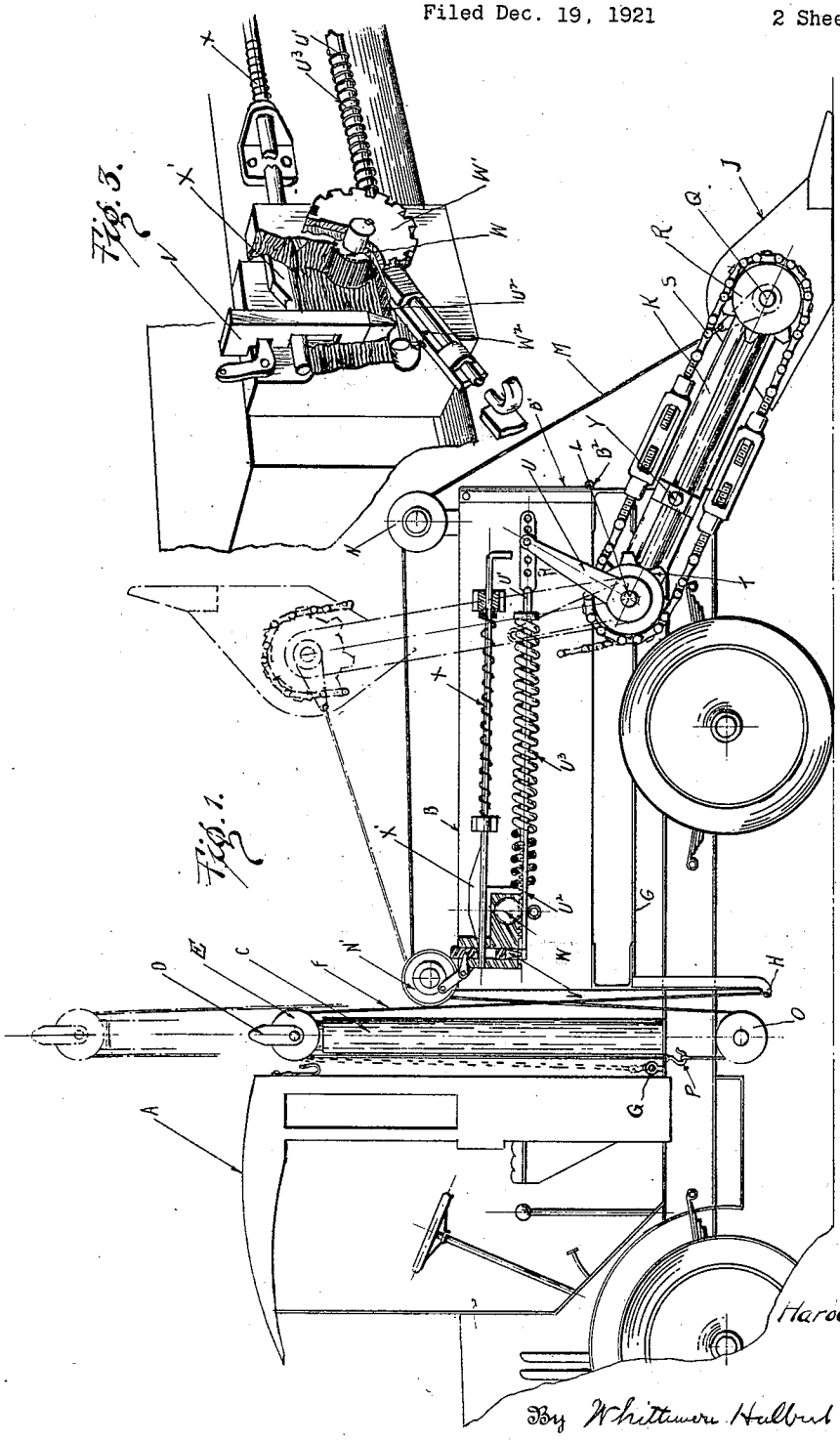
June 12, 1923. 1,458,775

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LOADING ATTACHMENT FOR TRUCKS

Filed Dec. 19, 1921 2 Sheets-Sheet 1



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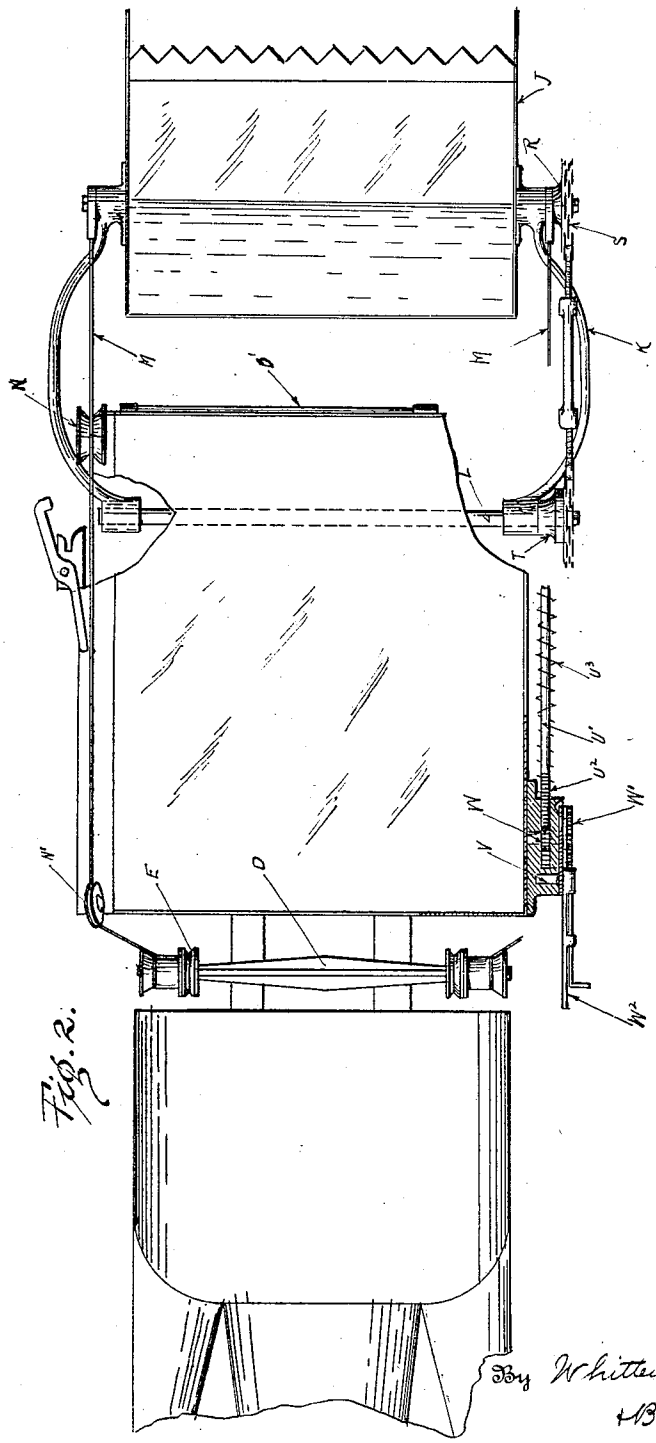


Fig. 2.

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UNITED STATES PATENT OFFICE.

HAROLD G. NILSON, OF DETROIT, MICHIGAN.

LOADING ATTACHMENT FOR TRUCKS.

Application filed December 19, 1921. Serial No. 523,265.

To all whom it may concern:

Be it known that I, HAROLD G. NILSON, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Loading Attachments for Trucks, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to loading attachments particularly designed for use upon motor trucks and other vehicles of transportation and the invention consists in various features of construction as hereinafter set forth.

In the drawings:

Figure 1 is a sectional side elevation of a truck to which my improvement is applied;

Figure 2 is a plan view thereof;

Figure 3 is a detail perspective view of the ratchet wheel.

A is a motor truck, on the frame of which is mounted the dumping body B operated by suitable mechanism. This as shown comprises the hydraulic hoist C, carrying the cross head D with shives E thereon and with cables F anchored to the frame at G passing over the shives E and attaching to the arms H, which lift and dump the body. My improved loading attachment comprises a scoop J which is carried by swinging arms K pivotally attached to the frame of the vehicle by means of a cross shaft L. The arms K are preferably raised or lowered by means of cables M which are attached at one end to said arms and pass over shives N and N′ on the body and thence downward and beneath shives O on the frame. The ends of these cables are adapted to be secured to the cables F when the latter are detached from the anchors G and, as shown, P are hooks on said cables F by which they may be alternately attached to the anchors and to the cables M. Thus with the arrangement shown the hoist C may be used either to dump the body or to load the same through the medium of the scoop J.

In the lifting of the scoop J it is necessary to hold the same from dumping its load during transit and to provide means for causing the dumping when it is above the body. This consists in trunnions Q on opposite sides of the scoop J which pass through bearings in the arms K and one of which is attached to a sprocket wheel R. This sprocket wheel is connected by a sprocket chain S with a sprocket T upon the shaft L. U is an arm projecting radially from the sprocket T and attached to a rod U′, the end of which engages a locking bolt V. The rod U′ is also formed with a rack portion U^2 which engages a pinion W attached to a ratchet wheel W′, while a ratchet lever W^2 is arranged for operating the ratchet wheel to revolve the pinion and to move the rack. A spring U^3 surrounding the rod U′ operates to yieldably hold said rod in its normal position. However, when the bolt V is in locking engagement with the rod, these parts are all stationary. X is a trip rod extending parallel to the rod U′ and having a cam X′ for raising the bolt V to disengage the same from the rod U′.

With the parts as thus far described, when the vehicle is to be loaded, the scoop J is filled by backing the vehicle into the material to be loaded, after which the arms K are swung upward through the actuation of the cable M and associated mechanism, as before described. During the upward movement of the scoop the sprocket T is held stationary by the arm U and rod U′ and this, through the medium of the sprocket chain S, will hold the sprocket Q from turning during the angular movement of the arms K. Consequently, the scoop is maintained in horizontal position until after it is elevated above the body. To dump the load the rod X is operated so that the cam X′ will lift the latch V and permit the movement of the rod U′, rock arm U and sprocket T. Such movement is effected either by the load in the scoop being unbalanced with a tendency to dump the scoop, or by means of the lug Y on the arm K which, in the swinging of said arms, comes into contact with the arm U and actuates the same. Thus, by turning the sprocket T, will actuate the chain S and sprocket wheel R, which will turn the scoop and dump the load. When the arms K are lowered, the springs U^3 upon the rod U′ will effect the restoration of parts to normal position, which will bring the scoop into position for again receiving a load.

It may be desirable at times to use the

scoop as a scraper. This may be accomplished by first releasing the bolt V and then operating the ratchet lever W^2 to turn the ratchet wheel W′ and pinion W, which latter actuates the rack U^2 on the rod U′, turning the arm U, sprocket T, chain S and sprocket wheel R and thereby revolving the scoop into a vertical position. The parts are locked in this position by the re-engagement of the bolt V with the rack teeth of the rod U′, which will hold the scoop from turning, while it is used as a scraper or for other uses.

To facilitate the loading of barrels or similar articles into the wagon, the end gate of the body B′, which is hinged at its lower end at B^2, may be turned down so that its outer edge will rest in the scoop J when the arms K are raised into an inclined position. Thus articles, such as barrels, which are lifted by the scoop, will be automatically rolled down the end gate into the body of the vehicle.

The construction as described is one which may be readily attached to almost any standard construction of truck and can be operated by means already provided on the truck, such as the hydraulic hoist, which has been described. However, it is not essential to my invention that the mechanism should be operated by a hydraulic hoist, as any mechanism driven by the motor may be employed for furnishing the necessary lifting power.

What I claim as my invention is:

1. A loading device for vehicles comprising a scoop, swinging arms attached to the vehicle body upon which said scoop is mounted, means for lifting said arms to swing the scoop over the body, means for preventing the scoop from turning during the swinging movement, and releasing means for permitting the turning of the scoop to dump the load when above the body.

2. A loading device for vehicles comprising a scoop, swinging arms attached to the vehicle body on which said scoop is mounted, means for lifting said arms, means for preventing the turning of the scoop during transit consisting of a sprocket attached to the scoop, a sprocket concentric with the pivot of said swinging arms, a sprocket chain connecting said sprockets, means for normally holding the second-mentioned sprocket from turning during the swinging of said arms, and releasing means to permit the turning of said sprocket when the load is to be dumped.

3. A loading device for vehicles comprising a scoop, arms on which said scoop is mounted pivotally attached to the body of the vehicle, means for swinging said arms upward to carry the scoop above the body, means for holding the scoop from turning during the upward movement thereof comprising a sprocket attached to the scoop, a sprocket concentric with the pivot of said arms, a sprocket chain connecting said sprockets, a radial arm extending from the second sprocket, a rod connected to said arm and extending longitudinally of the vehicle, a locking bolt for holding said rod from movement, and means for releasing said bolt to permit the movement of said rod and the dumping of the load from the scoop.

4. A loading device for vehicles comprising a scoop, arms on which said scoop is mounted pivotally attached to the body of the vehicle, means for swinging said arms upward to carry the scoop above the body, means for holding the scoop from turning during the upward movement thereof comprising a sprocket attached to the scoop, a sprocket concentric with the pivot of said arms, a sprocket chain connecting said sprockets, a radial arm extending from the second sprocket, a rod connected to said arm and extending longitudinally of the vehicle, a locking bolt for holding said rod from movement, means for releasing said bolt to permit the movement of said rod and the dumping of the load from the scoop, a rack on said rod, a pinion engaging said rack, a ratchet wheel secured to said pinion, and a ratchet lever engaging said wheel to operate said pinion and rack in restoring the parts to normal position.

5. A loading device for vehicles comprising a scoop, swinging arms attached to the vehicle frame upon which said scoop is mounted, a body on said frame, an end gate for said body hinged at its lower end, and means for lifting said arms to elevate the scoop to a position above the bottom of said body, in which position said end gate will rest upon the scoop and form a runway therefrom to the body.

6. A loading device for vehicles comprising a scoop, swinging arms attached to the vehicle body on which said scoop is mounted, means for lifting said arms, means for preventing the turning of the scoop during transit consisting of a rotatable member attached to the scoop, a rotatable member concentric with the pivot of said swinging arms, a member connecting said rotatable members, means for normally holding the second mentioned rotatable member from turning during the swinging of said arms, and releasing means to permit the turning of said rotatable member when the load is to be dumped.

7. The combination with a vehicle, of a ground engaging scoop adapted to discharge material into the body of said vehicle, means for actuating said scoop, said scoop being adjustable to a position to serve as a scraper, and adjustable means independent of said actuating means for retaining said scoop in said position.

8. The combination with a vehicle having a frame, of a dumping body mounted on said frame, dumping mechanism for said body including a flexible member connected to said body and normally anchored upon said frame, and a hoist for actuating said flexible member, arms pivoted to said frame, a scoop carried by said arms, and a flexible member connected to said arms and adapted to be connected to the flexible member aforesaid when the same is detached from said frame whereby said scoop and arms may be actuated instead of said body.

In testimony whereof I affix my signature.

HAROLD G. NILSON.