(No Model.)

# J. JONES & A. GILLIES.

## STREET SWEEPER.

No. 599,937. Patented Mar. 1, 1898.

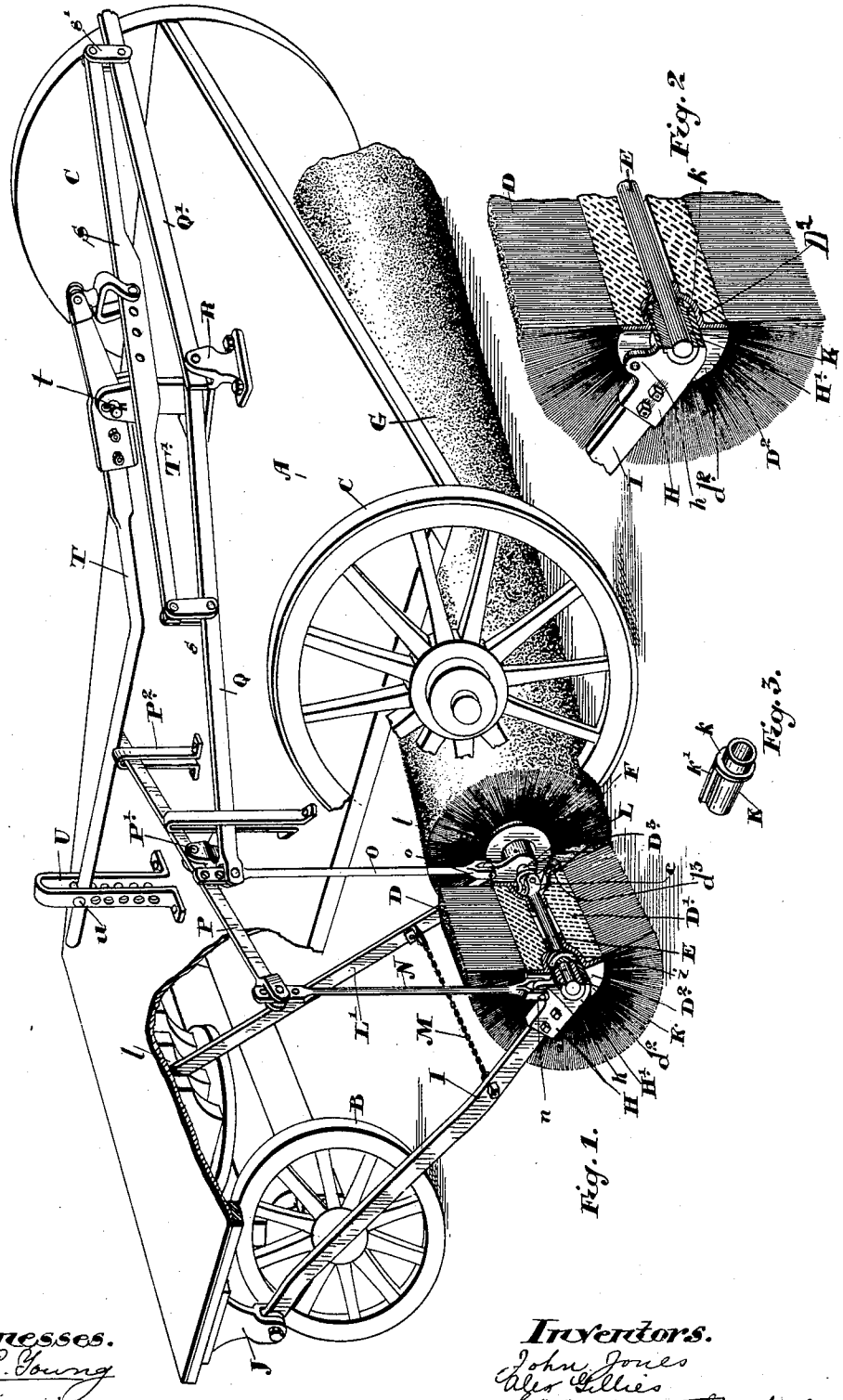


Fig. 1.



Fig. 2.



Fig. 3.

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# UNITED STATES PATENT OFFICE.

JOHN JONES AND ALEXANDER GILLIES, OF TORONTO, CANADA, ASSIGNORS TO JAMES EDWARD KNOX, OF SAME PLACE.

## STREET-SWEEPER.

SPECIFICATION forming part of Letters Patent No. 599,937, dated March 1, 1898.

Application filed June 28, 1897. Serial No. 642,583. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN JONES and ALEXANDER GILLIES, of the city of Toronto, in the county of York, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Sweepers, of which the following is a specification.

Our invention relates to improvements in sweepers; and the object of the invention is to design a simple and easily-adjusted form of auxiliary brush by which the gutters and sides of the streets may be effectually swept; and its consists, essentially, of a brush connected by a universal joint to the end of the shaft of the main rotating brush, such auxiliary brush being suitably journaled on bar-hangers connected to the bottom of the frame of the wagon, and the parts being constructed and arranged in detail as hereinafter more particularly explained.

Figure 1 is a perspective view of a street-sweeper provided with our improvement, parts being broken away. Fig. 2 is an enlarged perspective sectional detail of the outer end of the auxiliary brush. Fig. 3 is a perspective detail of the outer journal-sleeve.

In the drawings like letters of reference indicate corresponding parts in each figure.

A is the main body or floor of the wagon.

B are the front wheels, and C are the rear wheels.

D is the auxiliary circular brush, which is provided with a central axle E, connected by a universal joint *e* to the end shaft F of the main brush G.

D′ is the hub of the auxiliary brush, which is provided with cup-shaped ends $D^2$ and $D^3$, which are secured to the ends of the hub D′. The hub is preferably made of wood to receive the bristles of the brush and has the flanges $d^2$ and $d^3$ secured to the ends. The inner ends of the cup-shaped ends $D^2$ and $D^3$ are secured to the axle E.

H is a bracket secured to the lower end of the hanger-bar I, the upper end of which is pivotally connected to the hanger-bracket J, secured to the bottom of the sweeper. The bracket H has a cylindrical rear end H′, through which extends the sleeve K, having a flanged inner end *k*, which projects behind the inner end of the cylindrical rear end H′ of the bracket. The inner end of the sleeve K fits also within the cup-shaped end $D^2$ and has the axle E′ extending through it.

L is a bracket journaled on the axle F of the main brush G and connected by the bar-hanger L′ to a suitable bracket *l* on the bottom of the body.

M is a chain connecting the hanger-bars I and L′.

N and O are rods having forked ends *n* and *o*, respectively, which are pivotally connected to lugs *h* and *l′* at the tops of the brackets H and L, respectively.

P is a lever pivotally connected to the top of the rod N, fulcrumed on the bracket P′ and extending through the metal strap $P^2$, secured to the top of the body.

Q is a lever pivotally connected at the top of the rod O and fulcrumed on the bracket R.

Q′ is a lever at the opposite side, also fulcrumed on the bracket R.

S is a connecting-rod connected at one end by the links *s* to the lever Q and at the other end by link *s′* to the lever Q′.

T is the operating-lever, which is suitably connected at one end to the connecting-rod S, is fulcrumed at *t* on the bracket T′ and extends at the forward end through the metal strap U, secured to the top of the body. The main-brush-operating lever T extends across the end of the lever P, and thus when lever T is operated the lever P is operated simultaneously therewith. A pin *u* extends through the metal strap U above the lever, so as to hold the connecting-rod and its coacting levers and brushes at any desired height.

Having now described the principal parts involved in our invention, we shall briefly describe its utility. The brushes of course are driven in the usual manner, preferably from the opposite side of the machine to that shown in the drawings, and the auxiliary brush and main brush may be raised and lowered through the connecting-rods by the lever T hereinbefore described. The chain M, connecting the bar-hangers I and L′ together, serves to keep the journals of the auxiliary brush D in position and thereby permit of the rotation of the brush through the universal-joint connection *e* between the ends of the axle E and the ends of the axle F of the main

brush. The auxiliary brush formed in the manner such as we describe, it will be readily seen, serves to clean out the gutters next the curb, as such brush may be raised and lowered at the outer side into any desired angle through the series of holes at the top of the rod N.

In utilizing the auxiliary brush we wish it to be understood that the hind wheel is the guide for the driver, as it passes along close to the curb, and the outside of the brush is situated just inside the wheel, so as to protect it and at the same time utilize the brush very close to the curb. It will also be understood that the distance between the front wheels is very much less than that between the rear wheels.

The sleeve, which is journaled in the rear cylindrical end of the bracket H, is also made to fit such cylindrical end loosely, so that the bearing will not bind when the brush rotates and is in a canted position. The sleeve K does not revolve itself, but is held from turning by a feather-key $k'$ in the cylindrical end, and being loose is permitted of being slightly canted in its bearing.

What we claim as our invention is—

1. In combination, the main brush, the auxiliary brush situated to one end of the main brush and a suitable axle therefor, a universal-joint connection between such axle and the axle of the main brush, the hub, cup-shaped ends for the same secured to the axle, the inner and outer end brackets and bar-hangers connected thereto and pivotally supported at the bottom of the wagon and means for preventing the lateral displacement of the bar-hangers at their rear ends as and for the purpose specified.

2. In combination, the main brush, the auxiliary brush situated to one end of the main brush and a suitable axle therefor, a universal-joint connection between such axle and the axle of the main brush, the hub, cup-shaped ends for the same secured to the axle, the inner and outer end brackets and bar-hangers connected thereto pivotally supported at the bottom of the wagon and a chain connecting the bar-hangers as and for the purpose specified.

3. In combination, the main brush, the auxiliary brush situated to one end of the main brush and a suitable axle therefor, a universal-joint connection between such axle and the axle of the main brush, the hub, cup-shaped ends for the same secured to the axle, the inner and outer end brackets and bar-hangers connected thereto pivotally supported at the bottom of the wagon, the cylindrical rear end formed in the outer bracket, the sleeve through which the axle extends having an inner flange designed to project against the inner end of the cylindrical rear end of the bracket and means for preventing lateral displacement of the bar-hangers at their rear ends as and for the purpose specified.

4. In a sweeper or like machine, in combination the main brush, lever mechanism for adjusting the same, the auxiliary brush situated to one end of the main brush and a suitable axle therefor, a universal-joint connection between such axle and the axle of the main brush, suitable journals for the auxiliary brush supported from the frame of the machine, a vertically-adjustable rod connected at its lower end to the journal-box at the outer end of the auxiliary brush, the operating-lever suitably pivoted and connected to said rod and the main-brush-operating lever extending over the inner end of the auxiliary-brush-operating lever as and for the purpose specified.

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