No. 888,187. PATENTED MAY 19, 1908.

T. R. McKNIGHT.

DUMP CAR.

APPLICATION FILED SEPT. 18, 1907.

2 SHEETS—SHEET 1.

Fig. 2.

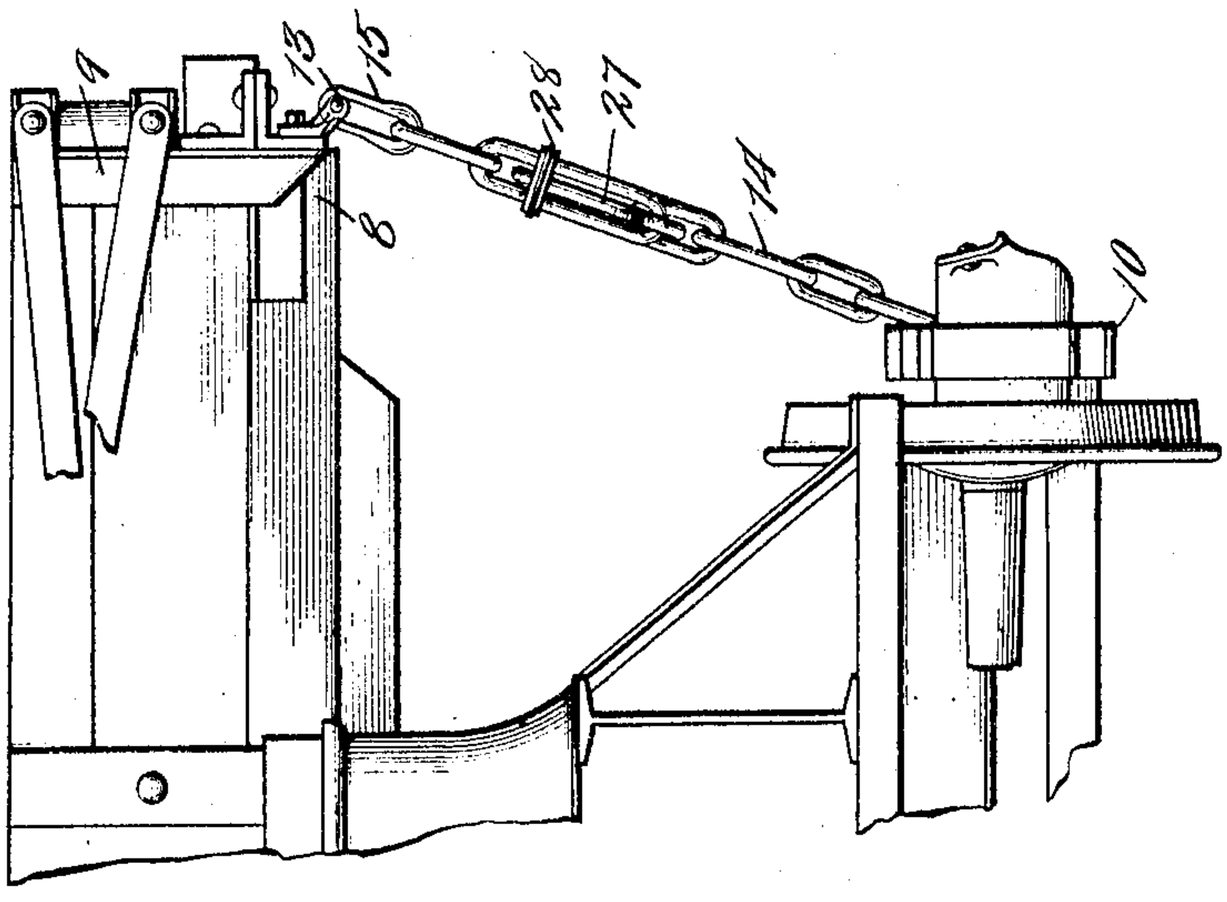
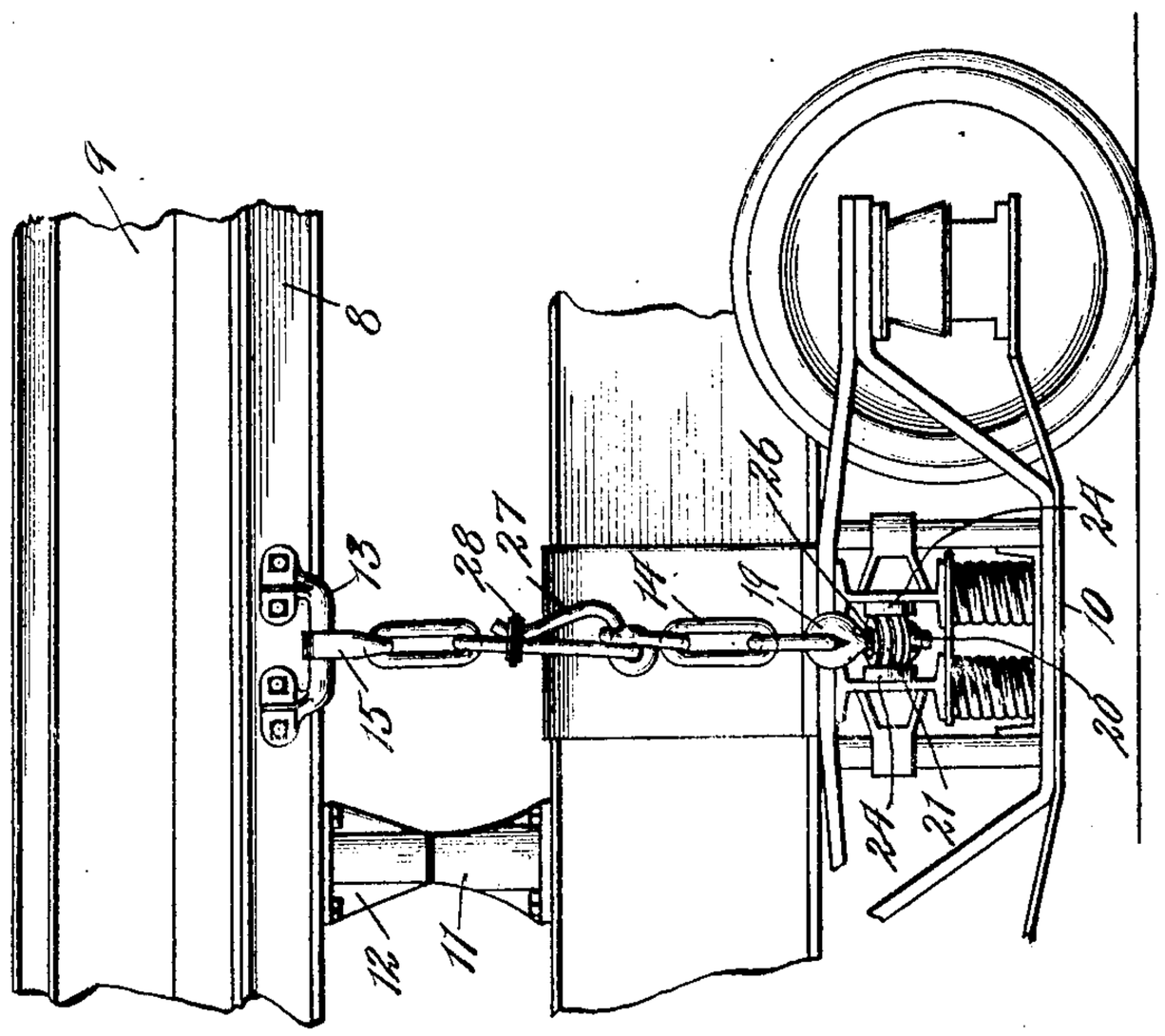



Fig. 1.




Witnesses:
Ira D. Perry
L. V. Bonaruus Jr.

Inventor:
Thomas R. McKnight,
by Bond Adams Pierce & Johnson,
his Attys.

No. 888,187. PATENTED MAY 19, 1908.

T. R. McKNIGHT.

DUMP CAR.

APPLICATION FILED SEPT. 18, 1907.

2 SHEETS—SHEET 2.

Fig. 4.

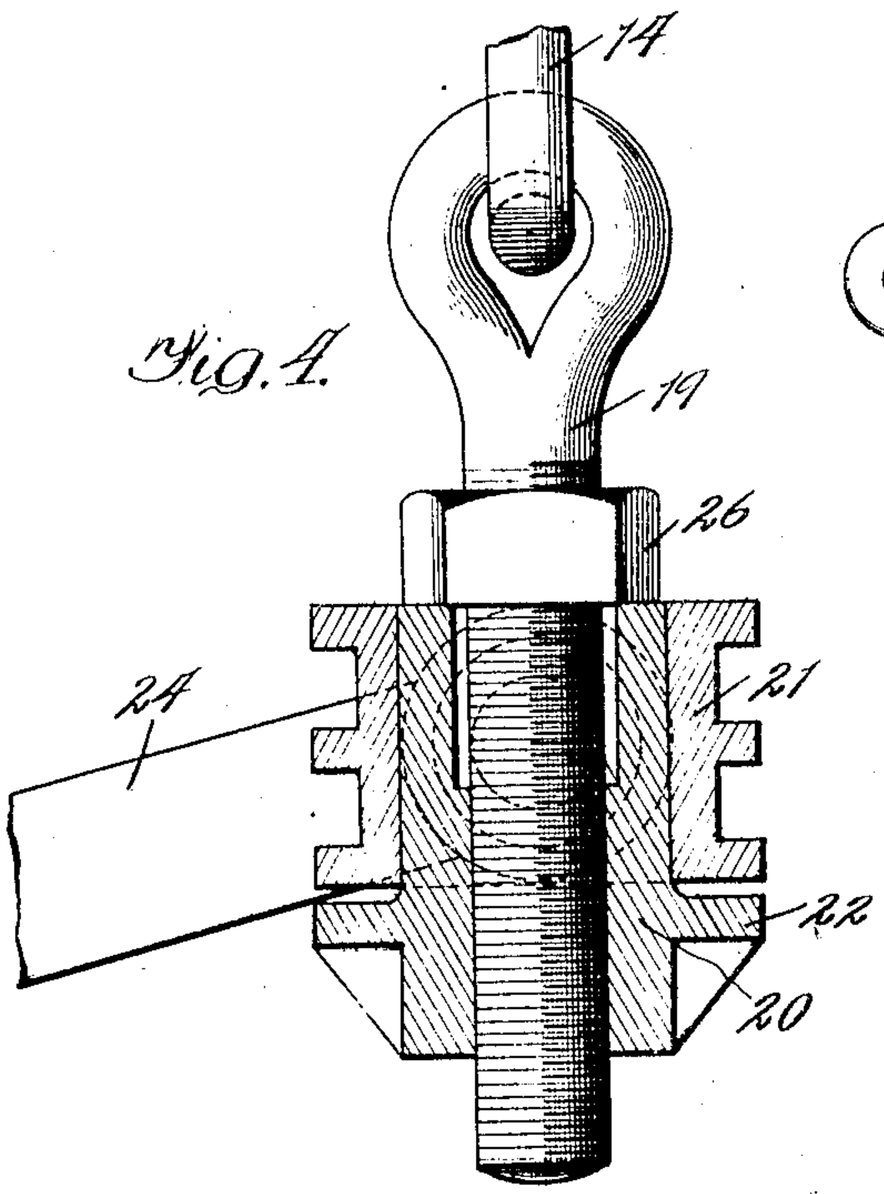



Fig. 3.

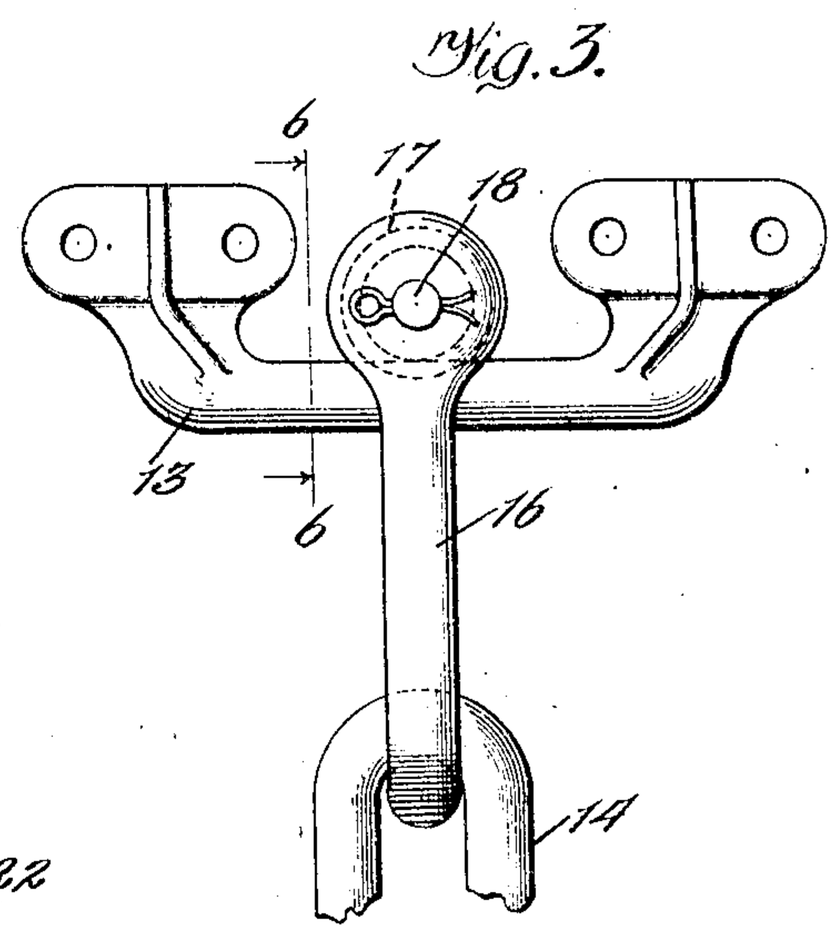



Fig. 6.

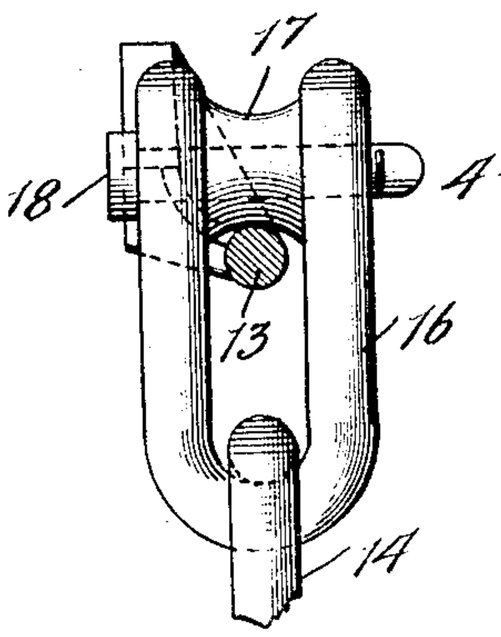



Fig. 7.

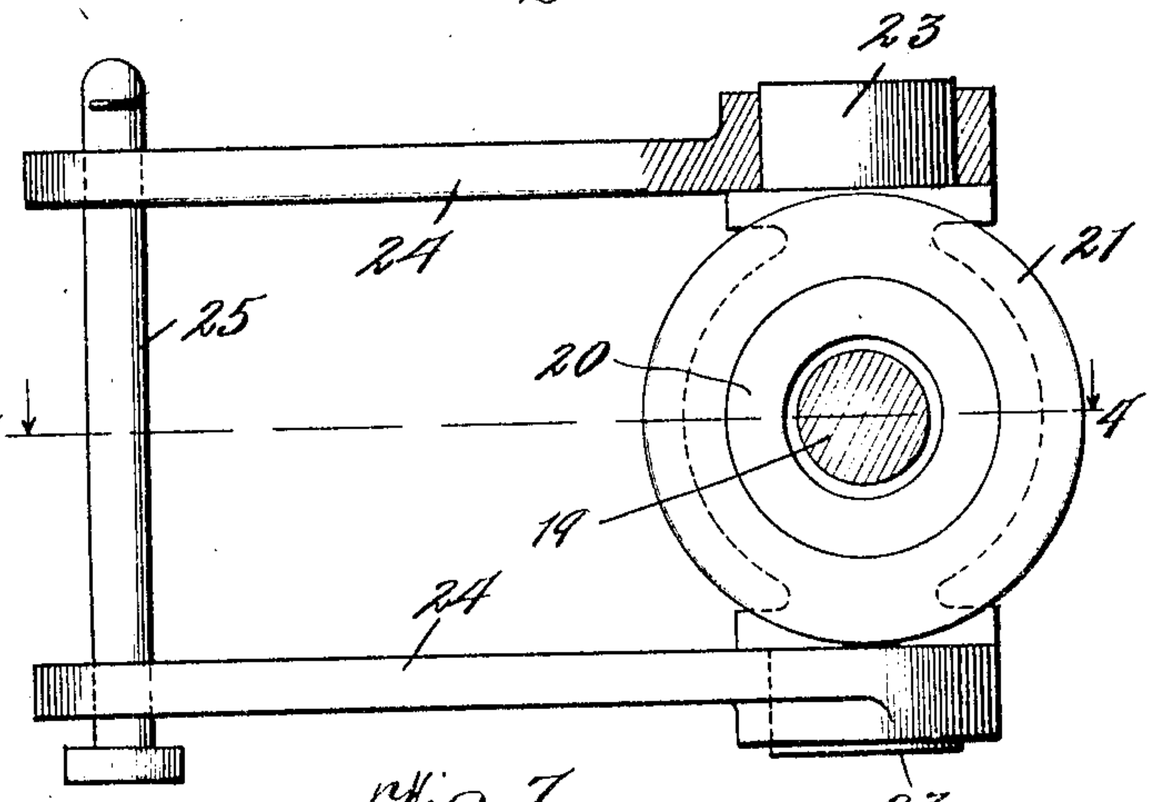
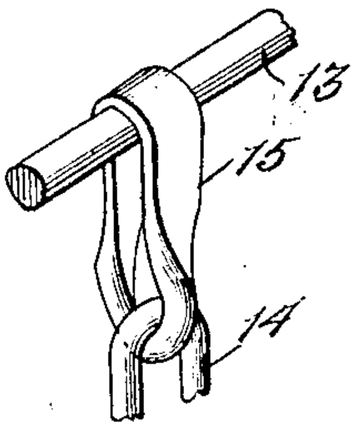



Fig. 5.




Witnesses:
Ira D. Perry
L. V. Duncan Jr.

Inventor:
Thomas R. McKnight,
by Bond Adams Pillard & Johnson
his Attys.

# UNITED STATES PATENT OFFICE.

THOMAS R. McKNIGHT, OF AURORA, ILLINOIS, ASSIGNOR TO WESTERN WHEELED SCRAPER COMPANY, OF AURORA, ILLINOIS, A CORPORATION OF ILLINOIS.

## DUMP-CAR.

No. 888,187. Specification of Letters Patent. Patented May 19, 1908.

Application filed September 18, 1907. Serial No. 393,531.

*To all whom it may concern:*

Be it known that I, THOMAS R McKNIGHT, a citizen of the United States, residing at Aurora, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Dump-Cars, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to dump-cars, and particularly to cars in which the car-body is pivotally supported so that it may be tilted to dump the load at one side or the other of the car, or at both sides. In cars of this type it is necessary that means be provided for holding the car-body in its horizontal or operative position while being loaded or while the car is in motion in transporting the load, and for this purpose, among other things, chains have been employed secured to the truck and to the car-body, the chains at the side opposite that at which the load is to be dumped being released when the car is ready to be tilted to discharge its load.

The object of my invention is to provide an improved construction of side-chains by which provision will be made for the automatic adaptation of the chain to allow for movement of the parts when rounding short curves; also to provide a chain which may rotate as well as turn in a vertical plane and which may be adjusted as to length without wear coming on the screw-threads after the adjustment is made, and which may be readily removed or renewed when it is desired to replace any of the parts on account of breakage or wear. I accomplish this object as illustrated in the drawings and as hereinafter described.

That which I believe to be new is set forth in the claims.

In the drawings,—Figure 1 is a partial side view of a dump-car, illustrating my improved chains; Fig. 2 is a partial end view of the same; Fig. 3 is an enlarged detail, illustrating one form of connection at the upper end of the chain; Fig. 4 is a sectional view on line 4—4 of Fig. 5; Fig. 5 is a plan view, illustrating the connections at the lower end of the chain; Fig. 6 is a section on line 6—6 of Fig. 3; and Fig. 7 is a perspective view, illustrating another form of connection at the upper end of the chain.

Referring to the drawings,—8 indicates the car-body platform, and 9 side-gates.

10 indicates the truck and 11—12 the lower and upper members by which the body is pivotally supported so that it may be tilted to one side or the other.

13 indicates a rod, which extends longitudinally of the car-body, to which it is secured at its ends, as shown in Fig. 1. Said rod affords a sliding connection for the upper end of the chain, as will hereinafter appear.

14 indicates a side-chain, of which two are usually employed at each side of the car, one near each end. In the form shown in Figs. 1, 2 and 7 the chain 14 is provided with a flattened link 15 at its upper end, which fits upon the rod 13 and slides longitudinally thereof as the truck turns on the car-body in rounding curves. If desired, a roller-bearing connection may be employed instead of the flat link 15, as shown in Figs. 3 and 6,—16 indicating a yoke or coupling in which is pivotally mounted a roller 17 carried by a pin 18. By this construction the chain may readily be disconnected from the rod 13 without removing the rod from the car-body.

At the lower end of the chain is provided a universal bearing which connects said chain with the truck, as best shown in Figs. 1, 4 and 5. Said universal connection comprises an eye-bolt 19 which fits in a suitable cylindrical bearing-block 20 screw-threaded to receive the threads of the bolt, as shown in Fig. 4. Said bearing-block fits into a trunnioned-sleeve 21 and is provided with a flange 22 near its lower end which limits the extent to which said bearing-block may move into the sleeve and also serves as an end bearing to take the strain of upward pull on the chain.

As shown in Fig. 5, the trunnions 23 of the sleeve 21 are fitted in links 24, which are connected by a bolt 25, or other suitable means, with the truck 10 in line with the axis of the truck. A lock-nut 26 is screwed upon the eye-bolt 19 above the bearing-block 20 and bears upon the upper end of said bearing-block, as shown in Fig. 4.

27 indicates a hook, which connects the members of the chain 14 intermediately, as shown in Fig. 1, the end of the hook being confined by a ring 28, so that ordinarily said hook serves as a part of the chain but may readily be released to separate the portions of the chain and permit the car to be dumped.

As will be seen from an inspection of Fig. 1, the chain, or other equivalent flexible connection, is placed centrally over the truck,

and by reason of the universal connection at its lower end and the sliding connection at its upper end will automatically adapt itself to the movement of the car-body or truck, as in rounding curves. Moreover, the universal joint at the lower end of the chain permits it to rotate as well as to turn in a vertical plane and consequently there is less strain and wear on the parts when the car is in use. The length of the chain may be adjusted by adjusting the position of the eye-bolt 19 in the bearing-block.

It will be understood that instead of a chain any other equivalent flexible connection may be employed.

That which I claim as my invention, and desire to secure by Letters Patent, is,—

1. In a dump-car, the combination of a car-body, a truck, a chain connecting the car-body and truck, and means connecting the upper end of the chain with the car-body and permitting movement of the chain longitudinally of the car body and independently thereof.

2. In a dump-car, the combination of a car-body, a truck, a chain connecting the car-body and truck, means connecting the upper end of the chain with the car-body and permitting movement of the chain longitudinally of the car body and independently thereof, and a universal connection between the lower end of the chain and the truck.

3. In a dump-car, the combination of a car-body, a truck, a chain connecting the car-body and truck, means connecting the upper end of the chain with the car-body and permitting longitudinal movement of the chain independently of the car-body, a universal connection between the lower end of the chain and the truck, and a detachable connection between the upper and lower portions of the chain.

4. In a dump car, the combination of a truck, a car-body pivotally mounted upon said truck and arranged to tilt laterally, a rod secured at both ends to the car-body and extending longitudinally thereof, a chain for holding said car-body in its horizontal position, said chain being connected at its upper end with said rod and movable longitudinally thereof, and a pivotal connection between the lower end of said chain and the truck.

5. In a dump-car, the combination of a car-body, a truck, a chain connected at its upper end with the car-body, an eye-bolt at the lower end of said chain, a bearing-block mounted on said eye-bolt, a trunnioned bearing for said bearing-block, and a support connecting said trunnioned bearing with the truck.

6. In a dump-car, the combination of a car-body, a truck, a chain connected at its upper end with the car-body, an eye-bolt at the lower end of said chain, a bearing-block mounted on said eye-bolt, a sleeve in which said bearing-block is fitted, and means pivotally connecting said sleeve with the truck.

7. In a dump-car, the combination of a car-body, a truck, a chain connected at its upper end with the car-body, an eye-bolt at the lower end of said chain, a bearing-block mounted on said eye-bolt, a sleeve in which said bearing-block is fitted, said bearing-block having a flange which bears against the lower end of said sleeve, and means pivotally connecting said sleeve with the truck.

8. In a dump-car, the combination of a car-body, a truck, a chain connected at its upper end with the car-body, an eye-bolt at the lower end of said chain, a bearing-block mounted on said eye-bolt, a sleeve in which said bearing-block is fitted, means pivotally connecting said sleeve with the truck, and a lock-nut on said eye-bolt above said bearing-block.

9. In a dump car, the combination of a tilting car-body, a truck, a chain connecting the car-body and truck to prevent tilting of the car-body, a universal connection at one end of said chain, and means connecting the other end of said chain to the car-body and permitting movement thereof longitudinally of the car.

THOMAS R. McKNIGHT.

Witnesses:
JOHN L. JACKSON,
MINNIE A. HUNTER.