

No. 680,250.

Patented Aug. 13, 1901.

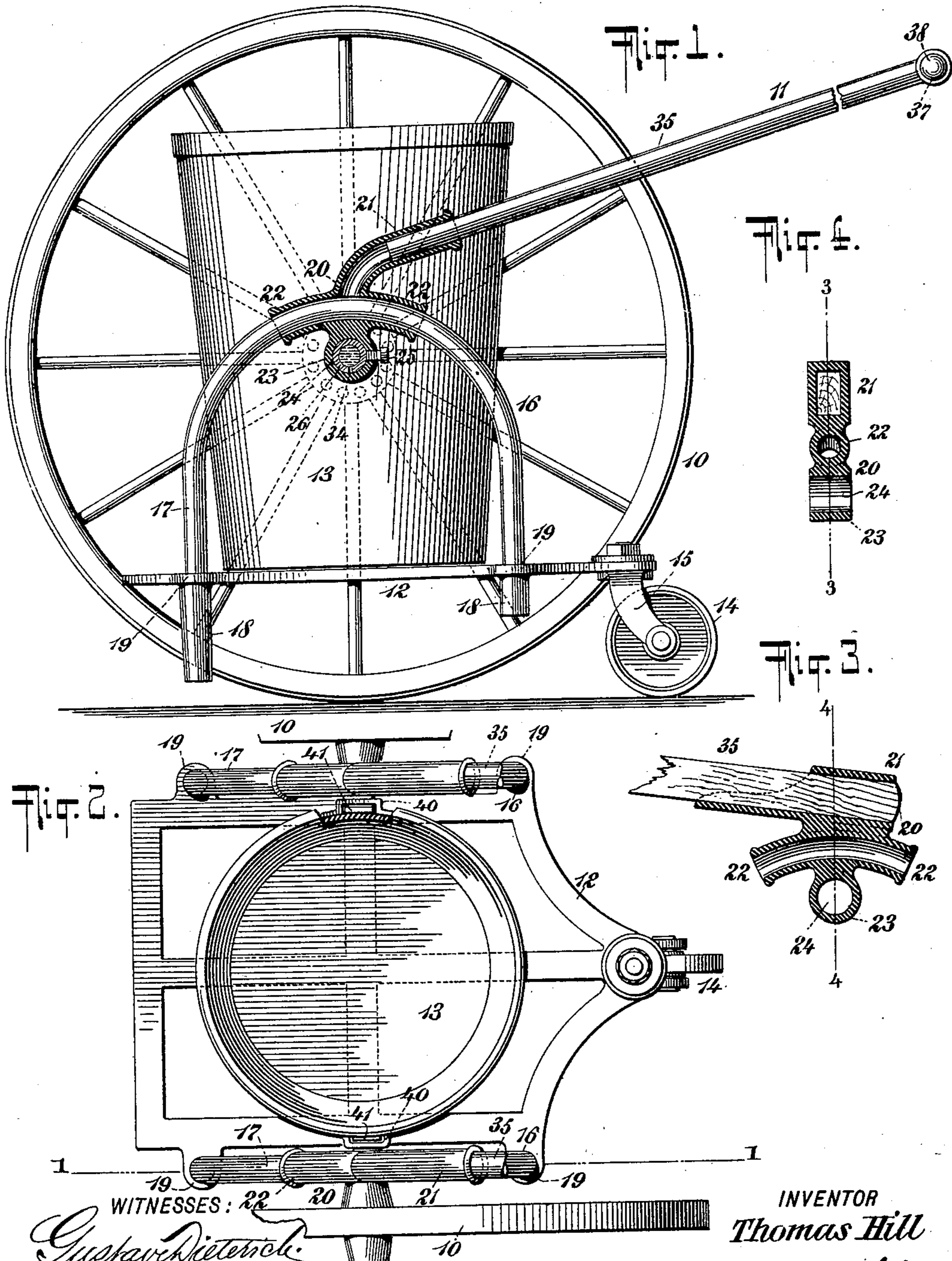
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PUSH WAGON FOR STREET CLEANING PURPOSES.

(Application filed Dec. 6, 1900.)

(No Model.)

2 Sheets—Sheet 1.



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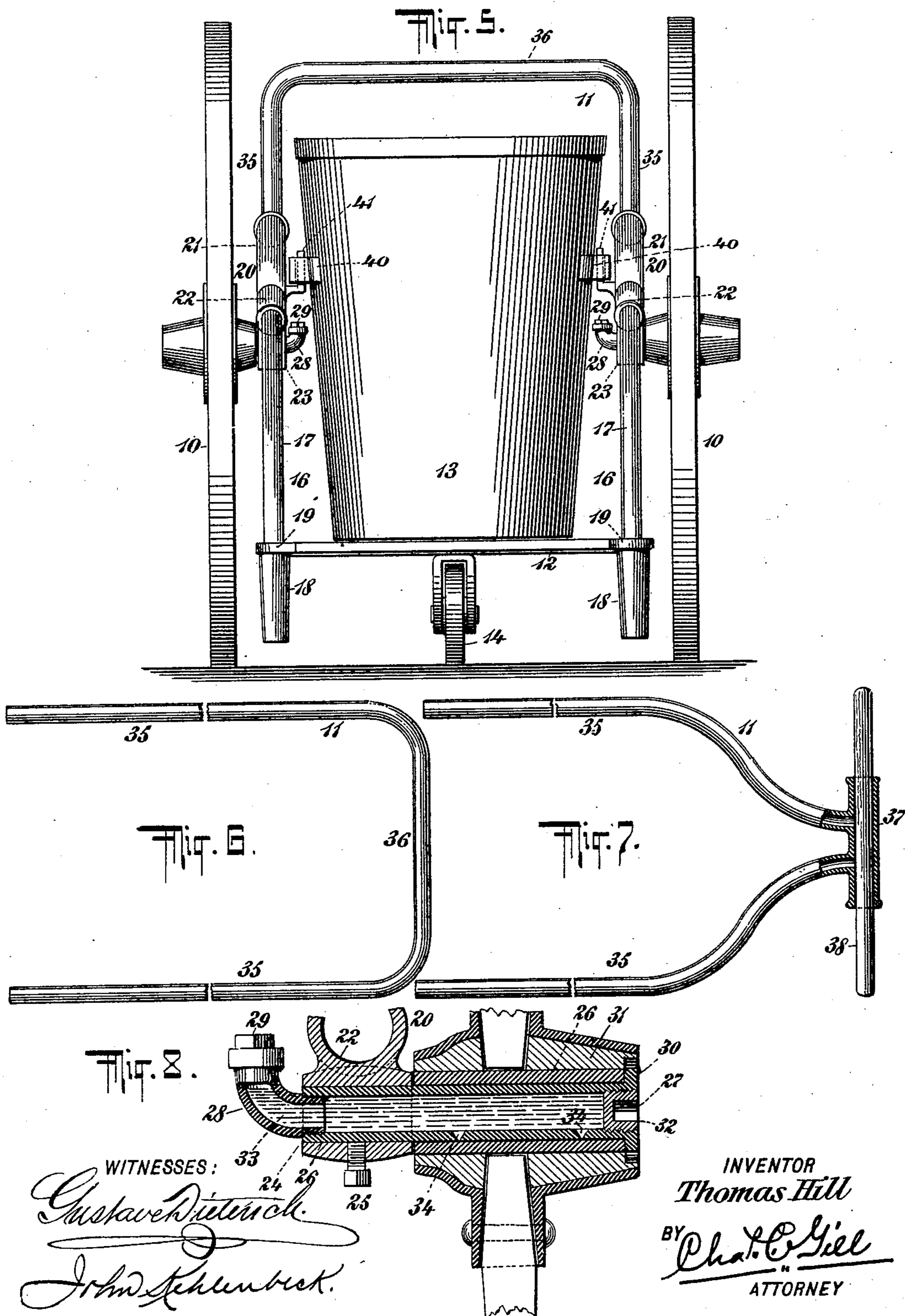
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UNITED STATES PATENT OFFICE.

THOMAS HILL, OF JERSEY CITY, NEW JERSEY.

PUSH-WAGON FOR STREET-CLEANING PURPOSES.

SPECIFICATION forming part of Letters Patent No. 680,250, dated August 13, 1901.

Application filed December 6, 1900. Serial No. 38,853. (No model.)

To all whom it may concern:

Be it known that I, THOMAS HILL, a citizen of the United States, and a resident of Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Push-Wagons for Street-Cleaning Purposes, of which the following is a specification.

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

The object of the invention is to produce a push-wagon which shall be light, durable, and inexpensive of construction and perfect in the details of its parts and which shall be adapted for removably supporting and transporting cans within which the collected dirt and refuse may be placed.

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, partly broken away and partly in section, of a push-wagon constructed in accordance with and embodying the invention, the sectional portion of Fig. 1 being on the dotted line 1 1 of Fig. 2. Fig. 2 is a top view, partly broken away, of same. Fig. 3 is a modification of a portion of same, this modification illustrating a construction of a socket for a wooden bar and being in central vertical section on the dotted line 3 3 of Fig. 4. Fig. 4 is a vertical transverse section of same on the dotted line 4 4 of Fig. 3. Fig. 5 is an end view of the wagon. Fig. 6 is a detached top view, partly broken away, of the handle-frame. Fig. 7 is a like view of a modified form of same, and Fig. 8 is a detached enlarged central vertical section through that portion of the wagon comprising the wheel-hub and hollow axle therefor.

In the drawings, 10 designates the side wheels of the wagon, 11 the handle portion of the wagon, and 12 the platform, upon which the can 13 may rest. The wheels 10 are of the usual construction, and therefore need not be specifically described. The wagon is supported upon the side wheels 10 and a rear wheel 14, the latter being mounted in the

swiveled frame 15, secured to the rearwardly-projecting portion of the platform 12, said wheel 14 being on a central line intermediate the wheels 10 10. The small wheel 14 is located to the rear of the axles of the wheels 10 and about on a vertical plane with the rear edges of said wheels 10, as illustrated in Fig. 1.

The sides of the wagon are designated by the numerals 16 16, respectively, and said sides, which correspond exactly with one another, are formed of the arched bar 17 in one integral piece and having its lower ends held within the tubular sockets 18 18, projecting below the platform 12 and integral with said platform. The tubular sockets 18 extend downward from ears 19, cast with the platform 12 and projecting laterally beyond the longitudinal side edges thereof, as shown in Fig. 2. The platform 12 should be of sufficient surface area to properly receive between the sides 16 16 of the wagon the can 13; but said platform at its side edges should not occupy any undue amount of space, and hence the ears 19 19 are projected outward beyond the side edges of the body of the platform 12, and said ears 19 support at their lower surfaces the downwardly-extending tubular sockets 18 to receive the lower ends of the bars 17, from which the sides 16 16 are formed. The front sockets 18, as may be observed in Fig. 1, extend downward to a sufficient extent to operate as supporting-legs for the platform 12 when said platform is tilted forward, and by reason of the said supporting-legs the front end of the platform can never tilt downward, even accidentally, to the ground. It is important, however, that the front tubular sockets 18, forming the supporting-legs for the front of the platform 12, shall be of proper length to enable them to escape contact with the ground when the wagon is being moved along upon the wheels 10 14, and thus, as may be observed in Fig. 1, when the wagon is supported upon the wheels 10 and 14 a suitable intervening space will be left between the ground and the lower ends of the front tubular sockets 18, constituting the supporting-legs.

The arched bars 17, forming the sides of the wagon, have their end portions vertically disposed and their upper or arched portions

curved on the line of a circle, as shown in Fig. 1, and at said arched portion of said bars 17 are the castings 20, which comprise the sockets 21 for the handle-frame 11, the sockets 22 forming the tubular sleeve receiving the upper arched portion of the sides 16, and the lower depending lug or frame 23, containing an aperture 24, within which, by means of a screw 25, are secured the axles 26 for the wheels 10. The castings 20 are held upon the sides 16 by means of the tubular sockets 22, and have above said sides 16 upwardly and rearwardly-inclined sockets 21, while the lugs 23, containing the apertures 24 for the axles 26, are substantially below the upper ends of the sides 16, said lugs 23 being directly below the center of the arched or upper portion of the sides 16, whereby the bearing-apertures 24 for the axles 26 become centrally disposed on a line intermediate the vertical members of the said sides 16. In the drawings I illustrate the castings 20 as being in a separate piece from the sides 16 and applied to said sides; but I do not limit the invention to making the castings 20 and sides 16 in separate pieces, since it is obvious that said castings may be formed in one integral piece with said sides.

The axles 26 are preferably in the form of hollow tubes, as shown in Fig. 8, being closed at their outer ends by means of the removable screw-plug 27 and provided at their inner ends with the upturned elbows or nozzles 28, having a removable closure or plug 29. The axles 26 are secured within the bearing-apertures 24 of the lugs 23 and held by means of the screw 25, as hereinbefore explained, and hence during the employment of the wagon the elbows 28 will remain stationary and turned upward. The outer ends of the axles 26 are formed with the flanges 30 to engage the end of the wheel-hub 31, as shown in Fig. 8, said flange constituting a stop preventing the escape of the hub 31 from the axle. The plug 27, closing the outer end of the tubular axle 26, is formed with the polygonal socket 32 to receive a key or instrument by which the plug 27 may be screwed into or from said axle. The purpose of making the axles 26 of tubular form is to enable them to contain a quantity of lubricating-oil 33, as shown in Fig. 8, so that the exterior surfaces of said axles may be automatically greased or lubricated. At their lower side the axles 26 are formed with the apertures 34, of limited area, through which the oil 33 may escape within the inner walls of the wheel-hub 31. The oil or other lubricant 33 will be introduced into the hollow axles 26 through the upper ends of the elbows or nozzles 28, the closure or plug 29 being removed for this purpose. In the application of the hollow axles 26 the said axles, with the elbows or nozzles 28 omitted, will be inserted through the wheel-hub 31 from the exterior end thereof, and the inner ends of the said axles will then be passed through the bearing-apertures 24 in the lugs

23 and secured by means of the screws 25, whereupon the elbows or nozzles 28 will be screwed into the inner ends of the axles 26, said elbows or nozzles 28 always being left with their outer end upward.

The handle portion 11 of the wagon will comprise the side rods or arms 35, which will enter the sockets 21 of the castings 20 and be connected at their outer rear portion in a suitable manner to constitute at said portion a handle-bar. I do not limit this invention to any special form of handle-bar for the outer end of the handle-frame 11; but in Figs. 6 and 7 I illustrate two forms of handle-bars, Fig. 6 illustrating simply a single bent bar of metal forming the side arms 35 and handle-bar 36, and it will be understood that the construction shown in Fig. 6 is of the most simple and inexpensive character. It is a fact that some users of push-wagons of the character herein described object to the employment of a metal handle-bar, especially in cold weather, and hence I present the construction shown in Fig. 7, in which it will be seen that the side arms 35 at their rear or outer portions converge inward toward one another and carry at their outer extremity the sleeve 37, within which may be inserted a wooden handle-bar 38, the latter being intended to be grasped by the operator, and his hands thus saved from direct contact with the metal. In Fig. 1 I illustrate in position on the wagon the handle frame and bar shown in Fig. 7, while in Fig. 5 I illustrate in position on the wagon the handle frame and bar shown in Fig. 6. If it should be desired to employ wooden arms 35 in lieu of the metal arms 35, (shown in Figs. 1, 5, 6, and 7,) the sockets 21 of the castings 20 should be given the form in which they are shown in Figs. 3 and 4 in order to properly accommodate the wooden side arms, such as shown in Fig. 3, instead of the metal side arms 35, presented in Figs. 6 and 7. It is a matter of choice, therefore, what kind of handle-frame and handle-bar are made use of, since my invention is not limited to any special construction of handle-bar or handle-frame.

The platform 12 to receive the can 13 is preferably in one integral casting and of proper surface area to comfortably support the can 13 centrally between the sides 16 and in line with the central horizontal plane of the axles 26, whereby the can 13 has its center of gravity substantially in line with the axles 26.

The cans 13 may be of usual or any suitable construction, and said cans are provided on their opposite sides with the loops 40, adapted to be passed upon the vertical ears 41, the latter being rigid with the castings 20 and by their engagement with the loops 40 serving to prevent the can 13 from losing its position on or sliding from the platform 12. The loops 40 and ears 41 to retain the cans 13 in position are entirely effectual and admit of the ready detachment of the cans from the

wagon. I do not confine the invention to the placing of the loops 40 on the opposite sides of the can-body and the ears or hooks 41 on the castings 20, since it is obvious that the loops 40 may be secured to the castings 20 and the ears or hooks 41 to the can 13, this being merely a reversal in position of the loops 40 and ears or hooks 41. The hooks or ears 41 and loops 40 engage the can at its opposite sides and in line with its center, and hence they very effectually hold the can. It is to be observed also that the loops 40 and ears or hooks 41 are also centrally disposed with respect to the upper ends of the sides 16 and axles 26, and hence that they retain the can at the stronger part of the wagon and in a position in which the center of gravity of the can is in line with the center of the arched upper ends of said sides 16 and in line with the axles 26.

The sides 16 16 will preferably be hollow or tubular, and their lower ends may be secured to the platform 12 by expanding their lower ends within the sockets 18 of said platform. The fact that the lower ends of the sides 16 16 enter the sockets 18 is of advantage, since by reason thereof the platform 12 as a whole becomes strengthened, and the sockets 18 are prevented from being broken off under any usual conditions.

The wagon as a whole has been constructed with a view of securing great strength and durability and with the purpose of enabling it to withstand the severe usage to which wagons of this class are subjected. The wagon is also of such construction that it may be quickly and inexpensively manufactured, and this is an advantage, since by reason thereof it may be supplied to the public at reasonable cost.

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

1. In a wagon the side wheels, the handle portion, and the sides 16, 16, having the vertical members, combined with the platform 12 having the vertical sockets 18 within which the lower ends of said vertical members are secured; substantially as set forth.

2. In a wagon the side wheels, the handle portion, and the sides 16, 16, having the vertical members, combined with the platform 12 having the vertical sockets 18 extending downward from said platform and receiving the lower ends of said vertical members the front sockets 18 being of sufficient length to form supporting-legs for the said platform when the wagon is tilted frontward; substantially as set forth.

3. In a wagon, the side wheels, the handle portion, the platform 12, and the sides 16, 16, formed of the arched bars whose lower ends are secured to said platform, combined with the axles for said wheels, said axles being supported from the upper or arched portion of said sides; substantially as set forth.

4. In a wagon, the side wheels, the handle portion, the platform 12, and the sides 16, 16,

formed of the arched bars whose lower ends are secured to said platform, combined with the axles for said wheels, and the lugs 23 at the upper or arched portion of said sides and having the bearing-apertures 24 to receive said axles; substantially as set forth.

5. In a wagon, the side wheels, the handle portion, the platform 12, and the sides 16, 16, formed of the arched bars whose lower ends are secured to said platform, combined with the axles for said wheels, the lugs 23 suspended from the upper or arched portion of said sides and having the apertures 24 to receive said axles, and the sockets 21 at the upper side of said arched portion of said sides to receive the side arms of the said handle portion; substantially as set forth.

6. In a wagon, the side wheels, the handle portion, the platform 12, and the sides 16, 16, formed of the arched bars whose lower ends are secured to said platform, combined with the axles for said wheels, and the castings 20 on the upper or arched portion of said sides, said castings comprising the lugs 23 having the apertures to receive said axles, the sleeve portions 22 encircling said bars, and the sockets 21 to receive the side arms of said handle portion; substantially as set forth.

7. In a wagon, the side wheels, the handle portion, the platform 12, and the wagon sides each of which is composed of members whose lower ends are secured to said platform and whose upper portions converge above the central plane of said platform, combined with the axles for said wheels, and the castings 20 at the converging point of said sides and having the lugs 23 to receive said axles, and the sockets 21 to receive the side arms of said handle portion; substantially as set forth.

8. In a wagon, the side wheels, the handle portion, the platform 12 having the rear swivel-wheel, and the sides having members extending downward at opposite sides of a vertical central line through said side wheels and secured to said platform, whereby said platform becomes supported at points adjacent to its four corners and disposed substantially centrally below the axis of said side wheels, combined with the axles for said side wheels, and means at the upper central portion of said sides for receiving said axles; substantially as set forth.

9. In a wagon, the side wheels, the handle portion, the platform 12, and the sides having members extending downward at opposite sides of a vertical central line through said side wheels and secured to said platform, whereby said platform becomes supported at points adjacent to its four corners and disposed substantially centrally below the axis of said side wheels, combined with the axles for said side wheels, and means at the upper central portion of said sides for receiving said axles; substantially as set forth.

10. In a wagon, the side wheels, the handle portion, the platform 12, and the side frames

secured to and suspending said platform, combined with the hollow axles 26 for said wheels, and lugs 23 on said side frames and having the apertures 24 to receive and support said
5 axles, said axles having the outlet-apertures within the hubs of said wheels and being provided on one end with the upturned elbows or nozzles having closures; substantially as set forth.

10 11. In a wagon, the side wheels, the handle portion, the platform 12, and the side frames secured to and suspending said platform, combined with the hollow axles 26 for said wheels and having at their outer end the flanges 30
15 to engage the wheel-hubs, and lugs 23 on said side frames and having the apertures 24 to receive and support said axles, said axles having the outlet-apertures within the hubs of said wheels and being provided on their inner
20 ends with the upturned elbows or nozzles having closures; substantially as set forth.

12. The wagon comprising the side wheels, handle portion, side frames, suspended platform and can, the axles for said wheels being
25 at the upper central portion of said side frames, and said platform supporting said can, combined with the loops and hooks 40, 41, carried by the can and side frames respectively for detachably securing said can in

position on said platform; substantially as 30 set forth.

13. In a wagon, the side wheels, the side frames, the platform suspended by said side frames, the axles at the upper ends of said side frames for said wheels, and the handle 35 structure comprising the side arms 35, the sleeve 37 at the front ends of said side arms 35 and the wooden bar 30 held by said sleeve, combined with the castings 20 at the upper ends of said side frames and having sockets 40 to receive said side arms 35; substantially as set forth.

14. The wagon comprising the side wheels, handle portion, side frames, suspended platform and can, said platform supporting said 45 can between said wheels, combined with the loop and hook 40, 41, carried by the can and wagon-frame respectively for detachably securing said can in stationary position on said platform; substantially as set forth. 50

Signed at New York, in the county of New York and State of New York, this 5th day of December, A. D. 1900.

THOMAS HILL.

Witnesses:

CHAS. C. GILL,
GUNDER GUNDERSON.