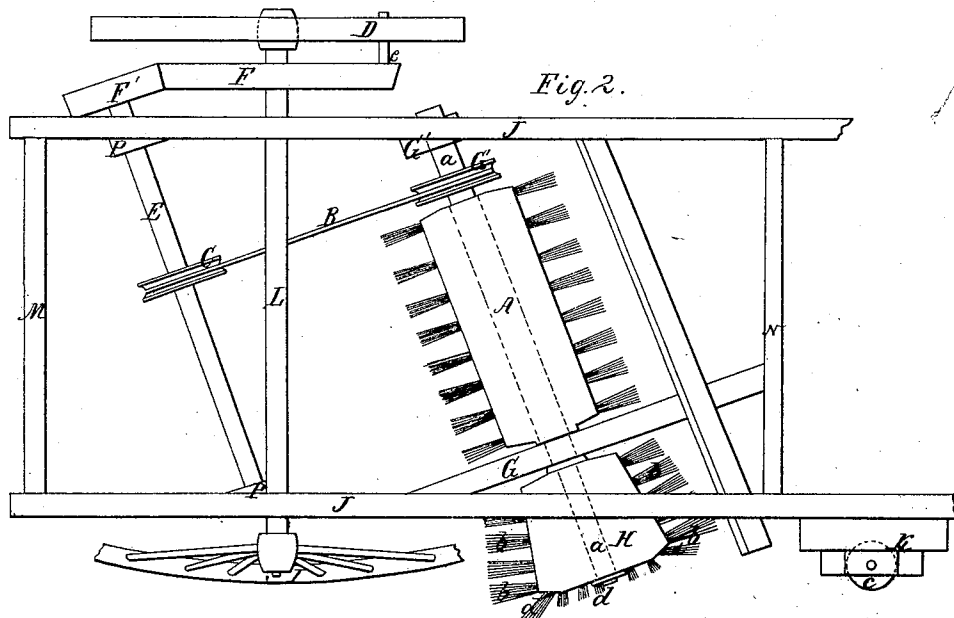
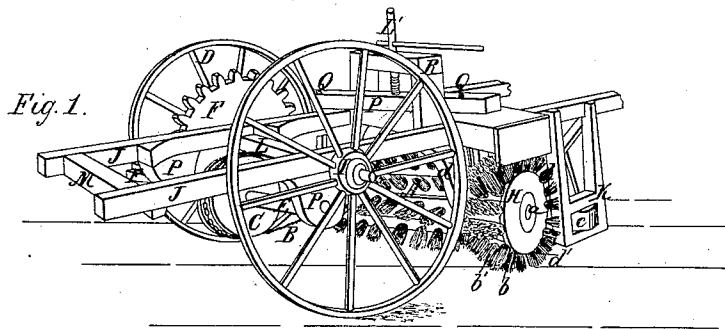


Street Sweeper.

$N^{\circ} 13,700.$

Patented Oct. 23, 1855.



Witnesses;
Henry T Rees
James Allen

Inventor;
R. A. Smith

UNITED STATES PATENT OFFICE.

ROBT. A. SMITH, OF PHILADELPHIA, PENNSYLVANIA.

MACHINE FOR SWEEPING GUTTERS, &c.

Specification of Letters Patent No. 13,709, dated October 23, 1855.

To all whom it may concern:

Be it known that I, ROBERT A. SMITH, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Machines for Sweeping Streets, Roads, &c.; and I do hereby declare that the same are described and represented in the following specification and drawings.

To enable others skilled in the art to make and use my improvements I will proceed to describe their construction and operation referring to the drawings in which the same letters indicate like parts in each of the figures.

Figure 1, is a perspective view of the machine. Fig. 2, is a plan with a part of one wheel and the top part of the brushes omitted.

The object and design of my improvements is to sweep the side of the curbstones and the gutters as well as the other parts of the streets, and to make a cheap machine, so simple in its construction that it could be operated with facility by a common laborer: which I have succeeded in doing by making an adjustable brush to conform to or correspond with the shape of the gutter to be swept, and arranging and operating it outside of the journal of the shaft which carries it, so as to sweep the sides of the curbstones and the bottom of the gutters at the same time, and in arranging a guard or gage wheel to prevent the gutter brush from being carried too hard against, onto, or over the curbstones, so as to derange or injure it, and further in so arranging the wheel of the carriage that runs in the gutter, by means of an angular axle or otherwise that the lowest portion of the tire, and the lowest portion only, will come in contact with the curbstones.

In the above mentioned drawings L, is an axle, having the wheel D, fitted to it in the usual manner, the outer end of the pivot of the opposite wheel I, being inclined upward, so that the lower portion of the tire, and the lower portion only, will come in contact with the curbstone, as the wheel rolls along in the gutter to carry the machine.

The shafts J, J, are fastened to the axle L, and connected together by the bars M, and N. To the latter the horse may be fastened, so as to travel between the shafts (which are represented as broken off) and

draw the machine as it sweeps the gutters and streets.

The gear F, is fitted to turn on the axle L, and provided with a pin *e*, which is acted upon by the spokes of the wheel D, which turns the gear F, to drive the gear F' and shaft E which shaft turns in the boxes P, P, fastened to the shafts J, J. The shaft E carries the pulley C, and rope or chain B to turn the pulley C', and shaft *a*, which turns in boxes fitted to traverse in the hanger G' fastened to the shaft J, and the hanger G fastened to the shaft J, and the bar N.

The cylindrical brush A, is fastened to the shaft *a*, between the pulley C' and the hanger G, and the conical brush H, is fastened to the end of the shaft *a*, beyond the hanger G, so that it can be readily removed and replaced, and has one row of bristles or brush *d*, *d*, standing or inclined outward as represented in the drawing, so as to sweep the side of the curbstone assisted by the brush *b*, *b*, which also aid in sweeping the gutter as the machine is operated by drawing it along the street.

The shaft *a*, is arranged diagonally to the axle L, and shafts J, J, so as to throw the sweepings from the gutter toward, or into the middle of the street and leave them in a ridge or row to be taken up by another machine or removed by laborers.

The boxes in which the shaft *a* turns are connected to the bar P, by the bolts Q, Q, so as to raise and lower the brushes, or adjust them as required by turning the screw L', in the frame R, which screw works in the bar P, for that purpose.

The frame *k*, is fastened to the shaft J, and carries the horizontal guard wheel *c*, which is fitted to turn in it and roll against the curbstones so as to prevent the brush H, from being carried too hard against, onto, or over the curbstones, so as to derange or injure the brush. The frame which carries the boxes of the guard wheel, or the boxes may be provided with springs so as to yield slightly to sudden pressure if preferred.

I find it a great advantage to make the gutter brush adjustable, and to arrange it so that it can be readily removed and another put in its place also in making it conform to or correspond with the shape of the gutter to be swept, so as to sweep the gutters as clean, and with the same facility that the other portions of the street are swept.

By putting the gutter brush on the end of the shaft outside of the journal I get rid of the support at the end, which might interfere with posts, tree boxes, lamp-posts, etc.

The machine having been constructed and completed as above described, and a horse harnessed between the shafts, as the machine is drawn along the street the wheel D, turns and carries the gear F, and turn the gear F', shaft E, pulley C, and carries the rope or chain B, so as to turn the pulley C', and shaft a, with the brushes A, and H, the latter of which sweeps the side of the curbstones and the gutter and throws the sweepings out from the curbstones so that they are taken by the brush A, along with what it sweeps and thrown into a ridge some distance from the curbstone and gutter.

I believe I have described the construction, operation and use of my improvements so as to enable any person skilled in the art to make and use them. I will now specify

what I desire to secure by Letters Patent, to wit:

1. I claim an adjustable gutter brush made to conform to or correspond with the shape of the gutter to be swept so constructed and arranged that it may be removed from and applied to the end of the shaft which carries it with facility substantially as described.

2. I claim the guard or gage wheel e, arranged so as to prevent the gutter brush from being carried too hard against, onto, or over the curbstones, so as to derange or injure it.

3. I claim so arranging the gutter wheel by means of an angular axle that the lowest portion of the tire, and the lower portion only, will come in contact with the curbstones substantially as described.

R. A. SMITH.

Witnesses:

JOHN S. HOLLINGSHEAD,
J. DENNIS, JR.