J. BANSER.

STREET SWEEPING MACHINE.

APPLICATION FILED JULY 22, 1908.

911,696.

Patented Feb. 9, 1909.

3 SHEETS—SHEET 1.

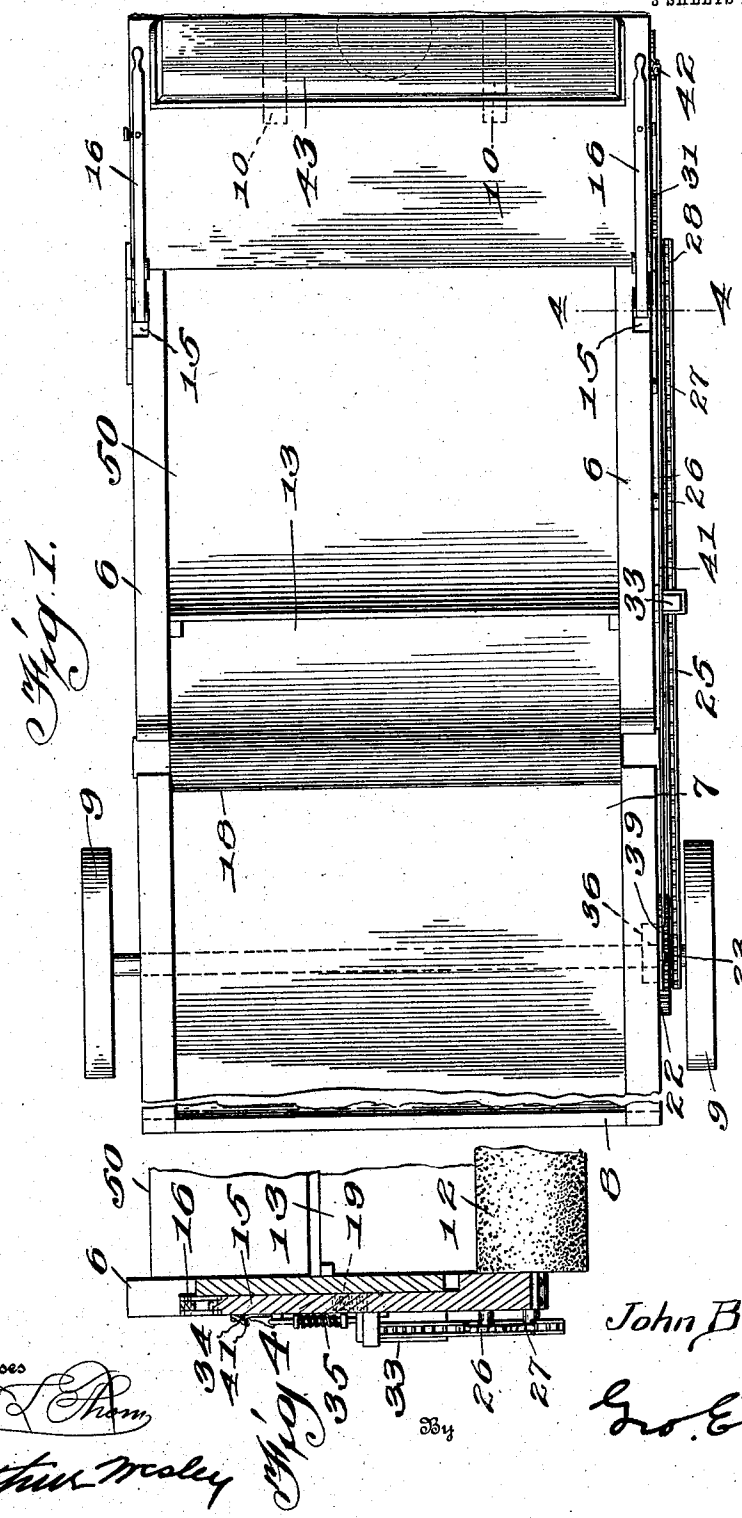


Fig. 1.

Fig. 4.

Witnesses

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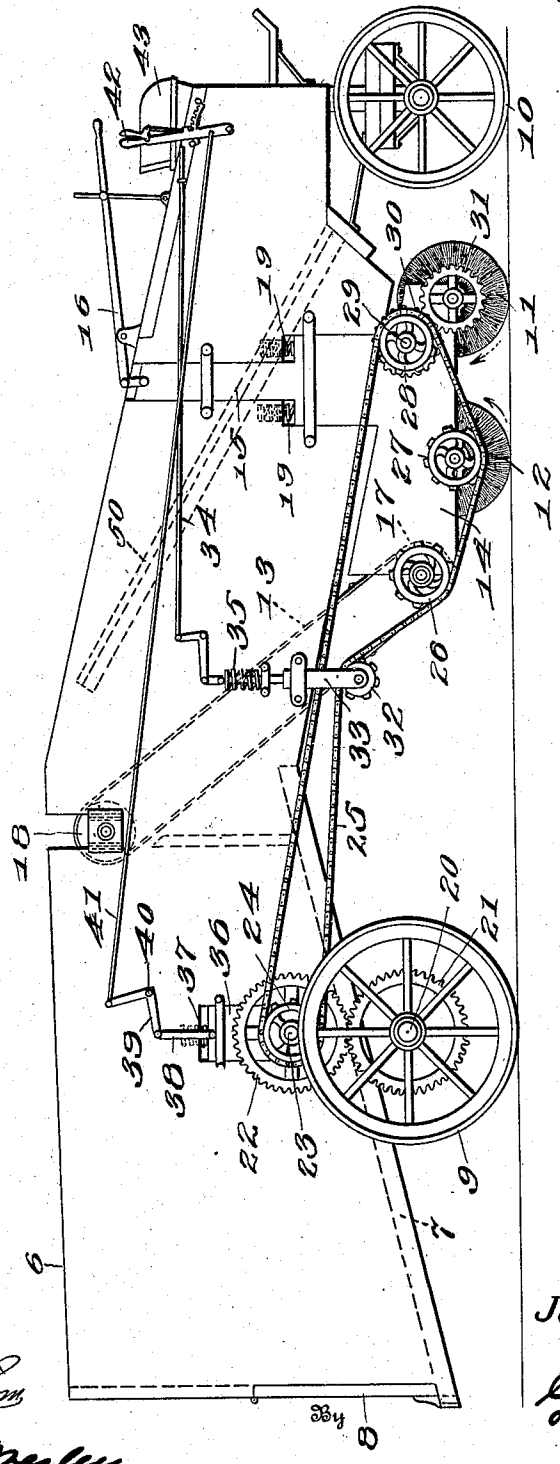


Fig 2

Witnesses

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3 SHEETS—SHEET 3.

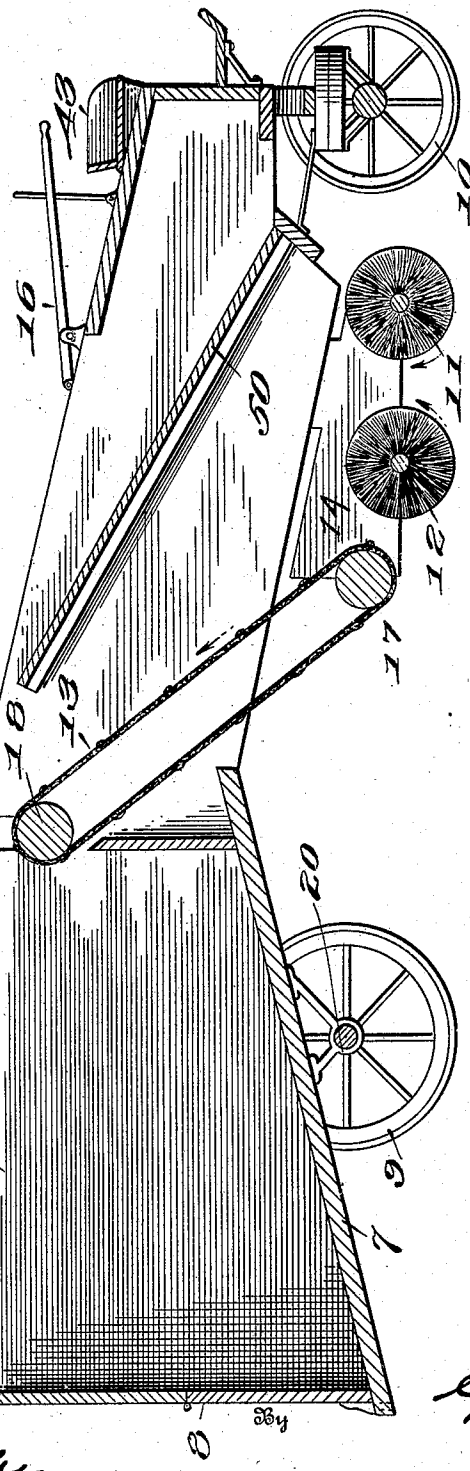


Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

JOHN BANSER, OF CEDAR LAKE, INDIANA.

STREET-SWEEPING MACHINE.

No. 911,696. Specification of Letters Patent. Patented Feb. 9, 1909.

Application filed July 22, 1908. Serial No. 444,801.

To all whom it may concern:

Be it known that I, JOHN BANSER, citizen of the United States, residing at Cedar Lake, in the county of Lake and State of Indiana, have invented certain new and useful Improvements in Street-Sweeping Machines, of which the following is a specification.

This invention relates to machines for sweeping streets, and especially to that class thereof which sweep the dirt into a wagon body or box by means of which the same may be carried away and dumped in any desired place.

The invention is characterized particularly by improvements with respect to the means for sweeping and elevating the dirt, and with respect to the means for raising and lowering the brushes and associated parts and for driving the same.

The invention is illustrated in the accompanying drawings in which—

Figure 1 is a top plan view of the machine; Fig. 2 is a side elevation; Fig. 3 is a longitudinal section; Fig. 4 is a cross section on the line 4—4 of Fig. 1.

Referring specifically to the drawings, the frame of the machine or vehicle consists of a pair of closed sides 6 with a box at the rear formed by a bottom 7 inclined downwardly and rearwardly. At the back is a door 8 which may be opened to allow the matter collected to be dumped from the box. The frame is mounted upon rear wheels 9 and front wheels 10, and is provided with the usual draft devices. Directly behind the front wheels is a pair of rotary brushes 11 and 12, which revolve toward each other, or in the direction shown by the arrows, that is, the front brush sweeps backwardly and the rear brush sweeps forwardly and the dirt is collected or lifted between the two and thrown up and back onto an endless apron 13 which elevates the dirt into the box or hopper above referred to. The apron extends at an inclination upwardly and backwardly from the rear brush. The shafts of the brushes are supported at their ends in boxings at the lower edge of castings or frames 14, of which there is one at each side. Each casting or frame has a standard 15 extending upwardly therefrom and sliding in a guide formed in the side frame 6 of the machine. At the upper end the standards are connected to levers 16, by means of which they may be raised and lowered, and when the levers are operated the frames 14 and the brushes carried thereby are raised and lowered accordingly, from or to contact with the street or pavement to be swept. The rollers 17 and 18 of the conveyer 13 are supported in bearing boxes in the sides of the machine. The supporting frames 14 are normally pressed down by springs 19 set in recesses in the side frames and bearing upon the upper edge of the vertically adjustable frames 14.

The power is supplied from the rear wheels of the machine. The axle 20 of said wheels has a spur gear 21 thereon which meshes with a spur gear 22 the stub shaft 23 of which has a sprocket 24 thereon. A chain 25 passes around the sprocket and around a sprocket 26 on the shaft of the lower roller 17 of the apron and also around a sprocket 27 on the shaft of the rear brush 12 as well as a sprocket 28 on a stub shaft 29 which carries a gear 30 meshing with a gear 31 on the shaft of the front brush 11. The chain also passes over idler pulley 32 mounted upon a sliding boxing 33 which is set in guides in the side frame of the machine and which is movable up and down by means of a rod 34, to tighten or loosen the belt. A spring 35 is coiled around the rod, acting normally to hold the belt tight. The stub axle 23 which carries the driving sprocket 24 is also mounted in a sliding boxing 36 which is movable up and down in a guide recess in the side frame of the machine, being normally pressed down by a spring 37 which holds the gears 21 and 22 in mesh. A rod 38 is connected to the boxing 36 and extends upwardly beside the frame and is connected at the top to a lever 39 which is fulcrumed at 40. This lever is connected by a rod 41 to a hand lever 42 at the front of the machine, adjacent the seat 43 of the driver. By manipulation of the lever, the boxing 36 may be raised or lowered, and the gears 21 and 22 engaged or disengaged, thereby starting or stopping the operation of the machine.

When the device is not in use, the driving gears 21 and 22 are disengaged, as stated, and the side frames or castings 14 are lifted to remove the brushes from the ground. To operate the machine for the intended purpose, the driving gears 21 and 22 are engaged, which drives the belt and so operates the brushes and the apron. The supporting frames 14 are then lowered by means of the

lever 16, bringing the brushes in contact with the ground, and then as the machine is hauled along, the dirt is swept up between the rapidly revolving brushes 11 and 12 and falls on the apron 13 by which it is elevated and dumped into the hopper at the rear of the machine, in which it is carried to any desired place. A shield or top 50 is located between the sides 6, above the brushes and extending backwardly over the apron, and any dirt thrown against the same will drop back onto the apron.

The invention is not limited to the exact form shown, but various modifications may be made within the scope thereof, as indicated in the following claims.

I claim:

1. In a street sweeper, the combination of a wagon frame with a box at one end thereof, a pair of rotary brushes extending across at the other end of the frame, means to drive said brushes in opposite directions, whereby the dirt will be lifted or thrown up between them, an inclined shield fixed between the sides of the frame above the brushes and extending at an inclination upwardly from the brushes toward the box, and an endless belt conveyer extending upwardly from the brushes to the box, and located under the shield.

2. The combination of a wagon with a box at the rear end, rotary brushes at the front end thereof, a conveyer extending from said brushes to the wagon box, vertically adjustable frames supporting said brushes and the front end of the conveyer, and means to drive said brushes and the conveyer, including a gear wheel on the rear axle of the wagon, a stub shaft slidably mounted on the side of the wagon and having thereon a gear wheel movable into and out of engagement with the said gear wheel, and belt and sprocket gearing between the stub shaft and the brushes and conveyer.

In testimony whereof, I affix my signature in presence of two witnesses.

JOHN BANSER.

Witnesses:
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S. C. DWYER.