No. 734,543. PATENTED JULY 28, 1903.

C. E. HADLEY.

PUSH WAGON FOR STREET CLEANING OR OTHER PURPOSES.

APPLICATION FILED JULY 26, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

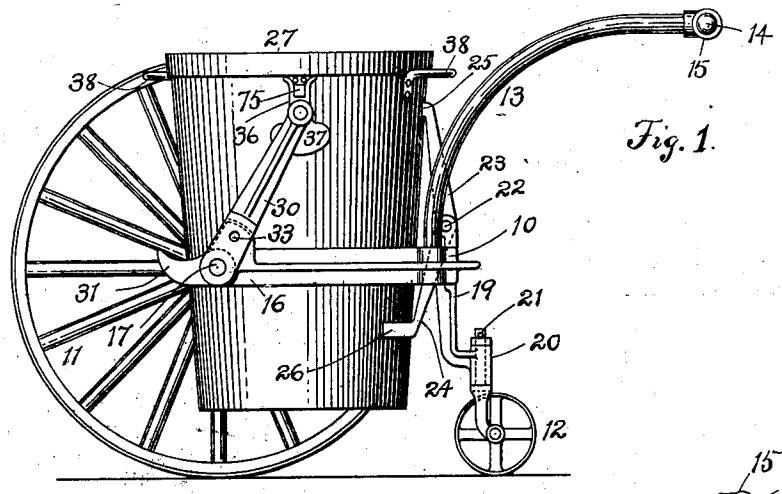



Fig. 1.

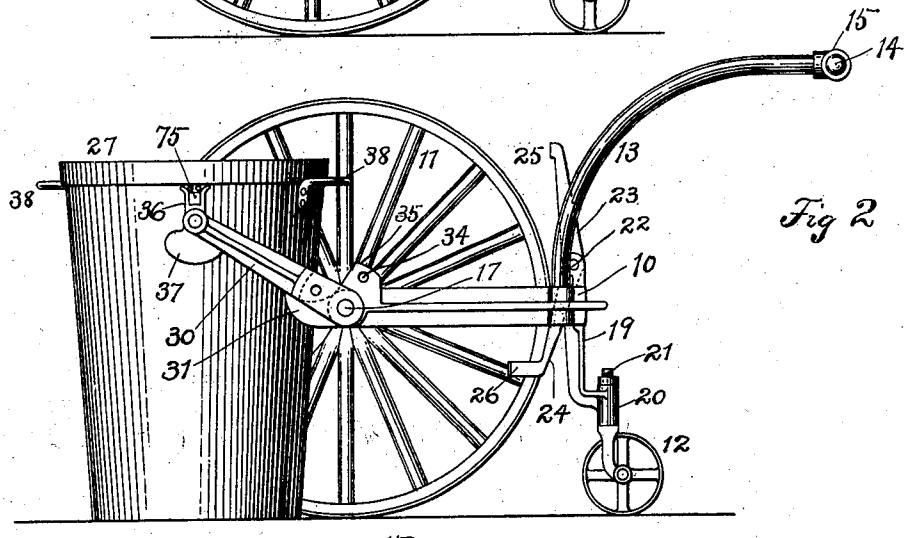



Fig 2

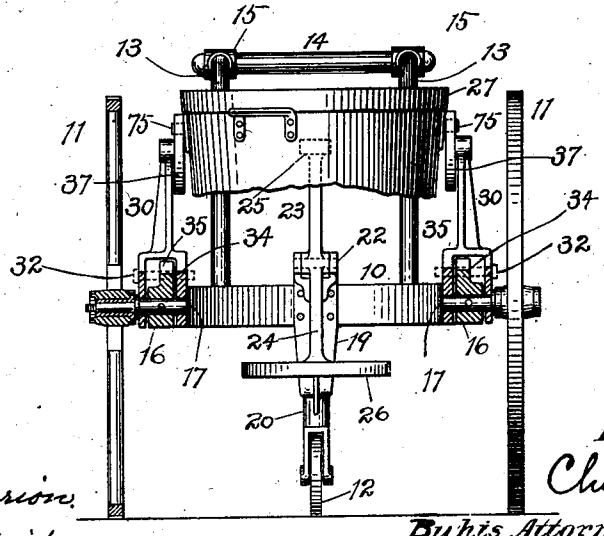



Fig. 3.

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Chas. C. Gill

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 4.

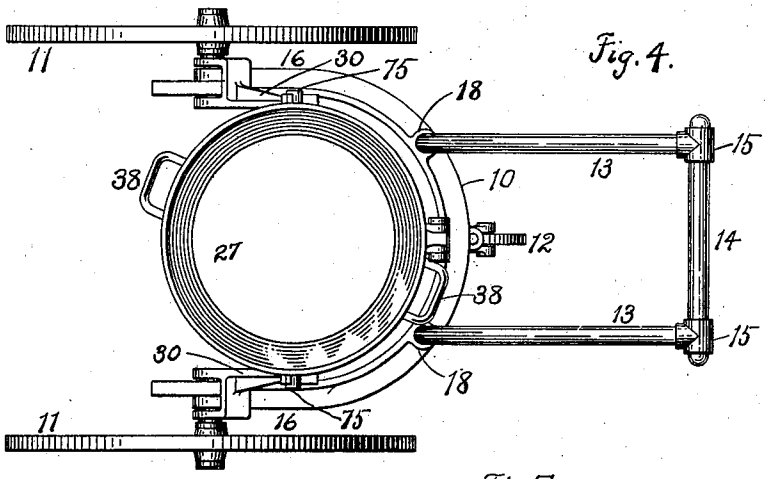



Fig 7

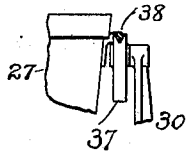



Fig 6

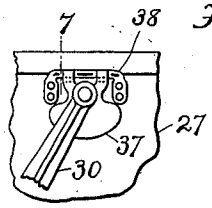






Fig. 5

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No. 734,543. Patented July 28, 1903.

# UNITED STATES PATENT OFFICE.

CHARLES E. HADLEY, OF CHICOPEE, MASSACHUSETTS, ASSIGNOR TO WILLIAM CHURCHILL OASTLER, OF NEW YORK, N. Y.

## PUSH-WAGON FOR STREET-CLEANING OR OTHER PURPOSES.

SPECIFICATION forming part of Letters Patent No. 734,543, dated July 28, 1903.

Application filed July 26, 1902. Serial No. 117,056. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES E. HADLEY, a citizen of the United States, and a resident of Chicopee, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Push-Wagons for Street-Cleaning or other Purposes, of which the following is a specification.

The invention relates to improvements in push-wagons for street-cleaning and other purposes; and it consists in the novel features and combinations of parts hereinafter described, and particularly pointed out in the claims.

The object of the invention is to produce an entirely convenient, durable, and comparatively inexpensive hand-wagon for holding and conveying cans of refuse or other material.

My invention in its preferred form will be embodied in a wagon comprising a suitable horizontal frame, two large side wheels, and one small rear swivel-wheel applied to said frame, a handle portion also applied to said frame, rear contacts for the can when the latter is in position upon the wagon, and a pair of arms adapted to engage and support the can above the ground and intermediate the large supporting-wheels and within the outline defined by the wagon-frame, the said arms being either swiveled upon or rigid with the main wagon-frame and being adapted to engage projecting parts, such as trunnions or handles, carried by the can.

The invention will be fully understood from the detailed description hereinafter presented, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation, with one of the large wheels omitted, of a push-wagon constructed in accordance with and embodying the invention, said wagon being shown as supporting a refuse or ash can. Fig. 2 is a like view of same, showing the can-supporting arms in the position they occupy when the can has been lowered to the ground or is about to be elevated to the position in which it is shown in Fig. 1. Fig. 3 is a rear view, partly broken away and partly in section, of the wagon with its parts in the position in which they are represented in Fig. 1, the sectional portion of Fig. 3 being on a vertical line through the axles for the main supporting-wheels. Fig. 4 is a top view of a modified form of wagon embodying my invention and shown as supporting an ash-can. Fig. 5 is a side elevation, with one of the large side wheels omitted, of same, the wagon being shown in the position it will occupy when the can is lowered to the ground or is about to be lifted from the ground and supported by the wagon, the can-supporting arms in the wagon shown in Figs. 4 and 5 being rigid with the wagon-frame, while the can-supporting arms shown in Figs. 1, 2, and 3 are pivotally mounted, so as to be capable of movement without tilting the wagon upwardly to the position in which it is shown in Fig. 5. Fig. 6 is a detached view of a portion of a can and one of the can-supporting arms and illustrates a slight modification of the invention, this modification consisting in providing the can-supporting arms with means for engaging the usual handles on the can instead of trunnions to be applied to the can; and Fig. 7 is an edge view of same, the handle of the can being in section on the dotted line 7 of Fig. 6.

In the drawings, 10 designates the main frame of the wagon; 11, the large side supporting-wheels therefor; 12, the small rear swivel-wheel supporting the rear portion of the main frame 10; 13, the parallel handle-bars, secured at their lower ends to the frame 10, and 14 the handle-bar, preferably of wood, held in the sleeves 15, applied upon the upper ends of the handle-bars 13.

The frame 10 will preferably be of metal and when viewed from above defines a substantially semicircular outline, except at its extremities, where the two sides of the frame (numbered 16) are substantially parallel with each other, as shown in Fig. 4, and support the axles 17 for the side wheels 11, as illustrated in Fig. 3. At its rear portion the frame 10 is equipped with vertical sockets 18 to receive the lower ends of the handle-bars 13, said bars 13 curving upwardly and outwardly from said sockets 18 and receiving the T-couplings to afford the sleeves 15 for the reception of the handle 14. To the rear portion of the frame 10 is secured a vertical frame 19, having at its lower end a vertical sleeve

20 for the swivel 21 of the rear wheel 12, while in the upper end of said frame 19 is mounted upon a horizontal axis or pin 22 the frame comprising the upper and lower arms 23 24, respectively, the former at its upper end affording a horizontal stop 25, while the lower arm 24 at its lower end is equipped with the horizontal curved bar 26, the said stop 25 and bar 26 being adapted to engage and form stops for the can 27 when the latter is in position on the wagon, as shown in Fig. 1. The frame comprising the arms 23 24 is in one integral piece by preference, and the lower arm 24 being heavier than the arm 23 the said frame will remain in a substantially upright position at all times, as denoted in Fig. 2, and by reason of the pivotal mounting of the said frame the stops 25 26, carried thereby, may adapt themselves to the sides of the can and afford a proper backing for said can when the latter is upon the wagon.

At the front ends of the side portions 16 of the frame 10 are the can-supporting arms 30, which in their normal carrying position incline upwardly and rearwardly, as shown in Fig. 1, their upper ends then being to the rear of the vertical line of the axles 17 for the wheels 11. The carrying-arms 30 may be either rigid with the wagon-frame 10 or pivotally mounted, as may be desired, although for the reasons hereinafter explained I prefer to pivotally mount the arms 30, as illustrated in Figs. 1, 2, and 3. Referring to Figs. 1, 2, and 3, the arms 30 therein shown are bifurcated at their lower ends and straddle the sides 16 of the frame 10, the lower ends of said arms 30 being pivotally mounted upon the axles 17. The arms 30 are adapted to be moved from their normal carrying position (illustrated in Fig. 1) to the receiving or delivery position, in which they are shown in Fig. 2, in which latter position the arms 30 are arrested by their engagement with the frontwardly-projecting ends 31 of the frame 10, said ends 31 constituting stops for supporting the arms 30 in their then outward position. When the arms 30 are in their upper carrying position, they will be arrested by the contact of the sides of the can 27 with the arms 25 26, and the arms 30 may be rigidly maintained in their upper or carrying position by means of pins 32, Fig. 3, passing through apertures 33 in said arms 30 and an aperture 34, provided in a plate extension 35, extending upwardly from the wagon-frame 10, the said pins 32 serving as stops and locking means for maintaining the arms 30 in their upper carrying position whether or not a can 27 is being supported by them. The upper ends of the carrying-arms 30 are so constructed and equipped as to enable them to engage projecting parts carried by the can, such as the trunnions 75, projecting laterally from the sides of the can. In Figs. 1, 2, and 3 I illustrate the arms 30 as being provided with the pivoted jaws 36, formed at the upper end of a weighted plate 37, the purpose of weighting the plate 37 being to automatically maintain the plate vertical, with the jaws 36 opening upwardly, as will be understood upon reference to Figs. 1 and 2. When it is desired that the can 27 shall be mounted upon and supported by the wagon, the arms 30 will be turned frontwardly to the position in which they are shown in Fig. 2 and the jaws 36 will be inserted below and to engage the trunnions 75, and thereupon the attendant will take hold of the handles 38 on the can and lift the same in an upward and rearward direction until the arms 30 pass rearwardly over the vertical plane of the axles 17, when the can may be allowed to continue its rearward movement unassisted until it strikes the stop-arms 25 and 26 and the arms 30 attain the position in which they are shown in Fig. 1. When it is desired to remove the can from the wagon, the attendant will take hold of the handles 38 and lift the can in a frontwardly direction until the arms 30 pass frontwardly beyond the vertical line of the axles 17, when the can may be allowed to descend of its own weight to the ground, the arms 30 then returning to their receiving and delivery position. (Shown in Fig. 2.) The purpose of pivotally mounting the arms 30 is to enable the placing of the can on the wagon and the removal of the can from the wagon without to any special extent tilting the wagon-frame for causing the trunnions of the can to be engaged by the wagon or enabling the wagon to restore the can to the ground. This feature of the invention may be more fully appreciated upon reference to Fig. 5, in which the arms 30 are illustrated as being rigid with the wagon-frame 10, and the wagon-frame is shown as being tilted upwardly for enabling the arms 30 to engage the trunnions of the can. The pivoting of the arms 30 avoids the necessity of tilting the wagon-frame upwardly to the position shown in Fig. 5, but with the construction presented the said arms 30 may be employed as pivoted arms or as rigid arms, as may be desired, because when the pins 32 are within the apertures 33 34 they hold the arms 30 in rigid position, and hence by leaving the pins 32 in position the arms 30 will become rigid with the wagon-frame and then the wagon-frame will be tilted to the position in which it is shown in Fig. 5 both when receiving and lifting the can and when restoring the same to the ground. The form and equipment of the upper ends of the arms 30 will depend somewhat upon the character of projections the can may carry to be engaged by the said arms. The can shown in Figs. 1, 2, and 3 is formed with square trunnions or projections 75, and hence the jaws to engage said trunnions are pivotally mounted by means of the weighted plates 37, the plates being capable of turning on their pins, since the trunnions 75 are incapable of turning within the jaws 36. In Figs. 4 and 5 the trunnions 75 are rounded, and hence may turn within the jaws formed by bifurcating the upper ends of the arms 30, for which rea-

son in the construction shown in Figs. 4 and 5 the weighted plates 37 are unnecessary, and the bearing formed by the bifurcated jaws at the upper ends of the arms 30 are entirely adequate to permit of the turning action of the said bearings around said trunnions during the elevation and lowering of the can and during any movement the can might have owing to the wagon traveling over irregular surfaces, such as cobblestones of a street.

The wagon-frame shown in Figs. 4 and 5 is identical with the wagon-frame shown in Figs. 1, 2, and 3, with the exception that in Figs. 4 and 5 the upper ends of the arms 30 have the bearings for the trunnions formed directly upon them instead of upon the weighted plates 37. (Shown in Figs. 1, 2, and 3.) In Fig. 5 I illustrate the pin 32 as rigidly locking the arms 30 in position, so as to illustrate the position which must under that condition be given to the wagon-frame during the operation of receiving or delivering the can. Upon removing the pin 32 from the wagon-frame shown in Fig. 5 the said wagon will become the wagon shown in Figs. 1 and 2, with the exception that the upper end of the arms 30 of the wagon shown in Fig. 5 is adapted to engage a circular trunnion, whereas the bearings provided for the arms 30 of Fig. 1 are adapted to engage a square trunnion.

In Figs. 6 and 7 I show a slight modification of the weighted plate 37, this modification consisting merely in extending the jaws at the upper end of said plate in a longitudinal direction to engage the handles 38 of the can instead of in a transverse direction to engage trunnions or similar projections on the can. In instances in which it might be objectionable to equip the can with trunnions to be engaged by the arms 30 or parts carried thereby the handles 38 may be utilized as the projections to be engaged by the arms 30.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The wagon comprising the main horizontal frame 10 adapted to receive between its sides a refuse-can, the axles 17 carried by said sides, the wheels 11 mounted on said axles, the rear support extending downwardly from said frame, and the rigid handle-bar frame secured to the rear portion of said frame 10 and thence extending upwardly and rearwardly therefrom, combined with the can-supporting arms 30 pivotally secured to the front ends of the sides of said frame 10 and thence normally extending upwardly and rearwardly to a point establishing their upper can-supporting ends in rear of the vertical plane of said axles 17, means for maintaining said arms in their normal carrying position, and means for arresting said arms in their forward receiving and delivery position; substantially as set forth.

2. The wagon comprising the main horizontal frame 10 adapted to receive between its sides a refuse-can, the axles 17 carried by said sides, the wheels 11 mounted on said axles, the rear support extending downwardly from said frame, and the rigid handle-bar frame secured to the rear portion of said frame 10 and thence extending upwardly and rearwardly therefrom, combined with the can-supporting arms 30 pivoted to the front ends of the sides of said frame 10 and thence normally extending upwardly and rearwardly to a point establishing their upper can-supporting ends in rear of the vertical plane of said axles 17, the pivoted frame comprising upper and lower arms 23, 24 affording stops for the rear side of the can to be carried by said arms 30, and means for arresting said arms 30 in their forward receiving and delivery position; substantially as set forth.

3. The wagon comprising the main frame, side wheels, rear support, and handle, combined with the normally upwardly and rearwardly inclined can-supporting arms at their lower bifurcated ends straddling the sides of said main frame and mounted on the axles for said wheels; substantially as set forth.

4. The wagon comprising the main frame, side wheels, rear support, and handle, combined with the normally upwardly and rearwardly inclined can-supporting arms at their lower bifurcated ends straddling the sides of said main frame and mounted on the axles for said wheels, and means for locking said arms to said sides; substantially as set forth.

Signed at New York, in the county of New York and State of New York, this 24th day of July, A. D. 1902.

CHARLES E. HADLEY.

Witnesses:
CHAS. C. GILL,
ARTHUR MARION.