COOKE.