

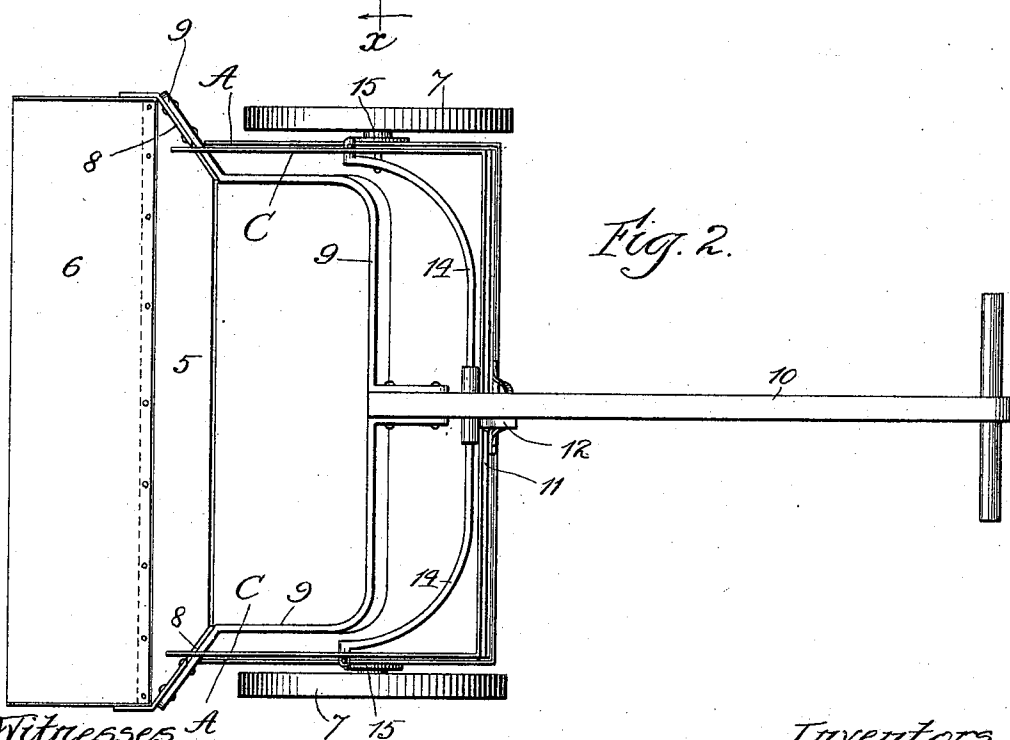
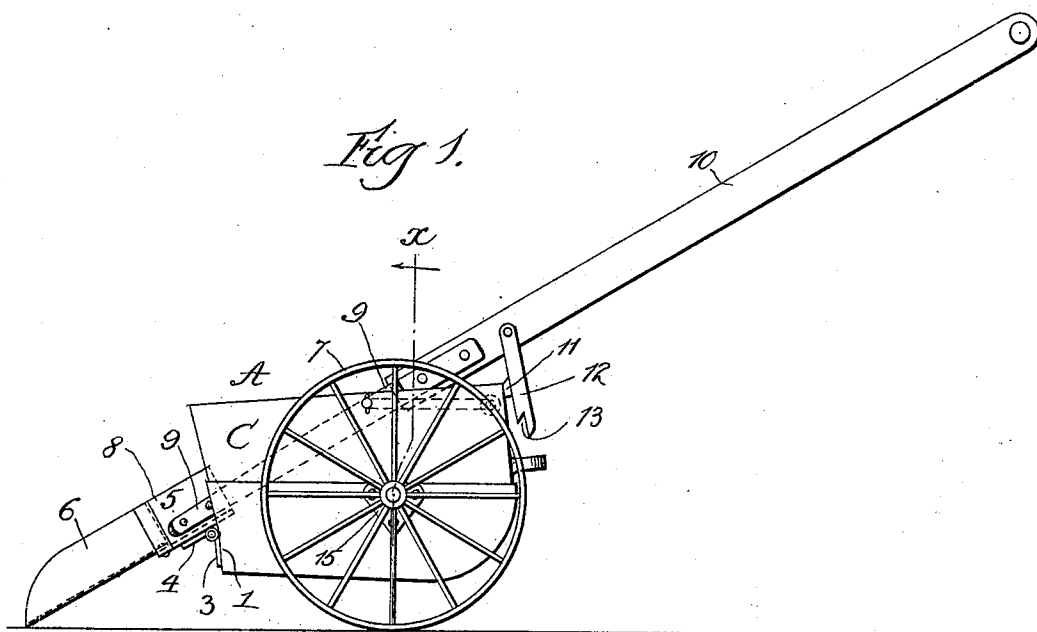
(No Model.)

3 Sheets—Sheet 1.

J. B. TILTON & M. G. BUNNELL.
STREET CLEANER.

No. 577,970.

Patented Mar. 2, 1897.



Witnesses A
Wm. J. Fleming
R. H. Smith

Inventors
James B. Tilton.
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by
Chas. E. Page, Atty.

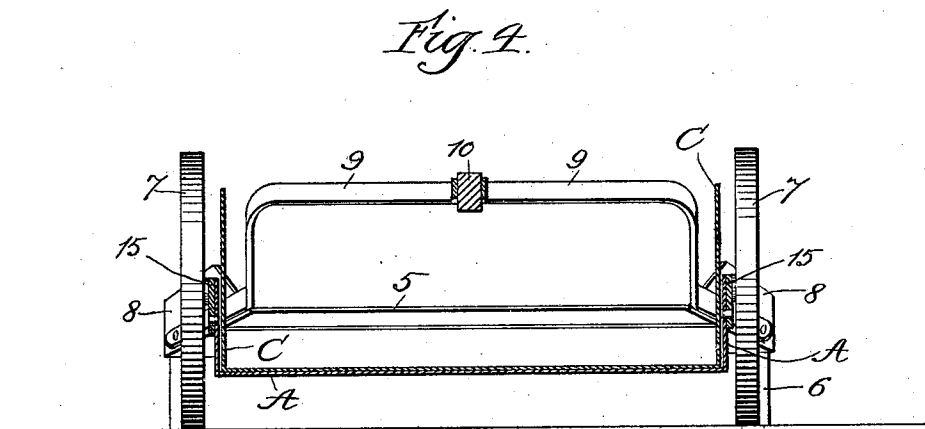
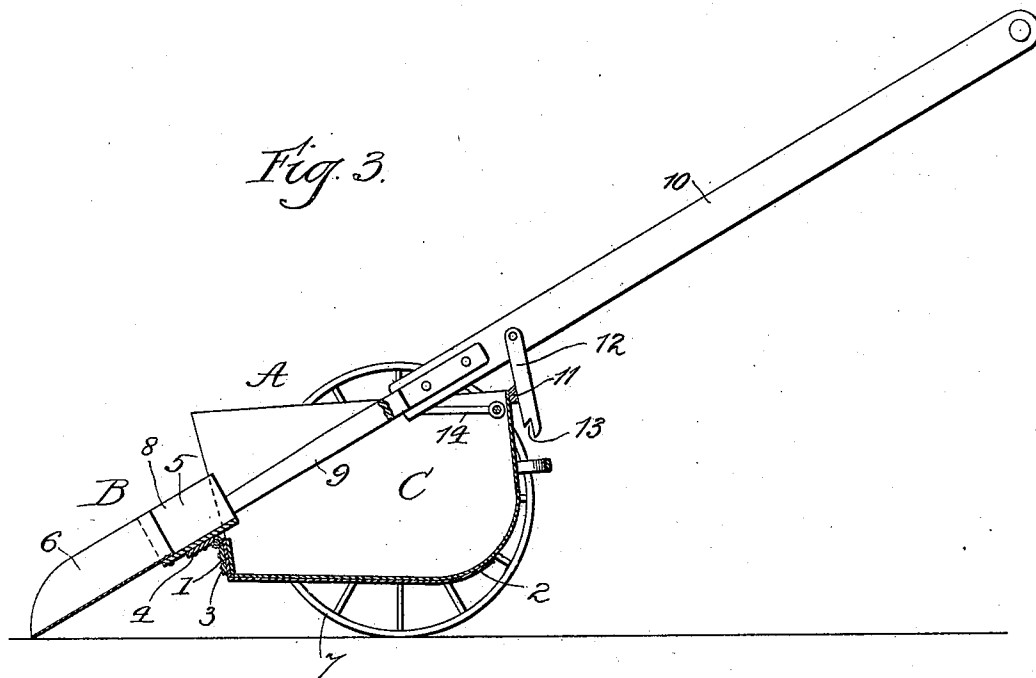
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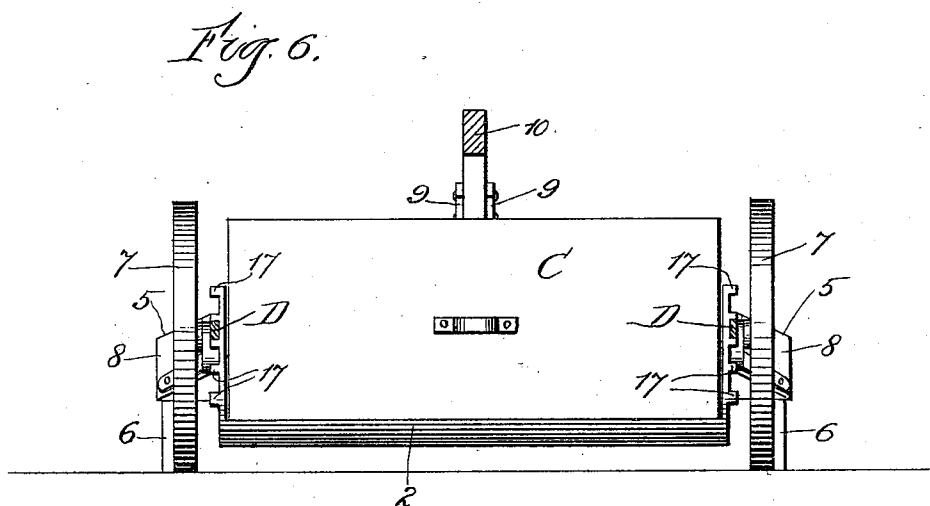
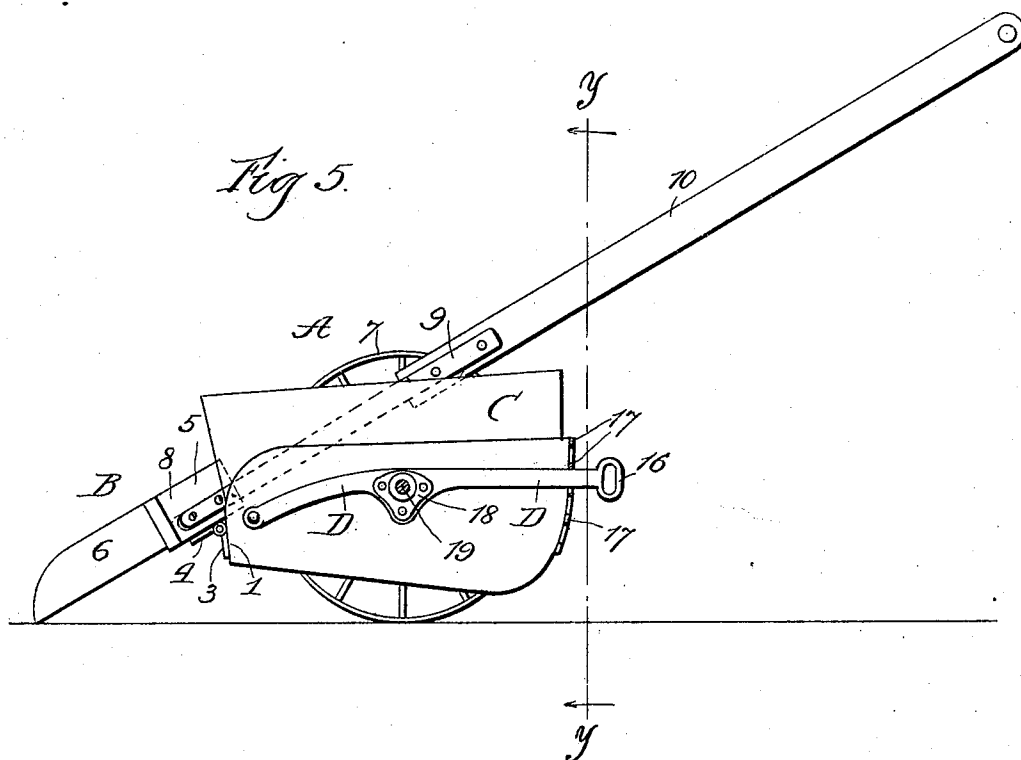
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UNITED STATES PATENT OFFICE.

JAMES B. TILTON, OF FRESNO, CALIFORNIA, AND MORTON G. BUNNELL, OF CHICAGO, ILLINOIS, ASSIGNORS TO FREDERICK C. AUSTIN, OF CHICAGO, ILLINOIS.

STREET-CLEANER.

SPECIFICATION forming part of Letters Patent No. 577,970, dated March 2, 1897.

Application filed January 24, 1895. Serial No. 536,028. (No model.)

To all whom it may concern:

Be it known that we, JAMES B. TILTON, of Fresno, county of Fresno, and State of California, and MORTON G. BUNNELL, of Chicago, county of Cook, and State of Illinois, citizens of the United States, have invented a certain new and useful Improvement in Street-Cleaners, of which the following is a specification.

Prior to our invention it has been customary in manually cleaning the streets of large cities to employ a scoop-shaped shovel which is pushed along by a workman over a concrete or asphalt pavement, so as to collect the debris scattered about over its surface. When the scoop is filled or partially so, it is pushed to the gutter, where its contained load is deposited in small heaps or piles, to be subsequently taken up by another workman following with a cart or the like. This mode of cleaning a street is both slow and tedious, and is also objectionable from the fact that in windy weather the accumulated debris, unless immediately collected, will be blown and scattered about, resulting in great inconvenience to pedestrians and not infrequently rendering it necessary to do the work over again.

Another objection to the employment of the shovel above referred to is its rapid destruction, caused by the constant grinding and cutting action of the concrete or other pavement over which it is pushed. This is due to the fact that there is no way by which to regulate the force of its contact with the pavement, more especially after the shovel has become filled, or partially so, with debris. Initially, or when the shovel is empty and is being pushed along, the grinding action of the pavement is not so effective in cutting away the shovel as after the latter has become filled or partially so with debris, at which times the force of the contact of the shovel with the pavement increases proportionately to the increase of its load, and as a result the grinding action is augmented and accomplishes the rapid wearing away of the scraping edge of the shovel and soon renders it useless.

Another objection to the employment of a shovel such as described is that in being pushed along over the surface of the pavement it contacts with obstructions which gap or bend the scraping edge in such a manner

as to prevent its thoroughly cleaning the pavement, and as these shovels are generally made of a single piece of metal it follows that when the scraping edge becomes greatly damaged the shovel has to be laid aside as useless.

A final objection to the employment of a hand-propelled shovel is the time lost in cleaning a given area, such loss of time being caused by the operator having to push the shovel to the curbstone and deposit the load and then return to the point where he left off, the time occupied by the return trip being without effect, so far as any cleaning is concerned.

It is the object of our invention to overcome these objections by providing a street-cleaner in which the debris as collected will be deposited into a receptacle, from whence it may readily be removed in bulk and placed in a cart or the like; to provide a street-cleaner in which the force of contact of the scraper or shovel with the pavement may be effectually regulated; to provide a street-cleaner in which the scraper shall be of such character as to be easily repaired if damaged, and, finally, to provide a street-cleaner that shall combine great simplicity of construction with high efficiency and durability in use and which may be manufactured and sold at a nominal figure.

In a street-cleaner characterized by our invention we employ a wheeled body or dirt-receptacle, to which is suitably attached an inclined shovel or scraper adapted to contact with the pavement and gather up the debris lying in the path of its travel. The scraper may be fixed with relation to the wheeled body, but as a matter of special improvement we prefer to hinge the scraper to the body and connect the handle, by which the device is propelled, to the scraper in such a manner that the scraper may be lifted clear of the ground without tilting the body. In other words, the power imparted to the handle is applied directly to the scraper, and by the peculiar and novel manner of connecting the said parts the tilting of the body at its front end does not cause the scraper to contact with the surface of the pavement with any greater force than when occupying a horizontal plane or when tilted rearward, for the reason that the degree of force of contact is regulated by the

handle and not by the combined weight of the body and its contained load.

If desired, the body may have a fixed relation with regard to the axles—that is to say, the axles may be rigidly connected with the body and serve as pivots about which the body may swing or oscillate in order that the front and the rear end of the body may be conveniently brought close to or removed from the pavement. This latter arrangement will be found to meet the requirements in most cases, but in order to provide a cleaner which will meet all the requirements that may arise, and more particularly to facilitate the removal of the debris from the body, we in some instances prefer to mount or secure the axles on two bars arranged one along each side of the wheeled body. These bars are pivoted at one end to the front of the side portions of the body, and at their rear ends are arranged to engage rack-plates or the like for holding the bars rigid with relation to the body. By throwing the bars out of engagement with the said plates the body will be free to drop at its rear end upon the ground, the front end of the body being supported by means of its hinged relation with the scraper. When the body is in this position, the debris, which is by preference deposited into a removable drawer or box arranged within the body proper, may be readily removed in bulk and emptied into a cart or other suitable dirt-receiving receptacle.

Further and more specific details of construction will hereinafter be fully described.

In the drawings, Figure 1 is a side elevation of a cleaner constructed in accordance with our invention, showing the same provided with wheel-axles rigid with the body portion of the cleaner. Fig. 2 is a top plan of Fig. 1. Fig. 3 is a sectional elevation. Fig. 4 is a transverse section taken on the line *xx*, Fig. 1, looking toward the front of the machine. Fig. 5 is a side elevation, partly in section, showing the wheel-axles secured to movable side bars pivotally attached to the body of the cleaner. Fig. 6 is a transverse section taken on the line *yy*, Fig. 5, looking in the direction indicated by the arrows thereon.

Referring to the drawings, and to Figs. 1, 2, 3, and 4 thereof, A designates the body of the cleaner, which may be of any desired contour, but preferably in this instance rectangular in general outline and having a front wall 1 and a rear upward curved wall 2, forming a continuation of the bottom.

To the upper portion of the front wall 1 is secured one leaf of a hinge 3, the other leaf 4 being secured to the rear section 5 of the scraper B, such connection permitting the scraper having a movement independent of the body. The hinge may extend entirely across the width of the scraper, or two or more hinges may be employed, if preferred. The front section 6 of the scraper is by preference of greater width than the body A, so as to enable the scraper to clean an area wider than

the space between the wheels 7. In order to permit of the collected debris being deposited within the body A, the walls 8 of the rear section 5 converge from or near the point where they join the front section and form a discharge-throat which projects some distance within the body, as clearly shown in Fig. 3. The front section or scraper proper, 6, is made detachable from the rear section, so that when the section 6 is worn out or is damaged from any cause it can readily be removed and replaced by a new one.

To the rear section 5 of the scraper are attached two arms 9, having their free ends suitably secured to the pushing handle or pole 10. By having the pole attached to the scraper in the manner just described the scraper is always under direct control of the operator, who can with ease cause it to contact strongly or lightly with the pavement, according to the requirements of the case, and when an obstruction such as would tend to injure the scraper is in the path of its travel by pressing down on the handle the scraper may be lifted and made to clear such obstructions, and thus avoid injury or breakage.

The drawer C, into which the collected debris is deposited, fits within the body A and is held in place therein against rearward movement or slip by means of the curved wall 2 of the body, which, as will be seen by reference to Fig. 3, is of sufficient height to accomplish the object for which it is designed without forming an obstacle to the removal of the drawer or pan C, which is provided with a bail 14, so as to permit it to be conveniently carried when removed from the machine. The rear portion of the drawer or pan C has a lug 11, Fig. 3, and the handle 10 carries a pivoted latch or dog 12, having a notched end 13, which, when in engagement with lug 11, permits the attendant to tilt up the forward part of the machine, so as to wheel the same along without other service.

In the construction illustrated in Figs. 1, 2, 3, and 4 the wheel-axles are secured to or form a part of plates 15, which are rigidly secured to the sides of the body A, and by this arrangement the body is free to oscillate on its axles and may be tilted in the manner already described. In some instances, however, it is desirable that the body should be supported free of the axles, so as to permit of its being adjusted in height with reference to the pavement and also with reference to the desired pressure of the scraper on the street. Various means may be employed to accomplish this result, but as a simple and effective arrangement that shown in Figs. 5 and 6 is preferred, wherein two levers D are employed, one on each side of the body. The levers are pivoted at their forward ends to the said body and extend rearward and beyond the body and are provided with handles 16. Projecting laterally from the rear ends of the body are a series of teeth or projections 17, which are designed to be engaged by the

levers D to hold them at the desired adjustment, and at a point intermediate the length of the levers are secured plates 18, carrying the axles 19. With the exception of the peculiar manner of supporting the body independent of the axles the cleaner illustrated in Figs. 5 and 6 is the same in general structure as that shown in Figs. 1 to 4.

It will be seen from the foregoing description that we provide a cleaner that is exceedingly simple of construction, but one that combines all the requisites necessary to the production of a first-class cleaner. By hinging the scraper to the body of the cleaner and attaching the handle to the scraper instead of to the body, as has been the custom heretofore, we gain complete control of the scraper and can with readiness and ease increase and diminish the force of its contact with the pavement, so as to prevent undue wear, and can also lift it clear of obstructions that would be apt to injure it. Furthermore, by having the scraper made in two sections its life may be prolonged indefinitely, inasmuch as when the front section is worn out it may readily be replaced by a new one.

In addition to the above-mentioned advantages accruing from our peculiar construction we gain the further and very material advantage of facilitating the gathering and disposal of debris, inasmuch as by depositing the debris as collected within the drawer there is no time lost in first collecting it and then depositing it in small heaps, as is the custom where an ordinary shovel or the like is employed.

It is to be understood that, if desired, a broom may be used in connection with the scraper, and also that the drawer may be dispensed with and the body proper be made to form the dirt-receptacle.

What we claim as our invention is—

1. A wheeled street-cleaner comprising a scraper for collecting the debris, and a pivotally-supported receptacle for holding the same, the scraper having a hinge connection with the receptacle and being provided with a tongue or handle whereby the cleaner may be propelled bodily along the street, and the scraper independently manipulated at the same time, as set forth.

2. A wheeled street-cleaner comprising a pivotally-supported receptacle; a scraper extending at least to the receptacle, whereby the debris may be caused to pass from the scraper to the receptacle without elevating the scraper; and a tongue or handle attached to the cleaner near the junction of the scraper and receptacle, whereby the latter may be tilted about its pivotal axis, as set forth.

3. A wheeled street-cleaner comprising a pivotally-supported receptacle provided with means for vertical adjustment, and a scraper attached to the receptacle by a hinged connection and being provided with a tongue or handle rigidly connected therewith, substantially as described.

4. In a street-cleaner, a scraper having a hinge connection with a wheeled receptacle, a handle or tongue rigidly connected with the scraper for propelling the cleaner; and means for locking the handle into rigid relation with the receptacle whereby the scraper may be held clear of the pavement.

5. In a street-cleaner, a scraper having a hinge connection with a wheeled receptacle; a handle rigidly connected with the scraper and extending rearwardly to form a push tongue or handle for propelling the cleaner; and a locking device consisting of the dog pivoted on the tongue or handle and provided with a notch adapted to engage a lug or projection upon the receptacle, and thereby allow the forward part of the cleaner to be tilted and held clear of the pavement, substantially as described.

6. A wheeled street-cleaner comprising a body having a hinged scraper, a pair of levers pivoted to the respective sides of the body and carrying the wheel-axles; means for locking the levers into rigid relation with the body; and a handle connected with the scraper.

7. A wheeled street-cleaner comprising a body having a hinged scraper, a handle connected with the scraper, and a removable drawer within the body.

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