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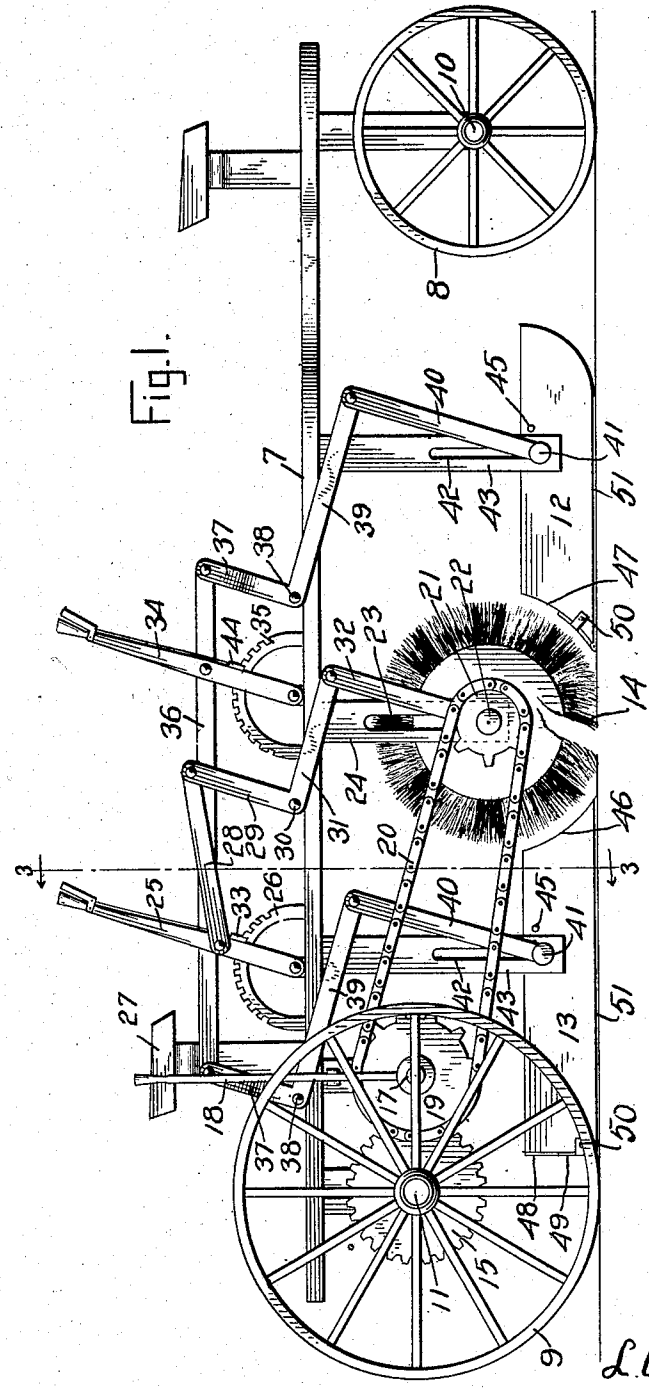
STREET SWEEPER.

APPLICATION FILED OCT. 24, 1907.

901,154. **Patented Oct. 13, 1908.**

3 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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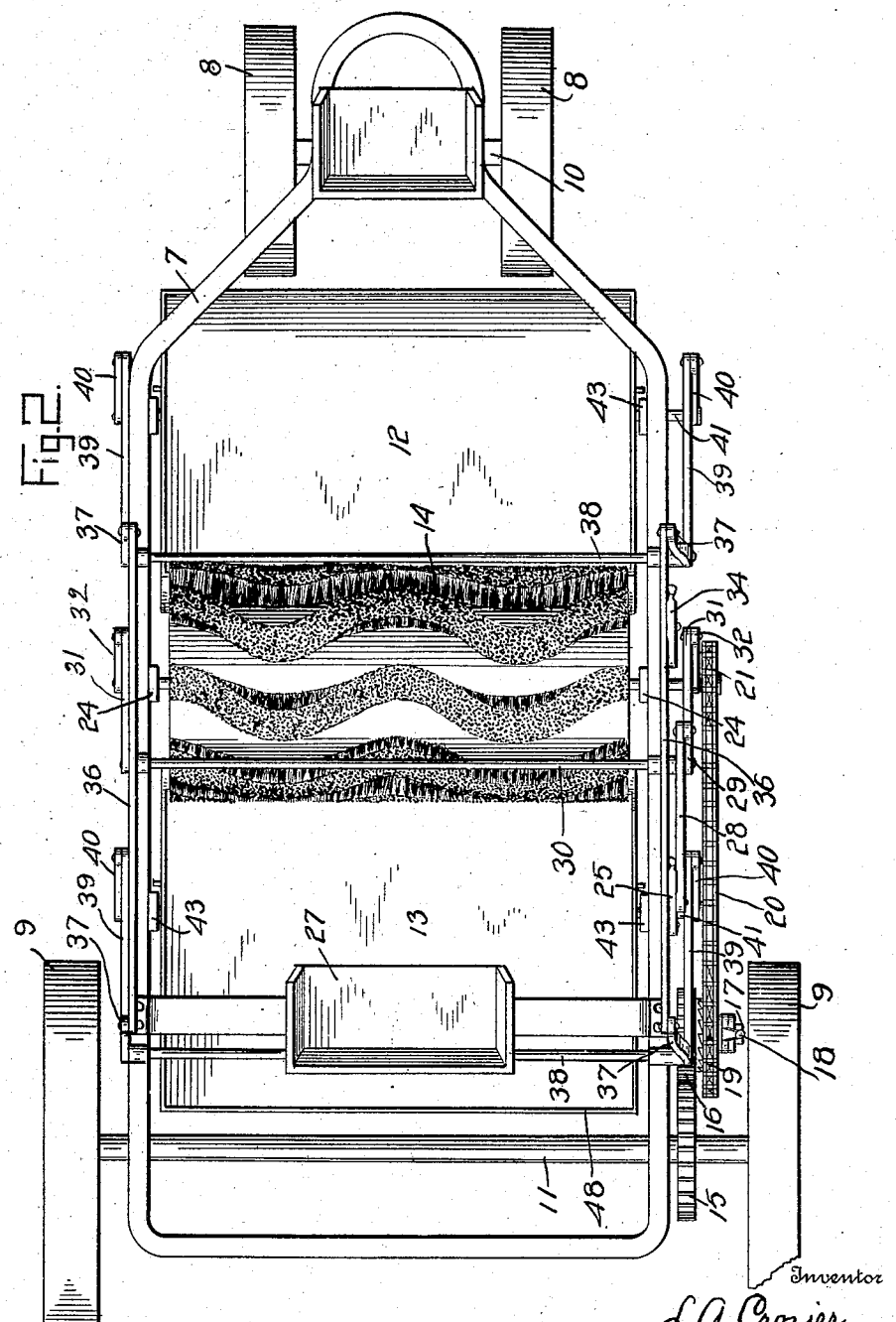
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3 SHEETS—SHEET 2.

Fig. 2.



Witnesses

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3 SHEETS—SHEET 3.

Fig. 3.

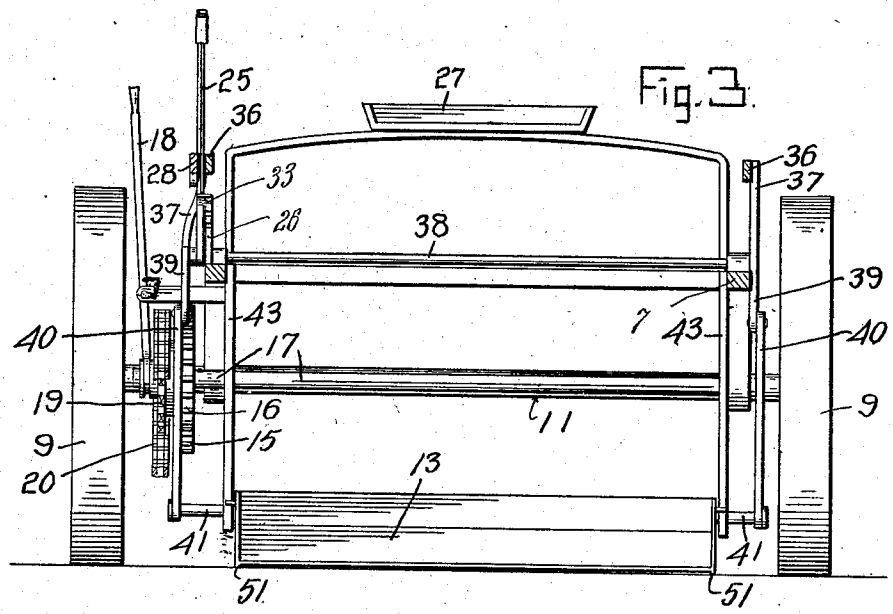


Fig. 5.

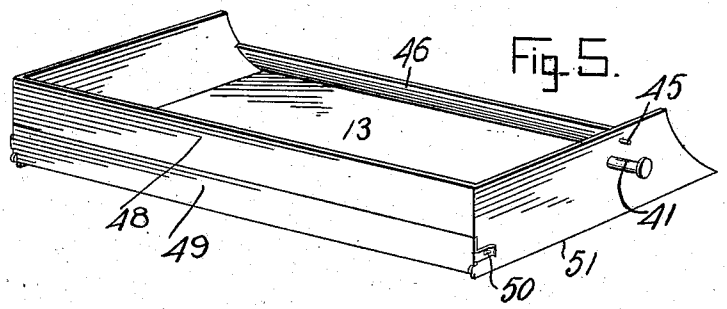
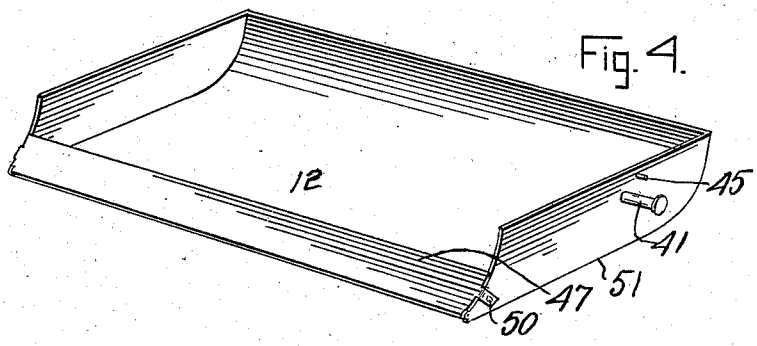


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

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STREET-SWEEPER.

No. 901,154. Specification of Letters Patent. Patented Oct. 13, 1908.

Application filed October 24, 1907. Serial No. 399,001.

To all whom it may concern:

Be it known that I, LESTER ARNOLD CROZIER, a citizen of the United States, residing at Lynn, in the county of Essex, State of Massachusetts, have invented certain new and useful Improvements in Street-Sweepers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention has reference to street sweepers, and it aims, primarily, to provide an exceedingly simple, readily operated, and efficient machine of that class.

More particularly, however, the invention resides in the provision of a street sweeper having a front and a rear pan and a rotatable brush interposed therebetween, the brush and both pans being movable towards and from the ground, to bring them into or out of operative position.

The invention further resides in the specific means employed for effecting such movement of the pans and brushes; in the specific construction of the pans; and in the particular manner in which the pans are connected with the frame of the machine.

The invention will be readily understood from a consideration of the following detailed description, and its preferred embodiment is illustrated in the accompanying drawings in which like parts are designated by corresponding reference numerals in the several views.

Of the said drawings:—Figure 1 is a side elevation of the machine. Fig. 2 is a top plan view thereof. Fig. 3 is a transverse section on the line 3—3 of Fig. 1. Fig. 4 is a perspective view of the front pan. Fig. 5 is a similar view of the rear pan.

Referring more particularly to the drawings, 7 designates, generally, the open frame of the machine; 8 and 9 the front and rear wheels mounted upon the corresponding axles 10 and 11, respectively; 12 and 13 the front and rear pans; and 14 the rotary brush interposed between the pans. The diameter of the rear wheels is somewhat greater than that of the front wheels, and the latter are disposed sufficiently far in advance of the front pan to prevent contact therewith when the front axle is turned to one side or the other of the machine. Both axles are journaled in depending brackets secured to the under face of the frame.

The rear axle 11 carries a gear 15 which meshes with a smaller gear 16 loosely mounted on a shaft 17 disposed in advance of the axle 11 and likewise journaled in depending brackets secured to the frame, the last-mentioned gear serving as one member of a clutch the opposite member of which is formed by a sprocket 19 connected by a chain 20 with a smaller sprocket 21 mounted upon the corresponding end of the brush axle 22, which latter is therefore rotated in the opposite direction to the rear wheels. The sprocket 19 is splined upon the shaft 17 and is operated by a lever 18, it being apparent, by reason of this construction, that upon movement of the lever in one direction, the clutch members will be engaged with each other, whereupon rotation of the sprocket, and, in consequence, of the brush will at once ensue. The operating lever is pivoted in any manner to the machine frame, and its lower end embraces the grooved hub of the sprocket.

The brush axle 22 has its opposite ends projecting through vertical slots 23 formed in a pair of depending hangers 24 secured to the side sills of the frame 7. The brush is raised or lowered bodily by means of a lever 25 pivoted to the frame adjacent a segmental rack 26 mounted upon the frame near the seat 27 for the operator and connected by a link 28 with one arm 29 of an angle lever rigidly secured to one end of a rock-shaft 30 disposed transversely of the frame and journaled in bearings carried thereby, the rock-shaft being provided at each end with an arm 31 whose free end is pivoted at the upper end of a link 32 which is in turn pivoted at its lower end to the corresponding end of the brush axle, one of said arms 31 forming the lower arm of the above-mentioned angle lever. Movement of the lever 25 in one direction will therefore raise the brush from the surface of the street, while its movement in the opposite direction will lower the brush, as will be understood, the brush being retained in adjusted position by a spring-pressed dog 33 carried by the lever and adapted for engagement with the rack 26.

The pans 12 and 13 are raised or lowered in like manner by means of a lever 34 disposed in advance of the lever 25 and pivoted adjacent to a rack 35 which is likewise mounted upon the frame 7, said lever being pivotally connected intermediate its ends with a rod 36 disposed longitudinally of the frame

and pivoted at each end to the upper arm 37 of an angle lever rigidly secured to each end of a transverse rock-shaft 38. The lower arm 39 of each angle lever is in turn pivoted to the upper end of a link 40 whose lower end is connected in like manner to a pin 41 formed upon the adjacent side walls of the corresponding pan, or set thereinto, as preferred, the pins with which each pan is provided traveling in vertical slots 42 formed in hangers 43 similar to the hangers 24, the several hangers on each side of the machine being in alinement with each other. The pins 41 are headed so as to prevent disengagement of the links 40 therefrom said pans being retained in adjusted position by a spring-pressed-dog 44 carried by the lever 34.

As shown in Figs. 4 and 5 the pins are disposed towards the forward ends of the pans, so that the latter have a tilting movement on being raised this movement being limited by the provision of pins 45 which are set into the pan sides in advance of the pivot pins 41 and are adapted to be brought into contact with the sides of the hangers 43 when the pans are raised. It is to be understood, however, that the pans are raised subsequent to the raising of the brush. Both pans are formed of sheet metal, and the rear edges of the sides of the front pan and the front edges of the sides of the rear pan are curved inwardly, the front 46 of the rear pan and the back 47 of the front pan likewise sloping inwardly, as shown, the height of said front and back pieces, being, however, approximately half that of the sides. The back of the front pan is hinged to the bottom thereof, while the back of the rear pan is divided longitudinally into an upper section 48 and a lower section 49, this last-mentioned section being likewise hinged to the pan bottom, the upper section, however, being stationary. The hinged members of each pan are retained in closed position by latches 50 which are adapted to engage keepers carried by the pan sides. By reason of this construction the contents of the pans will not be discharged, when the latter are raised, until the latches are disengaged from their keepers, whereupon the hinged members will swing open.

Both pans are preferably provided at their side edges with metal runners 51 which may be formed by extending the pan sides or may be constructed separately and secured to the pans. The brush bristles are preferably set in sinuous rows extending from end to end of the brush body, as shown in Fig. 2.

When the machine is in motion and the gear 16 and sprocket 19 are in mesh the brush shaft will be driven from the rear axle through the gear and sprocket mechanism above described, the brush rotating in the opposite direction to the rear wheels 9 and sweeping the dirt across the back of the front pan 12 into the latter, the rear pan receiving any dirt which fails to fall into the front pan. The brush can be thrown out of action by merely disconnecting the gear 16 and sprocket 19 and can be raised or lowered independently of the pans by means of its lever 25, the brush being raised before the pans are raised, as stated, in order to prevent the interference with the upward movement of the latter. The pivotal mounting of the pans has the effect of permitting the same to accommodate themselves to any irregularities in the surface of the street.

The machine may be propelled by a traction engine or by draft animals, or it may be provided with a motor, if preferred, but as the means for effecting such propulsion forms no part of this invention, illustration thereof has been deemed unnecessary.

What is claimed is:—

1. In a street sweeping machine, the combination, with a brush and means for rotating the same, of a pair of tiltable pans disposed upon opposite sides of the brush, means for bodily raising or lowering the pans simultaneously, and means carried by each pan for limiting its tilting movement.

2. In a street sweeping machine, the combination, with the frame, of a brush and means for rotating the same, a pair of vertically movable pans disposed upon opposite sides of the brush, a rock-shaft mounted upon the frame above each pan, each rock-shaft having an angle lever at its opposite ends, a link connection between the lower arm of each angle lever and the adjacent side of the corresponding pan, a rod connecting the upper arms of the angle levers at each side of the machine, and a lever pivoted to one of said rods and to the frame for bodily raising or lowering the pans simultaneously.

3. In a street sweeping machine, in combination, a frame, a brush supported therefrom, means for rotating the brush, longitudinally-slotted depending hangers secured to the frame at one side of the brush, a tiltable pan carried by said hangers and provided with pins projecting through the slots therein, means for bodily raising or lowering the pan, and means carried by the pan and movable therewith into contact with the hangers during the upward movement of the pan, for limiting its tilting movement.

4. In a street sweeping machine, in combination, a frame, front and rear pairs of longitudinally-slotted depending hangers secured to the frame, a tiltable pan carried by each pair of hangers and provided with pins projecting through the slots therein, a brush disposed between said pans, means for rotating the brush, and means carried by each pan and movable therewith into contact with the corresponding hangers during the upward movement of the pan, for limiting its tilting movement.

5. In a street sweeping machine, in combination, a frame, front and rear pairs of longitudinally-slotted depending hangers secured to the frame, a tiltable pan carried by each pair of hangers and provided with pins projecting through the slots therein, a brush disposed between said pans, means for rotating the brush, means carried by each pan and movable therewith into contact with the corresponding hangers during the upward movement of the pan, for limiting its tilting movement, and separate means for raising and lowering the brush.

In testimony whereof, I affix my signature, in presence of two witnesses.

LESTER A. CROZIER.

Witnesses:
S. A. FOOTE,
J. H. REDDING.