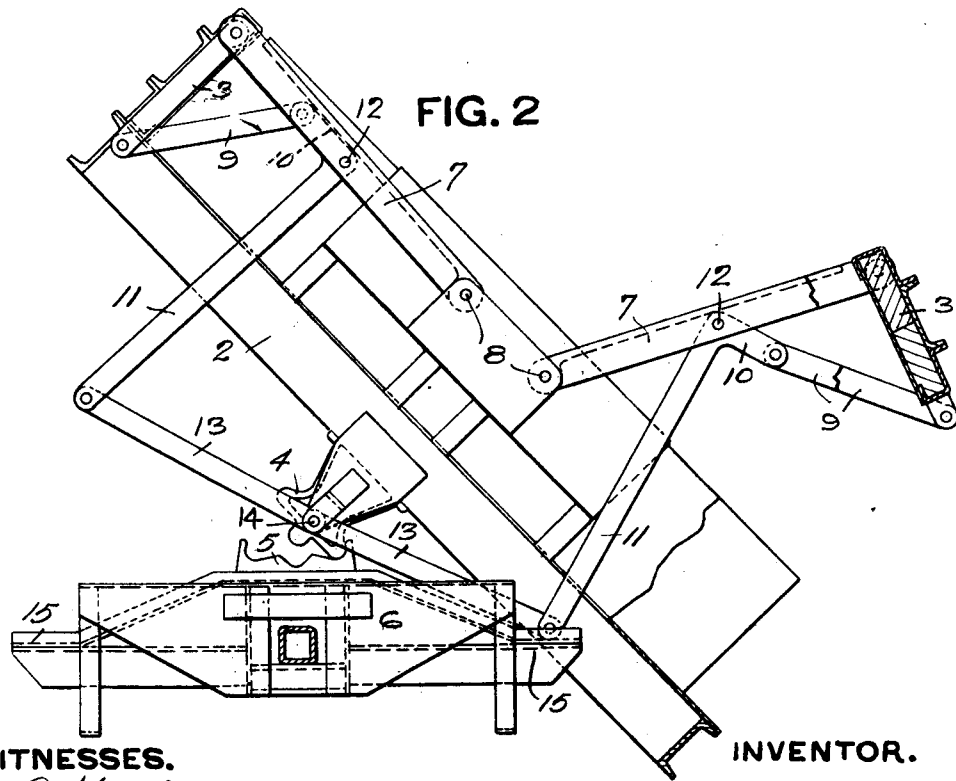
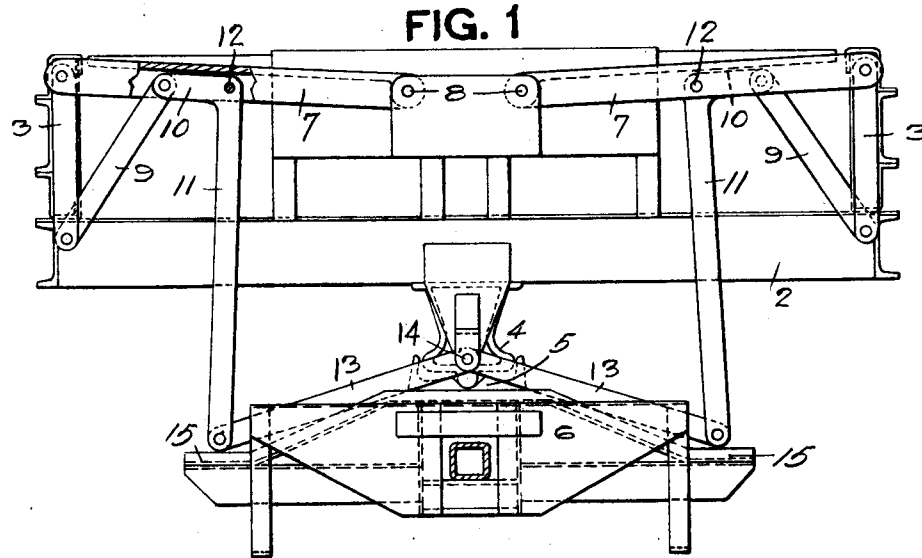


K. H. HANSEN.
 DOOR MECHANISM FOR SIDE DUMP CARS.
 APPLICATION FILED OCT. 30, 1911.

1,031,067.

Patented July 2, 1912.



WITNESSES.

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UNITED STATES PATENT OFFICE.

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DOOR MECHANISM FOR SIDE-DUMP CARS.

1,031,067.

Specification of Letters Patent.

Patented July 2, 1912.

Application filed October 30, 1911. Serial No. 657,690.

To all whom it may concern:

Be it known that I, KARL H. HANSEN, a subject of Germany, and resident of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Door Mechanism for Side-Dump Cars; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to dump-cars, and more especially to mechanism for operating the side-doors of such dump-cars when the cars are dumped to discharge the contents from the sides thereof.

The object of my invention is to provide mechanism of the above character by means of which the side of the car will be thrown out at such an angle as to give a wide space for the discharge of the material, so that the material will be discharged with greater facility and rapidity.

To these ends my invention comprises the novel features hereinafter set forth and claimed.

In the accompanying drawings, Figure 1 is an end view of a dump car and a portion of the underframe showing my invention with the parts in normal position. Fig. 2 is a like view showing the parts in position when the dumping operation takes place.

In the drawings the numeral 2 designates a body of a suitable dump-car having the sides 3 which are movable when the car is dumped for the purpose hereinafter set forth. The car-body 2 has the castings 4 which form rockers by means of which the car-body is tilted, said rockers resting upon the castings 5 which are carried by the underframe 6. This construction is common in connection with cars of this character and need not be referred to in detail.

At the ends of the cars are the arms 7 which are pivoted at 8 to the car-body, and the outer ends of said arms are pivotally connected to the sides 3. Pivotally connected to the lower ends of the sides 3 are the links 9 which are connected at their inner ends to the angular short-arm 10 of the lifting bars 11. These lifting bars 11 are pivoted as at 12 to the arms 7. The lower ends of the lifting bars 11 are pivoted to the arms 7 which in turn are pivoted at their inner ends as at 14 to the car-body.

The lower ends of the lifting bars 11 are

in line with the abutments 15 on the underframe and the lower ends of said lifting bars are adapted to engage said abutments during the tilting operation as hereinafter set forth.

In Fig. 1 the parts are shown in their normal position when the car is being loaded or in course of transportation, and when the point is reached at which the dumping is to take place, the car-body is tilted to one side or the other by suitable mechanism (not shown), and when the car tilts, as in the case indicated to the right, the lifting bars 11 on that side will engage the abutments 15 and as the body of the car continues to increase its dumping angle, the lifting bars being held against downward movement by the abutments 15, will act to lift the arms 7 and the sides 3 connected thereto. As the angle of inclination of the lifting bars changes the short-arms 10 of said lifting bars will incline downwardly and the links 9 will be thrown out into practically a straight line with the short-arms 10 thereby acting to give a greater inclination to the sides 3, whereby said sides form with the arms 7 an obtuse angle. By throwing the sides or doors 3 off at this angle, a wider outlet is provided for the escape of the material within the car and consequently the contents of the car can be discharged with greater facility and more rapidly. The principle of the device is to have the arms 9 and the arms 10 operate on the principle of a toggle, so that the said arms may be brought into or substantially into line with each other so increasing the distance from the pivotal point of the lifting bars at 12 from the pivotal point of the arms 9 with the sides 3. To secure this result, the short-arms 10 of the lifting levers must be formed either integral therewith as illustrated, or rigidly attached thereto. When the car is to be brought back to its normal position, the parts will assume the position indicated in Fig. 1.

What I claim is:

1. The combination of a tilting car-body, a movable side, arms pivotally connected to said sides and to said car-body, and toggle arms connected to said side and said arm, and positive means for operating said toggle arms by the tilting of said car whereby the lower end of door is moved outwardly be-

yond its /normal position when door is closed.

2. The combination of a tilting car-body, a movable side, an arm pivotally connected to the upper portion of said side and to said car-body, a lifting bar pivoted to said arm, an angular arm on said lifting bar, a link pivotally connected to said lifting bar arm

and to said side, and an abutment in position to be engaged by said lifting bar.

In testimony whereof, I the said KARL H. HANSEN have hereunto set my hand.

KARL H. HANSEN.

Witnesses:

ROBERT C. TOTTEN,

JOHN F. WILL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."