No. 742,657. PATENTED OCT. 27, 1903.

S. HOSFELD.

STREET CLEANING MACHINE.

APPLICATION FILED AUG. 22, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

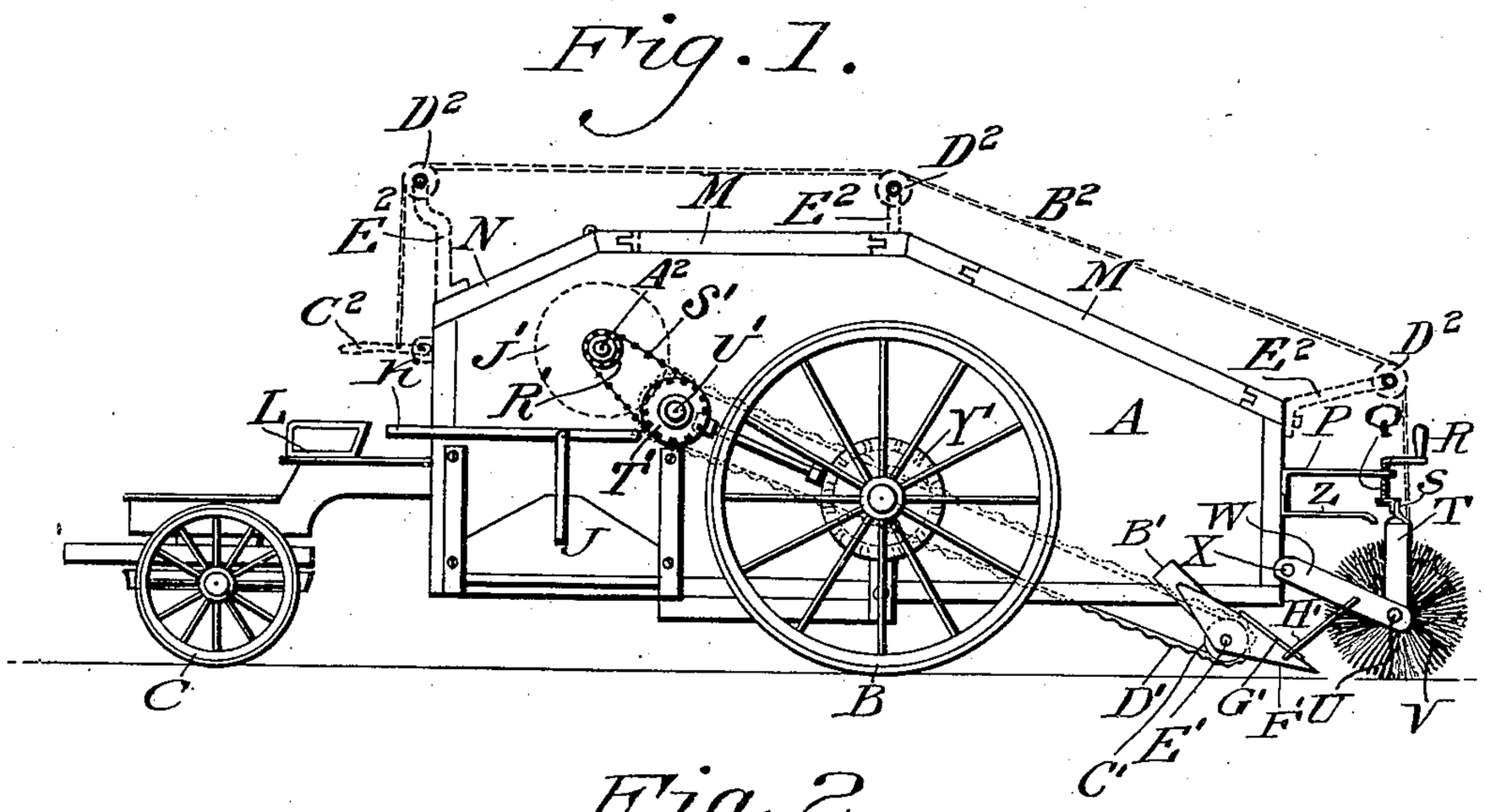
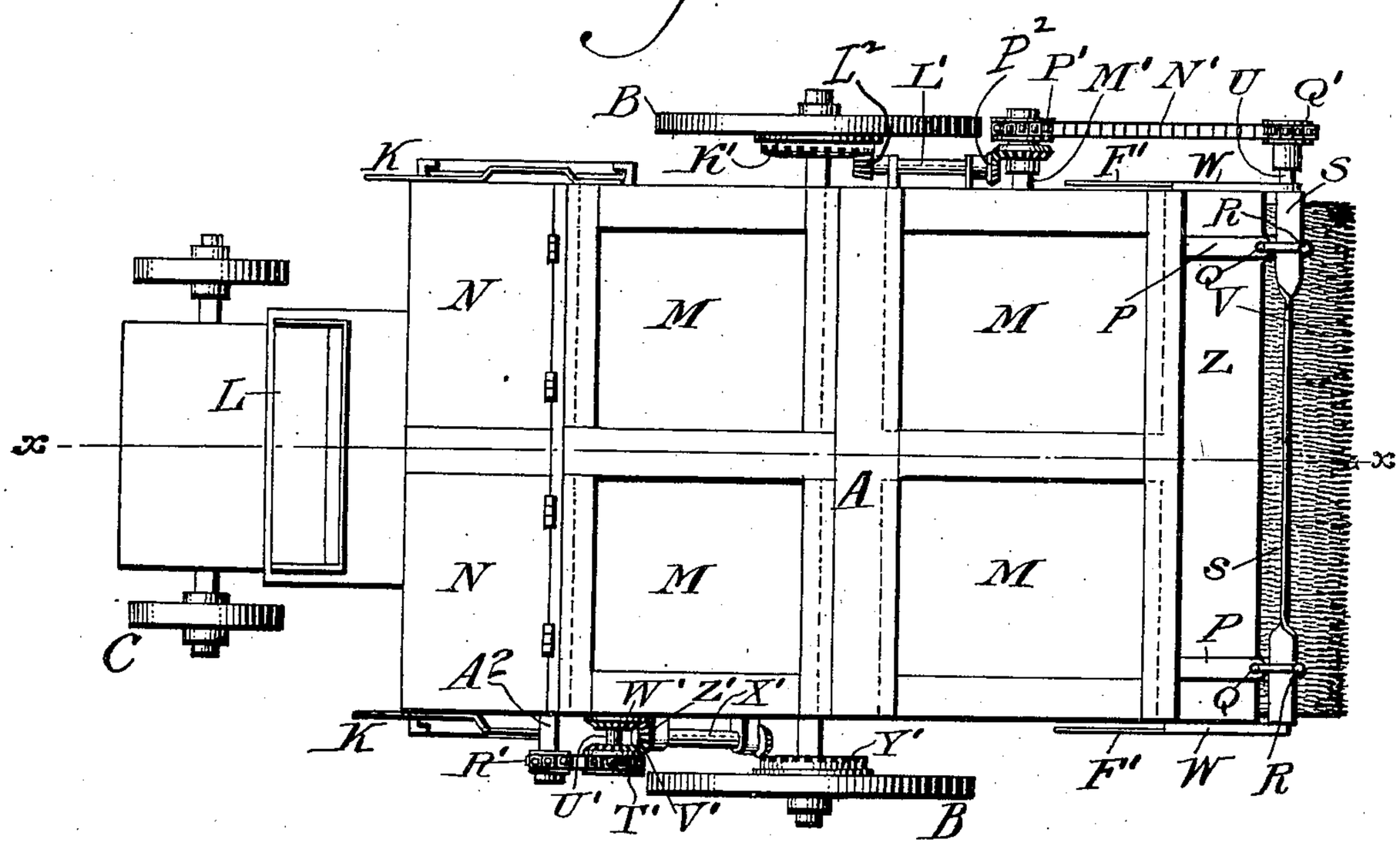


Fig. 2.



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NO MODEL.

2 SHEETS—SHEET 2.

Fig. 3.

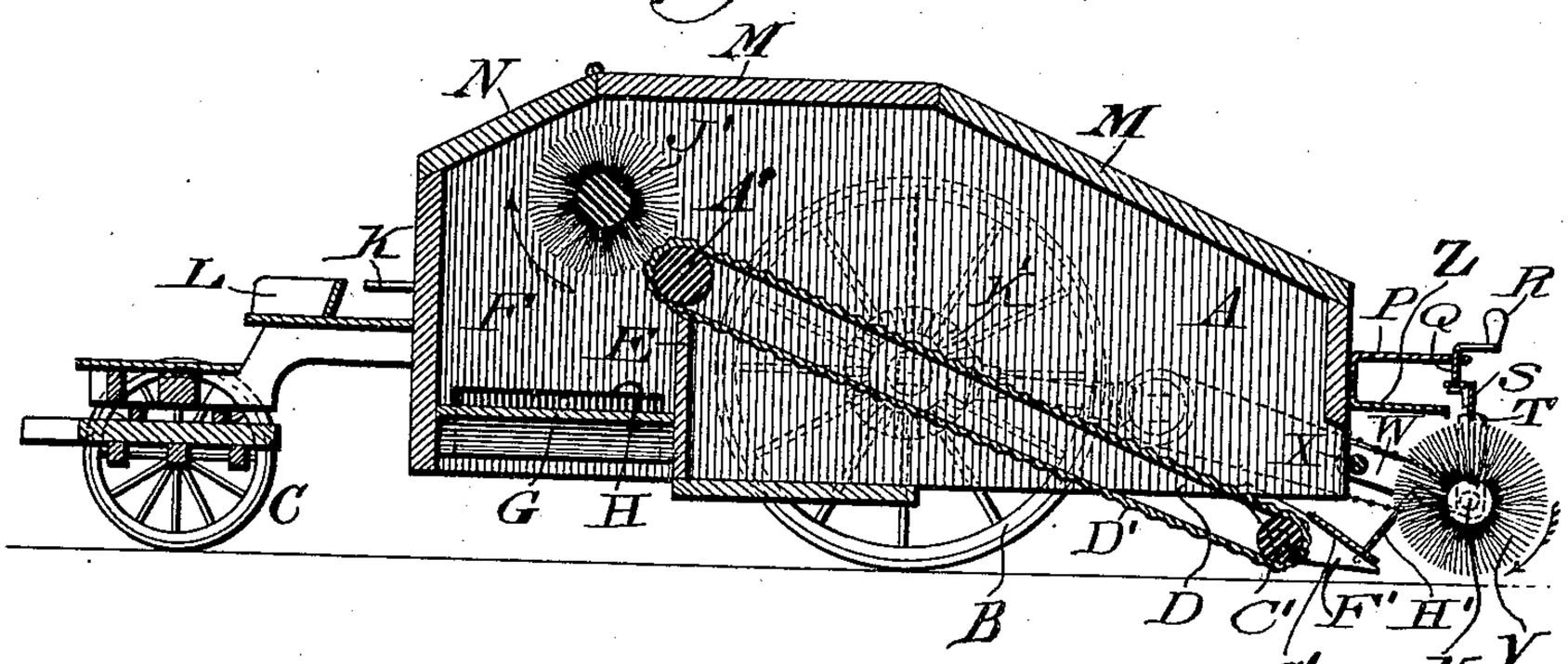


Fig. 4.

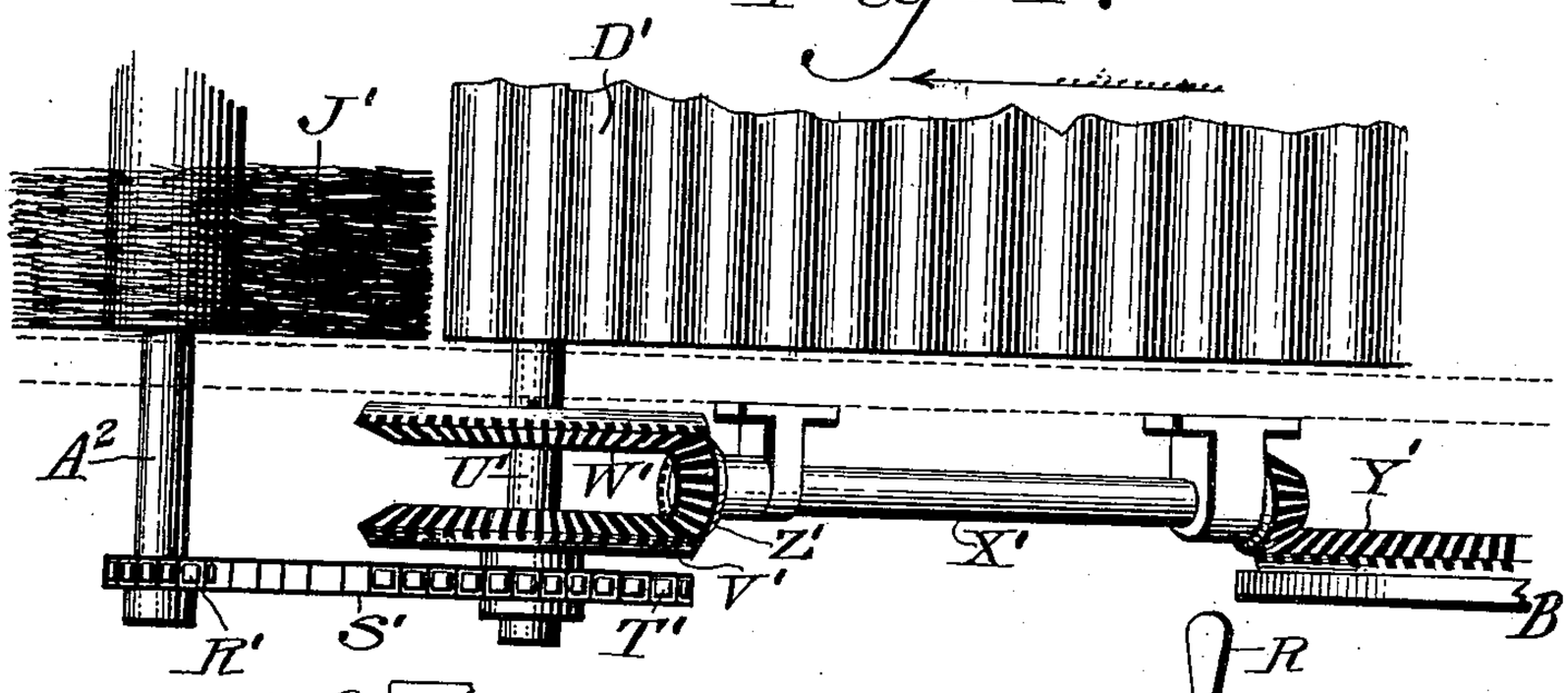


Fig. 6.

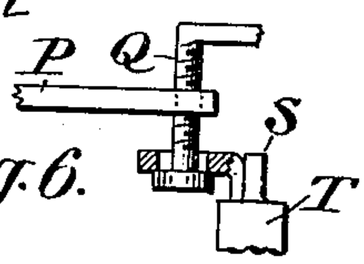


Fig. 5.

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No. 742,657. Patented October 27, 1903.

UNITED STATES PATENT OFFICE.

SAMUEL HOSFELD, OF PHILADELPHIA, PENNSYLVANIA.

STREET-CLEANING MACHINE.

SPECIFICATION forming part of Letters Patent No. 742,657, dated October 27, 1903.

Application filed August 22, 1902. Serial No. 120,676. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL HOSFELD, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Street-Cleaning Machines, of which the following is a specification.

My invention consists of an improvement in a street-cleaning machine, as will be hereinafter fully described and claimed.

Figure 1 represents a side elevation of a street-cleaning machine constructed in accordance with my invention. Fig. 2 represents a top plan view thereof. Fig. 3 represents a vertical section taken on line *x x*, Fig. 2. Fig. 4 represents a detail top plan view, on an enlarged scale, of the gearing between the driving-wheel and apron and stripping and distributing brush. Fig. 5 represents a side elevation, on an enlarged scale, of the sweeping-brush and adjacent parts. Fig. 6 represents a vertical section of certain members of the machine shown in Fig. 5.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings, A designates the body of the machine, which is supported by the rear wheels B, suitably mounted on the sides of said body, and the front wheels C. The said body A is inclosed on all sides except at the bottom and at the rear thereof, which is open, as shown at D. Near the front of the body A is a transverse partition E, extending about half-way from the top to the bottom of the body, which forms a chamber or receptacle F. The bottom G of the said receptacle F inclines downwardly toward each side of the body from about the center thereof, as shown in Fig. 3, it being noticed that as Fig. 3 is a central vertical section of the line *x x* of Fig. 2 the upper end of the right-hand inclined side of the bottom G is shown as inclined downwardly or sloping toward the right-hand of the machine. At each side of said receptacle F is an opening H, closed by the sliding doors J, operated by the levers K, extending forward adjacent to the driver's seat L. To permit access to the interior of the body, the top thereof is formed with the slides M and hinged doors N.

Projecting rearwardly from the rear end of the body A are brackets P, through the rear end of each of which extends the screw-threaded shaft or crank Q, having a handle R. The lower end of shaft Q passes freely through an enlarged opening in the horizontally-arranged cross-bars S, the latter extending across the machine and provided with depending end pieces T, in which the ends of shaft U of the rotatable sweeping-brush V are mounted. The bottom of said shaft Q has a head which bears freely against the under side of said cross-bar S. Links W also receive the ends of the shaft U at their outer ends, while the inner ends of said links W are pivotally connected with the body, as at X. Situated below the bracket P and extending across the rear end of the body is a shield Z, the rear end of which overhangs the brush D and deflects any sweepings that may be thrown upwardly by the brush V, more particularly against the head S of the screw, the screw-shaft itself and the bearing P for said shaft thus preventing clogging of said parts, it being noticed that said shield Z extends somewhat forward of said shaft, whereby the sweepings thrown upwardly against the same will drop upon the shoe T′ and so be swept forward to the apron D′.

Mounted within the body A and at the upper end of the partition E is a roller A′, and mounted upon the brackets B′ near the lower rear end of the body is a roller C′, situated below the body. Trained around the rollers A′ and C′ is a traveling apron or endless conveyer D′, whose outer surface is transversely corrugated.

Pivotally mounted upon the shaft E′ of the roller C′ are the plates F′, to which is secured the shoe G′, extending across the machine, the upper end of which overlaps the lower end of the apron D′, while the lower end of said shoe G′ is situated adjacent the brush V. The lower ends of the plates F′ extend below the lower edge of the shoe G′, and thus prevent the latter from scraping over the surface of the street, so that it passes over the dirt, &c. The plates F′ are connected with the links W by means of the bars H′, so that the shoe is raised or lowered with the brush V. Situated within the body A and just

above the upper end of the apron D′ is the clearing and distributing brush J′, the shaft A^2 of which is mounted in suitable bearings on the sides of the body, said brush J′ contacting with the apron as it passes over the roller to insure the removal of all sweepings therefrom and to distribute the same throughout the receptacle F.

The mechanism for driving the rotatable sweeping-brush V comprises a bevel-gear K′ on one of the wheels B, a shaft L′, mounted on the side of the body A and geared at one end to the gear K′ and at its other end to the beveled gear P^2 on the shaft M′, the latter being secured to said body. The gear P^2 is connected with the sprocket-wheel P′, from which latter motion is communicated to the shaft U of the rotary brush V by means of the sprocket-chain N′, which passes around said sprocket-wheel P′ and the sprocket-wheel Q′, the latter being connected with said shaft U of the brush, it being noticed that the shaft L′ extends in the longitudinal direction of the machine and carries at its ends the beveled pinions or gears L^2, which mesh with said gear K′ and P^2, as has been stated, by which provision the power of the wheel B is positively imparted to the sprocket-wheel P′. The shaft U is mounted on the pieces T and links W and carries the brush V, as has been stated. On the other side of the body the shaft A^2 of the clearing-brush is provided with the sprocket-wheel R′, connected, by means of the sprocket-chain S′, with the sprocket-wheel T′, loose on the shaft U′ of the roller A′, said sprocket-wheel T′ being rigid with a bevel-gear V′. Fixed to the shaft U′ is a bevel-gear W′, while a shaft X′, geared at one end to the bevel-gear Y′ on the wheel B, is provided at its other end with a bevel-pinion Z′, meshing with the bevel-gears V′ and W′, so as to give the clearing-brush a rotation in the direction shown by the arrow in Fig. 3 and turn the roller A′ to cause the apron to travel in the direction of the arrow.

The operation is as follows: The brush V and the shoe G are adjusted by the crank Q at the height desired to do the necessary work, and it is obvious that when the machine advances the power transmitted from the wheels B turns the brush V in the direction shown in Fig. 3, which throws the sweeping over the shoe G′ and onto the apron D′, the latter elevating and depositing the same in the receptacle F, while the brush J′ removes from the apron all the sweepings that may be carried thereby and distributes them in the receptacle, the same being directed by the inclined floor G toward the doors J. By means of the levers K said doors J may be raised to permit the sweepings to be removed from either or both sides of the receptacle F, this being easily accomplished by the inclined floor G.

It is understood, of course, that suitable removable receptacles can be placed within the receptacle F to receive the sweepings, which when the doors J are opened again may slide down on the inclined floor G, and thus be removed out of the receptacle F. The doors M and N at the top of the body can be opened for examining the interior in an obvious manner. By means of the screw-shaft Q the brush can be raised or lowered to obtain the necessary pressure of said brush on the street or roadway in accordance with the work to be done or to raise it sufficiently when not in use.

In Fig. 1 I show devices by means of which the driver can lift the sweeping-brush V, the same consisting of a rope or connecting-piece B^2, connected at its rear end with the cross-bar S and at its front end with a lever C^2, said rope or connecting-piece B^2 being supported by pulleys D^2, carried by brackets E^2, mounted upon the body A. The lever C^2 being situated adjacent the driver's seat, it is obvious that the latter can readily manipulate the same, it being also evident that the rope, connecting-piece, or chain B^2 may be operated by the driver to raise the brush V without changing the adjustment of the latter, due to the screw-shafts Q, it being noticed that the arms T are pivotally connected with the links W and that the latter are pivotally mounted on the body A, the shoe F′ being also mounted on said body and pivotally connected with the links W, as hereinbefore stated. Attention is also directed to the fact that the cross-bar S, which is connected with the upper ends of the arms or pieces T, has the screw-shafts swiveled thereon, so as to play freely in said cross-bar, the lower portions of said shafts passing through enlarged openings in said cross-bar S, the bottoms of said shafts having heads which rest freely against the under side of said cross-bar, by which provision said screw-shafts Q may raise said cross-bar and the connected parts and lower without binding on said cross-bar.

It is obvious that various changes may be made in the construction of the apparatus shown without departing from the scope of my invention, and I do not, therefore, desire to be limited in every instance to the exact construction herein shown and described.

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

1. A street-sweeping machine having a rotary brush, links pivotally mounted on the body and forming bearings for the shaft of said brush, vertically-arranged arms rising from said shaft and having the latter passing freely therethrough, a horizontally-extending cross-bar connected with the upper ends of said arms and having an enlarged opening, a screw-shaft, the latter passing freely through said opening, a bearing-piece for said shaft extending from the body of the machine and having a threaded opening with which said shaft engages, a head on the lower end of said shaft bearing freely against the under side of said cross-bar, a shoe pivotally mounted on

the body in front of said brush and a pivotal coupling-bar common to said shoe and said links.

2. In a street-cleaning machine, an endless conveyer, a roller in the body around which said endless conveyer passes, a clearing-brush within the body adjacent to said endless conveyer, shafts for said roller and clearing-brush, a sprocket-wheel loose on the shaft of said roller, and geared with the shaft of said brush, and a gear-wheel fixed to the shaft of said roller and geared both with said loose sprocket-wheel and a running wheel of the body of the machine.

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