J. F. WURZER & J. G. HARTMAN.

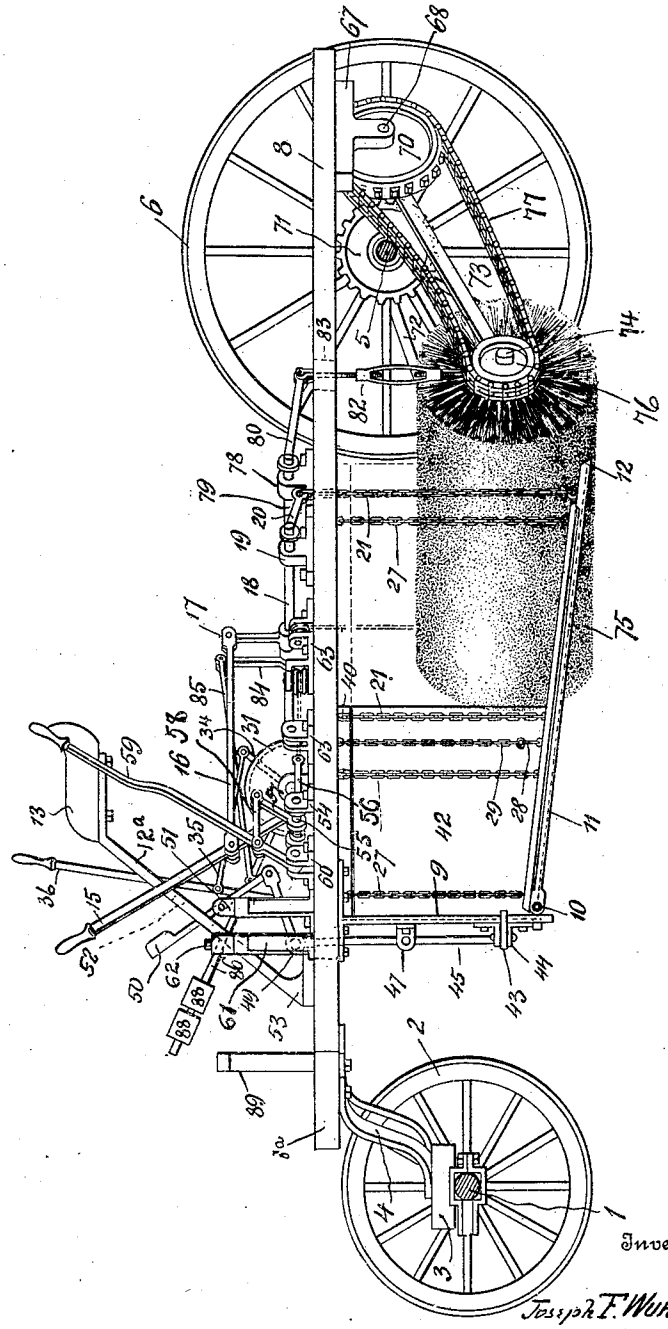
STREET SWEEPER.

APPLICATION FILED APR. 24, 1908.

941,838. Patented Nov. 30, 1909.

3 SHEETS—SHEET 1.

Fig. 1.



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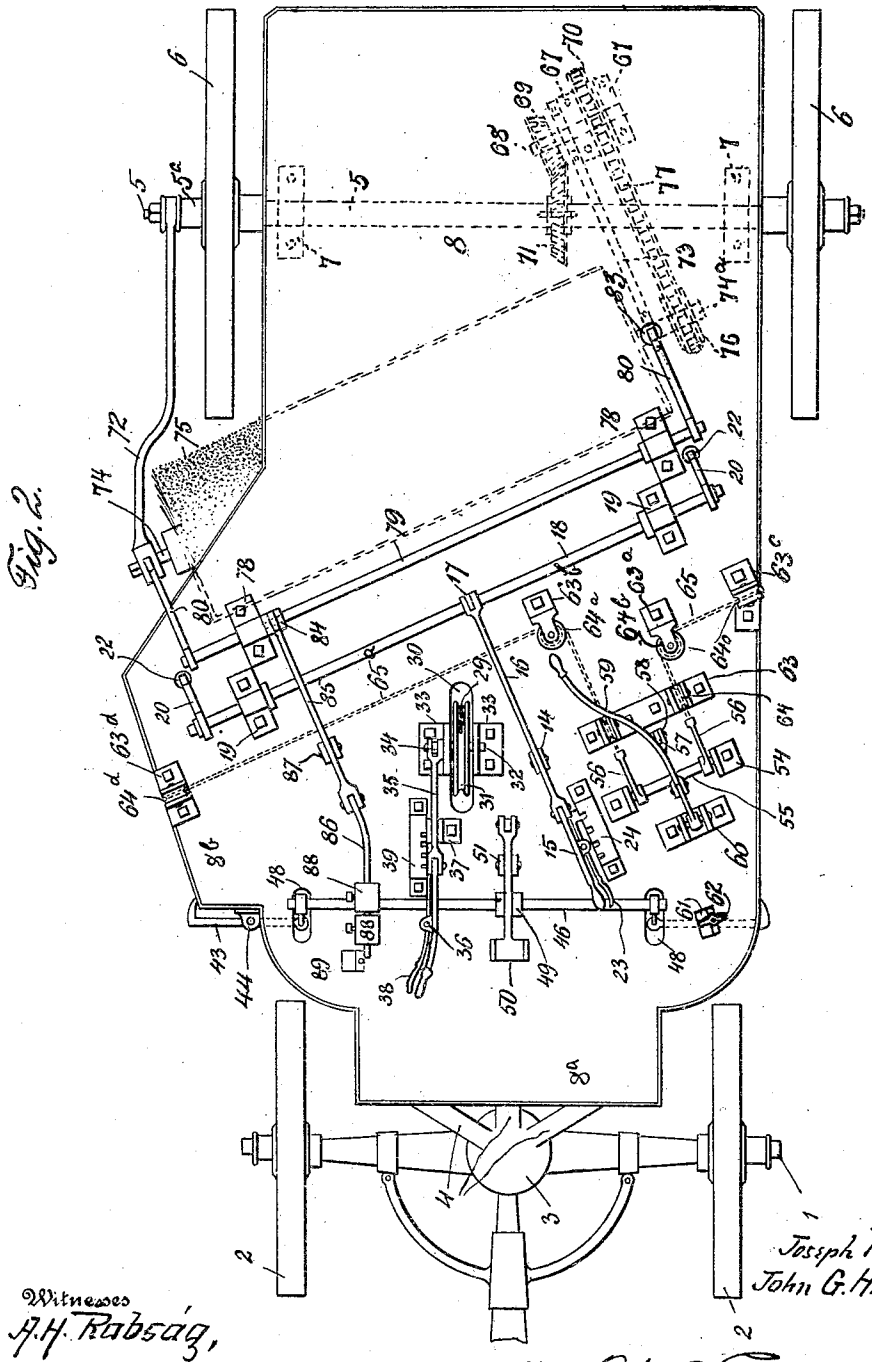
3 SHEETS—SHEET 2.

Fig. 2.



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3 SHEETS—SHEET 3.

Fig. 5.

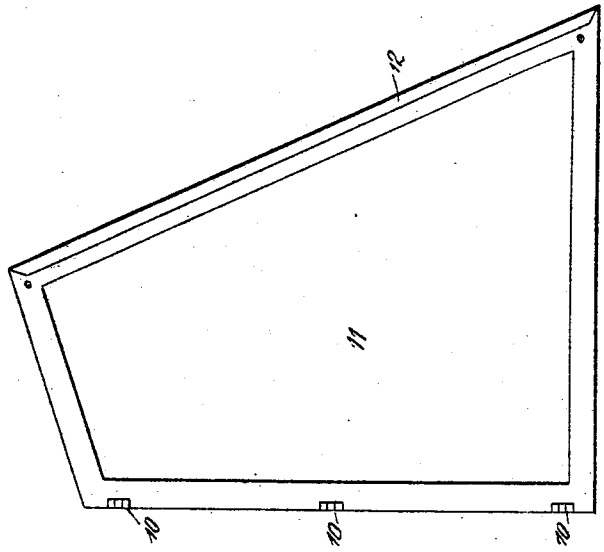


Fig. 3.

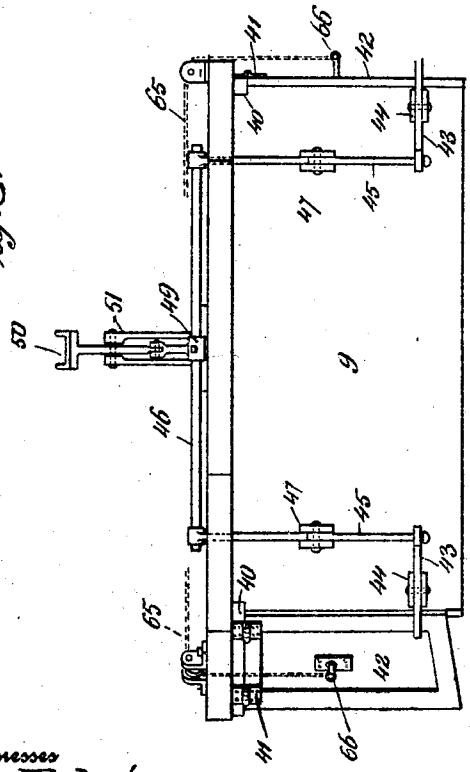
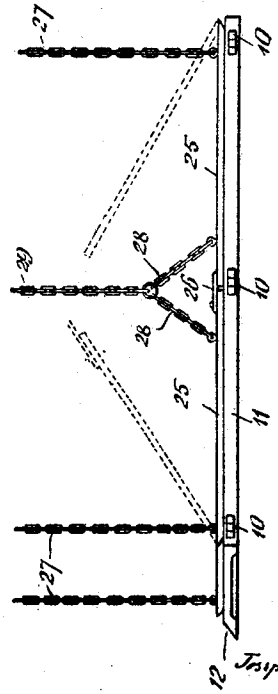


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOSEPH F. WURZER AND JOHN G. HARTMAN, OF MILLVALE, PENNSYLVANIA.

STREET-SWEEPER.

941,838. Specification of Letters Patent. Patented Nov. 30, 1909.

Application filed April 24, 1908. Serial No. 428,985.

To all whom it may concern:

Be it known that we, JOSEPH F. WURZER and JOHN G. HARTMAN, citizens of the United States of America, residing at Millvale, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Street-Sweepers, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to street sweepers and the object thereof is to provide a machine of such class in a manner as hereinafter set forth with means, in connection with a receptacle which constitutes a dirt collector, for removing the dirt from the latter after the machine has been used, or when the receptacle has become filled.

A further object of the invention is to provide in a manner as hereinafter set forth, a street sweeper with a receptacle constituting a dirt collector and furthermore with means in a manner as hereinafter set forth actuated by the operator for discharging the collected dirt.

With the foregoing and other objects in view the invention consists of the novel construction, combination and arrangement of parts hereinafter more specifically described and illustrated in the accompanying drawings wherein is shown the preferred embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which come within the scope of the claims hereunto appended.

In the drawings wherein like reference characters denote corresponding parts throughout the several views, Figure 1 is a side elevation of a street sweeper in accordance with this invention with one of the side doors of the receptacle which constitutes the dirt collector removed, Fig. 2 is a plan, with the driver's seat and a support therefor omitted. Fig. 3 is a front elevation of a part of the machine illustrating the forward wall and the toothed side walls and doors of the receptacle which constitutes the dirt collector, Fig. 4 is a detail illustrating the bottom of the dirt receptacle or collector and the support therefor, and, Fig. 5 is a detail illustrating the support for the bottom of the dirt receptacle or collector, the support being in the form of a hinged frame.

Referring to the drawings in detail, a machine in accordance with this invention comprises a front and a rear truck, the said front truck embodying an axle 1, wheels 2, a fifth wheel 3, and a supporting frame or bolster 4. The rear truck comprises a revoluble axle 5, a pair of wheels 6 and bearings 7. The bearings 7 also constitute the rear support for a platform or bed 8, the forward support for the said platform or bed 8 being the bolster 4. The platform or bed 8 is suitably secured to the bolster 4 and the bearings 7. The forward portion of the platform or bed 8 is contracted as at 8^a and to the contracted portion 8^a in any suitable manner is secured the bolsters 4. One side of the platform or bed 8 is offset as at 8^b for a purpose to be hereinafter referred to. Depending from the lower face of the platform or bed 8 at a point removed from the contracted portion 8^a is a rectangular plate 9 which constitutes the forward wall of a receptacle forming the dirt collector. Hinged as at 10 to the lower edge of said front wall is a tetragon-shaped frame 11 having the rear edge thereof beveled as at 12. The frame 11 forms a support for the bottom of the receptacle which constitutes the dirt collector. The said bottom comprises a pair of gates 25, which in plan and when lowered conform to the shape of the frame 11 as clearly shown in Fig. 3. The confronting edges of said gates are covered by a strip 26, the latter being secured to one of said gates and overlapping the other. Attached to the gates 25 are the chains 27 which form a supporting means, the said chains being attached to the outer edges of the gates and to the platform 8. The confronting edges of the gates 25 have attached thereto branch chains 28 which are connected with a chain 29 extending upwardly through an opening 30 provided therefor in the platform 8.

The side walls of the receptacle are indicated by the reference character 42. These walls are what may be termed doors and are normally retained in a closed position by latches 43 which engage the forward edges of the doors. The doors are hinged at their tops as at 41 to cleats 40 attached to the lower face of the platform 8. The latches 43 are pivotally mounted in brackets 44 carried on the front side of the wall 9 and the said latches 43 are loosely connected to the arms 45 of a yoke-shaped member 46, said arms being pivotally mounted in bear-

ings 47 carried by the forward side of the wall 9. The arms 45 of the yoke 46 extend through openings 48 formed in the platform 8 and the transverse portion of the yoke 46 is provided intermediate its ends with a crank arm 49 attached to a foot-actuated lever 50 fulcrumed in bearings 51 carried by the platform 8. By the foregoing arrangement of parts, it is evident that a receptacle constituting a dirt collector is arranged below the platform 8 forwardly thereof and that the said receptacle at its rear is opened permanently to allow of the dirt being brushed therein.

Upon the forward end of the platform 8 is located a rearwardly extending supporting arm 12^a having an opening 52 for the passage of the foot-operated lever 50 as clearly shown in Fig. 1. The arm 12^a at its upper end carries a driver seat 13 and adjacent to the said arm 12^a and upon the platform 8 is fixed a bearing 14 in which is pivoted a forwardly extending inclined lever 15. The lever 15 is connected by a link 16 to a crank arm 17 projecting from a shaft 18. The shaft 18 extends diagonally with respect to the platform 8 and is so positioned as to project upon the offset portion 8^b. The shaft 18 is mounted in bearings 19 carried by the platform 8 and at each end is provided with a crank arm 20 which is angularly disposed with respect to the crank arm 17. Attached to the ends of the crank arms 20 are chains or cables 21, which extend through openings 22 in the platform 8 and are connected with the beveled edge of the frame 11 as clearly shown in Fig. 1. By actuating the lever 15 in one direction, the frame 11 can be elevated to clear obstructions or shifted to a safety position when the machine is not in use. The lever 15 is locked in its adjusted position through the medium of a pivoted arm 23, the said arm 23 being carried by the lever and having an angular lower end adapted to engage in the rack 24 fixed upon the platform 8.

Upon one side of the platform 8 and adjacent to the rack 24 are positioned bearings 54 for a diagonally disposed short shaft 55 carrying crank arms 56 and 57. The crank arm 57 is connected by a link 58 to a lever 59 which is pivoted in a bearing 60 carried by the platform 8 and arranged forwardly of the bearings 54. Arranged at one side of the bearings 60 upon the platform 8 is a vertically extending standard 61 carrying an adjustable pin 62 which is adapted to be moved to engage the lever 59 so as to hold it in its adjusted position. Arranged rearwardly of the bearings 54 and upon the platform 8 are bearings 63 in which are journaled sheaves or pulleys 64 and upon the platform 8 rearwardly of the bearings 63 are positioned bearings 63^a and 63^b, the bearing 63^a being arranged forwardly of the bearing 63^b, the latter carries a sheave or pulley 64^a and the former a sheave or pulley 64^b. Upon one side of the platform 8 and at the side of the bearing 63^a is arranged a bearing 63^c carrying a sheave or pulley 64^c and upon the offset portion 8^b of the platform 8 is secured bearings 63^d carrying a sheave or pulley 64^d. The bearings 63 to 63^d are disposed obliquely with respect to the platform 8. Connected to one of the crank arms 56 and passing over the sheaves or pulleys 64^b and 64^c is a chain or pulley 65 which is connected to the bracket 66 carried by one of the doors 42 and passing over the other sheave 64 and the sheaves 64^a and 64^d is a chain or cable 65^a which is connected to a bracket 66^a on the other door 42. When the lever 50 is actuated to shift the latches 43 to release the doors, the lever 59 is then shifted in one direction which will cause the elevating of the doors 42 as will be evident.

Depending from the lower face of the platform 8 rearwardly of the axle 5 are hangers 67 for a revoluble shaft 68. Mounted upon the shaft 68 is a beveled gear wheel 69 and a sprocket wheel 70. The shaft 68 projects inwardly from the hangers 67 and on the projecting end is mounted the beveled gear 69. The latter meshes with the beveled gear 71 mounted upon the axle 5 whereby when the latter is rotated, motion is transmitted to the shaft 68. The axle 5 projects from one of the wheels 6 as at 5^a and carries on said projecting end an angularly disposed hanger arm 72 and in the free end of said hanger arm 72 is journaled one end of a diagonally disposed shaft 74 which carries a brush 75. Carried by the inner hanger 67 is an angularly disposed hanger arm 73 in which is journaled the other end of the shaft 74. That end of the shaft 74 which is journaled in the arm 73 projects therefrom as at 74^a and carries a sprocket pinion 76 which is connected with the sprocket wheel 70 by a sprocket chain 77. The hanger arms 72 and 73 have their rear ends loosely mounted upon the end 5^a of the axle 5 and the innermost hanger 67.

Mounted upon the platform 8 rearwardly of the bearings 19 are a pair of bearings 78, one of said bearings being secured to the offset portions 8^b and journaled in the bearings 78 is a diagonally disposed shaft 79 having each end thereof provided with a crank arm 80 each of which extends rearwardly, one of said crank arms 80 projecting beyond the rear edge of the offset portion 8^b. Attached to the crank arms 80 are links 81 and 82 which are connected respectively to the hanger arms 72 and 73. The link 82 extends through an opening 83 formed in the platform 8. Attached to the shaft 79 is a crank arm 84 which is angularly disposed with respect to the crank arms 80

and the said crank arm 84 is connected through the medium of a link 85 to a curved lever 86 which is pivotally mounted in the bearings 87 secured to the platform 8. The forward end of the lever 86 is provided with adjustable weights 88 and the said forward end of a lever 86 is adapted to engage under a bracket 89 carried by the platform 8, the function of the bracket being to lock said lever to hold the rotary brush 75 in an elevated position when the forward end of the lever is lowered. Such action is had owing to the connection between the lever 86 and the arms 72 and 73. The rotary brush when in its lowered position is arranged in close proximity to the beveled edge 12 of the frame 11 so that when the brush is operated it will sweep the dirt or other matter into the receptacle or dirt collector.

The chain 29 as above stated, extends upwardly through an opening 30 formed in the platform 8 and the said chain 29 is attached to a drum 31 mounted upon a shaft 32 journaled in bearings 33 arranged upon the platform 8 at the sides of the opening 30. The shaft 32 carries a crank arm 34 which is connected by a link 35 to a lever 36, the latter being pivotally mounted in bearings 37 carried by the platform 8. A pivoted lock arm 38 is carried by the lever 36, the said lock arm is adapted to engage in a rack 39 secured to the platform 8. By such an arrangement it is evident that when the lever 36 is actuated in one direction, the drum 31 will be rotated causing the chain 29 to wind thereon and the confronting ends of the gates 26 will be elevated and the dirt will be discharged against the doors 42. Now when these latter are opened through the medium of the levers 50 and 59, the dirt or collected matter will be discharged from the receptacle.

The levers 15, 59, 36, 86, and 50 are positioned in such a manner that they can be readily manipulated by the driver when occasion requires to enable the driver to elevate the brush, or to discharge the dirt and foreign matter collected or to elevate the frame 11.

What we claim is:

1. A street sweeper comprising a front truck, a rear truck, a platform supported by said trucks, a depending plate constituting a forward wall carried by said platform, a frame hinged to the lower edge of said wall, gates suspended from said platform and adapted to rest upon said frame, hinged depending doors carried by the side edges of said platform, latches carried by said forward wall for locking said doors in a closed position, said plate, doors and gates constituting a receptacle for sweepings, a rotary brush arranged in operative relation with respect to said receptacle, means located upon said platform for elevating said frame, means located upon said platform for elevating the confronting edges of said gates, means located upon said platform for releasing the said latches, and means located upon said platform for elevating said doors.

2. A street sweeper comprising a portable platform, a receptacle constituting a dirt collector arranged beneath said platform, said receptacle comprising a forward wall, a movable frame hinged thereto, gates arranged upon said frame, depending doors movably supported by the edges of said platform, a rotary brush diagonally disposed below said platform for sweeping dirt upon said gates, operating means for the brush, means carried by said forward wall for maintaining said doors in a closed position, means arranged upon said platform for elevating said brush, means arranged upon said platform for elevating said doors, and means arranged upon said platform for elevating said gates.

3. A street sweeper comprising trucks, a platform carried thereby, a receptacle constituting a dirt collector located beneath said platform and embodying a movable frame, movable gates carried thereby and movable doors hinged to the platform, a rotary brush located below the platform and actuated from one of said trucks for sweeping dirt into the collector, means supported by the platform for elevating said brush, means supported by the platform for elevating said frame, means supported by the platform for elevating said gates and means supported by the platform for elevating said doors.

4. A sweeping machine comprising a portable platform, a receptacle constituting a dirt collector located below said platform and embodying a forward wall carried by the platform, a movable frame hinged to said wall, movable gates located on the frame, movable doors hinged to the platform, and means for locking the doors in closed position, a rotatable brush arranged in operative relation with respect to said collector adapted to sweep dirt therein, means supported by the platform for releasing the latches for the doors, means supported by the platform for elevating the doors, means supported by the platform for elevating the gates, means supported by the platform for elevating the frame, and means supported by the platform for elevating the brush.

In testimony whereof we affix our signatures in the presence of two witnesses.

JOSEPH F. WURZER.
JOHN G. HARTMAN.

Witnesses:
MAX H. SROLOVITZ,
K. H. BUTLER.