H. WALLINGFORD.

DOOR BRIDGE FOR RAILWAY CARS.

APPLICATION FILED APR. 16, 1915.

1,168,983.

Patented Jan. 18, 1916.

2 SHEETS—SHEET 1.

Fig. 1.

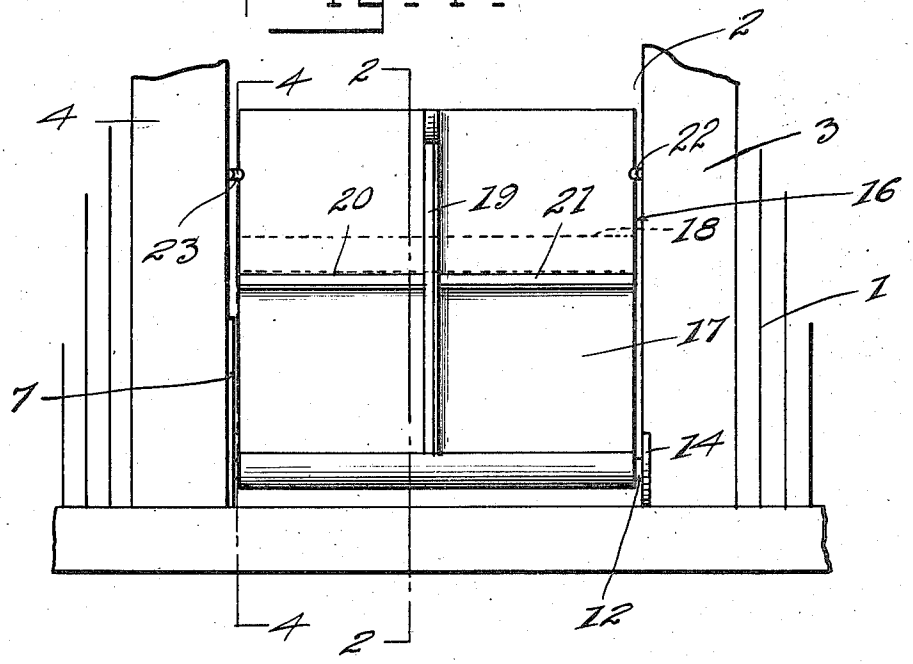
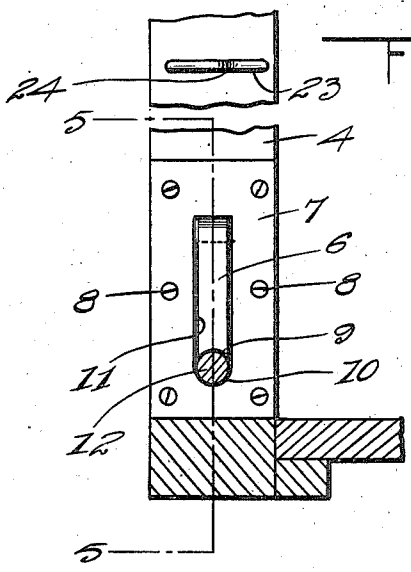


Fig. 4.



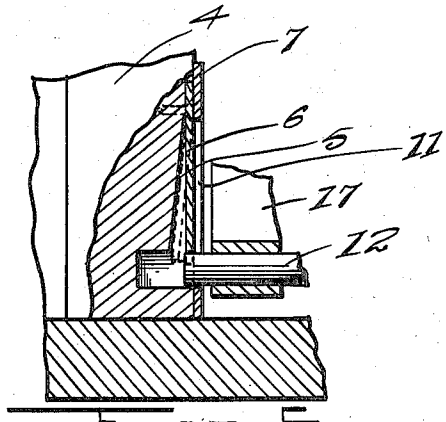


Fig. 5.

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2 SHEETS—SHEET 2.

Fig. 2.

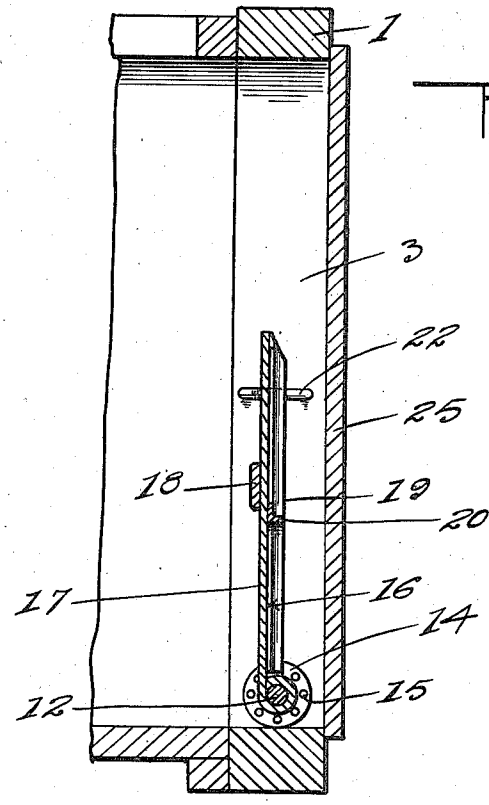
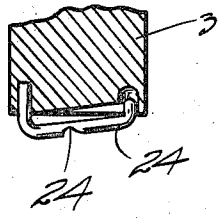


Fig. 6.



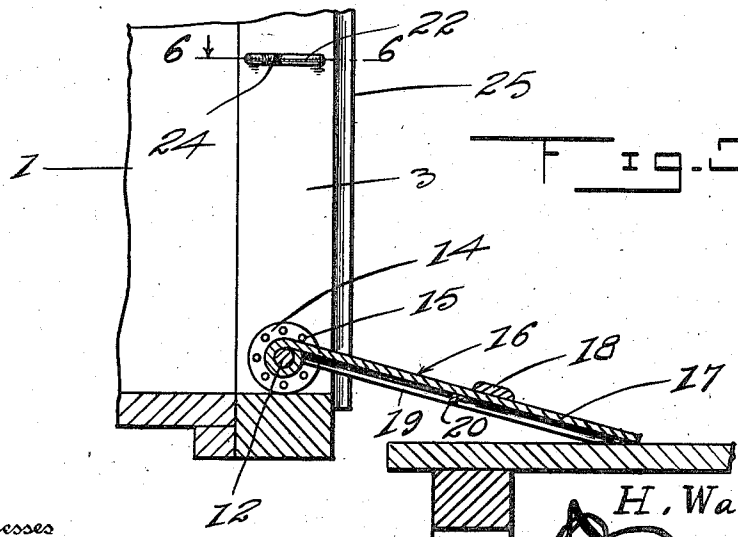


Fig. 3.

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UNITED STATES PATENT OFFICE.

HENRY WALLINGFORD, OF BONAPARTE, IOWA.

DOOR-BRIDGE FOR RAILWAY-CARS.

1,168,983. Specification of Letters Patent. Patented Jan. 18, 1916.

Application filed April 16, 1915. Serial No. 21,785.

To all whom it may concern:

Be it known that I, HENRY WALLINGFORD, a citizen of the United States, residing at Bonaparte, in the county of Van Buren and State of Iowa, have invented certain new and useful Improvements in Door-Bridges for Railway-Cars; 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.

This invention relates to railway rolling stock, and more particularly to freight or cattle cars, and the primary object of the invention is to provide a bridge for forming an approach to the car, which is pivotally carried by the car structure, within the door of the car, so that it may be moved into or out of an approach forming position, when desired.

Another object of the invention is to provide a yieldable mounting for one end of the rod by means of which the bridge is pivotally mounted, for permitting of the easy removal of the bridge from connection with the car, if it is so desired.

Another object of this invention is to provide a novel form of catch structure positioned within the side frames of the car door, for holding the bridge in a vertical position within the door, so as to permit of a free and unimpeded movement of the ordinary car door.

With the foregoing and other objects in view this invention consists in such novel features of construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawings and claimed.

In describing the invention in detail, reference will be had to the accompanying drawings wherein like characters designate like or corresponding parts throughout the several views, and in which:—

Figure 1 is a side elevation of a fragment of a car, showing the improved bridge attached thereto, Fig. 2 is a cross sectional view on the line 2—2 of Fig. 1, Fig. 3 is a fragmentary cross sectional view, showing the bridge in an extended position for forming an approach for the car door, Fig. 4 is a cross section on the line 4—4 of Fig. 1, Fig. 5 is a section on the line 5—5 of Fig. 4, and Fig. 6 is a section on the line 6—6 of Fig. 3.

Referring more particularly to the drawings, 1 designates an ordinary freight or stock car having a door 2, which has side casings or sills 3 and 4, of the ordinary construction.

The sill 4 is provided with a recess 5 formed therein, in which is seated a spring plate 6. The spring plate 6 is held in place by a metallic plate 7, which is secured to the exterior of the sill 4, adjacent its lower end, in any suitable manner, such as by screws or analogous fastening devices, illustrated at 8. The lower end of the resilient or yieldable spring plate 6 is provided with a substantially semi-circular tapered recess 9, which coacts with the arcuate end 10 of the opening 11, which is formed in the plate 7 for forming a bearing for one end of the rod 12. The rod 12 extends across the width of the car door 2, and has its end opposite to the one which is seated in the bearing formed by the end of the yieldable plate 6 and the plate 7, seated in a bearing formed in a plate 14, which is secured to the sill 3 of the car door in any suitable manner, as is shown at 15.

The rod 12 has the bridge structure 16 mounted thereon, which comprises a metallic plate 17 having its inner end rolled about the rod 12. The plate 17 extends tangentially from the rod 12 and has cleats 18 mounted upon its upper surface, for preventing the slipping of cattle when passing over the bridge, or for facilitating the running of trucks or the like over the bridge when it forms an approach for the car door. The plate 17 is braced by angle irons 19, 20 and 21, which are secured to the under surface thereof, in any suitable manner, for efficiently bracing the plate 17, so as to prevent its sagging, bending or the like under extreme weight.

The outer end of the angle iron 19 is beveled, so as to lie in facial abutment with the upper surface of a platform, or the like, along which a car is stopped.

Each of the sills 3 and 4 has staples 22 and 23 secured thereto, upwardly above the bearing plate. The staples 22 and 23 are provided with notches 24 formed therein, which are adapted for receiving the edges of the plate 17, when the plate is positioned in a vertical position, as indicated in Fig. 2 of the drawings, for holding it against oscillatory movement during the travel of the car.

The notches 24 have inclined approaches, for facilitating the insertion of the edge of the plate 17 into the notches and the staples incline outwardly, as they extend inwardly toward the inner edges of the sills, as is clearly shown in Fig. 6 of the drawings.

When it is desired to remove the approach or bridge structure 16 from connection to the car 1, the yieldable plate 6 is pressed inwardly, which permits of the removal of the end of the rod 12 out of the recess 5 and the bearing formed by the lower end of the yieldable plate 6 and the lower end of the slot 11 which is formed in the plate 7, and by placing the end of the rod against the yieldable plate 6, and moving it downwardly, after the opposite end has been inserted in the bearing formed in the plate 14, the bridge may be easily attached to the car.

When loading the car 1, the bridge structure 16 is moved downwardly, to the position indicated in Fig. 3 of the drawings, at which time it forms an approach for the car, for facilitating the loading or unloading of the car, and preventing accident due to the slipping of the bridge or plate, used in the approach to the car. After the car is loaded or unloaded, the bridge structure may be moved upwardly into a vertical position, as indicated in Fig. 2 of the drawings, at which time it is in an unobstructing position with respect to the slidable door 25, of the car structure 1, which slidable door may be moved into or out of a closed position without interfering with the bridge structure 16.

In reducing the invention to practice, certain minor features of construction, combination, and arrangement of parts may necessitate alteration to which the patentee is entitled, provided such alterations are comprehended within the scope of what is claimed.

What is claimed is:—

1. The combination with an ordinary railway freight or stock car having a doorway and side sills framing said doorway, of a yieldable plate carried by one of said side sills, a retaining plate carried by said side sill exteriorly of said yieldable plate, said yieldable plate being provided with an arcuate recess formed in its lower end for coaction with the lower arcuate end of a slot formed in said retaining plate for forming a bearing for a rod, a bearing plate carried by the opposite sill of said doorway, a rod having one end journaled in said second named bearing, and a plate carried by said rod for movement therewith into or out of an approach forming position.

2. The combination with an ordinary railway freight or stock car having a doorway and side sills framing said doorway, of an approach bridge structure including a plate, a rod secured to one edge of said plate for movement therewith, a yieldable plate carried by one of said sills and having an arcuate recess formed in its lower end, a retaining plate carried by said sill exteriorly of said yieldable plate and being provided with a longitudinally extending slot having an arcuate lower end, the end of said rod being seated in said arcuate end and said arcuate recess for yieldably and rotatably supporting one end of the rod, a bearing plate carried by the opposite sill and having the end of said rod journaled therein opposite to the one journaled in said yieldable bearing.

3. The combination with an ordinary railway freight or stock car having a doorway and side sills framing said doorway, of an approach bridge structure including a plate, a rod secured to one edge of said plate for movement therewith, a yieldable plate carried by one of said sills and having an arcuate recess formed in its lower end, a retaining plate carried by said sill exteriorly of said yieldable plate and being provided with a longitudinally extending slot having an arcuate lower end, the end of said rod being seated in said arcuate end and said arcuate recess for yieldably and rotatably supporting one end of the rod, a bearing plate carried by the opposite sill and having the end of said rod journaled therein opposite to the one journaled in said yieldable bearing, and means carried by said car sills for holding said bridge plate in a vertical position.

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

HENRY WALLINGFORD.

Witnesses:
ROBERT BURNETT,
L. M. WARE.