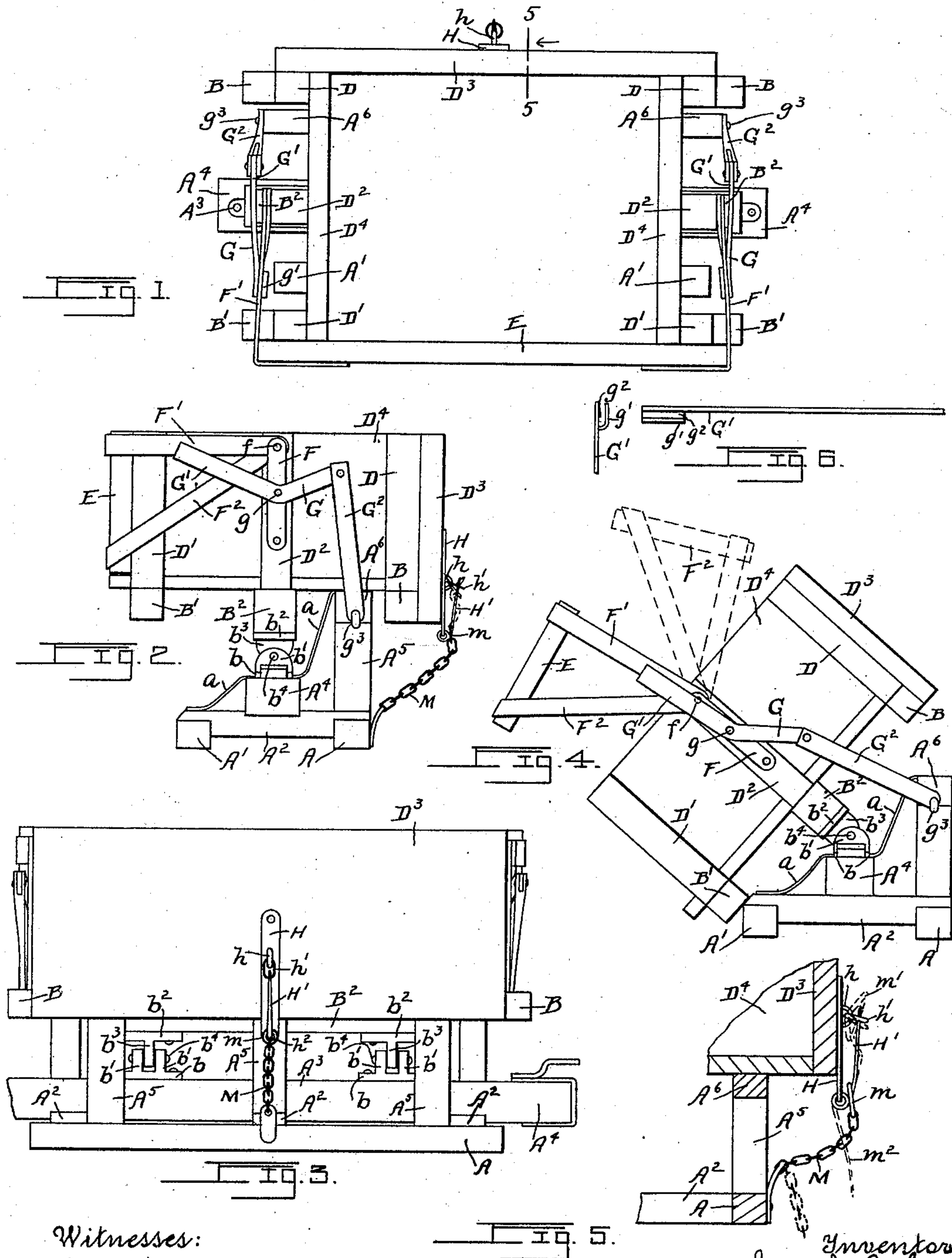


(No Model.)

J. J. CASHIN & D. M. SHAFFER.
DUMPING CAR.

No. 596,478.

Patented Jan. 4, 1898.



Witnesses:

W. M. Hall.

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UNITED STATES PATENT OFFICE.

JAMES J. CASHIN AND DANIEL M. SHAFFER, OF ELIZABETHTOWN,
PENNSYLVANIA.

DUMPING-CAR.

SPECIFICATION forming part of Letters Patent No. 596,478, dated January 4, 1898.

Application filed March 13, 1897. Serial No. 627,348. (No model.)

To all whom it may concern:

Be it known that we, JAMES J. CASHIN, a subject of the Queen of Great Britain, and DANIEL M. SHAFFER, a citizen of the United States, both residing at Elizabethtown, in the county of Lancaster and State of Pennsylvania, have invented certain Improvements in Dumping-Cars, of which the following is a specification.

This invention relates to that class of dumping-cars in which the load is discharged to one side of the track; and the objects of the improvements are, first, to automatically remove the door entirely away from the discharge-opening when the box of the car is tilted to dump the load, and, second, to provide a device more simple in construction and more easily operated than those now in use for maintaining the car in its normal position.

The invention consists in the construction and combination of the various parts, as hereinafter fully described, and then pointed out in the claims.

In the accompanying drawings, which form a part of this specification, Figure 1 is a top plan view of a car embodying our improvements; Fig. 2, an end elevation thereof; Fig. 3, an elevation of the side of the car to which is attached the device for securing the car-box in its normal position; Fig. 4, an end view showing the parts in the position they occupy when the car-box is tilted to dump the contents; Fig. 5, a vertical section of a portion of the car on broken line 5 5 of Fig. 1, and Fig. 6 shows a top view and an elevation of the outer end of the arm of one of the levers that engages a horizontal arm.

Similar letters indicate like parts throughout the several views.

Referring to the details of the drawings, A A' indicate longitudinal beams of the frame of the car, which are attached to the trucks, (not shown;) A², the transverse beams of said frame; A³, the draw-bar, which extends the entire length of the frame; A⁴, the bumpers on the ends of the draw-bar; A⁵, posts on beam A; A⁶, a beam on said posts which supports the uptilting side of the car-box when the same occupies its normal position, and a the transverse braces of beam A⁶.

B B' indicate the outside longitudinal sills

of the car-box, and B² the center longitudinal sill.

On draw-bar A³ are secured two plates b, on each of which is a pair of upright jaws b', and on the under side of sill B² are similar plates b², each having a depending tongue b³. Tongues b³ each engage between a pair of the jaws b', where they are pivoted by hinge-pins b⁴, passing through the jaws and the tongues.

D, D', and D² indicate the posts of the car-box, which are secured to the sills in the usual manner.

D³ is the rigid side, and D⁴ the rigid ends, of the car-box, and E is the door of said box, forming a movable fourth side thereof.

F F are upright keeper-plates rigidly secured to the outer faces of posts D², and between posts D² and the upper ends of each of these plates are hinged on the same pin f the inner ends of horizontal arms F' and of downwardly-extending diagonal arms F², the outer ends of horizontal arms F' being rigidly secured to the upper portions of the ends of door E and the outer ends of diagonal arms F² to the lower portions of the ends of said door, horizontal arms F' being located outside of diagonal arms F².

G G' are the arms of bent levers, pivoted on pins g, secured in posts D², below pins f. On the inner face of each of the outer ends of arms G' is an upturned lip g', that forms a groove g² on that side of said arm in which one of the horizontal arms F' loosely rests. The inner ends of arms G are pivotally connected with the upper ends of rods G², the lower ends whereof are pivoted on pin g³, secured to the ends of longitudinal beam A⁶. As a result of this connection of arms and levers between the car-door, the car-box, and the frame of the car when the car-box is tilted the horizontal arms F' slide in the grooves g² of lever-arms G' and are thrown up above the car-box and said door is entirely disengaged from the side of the car-box, as shown by full lines in Fig. 4, whereby the load is discharged from said car-box without in any way being interfered with by said door and the door is preserved from any possible injury from the discharge of the load. Should there be stones or other masses of such size as to render it possible that they might strike the car-door

as they are discharged, the door is raised, so as to disengage horizontal arms F' from grooves g^2 , and is then turned back entirely clear of any contact with the load, as illustrated by broken lines F^2 , Fig. 4.

On the outer face of the rigid side D^3 of the car-box is attached a vertical plate H , having its lower end extending somewhat below the bottom of said car-box and secured to said plate. Above the bottom of the car-box is an eyebolt or staple h in the opening, through which is loosely engaged a link h' , a tongue H' being loosely hung in an eye h^2 in the lower end of plate H . A chain M is attached to the outer face of longitudinal beam A in front of center post A^5 , and it has on its free end a ring or loop m , adapted to take over tongue H' . To secure the car-box in its normal position on the car-frame, ring m is engaged with tongue H' , the outer end of which is raised, when the link h' is turned upward and passed over said end of the tongue, securing it in an upright position, as shown in Figs. 2, 3, and 5. When chain M is to be released from tongue H' , to permit the car-box to be tilted, link h' is pushed up above the upper end of said tongue, as shown by broken lines m' , Fig. 5, when the tongue drops to the position shown by broken lines m^2 , Fig. 5, and chain M is released.

We do not restrict ourselves to the details of construction herein shown and described, as it is obvious that many alterations may be made therein without departing from the spirit and scope of our invention.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a dumping-car, of a tilting car-box having a discharge-opening, a removable door closing said opening, arms pivoted to the car-box and rigidly attached

to the door, levers pivoted between their ends to the car-box, sliding connections between the front arms of the levers and the arms connecting the car-box and the door, and connections between the rear arms of said levers and the car-frame, for the purpose specified.

2. The combination, in a dumping-car, of a tilting car-box having a discharge-opening, a removable door closing said opening, arms pivoted to the car-box and rigidly attached to the door, levers pivoted between their ends to the car-box, sliding connections between the front arms of the levers and the arms connecting the car-box and the door, the arms connecting the car-box and the door being detachable from the front arms of the levers, and connections between the rear arms of said levers and the car-frame, for the purpose specified.

3. The combination, in a dumping-car, of a tilting car-box having a discharge-opening, a removable door closing said opening, levers fulcrumed between their ends to the ends of the car-box, horizontally-disposed arms having their inner ends pivoted to the car-box and above the fulcrums of the levers and their outer ends secured to the ends of the door, said arms resting loosely in grooves in the front arms of the levers, diagonally-disposed arms having their inner ends hinged on the pivots of the horizontally-disposed arms and their outer ends secured to the lower edge of said door, and rods having their ends pivotally connected with the inner arms of said levers and with the frame of the car, all substantially as and for the purpose specified.

JAMES J. CASHIN.
DANIEL M. SHAFFER.

Witnesses:

C. G. BASSLER,
WM. R. GERHART.

It is hereby certified that in Letters Patent No. 596,478, granted January 4, 1898, upon the application of James J. Cashin and Daniel M. Shaffer, of Elizabethtown, Pennsylvania, for an improvement in "Dumping-Cars," errors appear in the printed specification requiring correction, as follows: Page 2, line 9, after the words "car-box," a semicolon should be inserted; line 10, the period after the word "plate" should be stricken out and the following word "After" should begin with a small "a," thus making a continuous sentence; same line, after the word "car-box," a comma should be inserted; line 11, after the reference letter "h," a comma should be inserted, and same line, after the word "opening," a comma should be inserted; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 25th day of January, A. D., 1898.

[SEAL.]

WEBSTER DAVIS,
Assistant Secretary of the Interior.

Countersigned:

A. P. GREELEY,
Acting Commissioner of Patents.