

T. AHLBORN.
CONCRETE SPREADER.
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1,048,785.

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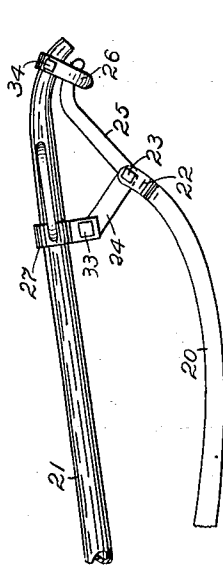


Fig. 1.

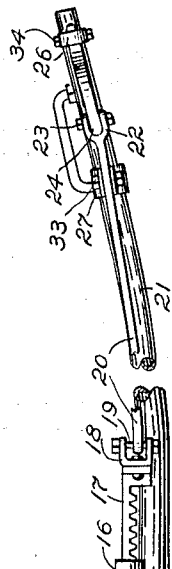
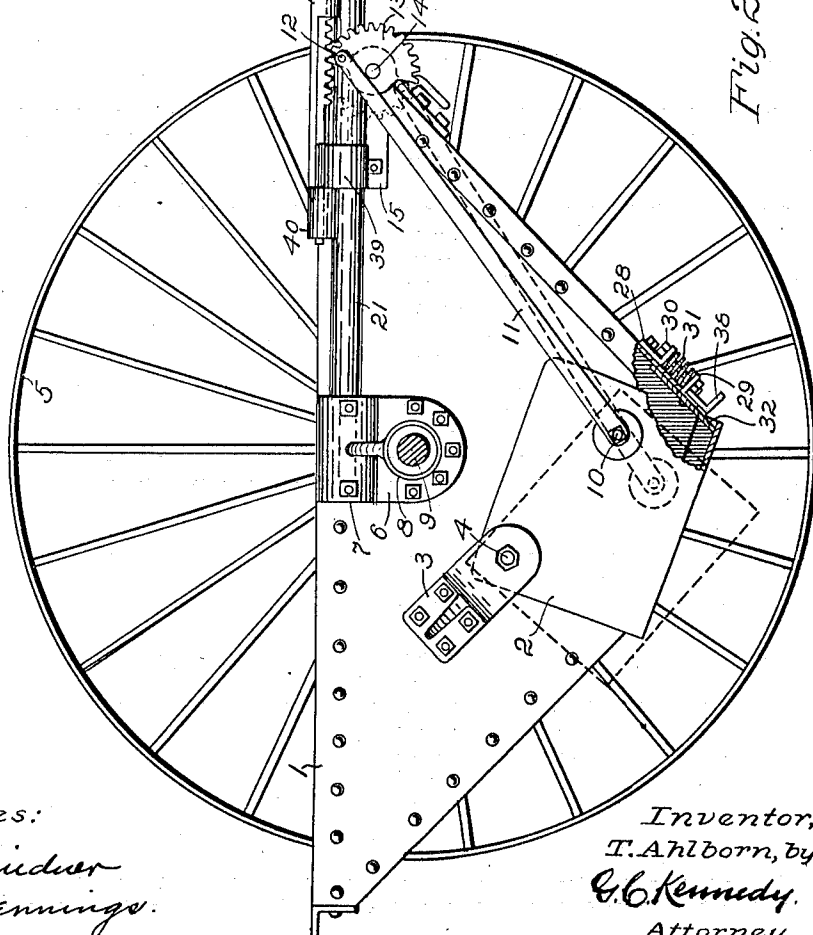
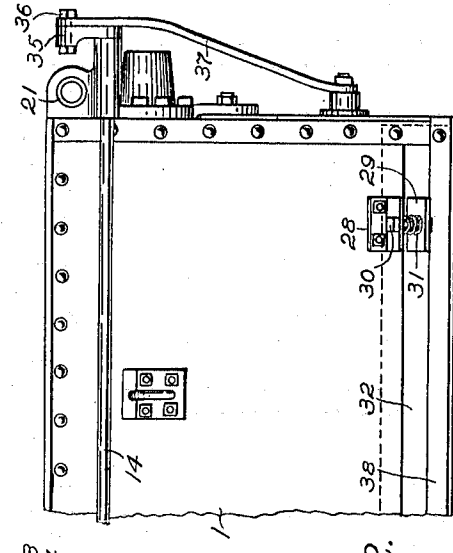


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

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CONCRETE-SPREADER.

1,048,785.

Specification of Letters Patent.

Patented Dec. 31, 1912.

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To all whom it may concern:

Be it known that I, THEODORE AHLBORN, a citizen of the United States of America, and a resident of Waterloo, Blackhawk county, Iowa, have invented certain new and useful Improvements in Concrete-Spreaders, of which the following is a specification.

My invention relates to improvements in concrete spreaders, and the object of my improvement is to furnish a wheeled device for carrying and unloading and spreading concrete or like materials, supplied with easily operated and positive means for bottom dumping.

Another object is to provide an automatic sealing device at the lower part of the spreader body, adapted to close tightly the joint between the swinging bottom and the lower edge of the body abutting on the delivery end thereof.

These objects I have accomplished by the mechanism which is hereinafter described and claimed, and which is illustrated in the accompanying drawings, in which:

Figure 1 is a side elevation of my improved concrete spreader, showing it with one carrying-wheel removed, and with parts of the body and swinging bottom and of the thills broken away. Fig. 2 is a broken detail elevation of the forward part of the spreader body with wheels removed, showing the other movable parts situated on the left-hand side of the spreader body. Fig. 3 is a detail view in plan, of the forward part of the right-hand thill, showing the dumping-bottom levers and their connections thereto.

Similar numerals of reference denote corresponding parts throughout the several views.

The body 1 of the concrete spreader is mounted on carrying-wheels 5, said wheels being mounted on an axle 9, the latter being seated in side-bearings 8 on plates 6 on said body, and said axle passing transversely across the said body. The thills 21 have their rear ends secured in seats 7 on the plates 6, and in seats 39 on the side-plates 15 on the opposite sides of said body 1. The forward and rear parts of said body slope downwardly and convergingly, but spaced

apart at their lower ends to leave an open bottom which is covered by a swinging bottom 2, the latter having upturned sides which closely embrace the sides of said body. Said swinging bottom 2 is pivoted on pintles 4 to the brackets 3 secured to the sides of said body. In order to effect a tight joint between the forward or delivery edge of said swinging bottom and the lower horizontal edge of the forward plate of said body, I have supplied the following described means. The said horizontal lower edge of the front plate of the body 1 is cut away vertically a short distance, and a transverse relatively narrow plate 32 is placed within the body to have its upper part contact with the lower part of said front plate. On said plate 32 are secured the angle-brackets 29. Other angle-brackets 28 are secured to said body fixedly just above the brackets 29 and in line therewith and connected by means of bolts 30, compression coiled springs 31 being seated about said bolts between and engaging said brackets, and adapted to thrust downwardly upon the brackets 29 to thereby tend to carry the transverse plate 32 downward. When the bottom 2 is swung upwardly to close it by means of mechanism to be hereinafter described, the delivery edge of said bottom comes in contact with the lower edge of said plate 32 and presses it upwardly against the tension of said springs 31, which thus insures a tight fit between said parts 2 and 32 to prevent leakage of liquids therebetween.

The swinging bottom is actuated by the following described means: The numeral 16 denotes a bracket-bearing secured on one side of said body 1, and on said side a similar bracket-bearing 40 is secured in the rear of the other bearing and in line therewith, both receiving the rack-bar 17 whose downwardly turned teeth are in mesh with the teeth of a gear-sector 13 mounted fixedly on the right-hand end of the transverse shaft 14, the ends of the latter being movably mounted in bearings in the plates 15 on the opposite sides of said body. A connecting-rod 11 is pivotally connected between a stud 10 on said swinging bottom and a stud 12 on said gear-sector 13. On the left-hand

side of the body 1, a similar connection is effected by means of a connecting-rod 37 pivotally connected to the swinging-bottom similarly and to a crank-arm 35 on a pintle 36, said arm 35 being fixed to the left-hand end of said shaft 14. The forward end of the rack-bar 17 has a swivel-coupling 18—19 to the rear end of a connecting-rod 20 whose forward end is forked at 22 to receive and be pivoted on a pintle 23 to the swinging arm 24. The arm 24 has its other end pivoted on a pintle 33 connecting the ends of a clamp 27 on the thill 21, while the forward end 25 of the hand-lever is adapted, when thrown toward said thill, to be received and kept in a swinging loop 26, the latter pivoted on a bolt 34 in the forward end of said thill. It will now be seen, that when it is desired to swing open the bottom 2, it is merely necessary to swing the keeper 26 away from the lever 24—25, and then swing the latter outwardly, when the connections including the rearwardly-moving rack-bar 17 and gear-sector 13 will cause the rods 11 and 37 to act simultaneously when the shaft 14 is thus also rocked to swing downwardly said bottom 2. The concrete will be delivered over the forward edge of said bottom, and if the body is moving forward simultaneously, the said edge will spread the concrete in an even flat mass on the surface passed over. The bottom is closed by reversing the above described actions when the hand-lever is swung back toward the thill 21, and then secured by means of the keeper 26.

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

1. A concrete spreader, comprising a transportable receptacle, said receptacle having a delivery opening, a swinging bottom hinged to said receptacle and adapted to close said opening, a transverse plate movably connected to the lower part of the receptacle to abut upon the delivery part of said swinging bottom, and yieldable resilient connections between said receptacle and said plate adapted to yieldingly retain the plate in sealing contact with said bottom when the latter is closed.

2. A concrete spreader, comprising a transportable receptacle having a delivery opening, a swinging bottom hinged to said receptacle and adapted to close said opening, a transverse plate located along the lower inside part of said receptacle with its lower edge abutting upon the delivery part of said swinging bottom, brackets secured to said receptacle and to said transverse plate in spaced-apart relation one above the other, and yieldable resilient connections between said spaced-apart brackets adapted to yieldingly retain said plate in sealing contact with the forward part of said swinging bottom when the latter is in its closed position.

3. A concrete spreader, comprising a transportable receptacle having a delivery opening, a swinging bottom hinged to said receptacle and adapted to close said opening, a rack-bar slidably supported on said receptacle, a gear-sector in mesh with said rack-bar and pivoted on said receptacle, means for reciprocating said rack-bar to and fro, and a link pivotally connecting said swinging bottom to said gear-sector at points eccentric to the pivots of said bodies.

4. A concrete spreader, comprising a transportable receptacle having a delivery opening, a swinging bottom hinged to said receptacle and adapted to close said opening, a slidable rack-bar supported on one side of said receptacle, a transverse rock-shaft supported on said receptacle, a gear-sector fixed on one end of said rock-shaft and in mesh with said rack-bar, a crank-arm fixed on the other end of said rock-shaft, and links pivotally connected between said gear-sector and one side of said swinging bottom and between said crank-arm and the other side of said swinging-bottom.

5. A concrete spreader, comprising a transportable receptacle having a delivery opening, a swinging bottom hinged to said receptacle and adapted to close said opening, a rack-bar slidably supported on said receptacle, a gear-sector in mesh with said rack-bar and pivoted to said receptacle, a link pivotally connecting said swinging bottom and said gear-sector, a bracket on said receptacle, a swinging-arm pivoted to the forward part of said bracket, and a link pivotally connecting said swinging-arm and said rack-bar.

6. A concrete spreader, comprising a transportable receptacle having a delivery opening, a swinging bottom hinged to said receptacle and adapted to close said opening, a rack-bar slidably supported on said receptacle, a gear-sector in mesh with said rack-bar and pivoted to said receptacle, a link pivotally connecting said swinging bottom and said gear-sector, a bracket on said receptacle, a swinging-arm pivoted to the forward part of said bracket, a link pivotally connecting said swinging-arm and said rack-bar, and a detachable keeper for said swinging-arm pivoted to the end of said bracket.

7. A concrete spreader, comprising a transportable receptacle having a delivery opening, a swinging bottom hinged to said receptacle and adapted to close said opening, a rack-bar slidably supported on said receptacle, a transverse rock-shaft supported on said receptacle, a gear-sector fixed to one end of said rock-shaft and in mesh with said rack-bar, a crank-arm fixed on the other end of said rock-shaft, links pivotally connected between said gear-sector and one side of said swinging bottom and between said crank-

arm and the other side of said swinging bottom, a bracket on said receptacle, a swinging-arm pivoted to the forward part of said bracket, a link pivotally connected between
5 said swinging arm and said rack-bar, and a keeper for the end of said swinging arm pivoted to the end of said bracket.

Signed at Waterloo, Iowa, this 26th day of April, 1912.

THEODORE AHLBORN.

Witnesses:

RAY MOORE,
G. H. ANDREWS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
