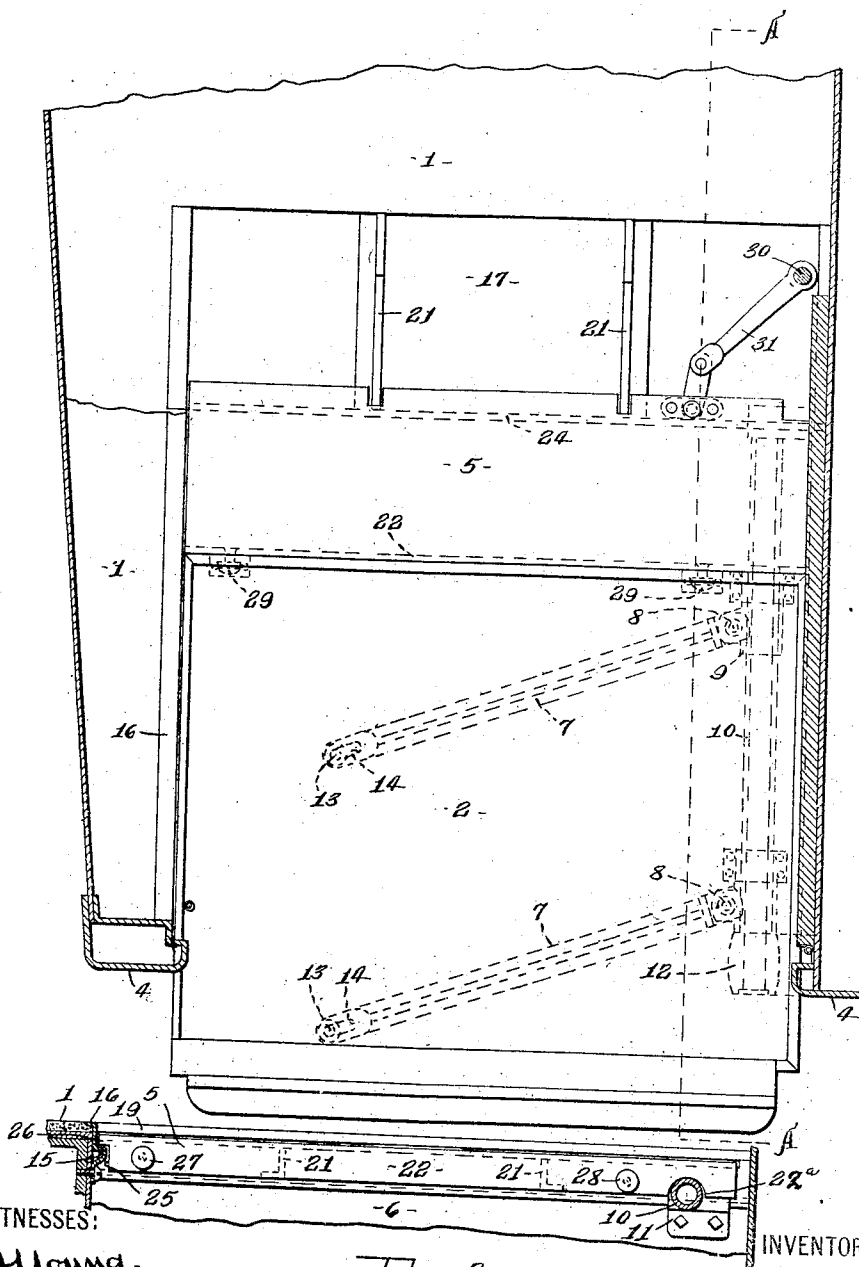


E. F. CHAFFEE.
 TRAP DOOR FOR RAILWAY CAR PLATFORMS.
 APPLICATION FILED MAY 20, 1915.

1,246,880.

Patented Nov. 20, 1917.
 2 SHEETS—SHEET 1.

Fig-1-



WITNESSES:

C. H. Young,
S. Davis

Fig-3-

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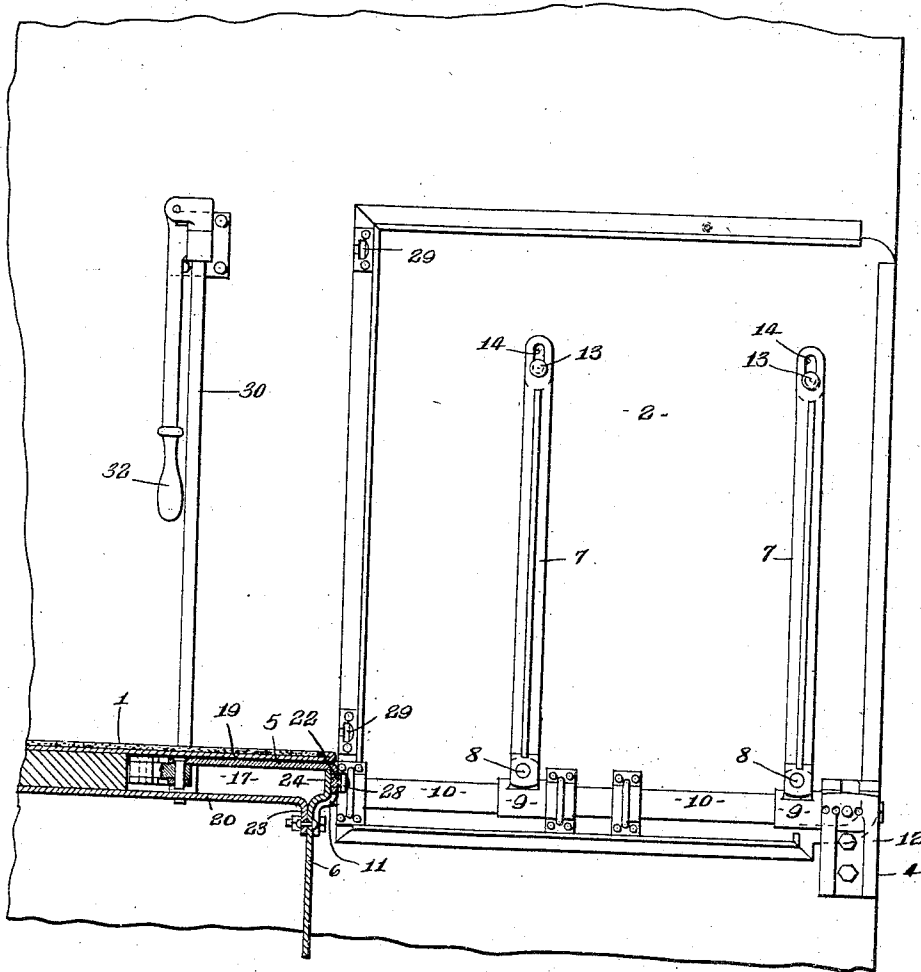


Fig. 2.

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UNITED STATES PATENT OFFICE.

EDWARD F. CHAFFEE, OF SYRACUSE, NEW YORK, ASSIGNOR TO THE O. M. EDWARDS COMPANY, INC., OF SYRACUSE, NEW YORK, A CORPORATION OF NEW YORK.

TRAP-DOOR FOR RAILWAY-CAR PLATFORMS.

1,246,880.

Specification of Letters Patent.

Patented Nov. 20, 1917.

Original application filed March 18, 1915, Serial No. 15,189. Divided and this application filed May 20, 1915. Serial No. 29,420.

To all whom it may concern:

Be it known that I, EDWARD F. CHAFFEE, a citizen of the United States, and a resident of Syracuse, in the county of Onondaga and State of New York, have invented a certain new and useful Trap-Door for Railway-Car Platforms, of which the following is a specification.

This invention relates to trap doors for railway car platforms, and particularly to trap doors which are capable of being projected laterally beyond the sides of the cars to bridge the spaces between the doors and station platforms elevated nearly flush with the car platforms, such as described in my pending application, Sr. No. 15,189, filed March 18, 1915, of which this application is a division; and the invention has for its object a particularly simple and efficient construction of slide and coacting parts located at the inner edge of the trap door to bridge the space between the trap door and the car platform floor when the door is projected laterally. The invention consists in the combinations and constructions herein-after set forth and claimed.

In describing this invention, reference is had to the accompanying drawings, in which like characters designate corresponding parts in all the views.

Figure 1 is a plan view, partly in section, of a trap door embodying my invention, the contiguous part of the car being shown in section, the flooring of the platform being removed and the door being shown as projected axially.

Fig. 2 is a sectional view taken on the plane of line A—A, Fig. 1, the door being shown as swung open on its hinge instead of outwardly beyond the side of the car.

Fig. 3 is a detail view, looking to the left in Fig. 2 with the door removed showing particularly the slide located in the recess or cavity at the top of the platform steps.

1 designates the car platform. 2 is the trap door which is hinged at one side of the door opening and is movable axially of its hinge to project its outer portion beyond the side face 4 of the car.

5 is a slide movable with the door 2 as it is moved axially, the slide being located at the inner edge of the door in position to form an extension of the trap door and to

bridge the space between the trap door and the platform when the door is projected axially, this slide telescoping with the platform at the top of the riser 6 of the top step.

The door 2 is hinged to the platform in any well known manner, it being here shown as carried by parallel levers 7 pivoted at 8 at their inner ends to bearings 9 mounted on a spring barrel member 10 which is journaled at its ends in brackets 11, 12 carried by the platform, but which is stationary so far as axial movement is concerned.

The parallel levers 7 are connected to their outer ends to the under side of the door by pins 13 extending through the slots 14 in the ends of the arms 7. During axial shifting of the door, the levers move on their pivots in parallelism and guide the door in its sliding movement.

A suitable torque spring, not shown, is located within the barrel 10 and fixed at one end to one of the bearings 11, 12 and at its other end to the barrel to turn the same in the usual manner. The free edge of the door, that is, the edge farthest from the hinge, normally rests upon a ledge 15 formed on the strip 16 secured to the car structure.

The slide 5 moves into and out of a recess or cavity 17 located in the platform at the top of the riser of the top step and normally rests at one edge on the ledge 15 and near its opposite edge on the spring barrel 10. This cavity is formed by upper and lower plates 19, 20 forming part of the platform construction, and guides 21 formed of angle iron extend from front to rear of the cavity. The slide includes a tread portion which rests upon the upper edges of the guides 21 and a downturned flange 22 at the advance edge of the tread portion, the flange extending downwardly across the entrance end of the recess cavity 17. The riser 6 of the top step is secured by bolts or rivets to a downturned lip 23 on the lower plate 20 and has a forwardly and upwardly extending flange 24 located directly behind the flange 22 of the slide 5 when the slide is in the recess, that is, in its normal position, the upper edge of the flange 24 engaging the lower face of the tread portion of the slide 5. The flange 22 is cut out at 25, Fig. 3, to form a laterally extending lug 26 which rests upon the ledge 15, and this flange 22 is

also formed with a cut out 22^a constituting a bearing upon the hinge barrel 10. Thus when the slide moves into or out of the recess or cavity, it rests on the ledge 15 and on the hinge barrel 10.

The door and slide are coupled together in any suitable manner and as here shown, the slide is provided with shoulders or buttons 27, 28 which receive or interlock with complementary sockets 29 at the lower edge of the door 2, these sockets opening through the lower face of the door or the flooring thereof.

The means for operating the door to slide the same axially is connected to the slide 5 so that the motion is transmitted through the slide. Said means comprises a vertical rock shaft 30 on the platform, having a rock arm 31 at its lower end, the rock shaft also having a handle 32 at its upper end. The handle 32 is here shown as foldable and in its collapsed position in Fig. 2.

In operation, when the rock shaft is rocked to project the door axially, the slide moves outwardly resting on the ledge 15 and the spring barrel 10, as said slide pushes the barrel outwardly, the rear portion of the slide resting on the upper edge of the flange 24 and on the guides 21.

What I claim is:—

1. The combination of a railway car platform, with a trap door movable laterally, a slide located at the inner edge of the door to bridge the space between the platform floor and the door when the door is projected outwardly from its normal position, the slide comprising a body including a horizontal tread portion having a downturned flange at its advance edge, and means connecting said flange and the trap door, substantially as and for the purpose described.

2. The combination with a railway car platform, of a trap door movable laterally, and a slide located at the inner edge of the door to bridge the space between the platform floor and the door when the door is projected laterally from its normal position, the slide comprising a body including a horizontal tread portion having a downturned flange at its advance edge, and the platform being provided with a flange projecting upwardly into a position behind the downturned flange of the slide, substantially as and for the purpose specified.

3. The combination with a railway car platform, of a trap door movable laterally, and a slide located at the inner edge of the door to bridge the space between the platform floor and the door when the door is projected laterally from its normal position, the slide comprising a body including a horizontal tread portion having a downturned flange at its advance edge, and the platform being provided with a flange pro-

jecting upwardly into a position behind the downturned flange of the slide, the flange of the platform engaging the lower face of the tread portion of the slide, substantially as and for the purpose set forth.

4. The combination of a railway car platform, having a recess opening through the riser of the top step of the platform, a trap door movable laterally, and a slide located at the inner edge of the door to bridge the space between the platform floor and the door when the door is projected laterally from its normal position, the slide being movable into and out of the recess and comprising a tread portion having a downturned flange extending across the front end of said recess, substantially as and for the purpose described.

5. The combination of a railway car platform, having a recess opening through the riser of the top step of the platform, a trap door movable laterally, a slide located at the inner edge of the door to bridge the space between the platform floor and the door when the door is projected laterally from its normal position, the slide being movable into and out of the recess and including a tread portion having a downturned flange extending across the front end of said recess, and means connecting said flange to the trap door, substantially as and for the purpose specified.

6. The combination of a railway car platform having a recess opening through the riser of the top step of the platform, a trap door movable laterally, and a slide located at the inner edge of the door to bridge the space between the platform floor and the door when the door is projected laterally, the slide being movable into and out of the recess and including a tread portion having a downturned flange extending across the front end of said recess, and the riser of the top step being formed with a flange extending upwardly behind the flange of the slide, substantially as and for the purpose set forth.

7. The combination of a railway car platform, a trap door movable laterally, and a slide located at the inner edge of the top to bridge the space between the platform floor and the door when the door is projected laterally from its normal position, the platform including upper and lower plates spaced apart at the top of the riser of the top step of the platform forming a recess, and the slide being movable between the plates, substantially as and for the purpose described.

8. The combination of a railway car platform, a trap door movable laterally, and a slide located at the inner edge of the top to bridge the space between the platform floor and the door when the door is projected outwardly from its normal position, the plat-

form including upper and lower plates spaced apart at the top of the riser of the top step of the platform forming a recess, the lower plate of the platform having a downturned lip and the riser of the top step being secured to said lip and having a flange extending above said lower plate, the slide having a downturned flange at its front edge extending in front of the flange of the riser, substantially as and for the purpose specified.

9. The combination of a railway car platform, a trap door movable laterally, a slide located at the inner edge of the door to bridge the space between the platform floor and the door when the door is projected outwardly from its normal position, the platform being formed with a recess at the top of the riser of the top step into which the slide moves, and guides in the recess on the bottom thereof, the guides being spaced apart from the top of the recess, the slide including a tread portion resting on the upper edges of the guides, the tread portion having a downturned flange at its advance end which is connected to the trap door, substantially as and for the purpose set forth.

10. The combination of a railway car platform, a trap door movable laterally, a slide located at the inner edge of the door to bridge the space between the platform floor and the door when the door is projected laterally from its normal position, the platform being formed with a recess at the top of the riser of the top step into which the slide moves, and guides in the recess on the bottom thereof, the guides being spaced apart from the top of the recess, the slide including a tread portion resting on the upper edges of the guides, and having a downturned flange at its advance end which is connected to the trap door, and the riser of the top step having a flange extending behind the flange of the slide and across the ends of said guides, substantially as and for the purpose described.

11. The combination of a railway car platform, a trap door movable laterally, a slide located at the inner edge of the door to bridge the space between the platform floor and the door when the door is projected laterally from its normal position, and means coupling the door and the slide, the platform being formed with a ledge on which the door slides and the slide having means for running on said ledge when the door is moving laterally, substantially as and for the purpose specified.

12. The combination of a railway car platform, a trap door hinged to the platform at one side of the door opening and slidable in a direction axially of its hinge, means hinging the door to the platform including a stationary member, a slide located

at the inner edge of the door to bridge the space between the platform floor and the door when the door is moved laterally from its normal position, and means coupling the door and the slide and coacting to disconnect the door from the slide during the opening of the door on its hinge, the slide having means for bearing on the stationary hinge member when the door is moving axially thereof, substantially as and for the purpose set forth.

13. The combination of a railway car platform, a trap door hinged to the platform at one side of the door opening, and slidable in a direction axially of its hinge, means hinging the door to the platform including a stationary member, a slide located at the inner edge of the door to bridge the space between the platform and the door when the door is moved laterally from its normal position, and means coupling the door and the slide and coacting to disconnect the door and the slide during the opening of the door at its hinge, the slide including a tread portion having a downturned flange at its advance edge, the flange being formed with a bearing opening receiving the stationary hinge member, substantially as and for the purpose described.

14. The combination of a railway car platform, a trap door hinged to the platform at one side of the door opening and slidable in a direction axially of its hinge, a slide located at the inner edge of the door to bridge the space between the platform and the door when the door is moved axially outwardly from its normal position, and means coupling the door and the slide and coacting to disconnect the door from the slide during the opening of the door on its hinge, the platform being formed with a ledge on which the free edge of the door normally rests, and the slide being formed with the downturned flange at its advance edge, the flange having a cutout portion forming a lug for engaging said ledge during the sliding movement of the door, substantially as and for the purpose specified.

15. The combination of a railway car platform, a trap door hinged to the platform at one side of the door opening and slidable in a direction axially of its hinge, means hinging the door to the platform including a stationary member, a slide located at the inner edge of the door to bridge the space between the platform and the door when the door is moved axially from its normal position, and means coupling the door and the slide and coacting to disconnect the door from the slide during the opening of the door on its hinge, the platform being formed with a ledge on which the free edge of the door normally rests and the slide being formed with the downturned flange at its advance edge, the flange having a cutout

portion forming a lug for engaging said ledge during the sliding movement of the door, the flange also having a bearing engaging the stationary hinge member, substantially as and for the purpose set forth.

16. The combination of a railway car platform having a recess therein, a trap door shiftable laterally, a slide associated with the door and being movable into and out of the recess, and operating means including portions located in the recess and connected

to the slide, substantially as and for the purpose described.

In testimony whereof, I have hereunto signed my name in the presence of two attending witnesses, at Syracuse, in the county of Onondaga, and State of New York, this 13th day of May, 1915.

EDWARD F. CHAFFEE.

Witnesses:

S. DAVIS,

T. B. PICKARD.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."