

943,099.

C. A. RADCLIFF.
FOLDABLE LOADER.
APPLICATION FILED MAY 13, 1908.

Patented Dec. 14, 1909.
3 SHEETS—SHEET 1.

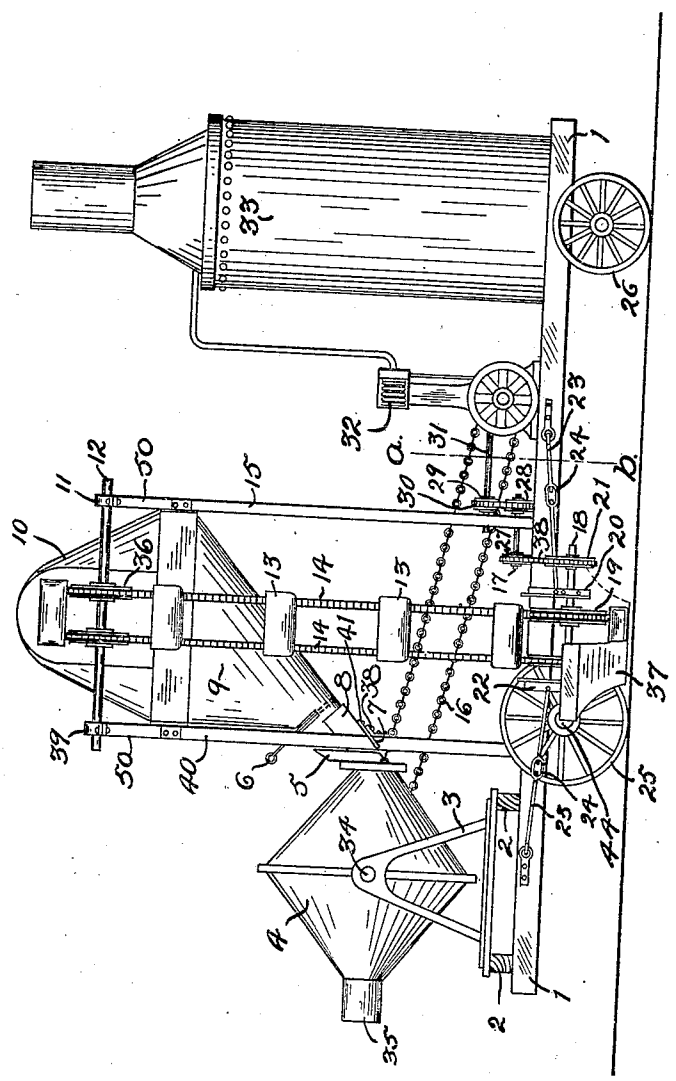


Fig. 1.

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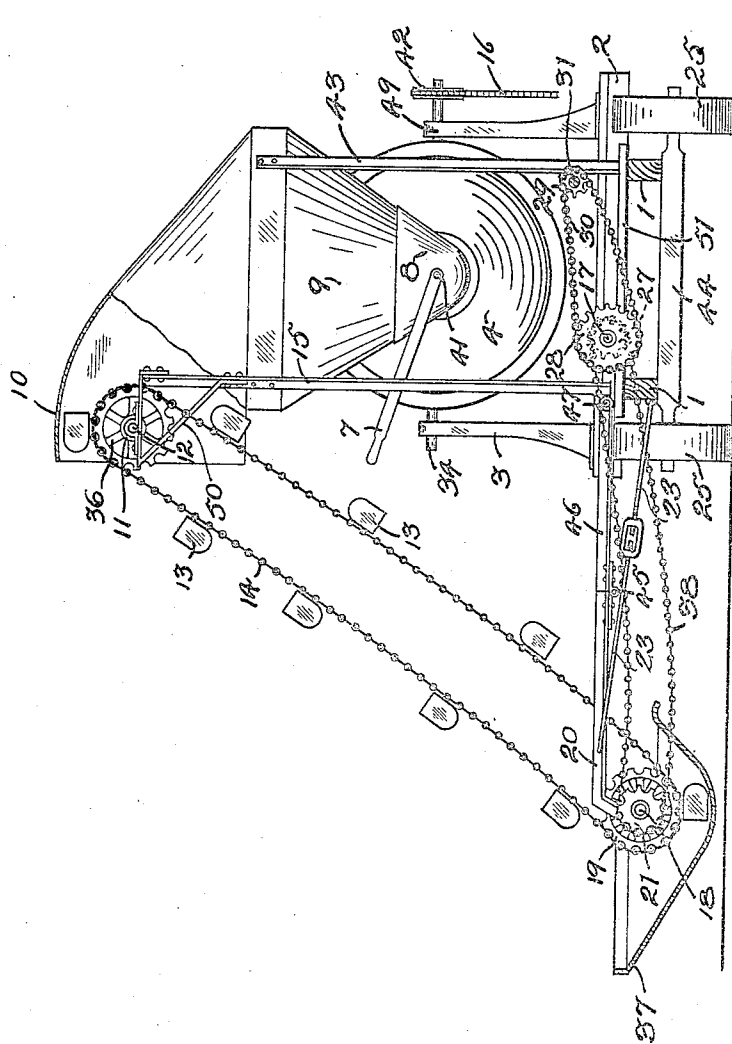


Fig. 2.

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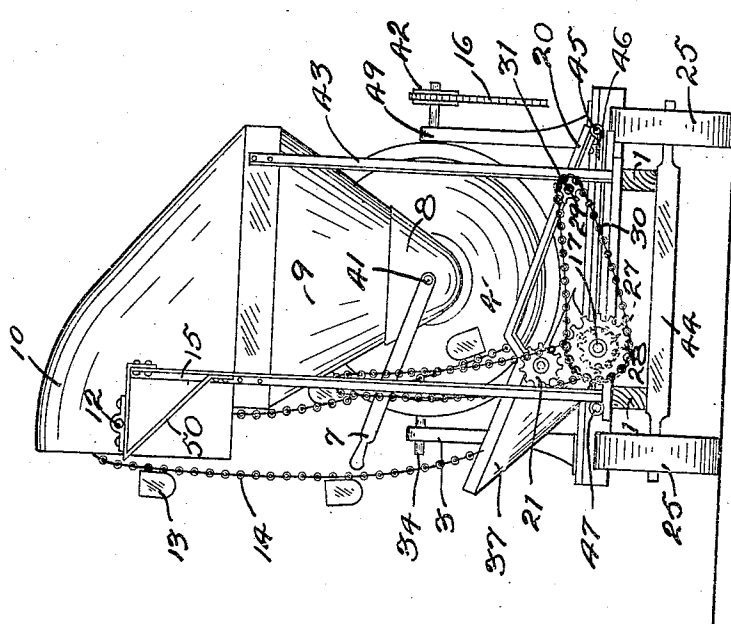


Fig. 3.

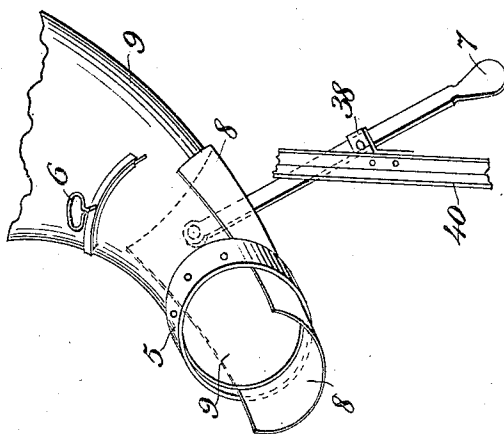


Fig. 4.

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UNITED STATES PATENT OFFICE.

CHARLES A. RADCLIFF, OF WATERLOO, IOWA, ASSIGNOR OF ONE-HALF TO WILLIAM R. McLAUGHLIN, OF WATERLOO, IOWA.

FOLDABLE LOADER.

943,099.

Specification of Letters Patent.

Patented Dec. 14, 1909.

Application filed May 13, 1908. Serial No. 432,686.

To all whom it may concern:

Be it known that I, CHARLES A. RADCLIFF, a citizen of the United States of America, and a resident of Waterloo, Blackhawk county, Iowa, have invented certain new and useful Improvements in Foldable Loaders, of which the following is a specification.

My invention relates to improvements in adjustable conveyers, and the object of my improvement is to provide a foldable frame for a chain and bucket carrier, adapted to be retracted upon its supporting truck, when it is desired to transport the same from place to place. This object I have accomplished by the means and mechanism which are fully described and claimed in the following specification, and which are illustrated in the accompanying drawings, in which:

Figure 1 is a side elevation of a truck, my improved foldable frame conveyer and a concrete-mixer mounted thereon. Fig. 2 is a transverse section taken along the line *a-b* in Fig. 1, showing the chain and bucket carrier mounted for use on the sidewise projected foldable frame. Fig. 3 is another transverse section taken along the line *a-b* in Fig. 1, but showing the said conveying mechanism and its frame folded back upon its truck for transportation. Fig. 4 is a broken detail of the slidable means used for effecting a communication between the hopper-spout and the interior of the concrete-mixer.

Similar numbers refer to similar parts throughout the several views.

The longitudinal parallel truck timbers 1 are supported on the axles 44 of the carrying-wheels 25 and 26. On the rear portions of the timbers 1 are mounted transverse beams 2, which support a small platform to which uprights 3 and 49 are secured, the upper ends of the latter having bearings to receive the trunnions 34 of a concrete-mixer drum 4. The latter has a discharge-spout 35, and said drum is adapted to be tilted rearwardly, and to be rotated by any suitable source of power, through the medium of the sprocket-chain 16 and sprocket-wheel 42 on one of the shafts 34, together with any suitable intermediate gearing for communicating rotation to the drum. I do not desire, however, to claim anything specifically on the concrete-mixer or its means of rotation, as any form of mixer or receptacle may be

used in connection with my improved form of conveying apparatus as may be desired.

A large hopper 9, adapted to deliver into the receiving-hopper 4, is mounted on upright bars 40, 15 and 43, and has a hood 10, open at one side only to receive material from the buckets 13 on the conveyer-chains 14. A collar 5 encircles the open end of the spout of the hopper 9 and is spaced apart therefrom below.

The numeral 8 designates a slide, curved longitudinally to fit the outside of the lower end of the hopper 9, and slidable thereover and through the collar 5 between it and said hopper-spout, and is adapted to ordinarily close the gap therebetween when the material is being passed through said hoppers, but to be retracted forwardly when it is desired to disengage the drum 4 so that it may be tilted to deliver its contents when they are properly mixed. This slide 8 is actuated by means of a hand-lever 7 pivoted thereto at 41, and fulcrumed on a bracket 38 secured to the right-hand upright 40.

In order to provide means for temporarily closing the discharge-opening of the hopper 9, a transverse slot is made in the rear side of same, slanting obliquely forward, to receive a sliding partition 6, and the latter may be moved in or out as desired to effect said purpose.

The right-hand uprights 40 and 15 are longer than the uprights 43 on the left-hand side of the truck, in order to support the brackets 50, on which are the bearings 39 and 11 in which the ends of the shaft 12 are rotatably mounted. On said shaft are secured the sprocket-wheels 36, which carry and are driven by the upper ends of the chains 14, the latter carrying the buckets 13, and the lower ends of said chains are driven by sprocket-wheels 19 on a shaft 18. The ends of the shaft 18 are rotatably mounted in bearings at the downturned ends of the bars 20 and 22 of foldable frames, the said bars being secured by means of hinges 45 to the outer ends of arms 46 to form prop-joint connections, the latter hinged at 47 to the floor or platform 51 of the truck near the right-hand edge thereof. A receptacle 37 is carried by the outer ends of the bars 20 and 22, and is so supported and located that the buckets 13 may dip therein and pass there-through as they move about the wheels 19, to

take up portions of the material in such receptacle.

The shaft 18 is rotated by means of a sprocket-wheel 21 on its forward end, which wheel is driven by a chain 38 passing over a sprocket-wheel 27 on the shaft 17. The shaft 17 has a sprocket-wheel 28 driven by a chain 30 which passes over a sprocket-wheel 29 on the power-shaft 31, the latter being driven by intermediate means not shown actuated by an engine 32 and boiler 33, or by any other suitable source of power.

When the conveyer frame-members 20—46 and 22—46 are outwardly extended as shown in Fig. 2, the carrier-chains 14 and their driving connections are adapted for use. In this position, the said frame-members are secured in place by means of the two-part connecting-rods 23 which are adjustably connected by turn-buckles 24, the outer ends of such stays being pivotally connected to the right-hand timber 1, while the inner ends of same are provided with hooks which may be inserted into holes in the said bars 20 and 22. When it is desired to retract the foldable frame inwardly so as to render the whole mechanism as compact as possible for transportation, the connecting-rods 23 are unhooked, and the frame-members 20—46 and 22—46 folded inwardly, as shown in Fig. 3, upon each other, which brings the receptacle 37 and the wheels 19 and 21 immediately under the overhanging hopper 9. This expedient, it will be seen, thus results in a light, convenient and foldable means for supplying a concrete-mixer or other receptacle with material, suitable for transportation there-

with, and forming essentially an integral mechanism.

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

1. A foldable loader, comprising the combination with a transportable truck having a hopper thereon, of a receptacle, a conveyer adapted to transport materials from said receptacle to said hopper, supports for said receptacle composed of sectional arms hinged to said truck and protractile to one side thereof, the sections of said arms being joined together to permit the outer members thereof to fold upon the inner members and both to be folded back upon the top of the truck, without overhanging the latter.

2. A foldable loader, comprising the combination with a transportable truck having a hopper mounted thereon, of a conveyer adapted to deliver materials to said hopper, and a sectional frame upon which said conveyer is mounted, said frame being pivotally connected to the said truck on one side thereof, the sections of said frame being hinged together and adapted to be projected to one side of the truck, and to be folded back upon the truck without overhanging the latter, and means for detachably securing and supporting said sectional frame while in its outwardly extended position.

Signed at Waterloo, Iowa, this 30th day of April, 1908.

CHARLES A. RADCLIFF.

Witnesses:

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G. C. KENNEDY.