Oct. 2, 1928. 1,686,409

K. GEUER

BODY TIPPING WAGON

Filed June 16, 1927 2 Sheets-Sheet 1

Fig. 1.

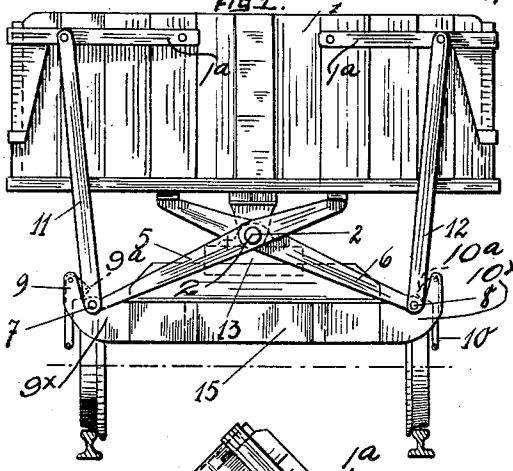


Fig. 2

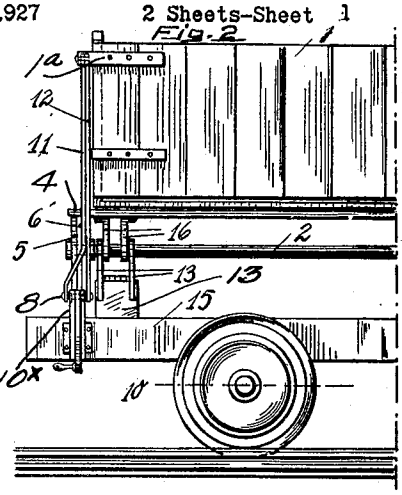


Fig. 3

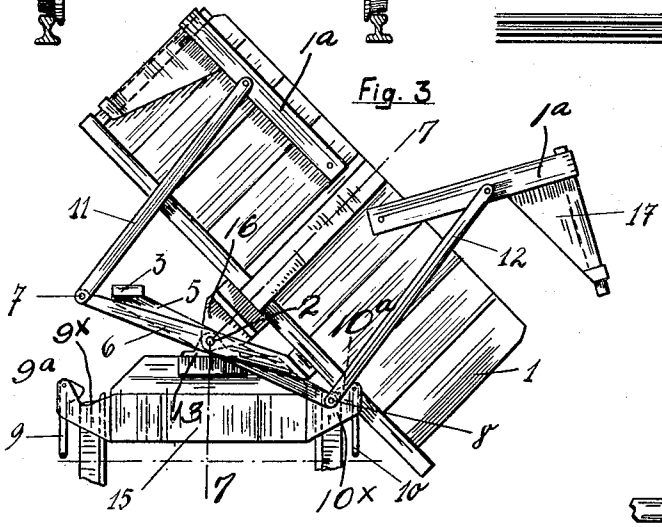


Fig. 5

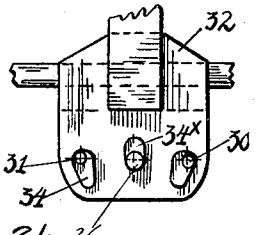


Fig. 4

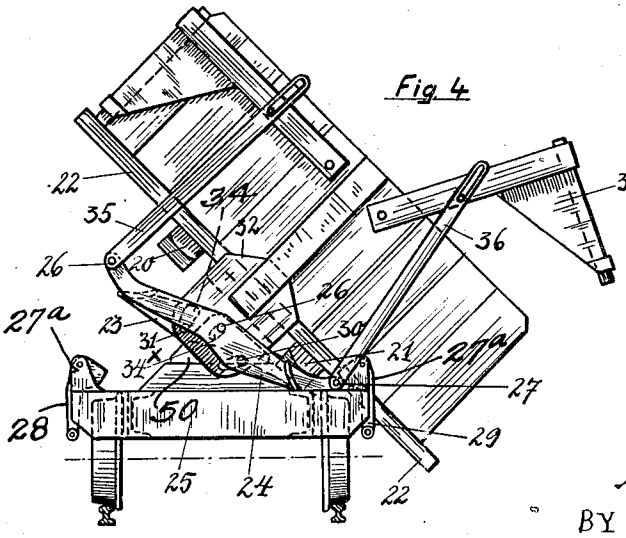
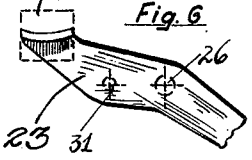


Fig. 6



Inventor:
Karl Geuer.
BY Jno Faire
atty.

Oct. 2, 1928. 1,686,409

K. GEUER

BODY TIPPING WAGON

Filed June 16, 1927 2 Sheets-Sheet 2

Fig. 7.

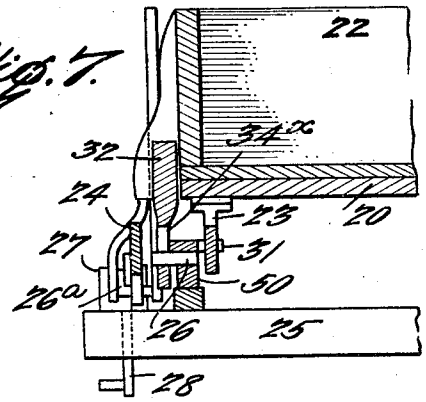


Fig. 8.

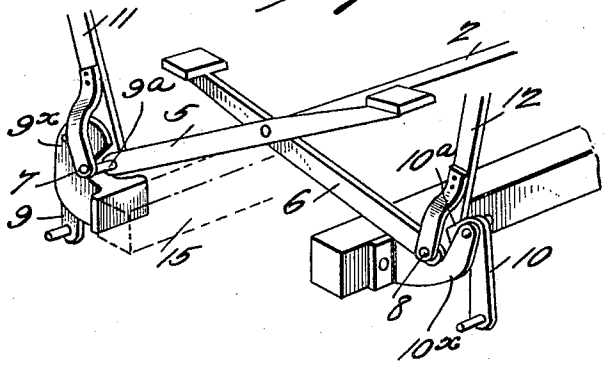
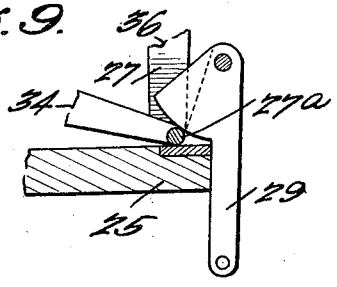


Fig. 9.



INVENTOR.
KARL GEUER
BY
ATTORNEY.

Patented Oct. 2, 1928. 1,686,409

UNITED STATES PATENT OFFICE.

KARL GEUER, OF BAD OEYNHAUSEN, GERMANY.

BODY-TIPPING WAGON.

Application filed June 16, 1927, Serial No. 199,368, and in Germany June 21, 1926.

This invention relates to dump cars in which the body is pivotally mounted to tilt and the sides are hinged to open to release the load.

The object of the invention is to provide convenient means for tilting the body through a system of levers and arms, and locking means for holding the levers and arms in locked position to hold the body in normal position.

In the drawings:—

Fig. 1 is an end elevation of the dump car with the parts in normal position.

Fig. 2 is a side elevation of one end of the dump car.

Fig. 3 is an end view showing the car body in tilted position to release its load.

Fig. 4 is an end elevation of a different form of the invention, the body being shown in tilted position.

Fig. 5 is a detail view showing the supporting plate illustrated in Fig. 4.

Fig. 6 is a detail view of one of the supporting levers illustrated in Fig. 4.

Fig. 7 is a detail central section on the line 7—7 of Fig. 4, but showing the car body in normal position.

Fig. 8 is a detail perspective view of the supporting arms shown in Fig. 1.

Fig. 9 is a detail section showing the locking means illustrated in Fig. 4.

The car body 1 has depending bearings 16 pivotally supported on a rod 2 mounted in bearings 13 on a truck 15. Pivoted on the rod 2 are end supporting arms 5 and 6, said arms having at their ends longitudinally extending sills 3 and 4 on which the car body 1 is supported when the parts are in normal position. The end supporting arms extend across each other as shown in Fig. 1, and at their outer ends they are pivotally connected to levers 11 and 12, the upper ends of said levers being pivoted to end bars 1^a, 1^a, extending from the car body.

Secured to the sides of the truck frame are slotted lugs 9^x and 10^x in which are pivoted locking levers 9 and 10, formed with cam heads 9^a and 10^a, which ride over and engage the pivots 7 and 8, connecting the lower ends of the levers 11 and 12 with the arms 5 and 6.

In the form of the invention described, when the parts are in normal position, as shown in Fig. 1, the sills 3 and 4 connecting the ends of the corresponding arms 5 and 6 engage the underside of the body 1, to form a body support. The pivot pins 7 and 8 are supported in seats formed in the lugs 9^x and 10^x, and the cam heads 9^a and 10^a engage over the pins and effectually lock the levers in position.

If it be desired to tilt the car body, one of the locking levers is turned on its pivot to remove the head from engagement with its cooperating pin on the adjacent arm, and the body will tilt to one side, as shown in Fig. 3. The companion pin 8 on the arm at the opposite side of the truck remains in its seat in its cooperating lug, and hence causes the hinged side of the car to move away from the car body and permit the load to fall.

When returning the car body to its normal position, pivot pin 7 contacts with the cam head of its lever 9 and rocks the latter until the pin passes the head. Then the head automatically engages over the pin and effects a locking of the parts.

In the form of the invention shown in Figs. 3 to 7 and 9, the car body is provided with sills 20 and 21, which are supported on the ends of arms 23 and 24. The arms 23 and 24 are each provided with a pintle 30 and 31, which engage in slots 33 and 34, formed in a bearing plate 32, depending from the car body 22.

The plate 32 is formed with a central slot 34^x which receives a stud 26 extending from a bearing 50 mounted on the truck frame 25.

On the sides of the truck frame are slotted lugs 27^a, 27^a, in which are pivoted cam head locking levers 28 and 29. The cam heads of these levers engage over the pivots 26^a—27, which pivotally connect the arms 23 and 24 with the levers 35 and 36 to lock the parts in normal position. These locking levers operate in exactly the same way as the locking levers described in connection with the previously described form of the invention.

In the operation of the modified form of the invention, the body tilts on the pivot stud 26, the latter having limited movement in its slot 34^x. Correspondingly, due to the pivotal arrangement of the parts, the slot 34 of pintle 31 permits the arm 23 to have a limited movement, while slot 33 which re-

ceives pintle 30 permits limited movement and prevents binding of the parts.

When the body is tilted, as shown in Fig. 4, through the connections between the arms and levers, the side 37 of the car in effect opens and the load in the car body can be dumped.

It is claimed:

1. In a dump car, a car body having movable sides, each movable side having end bars pivoted to the ends of the car body, a truck, a pivotal mounting between the car body and the truck, arms pivoted to the truck, one end of each arm arranged to engage the bottom portion of the body when the latter is in normal position, the other end of each of said arms having a pivot, levers having their lower ends mounted on the pivots and their upper ends pivoted to the bars on the movable sides, and locking devices pivoted on the truck to engage the pivots between the arms and levers to lock the body in normal position.

2. In a dump car, a car body having pivotally mounted movable sides, a truck, pivotal connection between the car body and the truck, a pair of pivotally mounted cross arms between the car body and the truck, the upper ends of the arms forming a support for the body when the latter is in normal position, pivotal connections between the opposite lower ends of the pivotally mounted cross arms and the truck, means for pivotally connecting the upper ends of the pivotal connections with the movable sides, and automatic locking devices to hold the car body in normal position on the truck.

3. In a dump car, a car body having movable sides, a truck, a pivotal mounting between the truck and the car body including a slot to permit relative movement of the pivot, a pair of cross arms pivotally mounted on the pivotal connection between the car and truck, the upper ends of the cross arms supporting the car body when the latter is in normal position, studs extending from the cross arms and engaging arcuate slots formed in the car body structure, levers pivoted to the lower ends of the pivoted cross arms and pivoted at their upper ends to the movable sides, and automatic locking means for locking the connections to hold the car body in normal position on the truck.

In testimony whereof I affix my signature.

KARL GEUER.