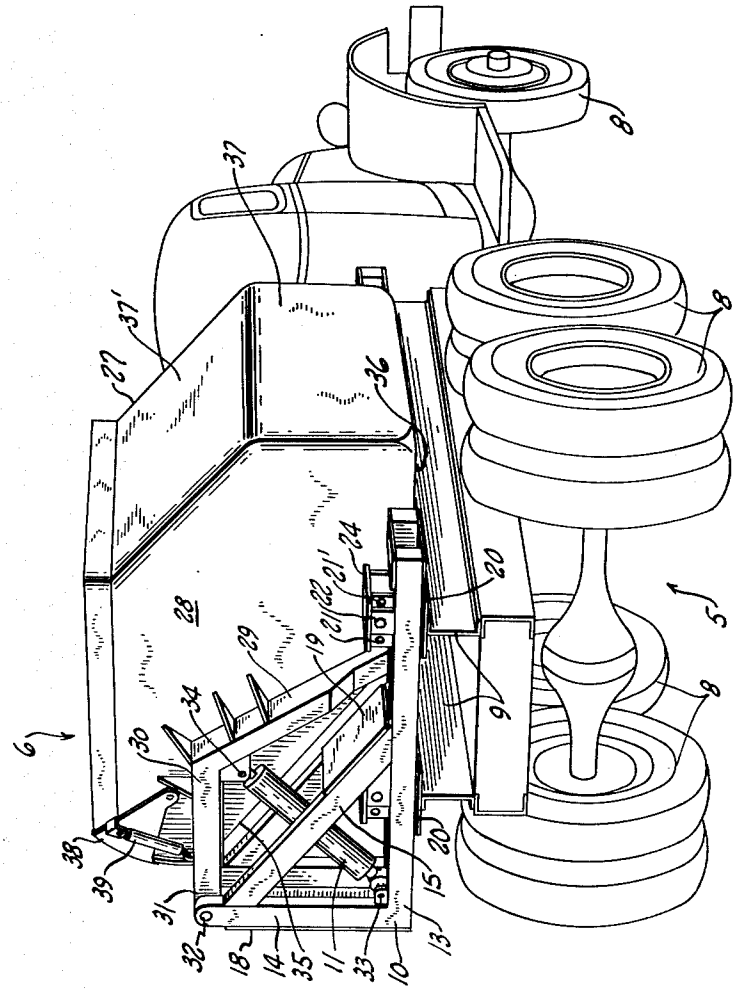
Feb. 22, 1966 G. MAXON, JR 3,236,562

SIDE DISCHARGE DUMP BODY FOR TRUCKS AND THE LIKE

Filed May 8, 1964 6 Sheets-Sheet 1

Fig. 1.



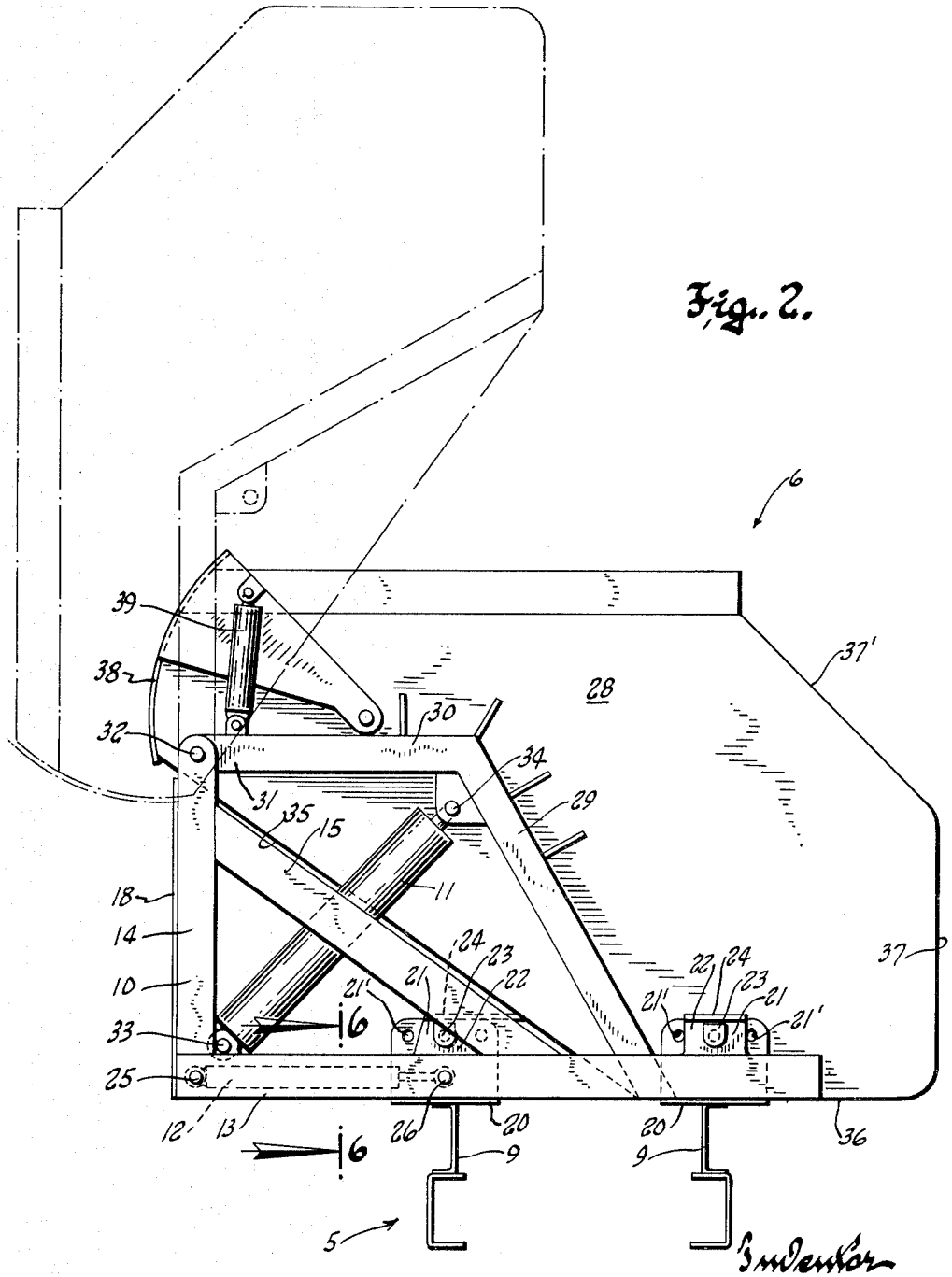
Inventor
Glenway Maxon, Jr.
By Schuyler, Jones & Morrey
Attorneys

Feb. 22, 1966 G. MAXON, JR 3,236,562

SIDE DISCHARGE DUMP BODY FOR TRUCKS AND THE LIKE

Filed May 8, 1964 6 Sheets-Sheet 2

Fig. 2.



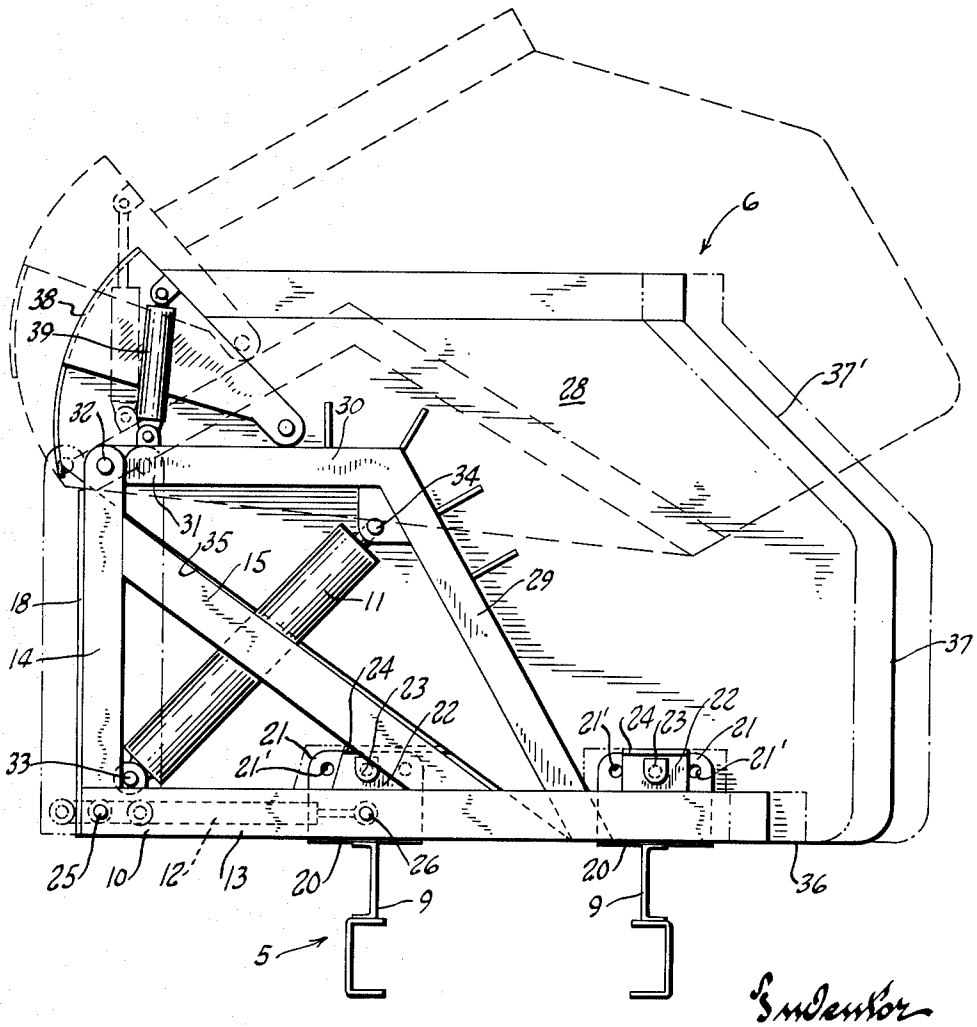
Inventor
Glenway Maxon, Jr.
By Dawson, Wilson, Jones & Morrow
Attorneys

Feb. 22, 1966 G. MAXON, JR 3,236,562

SIDE DISCHARGE DUMP BODY FOR TRUCKS AND THE LIKE

Filed May 8, 1964 6 Sheets-Sheet 3

Fig. 3.



Inventor
Glenway Maxon, Jr.
By [illegible]
Attorney

Feb. 22, 1966 G. MAXON, JR 3,236,562

SIDE DISCHARGE DUMP BODY FOR TRUCKS AND THE LIKE

Filed May 8, 1964 6 Sheets-Sheet 4

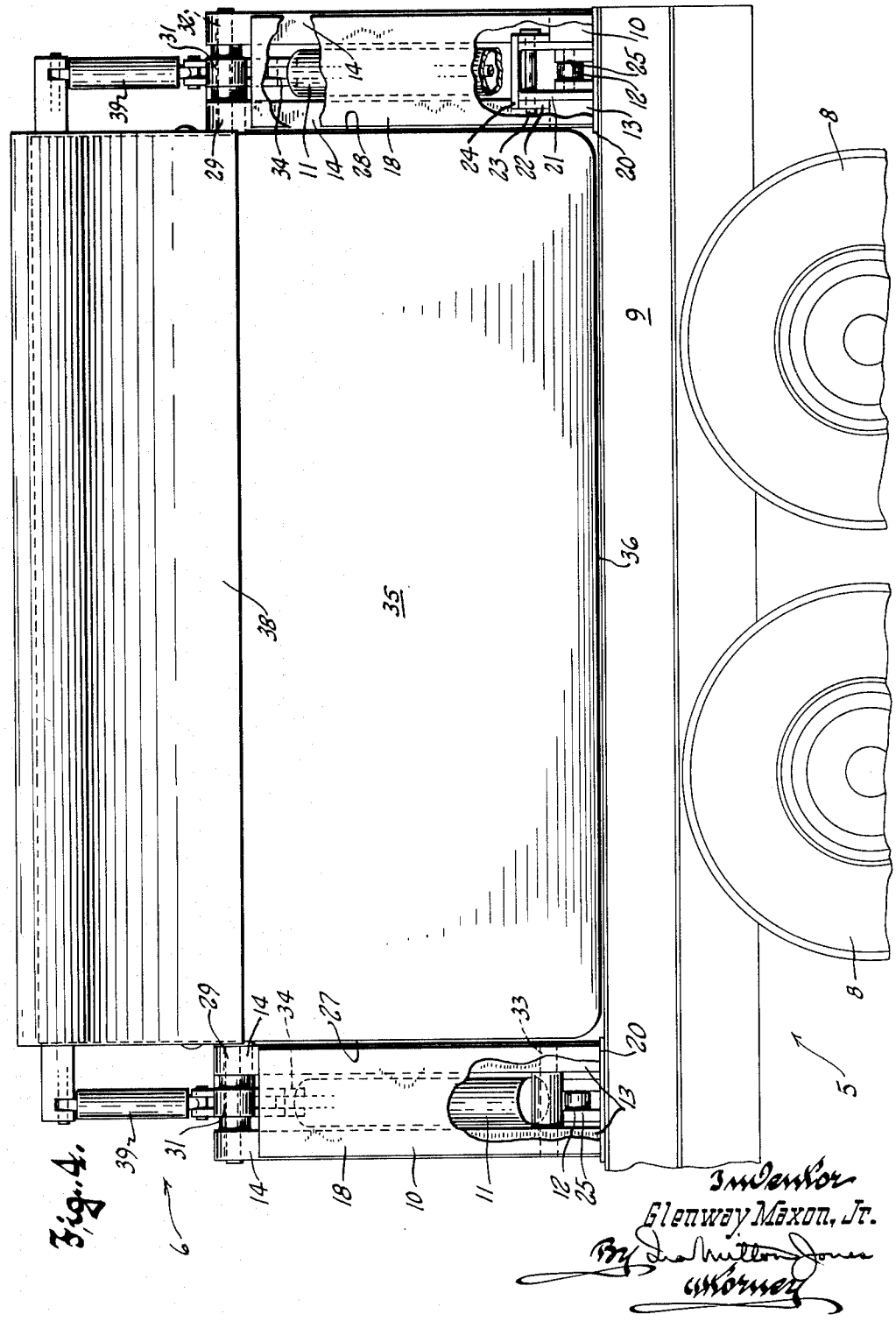


Fig. 4.

Inventor
Glenway Maxon, Jr.
By Shelton Jones
Attorney

Feb. 22, 1966 G. MAXON, JR 3,236,562

SIDE DISCHARGE DUMP BODY FOR TRUCKS AND THE LIKE

Filed May 8, 1964 6 Sheets-Sheet 5

Fig. 6.

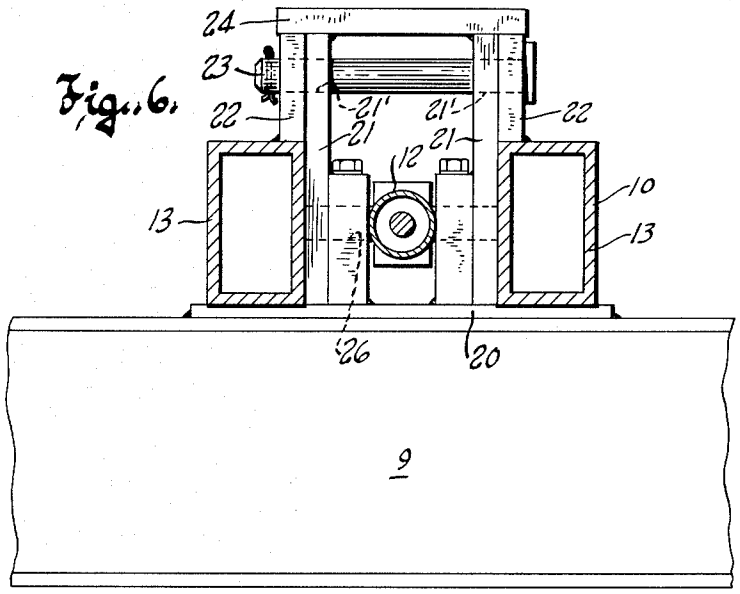
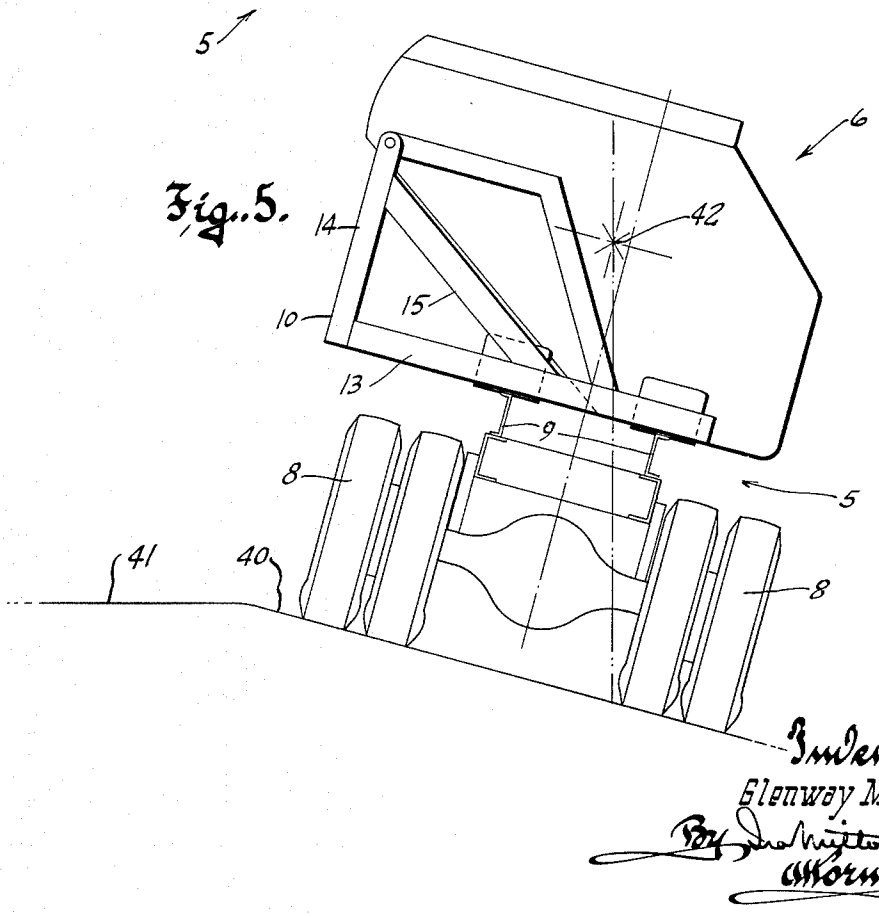


Fig. 5.



Inventor
Glenway Maxon, Jr.
By [illegible]
Attorney

Feb. 22, 1966 G. MAXON, JR 3,236,562

SIDE DISCHARGE DUMP BODY FOR TRUCKS AND THE LIKE

Filed May 8, 1964 6 Sheets-Sheet 6

Fig. 7.

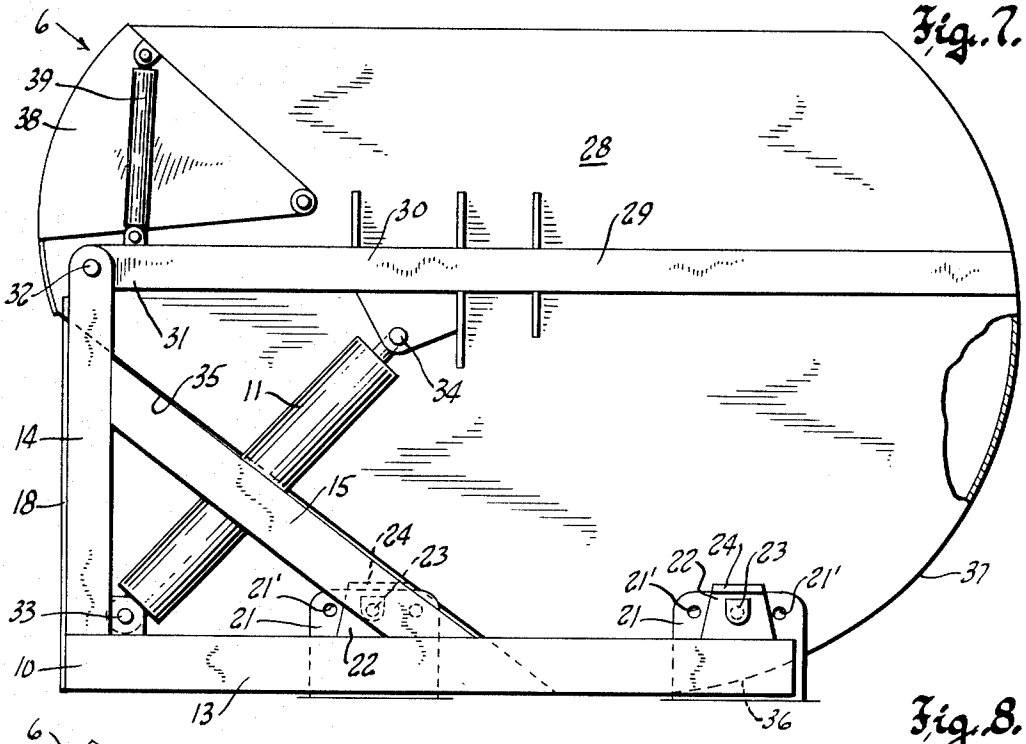
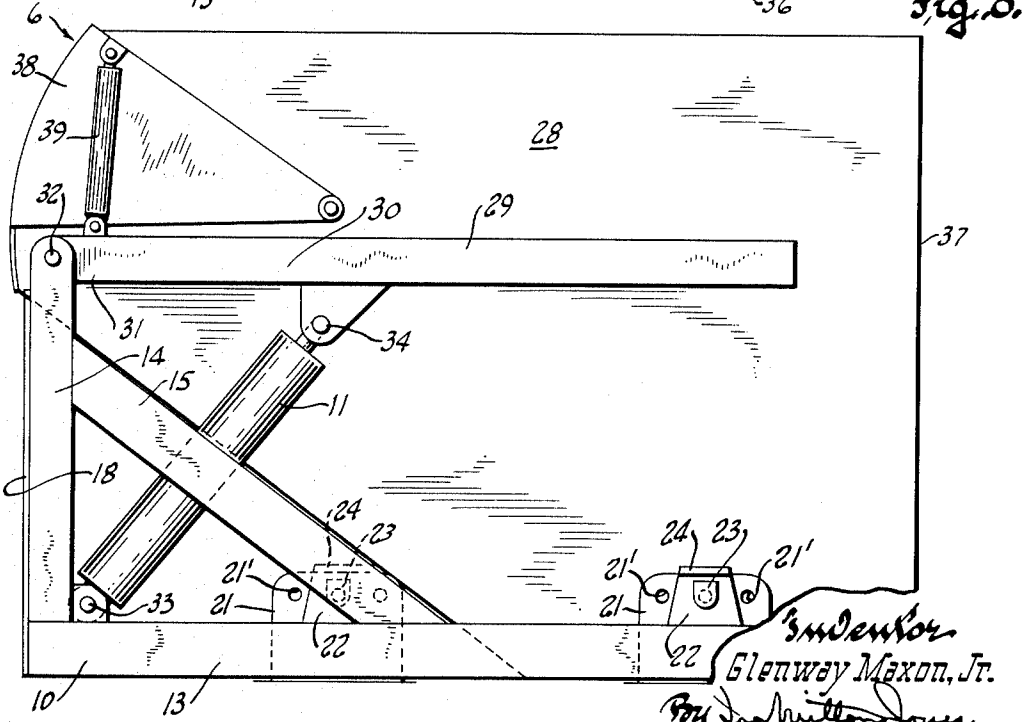


Fig. 8.



Inventor
Glenway Maxon, Jr.
By Smith, Jones & Worrey
Attorney

United States Patent Office

3,236,562

Patented Feb. 22, 1966

3,236,562

SIDE DISCHARGE DUMP BODY FOR TRUCKS AND THE LIKE

Glenway Maxon, Jr., 1830 E. Kane Place, Milwaukee, Wis.

Filed May 8, 1964, Ser. No. 366,069
7 Claims. (Cl. 298—13)

This invention relates to dump vehicles and refers more particularly to side discharge dump vehicles such as are used for the transportation of freshly mixed concrete in connection with pavement construction projects.

In the paving of highways and airport runways, it is customary to use dump trucks to haul mixed concrete from a mixing plant to the point at which the concrete is being used. Usually each truck empties its load into a spreader or paving machine by which the concrete is spread on the roadbed, and the trucks move to and from the spreader on a shoulder that extends lengthwise along the pavement being laid.

In a major paving project it is important that the trucks move past the spreader in a straight path parallel to the length of the ribbon being paved, without time consuming maneuvering at the spreading machine. Hence a rear discharge dump truck must be provided with a chute or spout that carries the discharging concrete sidewardly over to the paver or to the roadbed from the rear body outlet of the truck.

In recent years it has been found advantageous to use side discharging dump trucks for hauling concrete on big paving projects, because a side dumping truck does not need a long delivery chute for changing the direction of flow of the discharging concrete from rearwardly to sidewardly.

While superior to rear discharge dump vehicles in some respect, the side discharge dump trucks heretofore in use have possessed certain defects and disadvantages, and it is therefore a general object of the present invention to provide a side discharge dump body for trucks and similar vehicles which avoids and overcomes those defects and disadvantages and which is therefore superior in many important respects to prior dump bodies of the side discharge type.

More specifically, it is an object of the present invention to provide a side discharge dump body which dumps cleanly, has a very favorable center of gravity location, and can have a large load carrying capacity and still be conformed to the regulations concerning maximum vehicle width for on-highway travel.

Another specific object of this invention is to provide a side discharge dump body wherein a wall along the discharge side of the body, extending obliquely upwardly and sidewardly from the bottom of the body to its discharge outlet, is inclined at an angle of about 35° to the horizontal when the body is in its transport position, to provide the body with satisfactory load carrying capacity, and is inclined at about 60° to the horizontal when the body is in its fully raised dumping position, to insure clean and complete discharge of concrete out of the body.

From what has just been said, it will be apparent that the side discharge dump body of this invention is asymmetrical relative to a vertical plane extending along the centerline of the vehicle chassis on which the body is mounted; but is is another object of this invention to provide such an asymmetrical body wherein the center of gravity of a load carried by the body is nevertheless low and close to said plane.

A further object of this invention is to provide a side discharge dump body having the asymmetrical configuration just described, and which body is shiftable laterally

of a vehicle chassis upon which it is mounted, to enable the center of gravity of a load in the body to be favorably located for travel of the vehicle along an inclined shoulder of a roadbed or the like.

It is thus a further object of this invention to provide a side discharge dump vehicle which is extremely stable in both its transit and its dumping conditions, and which therefore needs no external bracing or temporary support to steady the vehicle during dumping.

Still another object of this invention is to provide a side discharge dump body of the character described wherein the body is carried by a frame which rests upon the chassis of the vehicle and which pivotally mounts the body for tilting motion to and from its discharge position, and wherein said frame is capable of receiving the load reactions of the body during tilting, and of carrying those load reactions into the vehicle chassis even though the tilting axis of the body is located a substantial distance to one side of the chassis frame of the vehicle.

With the above and other objects in view which will appear as the description proceeds, this invention resides in the novel construction, combination and arrangement of parts substantially as hereinafter described and more particularly defined by the appended claims, it being understood that such changes in the precise embodiments of the herein disclosed invention may be made as come within the scope of the claims.

The accompanying drawings illustrate several complete examples of physical embodiments of the invention constructed according to the best modes so far devised for the practical application of the principles thereof, and in which:

FIGURE 1 is a rear perspective view of a side discharge dump truck embodying the principles of this invention;

FIGURE 2 is a view in rear elevation of the body and upper portion of the chassis of the dump truck shown in FIGURE 1;

FIGURE 3 is a view similar to FIGURE 2 but showing how the body is shiftable from side to side relative to the chassis to dispose it in different positions that accommodate various conditions;

FIGURE 4 is a view in side elevation of the body and upper portion of the chassis of the truck shown in FIGURE 1, as seen from the discharge side of the body;

FIGURE 5 is a rear elevation view on a smaller scale of a dump truck of this invention, with its body in transit or load carrying position, traveling along a sidewardly inclined surface and showing the favorable location of the center of gravity of the load;

FIGURE 6 is a sectional view taken on the plane of the line 6—6 in FIGURE 2;

FIGURE 7 is a view in rear elevation of a modified form of side discharge dump body embodying the principles of the present invention; and

FIGURE 8 is a view similar to FIGURE 7 but illustrating another modified form of the body of this invention.

Referring now more particularly to the accompanying drawings, the numeral 5 designates generally the chassis of the vehicle upon which there is mounted a side discharge dump body 6 embodying the principles of the present invention. In this case the vehicle is illustrated as a motor truck, but it will be understood that it could as well be a trailer or the like.

The vehicle has ground engaging wheels 8 which support a frame comprising a pair of substantially parallel fore-and-aft extending sills 9. The wheels 8 and the sills 9 of the chassis are respectively spaced equal distances to opposite sides of a vertical plane that extends lengthwise along the centerline of the chassis; and hence said plane can be considered the plane of symmetry of the

chassis. As more fully explained hereinafter, the dump body 6 is not symmetrical about the plane of symmetry of the chassis, although it can be symmetrical with respect to a vertical plane extending transversely to the chassis, that is, parallel to the wheel axes.

A body frame 10 carries the dump body 6 for tilting motion between a lowered transit position and a raised discharging position, and the body frame is in turn mounted on the sills 9 of the chassis frame for sliding motion transversely of the chassis. In tilting, the body swings about a horizontal axis that extends along its discharge side, parallel to the sills 9 of the chassis, some distance to one side of them, and at a substantial elevation above the top surfaces of the sills. The body is swung between its transit and discharge positions by means of a pair of actuators 11, each of which can comprise a hydraulic cylinder mechanism connected between the body frame and the body. Other hydraulic cylinders 12, connected between the body frame and the chassis, provide for shifting the body transversely of the chassis, to enable the body to be disposed in an on-highway position in which the vehicle has its minimum overall width, or to enable the body to be so disposed on the vehicle that the center of gravity of its load is in the most favorable location for existing conditions on the job.

The body frame comprises two pairs of elongated horizontal sills 13 which extend transversely across the chassis sills 9, one pair of the sills 13 being near the front of the chassis and the other pair near its rear. An upright 14 is rigidly secured to each sill 13, at the end of the sill that is at the discharge side of the body, and at their upper ends these uprights provide pivotal supports for the body. Diagonal braces 15 extend from near the tops of the uprights obliquely downwardly and inwardly to the medial portions of the body frame sills 13 and cooperate with said sills and the uprights 14 to define a rigid triangular truss that is outboard of the chassis at the discharge side of the vehicle.

The sills 13 and uprights 14 of the body frame can be steel tubes of rectangular cross section. The two sills 13 of each pair are laterally spaced apart by a distance about equal to the width of one of them, and they are tied together and held in such spaced parallel relationship by a tie plate 18 secured to and bridging the outer faces of the uprights 14 on the sills and by a smaller tie plate 19 bridging the other ends of the sills. To provide for movement of the body frame on the chassis, the sills 13 of the body frame slidably rest on horizontal plates 20 that are secured, as by welding, to the top surfaces of the chassis sills 9. Fixed guide members 21 on the chassis, secured to the plates 20 and projecting up from them into the spaces between the adjacent sills 13 of each pair thereof, have sliding engagement with the opposing faces of the sills 13 to constrain the body frame to movement transversely of the chassis sills 9 and parallel to the lengths of the body frame sills 13.

Each of the guide members 21 projects up a distance above the upper surfaces of the sills 13 with which it cooperates, and it has a series of horizontally spaced holes 21′ through its upper portion. Adjacent to each of its guide members each pair of sills 13 carries a pair of upwardly projecting lugs 22 that face opposite sides of the guide member, and the lugs of each pair are provided with axially aligned holes that are adapted to register with the holes in the adjacent guide member in different positions of movement of the body frame relative to the chassis. A pin 23 passed through the aligned holes in each pair of lugs and the registering hole 21′ in its adjacent guide member thus locks the body frame in any desired position of transverse adjustment relative to the chassis.

Upward displacement of the body frame is prevented by a horizontal plate 24 fastened to the top of each guide member 21 and having opposite marginal edge portions overlying the straight upper edges of the adjacent lugs 22.

Each of the hydraulic cylinder actuators 12 which provides for adjusting movement of the body frame relative to the chassis is preferably disposed between a pair of body frame sills 13 with its axis substantially parallel to the sills. At its outboard end each actuator has a connection 25 to its adjacent body frame sills 13, at the ends of the latter adjacent to the uprights 14, and at its inner end the actuator has a connection 26 to the adjacent chassis sill 9. It will be observed that the paired sills 13 of the body frame afford substantial protection to the hydraulic cylinders which lie between them. As explained hereinafter, the body is intended to be shifted from side to side on the vehicle only when the body is empty, hence the actuators 12 need not have an unduly large capacity.

The two pairs of sills 13 that comprise the body frame, and their respective uprights and diagonals, are tied together by their connections with the body itself.

The front and rear end walls 27 and 28 of the body can be substantially flat and vertical and the distance between them is such that the body can be closely received between the front and rear pairs of body frame sills 13, to have its bottom rest on the chassis when the body is in its lowered transit position. The body is reinforced by fabricated ribs 29 which flatwise overlie the outer faces of its end walls 27 and 28 and which carry into the body the lift forces exerted by the tilting actuators 11. Each of the reinforcing ribs can comprise an elongated element 30 which is substantially horizontal when the body is in its transit position and which has a laterally offset outer end portion 31 that projects into the space between the adjacent pair of uprights 14 near the upper ends of the latter. A trunnion pin 32 that extends through the uprights and the offset end portion of the rib element 30 pivots the body for its tilting motion on the body frame.

Each of the tilting actuators 11 has at one of its ends a pivotal connection 33 to the body frame, at the junction of a pair of sills 13 and their uprights 14, and has at its other end a pivotal connection 34 to the inboard portion of the rib element 30. Although the tilting actuators 11 are thus disposed almost entirely to one side of the vehicle chassis, and their load reactions are imposed upon portions of the body frame that are substantially outboard of the chassis, their load reactions can be successfully taken by the body frame because of the rigid triangular truss provided by the uprights 14, the diagonals 15 and the outboard portions of the sills 13. Note that the rib elements 30 distribute over the end walls of the body the concentrated lift and reaction forces at the trunnion pins 32 and tilting actuator connection 34, both of which are tied directly to said rib elements 30.

The peculiar asymmetrical shape of the body of the dump vehicle of this invention, as viewed from either end thereof, achieves clean discharge of concrete, so that manual scraping is not needed; and also provides a location of the center of gravity of the load that is low and close to the plane of symmetry of the chassis, so that the vehicle can travel over substantially inclined ground without danger of tipping over.

The body has a substantially flat inclined wall 35 that extends lengthwise from one end to the other thereof and which extends obliquely upwardly and sidewardly from the lowest part of the body to its discharge outlet. The provision of the proper angle of inclination of this wall 35 (which can be considered the discharge wall of the body) is important to the attainment of both clean dumping and good load carrying capacity. When the body is fully raised to its discharge position, the discharge wall 35 should be inclined at an angle of substantially more than 45° to the horizontal, to insure that even very viscous concrete will flow downwardly along its surface by gravity, and preferably at an angle of between about 53° and 60°. Since the body swings through 90° (or possibly a little less) between its discharge and its transit positions, the discharge wall 35 should therefore be in-

clined to the horizontal at an angle of about 30° to about 37° when the body is in its transit position.

In order to provide the body with substantial load carrying capacity, the inclined discharge wall **35** extends across at least about half the width of the body as measured parallel to its upright end walls **27** and **28**. It will be observed that the diagonal braces **15** substantially parallel the discharge wall of the body. At its bottom the discharge wall **35** joins with a substantially horizontal bottom wall portion **36**, which in turn joins with a substantially upright wall portion **37** that extends along the side of the body opposite its discharge side.

The upright side wall **37** can extend straight up to the top of the body, as in the transverse body profile shown in FIGURE 8, in which event the center of gravity of the body load will be substantially farther from the discharge side of the body than from its opposite side. Or, as illustrated in FIGURES 2 and 3, the upper portion of the side wall **37** at the closed side of the body can be inwardly and upwardly inclined, as at **37'**, so as to be nearly parallel to the inclined discharge wall **35**; and in that event the center of gravity of the load will be lower and more nearly centered between the two sides of the body. A third alternative is illustrated in FIGURE 7, which constitutes essentially a modification of the form illustrated in FIGURES 2 and 3, wherein the horizontal bottom wall portion **36**, the upright side wall portion **37**, and the inwardly inclined upper portion **37'** of the side wall are all merged into a continuous curve, so that the closed side of the body comprises a cylinder section.

In each of the body forms herein illustrated, the upper portion of the body along its discharge side comprises a movable gate **38** which provides a vertically short side wall element that serves as an upward continuation of the inclined discharge wall **35** when the body is in its transit position, and which swings upwardly away from the discharge wall when the body is tilted up to its discharging position. Such swinging of the gate **38** can be effected by any suitable means, as for example by hydraulic cylinders **39** connected between the gate and another portion of the body.

It will be understood that the body will be provided with a suitable spout or chute (not shown) to carry discharging concrete sidewardly away from its discharge outlet and over to a paving machine or roadbed therebeneath.

It will now be apparent that if the discharge wall **35** of the body is inclined to the horizontal at an angle of substantially less than about 30° when the body is in its transit position, load carrying capacity would have to be achieved by making the gate **38** substantially high, in which event the sideward force exerted upon it by a load in the body might interfere with its opening motion and the height of the load level above the upper edge of the discharge wall **35** would make for abrupt and uncontrolled discharge. Furthermore the additional inclination of the discharge wall in the raised position of the body would not effect any real improvement with respect to clean dumping.

When a vehicle of this invention is being moved to or from a job, its body is shifted to and locked in the position of side-to-side movement in which the body projects equal distances to opposite sides of the chassis sills **9**. If the overall width of the body does not exceed the maximum size laid down by existing highway regulations, the vehicle can then operate on the highways without a special permit. Since the vehicle will be traveling empty during on-highway movement, it is of no consequence if the center of gravity of the body and its frame is slightly to one side of the plane of symmetry of the chassis. Any of the several body configurations herein disclosed can be produced with capacities as high as 8 cu. yds. without exceeding vehicle length and width limitations laid down by most of the states for on-highway travel, provided, of course, that the body is shifted to the position just described for on-highway movement.

At the job site, where on-highway limitations normally do not apply, the body is shifted, by means of the hydraulic jacks **12**, to a position on the chassis that will best suit existing conditions, and is locked in such position by means of the pins **23**. Usually this entails displacement of the body a few inches toward its discharge side, so that when the vehicle travels along an inclined shoulder **40** adjacent to a roadbed **41** being paved, the center of gravity **42** of a load carried by the body will be at the high side of the vehicle, as illustrated in FIGURE 5, to stabilize the vehicle against any tendency to tip over while traveling along such incline. Also contributing to stability of the vehicle when loaded is the fact that the center of gravity of the load in a body of this invention is substantially lower (as much as a foot in some cases) than in prior side discharge bodies which were symmetrical about the plane of symmetry of the chassis. During tilting of the body to its discharge position the center of gravity of the load moves over to the discharge side thereof, but since the shoulder of a road being paved usually slopes downwardly away from the roadbed, such center of gravity movement is in the direction up the slope and tends to stabilize the vehicle.

From the foregoing description taken together with the accompanying drawings it will be apparent that this invention provides a side discharge dump body that is especially suitable for the transportation of freshly mixed concrete for paving projects and the like in that it is capable of carrying large loads, can be conformed to existing regulations governing on-highway vehicles when it is being moved from job to job, dumps cleanly, and insures stability of the vehicle in travel along inclined surfaces.

What is claimed as my invention is:

1. In a vehicle having a chassis with ground engaging wheels at its opposite sides and which is substantially symmetrical about a vertical plane transverse to the wheel axes:

(A) a body frame having a pair of coaxial pivot supports spaced a substantial distance above its bottom;

(B) cooperating means on the bottom of the body frame and on the chassis movably mounting the body frame on the chassis with the pivot supports at one side of the chassis and their axis horizontal and parallel to said plane;

(C) cooperating means on the chassis and on the body frame constraining the latter to translatory movement transversely of the chassis;

(D) a dump body carried by said body frame, said body being asymmetrical with respect to said vertical plane and having an inclined wall sloping upwardly from its bottom to a discharge outlet at one side thereof, said inclined wall extending across at least about half the width of the body as measured transversely to said plane;

(E) cooperating means on the body and on the pivot supports connecting the body with the body frame for tilting motion of the body about said axis and with the body so disposed that said axis is near the upper edge of said inclined wall, such tilting of the body providing for its swinging between a load carrying position in which its bottom is adjacent to the chassis frame and a side discharge dumping position;

(F) power actuator means on the vehicle, reacting between the body and the body frame, for tilting the body to and from its dumping position; and

(G) means cooperating with the chassis and the body frame for locking the body against side to side motion relative to the chassis in either a highway travel position of the body in which its opposite sides are equidistant from said plane or a load carrying position in which the discharge outlet is substantially

farther from said plane than the opposite side of the body.

2. The vehicle of claim 1 wherein said power actuator means comprises a pair of hydraulic jacks, and wherein the body frame comprises:

(A) horizontal sills extending transversely to said plane, near the front of the chassis and near the rear thereof, each of said sills having a length substantially greater than half the width of the body as measured transversely to said plane;

(B) uprights projecting upwardly from the sills, at the ends of the sills adjacent to said axis, each of said uprights having one of the pivot supports at its top;

(C) diagonal braces extending from near the upper ends of the uprights to their sills and anchored to the sills near the bottom of said inclined wall of the body; and

(D) means at the junction of each upright with its sill providing a pivotal connection between the body frame and one end of one of the hydraulic jacks, the other end of the jack being pivotally connected with the body at a location thereon spaced from said axis.

3. In a side discharge dump vehicle having a wheeled chassis which is substantially symmetrical about a vertical plane that extends lengthwise through the center of the chassis:

(A) a body frame mounted on the chassis for bodily translatory movement relative to the chassis from side to side thereof;

(B) a dump body carried by the body frame, said dump body having

(1) a wall that extends across substantially half the width of the body as measured transversely to said plane and which wall is inclined upwardly from the bottom of the body to a discharge outlet that is at one side of the body and is spaced outwardly from the adjacent side of the chassis, and

(2) an opposite side wall on the body that is generally upright,

so that said body is asymmetrical relative to said plane, and the center of gravity of its load tends to be disposed at the side of said plane remote from the discharge outlet;

(C) means pivotally connecting the body with the body frame for tilting motion of the body between load carrying and load discharge positions about a horizontal axis adjacent to the discharge outlet and parallel to said plane;

(D) power means reacting between the body and the body frame for tilting the body to and from its discharge position; and

(E) means for locking the body frame to the chassis in any of a plurality of different positions of movement of the body frame laterally relative to the chassis.

4. The vehicle of claim 3, further characterized by the following:

(A) the upper portion of said generally upright wall of the body is inclined upwardly and inwardly, to so dispose a semi-liquid load in the body that its center of gravity is located nearly midway between the discharge side of the body and the lower portion of said generally upright wall; and

(B) a generally horizontal bottom wall portion of the body connects the bottom of said inclined wall with the bottom of said generally upright wall.

5. The vehicle of claim 4, further characterized by the fact that: said bottom wall portion of the body and said upper portion of said generally upright wall portion merge into and are connected by a curved body wall portion which defines a cylinder section of substantially uniform curvature across the body and extending axially from one end of the body to the other.

6. In a side discharge dump vehicle having a wheeled chassis comprising a pair of substantially parallel fore-and-aft extending sills, and which chassis is substantially symmetrical about a vertical plane that extends lengthwise through its center:

(A) a dump body on the chassis having a discharge side and a closed side which respectively extend along opposite sides of the chassis, said body also having

(1) substantially upright front and rear end walls near the front and rear ends of the chassis, respectively,

(2) a substantially flat wall extending lengthwise of the body from one of said end walls to the other and extending across at least about half the width of the body as measured parallel to its end walls, said substantially flat wall having an edge at the discharge side of the body and being inclined sidewardly and upwardly from the bottom of the body to said edge,

(3) a substantially upright wall portion along the closed side of the body extending from one end wall to the other, and

(4) a substantially horizontal wall portion at the bottom of the body extending from one to the other of the end walls and joined with said inclined wall and said upright wall;

(B) a dump body frame comprising

(1) two pairs of horizontal, parallel frame sills, the two frame sills of each pair being spaced apart laterally, said frame sills being slidably carried on the chassis sills and extending transversely to the latter with one pair of frame sills forwardly adjacent to he front wall of the body and the other pair rearwardly adjacent to the rear wall of the body.

(2) an upright on each frame sill, at the end of the latter adjacent to the discharge side of the body,

(3) means connecting the two frame sills of each pair to hold them and their uprights in spaced parallel relationship, and

(4) diagonal brace members extending from the tops of the uprights obliquely downwardly and inwardly to the medial portions of the frame sills;

(C) means on the chassis sills cooperating with the pairs of frame sills to confine the latter to movement on the chassis transversely thereof, parallel to the lengths of the frame sills;

(D) a rib member flatwise overlying the outer surface of each end wall of the body and having an end portion at the discharge side of the body which projects between the upper ends of the uprights of its adjacent pairs;

(E) means pivotally connecting each rib member with its uprights to mount the body on the frame for tilting motion of the body between a transit position in which the bottom of the body rests on the chassis and a raised discharging position, the axis of such tilting motion being near said edge of said inclined wall of the body;

(F) actuator means connected between the rib members on the body and the body frame for tilting the body between its transit and discharge positions; and

(G) cooperating means on the chassis sills and on the body frame for locking the latter in different positions of adjustment transversely of the chassis, in one of which positions the body projects equal distances to opposite sides of the chassis sills, for on-highway movement of the vehicle, and in another of which positions the center of gravity of a load carried in the body is spaced from said vertical plane through the chassis, toward the discharge side of the body.

7. In a side discharge dump vehicle having a wheeled chassis which is substantially symmetrical about a vertical

plane that extends lengthwise along the center of the chassis:

(A) a body frame mounted on the chassis and providing spaced apart pivot supports that define an axis which extends parallel to said plane and which is spaced a substantial distance above the chassis;

(B) a dump body carried by the frame, said dump body having

(1) a pair of opposite substantially upright end walls transverse to said plane,

(2) an inclined wall that extends from one to the other of said end walls and which slopes upwardly and sidewardly from the bottom of the body, near said plane, to a discharge outlet near said axis,

(3) a substantially upright side wall portion extending from one to the other of said end walls, spaced a substantial distance to the opposite side of said plane and substantially parallel thereto, said upright side wall portion extending upwardly to a level beneath the plane of said axis and the normal load level,

(4) a substantially horizontal bottom wall portion extending from one to the other of said end walls and joined with said inclined wall and said substantially upright side wall portion, and

(5) an upper side wall portion extending from one to the other of the end walls and projecting obliquely upwardly and inwardly from the substantially upright side wall portion to have its upper edge spaced above the level of said axis

and nearer said vertical plane than the upright side wall portion, and by which the center of gravity of a load in the body is maintained near said vertical plane; and

(C) means on the body cooperating with the pivot supports to mount the body for swinging motion about said axis to and from a discharging position at which the substantially upright side wall portion is elevated a substantial distance above the chassis.

References Cited by the Examiner

UNITED STATES PATENTS

1,260,560	3/1918	Longenecker	298—14
2,465,899	3/1949	Maxon	298—17
3,101,974	8/1963	Robertson et al.	298—18 X

FOREIGN PATENTS

1,222,765	1/1960	France.
75,150	3/1961	France.
374,700	6/1932	Great Britain.

OTHER REFERENCES

Paper No. 9, consisting of pages 55–57 of the file of U.S. Patent No. 3,101,974, which issued August 27, 1963, from application Serial No. 81,563, filed January 9, 1961, by Robertson et al.

BENJAMIN HERSH, *Primary Examiner.*

ARTHUR L. LA POINT, *Examiner.*