

(No Model.)

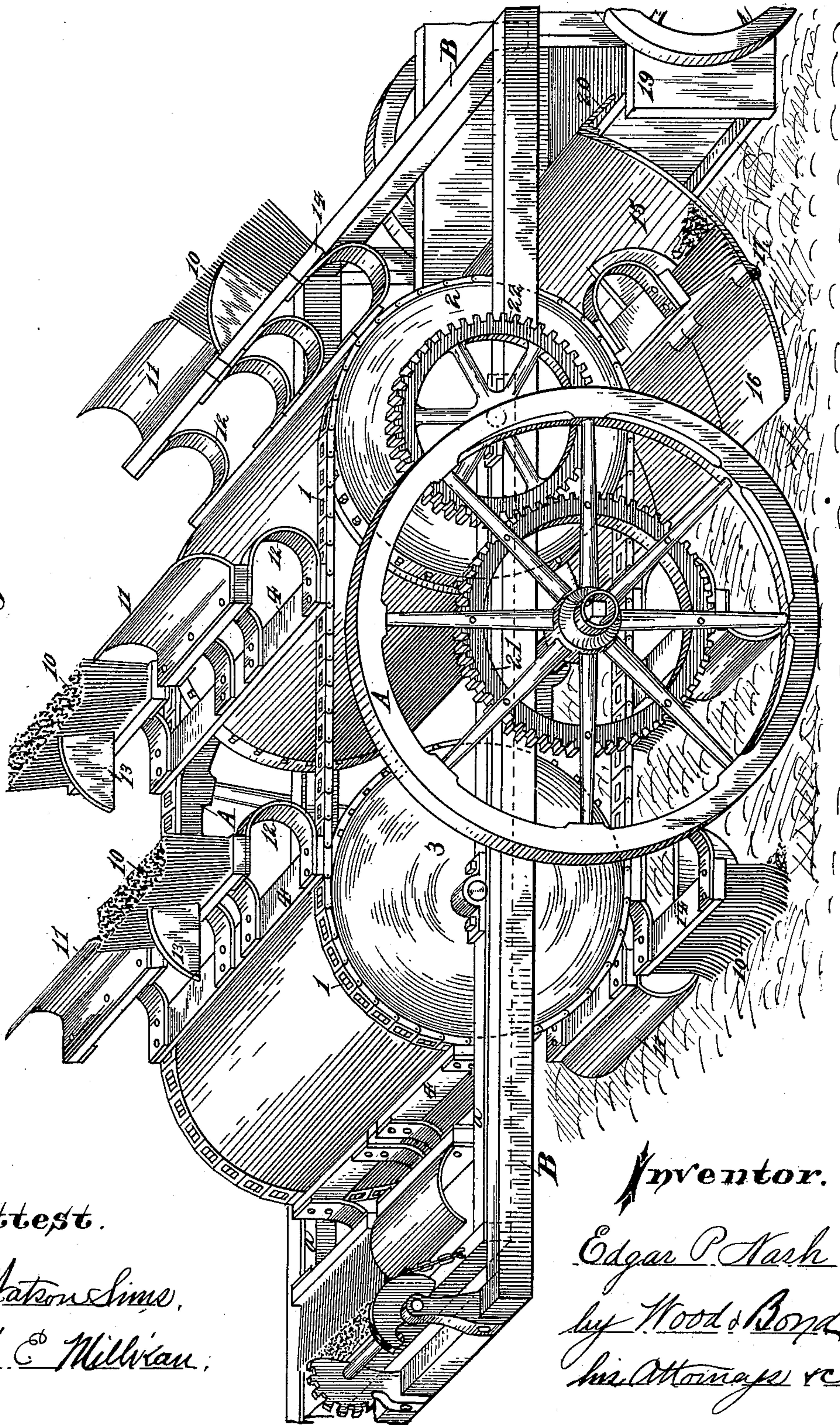
2 Sheets—Sheet 1.

E. P. NASH.
STREET CLEANER.

No. 379,875

Patented Mar. 20, 1888.

Fig. 1.



Attest.

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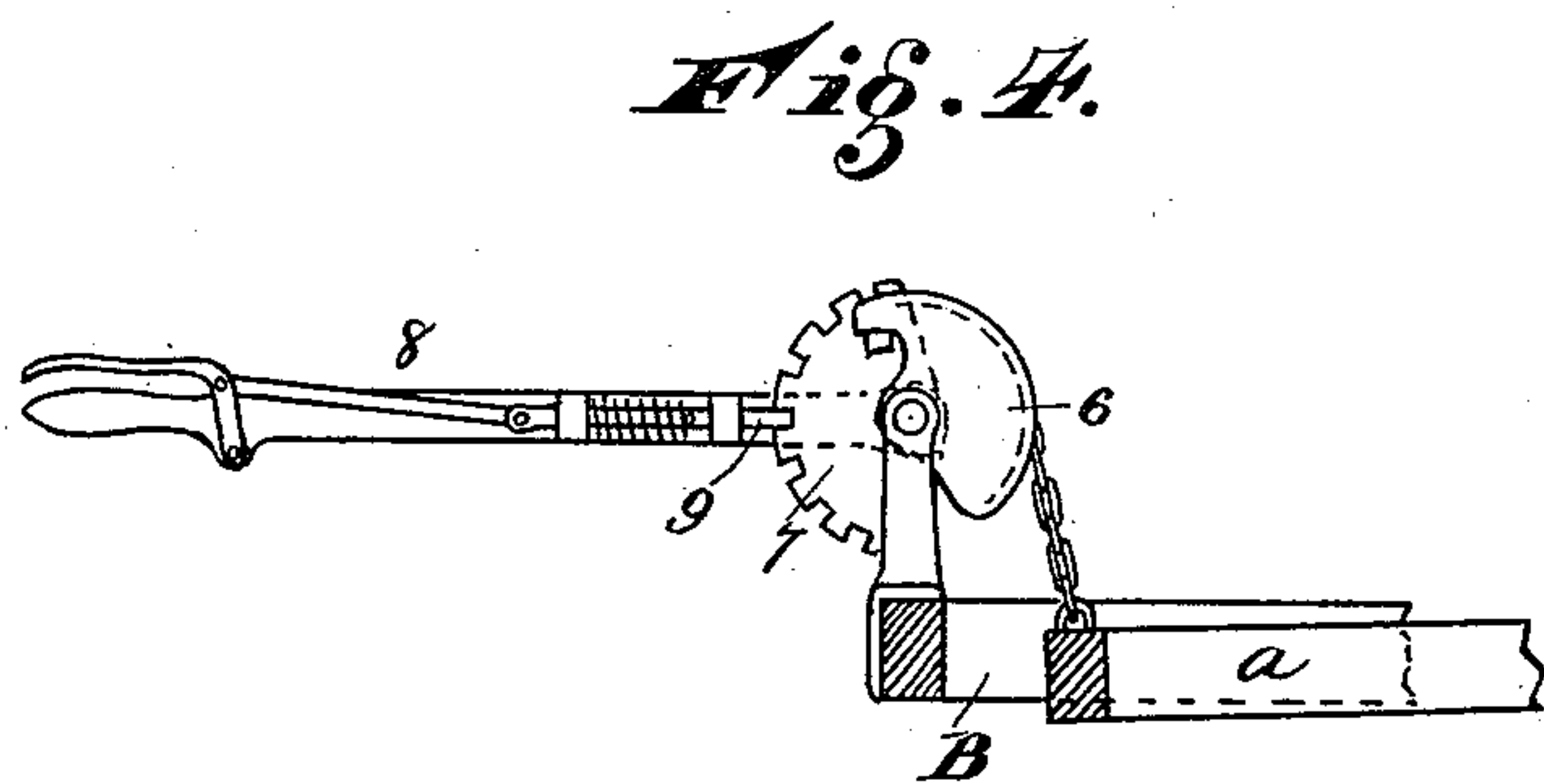
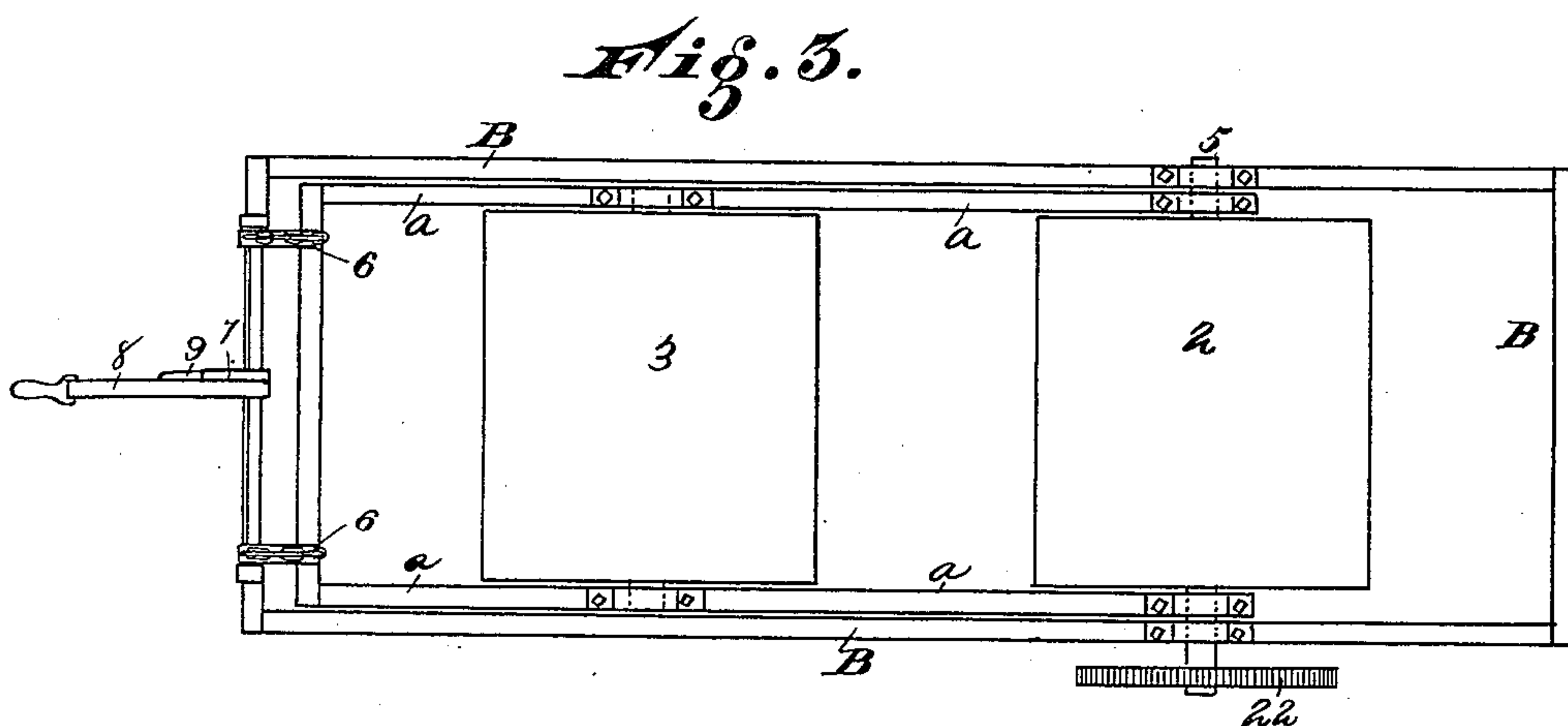
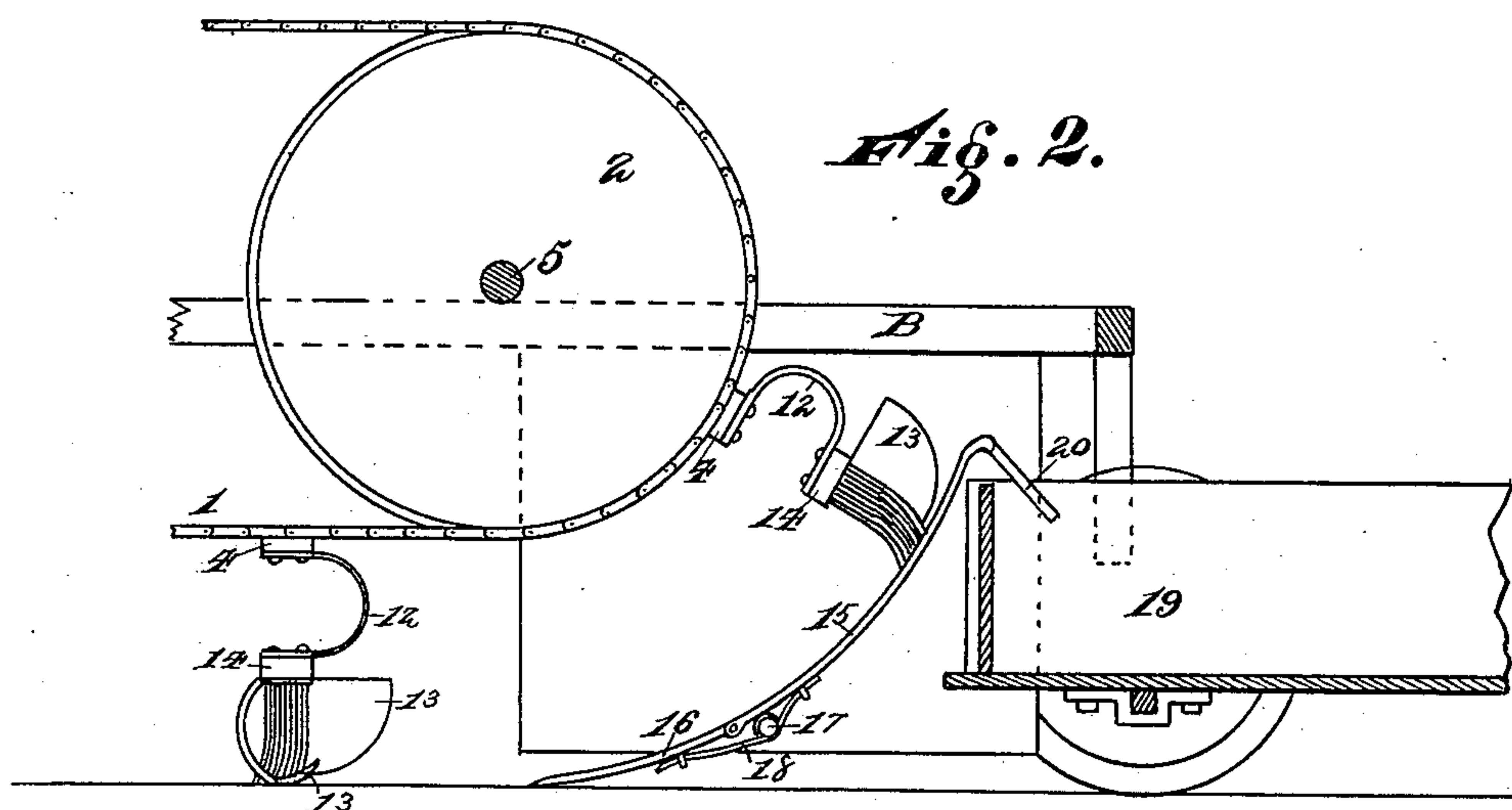
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2 Sheets—Sheet 2.

E. P. NASH.
STREET CLEANER.

No. 379,875.

Patented Mar. 20, 1888.



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Walter Sims
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Inventor
Edgar P. Nash
By Wood & Bond
His Attorneys

UNITED STATES PATENT OFFICE.

EDGAR P. NASH, OF BATAVIA, OHIO, ASSIGNOR OF ONE-FOURTH TO R. W. C. GREGG, OF SAME PLACE.

STREET-CLEANER.

SPECIFICATION forming part of Letters Patent No. 379,875, dated March 20, 1888.

Application filed March 14, 1887. Serial No. 230,867. (No model.)

To all whom it may concern:

Be it known that I, EDGAR P. NASH, a resident of Batavia, in the county of Clermont and State of Ohio, have invented certain new and useful Improvements in Street-Cleaners, of which the following is a specification.

My invention relates to a combined street-cleaner and elevator.

The various features of my invention will be hereinafter fully explained, and then pointed out in the claims.

In the accompanying drawings, making a part of this specification, Figure 1 is a perspective view of my invention. Fig. 2 is a longitudinal vertical section of the working portions of the machine. Fig. 3 is a top plan view of the frame. Fig. 4 is a side sectional elevation of the lifting devices.

A represents the ground-wheels, B the main frame. It may be made of any desired form and rigidly attached to the axle.

a represents a secondary frame for raising and lowering the working parts.

The cleaning devices are constructed and arranged as follows: In order to have two or more cleaners working on the ground at the same time and follow one another up the elevator in the proper manner to deliver the dirt, I arrange them upon an endless carrier, 1, working over drums 2 3, placed in the same horizontal plane. The endless carrier I prefer to make of sprocket-link chains engaging suitable sprockets on the drums. To these sprocket-chains the cross-bars 4 of the carriers are attached. Drum 2 is preferably journaled directly to the main frame B. Drum 3 is journaled to the secondary frame a, the front ends of which hinge upon the shaft 5 of drum 2. The rear ends of said frame are suspended upon the elevating-segments 6, which are mounted upon the rails of the main frame.

7 represents a segmental ratchet-plate secured to a transverse rod that connects the elevating-segments, 8 an elevating-lever fulcrumed in said transverse connecting-rod, and 9 a lock carried by the lever 8 and arranged for engaging with the notches of segment 7 to hold the frame in any desired adjustment. By means of these devices for raising and lowering one end of the secondary frame the pressure can be regulated according to the nature

of the work, or other circumstances which require adjustment of the devices.

I have shown two forms of cleaners, one being a brush, 10, the other a scraper, 11. I prefer to use a part of both sets of cleaners, as shown. These devices are attached to U-shaped springs 12, one end of which is attached to bars 4, secured to the carrier-chains. By having the drums 2 3 stretched apart some distance it brings two or more sets of cleaners upon the ground at the same time, so that one is following the other. By means of these U-shaped springs the brushes or scrapers when they strike an obstruction yield backward as well as rise, thereby passing over obstacles easily and avoiding danger of breaking the springs and attachments.

In order that the cleaners may be automatically raised over unyielding obstacles, and that they may follow the undulations of the street without digging too hard into the surfaces, I have arranged a shoe, 13, which is attached to the head 14 of the cleaners. I have preferably placed them at one end of the scraper 11 and centrally in the brushes 10. The lower or dragging edge of this shoe is preferably a slight distance above the edge of the cleaner, so as to serve as a guide. Springs 12 will prevent undue rising of the cleaners and hold them down to their work.

15 represents an incline over which the dirt taken up by the cleaners is elevated. It is made concave and concentric with the front drum, 2. In order that this incline may not be injured in passing over unyielding obstacles and accommodate itself to the inequalities of the surfaces over which it is drawn, I make the lower end of this incline of sections 16, which are hinged to the main portion 15 by the centers 17. I preferably make a section about as wide as one of the cleaners opposite it, so that if this incline comes against a boulder or obstruction, only one portion of it will be raised off the ground while the rest of the device is scraping and elevating dirt. In order that these sections may be held down, I provide coiled springs 18, which are attached to the stationary section 15, the forward ends being attached to the sections 16 in such manner that as the sections are raised the spring is compressed, and when the strain rais-

ing the sections is removed the sections will quickly return to their position. The shoes 13 also perform the function of holding the sections down, so that the dirt carried forward by the cleaners will be delivered upon the incline. The spring 12 allows the scraper and cleaner to yield simultaneously with strains applied either to the brush or to the section 16 when they are passing over said sections.

By making the springs U-shaped, or other form which will allow backward as well as upward movement, another advantage is obtained. The brushes in passing up the incline yield backward, owing to the additional strain of moving the dirt up the incline. As soon as the brushes leave the incline, the springs recoil quickly, which materially assists in cleaning them of the dirt, especially when it is moist.

By having two or more brushes or cleaners working at the same time upon the ground the missing of one for a short time will not affect the thorough working of the cleaner.

I have shown a cart, 19, attached to the device, so that the elevator will deliver the material carried up over its surface into said cart.

20 represents a shelf or spout for guiding the material into the cart.

I do not wish to confine myself to the dumping into a cart, as any other form of dirt-receiver may be substituted.

21 represents a driving spur-wheel rigidly secured to the axle or to the hub of the ground-wheel.

22 represents a spur-gear meshing with gear 21, and which is keyed upon the shaft of the drum 2, for conveying motion to the endless carrier by the revolution of the ground-wheels in the ordinary manner.

Having described my invention, what I claim as new is—

1. In a street-cleaning machine, the combination of the main frame B, the transverse drums 2 and 3, placed in the same horizontal plane, the elevating and depressing frame a, having its front end hinged on the shaft of the forward drum, 2, said forward drum being journaled in the main frame, and the rear drum being journaled in the elevating and depressing frame, and an endless carrier mounted on said drums and carrying a series of cleaners, substantially as described.

2. In a street-cleaning machine, the combination, with the concave incline 15, having movable sections 16, of an endless carrier provided with alternating series of brushes and scrapers, each corresponding with said movable sections in width, substantially as described.

3. In combination with the cleaners secured to the endless carrier by a yielding connection, the guide-shoes 13, attached thereto, substantially as specified.

4. In combination with an endless carrier, and cleaners secured thereto by yielding connections, a concave incline composed of a stationary upper portion, 15, hinged movable sections 16, each having a width corresponding with the cleaners, and springs 18, to hold said movable sections to their work, substantially as described.

5. In combination with a series of cleaners having the shoes 13, the concave incline having the movable sections 16, substantially as specified.

In testimony whereof I have hereunto set my hand.

EDGAR P. NASH.

Witnesses:

ROBERT ZAHNER,
M. E. MILLIKAN.