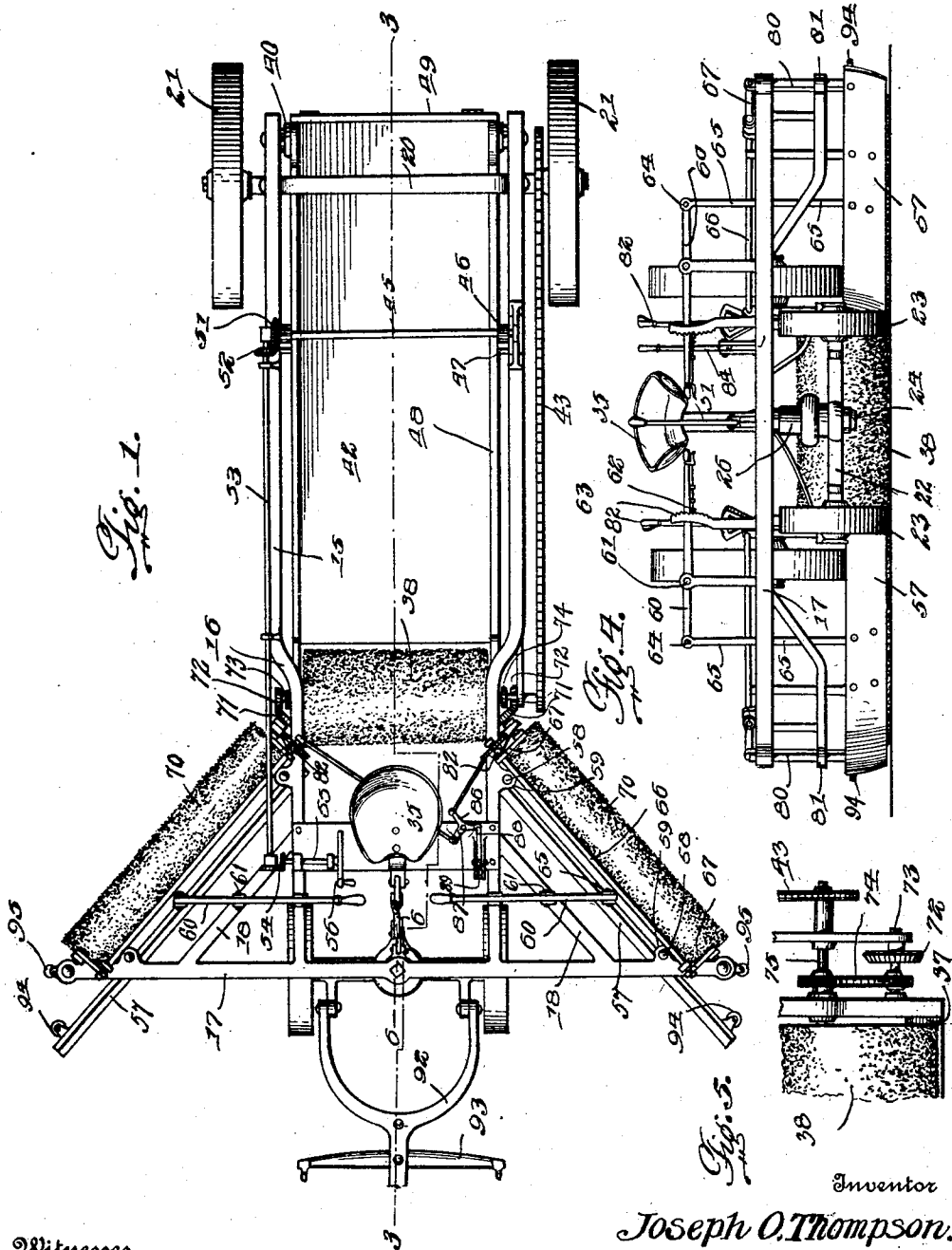


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 STREET CLEANING MACHINE.  
 APPLICATION FILED JULY 7, 1914.

1,189,016.

Patented June 27, 1916.

2 SHEETS—SHEET 1.



Witnesses  
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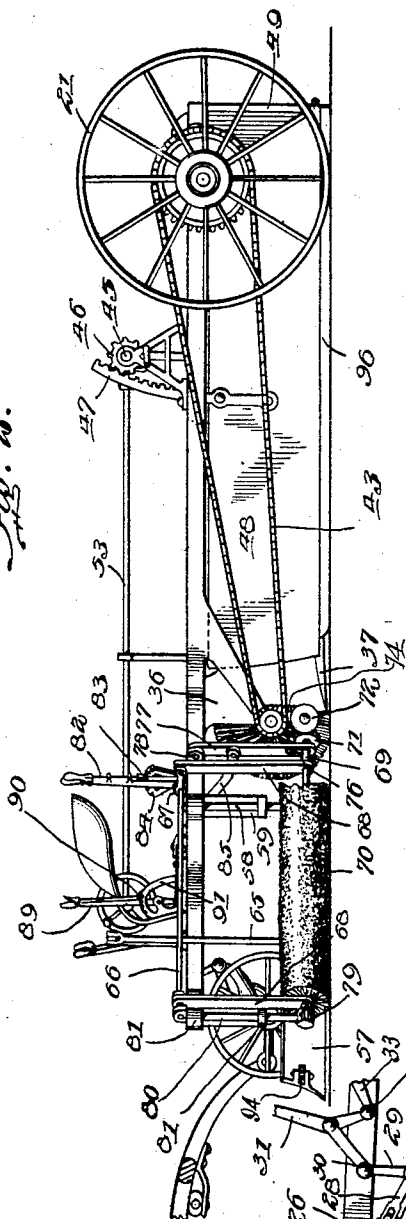
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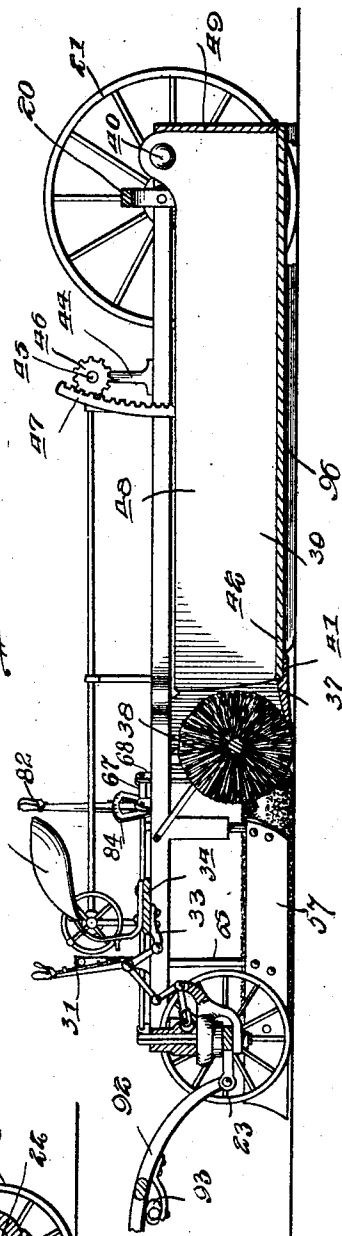
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2 SHEETS—SHEET 2.

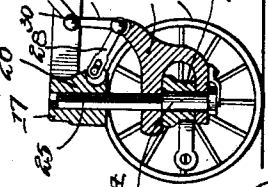
*Fig. 2.*



*Fig. 3.*



*Fig. 6.*



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# UNITED STATES PATENT OFFICE.

JOSEPH O. THOMPSON, OF GUILFORD, MISSOURI.

STREET-CLEANING MACHINE.

1,189,016.

Specification of Letters Patent. Patented June 27, 1916.

Application filed July 7, 1914. Serial No. 849,621.

*To all whom it may concern:*

Be it known that I, JOSEPH O. THOMPSON, a citizen of the United States, residing at Guilford, in the county of Nodaway and State of Missouri, have invented new and useful Improvements in Street-Cleaning Machines, of which the following is a specification.

This invention relates to street sweeping machines, and it has for its object to simplify and improve the construction and operation of this class of devices.

A further object of the invention is to produce a street cleaning machine embodying in its construction a receptacle, a rotary brush at the mouth of said receptacle, divergent scrapers to gather the dirt and to move it in the direction of the rotary brush, auxiliary brushes in rear of the divergent scrapers, and simple and improved means for effecting proper and necessary adjustment of the scrapers and the auxiliary brushes.

A further object of the invention is to produce a machine of the class described embodying a simple and improved frame structure mounted on wheels, scrapers and rotary brushes carried by said frame structure, and a tiltable receptacle.

With these and other ends in view which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts which will be hereinafter fully described and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations and modifications within the scope of the claims may be resorted to when desired.

In the drawings,—Figure 1 is a top plan view of a machine constructed in accordance with the invention. Fig. 2 is a side elevation of the same with parts broken away. Fig. 3 is a longitudinal sectional view taken on the line 3—3 in Fig. 1. Fig. 4 is a front elevation. Fig. 5 is a detail view in elevation of a portion of the mechanism for transmitting motion from the main to the auxiliary rotary brushes. Fig. 6 is a sectional detail view taken on the line 6—6 in Fig. 1.

Corresponding parts in the several figures are denoted by like characters of reference.

The frame of the machine includes side members 15 which are provided intermediate the ends thereof with offsets 16, converging forwardly, as shown. The forward ends of the side members 15 support a cross bar 17, the ends of which extend materially beyond the forward ends of the side members, said cross bar being connected with the side members by diagonal braces 18, 18. The rearward end of the frame is supported by an arched axle 20 having wheels 21; the forward end of the frame is supported on a truck embodying the front axle 22 having wheels 23 and an upwardly extending king bolt 24 having a portion 25 of non-circular cross section which extends slidably through a housing 26 associated with the cross bar 17. Connected with the king bolt 24 is a bifurcated casting 27 on which is fulcrumed a bell crank, one arm of which, 28, is slidably connected with the casting or housing 26, the other arm, 29, being connected by a link 30 with a hand lever 31 fulcrumed at 32 on a bracket 33 secured on the seat supporting cross bar 34 of the frame, said hand lever 31 extending upwardly so as to be within convenient reach of the driver or operator whose seat 35 is mounted on the cross bar 34. It will be seen that by manipulating the hand lever 31 the forward end of the frame may be tilted upwardly by the operator without leaving his seat.

The side members of the frame are provided with downwardly extending brackets 36 supporting a beveled blade 37 and also supporting a rotary brush 38 which operates in conjunction with the blade 37 to sweep the dirt over said blade and into the box or receptacle 39, which latter is mounted at the rear end thereof on pivots 40 engaging the side members of the frame. The blade 37 has an offset 41 to receive and support the forward end of the bottom board 42 of the receptacle. The brush 38 receives motion from one of the hind wheels 21 by means of a chain 43.

Posts 44 rising from the frame support a shaft 45 having pinions 46 meshing with arcuate racks 47 that rise from the side members 48 of the box or receptacle 39 so that, by rotating the shaft 45, the forward end of the receptacle may be tilted in an upward direction for the purpose of unloading the contents, a suitable tail gate 49 being

provided to permit the contents to escape. For the purpose of actuating the shaft 45, said shaft is provided at one end thereof with a bevel gear 51, best seen in Fig. 1, the same meshing with a bevel pinion 52 on a longitudinal shaft 53 supported on one of the side members of the frame and connected at its forward end by bevel gearing 54 with a counter shaft 55 having a crank wheel 56 within convenient reach of the operator who will thus be enabled to tilt the receptacle at will.

The forward end of the frame is provided with divergent scraper members 57 which are provided with upwardly extending arms 58 that are guided in suitable bearings 59 to permit said scraper members to be raised and lowered. Said raising and lowering is effected by means of levers 60 fulcrumed at 61 and having arms that extend within convenient reach of the operator, said arms being provided with stop members 62 engaging segment racks 63 for the purpose of retaining the parts at various adjustments. The opposite arms of the levers are pivotally connected, as at 64, with connecting rods 65 that extend upwardly from the scraper blades 57 midway between the ends thereof so that by manipulating the levers, said scraper blades may be adjusted vertically and retained securely at various adjustments. These scraper blades converge rearwardly in the direction of the rotary brush 38 conveying the dirt to said brush by the action of which it will be moved rearwardly into the receptacle 39.

Supported for oscillation above and in rear of each scraper is a rock shaft 66 having rearwardly extending arms 67 carrying depending links 68 at the ends thereof, said links affording bearings for the shafts 69 of the auxiliary brushes 70. Each of the brush shafts 69 carries at its inner end a bevel gear 71 meshing with a bevel gear 72 on a stub shaft 73 which receives motion by means of a chain 74 from the shaft or axle 75 of the brush 38 which is driven, as previously described, from one of the hind wheels of the machine. The inner end of the shaft 69 of each brush 70 is guided through a slot 76 in a link 77 depending from and connected pivotally with the frame at 78. The other, outer, end of each brush shaft 69 is journaled in a bearing 79 at the lower end of a rod 80 which is guided through bearings 81 for free vertical movement. It will readily appear that by rocking the shafts 66, each of which is provided for the purpose with a lever 82, the brushes may be raised or lowered with respect to the surface of the ground, one end of each brush shaft being movable in a slot 76, while the other end of each brush shaft is associated with a vertically movable member 80. Each lever 82 is provided with a stop member 83

engaging a segment rack 84 whereby the parts may be retained at various adjustments.

For the purpose of throwing the brushes 70 into and out of gear, each link 77 is connected by a rod 85 with an arm of a lever 86 fulcrumed at 87, as best seen in Fig. 1, said lever being of the Y-type and having three arms, one of which is connected by a rod 88 with a hand lever 89 having a stop member 90 engaging a rack segment 91, as best seen in Fig. 2, and whereby the parts will be retained at various adjustments. It will be seen that by manipulating the lever 89 a slight rocking movement in an approximately horizontal plane will be imparted to the brush carrying shafts 69 which will be sufficient to place the bevel pinions 71 out of or into mesh with the bevel pinions 72 from which they receive motion, thus interrupting or restoring the operation of the brushes 70.

The front truck of the machine is provided with a yoke 92 carrying an equalizer 93 for the attachment of draft.

The cross bar 17 of the machine is equipped at its outer ends with horizontally disposed anti-friction wheels 95 which, when the machine is operated along the line of the curb, will prevent injurious contact therewith. It is preferred to arrange similar anti-friction wheels 94 at the outer ends of the supports of the scraper members 57.

The box or receptacle 39 may be provided at the sides thereof with ground engaging runners 96, as seen in Figs. 2 and 3, said runners serving to relieve the blade 37 of the weight of the receptacle when the latter is in dirt receiving position. These runners have been found extremely advantageous in preventing excessive strain on the blade and the supporting means of said blade.

It will be observed that the scraper blade 37 is extended beneath the forward portion of the tiltable receptacle so as to support the latter when the machine is in operation in the event that the runners 96 should enter ruts or depressions in the roadway.

As will be seen from the foregoing description, taken in connection with the drawings hereto annexed, I have provided a street cleaning device of very simple and efficient construction which, owing to the presence of the divergent scrapers and auxiliary brushes, will be enabled to operate on a wide stretch of road. In dry weather it may be desirable to lift the scrapers to an inoperative position. In muddy weather, it may be found desirable to raise the auxiliary brushes to an inoperative position and to depend entirely on the scrapers for moving the dirt into the path of the main brush 38. Under still other circumstances it may be found desirable to use the divergent scrapers and the auxiliary brushes conjointly. At

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intervals during the operation of the machine, the receptacle may be tilted for the purpose of moving its contents rearwardly therein. When the machine is being transported from place to place, the entire forward end may be lifted so as to raise the main and auxiliary brushes as well as the scrapers from engagement with the ground without necessity for operating the individual levers provided for the purpose, this operation being effected by means of the lever 31. After conveying the loaded machine to a place of deposit, the receptacle may be tilted by manipulation of the crank wheel 56 so as to discharge the contents, the tail gate 49 being meanwhile removed or swung to an out-of-the-way position according to the manner in which it is connected with the box.

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

1. In a machine of the class described, a wheel supported frame, a tiltable receptacle pivotally connected with the frame at the rear end thereof, a transversely arranged beveled blade having an offset extending beneath the forward end of the receptacle to support the same, a rotary brush carried by the frame and engaging the blade, and means for transmitting motion to the brush from one of the supporting wheels.

2. In a machine of the class described, a wheel supported frame, dirt gathering

means including a beveled blade and a rotary brush supported by said frame in ground engaging position, said blade having an offset, and said brush receiving motion from one of the supporting wheels, a tiltable receptacle connected pivotally with the frame at the rear end thereof, said receptacle having its forward end supported on the offset of the blade which extends beneath the forward portion of the receptacle, and means for lifting the forward part of the receptacle upwardly with respect to the offset blade of the dirt gathering means.

3. In a machine of the class described, a wheel supported frame, dirt gathering means including a beveled blade and a rotary brush supported by said frame in ground engaging position, said brush receiving motion from one of the supporting wheels, a tiltable receptacle connected pivotally with the frame at the rear end thereof, said receptacle having its forward end supported on the blade which extends beneath the receptacle, and ground engaging runners associated with the receptacle and combining with the blade to support the weight of said receptacle when in dirt receiving position.

In testimony whereof I affix my signature in presence of a witness.

JOSEPH O. THOMPSON.

Witness:

BENNETT S. JONES.