

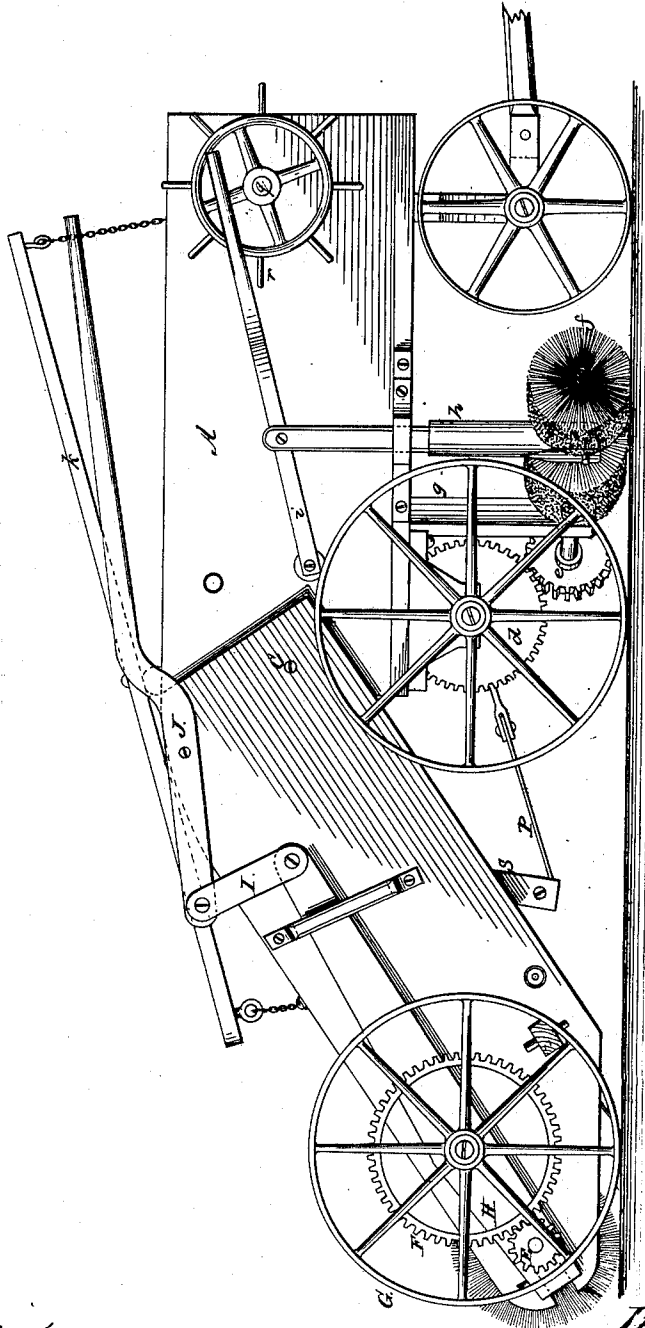
3 Sheets—Sheet 1.

A. S. MARTIN.
STREET-SWEEPING MACHINE.

No. 172,138.

Patented Jan. 11, 1876.

Fig. 1.



Witnesses:

Jas. D. Higgins
Charles E. Garrett

Inventor:

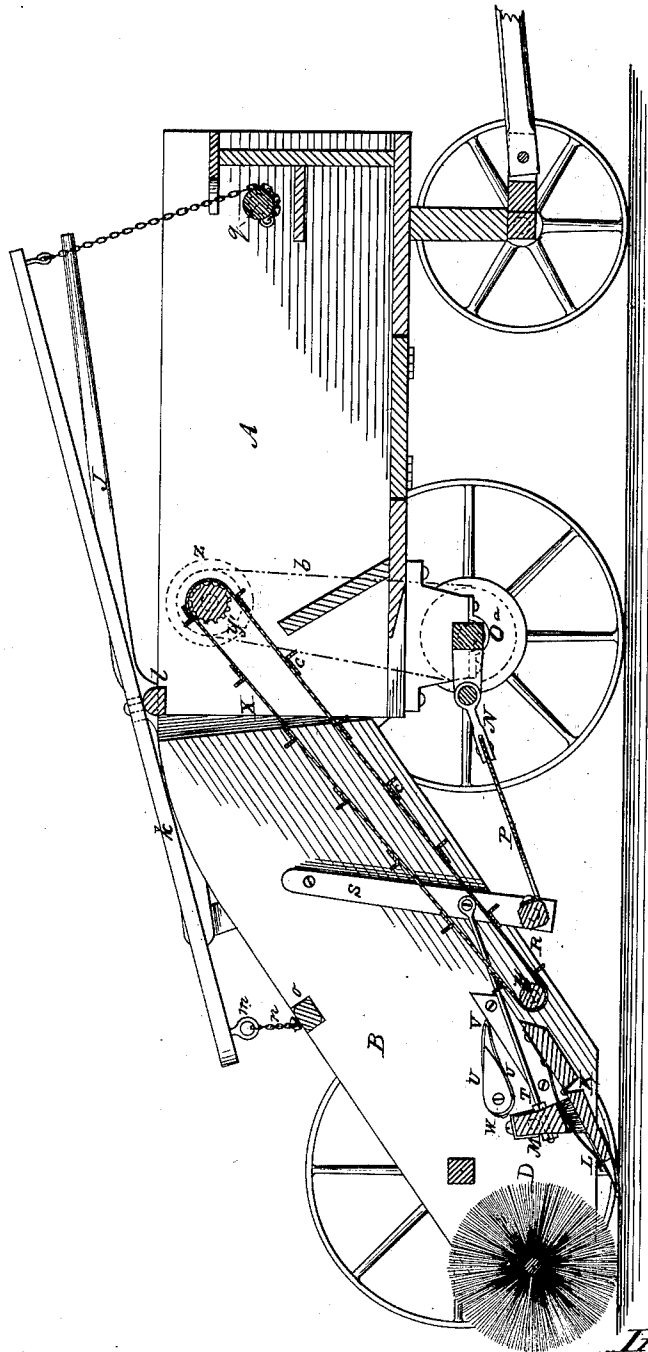
Anthony S. Martin

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Fig. 2.



Witnesses:

John Higgins
Charles E. Gault

Inventor:

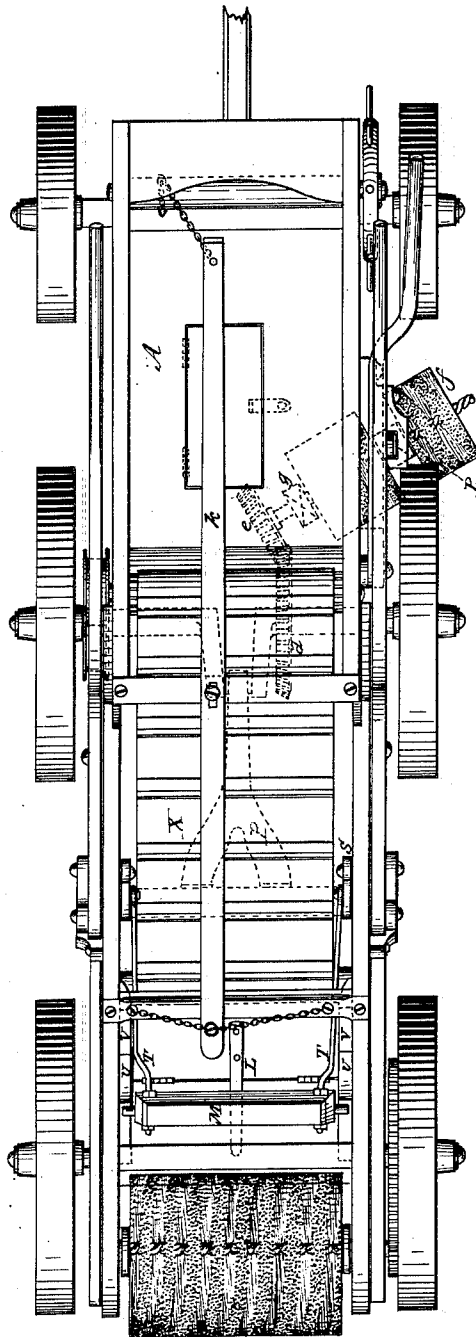
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Fig. 3.



Witnesses:

John S. Higgins
Charles E. Garrett

Inventor:

Anthony S. Martin

UNITED STATES PATENT OFFICE

ANTHONY S. MARTIN, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR
OF TWO-THIRDS HIS RIGHT TO JOSEPH WILLIAMS AND ANNIE S. BREWER,
OF SAME PLACE.

IMPROVEMENT IN STREET-SWEEPING MACHINES.

Specification forming part of Letters Patent No. 172,138, dated January 11, 1876; application filed
December 9, 1875.

To all whom it may concern:

Be it known that I, ANTHONY S. MARTIN, of Washington city, District of Columbia, have invented a new and useful Improvement in Street-Sweeping Machines, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view. Fig. 2 is a vertical section. Fig. 3 is a plan view.

The subject of my invention is to provide a street-sweeping machine that will effectually sweep up and remove in one operation all dirt, bricks, brickbats, stones, pebbles, &c., from the roadway and gutters; and it consists in a rotary revolving brush located at the rear of the machine, which may be operated by any suitable gearing. It also consists in a reciprocating scraper to scrape the dirt collected by the rear brush onto an endless belt provided with buckets, which convey said dirt and deposit it in a receptacle in the front part of the machine. It consists, further, in a revolving brush set at an angle to the line of deviation, said brush being made adjustable and to sweep the dirt from the gutters or sides of the street toward the center, from whence it is swept up by the rear brush. It consists, further, in certain devices for raising the main brush and the side gutter-brush from contact with the ground, and for raising the entire sweeping-carriage from the ground when it is necessary in making short turns.

In the drawing, A denotes the body of the wagon for receiving the dirt, and is mounted on suitable wheels. The rear axle of said wagon is rigidly attached to the wheels, which revolve in suitable bearings, and is bent at its center to form a double crank for driving the reciprocating scraper, and on which is secured a drum for driving the endless belt and a beveled cog-wheel for driving the gutter-brush, all of which will be more fully described hereafter. B designates the section of the machine provided with traction-wheels at its rear end, in which the main brush, endless belt, and reciprocating scraper are located, and it is pivoted at C to the wagon proper. D is the main brush, and is provided with a cog or pinion wheel, E,

on the end of its axis, which meshes into and receives motion from the cog-wheel F on the traction-wheel G. The brush D is seated in bearings at each end in the ends of the lever-bars H H, said bars being connected, by other short bars, I I, to levers J J, which are pivoted near their rear ends to the sides of the machine, their fore ends extending to the front of the main wagon within reach of the operator, and by which devices the brush is raised from contact with the ground. The brush D sweeps the dirt forward in its rotary motion onto a hinged apron, K, said apron being held down on the surface of the road by a strap or other spring, L. The dirt thus swept is removed from the apron K by means of a reciprocating brush or scraper, M, which receives its motion from the double crank N, formed by the bending of the rear axle O of the dirt-receiving wagon, and which is imparted by means of a shaft, P, one end of which is attached to the double crank N and the other end to the cross-bar R, said cross-bar being seated at each end in vertical pivoted bars S S, secured or pivoted at their upper ends to the inside of the sweeping-cart B. Near the lower ends of the vertical bars S S are attached rods T T, which project rearward, and are attached near each end to the scraper or brush bar M. The scraper-bar M, in its backward and forward motion, has imparted to it a rising-and-falling motion by traveling in grooves or ways U U, formed on the inside of the sweeping-cart. The ends of the brush or scraper bar M may or may not be provided with friction-wheels. The scraper-bar, in its forward motion, is drawn past the switch-springs V V, which close the way after the bar has passed through, and guide the same in its rearward passage in an upward direction until it has passed the cam-shaped projections or grooves W W, when it drops of its own weight onto the apron K, and from which it removes any accumulation of dirt. X is an endless belt working on friction-rollers Y Y', the upper one of which, Y', is corrugated to more effectually impart a uniform motion to the endless belt. To the end of roller Y' is secured a drum, Z. A similar drum, a, is secured to the rear axle of the dirt-receiving

wagon, and over these two drums is placed a driving belt or chain, *b*, which imparts motion to the endless belt *X*. Rag-wheels and chains may be substituted for the drums *Z* and *a* and belt *b*. The belt *X* is provided with buckets or scoops *c*, which receive the dirt from the reciprocating scraper, and, carrying it up, deposit it in the wagon *A*. To the rear axle of the dirt-receiving wagon is secured a beveled cog-wheel, *d*, which meshes into a similar wheel, *e*, on the axis of the gutter-brush *f*, said brush being supported in bearings in the vertical posts *g* and *h*. The post *h* is secured to the pivoted lever-bar *i*, and is raised or lowered by the same. *k* is a long lever, pivoted to a cross-bar, *l*, on the wagon proper, and is connected at its rear end, by an eye, *m*, and chain *n*, or other equivalent device, to the cross-bar *o* on the brush-carriage. To the forward end of said lever is secured a chain, *p*, which is capable of being wound on the windlass *q* by means of the pilot-wheel *r*, screw, or any equivalent device. The object of the lever *k* is to raise the sweeping-cart free from the ground, to facilitate or admit of the machine being readily turned in narrow streets. The bottom of the wagon is provided with a hinged door, through which the dirt is emptied.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The reciprocating brush or scraper *M*, in

combination with the main rotary brush *D*, apron *K* and endless carrying-belt *X*, and wagon *A*, substantially as shown and described, and for the purpose set forth.

2. The double crank *N*, formed in the axle *O*, connecting-bar *P*, pivoted vertical bars *S*, connecting-bars *T*, reciprocating or scraper bars *M*, in combination with the switch-springs *V* *V* and grooves and ways *U* *U*, whereby the scraper or brush *M* is moved forward in nearly a straight line, while in its rearward passage it is raised and carried over the dirt swept upon the apron, substantially as set forth, and for the purpose specified.

3. The combination of the axle *O*, beveled cog-wheels *d* and *e*, rigid post *g*, sliding post *h*, lever-bar *i*, with the rotary gutter-brush *f*, whereby said brush is rotated and adjusted, substantially as described.

4. The combination of the pivoted lever *k*, windlass *q*, wheel *r*, with the sweeping-cart *B*, whereby said cart is raised from the ground, and the operation of turning the machine facilitated, substantially as described.

5. The combination of the pivoted levers *J* *J*, short bars *I* *I*, bars *H* *H*, with the main brush *D*, substantially as described, and for the purpose set forth.

ANTHONY S. MARTIN.

Witnesses:

JAS. F. HIGGINS,

CHARLES E. GARRETT.