April 13, 1948. R. ABRAHAM 2,439,439

SIDE DUMP TRUCK BODY

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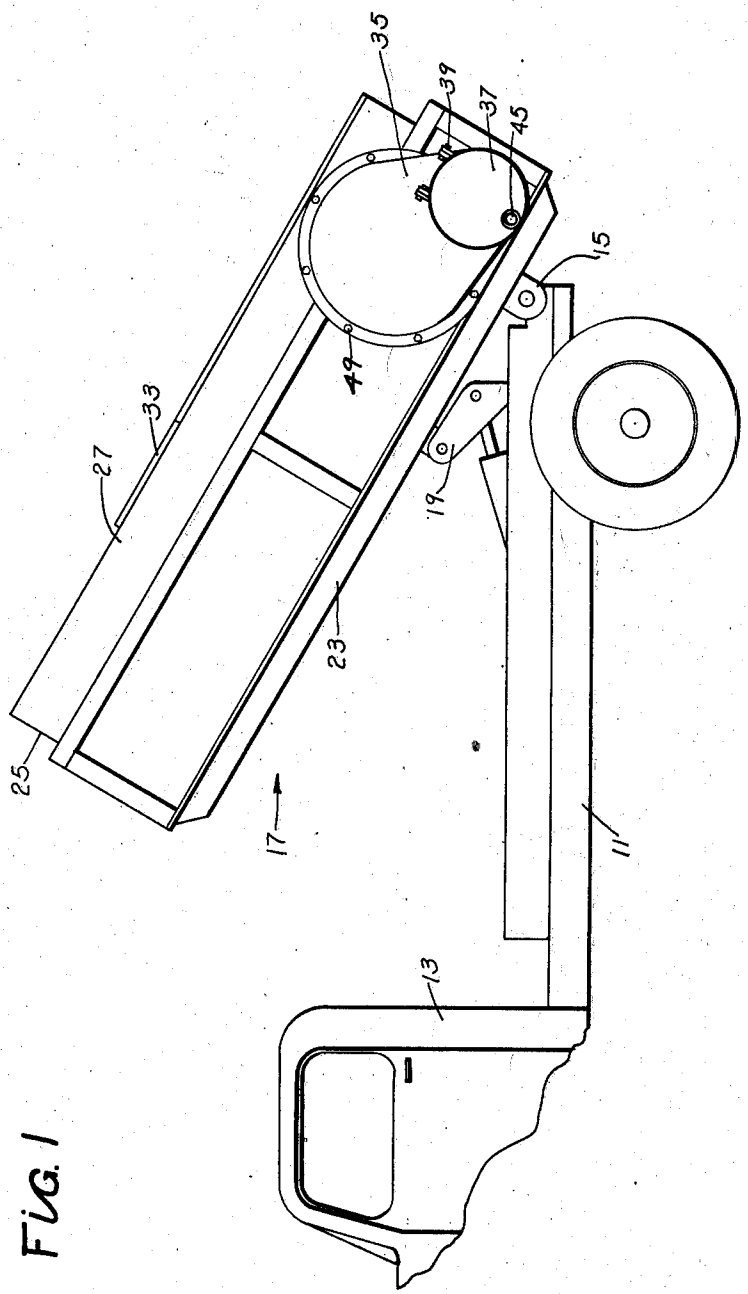


Fig. 1

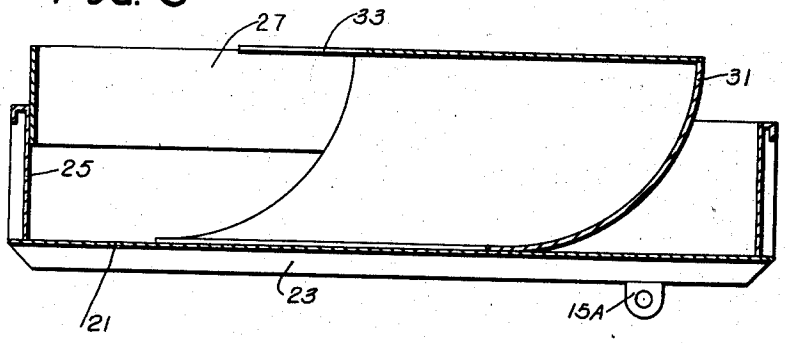
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SIDE DUMP TRUCK BODY

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FIG. 3



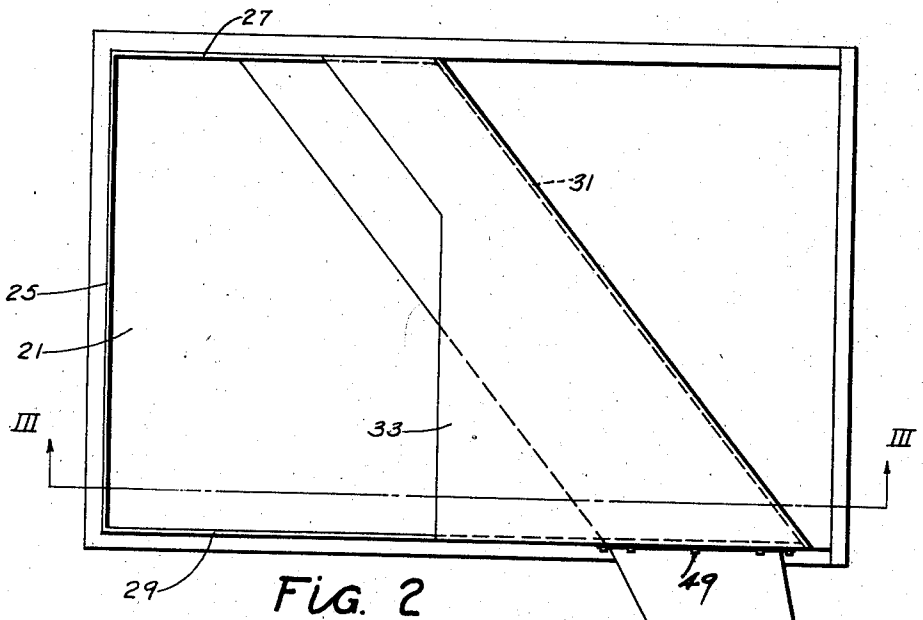


FIG. 2

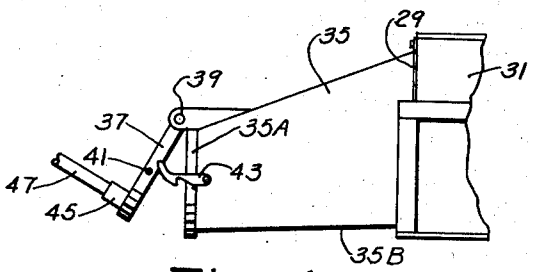
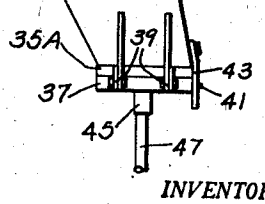


FIG. 4



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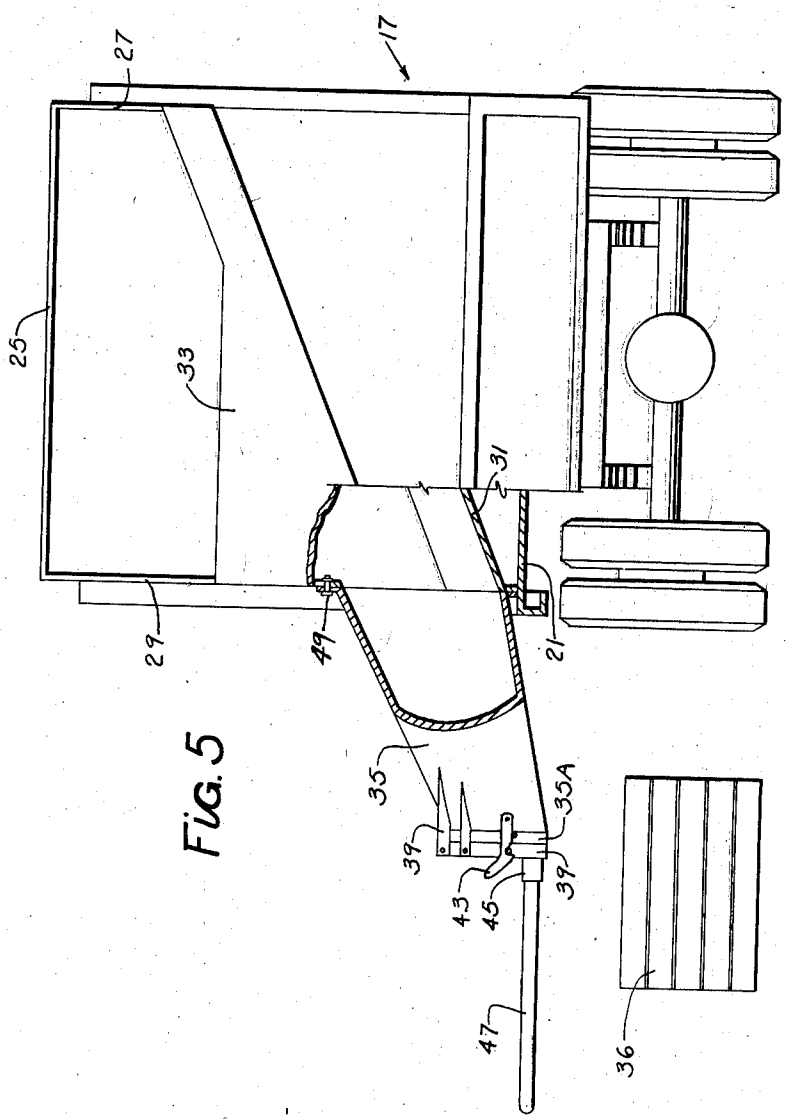


FIG. 5

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UNITED STATES PATENT OFFICE

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SIDE DUMP TRUCK BODY

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Application September 19, 1946, Serial No. 697,965

6 Claims. (Cl. 298—18)

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This invention relates to truck bodies for hauling and dumping materials, such as concrete, or other gravity displaceable materials, as sand and gravel, and particularly to bodies which are adapted to dump the concrete or other materials at one side of the truck as into a row of small molds or a trench, or to form an elongated pile, and which require that discharge be well beyond the wheels of the truck, and at some height above the ground level.

The invention has particular application to a body for transporting and delivering concrete into rather shallow elongated molds, such as would be required for fence posts, or molds for concrete blocks or slabs of the type used in levee control work in which the finishing product is a group of blocks closely assembled side by side and linked together into a more or less flexible mat, and in which the mat width requires discharge reach and its length requires an extended locus of discharge. In this work also it is often advantageous to fill one set of molds, cover them, place an additional set of molds thereon and repeat the operation several times, establishing eventually a discharge point of considerable height, requiring a corresponding height of discharge.

The objects of the present invention are:

To provide a body which will discharge its content laterally and without the necessity of backing the truck into discharge position;

To provide a body which will discharge its content laterally and spread the discharge along a path of considerable length;

To provide a body in which a substantial height of discharge level is maintained;

To provide means by which the discharge rate may be controlled and continuously regulated or varied as discharge progresses.

In accomplishing these objects I provide a dump body having a laterally extending chute or nozzle disposed near the hinge center about which the body is raised, so that when the body is in dump position the height of the chute above the ground will not be lowered appreciably, since the eccentricity of the chute to the hinge center is small; and an arcuate transverse member incorporated within the truck body which is positioned to deflect all of the material to be emptied from the truck toward the back at one side and to afford a substantial thrust while it is being discharged.

I further provide a means of governing the rate of flow of the material being discharged

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by a gate, under control of a workman during such discharge.

The means by which the foregoing and other objects are accomplished and the manner of their accomplishment will readily be understood from the following specification upon reference to the accompanying drawings, in which:

Fig. 1 is a side elevation of a dump body truck embodying my invention, with the body in dumping position.

Fig. 2 is a plan view of the truck body.

Fig. 3 is a sectional side elevation of the body taken on the line III—III of Fig. 2.

Fig. 4 is a fragmentary end elevation of a portion of the truck body and the chute extending laterally therefrom.

Fig. 5 is a rear end elevation of the truck with the body in the dumping position of Fig. 1, and the junction of the chute and body in section.

The body may be adapted from an ordinary dump truck body of the usual rectangular shape, or be designed and built as an entirely new structure. If an old body is used it is usually advantageous to deepen the side and end walls of the body to compensate for the reduction in capacity.

The instant construction substantially shortens the effective length of the body, and it is usually necessary to increase the depth of the body to preserve the capacity. With an old body this may be done by welding on plates which extend above the normal top of the body, such construction being shown in the drawings, but such extensions are not necessary unless an old body is made use of.

In the present description reference will not be further made to these extensions, and the parts shown but not used, will not necessarily be referred to.

Referring now to the drawings in which the various parts are indicated by numerals:

11 is a truck chassis and 13 the cab. Hinged to the chassis as by hinges 15 is a truck body 17 which is raised into dumping position by a conventional hydraulic cylinder-piston assembly 19, or otherwise as desired.

The body is preferably of rectangular shape and comprises a bottom 21 which is supported by longitudinal beams 23 to which are attached brackets 15A forming part of the hinge, these brackets being adjacent the rear end of the beams and body.

From the bottom 21 a front wall 25 and side walls 27 and 29 extend upward in usual manner. The body has a back wall 31 which extends

diagonally from one side wall 27 about midway of the length of the body to the opposite side wall 29 adjacent its rear end. The back wall 31 extends from the level of the top of the sides downward and arcuately forward to the bottom 21, preferably substantially into tangency therewith. A portion of the top of the body along the back wall 31, and extending forwardly therefrom, is covered by a top 33. The side wall 29 is apertured where it is contacted by the back wall 31, and a chute 35 is secured to the side wall around the aperture and extends laterally outward well beyond the wheels of the truck, as to dump into forms 36, disposed along the said side of the truck, this chute preferably tapering from the opening in the side wall conically to a discharge end 35A which carries a closure gate 37. The gate 37 is supported at its upper edges by hinges 39 and is provided with a latch pin 41 and complementary latch 43 by which it may be held closed.

Adjacent the lower side of the gate 37 is a socket 45 which is adapted to snugly receive the end of a removable handle 47 through which the amount of opening of the gate may be manually controlled, the handle being made removable because its extension, when in place, would necessarily interfere with the movement of the truck from the mixer to the place of discharge.

The bottom 35B of the discharge chute at its connection to the body is substantially tangent to the arcuate back 31 and the chute bottom may slope slightly downward from the horizontal as it extends outward from the body. The back 35C of the chute extends outwardly and rearwardly from the body at a small angle.

In use, the concrete is put into the body and transported to the work. The truck is driven alongside the work and the body tilted to dump position and if desired the gate unlatched and discharge made of the entire load in a pile. The gate may, however, be unlatched and controlled by the lever and the truck driven along side the work discharging at such rate as is desired or necessary to fill successive molds as they are reached. In discharging the back and top of the body converge the concrete toward and through the chute.

It will be understood that the trucks are not intended for general highway use and that the chute extension weight interferes with transfer from place to place.

The chutes are, therefore, preferably connected to the bodies by bolts so that disconnection and replacement may be made when and if it becomes necessary. Preferably all other connections are made by welding.

I claim:

1. The combination of a truck having a chassis, a dump body mounted thereon and hingedly connected at the rear end of said body to said chassis, and means for raising the front end of the body to accomplish dumping of the truck; said body including a bottom, front and side walls, and a rear wall angularly disposed between said side walls, to deflect materials within said body and to be dumped therefrom laterally toward one side, said side having an opening therethrough adjacent the point of concentration of said materials, a chute extending laterally and to a minor extent rearwardly and downwardly from said opening, and a hinged gate for controlling discharge from said chute.

2. A dump truck including a chassis and a body; said body having a bottom, front, side and rear walls, and a partial closure top extending forwardly from said rear wall; one said side wall having a discharge opening therethrough adjacent its rear end; said rear wall extending diagonally from the rear of said opening forwardly and across said body to the opposite said side wall and in cross section extending downwardly from said top and curving forwardly to said bottom, a discharge chute surrounding said opening and extending laterally away from said wall therearound, and a closure gate for the outer end of said chute hingedly connected thereto, said body being mounted on the chassis of said truck and hingedly connected thereto about a transverse axis substantially underlying said discharge opening, and means for raising the forward end of said body relatively to said chassis.

3. A dump truck including a body, having a bottom, front, side and rear walls, and a partial closure top extending forwardly from said rear wall; one said side wall having a discharge opening therethrough adjacent its rear end; said rear wall extending diagonally from the rear of said opening forwardly and across said body to the opposite said side wall, a discharge chute surrounding said opening and extending laterally away from said wall therearound, and a manually operable closure gate for the outer end of said chute, said body being mounted on said truck and hingedly connected thereto about a transverse axis substantially underlying said discharge opening, and means for raising the forward end of said body relatively to said truck.

4. A dump truck including a body, having a bottom, front, side and rear walls, and a partial closure top extending forwardly from said rear wall; one said side wall having a discharge opening therethrough adjacent its rear end; said rear wall extending diagonally from the rear of said opening forwardly and across said body to the opposite said side wall, a discharge chute surrounding said opening and extending laterally away from said wall therearound, and a manually operable closure gate for the outer end of said chute, mounted on said truck and said body being hingedly connected at its rear end to said truck.

5. A dump truck body, having a bottom, front, side and rear walls, and a partial closure top extending forwardly from said rear wall; one said side wall having a discharge opening therethrough adjacent its rear end; said rear wall extending from the rear of said opening forwardly at an angle in excess of thirty degrees across said body to the opposite said side wall, and in cross section extending downwardly from said top and curving forwardly to said bottom, a discharge chute surrounding said opening and extending laterally away from said wall therearound, and a closure gate for the outer end of said chute hingedly connected thereto.

6. A dump truck body having a bottom, front, side and rear walls, and a partial closure top extending forwardly from said rear wall; one said side wall having a discharge opening therethrough adjacent its rear end; said rear wall extending from the rear of said opening forwardly at an angle in excess of thirty degrees across said body to the opposite said side wall, a discharge chute surrounding said opening and extending laterally away from said wall therearound, and a manually operable closure gate for the outer end of said chute.

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