

No. 647,440.

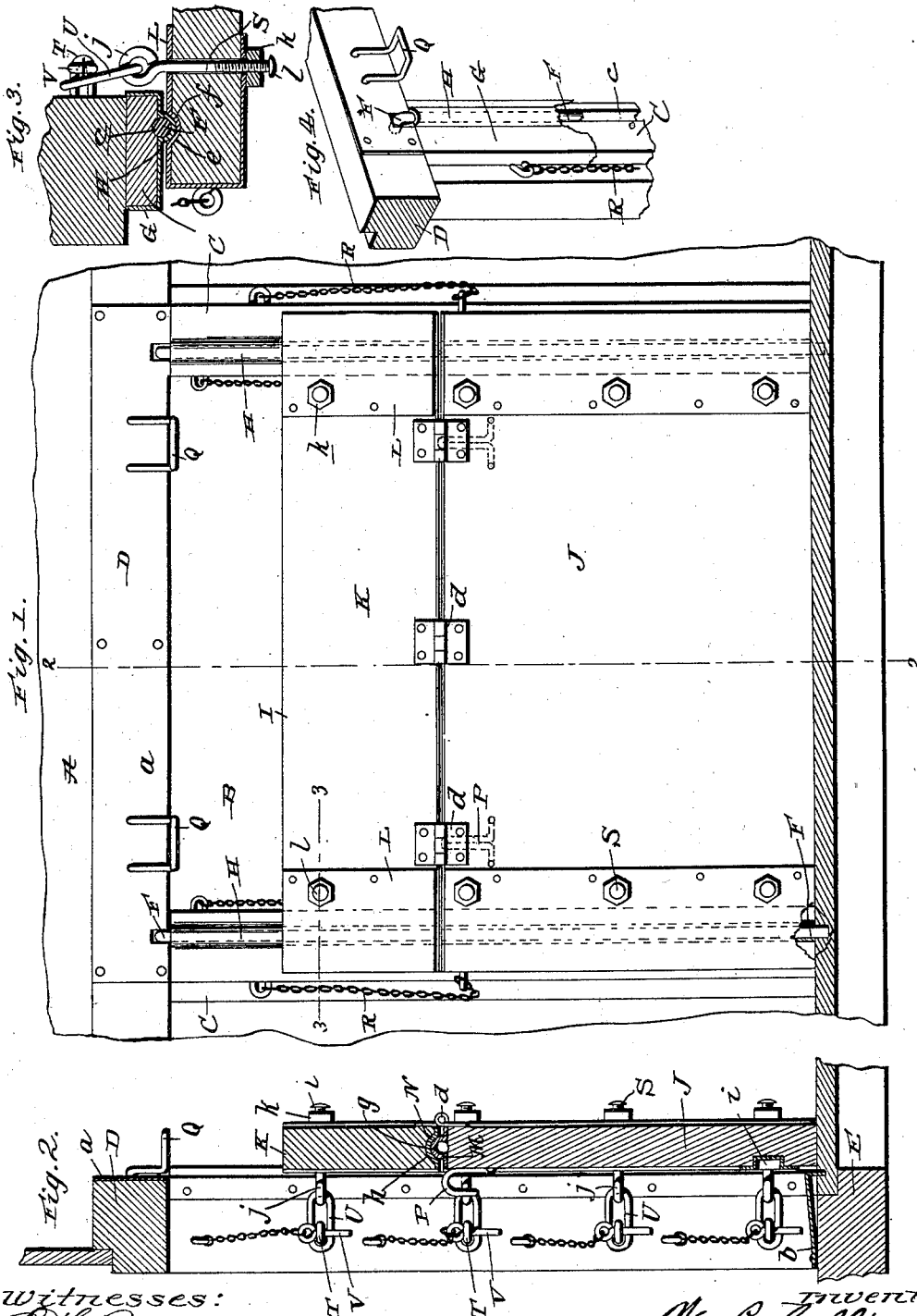
W. L. CALLISON.

Patented Apr. 10, 1900.

GRAIN CAR.

(Application filed Jan. 13, 1900.)

(No Model.)



Witnesses:  
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# UNITED STATES PATENT OFFICE.

WILLIAM L. CALLISON, OF HERON LAKE, MINNESOTA, ASSIGNOR OF ONE-HALF TO JOHN W. RODGERS, OF SAME PLACE.

## GRAIN-CAR.

SPECIFICATION forming part of Letters Patent No. 647,440, dated April 10, 1900.

Application filed January 13, 1900. Serial No. 1,406. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM L. CALLISON, a citizen of the United States, residing at Heron Lake, in the county of Jackson and State of Minnesota, have invented new and useful Improvements in Grain-Cars, of which the following is a specification.

My invention relates to grain-cars, and more particularly to the inner or grain doors thereof.

It has for one of its objects to provide a grain-door and complementary door-posts so constructed that when the door is closed leakage of grain or other substance between the same and the door-posts is precluded.

Another object is to provide a door which is formed in sections to facilitate handling thereof and has the contiguous edges of the sections so constructed as to preclude leakage of grain or other substance between the same when the door is closed.

Another object is to provide means whereby the door may be expeditiously and tightly secured in its closed position.

Another object is to provide a door and complementary door-posts constructed with a view of effectually preventing nailing of the former to the latter and the injury incident thereto.

Other objects and advantages of the invention will be gathered from the following description and claims when taken in conjunction with the accompanying drawings, in which—

Figure 1 is an elevation of the inner side of the side wall of a car equipped with my improvements. Fig. 2 is a vertical transverse section taken in the plane indicated by the broken line 2 2 of Fig. 1. Fig. 3 is a detail horizontal section taken on broken line 3 3 of Fig. 1. Fig. 4 is a detail perspective view illustrating a portion of the door-frame and certain appurtenances thereof.

Referring by letter to the said drawings, A is a grain-car having a door-opening B, with posts C at opposite sides, a cross-bar D above, and a sill E below the same. The inner side of the upper cross-bar and the upper side of the sill are protected by sheet-metal strips *a* *b*, respectively, and the posts C are provided in their faces with upright grooves *c*. These grooves receive upright metallic rods F, which

project from the faces of the posts, as best shown in Fig. 3, and have their upper and lower ends let into the upper cross-bar and the sill, respectively.

G represents strips of sheet metal which cover the face or inner side and the side edges of the posts C and are secured thereto by nails or other suitable means. These sheet-metal strips G also cover the projecting rods F and in conjunction with the same form tongues H for a purpose presently described.

I is my improved door, which is preferably formed in two sections J K, of wood, and has the said sections connected by three (more or less) hinges *d*, as illustrated. The said door is provided in its face with upright grooves *e*, and is also provided with protecting-strips L of sheet metal, which cover its side edges and portions of its face and rear side and are depressed in the grooves *e*, as indicated by *f*, so as to form grooves for the reception of the tongues H when the door is closed. The door-section J is provided at its upper edge with a protecting-strip M of sheet metal, which is shaped to form a tongue *g*, while the section K is provided at its lower edge with a protecting-strip N of sheet metal, which is depressed in a groove in said edge, as indicated by *h*, so as to form a groove for the reception of the tongue *g* of strip M when the sections are superposed, as shown in Fig. 2. The section J is also provided in its face with a metal-lined recess *i* for the engagement of a pinch or crow bar used in the initial raising of the door, and at its outer side, adjacent to its upper edge, has hooks P, which are adapted when the door is raised or opened to be placed in engagement with hangers Q on the cross-bar D and suspend the door therefrom.

R represents chains which loosely connect the door-section J and the door-posts C, and S represents bolts which are arranged at intervals in the height of the door and extend transversely through the sections J K and the protecting-strips L thereof, as shown. These bolts are provided at their outer ends with eyes *j* and have their inner portions threaded to receive nuts *k*, and also have their inner ends upset, as indicated by *l*, to prevent displacement of the nuts.

T T are staples arranged at intervals in the

height of the side stiles of the door-opening B. U U are hasps loosely arranged in the eyes *j* and adapted to be placed over the hasps, and V V are pins loosely connected by chains to the side stiles and adapted to be placed in the staples to retain the hasps thereof, as shown.

In practice when it is desired to close my improved door it is placed in the position shown in Fig. 1, with its grooves *f* receiving the tongues H on the door posts or jambs. The hasps U are then placed over the staples T, and the pins V are inserted in said staples to retain the hasps thereon, after which the nuts *k* are tightened with a wrench or other implement. When the nuts *k* are thus tightened, the door I will be crowded against the posts or jambs C, so as to tightly hold the tongues H in the grooves *f* of the door and the tongue *g* on the upper edge of the lower section J in the groove *h* of the upper section K. By virtue of the said tongues being pressed and held in their respective grooves, as stated, it will be seen that the joints between the door and the door posts or jambs and the joint between the sections of the door are broken, with the result that leakage of grain or other substance past the door is precluded. When it is desired to open the door, the pins V and the hasps U are removed from staples T and a crow or pinch bar is applied to the recess *i* to effect the initial raising of the door, after which the door is raised sufficiently to permit of the lowermost staples U being placed and fastened on the second pair of staples from the bottom. The door is left in this position until enough grain has escaped to permit of a person getting in the car, when the upper section K is swung inwardly and downwardly against the inner side of section J and the door is further raised and its hooks P are placed in engagement with the hangers Q. In this latter position the door is held up out of the way and does not in any way interfere with the removal of grain or other substance from the car.

It will be observed from the foregoing that my improved door may be expeditiously and tightly closed, so as to preclude the leakage of grain or other substance past the same; also, that the door may be quickly and easily opened by persons standing outside the car.

It will further be observed that the door is extremely strong and durable and that the protecting-strips on the same and the door jambs or posts prevent nailing of the door to the posts and the injury incident thereto.

I have entered into a specific description of the construction and relative arrangement of the parts of my improved grain-car door in order to impart a full, clear, and exact understanding of the same. I do not desire, however, to be understood as confining myself to such specific construction and arrangement of parts, as such changes or modifications may be made in practice as fairly fall within the scope of my invention.

Having thus described my invention, what I claim is—

1. In a car, the combination with posts connected to the side wall of the car at opposite sides of a door-opening therein, metallic rods projecting from the faces of the posts, and metallic protecting-strips covering the faces of the posts and the rods and serving in conjunction with the latter to form tongues; of a door having upright grooves in its face and metallic protecting-strips depressed in said grooves so as to receive the tongues of the posts, and suitable means for securing the door in its closed position.

2. In a car, the combination with posts connected to the side wall of the car at opposite sides of a door-opening therein and having upright grooves in their faces, metallic rods seated in said grooves and projecting beyond the faces of the posts, metallic protecting-strips covering the faces of the posts and the rods and serving in conjunction with the latter to form tongues, and hangers connected to the side wall of the car above the door-opening therein; of a door comprising the lower and upper sections connected in a hinged manner and having upright grooves in its face and metallic protecting-strips depressed in said grooves so as to receive the tongues of the posts, hooks on the outer side of the lower door-section designed to be placed in engagement with the hangers to suspend the door therefrom, and suitable means for securing the door in its closed position.

3. In a car, the combination with a door-frame, and staples connected to the side stiles thereof; of a door, bolts extending transversely through the door and having their inner portions threaded, nuts mounted on the inner threaded portions of the bolts, hasps loosely connected to the outer ends of the bolts and pins for securing the hasps on the staples.

4. In a car, the combination with door-posts disposed at opposite sides of a door-opening in the side wall of the car and having upright tongues on their faces, and staples connected to the side wall of the car at opposite sides of the door-opening; of a door having upright grooves in its outer side to receive the tongues of the post, transverse bolts extending through the door and having their inner portions threaded, nuts mounted on said inner portions of the bolts, hasps loosely connected to the outer ends of the bolts, and means for securing the hasps on the staples, substantially as specified.

5. In a car, the combination of posts disposed at opposite sides of a door-opening in the side wall of the car and having upright grooves in their faces, metallic rods seated in said grooves and projecting from the faces of the posts, metallic strips covering the faces and sides of the posts and serving in conjunction with the rods to form tongues, hangers connected to the inner side of the side

wall of the car above the door-opening therein, and staples connected to the side wall at opposite sides of the door-opening; of a door comprising lower and upper sections connected in a hinged manner and having upright grooves in its outer side and also having metallic protecting-strips depressed in said grooves and covering the side edges and portions of the inner and outer sides of the door, hooks on the outer side of the lower door-section, bolts extending transversely through the door and the metallic protecting-strips there-

of and having their inner portions threaded, nuts mounted on said inner portions, hasps loosely connected to the outer ends of the bolts, and means for securing the hasps on the staples, substantially as specified.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM L. CALLISON.

Witnesses:

C. A. HOOD,

J. W. ROGERS.