

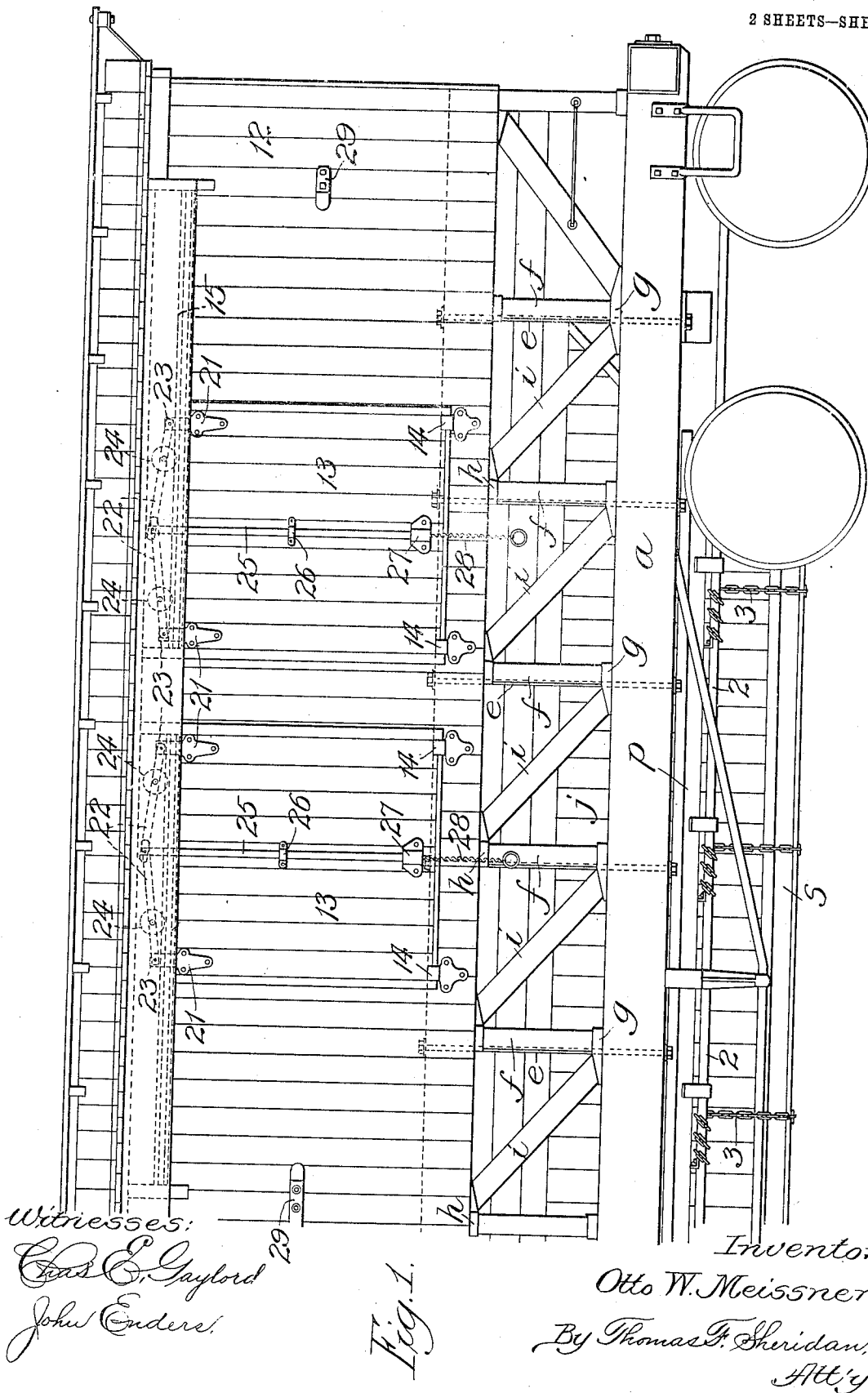
No. 812,145.

PATENTED FEB. 6, 1906.

O. W. MEISSNER.
FREIGHT CAR.

APPLICATION FILED MAR. 27, 1905.

2 SHEETS—SHEET 1.



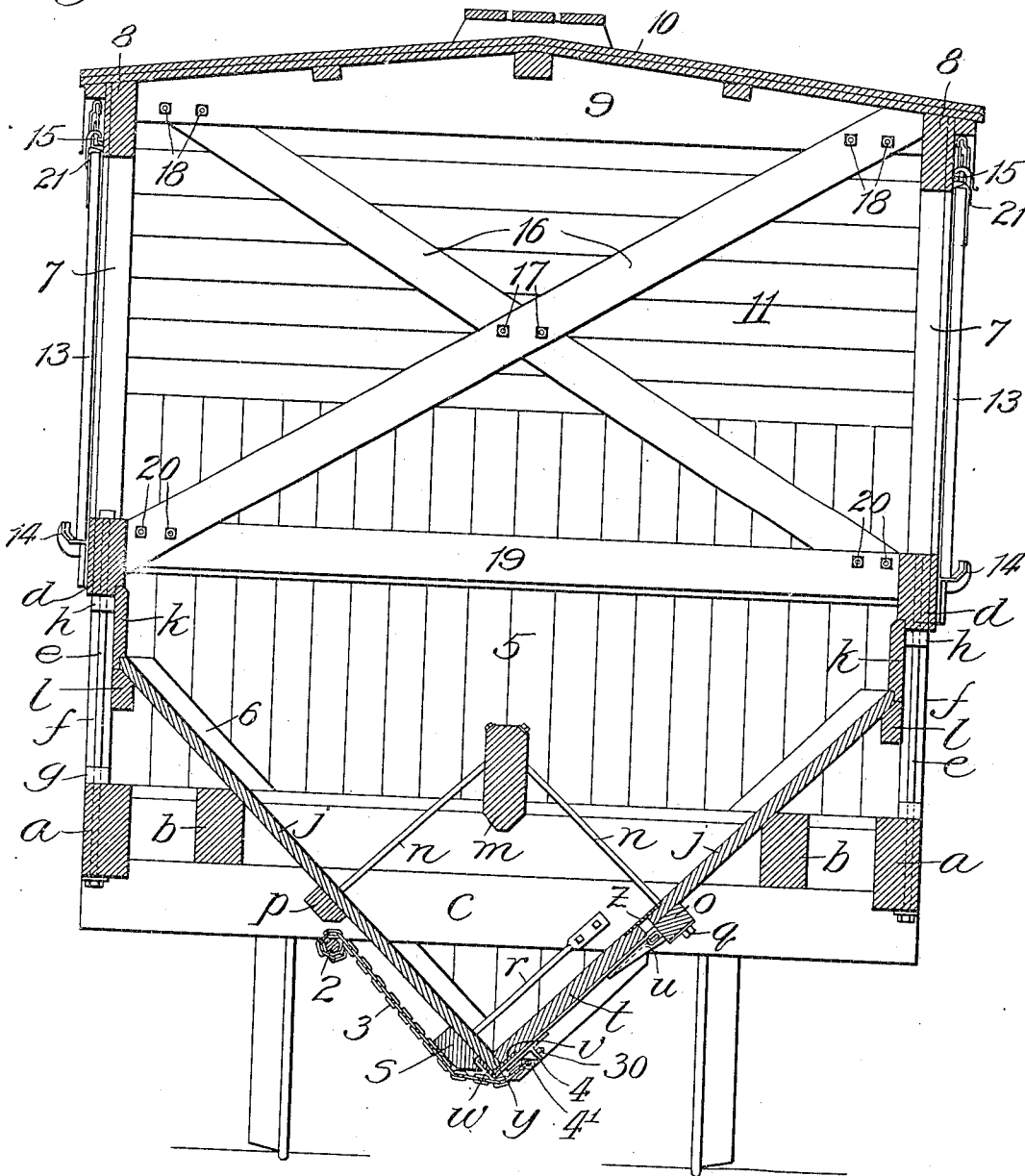
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2 SHEETS—SHEET 2.

Fig. 2.



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UNITED STATES PATENT OFFICE.

OTTO W. MEISSNER, OF CHICAGO, ILLINOIS, ASSIGNOR TO RODGER BALLAST CAR COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

FREIGHT-CAR.

No. 812,145.

Specification of Letters Patent.

Patented Feb. 6, 1906.

Application filed March 27, 1905. Serial No. 252,374.

To all whom it may concern:

Be it known that I, OTTO W. MEISSNER, 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 Freight-Cars, of which the following is a specification.

My invention relates to that class of freight-cars having side trusses and provided with side doors above the top plates of such trusses, and particularly to freight-cars having a hopper-bottom portion and provided with side trusses and side doors arranged above the top plates of such trusses and between them and the roof-plates.

The principal object of my invention is to provide a simple, economical, and efficient freight-car.

A further object is to provide a covered car having a hopper-bottom with trussed side frames and doors arranged between the roof-plate and the top plates of the side trusses, whereby the contents of the car may be sheltered and securely inclosed and readily loaded and dumped.

A further object is to provide a covered hopper-bottom car having trussed side frames, and side doors above the trusses for receiving the load, with dumping-door mechanism provided with means for forming a tight joint between the swinging edge of the door mechanism and the hopper, whereby material, such as phosphate, may be carried in a sheltered condition and prevented from leaking through crevices such as are present in ordinary dumping mechanisms.

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

The invention consists in the features, combinations, and details of construction herein-after described and claimed.

In the accompanying drawings, Figure 1 is a side elevation of half of a car constructed in accordance with my improvements, and Fig. 2 a transverse sectional elevation of the same.

In constructing a car in accordance with my improvements I provide a supporting-framework comprising longitudinal side sills *a*, intermediate sills *b*, and transverse tie-beams or needle-beams *c*, extending from side sill to side sill.

The longitudinal side sills *a* form the bot-

tom plates of side trusses, which extend longitudinally of the car from end to end thereof, forming the lower portions of the side frames. These side trusses are each provided with top truss-plates *d*, connected with the bottom truss-plates or side sills by means of a multiplicity of upright tie-rods *e* and upright posts *f*, arranged at suitable intervals. The ends of these uprights or posts are mounted in lower metallic sockets *g*, which are secured to the longitudinal sills, and their upper ends are mounted in upper metallic socket portions *h*, which are secured to the under side of the top plates. Incline braces *i* have their lower ends mounted in the sockets *g* and their upper ends in the sockets *h*, all forming side trusses of the desired strength and rigidity to support the stresses and strains to which they are subjected in use. The braces *i*, except those at the extreme ends of the trusses, all extend upward at an incline toward the longitudinal center of the trusses and car substantially in the direction of the stresses to which they are subjected in use.

A hopper-bottom is provided formed of inclined end portions *5* and inclined hopper side portions *j*, which extend downward at an incline and toward the center of the car from the inner sides of the trusses and between the intermediate longitudinal sills. Suitable lining portions *k*, notched at their lower edges, are mounted inside the trusses and between them and the upper edges of the hopper sides. They extend to the top plates of the trusses and provide a flush joint between such lining portions and the upper edges of the hopper, so as to prevent any portion of the contents of the car from lodging at such point of connection.

Suitable nailing-strips *l* are secured beneath the upper edges of the hopper and to the side trusses, forming, with the lining portions above described, a suitable connection between such parts. To form an additional support for the hopper sides and increase the rigidity of the car, a longitudinal center sill *m* is mounted centrally of the car, so as to extend from end to end thereof, and stay-rods *n* are mounted thereon at suitable intervals, so as to extend outward and downward transversely of the car, their lower ends extending through strips *o* and *p* and being secured to the hopper sides by means of such

strips and nuts *q* or in any ordinary and well-known manner. Stay-rods *r* are also secured at their upper ends to the transverse or needle beams *c* and at their lower ends to strips *s* and to the hopper side.

One or more dumping-doors *t* are hinged to one of the hopper sides by means of hinges *u* in any ordinary and well-known manner, each of such doors being provided at its lower edge with an angle-iron *v*, one side, *w*, of which extends upward at right angles to the side surface of the door, so as to engage the outer surface of the adjacent hopper side and form a pocket for receiving the lower edge *y* of such hopper side when the hopper-door is in closed position. By this arrangement the side *w* of the angle-iron engages the outer surface of the hopper portion *y*, which fits snugly between the angle-iron and the lower edge of the door, and the edge of the door proper engages the inner side surface of such hopper-side portion, forming a very tight joint between such parts.

A strip *z* extends along the upper edge of the door, forming a tight joint at the hinged side thereof, and suitable means for operating the door is provided in the form of winding-shaft mechanism 2 and chains 3, each secured at one end to the shaft and at the other end adjustably to the door by means of a suitable bracket 4, in which an eyebolt 4' is adjustably mounted. The chain may thus be adjusted by turning the nut 30 in the desired direction.

Inclined hopper ends 5 extend from each end of the car downward at an incline over the trucks and to the central apex of the hopper, being provided with suitable furring-strips at their points of connection with the hopper sides. End sills, which may be of any ordinary and well-known type, are of course provided and extend from side sill to side sill at the ends thereof.

In order to provide suitable means for sheltering the contents of the car and for permitting the material to be readily loaded, end frames or walls 11 extend above the hopper ends to the roof, and side-frame portions, comprising posts or uprights 7 and side-wall portions 12, are provided extending above the top plates of the side trusses and having roof-plates 8, supporting carlines 9 and the roof 10, such side walls being provided with sliding doors 13, mounted in guides 14 and supported upon tracks 15, so as to permit the material to be loaded into the car at the sides and above the side trusses and efficiently sheltered.

In order to provide additional rigidity to the car-frames, one or more upright transverse frames are provided, comprising inclined braces 16, secured together centrally by means of bolts 17, and secured at their upper ends to the carlines by means of bolts 18, and secured at their lower ends to the top

plates of the side trusses and to transverse beams 19 by means of bolts 20.

The side doors are, as already suggested, slidably mounted upon tracks 15, and while they may be mounted in any ordinary and well-known manner they are here shown supported in operative position by means of hangers having brackets 21, to which levers 22 are pivotally secured by means of pivots 23, such levers being provided with hanger-wheels 24 and being attached at their swinging ends to an operating-rod 25, mounted in guides 26 and 27 and operated by means of a chain 28. The downward movement of the operating-rod 25 causes the weight of the door to rest upon the hanger-wheels and the movement of such operating-rod upward transfers the weight from the hanger-wheels to the brackets. The manner of mounting the doors, however, is well known in the art and in itself forms no part of this invention. The movement of the doors in the direction of their open position is limited by stops 29.

By the above arrangement it will be seen that a car is provided adapted to retain and shelter material, such as phosphate or any other material adapted to be dumped, and to dump such material, the side trusses and side doors above such trusses enabling the material to be loaded and sheltered, and providing the necessary rigidity and strength for supporting the load, such rigidity and strength being increased by the arrangement of the hopper and its connections with the central longitudinal sill, all forming an efficient covered and inclosed hopper dumping-car.

I claim—

1. In a freight-car, the combination of side trusses extending longitudinally of the car and forming portions of side frames which extend above such trusses, end frames, side doors mounted above such trusses in the side frames, a hopper-bottom mounted between such side trusses, and dumping-door mechanism for dumping the load from such hopper.

2. In a freight-car, the combination of side trusses extending longitudinally of the car, side frames extending above and having their lower portions formed by such trusses, end frames, a roof supported by such side and end frames, doors mounted in the side frames between the top of the trusses and the roof, and a hopper mounted between such trusses and end frames and provided with dumping-door mechanism for dumping the load from such hopper.

3. In a freight-car, the combination of side trusses extending longitudinally of the car and forming portions of side frames which extend above such trusses, side doors mounted above such trusses in the side frames, a hopper-bottom mounted between the side trusses and provided with dumping-door mechanism, and transverse frame mechanism ex-

tending across the car and secured to the upper members of the side trusses and the upper portion of the side frames.

4. In a freight-car, the combination of side trusses extending longitudinally of the car and forming portions of side frames which extend above such trusses, end frames, doors mounted in the side frames above the side trusses, a hopper-bottom mounted between the side trusses and provided with dumping-door mechanism, a central longitudinal sill mounted between the side portions of the hopper, and stay-rod mechanism mounted upon such longitudinal sill and secured to the hopper sides.

5. In a freight-car, the combination of side trusses extending longitudinally of the car, side frames extending above and having their lower portions formed by such trusses, end frames, a roof supported by such side and end frames, doors mounted in the side frames between the top of the trusses and the roof, a hopper mounted between such trusses and end frames and provided with dumping-door mechanism for dumping the load from such hopper, and transverse frame mechanism extending transversely across the car and secured to the top plates of the side trusses and the upper portion of the side frames.

6. In a freight-car, the combination of side trusses extending longitudinally of the car and forming portions of side frames which extend above such trusses, end frames, side doors mounted above such trusses in the side frames, a hopper-bottom mounted between such side trusses, dumping-door mechanism

for dumping the load from such hopper, and lining portions secured to the inner side of such side trusses and extending above the upper edges of the hopper flush with the inner surfaces of the hopper sides.

7. In a freight-car, the combination of side trusses extending longitudinally of the car, side frames extending above and having their lower portions formed by such trusses, end frames, side doors mounted above the side trusses in the side frames, a hopper-bottom having inclined side portions extending downward between the side trusses toward the center of the car, and a dumping-door mounted upon such hopper and provided with a slot at its lower edge for receiving the lower edge of the opposite inclined side hopper portion.

8. In a freight-car, the combination of side trusses extending longitudinally of the car, side frames extending above and having their lower portions formed by such trusses, end frames, side doors mounted above the side trusses in the side frames, a hopper-bottom having inclined side portions extending downward between the side trusses toward the center of the car, a dumping-door for such hopper provided with an angle-iron mounted upon its lower edge movable into and out of engagement with the lower outer surface portion of the opposite inclined hopper side, and means for operating such dumping-door.

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