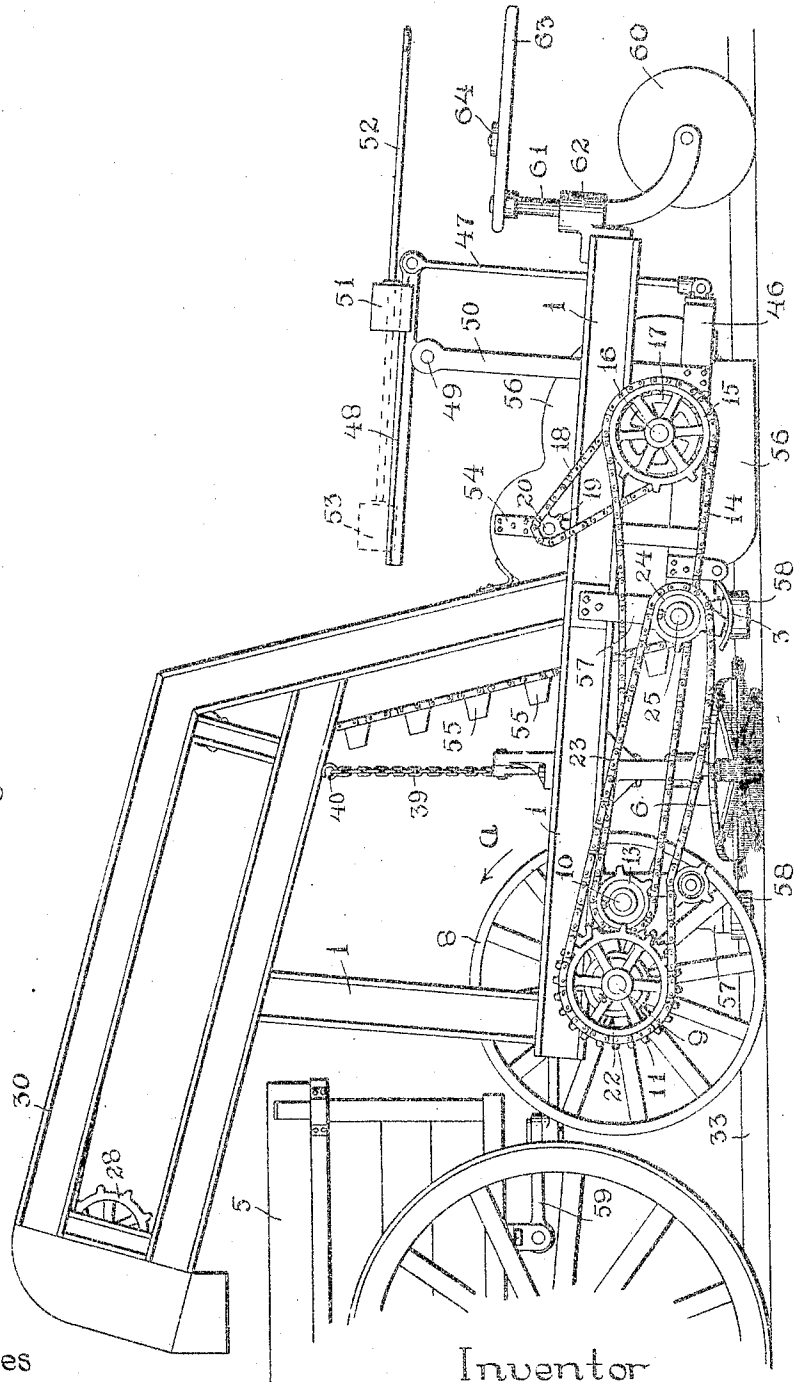


1,036.804.

Patented Aug. 27, 1912.

3 SHEETS—SHEET 1.

Fig. 1.



Witnesses  
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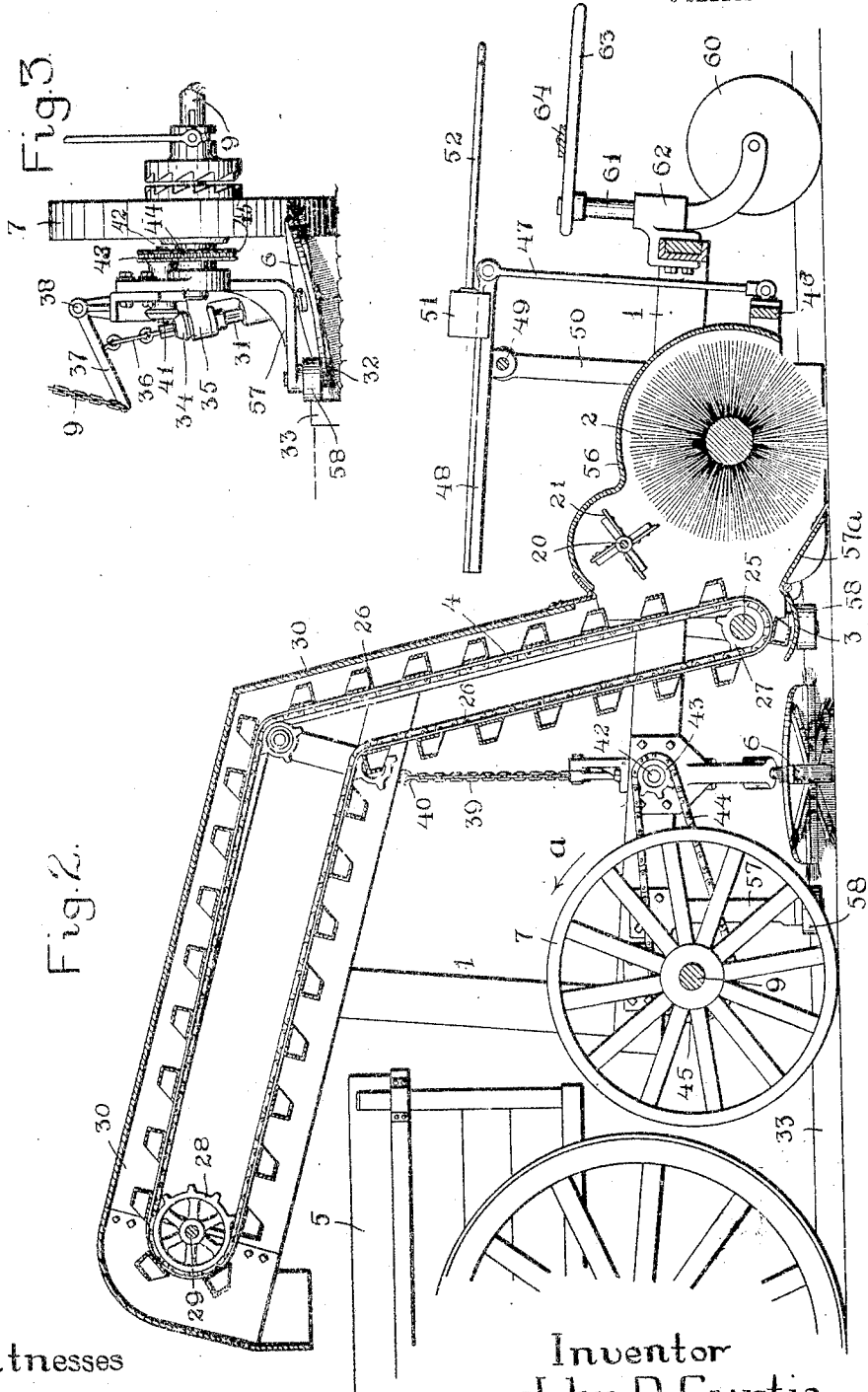
J. D. CURTIS.  
STREET SWEEPER.

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3 SHEETS—SHEET 2.

1,036,804.



Witnesses

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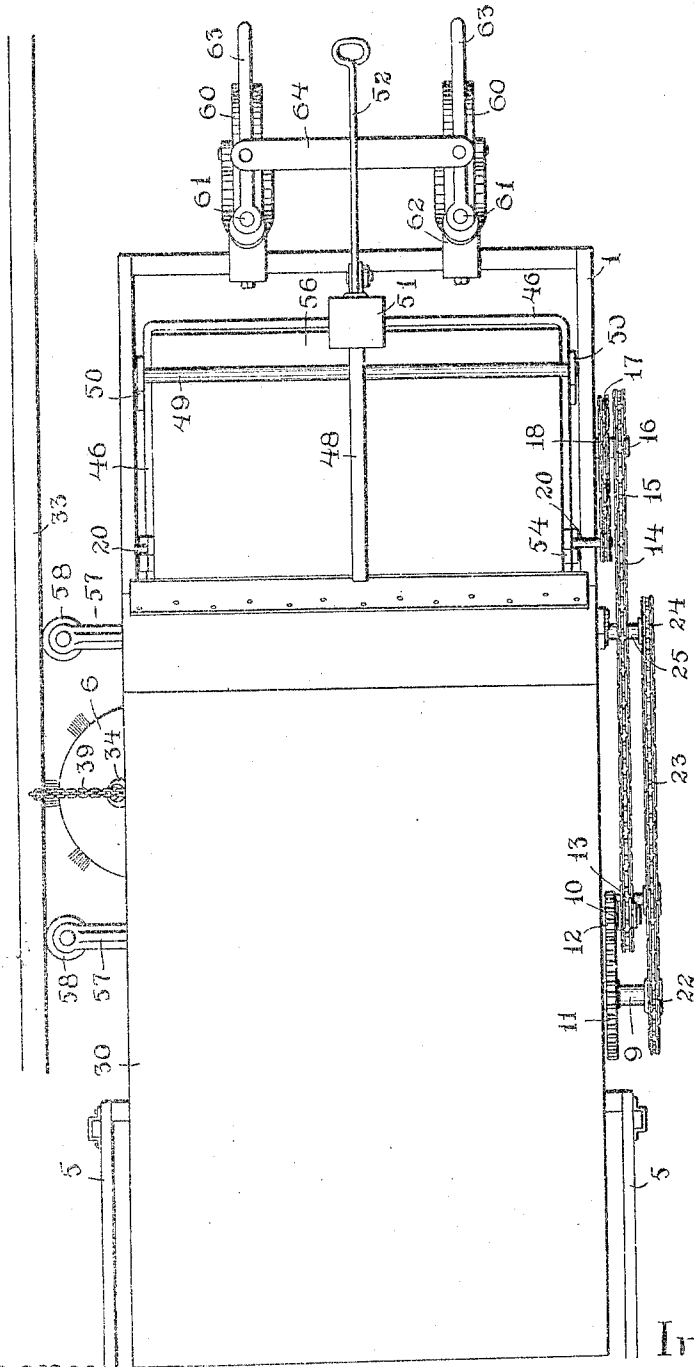
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Patented Aug. 27, 1912.

3 SHEETS—SHEET 3.

1.036,804.

Fig. 4.



Witnesses

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# UNITED STATES PATENT OFFICE.

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STREET-SWEEPER.

1,036,804.

Specification of Letters Patent.

Patented Aug. 27, 1912.

Application filed April 19, 1906. Serial No. 312,713.

*To all whom it may concern:*

Be it known that I, JOHN D. CURTIS, a citizen of the United States, residing at Worcester, in the county of Worcester and Commonwealth of Massachusetts, have invented a new and useful Improvement in Street-Sweepers, of which the following is a specification, accompanied by drawings forming a part of the same, in which—

Figure 1 represents a side elevation of a street sweeper embodying my invention. Fig. 2 is a central longitudinal sectional view. Fig. 3 is a detail view of a portion of the mechanism for driving an auxiliary inclined brush for sweeping the street gutter, and Fig. 4 is a top view.

Similar reference letters and figures refer to similar parts in the different views.

My present invention relates to certain improvements in the details of construction and operation of a street sweeping machine by which the efficiency of the apparatus is increased and it consists in the construction and arrangement of parts as hereinafter described and pointed out in the annexed claims.

Referring to the accompanying drawings 1 is a framework supported upon wheels 7 and 8 drawn by a vehicle 5. Carried by the framework 1 is a cylindrical revolving brush 2, by which loose material from the street surface is swept into a pan 3. An elevator 4 is arranged to remove the sweepings from the pan 3 and transfer them to the vehicle 5. The framework 1 also supports the necessary connecting mechanism for operating the brush 2 and elevator 4 from the supporting wheels 7 and 8. A driving shaft 9 is provided, connected with the wheels 7 and 8 by a ratchet clutch connection, as is usual in machines of this class.

The framework 1 is connected to and drawn by the vehicle 5, and the clutch and ratchet connection between the wheels 7 and 8 and shaft 9 causes the shaft to be rotated whenever the machine is drawn forward, causing the wheels 7 and 8 to turn in the direction of the arrows *a, a*, by allowing the wheels to turn loosely on the shaft 9 when the movement of the machine is reversed.

Journaled in the framework of the machine and at the rear of the shaft 9 is a shaft 10 driven from the shaft 9 by means of gears 11 and 12, as shown in Fig. 4. The

shaft 10 carries a sprocket wheel 13 connected by a chain 14 with the sprocket 15 carried upon a shaft 16 which supports the cylindrical revolving brush 2. A second sprocket wheel 17 on the shaft 16 is connected by a chain 18 with a sprocket 19 on a shaft 20 which carries a revolving fan 21 located above and in front of the revolving brush 2. Upon the shaft 9 is mounted a sprocket 22 connected by a chain 23 with a sprocket 24 carried upon a shaft 25, by means of which the elevator 4 is operated, said elevator consisting of endless chains 26 passing around sprocket wheels 27 attached to the shaft 25, and elevated sprocket wheels 28 carried upon a shaft 29 journaled in the casing 30 of the elevator.

In front of the cylindrical brush 2 is a gutter sweeping brush 6 carried upon a shaft 31, preferably slightly inclined from a vertical plane, by which the brush 6 is slightly tipped in order to depress its outer edge 32, running next the curbstone 33. The shaft 31 is suitably journaled in a supporting framework and is driven by a bevel gear 34, held from longitudinal movement by its inclosing box 35 and having a spline connection with the shaft 31, thereby allowing the shaft 31 and brush 6 to be raised or lowered as desired. The vertical adjustment of the brush 6 is accomplished by connecting the upper end of the shaft 31 by means of a chain 36 with a lever 37, pivoted at 38 to the framework and having its free end connected by a chain 39 with an eye bolt 40 attached to the elevator case 30. The bevel gear 34 is driven by a bevel gear 41 carried upon one end of a short shaft 42 journaled in the framework, and having at its opposite end a sprocket 43 connected by a chain 44 with a sprocket 45 carried upon the driving shaft 9.

The shaft 16 which carries the cylindrical revolving brush 2 is supported upon a supplemental frame 46 which is pivoted centrally with the lower elevator shaft 25, and the free end of the framework 46 is connected by a link 47 with a lever 48 pivoted at 49 upon posts 50 rigidly supported by the framework 1. Sliding upon the lever 48 is a weight 51 capable of being moved along the lever 48 by means of a handle 52 so that it will serve, when in the position shown in Fig. 1, to exert a downward pressure upon the swinging frame 46, or, when

moved into the position indicated by the broken lines 53 it will act as a counterbalance to the swinging frame 46. The weight 51 is sufficient when carried into the position shown at 53, to act as a counterbalance to the frame 46 and the load supported thereon, so it will raised the brush 2 from the street.

The shaft 20 upon which the fan 21 is supported is journaled in the frame 54 carried by the swinging frame 46, so that the distance between the sprocket wheels 17 and 19 is constantly maintained. The curved receiving pan 3 is likewise carried by the swinging frame 46, and as the pan 3 is curved concentrically with the shaft 25 its swinging movement due to the raising and lowering of the frame 46 will correspond to the arc described by the bottoms of the elevator buckets 55, so that they will have a scraping action over the surface of the receiving pans 3 without regard to the position of the swinging frame 46.

The cylindrical revolving brush 2 and fan 21 are inclosed by a sheet metal shell or case 56 between the sides of which is an inclined apron 57, over which the street sweepings are propelled by the revolving brush 2 and lodged in the curved receiving pan 3. The fan 21 is rapidly revolved out of contact with the revolving brush and the receiving pan, but is so arranged that the current of air generated thereby will clear the periphery of the brush 2 and direct the dust downward toward the receiving pan.

Depending from the frame 1 upon the side carrying the brush 6 are curved arms 57, at the lower ends of which are supported the idler rolls 58 arranged to contact with the curb-stone 33, as shown in Fig. 3. The framework 1 is connected by a swiveled connection with a link 59 pivotally attached to a depending lug on the vehicle 5, as shown in Fig. 1, thereby allowing movement of the framework either vertically or horizontally with reference to the vehicle 5 and the rear end of the framework is capable of being directed toward or away from the curbstone upon either side by means of a pair of casters 60, mounted in stems 61 journaled in bearings 62 attached to the framework

of the machine. The upper ends of the stems 61 are provided with tiller handles 63 which are united by a link 64 having a pivotal connection with each of the tiller handles, thereby allowing the caster wheels to be simultaneously turned in either direction to cause the rear end of the apparatus to move laterally to one side or the other as it is drawn forward.

I claim:

1. In a street sweeper, the combination with a horizontal shaft, of a dust pan curved concentrically with said shaft, elevator buckets arranged to move concentrically about said shaft in contact with said pan, thereby removing dirt from said pan, of a swinging frame supporting said pan pivoted concentrically with said shaft, and a rotating brush journaled in said frame, arranged to deliver dirt to said pan.

2. A street sweeper having a pivoted frame carrying a rotating brush and capable of adjustment about its pivot, and means for adjusting said frame, comprising a weight connected with the free end of said pivoted frame and adjustable to counterbalance the weight of and thereby lift said frame or to exert a downward pressure thereupon.

3. A street sweeper having a pivoted frame carrying a rotating brush and capable of adjustment about its pivot, a pivoted lever having the end upon one side of its pivot connected with the free end of said frame, and a counterbalance connected with said lever and adjustable upon either side of its pivot.

4. In a street sweeper, the combination with a pivoted frame and a revolving brush journaled in said pivoted frame, of a lever pivoted midway its length and operatively connected at one end with said pivoted frame, and a weight supported by said lever and capable of adjustment on opposite sides of the pivot of said lever, whereby said weight is caused to act with or against the weight of said pivoted frame.

Dated this seventh day of April 1906.

JOHN D. CURTIS.

Witnesses:

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