W. C. & H. W. ELLIOTT.

STREET SWEEPER.

APPLICATION FILED JULY 29, 1914. RENEWED AUG. 31, 1916.

1,200,092.

Patented Oct. 3, 1916.

4 SHEETS—SHEET 1.

Fig. 6.

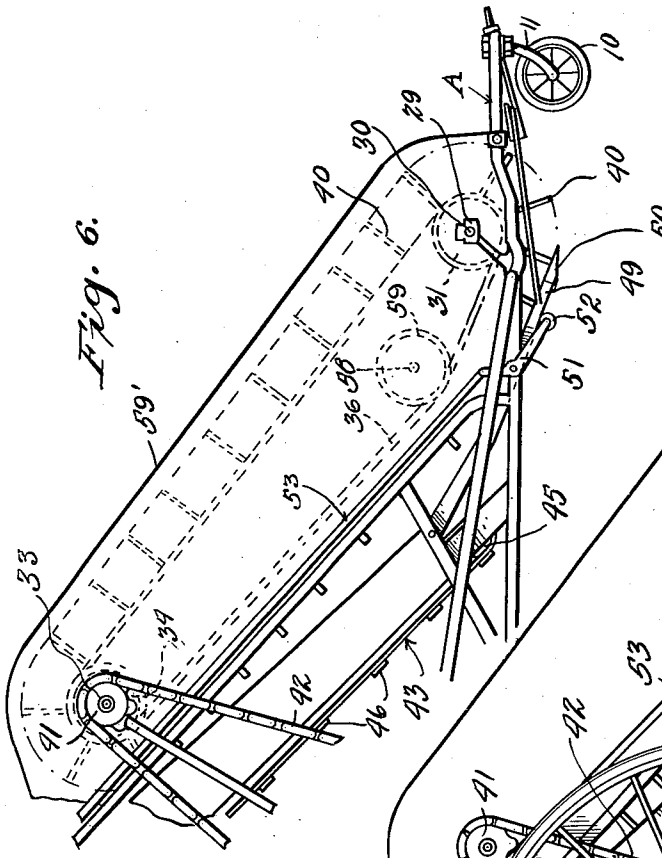
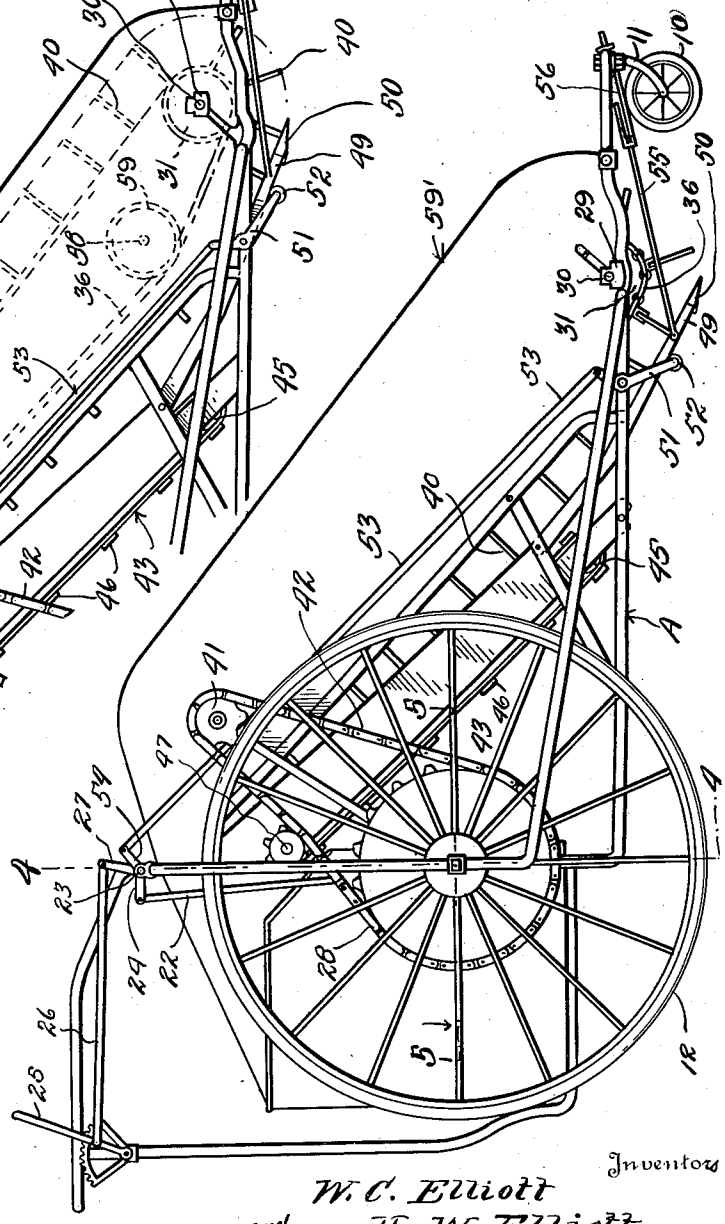


Fig. 1.



Witnesses

Inventors

W. C. Elliott

and H. W. Elliott.

By

Attorneys

W. C. & H. W. ELLIOTT.

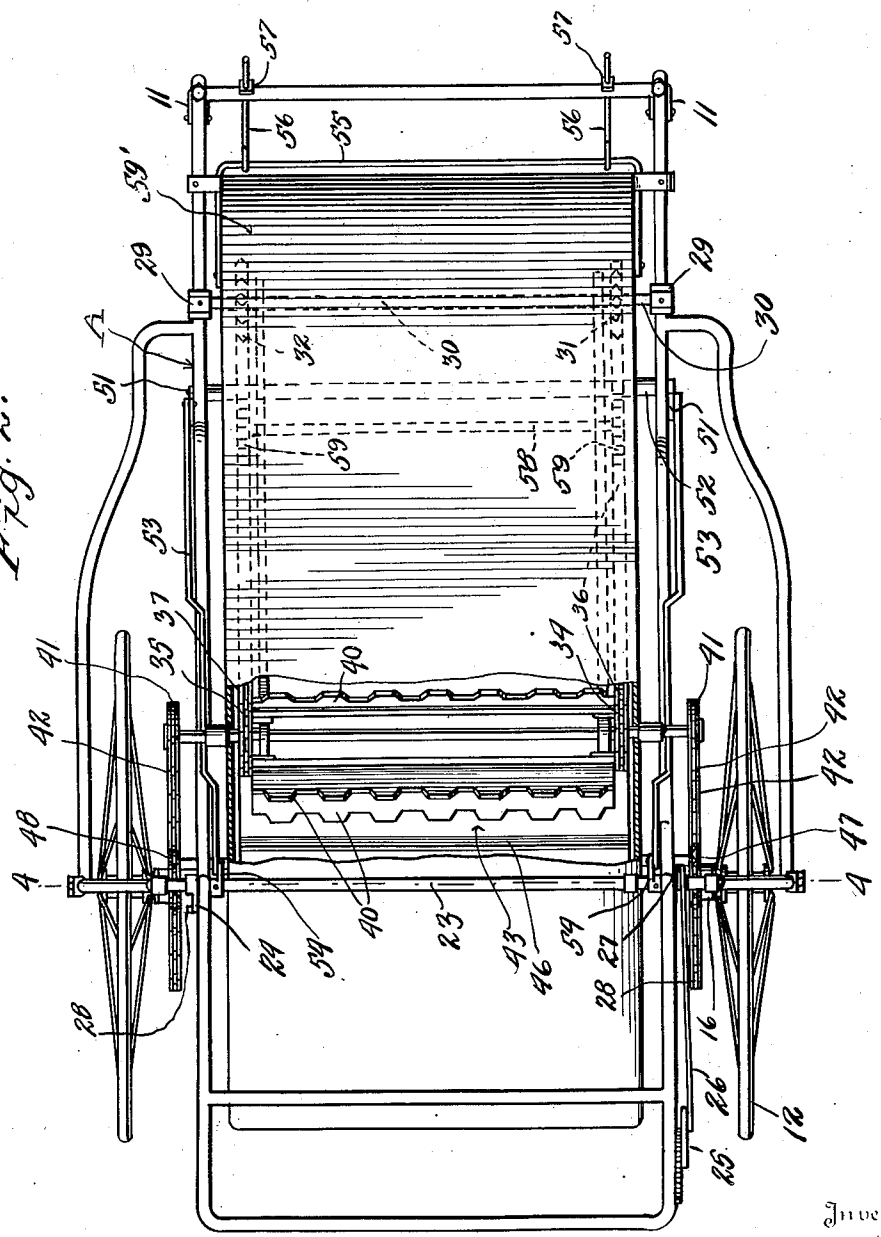
STREET SWEEPER.

APPLICATION FILED JULY 29, 1914. RENEWED AUG. 31, 1916.

1,200,092. Patented Oct. 3, 1916.

4 SHEETS—SHEET 2.

Fig. 2.



Witnesses

J. MacCalla

Henry T. Bright

Inventors

and W. C. Elliott

H. W. Elliott

By Howson & Howson

Attorneys

W. C. & H. W. ELLIOTT.

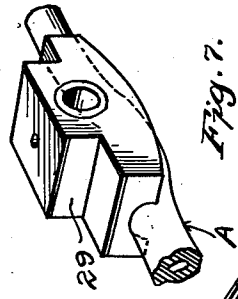
STREET SWEEPER.

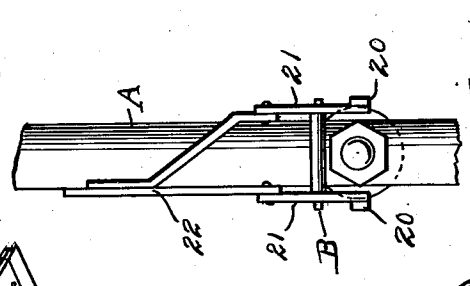
APPLICATION FILED JULY 29, 1914. RENEWED AUG. 31, 1916.

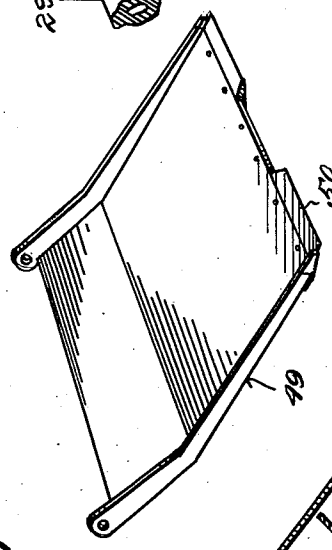
1,200,092.

Patented Oct. 3, 1916.

4 SHEETS—SHEET 3.







Witnesses

MacCarter

Henry T. Bright

Inventors

and W. C. Elliott

H. W. Elliott

By Sanders & Brandon

Attorneys

W. C. & H. W. ELLIOTT.

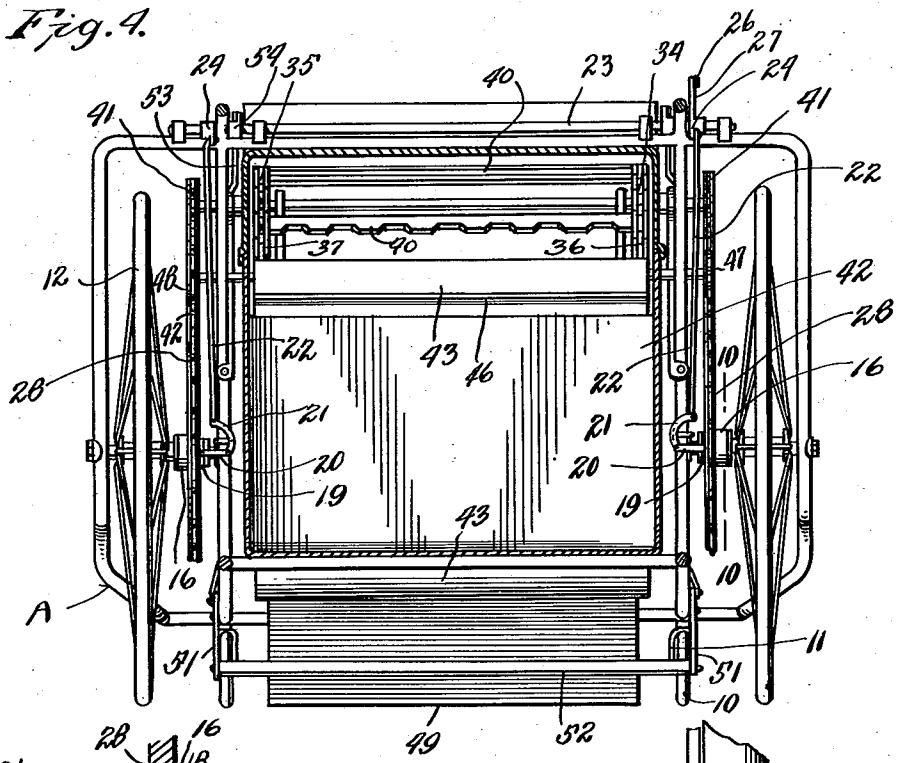
STREET SWEEPER.

APPLICATION FILED JULY 29, 1914. RENEWED AUG. 31, 1916.

1,200,092. Patented Oct. 3, 1916.

4 SHEETS—SHEET 4.

Fig. 4.



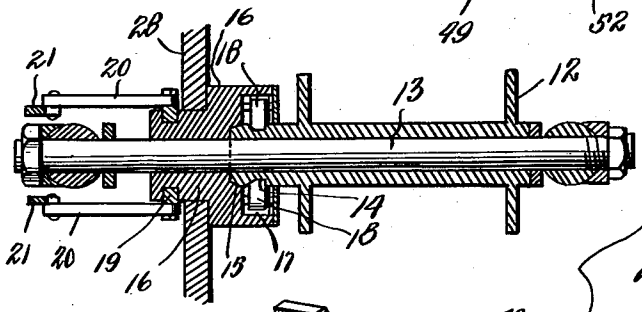


Fig. 5.

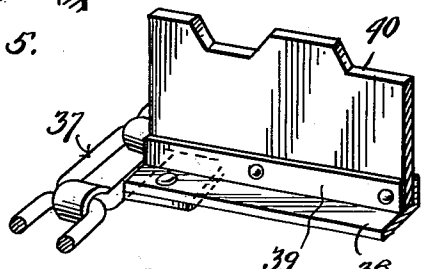
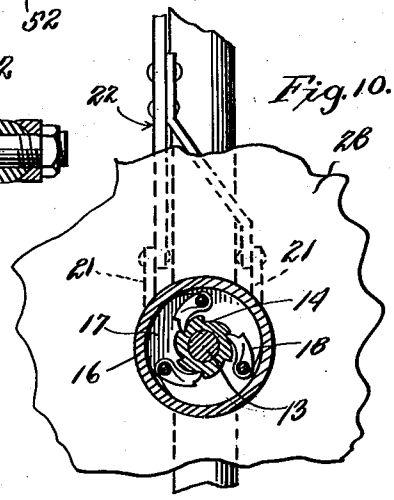


Fig. 9.

Fig. 10.



Witnesses

F. J. MacCarthy

Henry P. Burghardt

Inventors

and W. C. Elliott

H. W. Elliott

By Thomas & Thomas

Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM C. ELLIOTT AND HARRY W. ELLIOTT, OF EUGENE, OREGON; SAID WILLIAM C. ELLIOTT ASSIGNOR, BY MESNE ASSIGNMENTS, OF TWO-FIFTHS OF THE WHOLE RIGHT TO A. R. EATON, OF EUGENE, OREGON.

STREET-SWEEPER.

1,200,092. Specification of Letters Patent. Patented Oct. 3, 1916.

Application filed July 29, 1914, Serial No. 853,896. Renewed August 31, 1916. Serial No. 117,840.

To all whom it may concern:

Be it known that we, WILLIAM C. ELLIOTT and HARRY W. ELLIOTT, citizens of the United States, residing at Eugene, in the county of Lane, State of Oregon, have invented certain new and useful Improvements in Street-Sweepers; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to street sweepers and particularly to that type which is operated by hand.

The object of the invention resides in the provision of a street sweeper adapted to be moved along the ground by a single workman and embodying an improved construction for gathering the sweepings during the movement of the machine and depositing same in a receptacle forming a part of the device.

A further object of the invention resides in the provision of a street sweeper of the character named in which the mechanism for gathering the sweepings is operated in such a way that dust is eliminated and very little noise produced.

A still further object of the invention resides in the provision of a street sweeper of the character referred to embodying a construction of drive mechanism for the various parts designed to reduce to a minimum the power required to move the device along the ground.

With the above and other objects in view the invention consists in the details of construction and in the arrangement and combination of parts to be hereinafter more fully described and particularly pointed out in the appended claims.

In describing the invention in detail reference will be had to the accompanying drawings wherein like characters of reference denote coresponding parts in the several views, and in which—

Figure 1 is a side elevation of a street sweeper constructed in accordance with the invention; Fig. 2, a plan view of same; Fig. 3, a vertical longitudinal section of the sweeper; Fig. 4, a section on the line 4—4 of Fig. 2; Fig. 5, an enlarged section on the line 5—5 of Fig. 1; Fig. 6, a partial side elevation showing the gathering pan elevated to permit movement over the ground when the clutch device of the machine is thrown out; Fig. 7, a detail perspective view of one of the forward bearings of the endless brush; Fig. 8, a detail perspective view of the forward end of the gathering pan; Fig. 9, a detail perspective view disclosing the mounting of the rubber blades of the endless brush; Fig. 10, a section on the line 10—10 of Fig. 4, and Fig. 11, a view looking at the left hand side of Fig. 5.

Referring to the drawings the improved street sweeper is shown as comprising a frame A formed of connected sections of piping and supported at its forward end by wheels 10 journaled in brackets 11 which latter are swiveled in the frame A. The frame A is supported at its rear end by wheels 12 journaled respectively on axles 13 mounted on the frame A. The inner end of the hub of each wheel 12 is provided with a plurality of notches 14 arranged in circumferential alinement, while the extreme inner end of the hub of each wheel 12 is tapered as at 15. Slidably and rotatably mounted on each axle 13 is a sleeve 16 disposed adjacent the inner end of the hub of the wheel 12. The end of the sleeve 16 adjacent the hub of the wheel 12 is recessed as at 17 and said hub projects into this recess. Pivoted in the recess 17 are dogs 18 adapted in one position of the sleeve 16 to coöperate with the notches 14 and transmit the rotation of the wheel 12 to the sleeve 16. Rotatably mounted on each sleeve 16 is a ring 19 to which are pivotally connected at diametrically oposite points corresponding ends of links 20. Pivotally mounted on the frame A inwardly of each sleeve 16 are arms 21 corresponding ends of which are pivotally connected to respective links 20. The outer ends of the arms 21 are pivotally connected to the forked terminals of a bar 22 which extends vertically.

Rotatably mounted on the uppermost portion of the frame A directly above the axles 13 is a shaft 23 provided at each end with a crank arm 24 which is pivotally connected with the upper end of the adjacent bar 22. The shaft 23 is adapted to be rotated through the medium of a lever 25 pivoted

upon the frame A and connected by a link 26 to an arm 27 mounted on the shaft 23. By this construction it will be apparent that when the lever 25 is moved to the rear the bars 22 will be forced downwardly which will result in the sleeves 16 being moved inwardly to effect disengagement of the dogs 17 from the notches 14. Forward movement of the lever 25 will rotate the shaft 23 to lift the bars 22 and this movement of the bars 22 will force the sleeve 16 outwardly and move the dogs 17 into operative relation with respect to the notches 14. In this manner the sleeves 16 can be readily connected and disconnected to and from the adjacent wheels 12. Fixed on each sleeve 16 is a sprocket wheel 28 for a purpose that will presently appear.

Mounted upon the frame A adjacent the forward end thereof in suitable dished portions of the frame are transversely alined bearings 29 which rest loosely in the dished portions respectively and are grooved on their under sides to receive the frame. Rotatably mounted in the bearings 29 is a transverse shaft 30 upon which are fixed sprocket wheels 31 and 32. Rotatably mounted in the frame A inwardly of the shaft 30 and at a greater elevation than the latter is a transverse shaft 33 having fixed thereon sprocket wheels 34 and 35 disposed in alinement respectively with the sprocket wheels 31 and 32. Traveling on the sprocket wheels 31 and 34 is a sprocket chain 36, while a sprocket chain 37 travels on the sprocket wheels 32 and 35. These sprocket chains 36 and 37 are connected at spaced points by angle irons 38 to which are secured by means of clamping plates 39 rubber blades 40. Also fixed upon the shaft 33 are sprocket wheels 41 which aline with respective sprocket wheels 28, and traveling on alined sprocket wheels 28 and 41 are sprocket chains 42.

It will be noted that the sprocket chains 36 and 37 in connection with the blades 40 form the endless brush of the machine.

Mounted on the frame A beneath the brush of the machine is an endless conveyer 43 traveling on upper and lower rollers 44 and 45 respectively. The conveyer 43 is provided with transverse ribs 46. The trunnions of the roller 44 have fixed thereon sprocket wheels 47 and 48 which are engaged by respective sprocket chains 42 for the purpose of operating the conveyer 43. Pivoted on the frame A beneath the forward end of the brush of the machine and in position to deliver to the forward end of the conveyer 43 is a gathering pan 49 over the upper side of which the blades 40 are adapted to sweep in a rearward direction during the operation of the machine. The foward end of the pan 49 is provided with an adjustible strip 50 which directly engages the surface of the street being cleaned as the machine is moved along the ground. Pivoted on the sides of the frame A are angle levers 51 corresponding ends of which have a roller 52 journaled therebetween, said roller being adapted to engage the lower side of the pan 49. The other ends of the levers 51 have pivotally connected thereto links 53 respectively, which latter are in turn pivotally connected to radial arms 54 respectively fixed to the shaft 23, said arms being positioned in such manner that when the lever 25 is moved rearwardly the angle levers 51 will be operated to lift the forward end of the pan 49 out of engagement with the surface of the street. It will be noted that the rotation of the shaft 23 to lift the forward end of the pan 49 will simultaneously effect the disengagement of the dogs 17 from the notches 14.

In order to positively support the forward end of the pan 49 in different adjustments there is pivoted to said pan a bail 55 adapted to be engaged over hook members 56 adjustably mounted in the forward end of the frame A. By adjusting the hook members 56 through the medium of nuts 57 mounted thereon it will be obvious that the forward end of the pan 49 can be adjusted as desired.

Journaled in the frame A between the upper and lower portions of the sprocket chains 36 and 37 is a shaft 58 having fixed thereon sprocket wheels 59 engaged by respective sprocket chains 36 and 37 and serving to force the lower portions of said chains downwardly so as to maintain the outer edges of the blades 40 in engagement with the upper side of the pan 49 and whereby the sweepings are positively forced over the rear end of the pan and onto the conveyer 43 from whence they are discharged into the receptacle at the rear of the frame A.

A hood 59 is mounted upon the frame A so as to cover the endless brush thereof and confine any dust that may be created in the operation of the machine.

What is claimed is:—

In a street sweeper, the combination of a wheel frame, a gathering pan pivoted on the frame and adapted to engage the surface being cleaned at its free end, means for pivotally adjusting the gathering pan, means for supporting the free end of the pan in different normal elevations and permitting free pivotal movement of the pan above said normal elevation, said means comprising rods adjustably mounted in the frame and having their inner ends terminating in hooks, rods pivoted to the pan and having their free ends terminating in hooks slidably and interlockingly engaged with the hooks of the first named rods, a

conveyer, a brush device for transferring the sweepings from the gathering pan to the conveyer, a receptacle mounted upon the frame for receiving the sweepings from the conveyer, and traction operated means for simultaneously actuating the brush device and the conveyer.

In testimony whereof, we affix our signatures, in the presence of two witnesses.

WILLIAM C. ELLIOTT.
HARRY W. ELLIOTT.

Witnesses:
A. R. EATON,
L. A. HALL.