

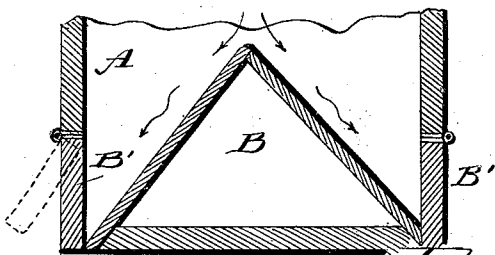
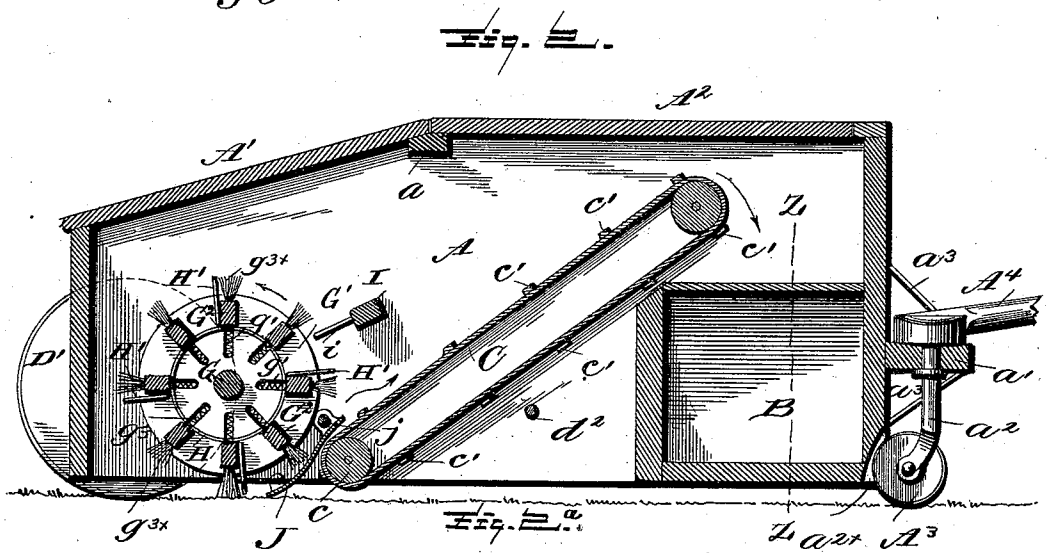
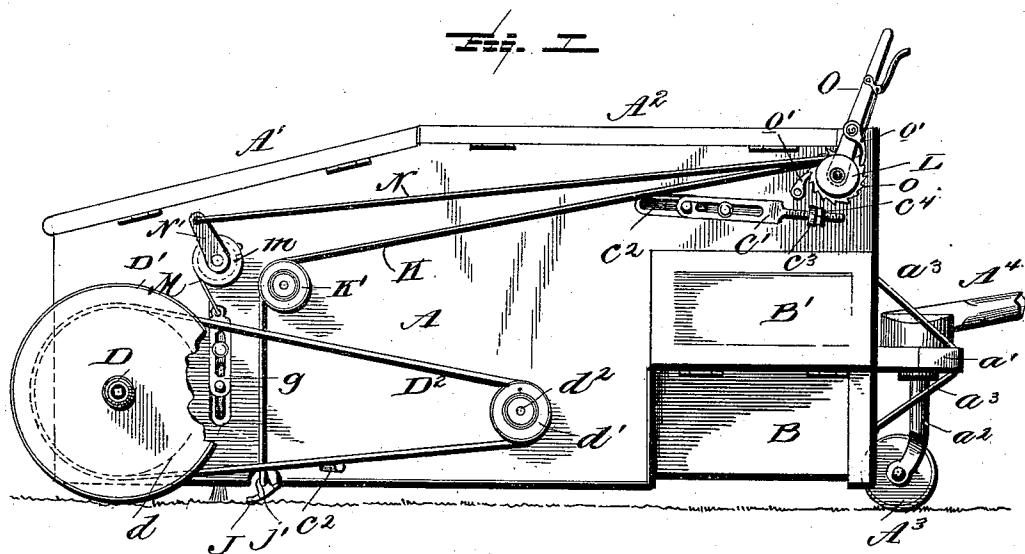
(No Model.)

2 Sheets—Sheet 1.

J. NEWLOVE.
STREET SWEEPER.

No. 469,030.

Patented Feb. 16, 1892.



Witnesses

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E. A. Bond.

Inventor

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per Cha. H. Fowler.
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Fig. 3.

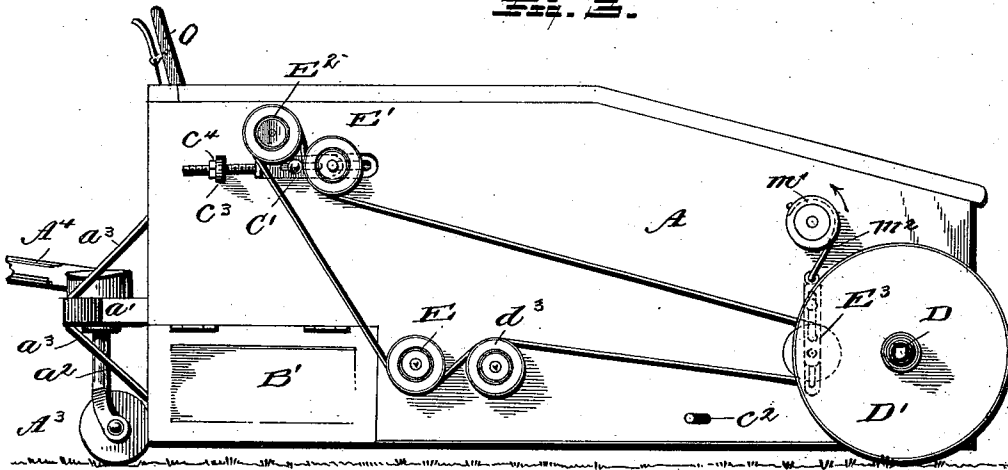


Fig. 4.

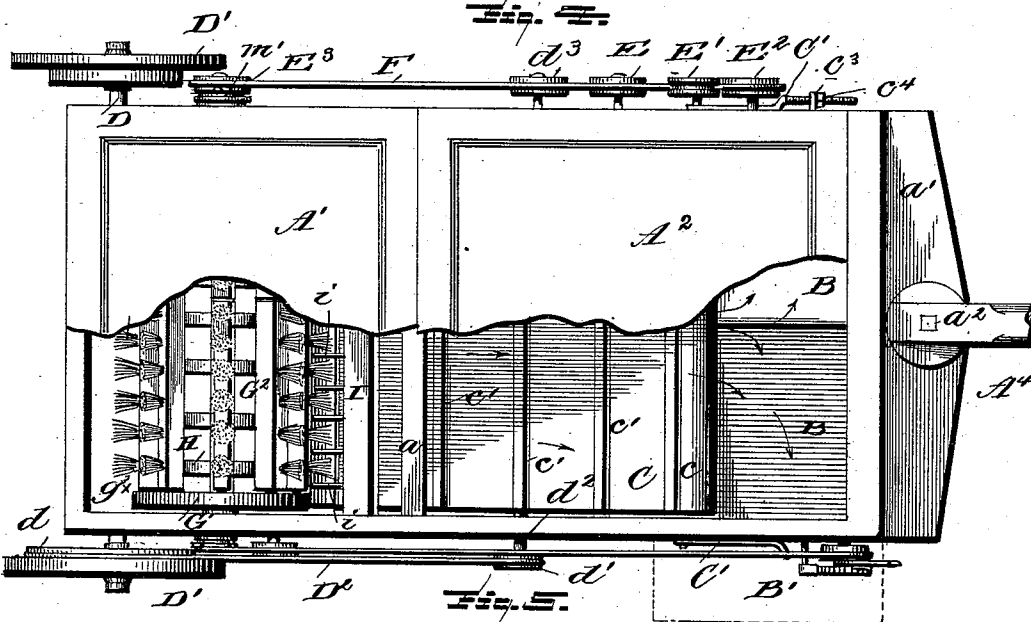
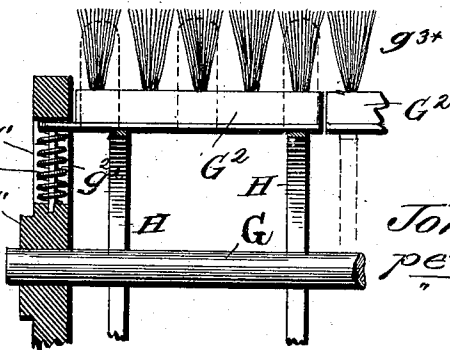


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOHN NEWLOVE, OF MICHIGAN CITY, INDIANA.

STREET-SWEEPER.

SPECIFICATION forming part of Letters Patent No. 469,030, dated February 16, 1892.

Application filed July 11, 1891. Serial No. 399,165. (No model.)

To all whom it may concern:

Be it known that I, JOHN NEWLOVE, a citizen of the United States, residing at Michigan City, in the county of La Porte and State of Indiana, have invented certain new and useful Improvements in Street-Sweepers; and I do hereby declare that the following is a full, clear and exact description of the same, reference being had to the annexed drawings; making a part of this specification, and to the letters of reference marked thereon.

This invention relates to certain new and useful improvements in street-sweeping machines, and is designed more especially as an improvement upon the construction shown in my patent, No. 433,538, dated August 5, 1890.

I have reversed the machine, applying the draft at the end farthest from the brush and delivering the dirt into a receptacle at the forward end, so as to throw the weight nearer the front.

I provide improved means for elevating the brush from the ground and for actuating an apron which I arrange between the brush and elevator. I arrange to elevate both the brush and apron simultaneously by simple means. This apron or dust-pan is arranged so that its lower edge drags on the ground, while its upper edge vibrates on a rod.

I provide an improved brush, which may or may not be provided with steel fingers, the brushes being carried by spring hooks or rings, which permit the brushes to readily adapt themselves to any inequalities in the ground or pavement over which the machine is traveling.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be specifically defined by the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a side elevation of my improved machine with a portion broken away. Fig. 2 is a vertical longitudinal section through the same. Fig. 2^a is a vertical section on the line *z z* of Fig. 2. Fig. 3 is a side elevation from the reverse side to Fig. 1. Fig. 4 is a top plan

with portions broken away. Fig. 5 is a detail of a portion of the brush-cylinder.

Like letters of reference indicate like parts throughout the several views.

Referring now to the details of the drawings by letter, A designates the main body or case of the machine, which is provided with two hinged covers A' and A², a suitable cross-piece *a* being provided to form a support for the adjacent edges of the two doors, as seen in Fig. 2. To the forward end of the main body or case there is attached in any suitable manner a cross-piece *a'*, in which is swiveled the vertical pin *a*², which carries at its lower end the front guide-wheel A³ and to the upper end of which is attached the tongue or pole A⁴, as seen best in Figs. 1 and 2. The cross-piece *a'* is secured to the body at a slight distance above the lower edge thereof, and the lower front edge of the case or body is cut away, as shown at *a*^{2x}, as seen in Fig. 2, to provide for the setting of the guide-wheel close to the case and provide room for the guide-wheel to work, as seen in Figs. 1 and 2, by which means a square corner may be turned, if desired. The cross-piece *a'* may be braced by inclined braces *a*³, as shown in Figs. 1 and 2, if desired.

B is the dirt-receptacle. It is arranged at the forward end of the case, within the latter, and its bottom inclines in opposite directions from a longitudinal center toward each side, as seen best in Fig. 4, being provided at each side with a hinged door B', one of which is shown up in Fig. 1. Any suitable means may be provided for holding the doors open, if desired.

C is an elevator consisting of an endless band or belt carried over the drums or rollers *c* and being provided upon its outer surface with cross-slats *c'*, as shown best in Fig. 2. This elevator is arranged in an inclined position, as seen in Fig. 2, and is designed to receive the dirt from the apron or dust-pan upon which it is brushed by the brushes, as will be seen from Fig. 2. The pintles of the rollers *c* are journaled in elongated slots *c*² in the walls of the case, as seen in Fig. 1, and are adapted to be adjusted, when necessary, by the arms C', which are screw-threaded at one

end and passed through eyebolts c^3 on the sides of the case and provided with nuts c^4 for adjusting them, the arms being connected with the pintles of the rollers in a manner similar to the corresponding construction in my prior patent and operating in the same way.

D is the main axle, carrying the main wheels D' and suitably journaled in the walls of the case. On the inner face of one of the wheels is a band-pulley d , (see Fig. 4,) around which passes the endless belt or band D². This belt passes over the pulley d' on the cross-shaft d^2 , which upon the other end carries a pulley d^3 , as seen in Figs. 3 and 4.

E is an idler carried by a stub-shaft in the case and upon the same side thereof as the pulley d^3 .

E' is a pulley on the shaft of the upper roller of the elevator, and E² is an idler on a stub-shaft upon the same side of the case and in proximity thereto, as seen best in Fig. 3.

E³ is a pulley on the shaft of the brush-cylinder, and over this pulley, over the pulley d^3 , under the idler E, over the idler E², and under the pulley E' passes the endless belt F, as shown in Figs. 3 and 4, so that motion is imparted to the brush-shaft and to the elevator.

G is the brush-shaft. It is suitably journaled in vertically-adjustable bearings g , as seen best in Fig. 1, and on this shaft are the heads G', which are provided with radial grooves g' , as seen best in Figs. 2 and 5, in which are arranged the rods g^2 , as seen best in Fig. 5, and around which are the springs g^3 .

H are rings of some suitable springy material, to the outer faces of which are attached in any suitable manner the bars G², which carry the brushes g^{3x} , the ends of the bars being provided with offsets and arranged in the radial grooves of the heads, as seen in Fig. 5. This construction provides for the holding of the brushes to their work and yet allows them to yield when passing over obstructions. Spring-plates H' for adding stiffness to the brushes may be provided, if desired, upon the bars, as seen in Fig. 2 and by dotted lines in Fig. 5, being preferably alternately arranged, as shown in Fig. 2. When for use upon asphalt pavement, these fingers are preferably omitted. The bars G² are preferably each formed in two parts separated at the center, as seen in Fig. 5, so as to allow one part to yield independent of the other.

I is a cross-bar provided with fingers i to work between the brushes to keep them from becoming clogged up.

J is a dust pan or apron arranged between the elevator and brush, with its upper end carried by a pivot or rod j and its lower end ar-

ranged to contact with the ground, as seen in Figs. 1 and 2. It is designed to be elevated from the ground when desired.

In order to elevate the brush-cylinder and the dust-pan from the ground when desired, I provide the mechanism shown in Figs. 1 and 4, in which K is a chain or rope or cord attached at one end to the dust-pan, as at j' , and its other end, after passing over the pulley K', is fast to a drum L, carried by a suitable shaft at the forward end of the case, as seen best in Fig. 1. M is another chain, cord, or rope attached at one end to the bearing of the brush-shaft and at its other end to a pulley m , as seen in Fig. 1. N is a rope connected to an arm N', fast on the shaft of the pulley m , and its other end attached to the drum L, as seen in Fig. 1. The drum is provided with a ratchet-wheel o and with a lever O and pawls o' , as seen in Fig. 1. The shaft of the pulley m extends to the opposite side of the case and carries a like pulley m' , connected by cord m^2 with the bearing of the brush-shaft upon that side, as seen in Fig. 3, so that by manipulation of the lever O the brush and the dust-pan will be simultaneously raised when desired.

Modifications in detail may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

What I claim as new is—

1. In a cylindrical brush, the combination, with the heads having radial grooves, of the shaft, the spring-held bars G², parallel with the shaft, the spring-bands disconnected from the shaft and carrying said bars, and the brushes carried by said bars, as set forth.

2. In a cylindrical brush, the combination, with the heads having radial grooves, of the shaft, the spring-held bars G², parallel with the shaft, the spring-bands disconnected from the shaft and carrying said bars, the brushes carried by the bars, and the spring-plates on the bars parallel with the brushes, substantially as and for the purpose specified.

3. The combination, with the heads having radial grooves, the shaft, the rods arranged in the grooves, the springs around said rods, the bars parallel with the shaft and having offsets at the ends and sleeved on the said rods, the spring-bands, and the brushes carried by said bars, all substantially as shown and described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JOHN NEWLOVE.

Witnesses:

P. J. CORBLY,
JOHN DEBRÉ.