

No. 656,591.

Patented Aug. 21, 1900.

C. B. WEST.
RAILWAY FREIGHT CAR.

(Application filed June 25, 1900.)

(No Model.)

2 Sheets—Sheet 1.

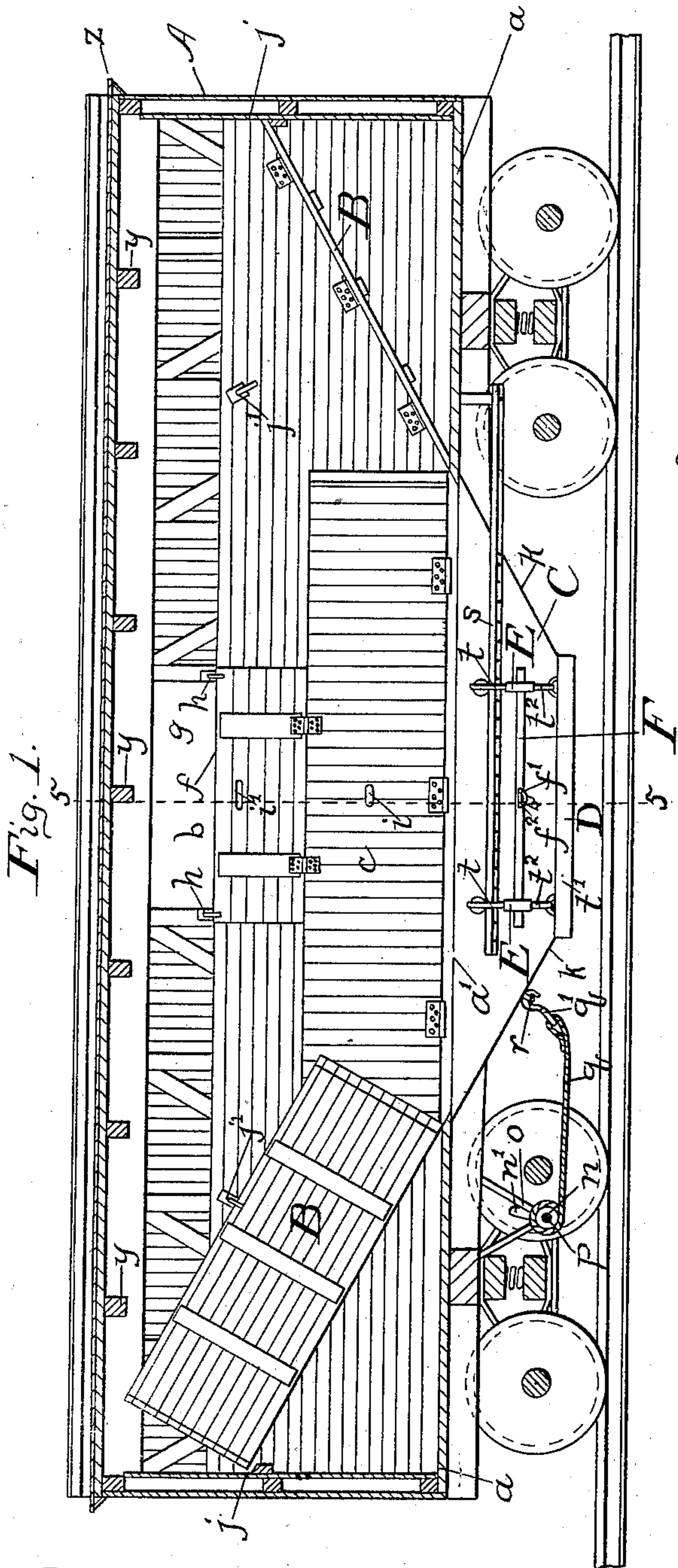


Fig. 1.

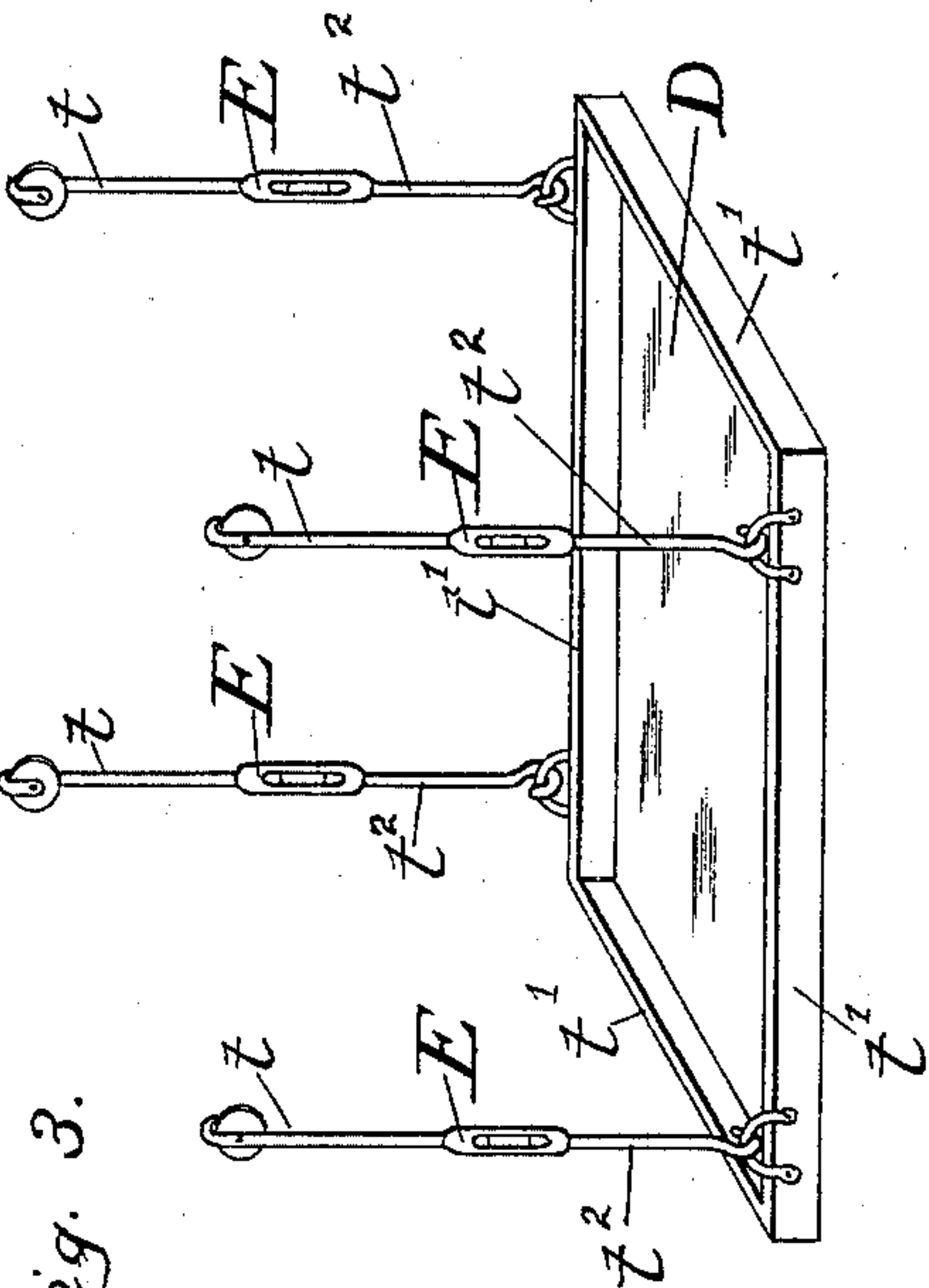
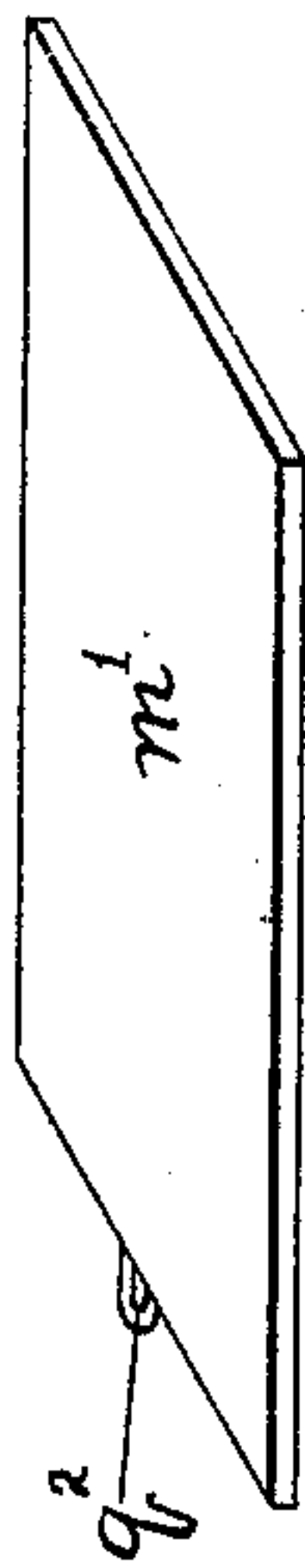


Fig. 3.

Fig. 2.



Witnesses.
H. F. Meyer, Jr.
F. S. Stitt.

Inventor.
Christopher B. West
By Chas. B. Mann
Attorney.

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Fig. 5.

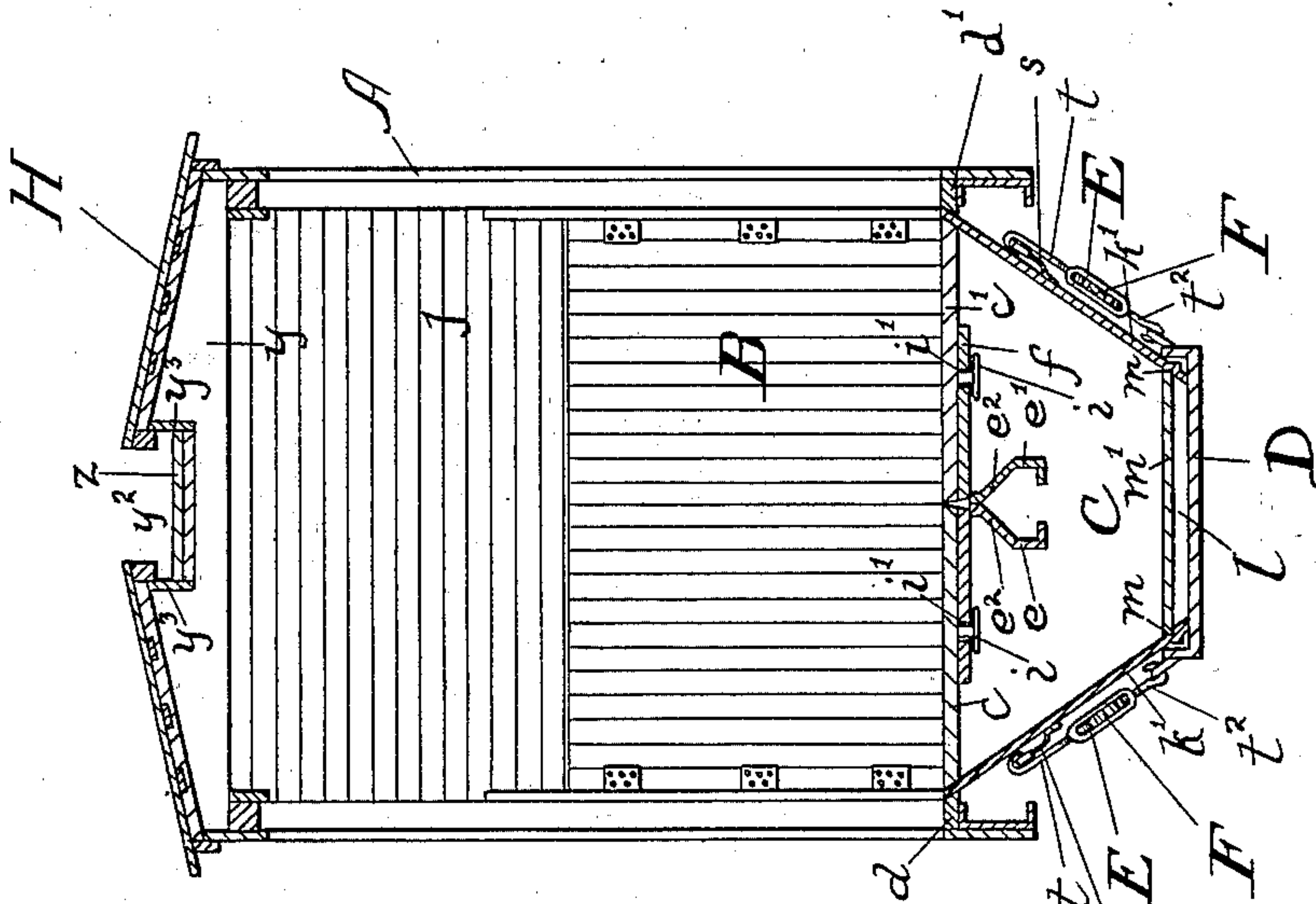
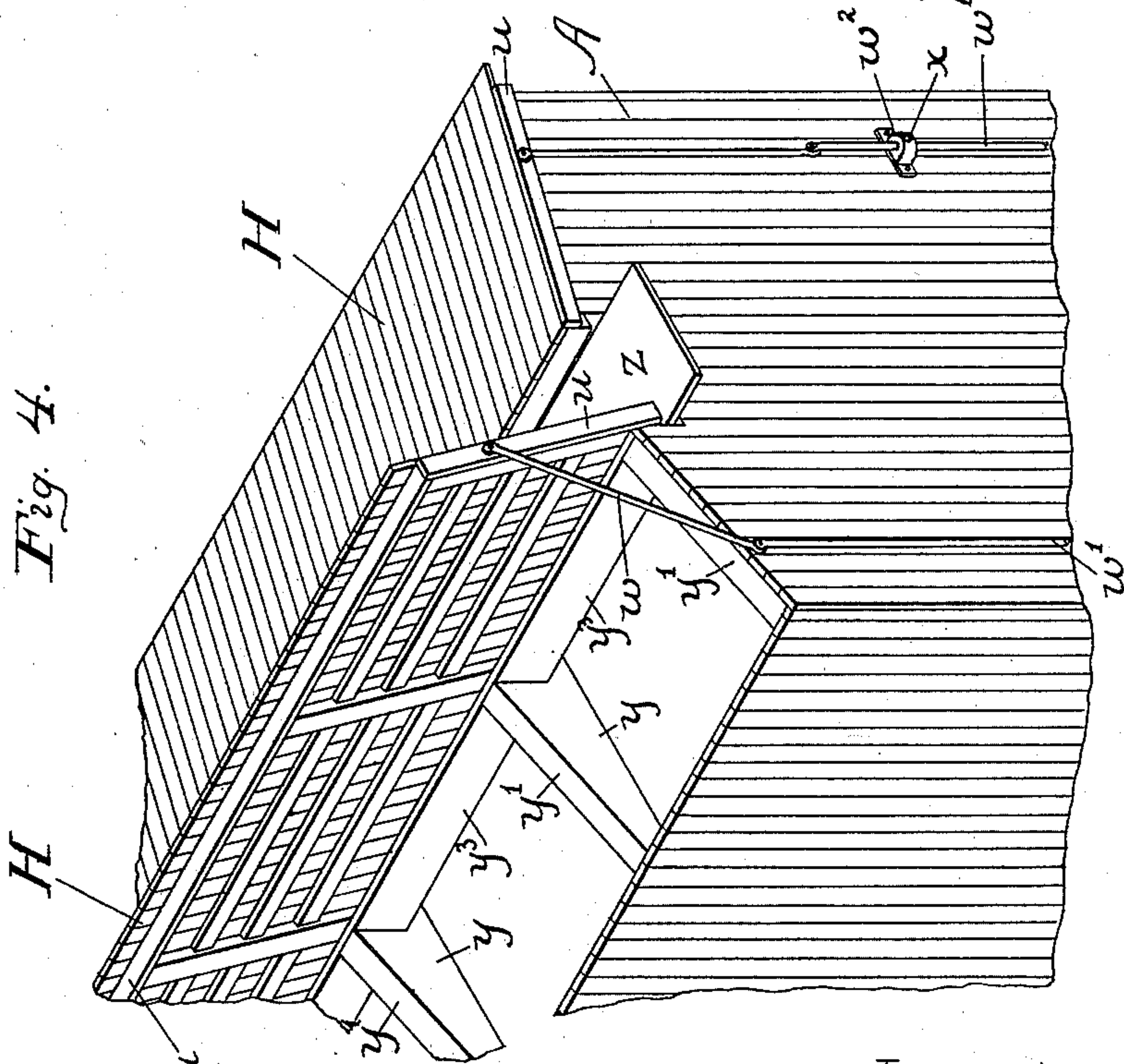


Fig. 4.



Witnesses.
H. J. Meyer, Jr.
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Inventor.
Christopher B. West
By Chas B. Mann
Attorney.

UNITED STATES PATENT OFFICE.

CHRISTOPHER B. WEST, OF BALTIMORE, MARYLAND, ASSIGNOR OF ONE-THIRD TO ARTHUR H. BLACKBURN, OF SAME PLACE.

RAILWAY FREIGHT-CAR.

SPECIFICATION forming part of Letters Patent No. 656,591, dated August 21, 1900.

Application filed June 25, 1900. Serial No. 21,403. (No model.)

To all whom it may concern:

Be it known that I, CHRISTOPHER B. WEST, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Railway Freight-Cars, of which the following is a specification.

My invention relates to railway freight-cars; and one of its objects is to provide a railway-car which can be readily converted from a car of the ordinary "box" type, for the transportation of what is known as "coarse" freight, into a car of the "hopper" type, especially adapted for the transportation of coal, grain, or similar fine freight and also adapted for the quick and easy unloading or discharge of such fine freight.

A further object of the invention is to provide means whereby sections of the floor of the car will cover the hopper-bottom thereof in one position and serve as grain-doors for the side of the car in another position.

A further object of the invention is to provide improved means for sealing the discharge-opening in the hopper-bottom of the car whereby to effectually prevent grain from sifting out; and a further object of the invention is to provide an improved construction of the roof of a box-car which will facilitate loading the car with grain or the like to its full capacity.

With these and other objects in view the invention consists in certain constructions, arrangements, and combinations of the parts, which I shall hereinafter fully describe and claim.

Reference is to be had to the accompanying drawings, in which—

Figure 1 is a longitudinal vertical section of my improved freight-car, the hopper-bottom being shown in side elevation and its discharge-opening sealed. Fig. 2 is a detail view of a slide for closing the discharge-opening of the hopper-bottom. Fig. 3 is a detail view in perspective of the sealing-tray for said discharge-opening. Fig. 4 is a perspective view of one end of the car-body with one section of the roof in raised or open position and an opposite section in lowered or closed

position. Fig. 5 is a vertical cross-section of the car-body on the line 5 5 of Fig. 1.

The body A of the car, as to shape and size, is of the ordinary box type and is provided with a permanent horizontal floor *a*. At each end and at the center of the car and on both sides of the side door-openings *b* there is no floor, as shown in Fig. 1. This center open-floor portion *a'* is covered and a complete horizontal floor established from one end of the car to the other, when the car is used to transport coarse freight, by means of two hinged sections *c* and *c'*, hinged to the longitudinal side sills *d* and *d'*. When the two sections are in the horizontal position, the free edges of said sections abut against each other, as shown in Fig. 5, and rest upon the middle sills *e* and *e'*. The said middle sills are composed of pressed angle-steel, and at the center opening of the floor the upper portions of the two sills are inclined upwardly toward each other, as shown at *e*², so that grain, lumps of coal, or other similar freight will not lie upon said sills when the load is discharged, but will pass down into the hopper-bottom C. When the car is to be used for fine freight—such as grain, coal, or the like—the said two hinged sections *c* and *c'* are swung upward into a vertical position at the side walls of the car, as shown in Fig. 1, and thus serve as the lower parts of the side doors of the car. To form the remaining portions of the side doors, I have provided a door-flap *f*, which is hinged to the free edge of each door-section *c* or *c'*. These door-flaps are of a width equal to the side door-openings *b* and are of such height that a ventilating-space *g* at the top is left between them and the roof of the car. One or more gravity-latches *h*, pivoted to the side wall of the car, take over the edge of each door-flap when it is in the raised position, and thus hold both flaps and its respective hinged section in vertical position. Said door-flaps *f* are swung or folded against the said hinged sections when the latter are down in horizontal position and are secured in this position by turn-buttons *i*, attached to the sections and taking through slots *i'* on the door-flaps, as shown in Fig. 5.

B designates two hinged inclines at each end of the car and extending from the end walls j , where the inclines are highest, to the center open portion of the floor. These inclines B are hinged to the side walls and are swung up against the sides of the car and held by gravity-latches j' when the car is used as an ordinary box-car, and they are swung down, so that their free edges abut, when the car is to be used as a hopper-car for fine freight.

Secured to the sills of the car-body A, underneath the center opening of the floor, is a hopper-bottom C, whose inclined ends k form a continuation of the hinged inclines B when the latter are swung down and whose inclined sides k' converge, thus forming a contracted discharge-opening l . The sides k' of the hopper-bottom are provided at their lower ends with interior grooves m , in which is fitted a slide m' , which is designed to close said discharge-opening. When the car is full of grain, for instance, the greatest weight is sustained at the contracted discharge-opening l upon the slide m' , and in order to withdraw said slide to enable the load to be discharged by gravity I have provided a shaft n , having a handle n' and journaled in a hanger o , secured underneath the car-body A. A drum p is mounted on said shaft and a rope q winds on said drum and has a hook q' on one end, which engages with an eye q^2 on the slide m' . When the chain is not in use, its hook q' is hung on an eye r on the hopper-bottom C. Secured along each longitudinal side of the hopper-bottom C is a rail s , on which roller-hangers t are adapted to run. These hangers have screw-threaded ends.

A sealing-tray D, provided with four upwardly-extending sides t' , has four upwardly-extending screw-threaded arms t^2 , attached to two opposite sides of said sealing-tray and connected by turnbuckles E to the roller-hangers t .

After the slide m' is pushed in to close the discharge-opening l of the hopper C and the car is loaded with grain, the turnbuckles E are manipulated to lower the sealing-tray D, and the latter, by means of the roller-hangers, is moved along the rails until it comes immediately underneath the slide. The said turnbuckles are then turned to raise the sealing-tray up tightly against the hopper-bottom to prevent any grain which might sift past the slide from being lost. After the tray is in the position just described, a rod F is inserted through the turnbuckles E. Said rod is provided with an aperture f' , through which a staple f^2 projects, and a seal is then inserted through the staple to deter unauthorized persons from opening the bottom.

The cross-beams y of the roof are formed with oppositely-inclined upper edges y' and middle recesses or depressions y^2 . Longitu-

dinally-extending boards y^3 are placed vertically at each side of the recesses y^2 and are connected to the cross-beams, and the running-board z is placed in the bottom of the said recesses and is also connected to said cross-beams. Said running-board, instead of being raised above the roof, is in my improved construction of car depressed, as shown in Figs. 4 and 5.

The roof of my improved car is made in several sections H, (in this instance four,) each of which extends one-half the length of the car and is hinged near the middle of the same. Downwardly-extending side and end flanges u are secured to said roof-sections H and fit down over the top frames of the car when said sections are lowered. To the outer end and to the side of each roof-section is pivoted one end of a link w . The other and lower end of said link is pivoted to a push-rod w' , slidable vertically through two or more sleeves w^2 on the car-body, and a set-screw x in one sleeve impinges against said rod to hold the latter and the roof-sections H raised when desired. By my improved construction of roof the car may be run under an elevator-spout and filled with grain through the roof to its full capacity.

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

1. In a railway freight-car provided with a hopper-bottom, the combination of a slide for closing the discharge-opening of said hopper-bottom; and a sealing-tray for covering said discharge-opening, as set forth.

2. A railway freight-car, provided with a hopper-bottom and a horizontal floor on each side of said hopper-bottom; two floor-sections hinged to the side of the car to swing in a vertical plane; and a flap hinged to the free edge of each hinged floor-section, as set forth.

3. A railway freight-car, provided with a hopper-bottom and a horizontal floor on each side of said bottom; inclines hinged along the sides of the car and adapted to form continuations of the ends of the said hopper-bottom; two floor-sections hinged along the sides of the car over said hopper-bottom; a door-flap hinged to the free edge of each hinged floor-section; latches adapted to hold said flaps and floor-sections in vertical position; and means for holding said door-flaps folded underneath said floor-sections, as set forth.

4. A railway freight-car provided with a hopper-bottom; a slide adapted to close the discharge-opening of said hopper-bottom; rails along the sides of said hopper-bottom; a sealing-tray supported by and movable along said rails; and means for raising and lowering said tray, as and for the purpose set forth.

5. A railway freight-car, provided with a hopper-bottom; means for closing the discharge-opening of said hopper-bottom; rails along the sides of said hopper-bottom; roller-

hangers mounted on said rails and having screw-threaded lower ends; a sealing-tray provided with upwardly-extending screw-threaded arms; and turnbuckles connecting
5 said arms with said hangers, as set forth.

6. A railway freight-car, provided with a hopper-bottom; means for closing the discharge-opening of said bottom; rails along the sides of said bottom; roller-hangers
10 mounted on said rails; a sealing-tray; turn-

buckles adjustably connecting said tray and hangers; and a rod adapted to be inserted through said turnbuckles and sealed, as set forth.

In testimony whereof I affix my signature 15
in the presence of two witnesses.

CHRISTOPHER B. WEST.

Witnesses:

CHARLES L. VIETSCH,
F. S. STITT.