

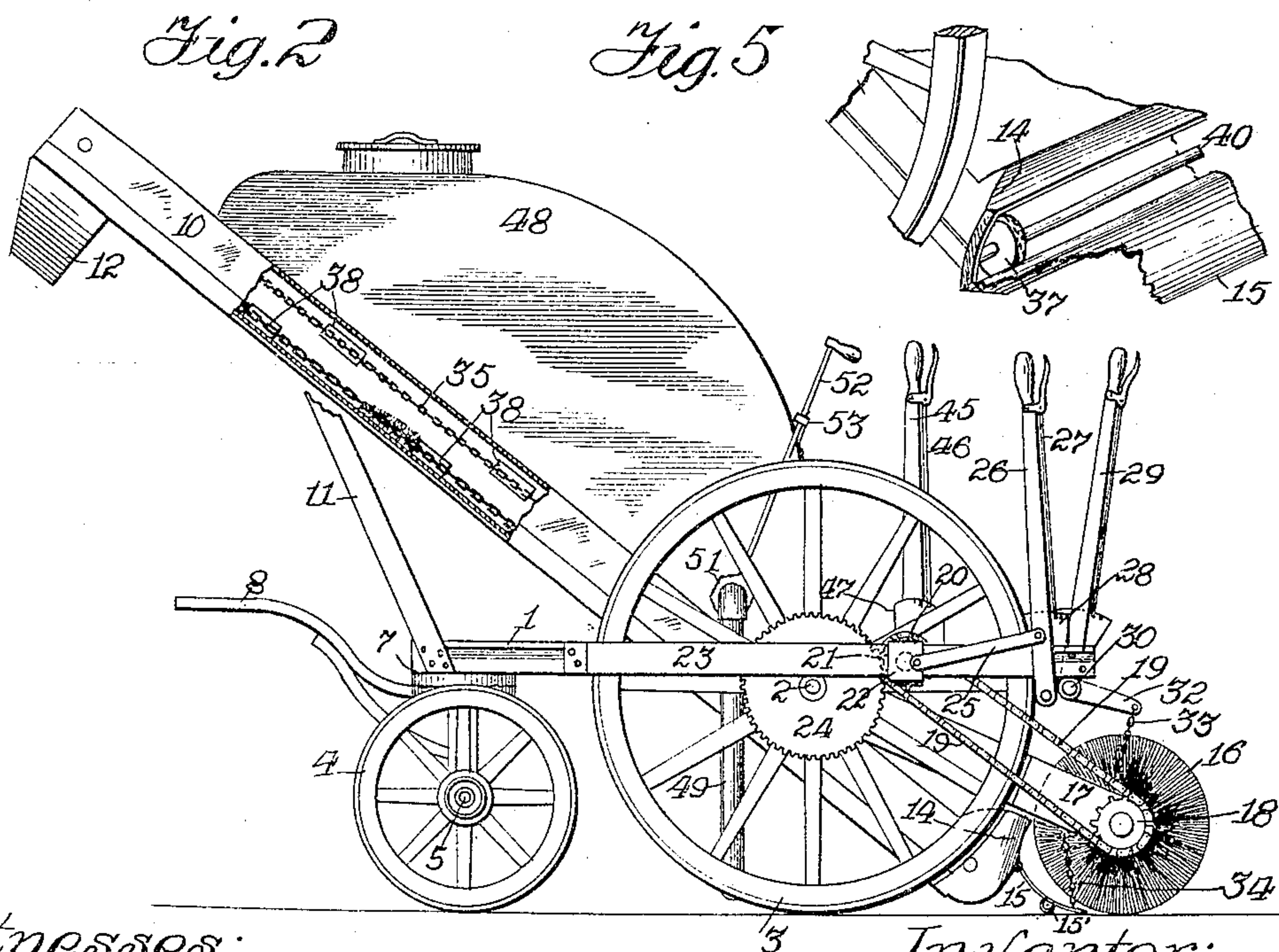
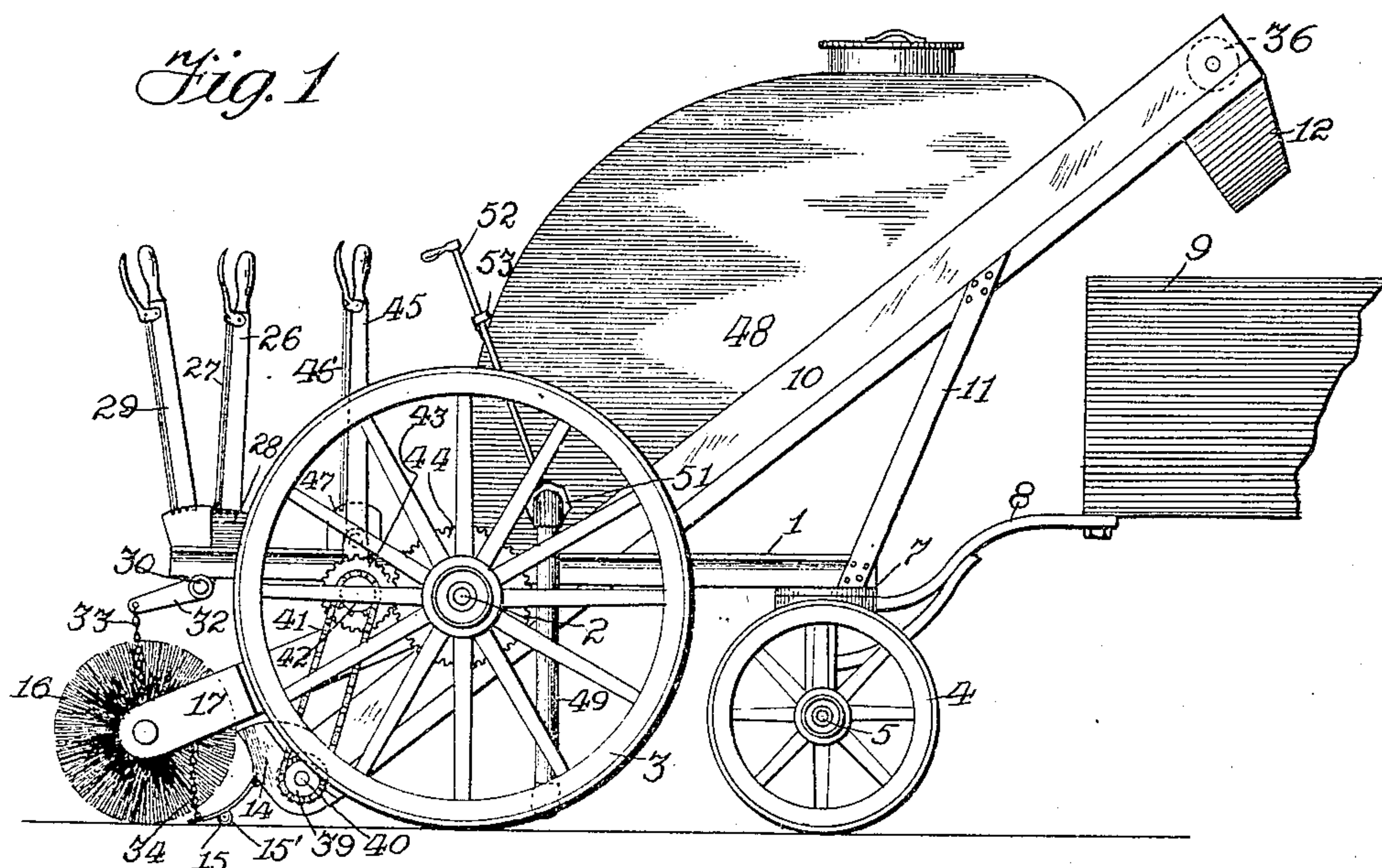
No. 792,351.

PATENTED JUNE 13, 1905.

C. B. RYAN.
SWEEPER.

APPLICATION FILED APR. 24, 1903.

2 SHEETS—SHEET 1.



Witnesses:
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Fig. 3

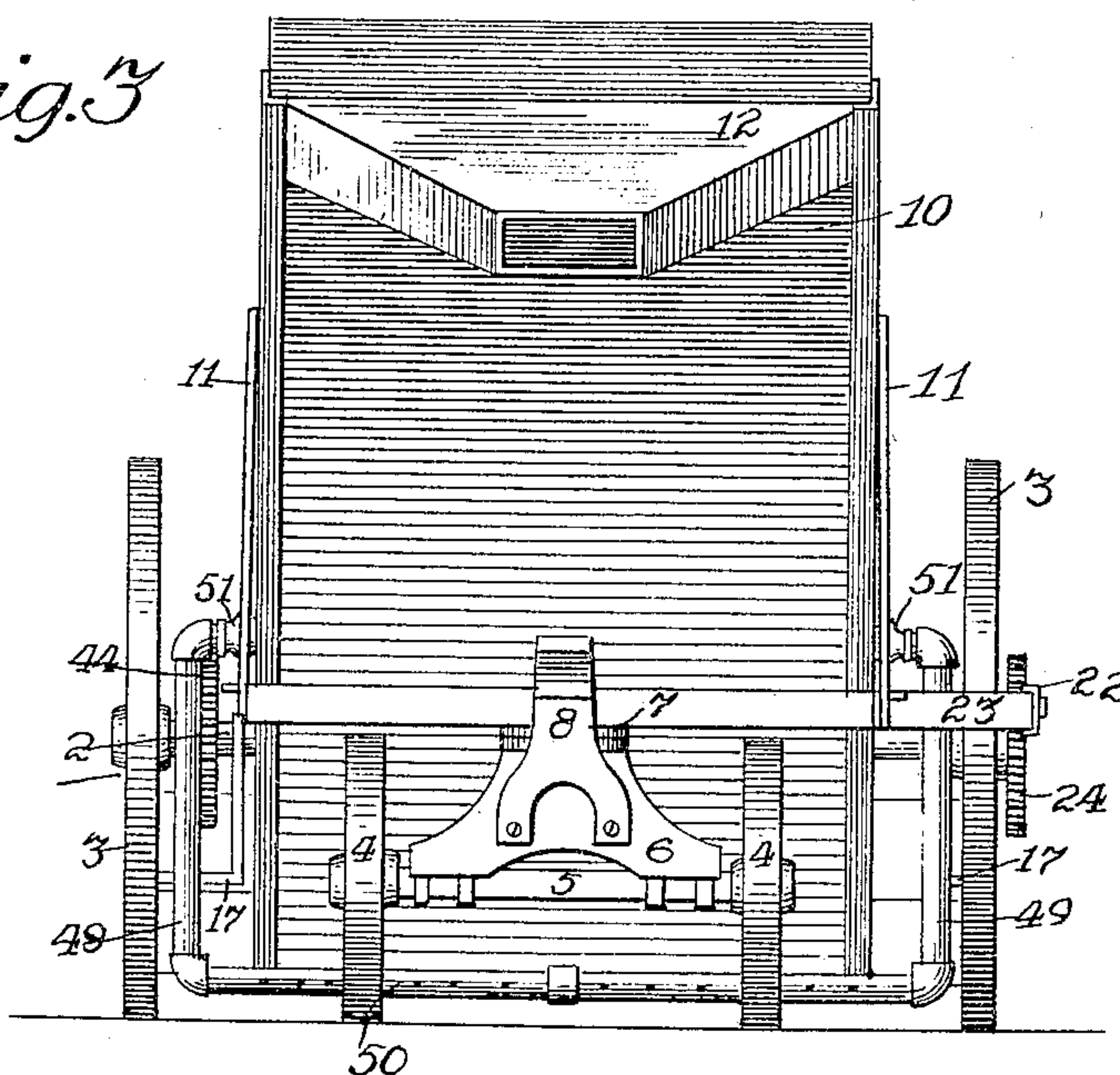
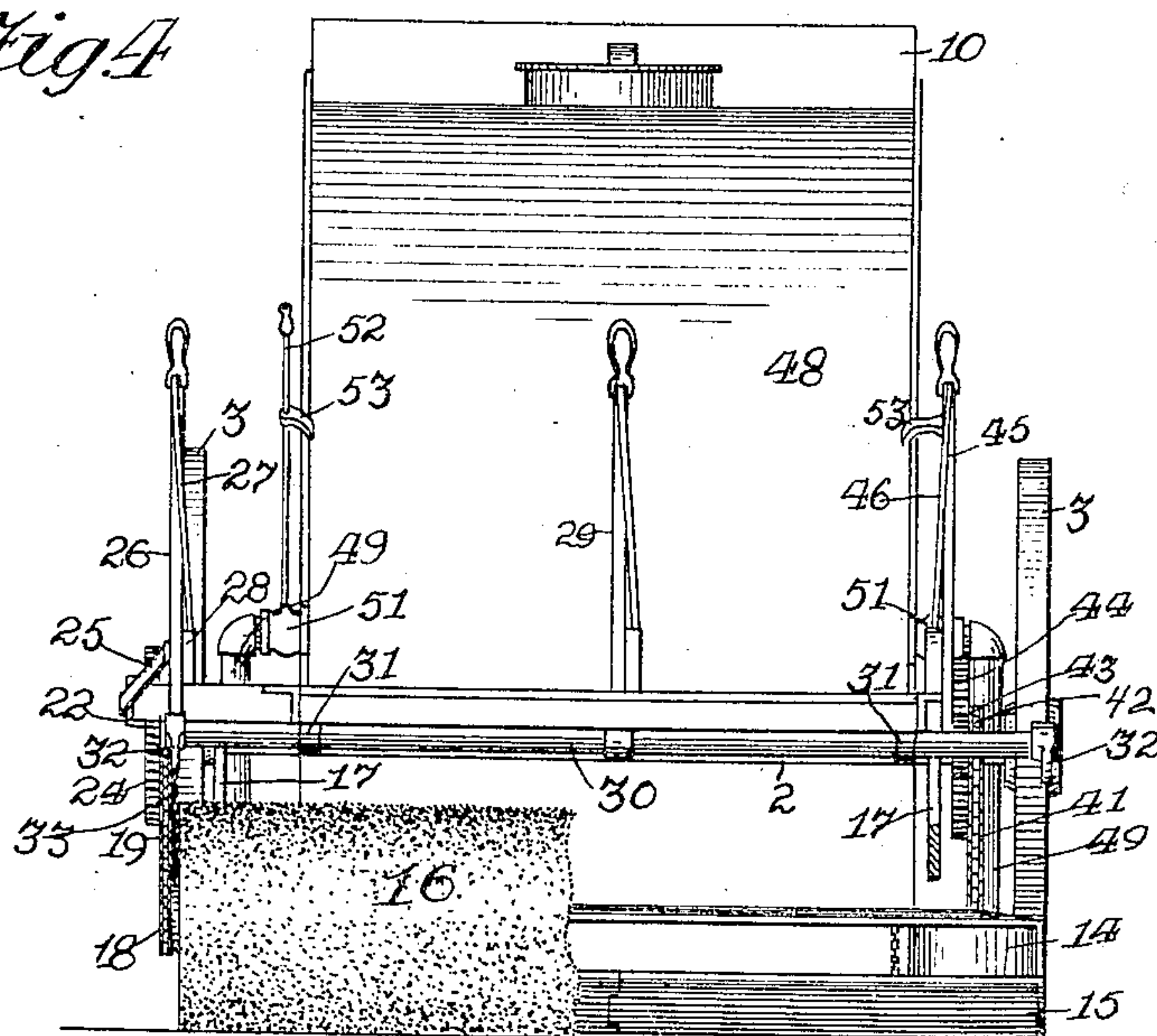


Fig. 4



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UNITED STATES PATENT OFFICE.

CLARENCE B. RYAN, OF PITTSBURG, PENNSYLVANIA.

SWEeper.

SPECIFICATION forming part of Letters Patent No. 792,351, dated June 13, 1905.

Application filed April 24, 1903. Serial No. 154,093.

To all whom it may concern:

Be it known that I, CLARENCE B. RYAN, a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Sweepers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in sweepers, and relates more particularly to that class of sweepers employed for street-sweeping; and the invention has for its object to construct an improved device of this character which may be attached to an ordinary wagon and by means of which the sweepings as they are gathered from the street are delivered to an elevator to be deposited into the bed of the wagon to which the sweeper is attached.

Further objects of my invention will appear hereinafter as the invention is described in detail, and in so describing same reference will be had to the accompanying drawings, forming a part of this application, and wherein like numerals of reference will be employed for designating like parts throughout the different views, in which—

Figure 1 is a side elevation of my improved street-sweeper, showing the same attached to the bed of a wagon, the latter being broken away. Fig. 2 is a reverse side elevation of the device, showing the elevator-casing partly in section. Fig. 3 is a front elevation of my improved sweeper. Fig. 4 is a rear elevation of the same; and Fig. 5 is a detail perspective view of a part of the elevator-casing, the hinged pan, and a part of one of the truck-wheels.

As stated, I contemplate attaching my improved sweeper to the bed of an ordinary wagon, and to this end I provide a truck for the sweeper, embodying the truck-frame 1, axle 2, rear wheels 3 thereon, together with a pair of front wheels 4, which are of much less diameter than the rear wheels, and the axle 5 on which these wheels are mounted is much less in length than the rear axle, so that the said front wheels will travel inside the line of travel of the rear wheels. These front wheels

are adapted to turn freely, and to this end the bolster 6, that is connected to the axle 5, carries one member of the fifth-wheel 7, which connects the bolster to the truck-frame. A tongue 8 is attached to the bolster, and this tongue is adapted to be detachably connected to the bed 9 of a wagon in any suitable or desired manner. The truck-frame supports an elevator-casing 10, which extends at an angle of approximately forty-five degrees, being supported by the side bars or rails of the truck-frame and by braces 11, attached to said truck-frame at its forward end and to the elevator-casing near the upper end of the latter. At its upper end this casing carries a discharge-spout 12, which receives the dirt or sweepings from the carrier in the elevator and discharges the same into the wagon-bed 9. This spout has a contracted discharge end, accomplished by inclining the side edges of the spout, which is done to obviate any danger of the dirt or sweepings being discharged outside the wagon-bed in case the sweeper should not be in perfect alinement with the wagon-bed. The elevator-casing at its lower end is constructed so as to insure the receiving into the casing of all dirt or sweepings lifted thereinto by the rotary sweeper. To this end the casing has at its two lower corners inclined walls 14, which catch the sweepings from the rotary sweeper, and these sweepings fall down into the casing, where they are engaged by the carrier.

Hinged to the lower end of the casing is a catch-pan 15, preferably made in two sections or more, each section being provided with small rollers 15' to engage with the street. This catch-pan lies directly in front of the rotary sweeper or brush 16, the shaft or axle of which is journaled in arms 17, connected to the axle 2. One end of this shaft or axle is extended and has mounted thereon a sprocket 18, which receives a drive-chain 19, passing over a sprocket 20, carried on a slide 22, which is movable on a bar 23, attached to one side rail of the truck-frame, which extends beyond one of the rear wheels of the truck. The sprocket 20 and drive-chain 19 are driven through the medium of a pinion 21, which may be attached to the

sprocket-wheel 20 or mounted upon the same bearing as the sprocket-wheel, as may be desired. This pinion 21 meshes with a gear 24, carried by the axle 2. The pinion 21 is moved
 5 into or out of mesh with the gear 24, whereby to drive or discontinue the driving of the rotary sweeper or brush by means of a link 25, connected to the slide 22 and to an operating-lever 26, the pinion being held in mesh
 10 or out of mesh with the gear 24 by means of the locking-rod 27, engaging in the rack 28. The height at which the sweeper or brush is suspended is regulated by means of a lever 29, connected by a shaft 30, mounted in brackets 31, carried by the truck-frame. At its
 15 ends this shaft carries cranks 32, connected by chains 33 with the arms 17. The catch-pan 15 is also supported by chains 34 from the arms 17. In the elevator-casing is the
 20 endless conveyer embodying endless chains 35, which travel over sprockets 36 at the upper ends of the casing and over sprockets 37 at the lower ends of said casing. These
 25 sprockets are mounted on shafts journaled in the side walls of the casing at the upper and lower ends thereof, and the said chains carry cross-bars 38, which form the buckets or carriers to elevate the sweepings in the casing.

The carrier is operated through the medium
 30 of a sprocket 39, carried on the one end of a shaft 40, that is journaled in the lower end of the casing, and over which sprocket passes a chain 41, driving over sprocket 42, that is carried by a pinion 43. This pinion 43 is
 35 mounted on a slidable bearing arranged on the frame and meshes with a gear 44, mounted on the axle 2, whereby the pinion is driven and motion is consequently communicated to the carrier, and the pinion is moved into or
 40 out of gear with the gear 44 by means of a lever 45, held in the desired position by the locking-rod 46, engaging in the rack 47.

As heretofore stated, I also provide means for sprinkling in advance of the sweeper, and
 45 to this end I provide a tank 48, from which the water is fed through pipes 49 at each side thereof to a perforated pipe 50, located some slight distance in front of the lower end of the carrier. A controlling-valve 51 is pro-
 50 vided in each of the pipes 49 adjacent to the tank, and these valves are provided with suitable operating-handles 52, braced by brackets 53, carried by the tank. The pipe 50 is closed at its center, and thus when only one of the
 55 valves 51 is open water will flow into only one-half of the pipe 50, thus sprinkling but one-half the width of the sweeper, which is

often desirable. When it is desired to sprinkle the width of the sweeper, both valves are opened. By reference to Fig. 4 it is to be
 60 noted that the sweeper or brush is made to extend out to the outer face of the wheels, whereby the device may be used for sweeping close up to the curb of the street. Connection is made with the bed of a wagon in any
 65 suitable manner, and when the gears are in mesh and the wagon propelled forwardly the rotary brush will sweep up the dirt and deliver the same to the elevator, which discharges the same into the bed of the wagon. By the use
 70 of the hinged catch-pan it will be observed that I am enabled to support the lower end of the elevator-casing a sufficient distance from the street to not endanger the same engaging
 75 with the street, the dirt being carried up by the brush off the catch-pan into the casing, where the elevator carries the same up and discharges it through the spout into the wagon-bed.

While I have herein shown and described
 80 the invention in detail as it is practiced by me, yet it will be evident that various changes may be made in the details of construction without departing from the general spirit of
 85 my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A device of the type set forth, comprising in combination a truck-frame provided with
 90 front and rear wheels, an axle on which the rear wheels are fixed outside said frame a bar attached to the frame and extending beyond one of the rear wheels, a gear fixed on the axle, a bearing slidably mounted on said bar,
 95 a pinion mounted in said bearing and adapted to engage with said gear, a sprocket-wheel rigidly connected with said pinion, arms connected to the said axle, a rotary brush journaled in the ends of the arms a sprocket se-
 100 cured to the brush, a chain connecting said sprockets, a lever pivoted on said bar, a link connected to said lever and said sliding bearing, a second lever mounted on the frame, means connecting said last-named lever and
 105 the brush-arms whereby the brush may be elevated substantially as described.

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

CLARENCE B. RYAN.

Witnesses:

A. M. WILSON,
 E. E. POTTER.