

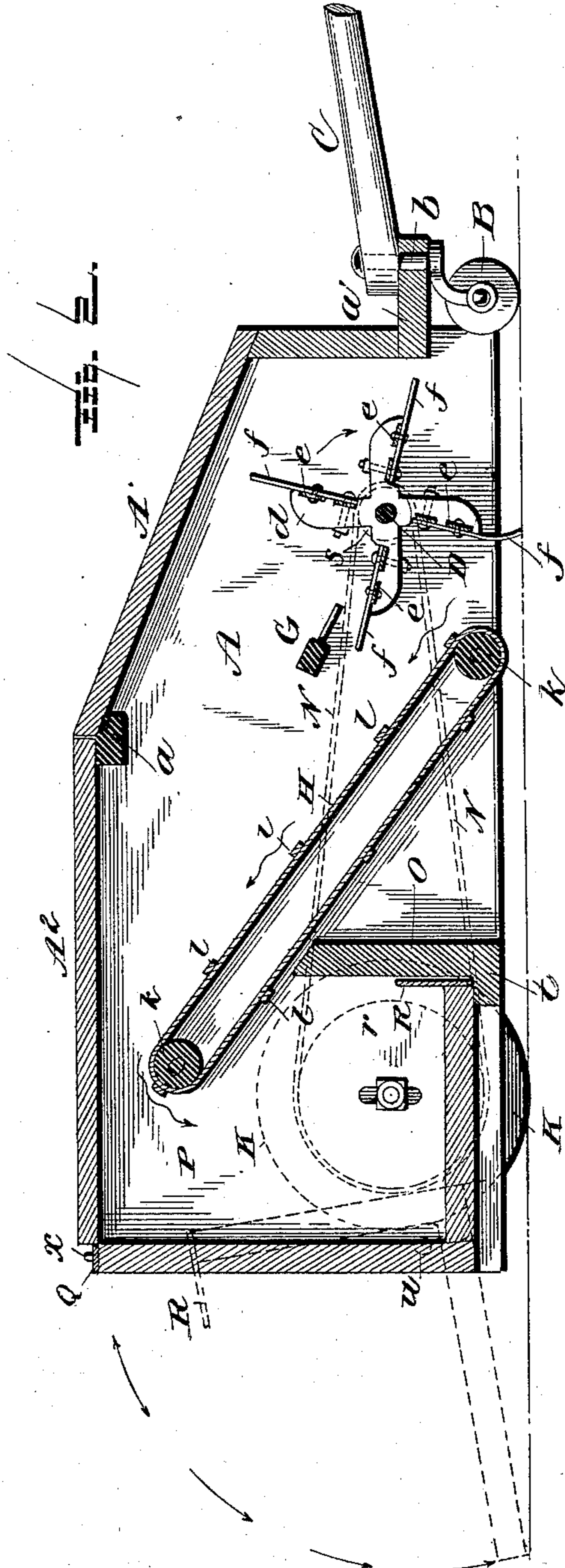
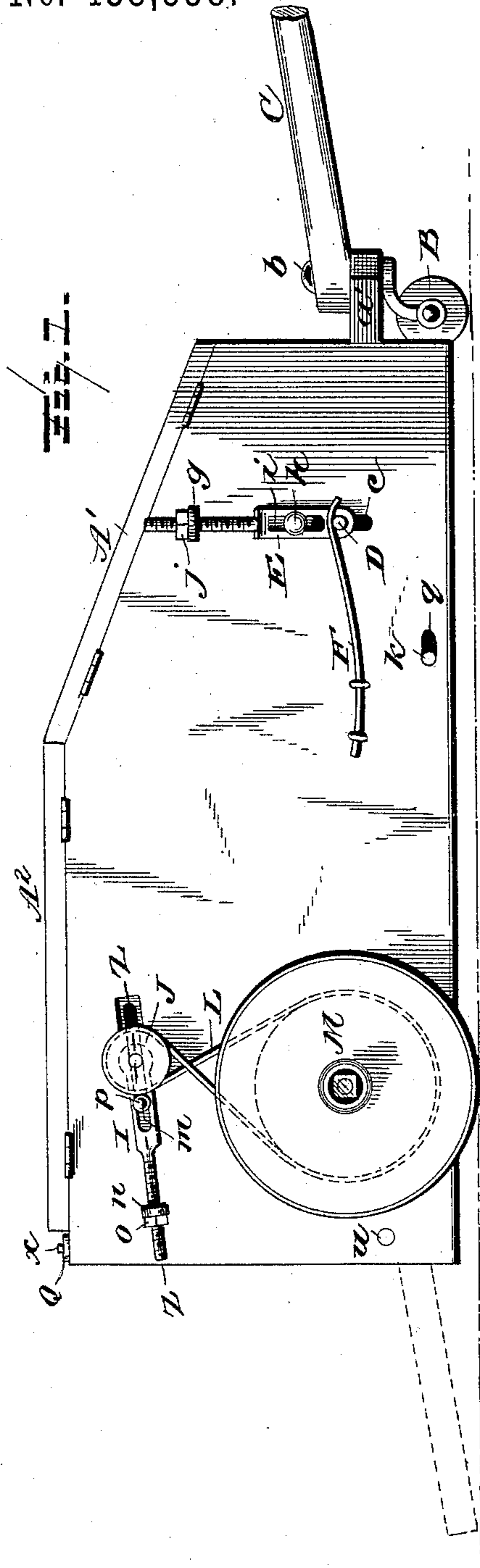
(No Model.)

2 Sheets—Sheet 1.

J. NEWLOVE.  
STREET SWEEPER.

No. 433,538.

Patented Aug. 5, 1890.



Witnesses  
L. C. Hills  
E. H. Bond.

Inventor  
John Newlove,  
per Cha. H. Fowler,  
Attorney

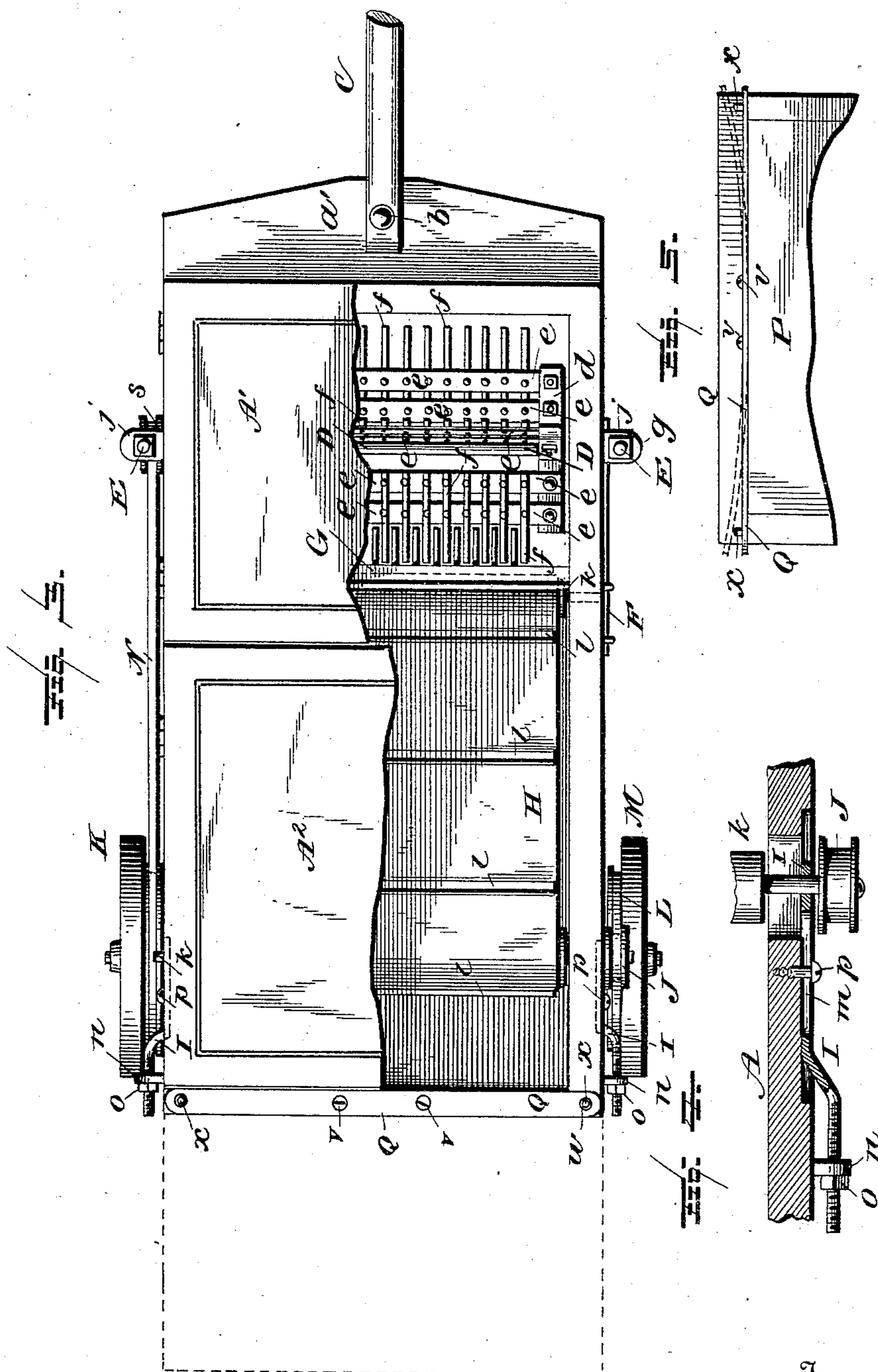
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# UNITED STATES PATENT OFFICE.

JOHN NEWLOVE, OF UNION MILLS, INDIANA, ASSIGNOR OF ONE-HALF TO  
WILLIAM C. LOOKER, OF SAME PLACE.

## STREET-SWEEPER.

SPECIFICATION forming part of Letters Patent No. 433,538, dated August 5, 1890.

Application filed April 28, 1890. Serial No. 349,785. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN NEWLOVE, a citizen of the United States, residing at Union Mills, 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 it has for its object to provide an improved device of this character wherein the dirt will be gathered up, delivered to an elevator, and from there dumped into a box or receptacle at the rear of the machine, from which it may at any desired time be dumped. I provide an improved brush-cylinder, the fingers of which are formed of spring metal, which will allow them to adapt themselves somewhat to the roughness of the ground upon which they may be operating. I provide adjustable bearings for the cylinder and for the elevator-rollers, and make the whole device complete and most efficient in its operation. I provide against the escape of dust during the working of the machine, and so construct the dirt-receptacle that all shoveling or handling of the dirt is avoided, the receptacle being so formed and connected to the main part of the machine that as it is turned on its pivot it throws the dirt out in a pile.

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. Fig. 2 is a vertical longitudinal section through the same. Fig. 3 is a top plan with portions of the covers broken away. Fig. 4 is an enlarged section on the line  $z z$  of Fig. 1. Fig. 5 is an end view of a portion

of the dirt-receptacle, showing the spring for holding the pivoted portion thereof in place.

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 of the machine, which is provided with two hinged covers  $A'$  and  $A''$ , as shown, a suitable cross-piece  $a$  being provided to strengthen the parts and provide a support for the adjacent edges of these doors. (See Fig. 2.)

To the forward end of the main body there is attached in any suitable manner a cross-piece  $a'$ , in which is swiveled the vertical pin  $b$ , which carries at its lower end the front guide-wheel B, and to the upper end of which is attached the tongue C, as shown in Figs. 1, 2, and 3. The cross-piece  $a'$  is secured to the body at a slight distance above the lower edge thereof, so as to provide room for the guide-wheel to work, as shown in Fig. 2. By this means a square corner may be turned, if desired.

D is the cylinder-shaft, the ends of which work in vertical slots  $c$  in the sides of the main body of the machine, and to which within the body are secured the spider-heads  $d$ . (See Fig. 2.) To the arms of these heads are secured the steel bars  $e$ , parallel with the shaft and secured to the said arms in any suitable manner—as, for instance, by bolts—and to these bars are secured the steel fingers  $f$ , which extend beyond the bars and beyond the outer ends of the arms of the heads, as shown in Fig. 2, and are so constructed that they will conform in a measure to the inequalities of the ground over which they are working and dig up, as it were, the dirt and scoop it onto the elevator. The ends of the cylinder-shaft are carried by the ends of hangers E, which are screw-threaded and work through holes in the lugs  $g$  on the sides of the main body, and which are slotted, as shown at  $i$ , in which slot works the pin or headed bolt  $h$ , on the side of said main body. This arrangement provides for adjustment of the cylinder to or from the ground by screwing up or unscrewing the nuts  $j$  on the ends of the hangers above the lugs  $g$ , and also pro-

vides for the automatic adjustment of the cylinder in case it meets with obstructions. A spring F, attached at one end in any suitable manner to the side of the main body, with its other end bearing on the end of the cylinder-shaft, serves to keep the cylinder down to its work, but with a yielding pressure which will give when an obstruction is met.

G is a comb or cleaner for the teeth of the cylinder. It is secured within the sides of the main body and arranged at an angle with the teeth thereof, so arranged as to work between the teeth of the cylinder-brushes, as shown in Fig. 3, and thus prevent the same from clogging. This comb is so located in relation to the elevator that the refuse removed from the cylinder-brushes will fall onto the elevator, as will be seen from Fig. 2.

The cover A' provides for ready access to the cylinder for the purpose of repairs or other purposes. Both the covers A' and A<sup>2</sup> may be held closed in any suitable manner.

H is an elevator consisting of an endless belt carried over the drums or rollers k and provided upon its outer surface with cross-slats l, as shown best in Fig. 2. This belt is arranged so that its lower roller or drum shall be under the fingers of the cylinder-brushes as the same revolve, as indicated by Fig. 2. The ends of the upper belt drum or roller are carried by the arms I, which are shown more clearly in the enlarged view, Fig. 4, and are in all respects, both in construction and operation, the same as the arms or hangers E and their accessories, as above described, in connection with the ends of the cylinder-shaft. These arms I are slotted, as shown at m, have screw-threaded end, which passes through the lug n, provided with nut o, and the bolt p works in the slot of the arm. One end of this drum or roller, or rather the pintle thereof, carries a pulley J, as shown in Figs. 1, 3, and 4, and around this pulley passes the twist belt or band L, which passes around a pulley on the axle of the main wheel M, as shown, so that as the wheel revolves as the machine is moved along motion will be imparted to the endless belt in a direction opposite to that of the main wheel and of the machine. The pintles of the lower drum or roller of the elevator work in elongated bearings or slots q in the sides of the main body of the machine, as seen in Fig. 1.

K is the other wheel of the machine, which carries a pulley r, around which passes an endless belt or band N, which also passes over the pulley s on the end of the cylinder-shaft, as seen in Figs. 2 and 3, so that as the machine is moved along the said belt imparts motion to the cylinder in the same direction as the movement of the machine.

To the rear of the center of the main body there extends upward a partition O, over which the elevator-belt runs, and which at its rear lower end is provided or formed with a rearward horizontal extension t, as shown in Fig.

2. This partition forms the front end or side of the dirt-receptacle P, the sides of which are formed by the rear portion of the sides of the main body, and the rear end and bottom of which are connected together and pivoted between the sides of the main body on the transverse rod or pivot u, near the lower rear edge thereof, as shown in Figs. 1 and 2. Across the upper edge of this rear end of the dirt-receptacle there extends a flat spring Q, secured near the middle of its length, as shown at v in Fig. 3, with its ends free and provided with holes w, which are adapted to engage suitable pins x on the rear ends of the sides of the main body of the machine, as shown in Figs. 3 and 5.

The operation is simple and will be readily understood from the above description when taken in connection with the drawings. As the machine is moved along, the cylinder with its brushes is revolved through the medium of the mechanism described, and the elevator-belt is moved in the direction of the arrows in Fig. 2. The dirt is collected by the brushes and delivered onto the elevator-belt, which carries it up in the direction of the arrows and deposits it into the dirt-receptacle. When the receptacle is full or for any other reason it is desired to empty it, the ends of the spring are disengaged from the pins on the rear ends of the sides of the body and the rear end of the said receptacle pulled rearward and downward, as indicated by the arrows in Fig. 2, when the rear end and bottom will assume the position shown by dotted lines in said figure and the dirt thrown out. The machine should of course be stopped when the dirt-receptacle is being emptied. When the dirt has been removed, the rear end is thrown up into its normal position, and the spring automatically rides over and engages its pins and holds the parts locked. The rear edge of the bottom of the receptacle should be provided with a thin plate R, as shown in Fig. 2, which will serve as a scraper to remove any dirt that may adhere to the rear face of the partition O.

What I claim as new is—

1. The combination, with the main body, of the brush-cylinder, the elevator-belt, the partition O, and the dumping portion of the dirt-receptacle comprising the rear end and bottom pivoted at the rear lower corner to the main body and supported by a lateral portion of said partition, as set forth.

2. The combination, with the main body, of the brush-cylinder, the elevator-belt, the partition O, and the rear end and bottom of the dirt-receptacle connected together and pivoted at the rear lower corner to the main body and provided at the rear edge with a scraper, substantially as shown and described.

3. The combination, with the main body and the elevator-belt, of the drums therefor, the arms carrying the ends of the pintles of the drums, said pintles working in slots in the sides of the main body and the arms slotted, the pins on the sides of the main body

working in the slots of the arms, the lugs through which the ends of the arms pass, and the nuts on the ends of the arms, substantially as and for the purpose specified.

5 4. In a street-sweeper, the combination, with the main body, of the main wheels, the cylinder-shaft and its steel brushes revolved by said wheels, the elevator to the rear of the cylinder and revolved by connection with one  
10 of the wheels, and the dirt-receptacle to the rear of the elevator and having a portion

pivoted to the main body and provided with an automatic spring-lock and a scraper, substantially as shown and described.

In testimony that I claim the above I have 15  
hereunto subscribed my name in the presence of two witnesses.

JOHN NEWLOVE.

Witnesses:

ROSWELL N. BENNETT,  
CELENA JOYAL.