No. 739,893. PATENTED SEPT. 29, 1903.

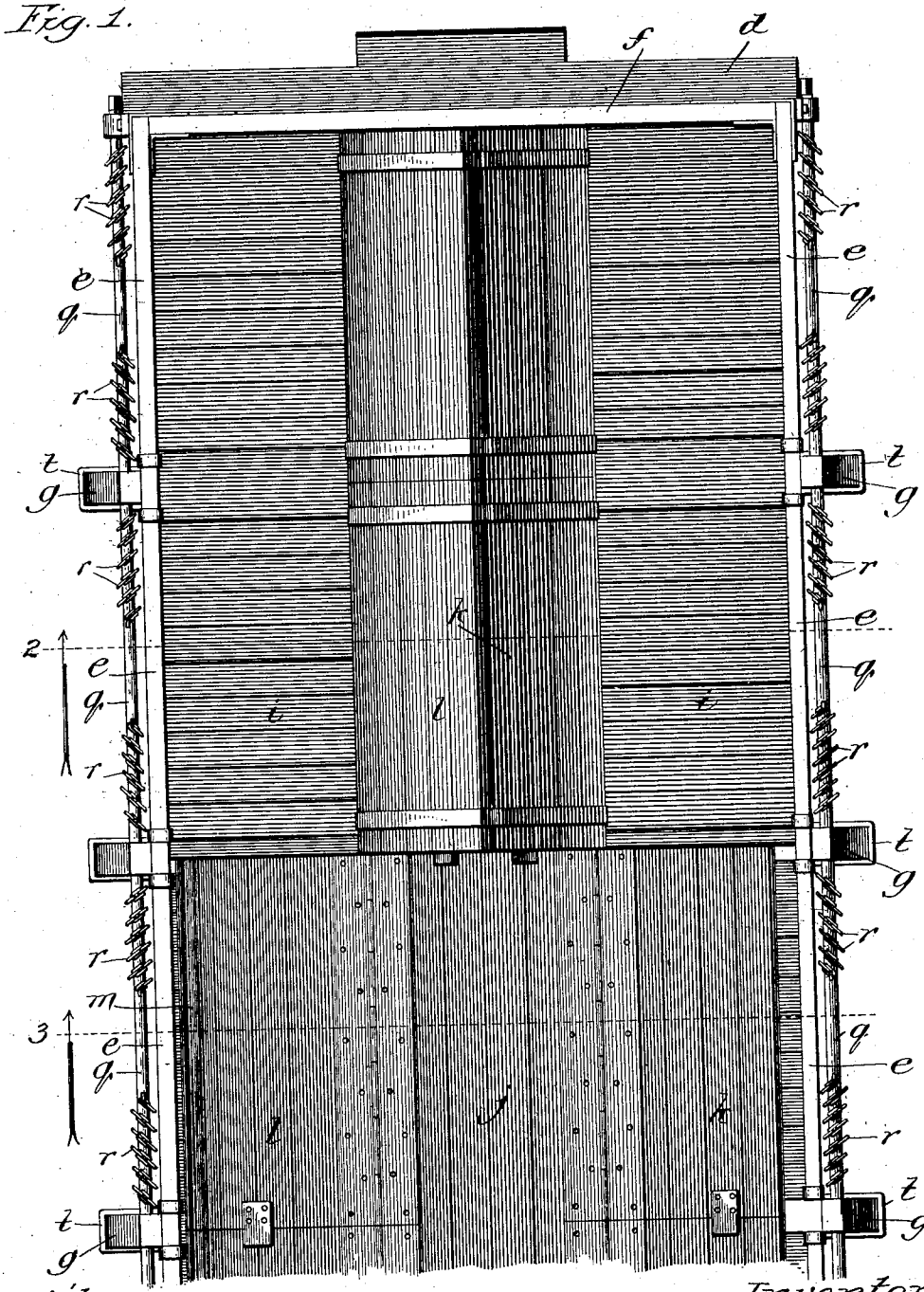
G. B. MALTBY.

DUMP CAR.

APPLICATION FILED APR. 3, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.



Witnesses:
Chas. G. Saylord,
John Enders Jr.

Inventor:
George B. Maltby,
By Thomas F. Sheridan,
Att'y.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 739,893. PATENTED SEPT. 29, 1903.

G. B. MALTBY.

DUMP CAR.

APPLICATION FILED APR. 3, 1903.

NO MODEL. 2 SHEETS—SHEET 2.

Fig. 2.

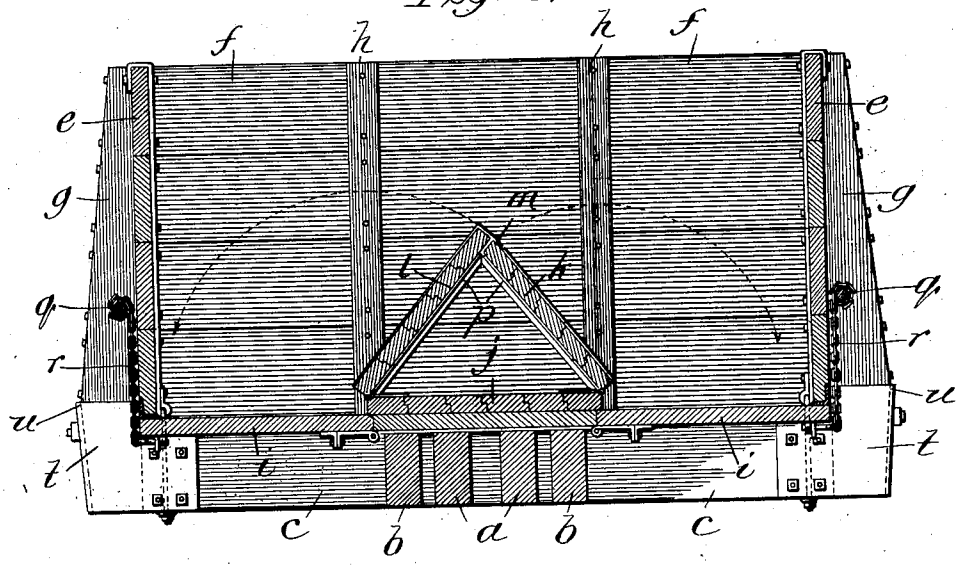


Fig. 3.

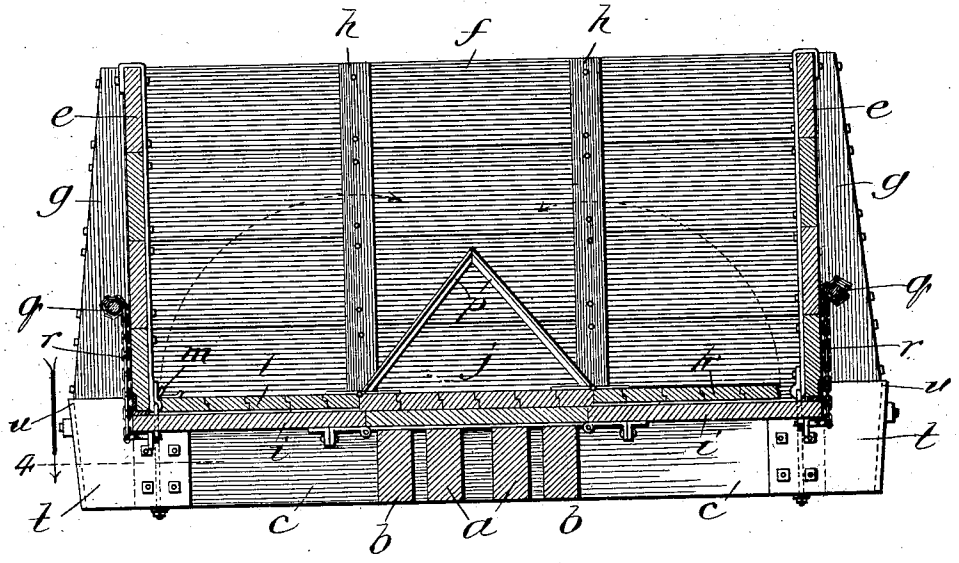
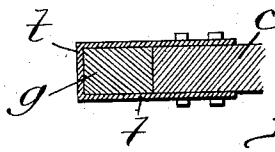


Fig. 4.



Witnesses:
Chas. E. Gaylord.
John Enders Jr.

Inventor:
George B. Maltby.
By Thomas F. Sheridan,
Att'y.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 739,893. Patented September 29, 1903.

UNITED STATES PATENT OFFICE.

GEORGE B. MALTBY, OF CHICAGO, ILLINOIS, ASSIGNOR TO NATIONAL COAL DUMP CAR COMPANY, OF SOUTH DAKOTA, OF RAPID CITY, SOUTH DAKOTA, AND CHICAGO, ILLINOIS, A CORPORATION OF SOUTH DAKOTA.

DUMP-CAR.

SPECIFICATION forming part of Letters Patent No. 739,893, dated September 29, 1903.

Application filed April 3, 1903. Serial No. 151,000. (No model.)

To all whom it may concern:

Be it known that I, GEORGE B. MALTBY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Dump-Cars, of which the following is a specification.

This invention relates particularly to that class of cars which are adapted to dump or discharge loose and bulky freight through the bottom portion, and particularly to the means by which such cars may be converted into "drop-bottom" dumping-cars or flat-bottom "gondola" cars, all of which will more fully hereinafter appear.

The principal object of the invention is to provide a simple, economical, and efficient drop-bottom dumping-car.

Further objects of the invention will appear from an examination of the drawings and the following description and claims.

The invention consists principally in a drop-bottom dump-car in which there are combined a supporting-framework, a drop-bottom therefor composed of a plurality of swinging doors pivotally secured to the framework of the car at each side of its longitudinal center, and swinging sections forming a central A-shaped apex when in one position and a flat portion of a non-dumping bottom when in the other position.

The invention consists, finally, in the features, combinations, and details of construction hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a plan view of one end of the car as it appears when constructed in accordance with these improvements looking at it from above and showing a part of the mechanism in one position and another part of such mechanism in a second position; Fig. 2, a vertical sectional elevation of the superstructure of the car, taken on line 2 of Fig. 1 looking in the direction of the arrow; Fig. 3, a similar view, taken on line 3 of Fig. 1 looking in the direction of the arrow and showing the parts arranged in a non-dumping position; and Fig. 4, a plan sectional detail, taken on line 4 of Fig. 3 looking in the direction of the arrow.

In the art to which this invention relates it is well known that it is very desirable to have what are termed "drop-bottom" dumping-cars and that the elements forming the same be so constructed and arranged that when desired the car may be converted into a flat non-dumping bottom gondola car. To this end this construction is principally designed.

In illustrating and describing these improvements I have only illustrated so much as is old as will properly disclose the invention to others and enable those skilled in the art to practice the same, leaving out of consideration other and well-known elements, which if shown and described herein would only tend to confusion, prolixity, and ambiguity.

In constructing a car in accordance with these improvements I make a framework provided with a plurality of longitudinal sills *a* and *b*, cross-sills or needle-beams *c*, and end sills *d*. Upon this supporting-framework is arranged the usual superstructure, such as the side boards *e* and end boards *f*, held in position partly by means of side stakes *g* and end stakes *h*. It is very desirable to provide means by which loose bulky freight—such as ballast, coal, and the like—may be automatically discharged through the bottom of the car, and in order to accomplish this I provide what I term a "drop-bottom" portion, formed of a plurality of swinging doors *i*, pivotally secured at their inner ends to the supporting-framework of the car, so that their free ends extend outwardly to the sides thereof and may drop down therefrom to discharge the load therein.

To assist in discharging all of the load in the car, I provide a supplementary floor portion laid upon the drop-bottom portion and supported by the framework. This supplementary floor portion is formed of a fixed flat central section *j*, extending longitudinally of the car, and of outer swinging sections *k* and *l*, pivotally secured thereto and made of a plurality of swinging doors of such length

that when laid in a flat plane their adjacent meeting edges are directly over the center of the needle-beams, so that such swinging portions, as shown particularly in Figs. 1 and 3, may be supported thereby and the car provided with a flat non-dumping bottom portion, upon which all of the load is supported by the framework of the car. These swinging sections may be swung into a second position, as shown in Figs. 1 and 2, in which they form a central A-shaped apex or part of the dumping portion that assists in discharging the entire load. These swinging sections are held in position to form the central A-shaped apex portion by providing one of the doors—the door *l*—with a flanged portion *m* at its free edge. This flanged portion forms a pocket in which the free edge of the other swinging section *k* rests, so as to prevent either or both of such sections when the car is loaded from swinging out of position. The ends of the car inside of each end board are provided with an A-shaped flanged portion *p*, against which the ends of such swinging sections may rest securely in position, and thereby prevent sliding of the same.

To raise and lower the swinging doors that form the drop-bottom portion into and out of position, rock-shafts *q* are provided, having their bearing portions in the side stakes of the car and provided with chain mechanisms *r*, that are connected with the free ends of such doors, so that by winding such shafts in one direction the doors are closed and by winding them in the opposite direction they are opened.

To assist in strengthening the car and also in holding the side boards in position, U-shaped stake-pockets *t* are provided, (see Fig. 4,) formed of pressed-steel sections which are secured to the needle-beams of the car, as shown particularly in Figs. 2, 3, and 4, and have upwardly-extending outer portions *u*, that extend above the floor portion just outside of the lower portion of the side boards. These stake-pockets not only form a perfect socket for the side stakes to efficiently hold them in position, but they also take part of the strain of the lower ends of the side boards, and thus assist materially in strengthening the entire structure, so as to withstand the stress and strains incident to use.

I claim—

1. In a car of the class described, the combination of a supporting-framework, a drop-bottom therefor composed of a plurality of swinging doors pivotally secured to the framework of the car at each side of its longitudinal center, and swinging sections forming a central A-shaped apex when in one position and a flat portion of a non-dumping bottom when in the other position, substantially as described.

2. In a car of the class described, the combination of a supporting-framework, a drop-bottom therefor composed of a plurality of swinging doors pivotally secured to the framework of the car at each side of its longitudinal center and their free ends extending outwardly, and swinging sections pivotally secured to the framework of the car and forming a central A-shaped apex extending longitudinally of the car when in one position and a portion of a flat non-dumping bottom when in the second position, substantially as described.

3. In a car of the class described, the combination of a supporting-framework provided with upwardly-extending side and end boards, a drop-bottom therefor composed of a plurality of swinging doors pivotally secured to the framework of the car at each side of its longitudinal center, and a second bottom portion formed of a fixed flat central section and swinging side sections extending longitudinally of the car and forming a central A-shaped dumping part when the parts are in one position and a portion of a flat non-dumping bottom over the drop-bottom portion when in a second position, substantially as described.

4. In a car of the class described, the combination of a supporting-framework provided with upwardly-extending side and end boards secured thereto, side stakes secured to the side boards of the car, and rigid pressed-steel stake-pockets secured to the supporting-framework of the car in which the side stakes are pocketed and extending above the bottom portion of the car in contact with the lower portion of the side boards, substantially as described.

5. In a car of the class described, the combination of a supporting-framework provided with upwardly-extending side and end boards secured thereto, a drop-bottom portion formed of a plurality of swinging doors pivotally secured to the framework of the car at each side of its longitudinal center and at their inner edges, rock-shafts provided with chain mechanism engaging the free ends of the swinging doors which form the drop-bottom, and a supplemental bottom portion secured to the framework of the car above the drop-bottom portion of the discharging-sections to form a part of a discharging-bottom when in one position and a non-dumping flat bottom portion when in the second position, substantially as described.

6. In a car of the class described, the combination of a supporting-framework provided with a plurality of needle-beams extending transversely of the car, a drop-bottom portion therefor formed of a plurality of swinging doors pivotally secured to the supporting-frame at each side of the longitudinal center and between the needle-beams, and a supplemental bottom portion arranged above the drop-bottom portion and supported by the framework of the car, formed of a fixed flat

portion arranged over the longitudinal center of the car and swinging outer sections formed by a plurality of doors pivotally secured to the flat central portion of the car and of such lengths that the adjacent meeting edges of the doors rest on the needle-beams of the framework so as to be supported thereby when in a flat non-dumping position and adapted to be swung into an A-shaped central discharging-section when in a second position, substantially as described.

GEORGE B. MALTBY.

Witnesses:
HARRY I. CROMER,
MAUDE DARNELL.