

Nov. 17, 1925.

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A. A. JUELFS

DUMP BODY TAIL GATE MOUNTING

Filed May 13, 1924

3 Sheets-Sheet 2

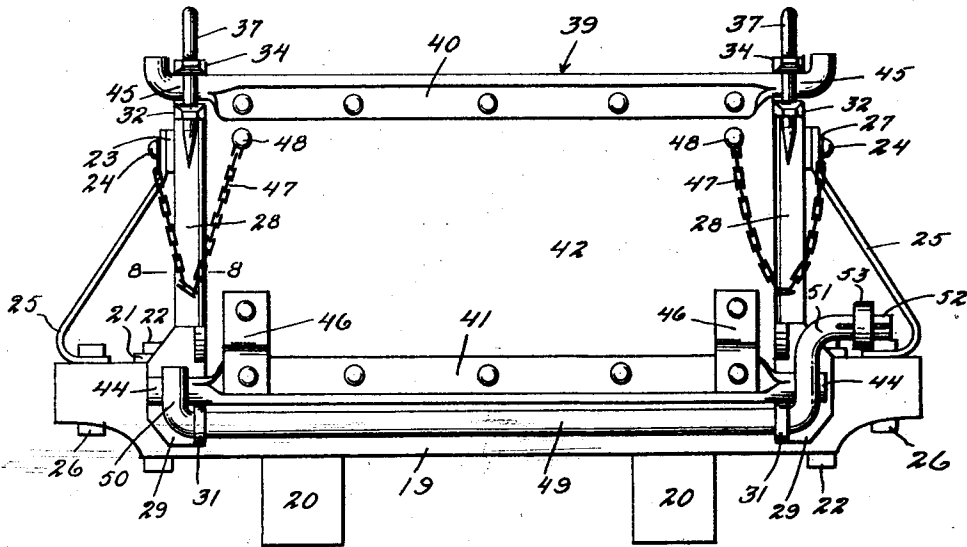


Fig. 3.

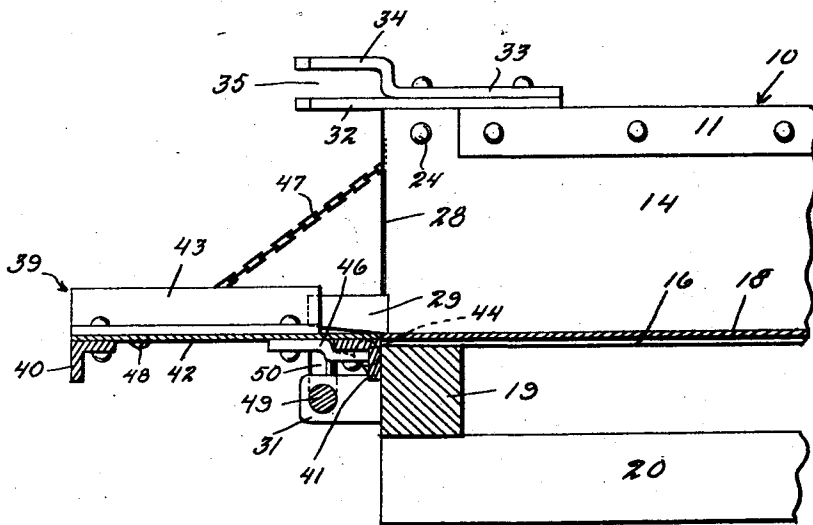


Fig. 5.

Inventor

Allen A. Juelfs

Witness

John Milton Jester

By

L. A. Gourisk.

Attorney

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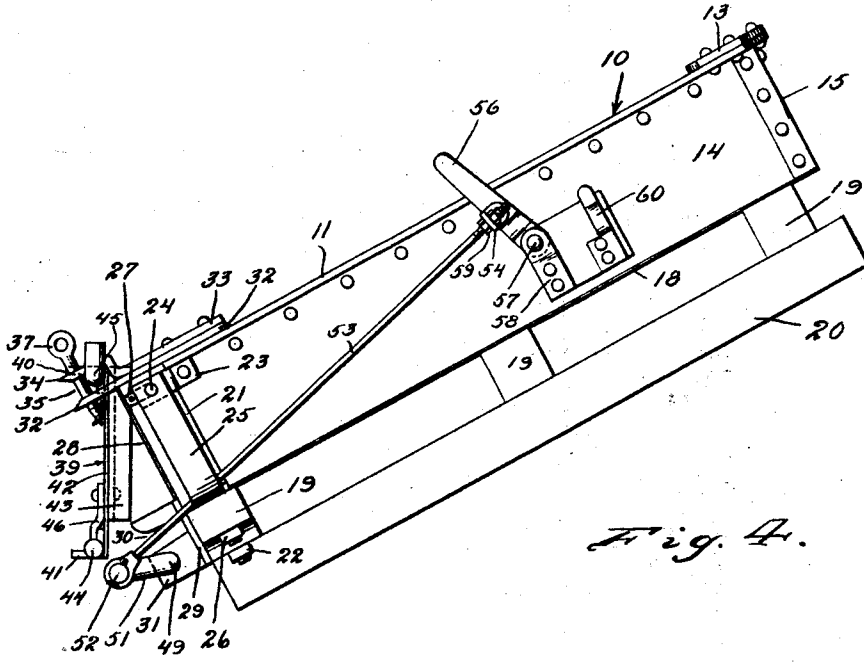


Fig. 4.

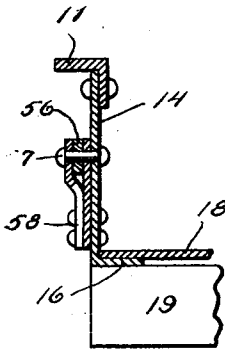


Fig. 6.

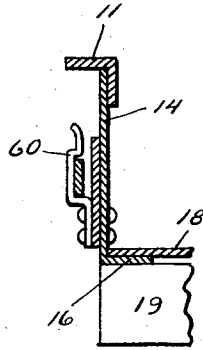


Fig. 7.

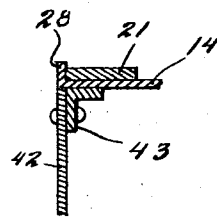


Fig. 8.

Witness

John Milton Jester

Inventor
Allen A. Juelfs

By

J. A. Bourick

Attorney

UNITED STATES PATENT OFFICE.

ALLEN A. JUELF, OF McPHERSON, KANSAS.

DUMP-BODY TAIL-GATE MOUNTING.

Application filed May 13, 1924. Serial No. 713,093.

To all whom it may concern:

Be it known that I, ALLEN A. JUELF, a citizen of the United States, residing at McPherson, in the county of McPherson and State of Kansas, have invented certain new and useful Improvements in Dump-Body Tail-Gate Mountings, of which the following is a specification.

This invention relates to dump bodies for trucks and has for its object the provision of a novel tail-gate construction and mounting so arranged that the gate may be permitted to swing either from the top or the bottom depending upon the nature of the work to be done.

An important object is the provision of a tail-gate structure in which the tail-gate is removably pivoted at its top or bottom as the case may be and equipped with lever actuated means operable from the front of the vehicle whereby to release the bottom pivotal connection and permit the gate to swing gravitationally into open position for dumping a load when the body is tilted.

Another object is the provision of a tail-gate structure so arranged that the gate, when swung upon its lower edge, may be used as a shoveling board inasmuch as it will then form a continuation of the bottom of the body.

A further object is the provision of a structure of this character in which the tail-gate itself embodies side retaining elements which normally fit within and against the sides of the body, when the gate is in vertical position, and which further serve as the sides of the shoveling board when the gate is extended to form a continuation of the bottom.

Still another feature is a detailed end-gate construction in which the upper and lower horizontal bar elements are formed integral, as by forging, with the upper and lower trunnions which may be selectively held, depending upon whether the gate is to be swung from its top or bottom edge.

The invention further contemplates the provision of various detailed improvements in the specific construction, location, arrangement and cooperative relation of the parts, particularly adjustable lever means for forcing the end gate into absolutely closed position and for maintaining it closed without the employment of any assisting springs or their equivalent.

An additional object is the provision of

a mechanism of this character which will, in spite of its many advantages, be simple and inexpensive to manufacture, easy to operate, positive in action, efficient and durable in service, and a general improvement in the art.

With the above and other objects and advantages in view, the invention consists in the combination and arrangement of parts to be hereinafter more fully described and claimed and illustrated in the accompanying drawings in which:

Figure 1 is a side elevation of the body, irrespective of any running gear, showing it with the gate in normal or closed position.

Figure 2 is a top plan view.

Figure 3 is a rear elevation.

Figure 4 is a side elevation showing the body in tilted position with the end gate released and depending in vertical position during discharge of a load.

Figure 5 is a longitudinal section showing the gate swung to extend as a continuation of the bottom.

Figure 6 is a section on the line 6-6 of Figure 1.

Figure 7 is a section on the line 7-7 of Figure 1.

Figure 8 is a detail section on the line 8-8 of Figure 3.

Referring more particularly to the drawings, I have shown a truck body 10 here represented as constructed of suitable angle bars 11 which extend longitudinally, and a forward transverse angle bar 12 reinforced by braces 13, all the angle bars having secured thereto the sides 14 and forward end 15 which have inturned edges or flanges 16 riveted or otherwise secured to the bottom 18 and beneath the same. In the present instance the body is shown as mounted on bolsters 19 supported by sills 20. Any bracket means desired may be provided for holding the body down onto the frame. Secured on the sides 14 at the rear ends thereof, are angular brackets 21 bolted down onto the rearmost bolster as by bolts 22. Angular reinforcing brackets 23 are provided at the upper rear corners of the sides, which brackets extend outwardly of and are secured to the brackets 21 by rivets or bolts 24 which also pass through the upper ends of inclined braces 25 bolted at 26 onto the rear bolster 19. The securing members 24 also operate to hold elements 27 for a purpose to be de-

scribed. The rear ends of the sides 14 are formed with laterally extending flanges 28 which engage against the rear edges of the brackets 21.

5 Secured on the rear face of the rearmost bolster 19, are brackets 29 formed with notches 30 which define ears 31 therebelow. Secured upon the rear end portions of the longitudinal angle bars 11 are rearwardly
10 extending strips 32 upon the tops of which are secured other strips 33 which have their rear ends upwardly offset, as indicated at 34, to define recesses 35. The projecting rear ends of these strips are formed with vertically
15 alining holes 36 adapted for the reception of retaining pins 37 for a purpose to be described, which pins are preferably connected with chains or other flexible members
20 38 suitably secured to the body at any desired points and which are for the purpose of preventing loss of the pins.

The end gate is designated broadly by the numeral 39 and includes upper and lower angle bars 40 and 41, respectively, to which
25 is riveted or otherwise secured a metal sheet 42 upon the ends of which are secured angle bars 43 adapted to fit between the sides 14 of the body. The angle bar 41 has its ends converged to define trunnions 44 integral there-
30 with, which trunnions are removably and rotatably engaged within the notches 30. The upper angle bar 40 is forged at its ends to define integral trunnions 45 of hook-shape which are normally engaged within the
35 recesses 35 and retained by the pins 37. The trunnions 44 and 45 both serve as pivotal supports for the end gate or a double hanging therefor and the construction and arrangement is such that the end gate may be
40 permitted to swing either from the upper trunnions, when dumping a load, or upon the lower trunnions when the end gate is arranged to define a shoveling board. A more detailed explanation of this feature
45 will be given. I have also shown reinforcing strips 46 which are secured to the angle bar 41 and to the plate or sheet 42. It is to be observed that the rear ends of the longitudinal bars 11 terminate short of the rear ends
50 of the sides 14 so as to accommodate the angle bars 43 when the end gate is in closed position.

For holding the end gate in its extended position, I provide chains or other flexible
55 members 47 connected with the above described elements 27 and with bolts or rivets 48 on the end gate.

The pins 37 normally hold the upper edge of the gate in position. For holding the
60 lower edge, I provide a rock-shaft 49 journaled through the ears 31 and formed at its ends with crank arms 50 and 51 which extend rearwardly of and in engagement with the trunnions 44. The crank arm 51
65 has a lateral extension 52 on which is pivot-

ally engaged one end of a rod 53 which extends forwardly along one side of the body and which has its forward end threaded and passed through a bracket 54, pivoted at 55 on a lever 56, which is in turn pivoted at
70 57 upon a bracket 58 secured to the body. On the threaded end of the rod 53 are adjusting nuts 59 for the purpose of regulating the parts so as to insure tight closing of the end gate when the lever 56 is properly
75 operated. The bracket 58 carries a retaining bracket 60 within which the lever 56 is engaged and which operates to prevent accidental displacement of the lever.

Assuming that the end gate is in its closed
80 position, as shown in Figure 1, it is obvious that to use it as a shoveling board it is merely necessary to remove the pins 37 and permit the gate to swing down upon the
85 trunnions 44 until it assumes a horizontal position forming a continuation of the bottom of the body. The chains 47 support the weight and the lower angle bar 41 abuts against the lowermost bolster 19 and rear
90 edge of the bottom to prevent any space or gap.

Assuming that the end gate is in closed position and it is desired to dump a load from the body, the body is tilted in the usual
95 manner, as shown in Figure 3, and the lever 56 is swung upwardly and rearwardly which results in turning the rock shaft 49 so that the crank arms 50 and 51 will be in non-obstructing relation to the trunnions 44,
100 whereupon the gate will swing on the upper trunnions 45, the lower trunnions 44 riding out of the notches 30. Reclosing of the end gate is effected by swinging the lever 56 forwardly. It will be observed that the pivot
105 point 55 is past center with respect to the pivot 57 so that the strain of a load against the gate will operate to make the holding action still more secure. The nuts 59 permit shortening of the rod 53 to insure tight closing
110 of the gate at all times.

While I have shown and described the preferred embodiment of my invention, it is of course to be understood that I reserve the right to make such changes in the form,
115 construction and arrangement of parts as will not depart from the spirit of the invention or the scope of the subjoined claims.

I claim:

1. In a truck body open at its rear end, brackets mounted at the top of the rear end
120 and projecting rearwardly therebeyond, notched brackets at the bottom of the rear end of the body projecting rearwardly therebeyond, an end gate provided at its top and bottom with trunnions removably engaged
125 within said respective brackets, bearings at the rear end of the body below the open end thereof, a rock shaft journaled through said bearings and having laterally extending end portions engageable with the lower trun-
130

nions for retaining the same normally within the notched brackets, one of said lateral extensions being longer than the other and terminating in a horizontally extending portion, and means connected with said horizontal extending portion for rocking the rock shaft.

2. In a truck body having an open rear end, an end gate pivotally mounted at its upper corners at the rear end of the body, a rock shaft journaled at the rear end of the body and operating normally to hold the end gate in one position, and means for rocking the rock shaft comprising a bracket structure mounted on one side of the body, a lever pivoted on said bracket, a reach rod pivotal-

ly and adjustably connected with an intermediate point on the lever, said rock shaft having one end formed as a crank with a lateral extension, a bearing member carried by said reach rod and pivotally engaged upon said lateral extension, and guide means on said bracket for the lever, said lever being movable past center when the end gate is in closed position, the lever being then in engagement with one end of the guide means whereby the latter will serve as a stop.

In testimony whereof I hereto affix my signature.

ALLEN A. JUELFS.