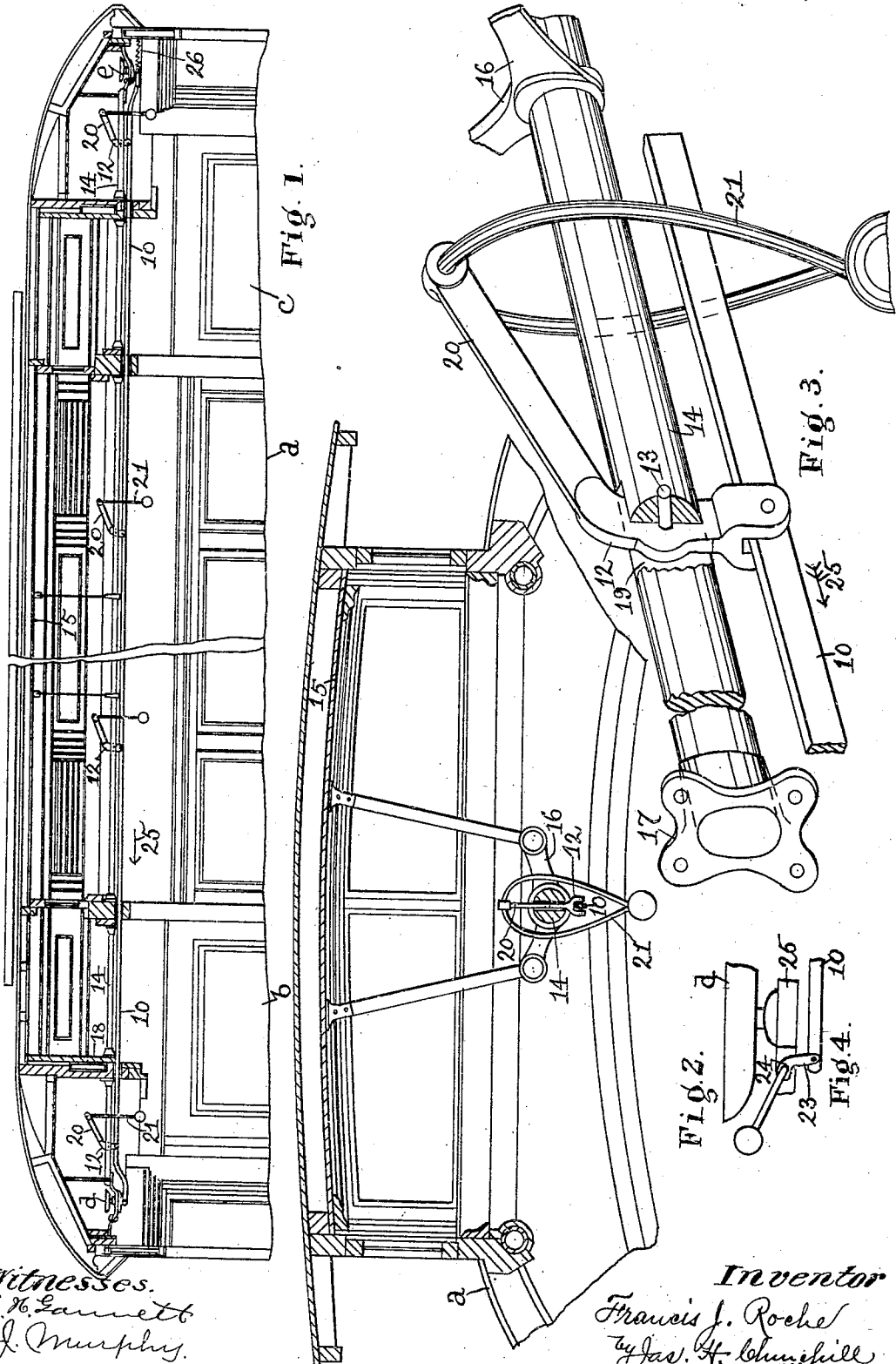


F. J. ROCHE.
 BELL OPERATING MECHANISM FOR RAILWAY CARS.
 APPLICATION FILED DEC. 26, 1908.

948,403.

Patented Feb. 8, 1910.



Witnesses.
 C. H. Lannett
 J. Murphy.

Inventor
 Francis J. Roche
 by Jas. H. Churchill
 atty.

UNITED STATES PATENT OFFICE.

FRANCIS J. ROCHE, OF SOMERVILLE, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO
HARRY L. LIBBY, OF BOSTON, MASSACHUSETTS.

BELL-OPERATING MECHANISM FOR RAILWAY-CARS.

948,403.

Specification of Letters Patent.

Patented Feb. 8, 1910.

Application filed December 26, 1908. Serial No. 469,335.

To all whom it may concern:

Be it known that I, FRANCIS J. ROCHE, a citizen of the United States, residing in Somerville, county of Middlesex, and State of Massachusetts, have invented an Improvement in Bell-Operating Mechanism for Railway-Cars, of which the following description, in connection with the accompanying drawings, is a specification, like characters 5
10 on the drawings representing like parts.

This invention relates to mechanism for operating the bell or bells of railway cars and more particularly the bells of cars of that class in which the car is provided with 15 doors at its opposite ends, which are operated by power under control of an operator, usually the motorman, who is located at one end of the car.

The present invention has for its object to 20 provide a simple, efficient and durable mechanism with which signals or bells located at opposite ends of the car in the vicinity of the doors thereof, may be simultaneously operated from within the car, whereby pas- 25 sengers within the car or on the street or platform of a station are notified at both ends of the car that the doors are about to be closed, thereby avoiding or at least reducing to a minimum the danger of acci- 30 dents to passengers by being caught in the doorways by the power-operated doors.

Figure 1 is a longitudinal section with parts broken away of a railway car provided with a signal mechanism embodying this in- 35 vention. Fig. 2, a cross-section of the car shown in Fig. 1 on the line 2—2, Fig. 1. Figs. 3 and 4, details to be referred to.

Referring to the drawing, *a* represents a passenger railway car, such as now commonly used on electric railway systems, and 40 which is provided at its opposite ends with doors *b, c*, operated by power under the control of the motorman in a manner well understood. The car *a* is provided with 45 signals, shown as bells or gongs *d, e*, which are located in the vicinity of the doors *b, c*, and are designed to be simultaneously operated just before the doors *b, c* are closed, and provision is made for simultaneously 50 operating both bells by a single mechanical device located within the car and capable of being operated from any portion of the length of the car. For this purpose, I employ a movable rod or bar 10 extended lon- 55 gitudinally of the car, and operatively con-

nected with the bells or gongs *d, e*, so that movement of the bar in one direction simultaneously effects the ringing of both bells. The movable bar or rod 10 is supported by a series of levers 12 pivoted at 13 to a station- 60 ary support or bar 14 extended longitudinally of the car and suitably secured thereto. In the present instance, the supporting bar 14 is suspended from the ceiling 15 of the car by hangers 16 and may also be 65 fastened at its ends by the brackets or caps 17 to cross bars or headers 18 at the ends of the car. The supporting bar 14 as herein shown is provided throughout its length with slots 19 through which the levers 12 70 are extended and have upwardly inclined arms 20 to which are fastened straps or cords 21, which hang down within easy reach of the conductor.

The opposite ends of the movable bar 10 75 are operatively connected with the bells or gongs *d, e*, which may be effected in any suitable or desired manner, as for instance, as shown in Fig. 4, wherein the bar is pivotally connected with one end of the striker 80 lever 23, which is pivoted at 24 to a suitable support 25 for the bell or gong. The operating levers 12 have their arms 20 extended in the same direction, so that the bar 10 will be moved in the same direction by the 85 operation of any one of the levers. For instance, when a strap 21 is pulled down, it lowers the lever arm 20 and turns the lever 12 on its pivot so as to move the bar 10 forward or in the direction indicated by the ar- 90 row 25, Figs. 1 and 3, with the result that both bells *d, e*, are operated to give a warning that the doors *b, c* are about to be closed. As soon as the strap 21 is released, the bar 10 is moved back to its normal or starting 95 position by a spring 26 attached to it.

The bell operating mechanism is herein shown as employed for simultaneously oper- 100 ating bells at opposite ends of the car, but it is not desired to limit the invention in this respect as the mechanism may be used for operating only one bell.

Claims.

1. The combination with a railway car provided with a plurality of doors in its 105 sides, of a signal for each of said doors located in the vicinity thereof, a movable bar or rod extended longitudinally of the car and operatively connected with both of said signals to simultaneously operate said sig- 110

nals by longitudinal movement of the bar or rod in one direction, a plurality of levers connected to said bar or rod at different points in its length, and provided with upwardly extended arms, a support to which said levers are pivoted, and means depending from the upwardly extended arms of the said levers to turn the latter on their pivots and move the bar or rod longitudinally to simultaneously operate said signals, substantially as described.

2. The combination with a railway car provided with a signal, of an operating mechanism for said signal, comprising a

movable bar or rod extended longitudinally of the car and operatively connected with said signal, levers to support said rod or bar and to move the same longitudinally of the car, and means to support said levers, substantially as described.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

FRANCIS J. ROCHE.

Witnesses:

JAS. H. CHURCHILL,
J. MURPHY.