

R. A. BRADLEY.
 TRUCK,
 APPLICATION FILED JAN. 20, 1920.

1,368,886.

Patented Feb. 15, 1921.

Fig. 1.

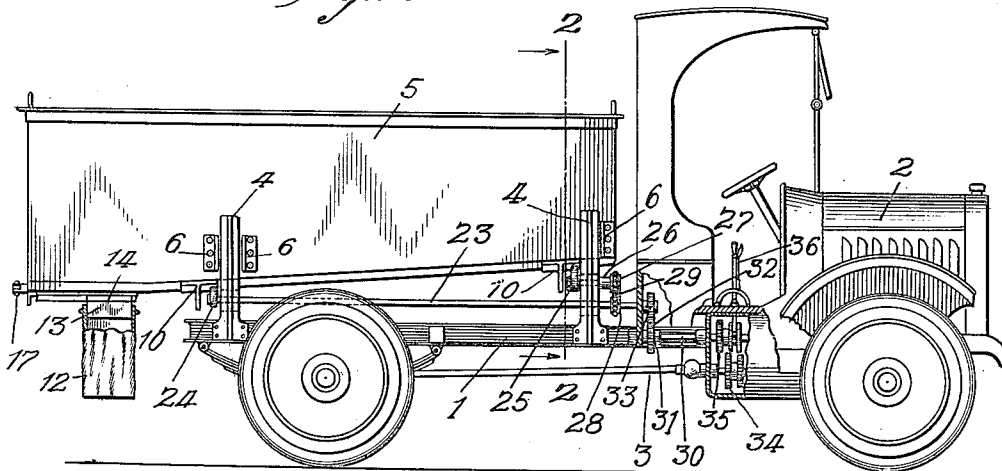


Fig. 2.

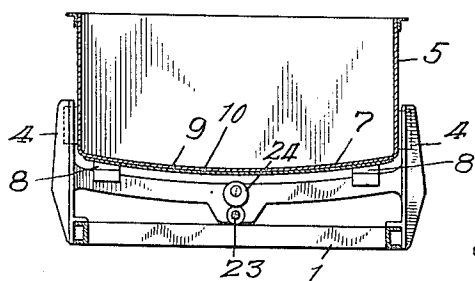


Fig. 4.

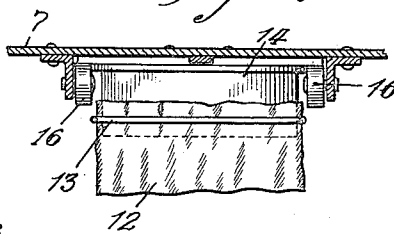


Fig. 5.

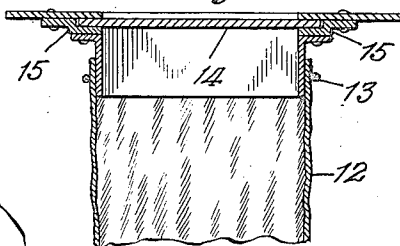
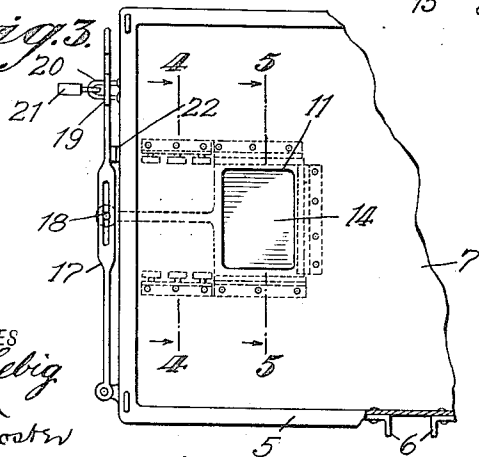


Fig. 3.



WITNESSES
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TRUCK.

1,368,886.

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To all whom it may concern:

Be it known that I, ROBERT A. BRADLEY, a subject of the King of Great Britain, and a resident of Merritton, in the county of Lincoln, Province of Ontario, and Dominion of Canada, have invented a new and Improved Truck, of which the following is a full, clear, and exact description.

This invention relates to improvements in trucks, and more particularly to trucks for conveying crushed stone, coal, sand, and other similar material, an object of the invention being to so construct the truck as to facilitate the unloading thereof.

A further object is to provide on the truck body an outlet chute communicating with an opening in the bottom of the truck through which the material of the body is fed by gravity, and provide an improved arrangement of gate for controlling said outlet.

A further object is to provide improved mounting for the truck body and improved means for vibrating or shaking the body to facilitate the discharge of the material there-in through the outlet chute.

With these and other objects in view the invention consists in certain novel features of construction, and combinations and arrangements of parts, as will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawings—

Figure 1 is a view in side elevation partly in section illustrating my improved truck;

Fig. 2 is a view in transverse section on the line 2—2 of Fig. 1;

Fig. 3 is a fragmentary plan view of the rear end of the truck body;

Fig. 4 is a view in section on the line 4—4 of Fig. 3; and

Fig. 5 is a view in section on the line 5—5 of Fig. 3.

1 represents the chassis of my improved truck which is of the motor type and may be provided with any suitable engine located within the hood 2 and operating a drive shaft 3 for propelling the truck. On the chassis 1 I provide a pair of stationary rigid frames or cradles 4 supporting the body 5 of the truck. The body 5 is made with angle brackets 6 at its sides to engage the frames 4 and prevent longitudinal movement of the body on the chassis. The bottom 7 of the body 5 is curved transversely, or, in other words, is concave and is supported on

cushion blocks 8 on the frames 4 to reduce noise to a minimum, as will more fully hereinafter appear.

The body 5 is reinforced by a bottom plate 9 and is provided with transversely positioned angle bars 10, said angle bars being preferably of T-shape as shown. At the rear of the body and at its lowest point an outlet or discharge opening 11 is formed in the bottom 7 and a chute 12 is located below and spaced from the opening 11 to guide the discharge of the contents of the body. This chute 12 is mainly of canvas or other flexible material fixed to a ring 13 suspended from the bottom of the truck body. A sliding gate 14 normally closes the outlet 11 and this gate 14 is located under the bottom 7 and movable in suitable guides 15, the latter being provided with rollers 16 to sustain the weight of the gate and reduce friction to a minimum.

A lever 17 is pivotally connected to the rear end of the body and intermediate its ends is provided with a slot and pin connection 18 with the gate 14 so that the movement of the lever 17 causes the sliding movement of the gate to control the opening and closing thereof. This lever 17 is made with a slot 19 to receive a staple 20 fixed to the end of the body 5 and secured in such position by a padlock 21 to prevent unauthorized tampering with the gate. A rubber or other cushion block 22 is provided at the rear end of the body to space the lever slightly therefrom and prevent injuring the fingers of the operator when closing the gate.

A longitudinally positioned shaft 23 is mounted centrally in the frames 4 and is provided with a cam 24 engaging a base flange of the angle bar 10 under the bottom of the body 5 to impart a vertical agitation or reciprocation to the body 5 when the shaft 23 is revolved. A second cam 25 is located under and engages the base flange of the forward angle bar 10 at the forward end of the body 5 and this cam 25 is secured upon a short shaft 26 mounted in the front frame 4 and connected by sprocket wheels 27 and 28 and a sprocket chain 29 with the shaft 23, so that the cams 24 and 25 are caused to revolve together.

It is necessary to provide the cam 25 on a shaft separate from the shaft 23 because of the fact that the forward end of the body 5 is appreciably higher than the lower portion thereof, and by reason of the structure

above described, both ends of the body will receive the same simultaneous vertical movement or agitation to dislodge the contents of the body and facilitate the feed of the material therein through the outlet 11. A countershaft 30 is provided with a sprocket wheel 31 connected by a sprocket chain 32 with a sprocket wheel 33 on the shaft 23, thus compelling the shafts to turn together. The drive shaft 3 is provided with a drive gear 34 and a driven gear 35 is keyed to the countershaft 30 and is operated by a lever 36 to move the gear 35 into and out of mesh with the gear 34. It is obvious that the details of the gear shaft and the particular power transmission means may be varied without departing from my invention as it is apparent that various means might be resorted to for transmitting power from the engine to the cam shafts to cause the rotation of the cams 24 and 25.

The operation is as follows: Assuming the truck to be loaded, and it is desired to unload, or partially unload the same, the gate 14 is opened by means of the lever 17, the chute 12 being previously positioned over a point of discharge, or a wheelbarrow, or other similar device located under the chute to receive the contents of the body. If a wheelbarrow or other device is used, it is of course, necessary for the operator to control the gate by the movement of the lever 17 to cut off the feed of material when the wheelbarrow is full, and my improved truck is especially adapted for use with wheelbarrows and the like where it is necessary to convey material from the truck some distance for discharge. It is, of course, obvious that the entire load might be discharged at once, but I have emphasized the intermittent discharge because of the fact that the device, as commonly made, does not facilitate this manner of discharge.

When the material ceases to feed regularly and uniformly, the lever 36 is operated to throw the gear 35 into mesh with gear 34 and motion is then transmitted from the drive shaft 3 to the countershaft 30 and through the medium of the sprocket wheel 31, sprocket chain 32 and sprocket wheel 33, motion is transmitted to the shaft 23. The sprocket wheels 27 and 28 and the sprocket chain 29 transmit motion from the shaft 23 to the shaft 26 so that the cam 25 is turned simultaneously with the turning of the cam 24. The rotary movement of these cams 24 and 25 imparts a vertical vibration or reciprocation to the truck body 5, causing a shaking action of the contents of the body to compel the same to feed by gravity along the inclined bottom of the body to the outlet 11. As the bottom of the body curves downwardly from its sides to its center

throughout its length, and as it has an incline downwardly from its forward to its rear end, the entire contents of the body can be fed by gravity through the outlet 11.

The provision of the cushion blocks 8 under the body 5 prevents undue noise which would otherwise be true if metal parts engaged each other during this vertical agitation of the body.

It is, of course, to be understood that when the truck is standing still in position for unloading, the engine gear will be thrown into neutral so that the operation of the engine will serve merely to facilitate the unloading of the truck.

Various slight changes may be made in the general form and arrangement of parts described without departing from the invention, and hence I do not limit myself to the precise details set forth, but consider myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of the appended claims.

I would have it understood that I may dispense with the sprocket wheels 31 and 33 and sprocket chain 32 and have the shafts 30 and 23 constitute a single driving member. I may also provide partitions in the truck body for batch concrete work in road paving work.

I claim:

1. In a truck, the combination with a wheeled chassis, and transverse cradles on the chassis, of a body having an outlet in its bottom adjacent its rear end, and said bottom inclining toward said outlet, a gate normally closing the outlet, and means adjacent the respective ends of the body for imparting vertical agitation thereto.

2. In a truck, the combination with a wheeled chassis, and transverse cradles on the chassis, of a body having an outlet in its bottom adjacent its rear end, and said bottom inclining toward said outlet, a gate normally closing the outlet, means on the body engaging the cradles and holding the body against horizontal movement and guiding the vertical movement of the body, cams engaging the bottom of the body adjacent the respective ends of the body, and means for turning the cams to impart vertical agitation to the body, whereby the contents of the body are caused to move toward the outlet.

3. The combination with a motor truck, of a longitudinal shaft located under the body of said truck, a cam carried by the shaft, a countershaft geared to said first-mentioned shaft, a cam carried by the countershaft, and means connected with the engine of said motor truck for operating both of said cams.

ROBERT AULDOM BRADLEY.