

Aug. 6, 1935.

F. KUTSUKIAN

2,010,269

TIPPING BODY

Filed Jan. 26, 1933

2 Sheets-Sheet 1

Fig. 1

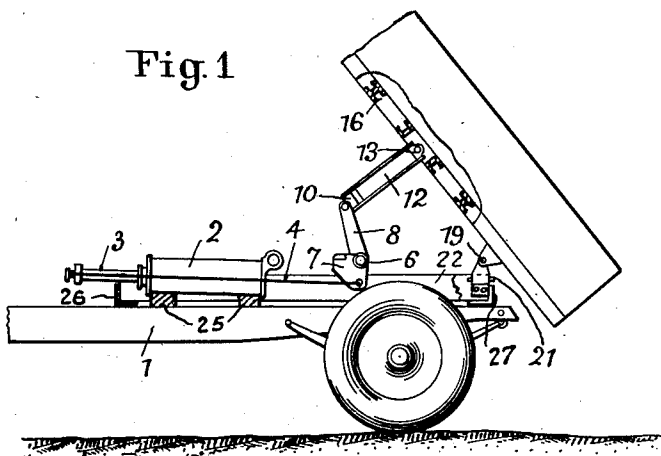


Fig. 3

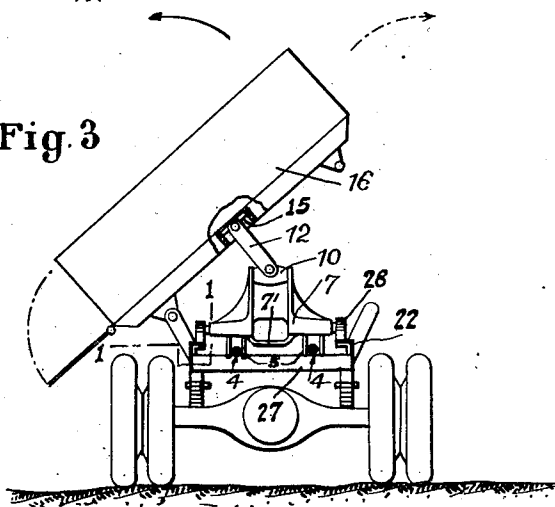
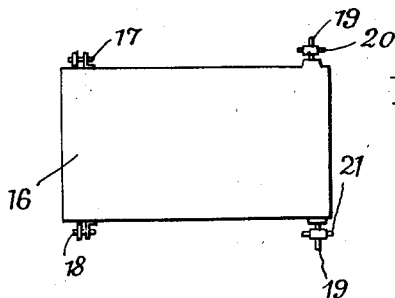


Fig. 5



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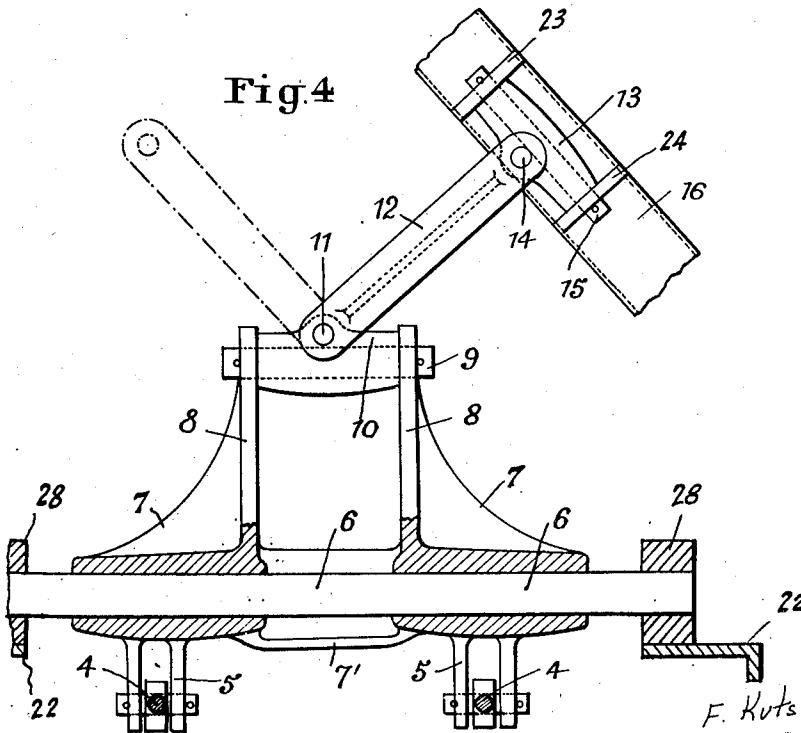
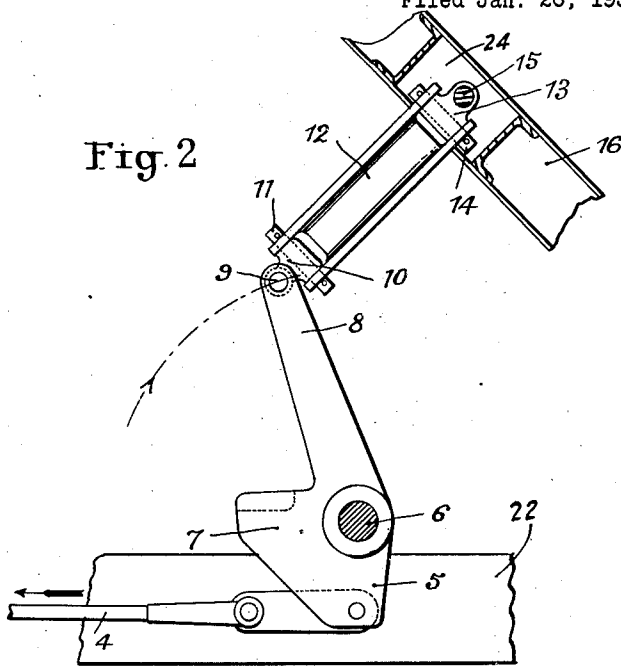
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2 Sheets-Sheet 2



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TIPPING BODY

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Application January 26, 1933, Serial No. 653,711
In France February 2, 1932

1 Claim. (Cl. 298—18)

My invention relates to three-way tiltable dump bodies and more particularly to the mechanism used for tilting said bodies either rearwardly or to the side.

It has already been proposed to provide separable hinge members on both sides as well as on the rear of the tiltable dump bodies which are carried by motor trucks or the like in order to allow said bodies to be unloaded either through their rear end or through either side. The devices used for that purpose, however, have the drawback that they are not in a convenient position to be actuated by the controlling device or that a change of the conventional gearing device is necessary at the time of operation.

The arrangement according to my device which overcomes the above drawbacks comprises in combination with a tiltable dump body, separable hinge members provided with removable pins along the rear of the body as well as along each of its sides, an operating device comprising either hydraulic, pneumatic, mechanic or manual means, a link universally connected at one end with the tiltable body and at the other end with a lever or group of levers operatively connected with the operating device, so that the body may be differentially tilted in accordance with the location of the pins of the separable hinge members.

In the accompanying drawings which show by way of example only a diagrammatical embodiment of a tiltable dump body with a hydraulic controlling device which may be tilted either rearwardly or to either side;

Figure 1 is an elevational view showing the body when tilted toward the rear with portions cut away to show construction,

Fig. 2 is a detailed view on a larger scale of the controlling device according to my invention,

Fig. 3 is a rear elevational end view of the body when tilted to the side,

Fig. 4 is a detailed view partly in section of Fig. 3 when looking from the front of the vehicle showing the controlling or operating device, and

Fig. 5 is a diagrammatical view of the body showing the position of the pins of the separable hinge members.

In the constructional form shown in the drawings, a controlling hydraulic press 2 receiving fluid under pressure from a conventional pump not shown in the drawings is mounted on the bars 25 transversely secured to the frame 1 of a motor truck.

The ram 3 of said press is connected by means of a pair of connecting rods 4 with the U-shaped part 5 of the lever 7 which may pivot on a trans-

verse shaft 6. Said lever 7 is provided with two arms 8 connected at their upper ends by a pin 9 and at their lower ends by portion 7', a universal member 10 being mounted on the pin 9 and connected to the link 12 by means of a pin 11 at right angles to the pin 10, said link 12 being connected by means of a second universal joint 13 with pins 14 and 15 at right angles to each other provided on the frame of the body 16, the pin 15 being mounted on the body 16 by members 23 and 24.

An auxiliary frame 22 is mounted on the main frame 1 and is supported by cross members 26 and 27. Said body 16 is connected with the auxiliary frame 22 by means of conventional separable hinge members which include pins 17, 18, 19, 20 and 21.

The shaft 6 is supported by conventional journals 28 provided on the auxiliary frame 22.

The operation is as follows: When it is desired to have the body tipped towards the rear end of the vehicle, the pins 17, 18 (Fig. 5) located on the front end of the side of said body 16 are withdrawn, and a fluid or liquid under pressure is supplied by a conventional pump not shown in the drawings to the controlling press 2. The ram 3 of said press acts on the connecting rods 4 and thereby causes the levers 5, 7 and 8 to rotate in the direction shown by the arrow in Fig. 2, and brings said levers 5, 7 and 8 into the position shown in Figs. 1 and 2.

The raising of the arms 8 causes the link 12 through the universal joints 10 and 13 to act upon the body 16 which is brought into the position shown in Figs. 1 and 2.

Should it be desired to have said body tilted on the left-hand side as shown in Fig. 3 pins 19, 17 and 20 are removed (see Fig. 5). Then by virtue of the connection of the link 12 with the body 16 and with the lever 8 by means of the two universal connections 10 and 13 said link 12 is automatically positioned at right angles with the frame of the body 16 as shown in Figs. 3 and 4, the tilting of said body being effected as easily and with the same efficiency as for the rearward tilting shown in Figs. 1 and 2.

For tilting the body along its right-hand side it would be only necessary to remove the pins 19, 18 and 21, the tilting being then effected as above.

The described arrangement thus allows the tilting of the dump body to be effected in any of three desired directions by means of only one operating device which is self-adjustable without requiring any supervision by the driver.

The shape of the levers 5, 7 and 8 may, of

course, vary according to the particular arrangement of the vehicle and the universal joints 12 and 13 may be constituted by ball and socket joints.

- 5 The arrangement of the connecting devices of the body 16 with the vehicle frame 1 may, of course, vary according to any particular requirement.

- 10 My invention may apply to vehicles transporting any material for any application, the tilting of the body being effected by any hydraulic, pneumatic, mechanic or manual means.

What I claim is:

In a vehicle, a body supporting frame, a body mounted to tip rearwardly or sidewise, a shaft transversely secured on the frame, a hoist mechanism in the form of spaced and interconnected bell crank levers fulcrumed on the shaft, a hydraulic press secured on the frame and including a ram, operable connections between the ram and the lower portions of the bell crank levers, and a single link having its respective ends universally connected to a medial part of the body and to and between the outer portions of the bell crank levers, substantially as and for the purposes set forth.

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