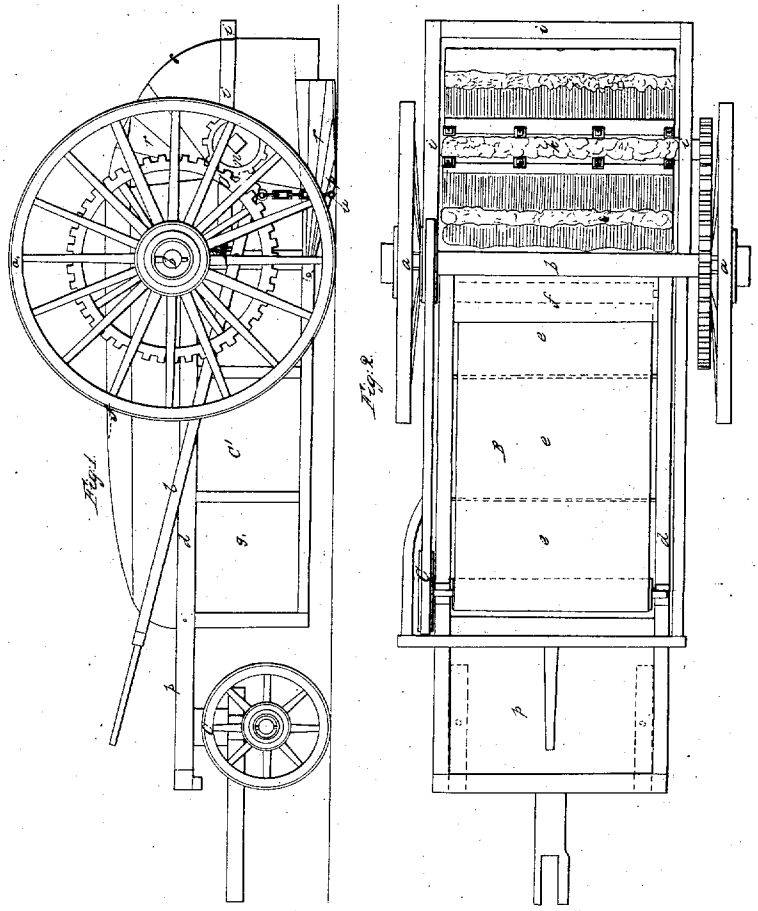
Sheet 1-2 Sheets.

7777X

L. Kidder,

Street Sweeper,

Patented Sep. 20, 1833.

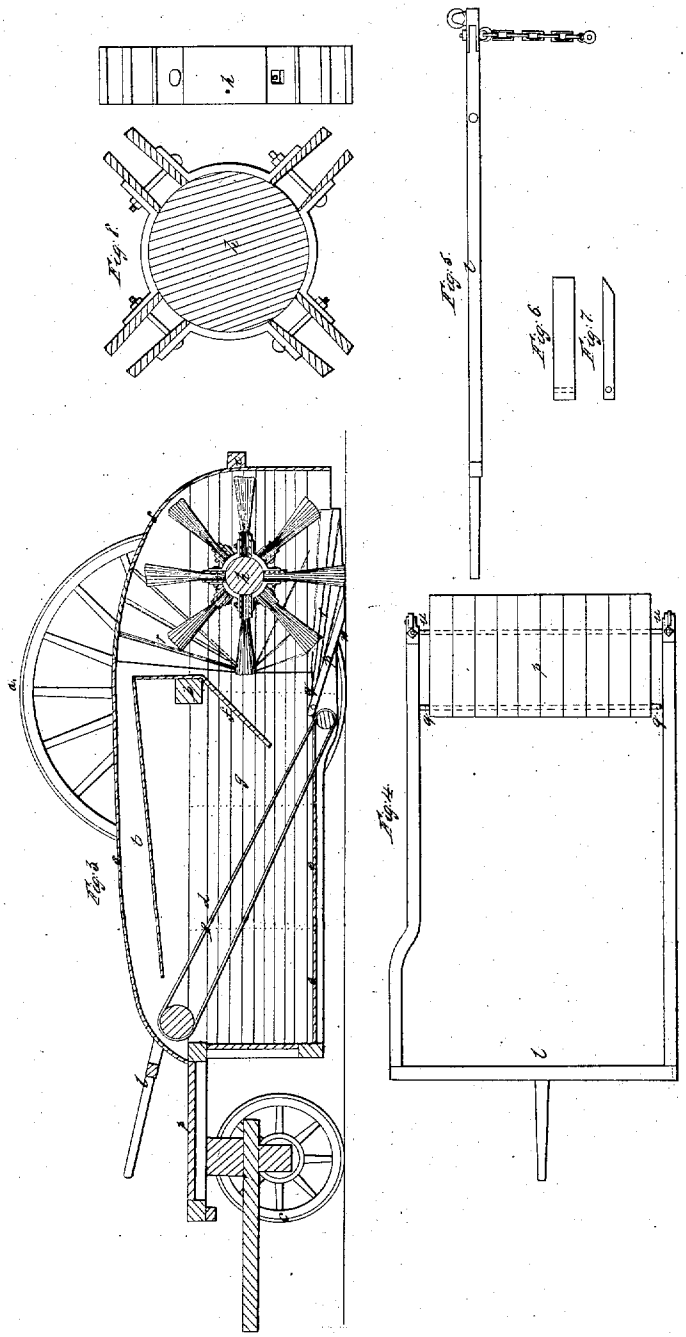


7777X

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7777X Sept. 20 1833 Sept 20, 1833 2/3.

Levi Ridden of New York City.

Letters Patent

The Schedule referred to in these Letters Patent and making part of the same containing a description in the words of the said Levi Ridden himself of his improvement being a Machine for sweeping Streets and at the same time removing the dirt,

To all to whom these presents shall come, Be it known that I Levi Ridden of the City County and State of New York have invented a new and useful improvement in a machine for sweeping Streets and at the same time removing the dirt, and that the following is a full and exact description of the construction and operation of said Machine as invented by me. 1st It consists of a wagon the hind wheels of which being high for the purpose of giving elevation to the body or dirt receiver are fastened to an iron axle which turns with them. The fore wheels are proportionably low and having a short axle they work beneath the frame or beams of the wagon. This arrangement of the fore wheels is designed to admit the wagon to make short turns. Upon the axles of these wheels rests the wagon frame work in the manner of other wagons, but unlike them, the receiver is built under instead of above the frame, bringing it near the ground thereby requiring only a small elevation for the dirt to be raised. For this purpose the receiver is framed into the side beams of the under side between the fore and hind axles as near the latter as other parts of the machine will allow; and at such distance from the former as will admit the fore wheels in turning to pass without interfering. The bottom of the receiver is constructed of several trap doors, filling the space between the cross beams of it. These doors are contrived for the purpose of discharging the receiver when loaded, the bottom being far enough from the ground to answer this purpose. The hind board inclines forward forming an angle of about 60 degrees making an inclined plane

The side boards extend beyond the ends of the receiving recess of the hind axle as far as the ~~shaft~~ of the broom will admit said broom to be hereafter described.

2nd A revolving cylindrical broom resembling a water wheel and consisting of eight or any convenient number of combs of brush broom corn or any suitable substance made by weaving together the butts with cord or other means and fastening them to the broom shaft by placing them between beveled or wedge shaped beams or planks which beams are fastened to the shaft by bolts which are fixed to collars on the shaft and passing through the beams have on their upper ends screws on which nuts work forcing the beams to the centre and firmly wedging the combs. There are other ways of making the broom as by covering the the butts of the brush between the clamps by many bolts and fastening them to iron heads fixed on the shaft near the ends. This broom is placed in a frame made of two strong arms, fastened at their ends by cross pieces of sufficient length to admit the comb between the arms. The frame with the broom parallel to the hind axle and as near to it as will admit is attached to the wagon by fastening one end of each arm to the axle between the beam & nave by means of a hinge box keyed for the purpose of admitting the broom to be detached from the wagon at pleasure, and the same time, admitting the arms to rise or fall at the opposite ends. which arrangement allows the broom to be elevated or depressed so as to press lightly or heavily upon the street, or be raised from them entirely as circumstances may require. And this is done by levers (it may be done by pulleys or other power) which levers on to each arm are fixed to the side wagon beams on each side by a kind of bolts which answer the fulcrums placed a little in the rear of the hind axle. The short ends of the levers with a counter on each work upon the inside of the broom arms. The long ends extend along the

sides of the wagon as far as the front of the receiver and are fastened by a cross piece into which is framed a bow or handle and with this handle the driver who stands upon a platform in front of the receiver controls the broom. on one end of the broom shaft outside of the arm is a pinion which works into which works a cog wheel that is fastened upon and turns with the hind wagon axle by which such motion is given to the broom reverse to the motion of the wagon wheels from which the power is communicated. the broom making about three revolutions to one of the wagon wheels. similar gearing of machinery may be attached to both ends of the broom, or the same motion may be given to it by means of cross bands or similar contrivance. 3rd An inclined plane or drag which is made in sections of many pieces of wood or any suitable substance, the sections about the dimensions of two and a half feet long two inches thick and three inches wide, all jointed and hinged the ends designed to drag on the ground beveled on the under side to nearly sharpness, and the other ends being perforated the sections are placed on an iron rod in such number as will together make a plane as wide as the broom is long, and are designed to work on the rod as a common center of motion adapting themselves to the inequalities of the ground or pavement, any part of them rising or falling without moving any of the others. the drag is placed under the forepart of the broom, the other end is fastened by the above named rod to the side boards of the receiver just over the lower end of the plane made by the hind board. thus made by the hind board thus making form the ground under the broom to the top of the receiver a continued plane which is designed as a way or passage for the dirt. this inclined plane is made from the drag by a moving apron working round a roller placed just under the upper end of the drag and round another roller fixed on two pivots inserted above the top of the receiver on the side beams. these rollers and

consequently the spring are turned by a band passing over a wheel on the end of the upper roller, and over another wheel on the hind axle where it receives its motion. The motion of the broom in Turning sweeps the ground or pavement, and carrying the dirt along with it on the drag sweeps a large portion of that also and gives an impulse which causes it beyond the drag up the inclined plane of the hind board into the receiver, it then carries the dirt on to the apron (or the elevator) which turning carries it itself into the receiver. Thus sweeping and taking up the dirt at the same time.

The operation of taking up the dirt is greatly assisted by the air which is formed into a strong current by the motion of the broom which acts as a fanning mill. and for this purpose a channel is made from the broom by connecting the extreme sections of the drag with the sides of the receiver by means of a piece of leather or other matter, and making a covering from the broom over the drag, and the receiver, the broom is also covered. But that the air may pass from the receiver without producing dust in sweeping, a kind of flue is made conducting the air which is driven up at the top of the receiver thro an opening for that purpose near the front back over the receiver close to the broom thus forming a continued circuit.

Across the under side of the drag runs an iron rod fastened to the extreme sections, which rod is confined by a small chain to the levers above described in such a manner as to raise the drag from the ground with the broom at pleasure, as when it is not necessary to sweep.

The whole machine is to be worked by horse or other power the receiver being filled with dirt the broom is detached by means of the lever lever above mentioned and placed on a roller or wagon when the loaded one is taken away to be discharged. What I claim as my invention is the adaptation of the cylindrical revolving broom to the purpose of sweep

by being
ing the streets and taking Manure at the same time, attached to
Hind wagon with the shafts parallel to the axle of the wheel or
wheels by which it is moved, the revolving motion being the
reverse of the revolving motion of said wheel or wheels, and
being fixed on suspenders in such manner that by mechanical
or other power it may be elevated or depressed at pleasure
so as to press heavily or lightly upon the streets as circumstances may require, upon the
principles herein before set forth. I also claim the drag
formed in sections and moving as before described on a common
centre so as to adapt itself to the irregularities of the streets
or pavements, partly thereby raising or falling without effecting
the rest, and designed as a bag or receptacle for raising the dirt
which it is to be placed as to receive from the broom, and the ad-
vantageous action of the air in the manner above described, togeth-
er with the adaptation of all the parts of the machine to
the particular object of sweeping and of taking up and discharg-
ing dirt in the manner described above

Witnesses
Daniel Branch
John Flint

Levi Nidder

(1788 Nov.)

(Granted September 20. 1833.)