

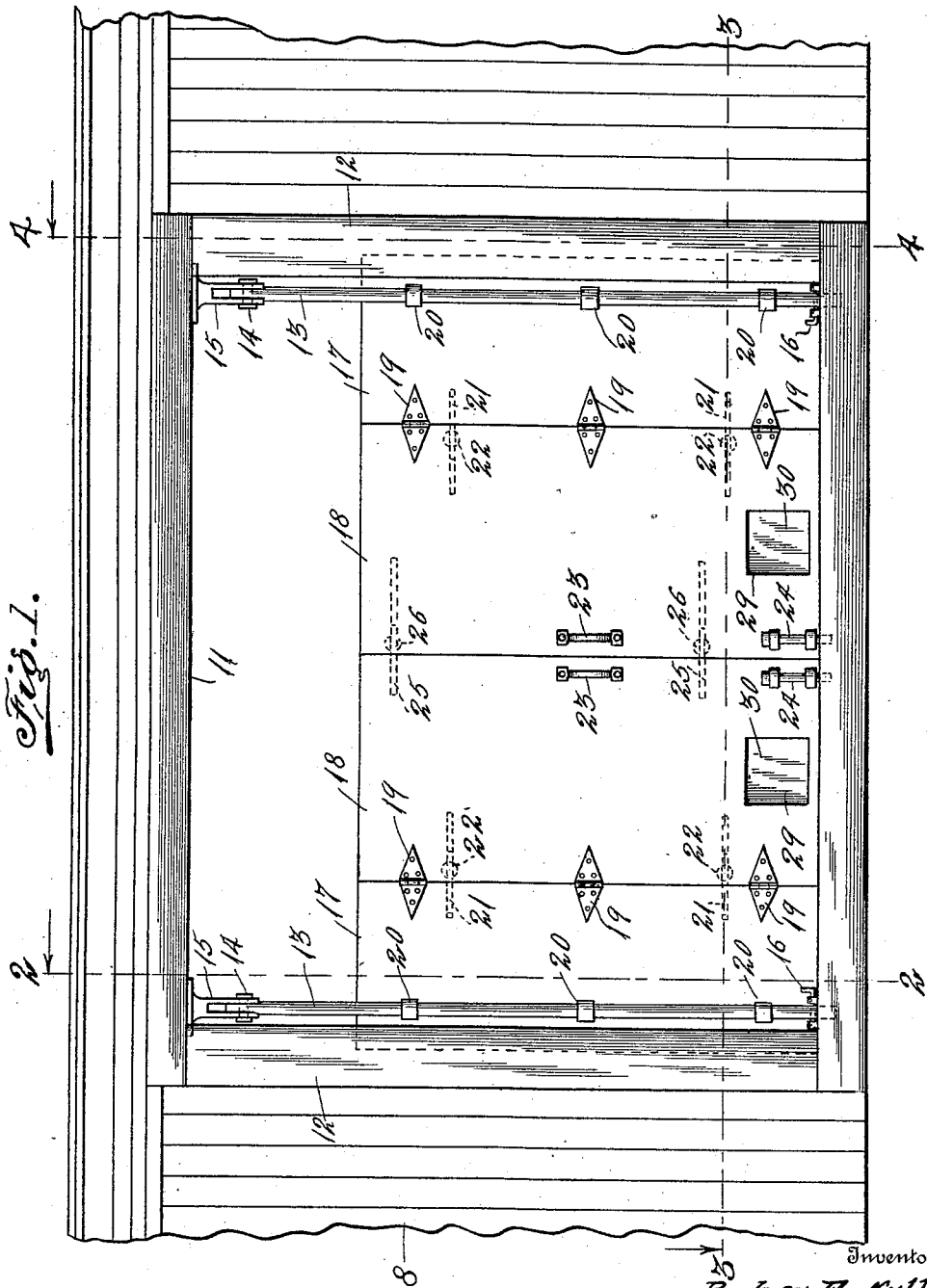
R. E. NULL.
GRAIN CAR DOOR.

APPLICATION FILED JAN. 25, 1909.

999,583.

Patented Aug. 1, 1911.

3 SHEETS-SHEET 1.



Witnesses
Jos Gregory
H. O. Sanders

Inventor
Rodney E. Null.

By

Charles Chandler

Attorneys

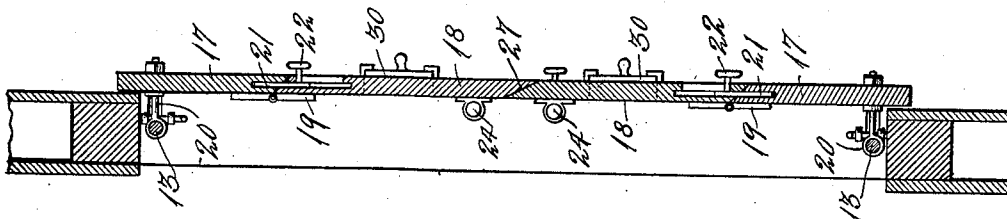


Fig. 5.

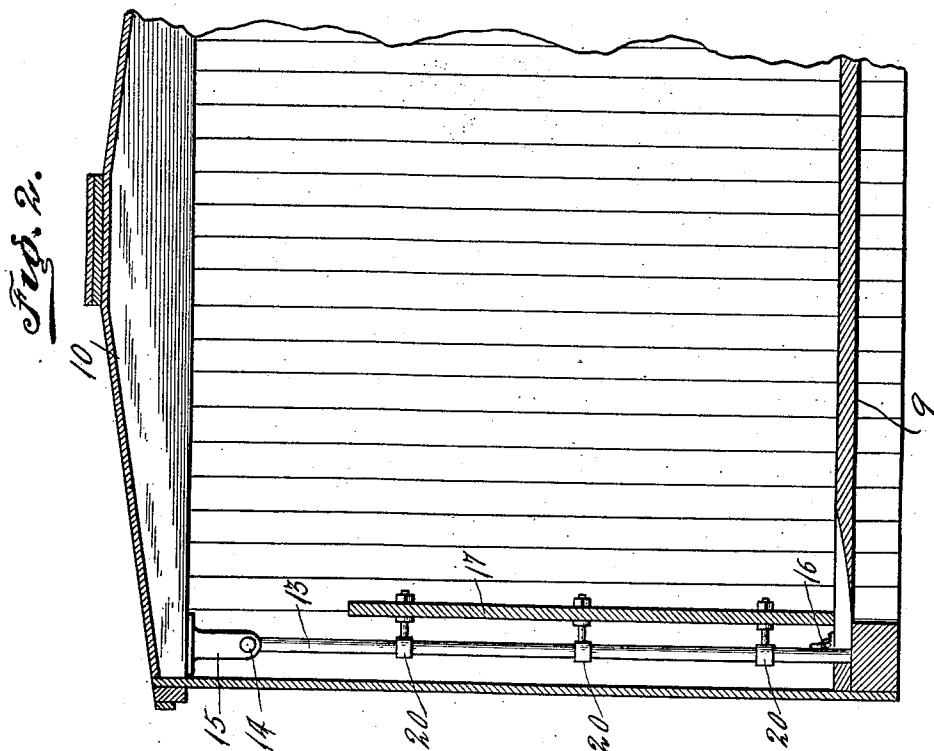


Fig. 2.

Inventor
Rodney E. Null.

Witnesses
Jos Gregory
H. O. Baden.

By *Charles C. Canale*

Attorney

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3 SHEETS-SHEET 3.

Fig. 5.

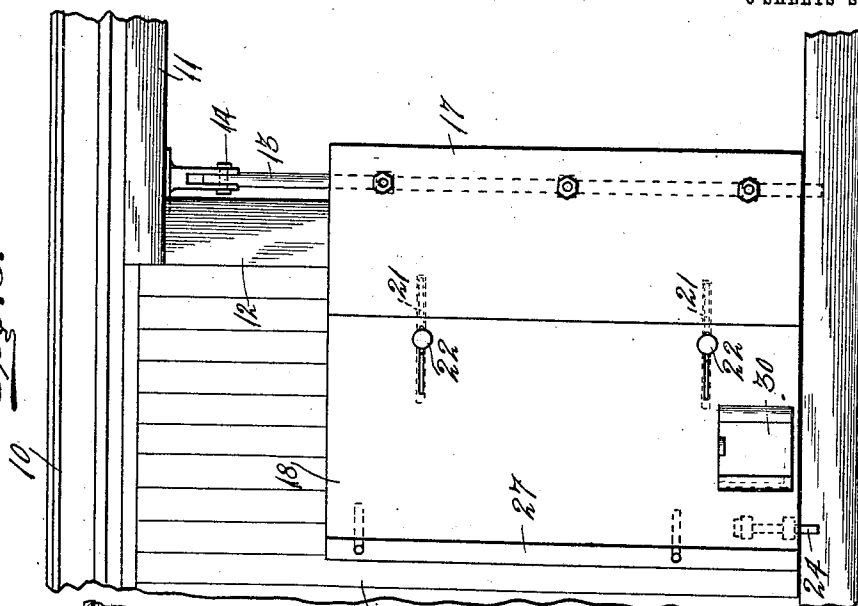
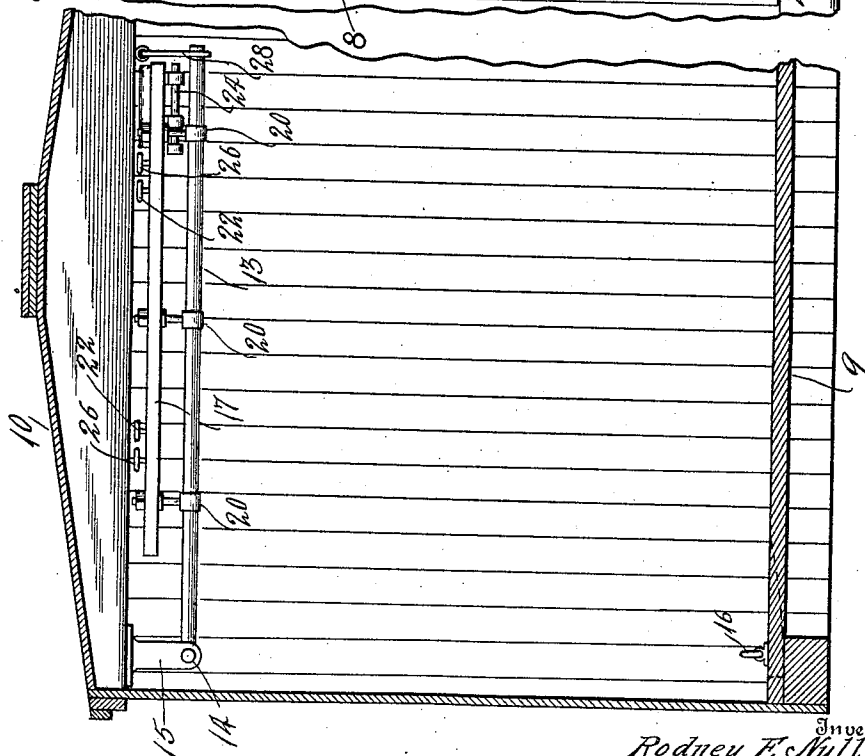


Fig. 4.



Inventor
Rodney E. Null.

Witnesses

Joe Gregory
T. O. Sanders

By

Hamilton Condit

Attorneys

UNITED STATES PATENT OFFICE.

RODNEY E. NULL, OF SAYBROOK, ILLINOIS.

GRAIN-CAR DOOR.

999,583.

Specification of Letters Patent.

Patented Aug. 1, 1911.

Application filed January 25, 1909. Serial No. 474,072.

To all whom it may concern:

Be it known that I, RODNEY E. NULL, a citizen of the United States, residing at Saybrook, in the county of McLean, State of Illinois, have invented certain new and useful Improvements in Grain-Car Doors; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to car doors and more particularly to the class of doors for grain cars.

The primary object of the invention is the provision of a grain car door in which the same is formed of a plurality of sections adapted to be opened outwardly of a car and are capable of being shifted vertically when in a closed position.

Another object of the invention is the provision of a grain car door which is simple in construction, durable in use, efficient in operation and inexpensive in the manufacture.

In the drawings accompanying and forming part of this specification is illustrated the preferred form of embodiment of the invention which, to enable those skilled in the art to practice the invention, will be set forth at length in the following description, while the novelty of the invention will be included in the claims succeeding the description. It is to be understood however, that changes, variations and modifications may be made such as come properly within the scope of the claims hereunto appended without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings: Figure 1 is a fragmentary side elevation of a car with the grain car door shown in a closed position. Fig. 2 is a vertical sectional view on the line 2—2 of Fig. 1. Fig. 3 is a horizontal sectional view on the line 3—3 of Fig. 1. Fig. 4 is a vertical sectional view on the line 4—4 of Fig. 1 looking in the direction of the arrow with the car door swung to the roof of the car, when not in use. Fig. 5 is a side elevation of a portion of the car with the grain door swung in an open position.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

In the drawings, the numeral 8 designates

generally one side wall of a grain car, 9 the floor or bottom and 10 the top or roof thereof and which car is of the usual or ordinary construction, the same being provided with the usual door frame designated generally by the numeral 11 with vertical posts 12 and in proximity to the latter are arranged vertical guide rods 13 which latter have their upper ends pivotally connected as at 14 to depending brackets or hangers 15 suitably secured at the top of the door frame so as to permit the said rods to be swung from a vertical to a horizontal position and the said rods when in a vertical position have their lower ends engaged or locked by catch devices 16 to maintain the rods against displacement when in this position.

Connected to the guide rods 13 are grain doors each comprising sections 17 and 18 which are connected together by hinges 19 to permit the section 18 to be swung outwardly when the occasion demands. Connecting the grain doors to the guide rods 13 are eye bolts 20 the same secured to the sections 17 in any suitable manner and having their eyes encircling the said guide rods 13 so that the grain doors can be vertically shifted upon the said guide rods toward the roof of the car.

In the meeting edges of the sections 17 and 18 are suitably formed registering sockets in which are mounted slidable locking bolts 21 having a finger lug or piece 22 to permit the locking bolts to be manipulated so as to be swung across the meeting edges of the sections to prevent the section 18 from being swung outwardly with respect to the section 17 of the door.

Secured to the sections 18 of the doors are handles 23 which latter are in the form of loop members and project outwardly from the outer faces of said sections so the same may be swung to an open position outwardly of the car against the outside face of the side wall 8 thereof.

Suitably mounted in the sections 18 of the doors at their lower edges are locking bolts 24 which latter are adapted to be moved into engagement with suitable sockets formed in the flooring or bottom of the car so as to lock the sections 18 against outward movement and to maintain the doors in a closed position.

Suitably formed in the meeting edges of the sections 18 when in a closed position are

registering recesses accommodating sliding bolts 25 which latter are formed with finger lugs or pieces 26 to permit the same to lock the sections together against movement so as to prevent the bulging of the sections 18 with respect to each other due to the heavy weight of the grain against the car doors when in closed position. The meeting edges of the sections 17 and 18 are beveled as at 27 so as to form an overlapped joint when the doors have been swung to closed position.

Depending from and pivoted to the roof 10 of the car are catches 28 which latter are adapted to engage the free ends of the guide rods 13 when swung from a vertical to a horizontal position so as to hold the grain doors adjacent the roof of the car when not in use and after the car has been emptied of its load.

In the sections 18 are suitably formed openings 29 which are located in the lowermost portion of said sections and are adapted to be normally closed by slides 30 and upon shifting the said slides in one direction, grain will be permitted to flow through the openings 29 so as to relieve pressure against the grain doors whereby the same can be shifted vertically on the guide rods toward the roof of the car at the will of the operator.

What is claimed is—

1. In a door for grain cars, the combination with a car body and a frame surrounding a door opening therein; of hangers suspended from the top of the frame at each end thereof, guide rods pivotally suspended at their upper ends from the hangers and movable in recesses in the bottom of the frame, said rods being limited from outward movement by the end walls of the recesses and adapted to be swung inwardly to a horizontal position transversely of the car upon their pivots, inner and outer door sections hinged together upon their outer faces, the outer door sections being pivotally and slidably engaged with the guide rods and having their outer edges overlapping the sides of

the door frame upon the inner side of the car, the inner door sections being outwardly movable upon their hinges and the outer sections being similarly movable upon the rods to place the outer sections upon a common direction with the longitudinal extent of the car and the inner sections in a similar direction, sliding bolts mounted upon the bottom of the car frame to engage across the recesses inwardly of the rods to hold the same at their outward limit, means engaging in the coacting edges of the door sections to hold the same against independent movement and means carried by the inner edges of the inner sections to engage the frame and prevent movement of the doors horizontally upon the rods, said rods being capable of being supported in a raised position inwardly of the car.

2. In a device of the class described, the combination with a car having a door frame and guide rods pivotally connected at their upper ends of the frame adjacent each end of the doorway; of means for limiting the outward movement of the rods in the bottom of the frame, means for holding the same in such position at their lower ends, doors carried by each rod, each door comprising two sections hinged upon their outer sides for horizontal swinging movement relative to each other, eye bolts connected with the outer sections and engaged with the rods to permit horizontal swinging and vertical sliding movement thereof upon the rods, sliding bolts confined in coacting recesses in the abutting edges of the sections and provided with finger pieces movable in slots in certain of the sections outwardly thereof to hold the same from movement relative to each other and means for anchoring the inner sections to the frame.

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

RODNEY E. NULL.

Witnesses:

T. O. HENDERSON,
FERN OWEN.