

935,821.

J. SANTIN.
STREET SWEEPING MACHINE.
APPLICATION FILED AUG. 17, 1908.

Patented Oct. 5, 1909.

3 SHEETS—SHEET 1.

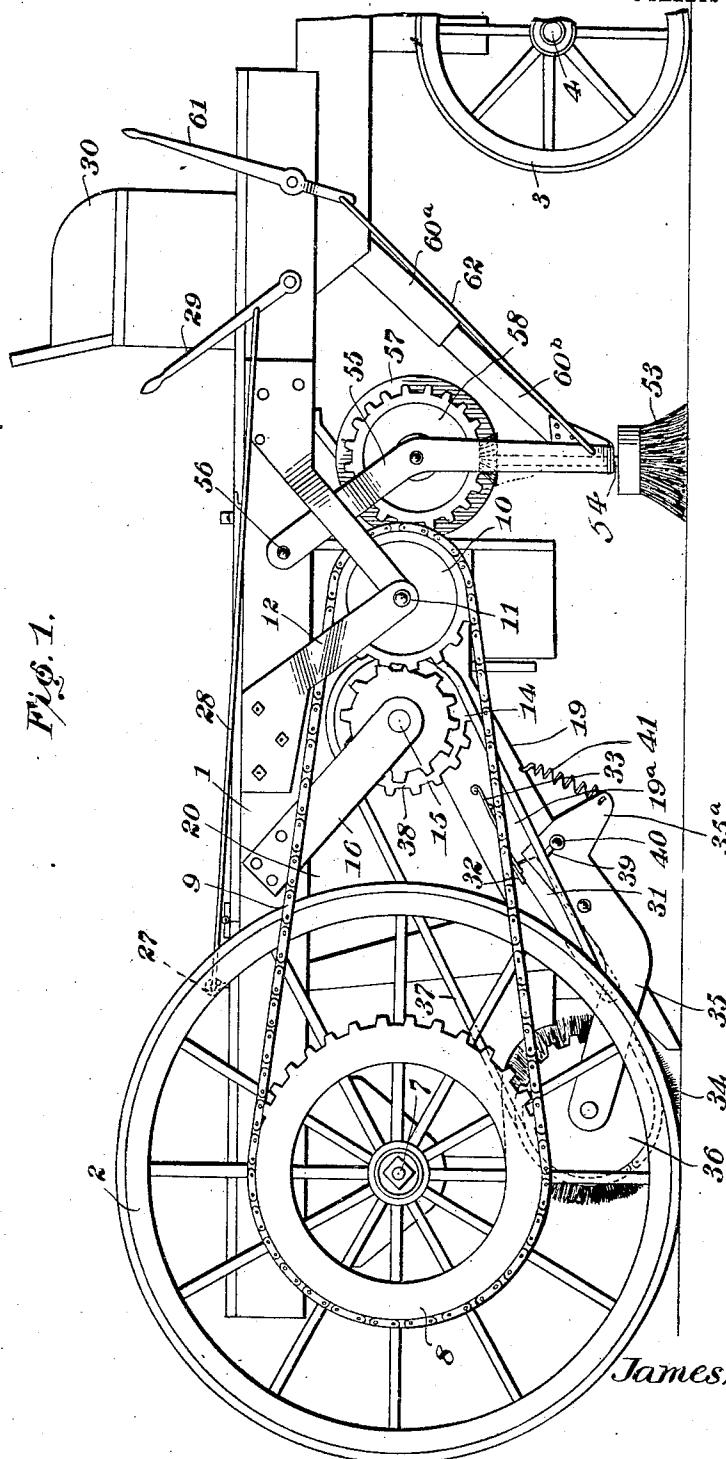


Fig. 1.

Witnesses

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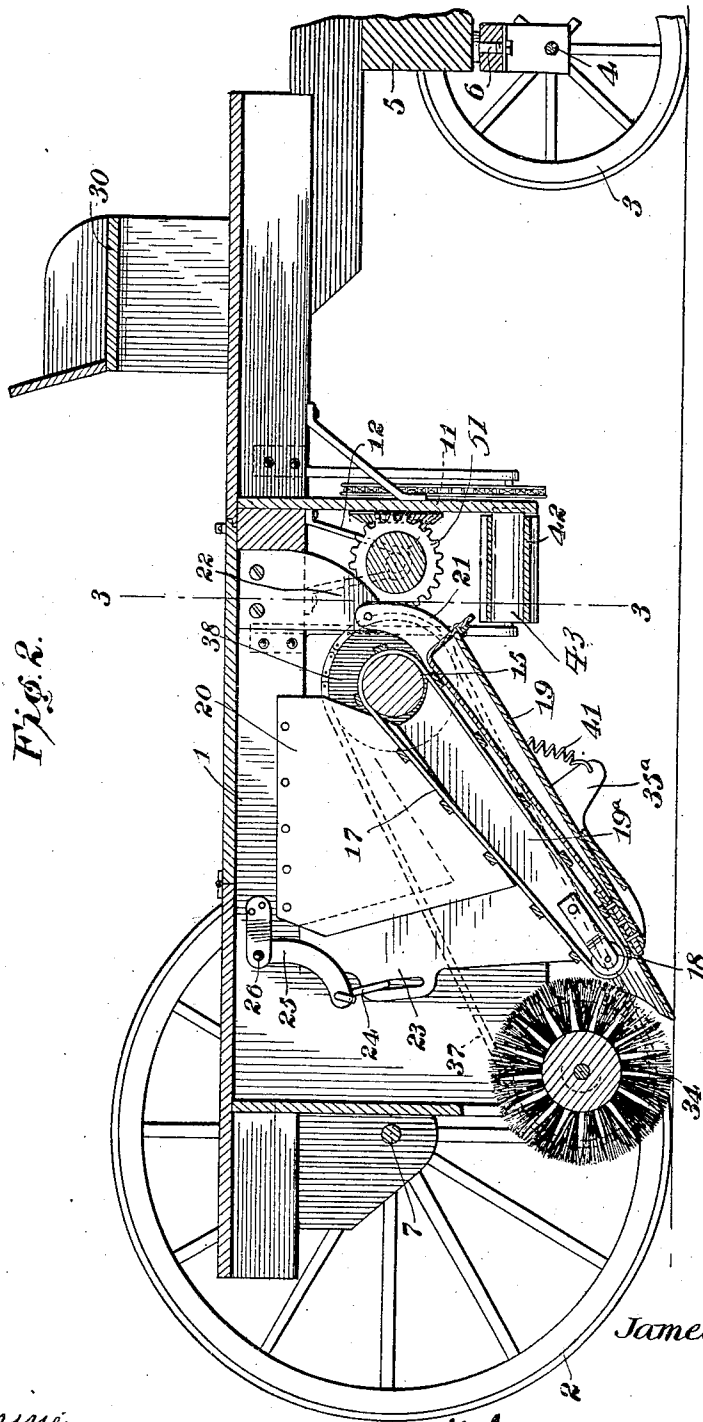


Fig. 2.

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3 SHEETS—SHEET 3.

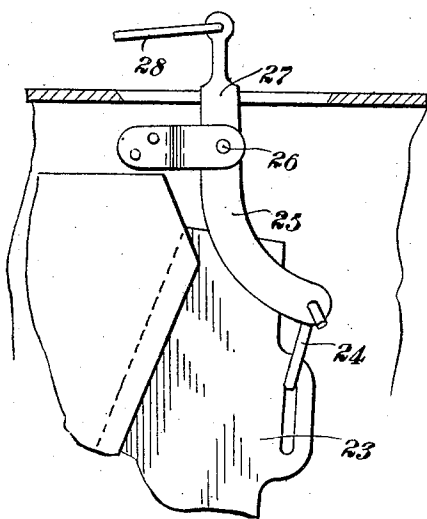
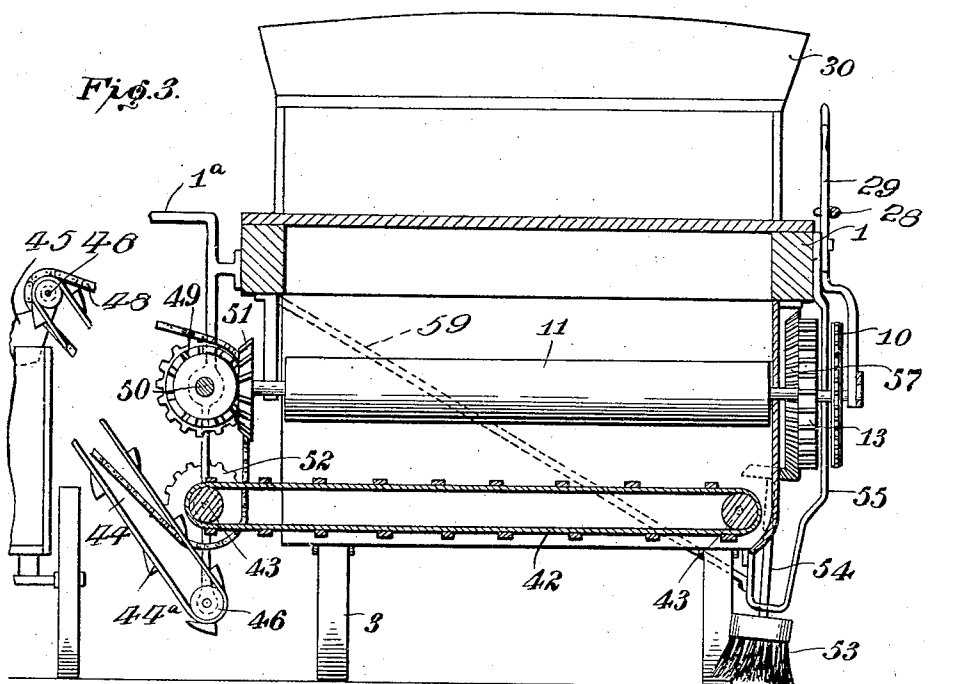


Fig. 4.

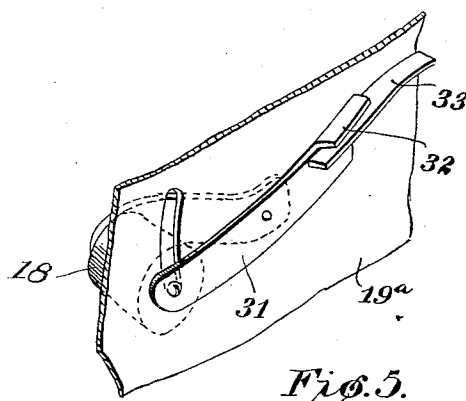


Fig. 5.

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UNITED STATES PATENT OFFICE.

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STREET-SWEEPING MACHINE.

935,821.

Specification of Letters Patent.

Patented Oct. 5, 1909.

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To all whom it may concern:

Be it known that I, JAMES SANTIN, citizen of the United States, residing at El Reno, in the county of Canadian and State of Oklahoma, have invented certain new and useful Improvements in Street-Sweeping Machines, of which the following is a specification.

The present invention relates to certain new and useful improvements in street sweepers and the object of the invention is the provision of a device of this character which will operate in an effective manner to collect the dirt and trash from the street and deliver it to a dumping wagon.

The invention further contemplates a street sweeper in which the main brush may be raised and lowered as desired and in which the elevator receiving the trash from the main brush has a novel construction whereby it will not become clogged should a plank or other unusually large object be encountered by the sweeper.

The invention further resides in the provision of a supplemental brush which can be readily thrown into or out of operative position and which can be utilized for cleaning corners or other inaccessible places which could not be reached by the main brush.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction and the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a side elevation of a street sweeper embodying the invention. Fig. 2 is a longitudinal sectional view through the same. Fig. 3 is a transverse sectional view on the line 3—3 of Fig. 2. Fig. 4 is an enlarged detail view of a portion of the shaft and crank arms employed for raising and lowering the elevator platform. Fig. 5 is an enlarged detail view of one of the levers upon which the rollers engaging the lower end of the elevator belt are mounted.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Specifically describing the present embodiment of the street sweeper, the numeral 1 designates the main frame upon which the sweeping mechanism is mounted, the said frame being supported upon the rear wheels

2 and the front wheels 3, the front wheels being journaled upon the front axle 4 to which the draft may be applied in the usual manner and which is pivotally connected to the bolster 5 by means of a king bolt 6 to admit of the sweeper being guided in its movements in the usual manner. The rear wheels 2 are rigid with the rear axle 7 and secured to one of the rear wheels is a sprocket wheel 8 around which a chain 9 passes, the said chain also passing around a second sprocket wheel 10 upon a transverse shaft 11 which is journaled between brackets 12 projecting from the main frame at the middle portion thereof. One end of this transverse shaft 11 is provided with a pinion 13 which meshes with a second pinion 14 upon a second transverse shaft 15 which is parallel to the shaft 11 and is journaled between brackets 16 immediately in rear thereof. Passing around the second transverse shaft 15 is the upper portion of an elevator belt 17 the lower portion of which passes around the rollers 18. Disposed immediately below the lower reach of the elevator belt 17 is the elevator platform 19 which is provided with the sides 19^a loosely overlapping side plates 20 upon the main frame. The elevator platform is inclined upwardly and forwardly and the forward end of the platform is provided with the extensions 21 which are pivotally connected to ears 22 projecting downwardly from the main frame. Arms 23 project upwardly from the rear end of the elevator platform upon opposite sides thereof and are connected by the links 24 to crank arms 25 upon a transverse shaft 26. This shaft 26 is also provided with a crank arm 27 arranged at angles to the crank arms 25 and connected by means of a rod 28 to a lever 29 which is pivotally mounted upon the forward portion of the main frame 1 adjacent the driver's seat 30. It will thus be obvious that by suitably manipulating the lever 29 the lower end of the elevator platform may be either raised or depressed as desired.

The rollers 18 around which the lower portion of the elevator belt passes are journaled upon levers 31 pivotally mounted upon the sides 19^a of the elevator platform, the said levers being extended beyond their pivot points and formed with the laterally extending wings 32 which are loosely engaged by the spring strips 33. These spring strips

normally tend to force the rollers 18 downwardly to hold the elevator belt in operative position.

The main brush 34 which is located immediately in rear of the lower edge of the elevator platform is journaled between arms 35 which project rearwardly beyond the platform and are pivotally mounted upon the sides 19^a thereof. Each end of the brush is provided with a wheel 36 engaged by an endless belt 37 passing around a wheel 38 upon the transverse shaft 15. It will thus be obvious that as the sweeper is advanced motion will be transmitted from the rear wheels to the transverse shaft 11 and thence to the second transverse shaft 15 which operates both the main elevator and the main brush. The arms 35 between which the main brush 34 is mounted are extended forwardly beyond their pivotal connection to the sides 19^a and are formed with the segmental slots 39 receiving the clamping screws 40 by means of which the arms can be locked against movement and the main brush held rigidly in position. It will also be observed that the arms 35 are formed with the downward extensions 35^a connected by springs 41 to the elevator platform, the said springs normally tending to move the main brush downwardly. When the screws 40 are loosened the main brush is held yieldingly in position by means of the springs 41, while when the screws 40 are tightened the brush is held rigidly in any adjusted position.

The dirt carried up by the elevator is discharged upon a transversely disposed apron 42 passing around the rollers 43, one end of the apron projecting beyond a side of the machine and being designed to deliver the dirt to a second elevator 44 which carries it to a spout 45 through which it is designed to be dropped into a dump wagon or other vehicle traveling at one side of the sweeper. The second elevator belt 44 is formed with the pockets 44^a and passes around the rollers 46 upon a frame 1^a projecting laterally from a side of the main frame. The upper roller 46 engages an endless belt 48 which passes around a wheel 49 upon a countershaft 50 which is connected to the shaft 11 by the beveled gearing 51. This belt or chain 48 is also engaged by a wheel 52 upon one of the rollers 43 of the transverse apron 42. It will thus be seen that both the second elevator belt and the apron are driven from the shaft 11 and serve to receive the refuse from the main elevator and carry it up on one side of the sweeper so that it can be dropped through the spout 45 into a dump wagon or other vehicle traveling alongside of the sweeper.

Located upon the opposite side of the main frame to the second elevator 44 is the auxiliary brush 53 which is mounted to rotate about a vertical axis and may be

quickly moved either into or out of operative position, the said brush being designed to be utilized for cleaning corners or similar places which would be inaccessible for the main brush. As shown on the drawing the auxiliary brush 53 is carried by a vertical shaft 54 journaled in bearings on an arm 55 which is pendent from the main frame and is pivotally connected thereto at 56 so as to swing about a horizontal axis. The upper end of the vertical shaft is geared to a wheel 57 rigid with a pinion 58. When the arm 55 is swung forwardly to move the auxiliary brush into an inoperative position the pinion 58 is moved out of mesh with the pinion 13 upon the shaft 11, while when the arm is moved to throw the said brush into an operative position the pinion is caused to mesh with the said pinion. For the purpose of holding the arm 55 against lateral swinging movement a tie rod 59 may be utilized, one end of the tie rod being connected to the arm while the opposite end is loosely connected to the opposite side of the main frame. It will also be observed that a brace formed of the telescoping sections 60^a and 60^b connects the arm to the forward portion of the frame, the brace being elongated when the arm is swung downwardly to move the brush into operative position and shortened when the brush is moved into inoperative position. A lever 61 is provided for controlling the auxiliary brush and this lever is connected to the arm 55 by the rod 62. It will thus be obvious that when it is desired to clean a corner or other place inaccessible to the main brush it is merely necessary for the driver to manipulate the lever 61 and throw the auxiliary brush into operative position, the pinion 58 being at the same time moved into mesh with the pinion 13 of the transverse shaft 11.

Having thus described the invention, what is claimed as new is:

1. In a street sweeper, the combination of a main frame, an elevator platform upon the main frame, an elevator belt mounted over the platform, wheels around which the elevator belt passes, levers upon which the wheels are mounted, the said levers being pivoted upon the elevator platform and extended beyond their pivot points, springs co-operating with the extended portions of the levers to hold the elevator belt yieldingly in position, and means for collecting the sweepings and delivering them to the elevator belt.

2. In a street sweeper, the combination of a main frame, an elevator platform pivotally mounted upon the main frame, means for swinging the elevator platform upon the main frame, an elevator belt mounted over the platform, wheels around which the elevator belt passes, levers upon which the wheels are mounted, the said levers being

pivoted upon the elevator platform and being extended beyond their pivot points, springs coöperating with the extended portions of the levers to hold the elevator belt yieldingly in position, and means for collecting the sweepings and delivering them to the elevator belt.

3. In a street sweeper, the combination of a main frame, an elevator platform upon the main frame, an elevator belt mounted over the elevator platform, a brush, arms pivotally mounted upon the elevator platform and having the brush journaled between the same, the said arms having a pin and slot connection with the elevator platform which enables the brush to be raised and lowered as desired, and means for driving the elevator belt and brush.

4. In a street sweeper, the combination of a main frame, an elevator platform upon the main frame, an elevator belt mounted over the elevator platform, a brush, arms pivotally mounted upon the elevator platform and having the brush journaled between them, the said arms being extended beyond their

pivot points and having a pin and slot connection with the elevator platform which enables them to be either clamped in an adjusted position or permitted to swing freely, springs coöperating with the extended portions of the arms to hold the brush yieldingly in position when it is mounted to swing freely, and means for driving the brush and elevator belt.

5. In a street sweeper, the combination of a main frame, a swinging arm mounted upon the main frame, a vertical shaft journaled upon the swinging arm, a brush applied to the vertical shaft, gearing for turning the vertical shaft, and means for moving the swinging arm to throw the brush into and out of operative position, the gearing being moved out of mesh when the brush is moved to an inoperative position.

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

JAMES SANTIN. [L. s.]

Witnesses:

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