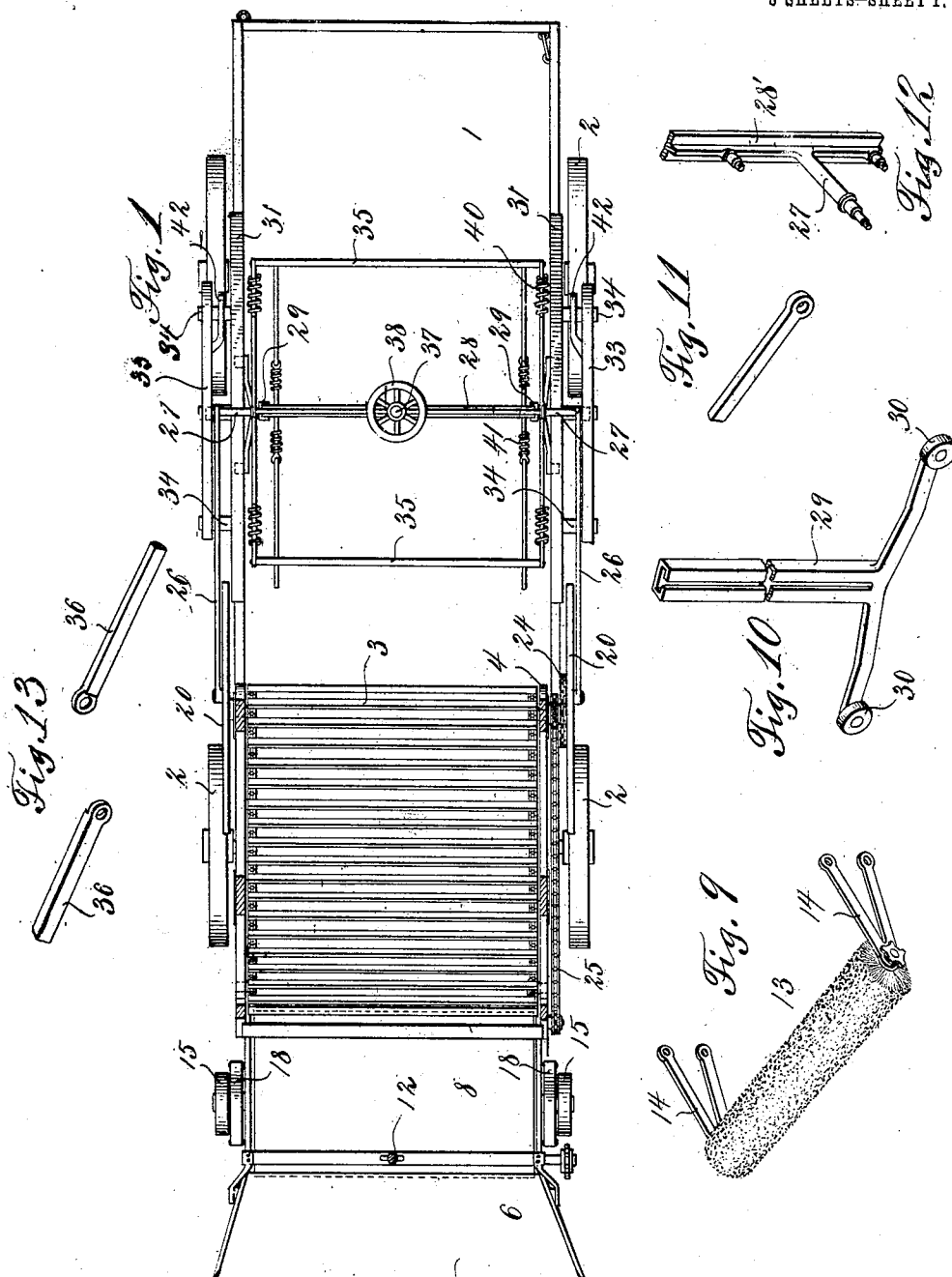


1,000,202

E. DE LA SHALERI.
STREET CLEANING MACHINE.
APPLICATION FILED FEB. 10, 1911.

Patented Aug. 8, 1911.
3 SHEETS-SHEET 1.



WITNESSES:
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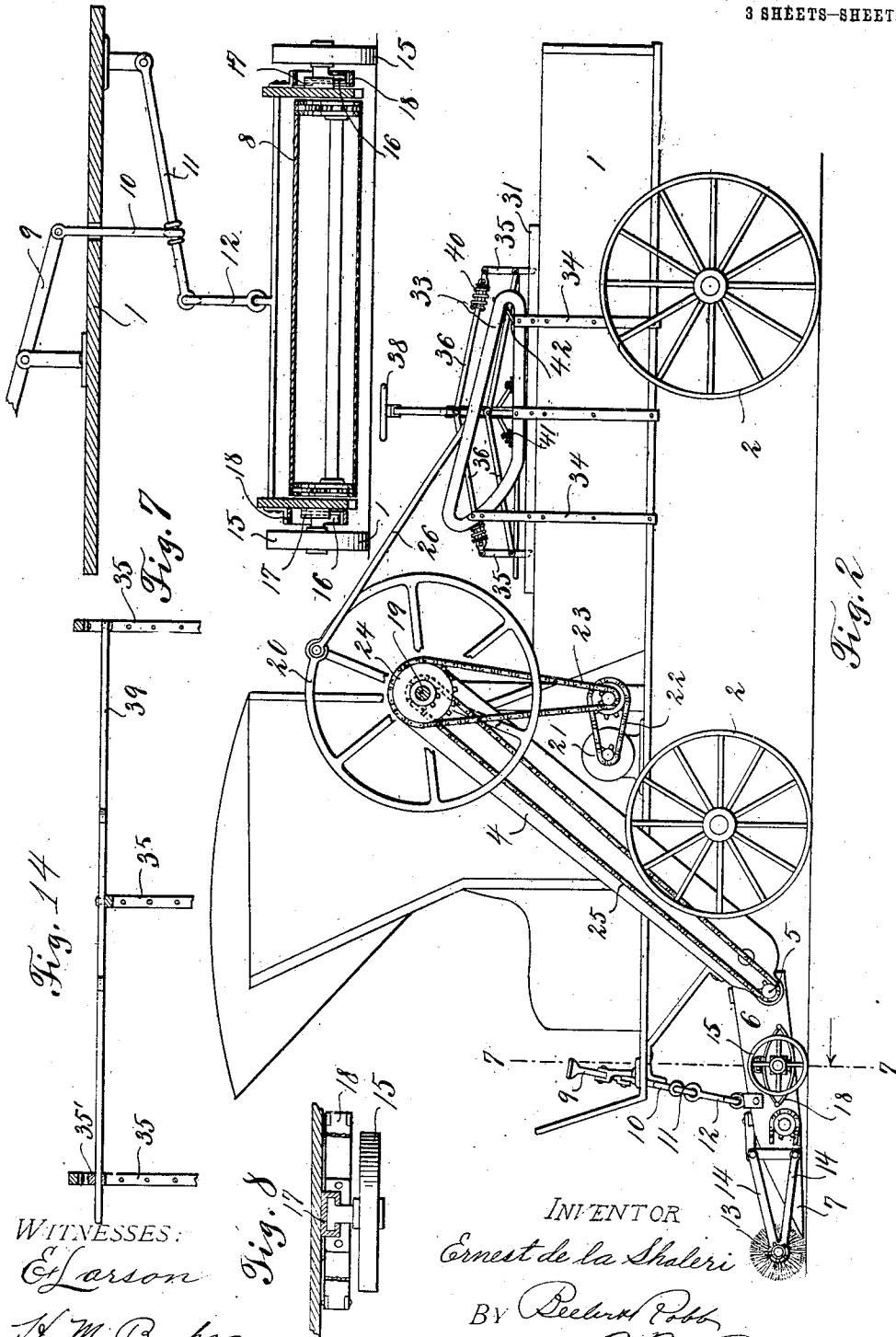
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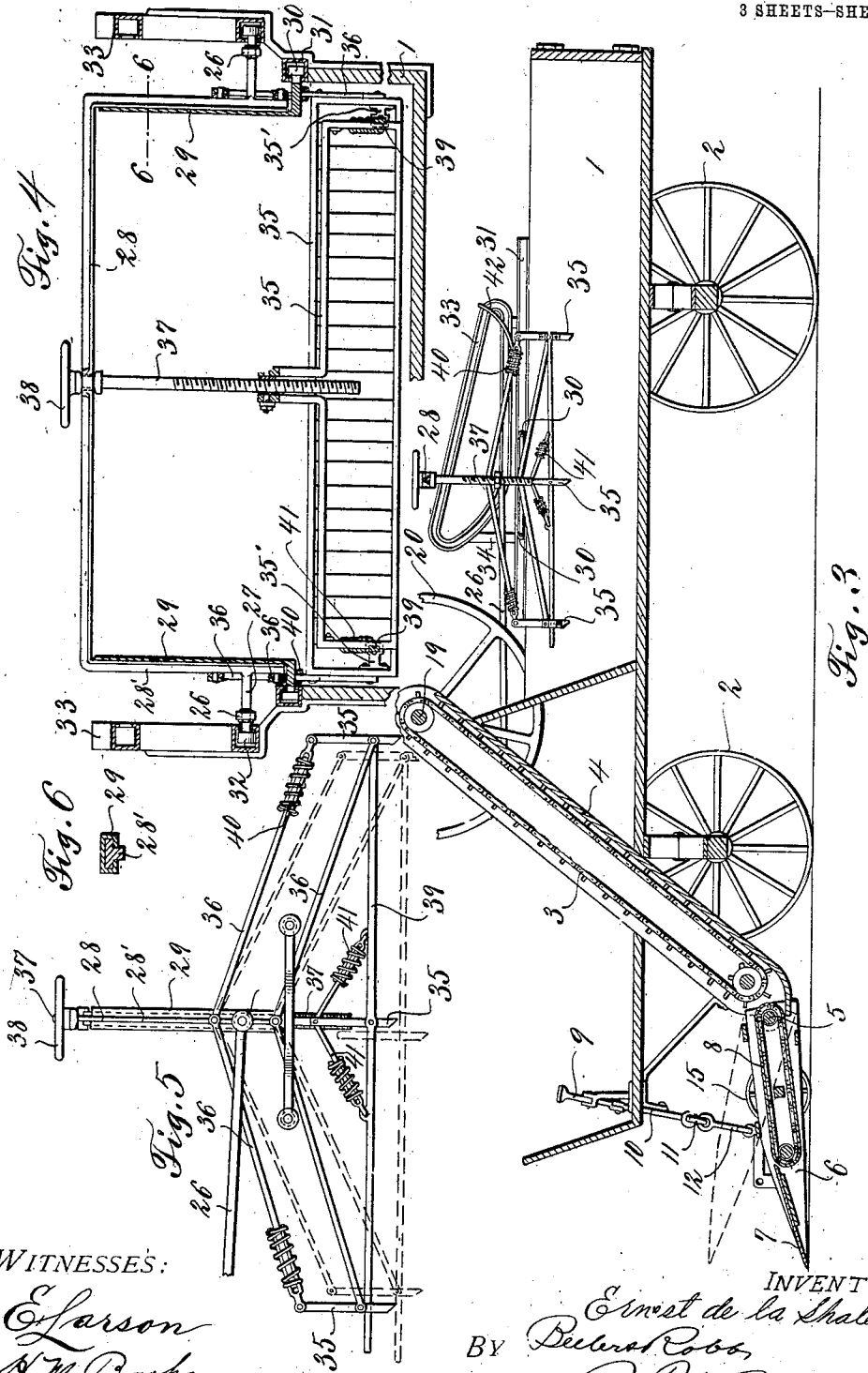
Attorneys

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3 SHEETS-SHEET 3.



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UNITED STATES PATENT OFFICE.

ERNEST DE LA SHALERI, OF PITTSBURG, PENNSYLVANIA.

STREET-CLEANING MACHINE.

1,000,202.

Specification of Letters Patent.

Patented Aug. 8, 1911.

Application filed February 10, 1911. Serial No. 607,796.

To all whom it may concern:

Be it known that I, ERNEST DE LA SHALERI, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Street-Cleaning Machines, of which the following is a specification.

The present invention comprises a machine designed particularly for cleaning streets.

The machine embodies a suitable truck adapted to be drawn by horses or other draft animals, or to be propelled by means of a motor, mechanism being provided for loading material scraped or swept from a street into the body of the vehicle and other mechanism being utilized to spread and pack the material as it is elevated and deposited in the vehicle body.

The invention also includes special devices for spreading the material, in the operation of the machine as above described, and peculiar means for adjusting the latter device whereby, under certain conditions, they may be employed for the purpose of facilitating unloading of the vehicle.

Another feature of the invention resides in the special means employed for removing dirt, snow, or other foreign matter from the street and elevating it for deposition in the body of the vehicle.

For a full understanding of the present invention reference is to be had to the following detail, description, claims and drawings wherein—

Figure 1 is a top plan view of a machine embodying the essential features of the present invention, a certain portion of the top of the machine being shown in section; Fig. 2 is a side elevation of the same; Fig. 3 is a vertical longitudinal sectional view, certain parts being broken away; Fig. 4 is a transverse sectional view taken through the spreading mechanism; Fig. 5 is a side elevation of the spreader bringing out more clearly the adjustability of the parts; Fig. 6 is a section taken on the line 6—6 of Fig. 4; Fig. 7 is a transverse section taken about on the line 7—7 of Fig. 2; Fig. 8 is a fragmentary view partially shown in horizontal section disclosing the manner of mounting the supporting wheels of the scraper frame upon the scraper; Fig. 9 is a perspective view of the sweeper or brush; Fig. 10 is a detail perspective view of one of the sliding

guides for the spreader frame; Fig. 11 is a fragmentary view showing an end of one of the pitman rods; Fig. 12 is a fragmentary view of a side portion of the spreader frame; Fig. 13 is a fragmentary combined perspective view of the end portions of the sectional bars which are connected to the spreader frame; Fig. 14 is a section taken through the spreading devices showing the arrangement of the lifting bars more clearly.

Throughout the following description and on the several figures of the drawings, similar parts are referred to by like reference characters.

Specifically describing the invention and referring to the drawings, 1 denotes the body of the machine which may be of any suitable type built with a view of containing material, such as snow, dirt, or other foreign matter that may be gathered from streets or similar places. The body 1 is mounted upon suitable trucks and ground wheels 2 and, as above mentioned, the machine may be propelled by a motor, as shown, or pulled by draft animals, if desired.

At the front end of the machine is mounted an elevator in the form of a suitable carrier 3 supported upon a frame 4 rigidly secured to the body 1.

Pivoted to the lower end of the elevator 4 at 5 is a scraper 6 consisting of a suitable frame equipped at its front end with a scraping blade 7, the latter being adapted to engage the material to be elevated and loaded into the body 1. Just in rear of the scraping blade 7 is an endless belt 8 adapted to convey the material from the blade 7 to the elevator 3. The scraper 6 is adapted to be raised and lowered by means of a lever 9 located at the front portion of the machine for operation by the foot of the driver or otherwise, said lever 9 being connected by a link 10 with an elevating lever 11, the latter in turn being directly connected by a link 12 with the frame or body of the scraper 6.

Under some conditions it may be desired to provide the scraper 6 with a sweeper or brush 13 and the latter is secured just in advance of the scraping blade 7 by means of the frame parts 14 which are bolted or otherwise securely fastened to suitable fixtures at the front portion of the scraper.

The scraper 6 is supported, when in its operative position, by the yieldably mounted wheels 15 the latter being journaled di-

rectly on vertically slidable T-shaped bars 16 supported in guides 17 attached to opposite sides of the scraper 6. Springs 18 are so arranged at opposite sides of the scraper 6 as to cooperate with the bars 16 to resiliently or yieldably support the wheels 15, thus affording a resilient mounting, so to speak, for the scraper 6 permitting the latter to accommodate itself to any unevenness in the surface over which the machine passes, thereby increasing its efficiency.

It will be apparent that the material carried upward from the street or other surface being cleaned by means of the elevator 3 will be dumped into the body 1 of the machine. In order to spread this material as it is dumped into the body 1, special means are employed and the same will now be described.

Mounted upon a shaft 19 supported in suitable bearings and arranged transversely on the body 1 are driving wheels 20. The shaft 19 is driven by a motor 21 or any equivalent means, said motor being connected by the driving belts or chains 22 and 23 with a driving sprocket or gear 24 on the shaft 19. The carrier 8 on the scraper 6 is likewise driven by the motor 21, one of the shafts about which the member 8 passes being connected by a suitable driving chain 25 to the shaft 19. The driving wheels 20 are connected by pitman rods 26 to lateral arms 27 projecting outwardly from the sides of a U-shaped spreader frame 28. The spreader frame 28 is arranged intermediate the ends of the body 1 and extends transversely across the latter, as shown most clearly in the drawings. The sides 28' of the spreader frame are connected for vertical sliding movement on the sliding guides 29, the latter consisting of inverted T-shaped members, the horizontal portions of which carry rollers 30 and the vertical portions of which are channeled to receive the sides 28' of the spreader 28 and permit vertical movement of the spreader frame with respect to the guides 29 and the body 1. The rollers 30 are adapted to operate in the horizontal guides 31 secured to the opposite sides of the machine. The lateral arms 27 of the spreader frame are not only connected with the pitman rods 26 but the outer ends of said arms have rollers 32 mounted thereon, the latter rollers operating in the endless guides 33. The guides 33 are arranged at opposite sides of the body 1 and supported by suitable brackets 34 secured to the body 1. The spreader frame 28 supports a plurality of spreading devices 35, the latter being carried by the parallel bars 36. The bars 36 are pivotally connected at adjacent ends to the sides of the spreader frame, the outermost ends of the bars 36 having the outermost spreaders 35 pivotally secured thereto, and the intermediate spreader 35 being car-

ried by a vertical adjusting screw 37 which is swiveled upon the intermediate portion of the spreader frame 28. At its upper end the screw 37 has a handle 38 for convenience in rotating the same. Secured to the intermediate spreader 35 are horizontal lifting bars 39, the intermediate portions of which are connected to said intermediate spreader, one end of each bar 39 being attached to the rearmost spreader. The front ends of the bars 39 extend through brackets 35' carried by the foremost front spreader 35, said brackets affording a sliding connection between the bars 39 and the last mentioned spreader. It will be apparent that when the screw 37 is turned to raise or lower the intermediate spreader, the front and rearmost spreaders will be simultaneously adjusted. It is contemplated that the spreaders 35 are adapted to yield slightly in the event they engage with obstructions, such as might be loaded into the body 1, whereby breakage or damage to the spreaders may be avoided. For the above purpose the bars 36 connecting the outermost spreaders 35 with the spreader frame 28 may be made in sections, having the guiding springs 40. In like manner the intermediate spreader 35 has yielding rods 41 connecting it to the bar 39.

From the foregoing it will be understood that when the machine is in actual operation the material is loaded into the body 1 by means of the elevator and other mechanism located at the front end of the machine. When the motor 21 is in operation the driving wheels 20 will be operated so as to reciprocate the spreader frame back and forth with respect to the guides 31. As the spreader frame moves toward the rear end of the endless guides 33, the rollers 32 meanwhile traveling in said guides 33, springs 42 arranged near the rear ends of the guides 33 will engage the arms 27 of the spreader frame and raise the latter to cause the rollers 32 to travel in the upper portions of the guides 33 as the spreader frame is pulled upwardly by the pitman rods 26. When the spreader frame reaches the front limit of its movement with respect to the guides 33, by reason of the shape of the latter guides, the spreading devices are permitted to drop by a gradual downward and rearward movement engaging with the material and elevating the same in the body 1 in an obvious manner. In other words, the spreading devices by reason of the horizontal and vertical movement of the spreader frame are caused to move downwardly and rearwardly in the front portion of the body 1, and after they travel a certain distance in a horizontal direction said devices are raised and brought upward. In their forward movement the spreading devices are elevated so that they do not engage with the material in the body 1 during said forward movement. The ad-

vantages of the above arrangement and operation of the parts will be apparent.

Under certain conditions by reason of the adjustability of the spreader frame 28, the spreading devices 35 may be utilized to facilitate the unloading of the body 1 by forcing the material collected therein outwardly from the rear end of the body.

It is to be understood that the body 1 may be provided with any suitable means for facilitating the dumping or unloading of the material carried therein, any of the ordinary types of dumping mechanisms used on dumping vehicles being susceptible of use along the above lines.

It is to be understood that the specific arrangement and construction of parts hereinbefore described, and appertaining to the several mechanisms set forth, may be varied within the spirit of the invention and the scope of the appended claims.

Having thus fully described my invention, what is claimed as new is:—

1. In a street cleaning machine, the combination of a wheeled body, and means for spreading the material after the same is received in the body and comprising a spreader frame, guide members upon which said frame is adapted to move, means for reciprocating the frame horizontally with respect to the body of the machine, spreading devices supported by the spreader frame, and means for raising the spreader frame upon its guides at predetermined intervals of time as it is reciprocated.

2. In a street cleaning machine, the combination of a wheeled body, and means for spreading the material after the same is received in the body and comprising a spreader frame, guide members upon which said frame is adapted to move, means for reciprocating the frame horizontally with respect to the body of the machine, spreading devices supported by the spreader frame, means for moving the spreader frame vertically upon its guides as it is reciprocated, and means for varying the adjustment of the spreading devices with respect to the spreader frame.

3. In a street cleaning machine, the combination of a wheeled body, and means for spreading the material after the same is received in the body and comprising a spreader frame, guide members upon which said frame is adapted to move, means for reciprocating the frame horizontally with respect to the body of the machine, spreading devices supported by the spreader frame, means for moving the spreader frame vertically upon its guides as it is reciprocated.

and means comprising an adjusting screw connected with the spreader frame and spreading devices, whereby the latter may be raised or lowered for adjustment purposes.

4. In a street cleaning machine, the combination of a wheeled body adapted to receive material therein, spreading devices mounted in said body, a spreader frame supporting said devices and movable horizontally, guide plates upon which the spreader frame is movable vertically, means for actuating the spreader frame to reciprocate the same horizontally, endless guides at opposite sides of the spreader frame, and arms projecting from the spreader frame and operating in the endless guides to raise the spreader frame at a predetermined portion of its reciprocating movement.

5. In a street cleaning machine, the combination of a wheeled body adapted to receive material therein, spreading devices mounted in said body, a spreader frame supporting said devices and movable horizontally, guide plates upon which the spreader frame is movable vertically, means for actuating the spreader frame to reciprocate the same horizontally, endless guides at opposite sides of the spreader frame, arms projecting from the spreader frame and operating in the endless guides to raise the spreader frame at a predetermined portion of its reciprocating movement, and springs coacting with the endless guides and arms of the spreader frame to accomplish the raising movement of the latter.

6. In a street cleaning machine, the combination of a wheeled body adapted to receive material therein, spreading devices mounted in said body, a spreader frame supporting said devices and movable horizontally, guide plates upon which the spreader frame is movable vertically, means for actuating the spreader frame to reciprocate the same horizontally, endless guides at opposite sides of the spreader frame, arms projecting from the spreader frame and operating in the endless guides to raise the spreader frame at a predetermined portion of its reciprocating movement, an adjusting screw carried by the spreader frame, and means connecting said adjusting screw with the spreading devices whereby the latter may be raised or lowered for adjustment purposes.

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

ERNEST DE LA SHALERI.

Witnesses:

RODNEY C. FOX,
CHAS. P. PEARSON.