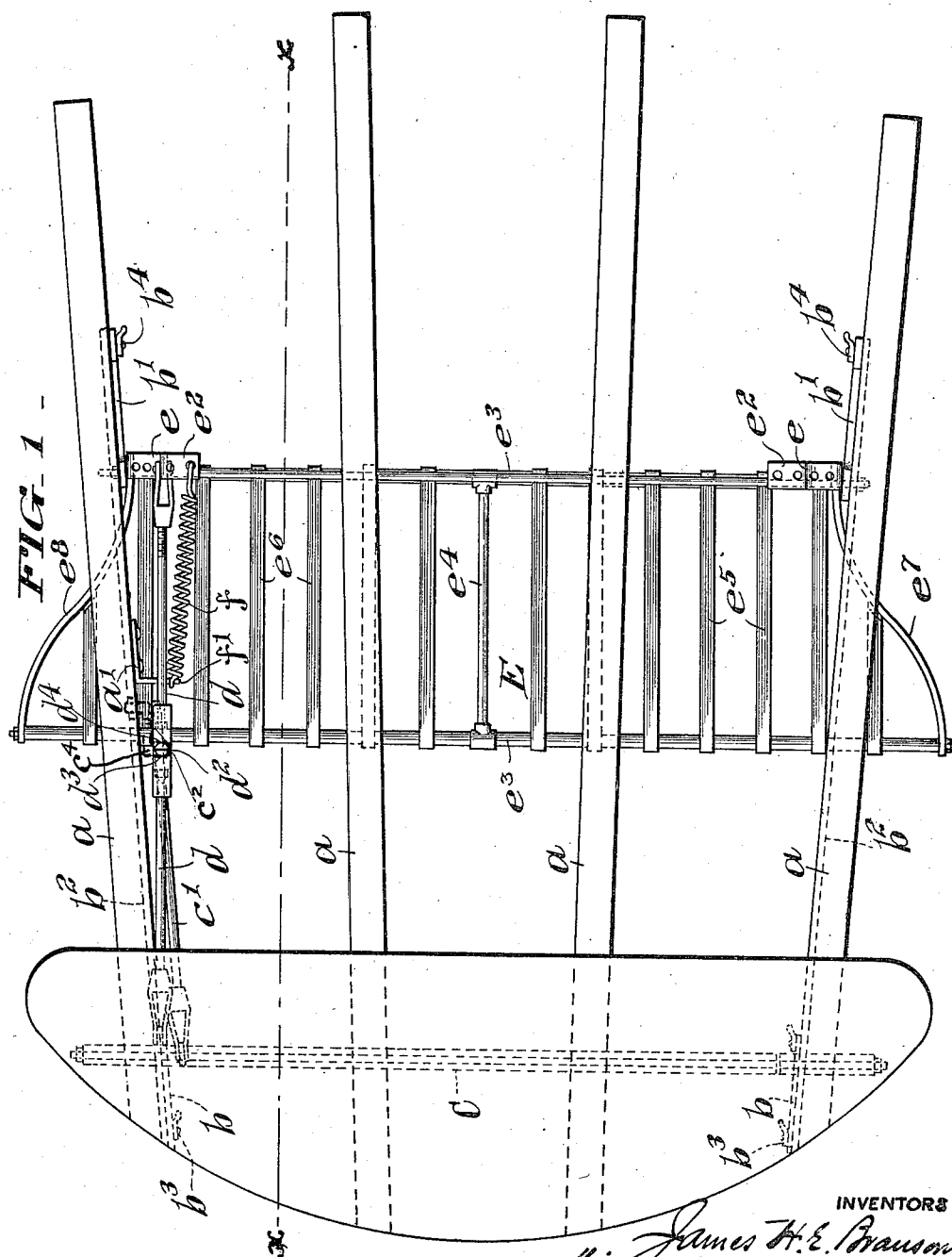


J. H. E. BRANSON, W. H. QUICK & T. F. MACKELL.
WHEEL GUARD OR FENDER FOR ELECTRIC RAILWAY CARS.
APPLICATION FILED APR. 13, 1911.

1,011,021.

Patented Dec. 5, 1911.

2 SHEETS—SHEET 1.



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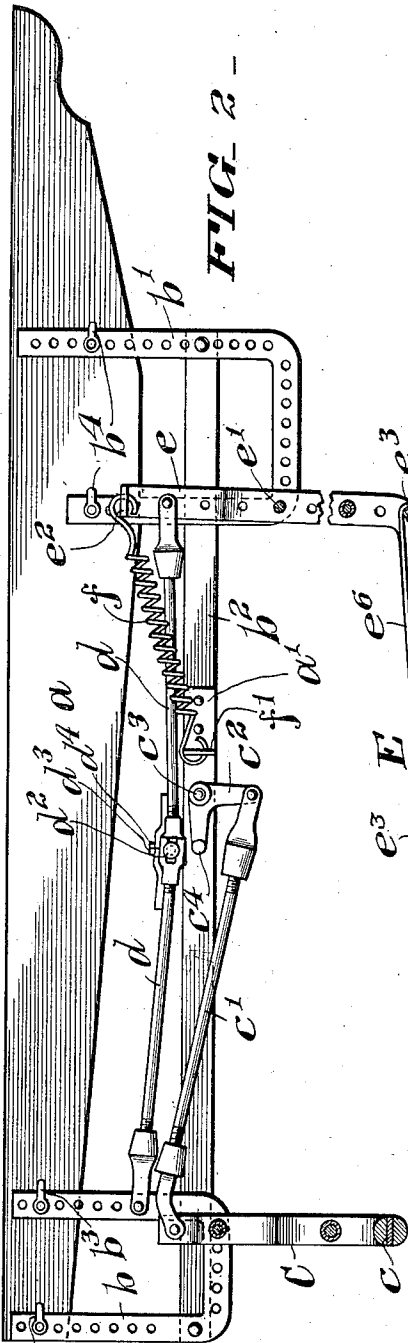


FIG. 2 -

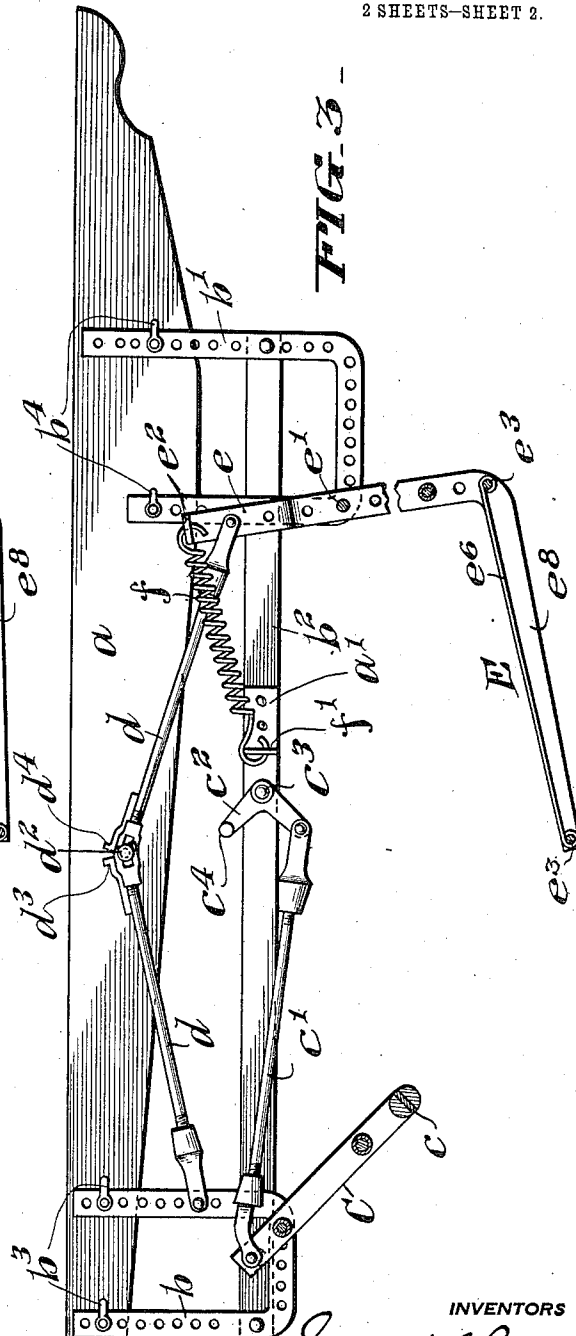


FIG. 3 -

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WHEEL GUARD OR FENDER FOR ELECTRIC-RAILWAY CARS.

1,011,021.

Specification of Letters Patent.

Patented Dec. 5, 1911.

Application filed April 13, 1911. Serial No. 620,807.

To all whom it may concern:

Be it known that we, JAMES H. E. BRANSON, WILLIAM H. QUICK, and THOMAS F. MACKELL, all citizens of the United States, and all residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have jointly invented certain new and useful Improvements in Wheel Guards or Fenders for Electric-Railway Cars, of which the following is a specification.

Our invention relates to that class of guards and fenders used in rear of the car bumper-head in suspended form from the car frame-work, which is carried by the wheel truck frame.

The principal object of the said invention is to provide a guard and fender which when an object is brought into contact with the pivotally supported guard movably connected with a pivotally supported fender actuates a device connected with both to automatically cause the fender to assume a tripped or dropped position to catch and safely hold the object away from the wheel truck-frame of the car.

The nature and scope of our present invention will be more fully understood from the following description taken in connection with the accompanying drawings forming part hereof, in which—

Figure 1 is a top or plan view of a portion of the car-frame-work, showing in application our wheel guard and fender in its normal or raised position, embodying main features of our said invention. Figs. 2 and 3, are respectively sectional views of the pivotally suspended guard and fender shiftable thereby on the line x, x , of Fig. 1, in respectively normal or raised and tripped or dropped angular positions.

Referring to the drawings, a is a side framing of the car frame-work. Provided in advance of the wheel-truck frames not shown, near both end portions of the car, are adjustably suspended perforated U-shaped hangers b and b^1 . With these hangers is connected a longitudinal strip b^2 . The removing or adjusting of these hangers with respect to the framing a , is accomplished by means of wing-bolts b^3 and b^4 , as clearly shown in Figs. 2 and 3.

C , is the front guard, consisting of a suitable skeleton framing. This guard is pivoted to the suspended hanger b , the lower

end of which is formed with a covered bar c , Figs. 2 and 3, so that when an object strikes against the same, it will not be injured or bruised thereby. To the pivotally supported guard C at its upper portion is movably connected a take-up rod c^1 connected at the rear end of a bell-crank c^2 pivoted at c^3 to the longitudinal strip b^2 . The other end c^4 of the bell-crank c^2 is free, in order that when the guard C is struck by an object brought against the same to shift it from its position as shown in Fig. 2, the bell-crank will assume the position as shown in Fig. 3 after having flexed the toggle connection d by means of the end c^4 of the bell crank c^2 . The toggle-connection d is in pivoted engagement with the hanger b at one end, and at the opposite end is pivoted to the upper portion e of the fender E , the lower portion of which fender is preferably fulcrumed at e^1 to the hanger b^1 . The upper portion of the arm e is formed with a flange e^2 , to which a coiled spring f is fastened, the opposite end of the spring being secured to an eye f^1 provided on the plate a^1 secured to the longitudinal strip b^2 . The said toggle-connection d on both sides of the central flexing point d^2 is provided with limiting stops d^3 and d^4 , as clearly shown in Figs. 2 and 3. When the toggle-connection d is in the position shown in Fig. 2, it is flexed in an upward direction by the pressure of an object against the guard so as to assume the position shown in Fig. 3 through the member c^4 of the bell-crank c^2 contacting with the flexing point d^2 of the toggle-connection d . At the same time the fender E is caused to assume a tripped angular position, for example, that shown in Fig. 3, close to the ground so as to catch and safely hold an object or person against possible contact with the wheels of the car-truck-frame. The fender E as clearly shown in Fig. 1, consists of cross-tubing e^3 coupled together by a bar e^4 . The fender is slatted between the cross-tubing at e^5 and e^6 and the ends of the fender are outwardly extended into curved terminals e^7 and e^8 , which do not however extend beyond the longitudinal car line, as clearly shown in Fig. 1. The slats e^5 and e^6 are arranged as shown in Fig. 1 enable foreign matter to pass therethrough.

Having thus described the nature and objects of our invention, what we claim as new and desire to secure by Letters Patent is:—

In a railway-car, front and rear perforated hangers, a guard connected with one of said hangers, a longitudinal strip fastened to said hangers, a bell-crank pivoted to said strip, a take-up rod connected with said guard above its pivotal connection with said front hanger and connected with one end of said bell-crank, the other end of said bell-crank being free, a fender fulcrumed to the rear hanger, a spring connected with said fender and strip and a toggle-connection pivoted to said front hanger and fender, the constructive arrangement being such that when said guard is struck to change the

position thereof, the free end of said bell-crank is actuated to flex said toggle-connection to cause said fender to be tripped or dropped to thereby assume and maintain an angular position. 15

In witness whereof, we have hereunto set our signatures in the presence of the two subscribing witnesses hereto. 20

JAMES H. E. BRANSON.

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