

(No Model.)

I. W. BISBING & J. E. GERHART.
SAFETY ATTACHMENT FOR CARS.

No. 504,798.

Patented Sept. 12, 1893.

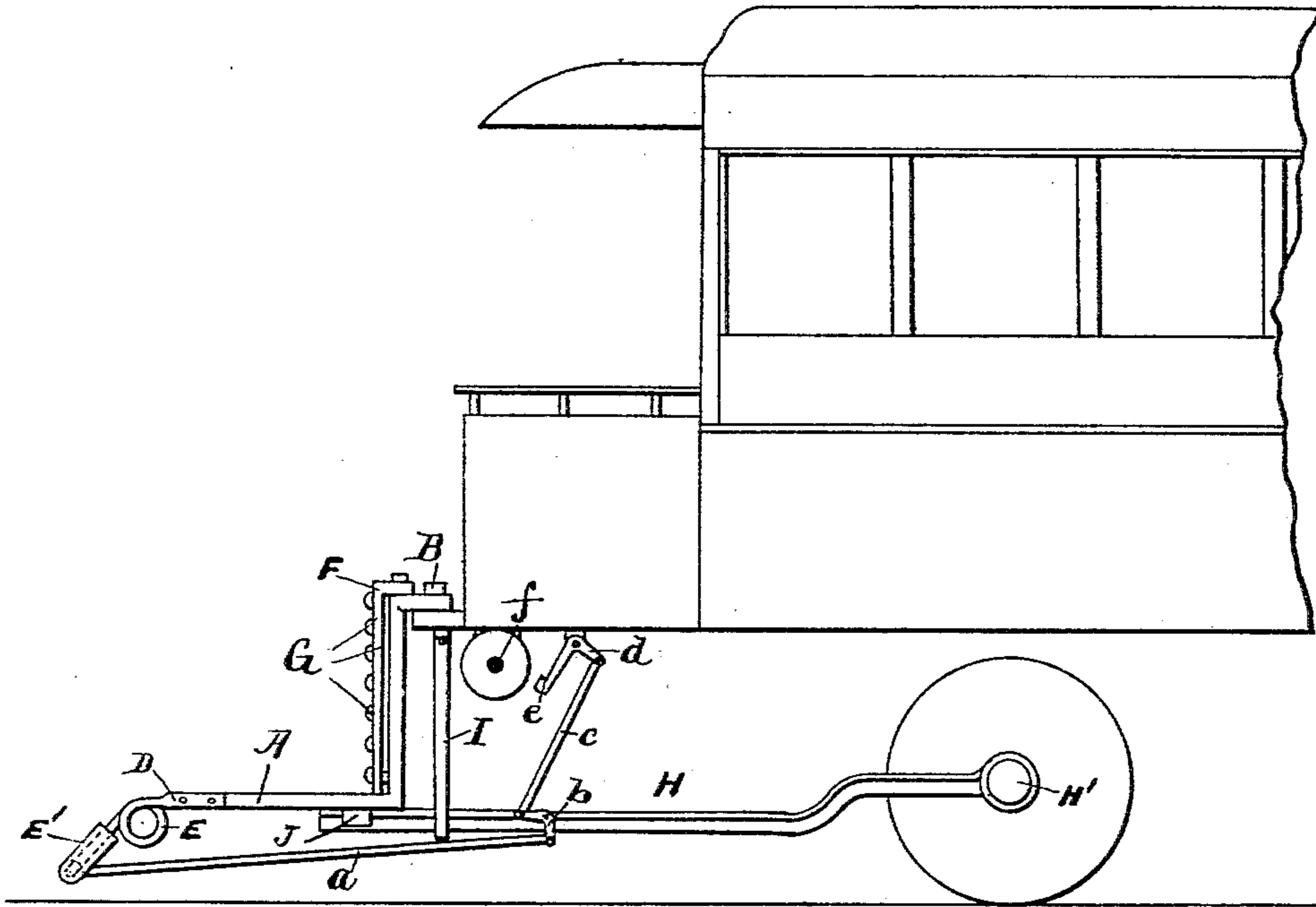


FIG. 1.

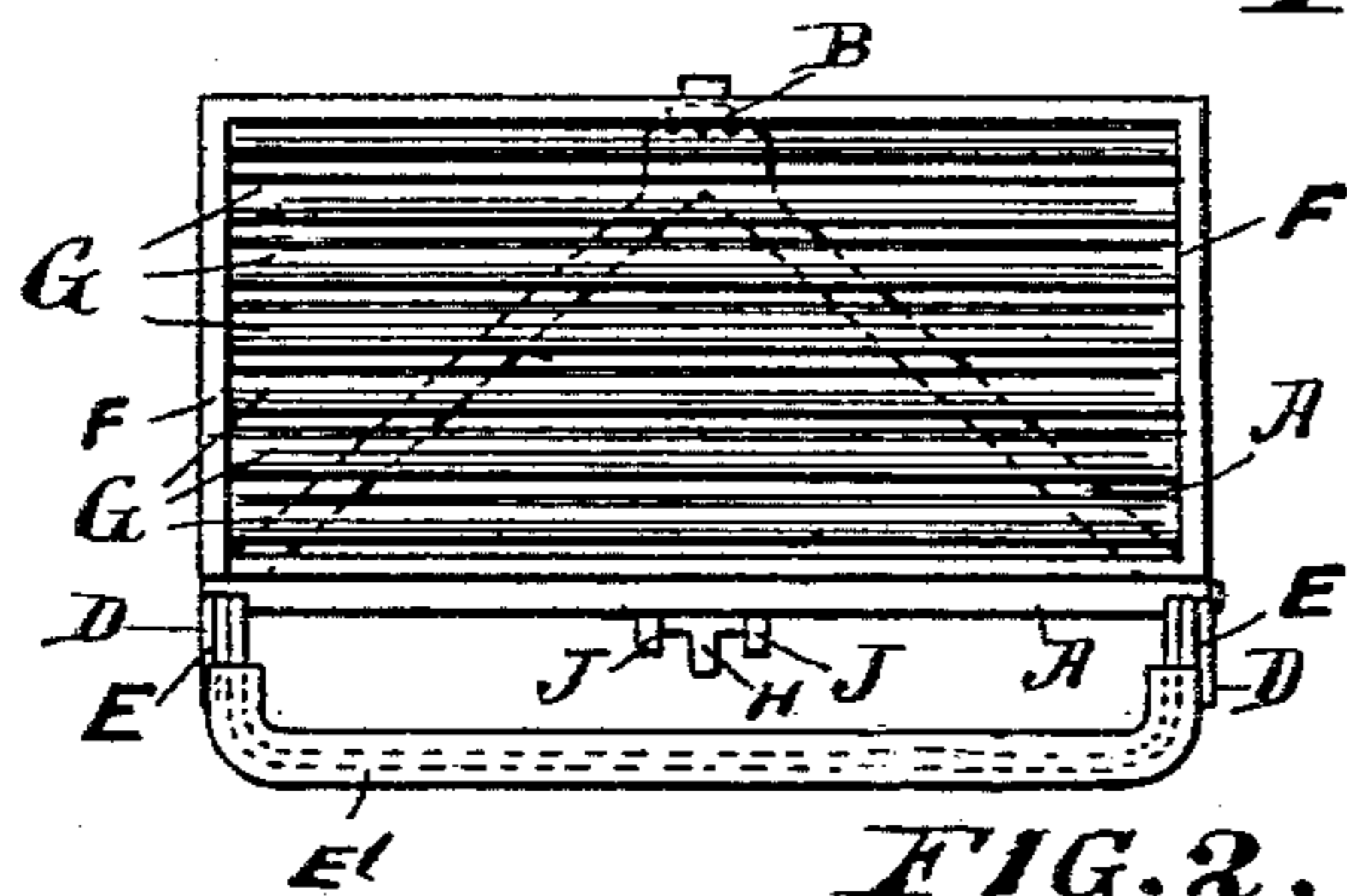


FIG. 2.

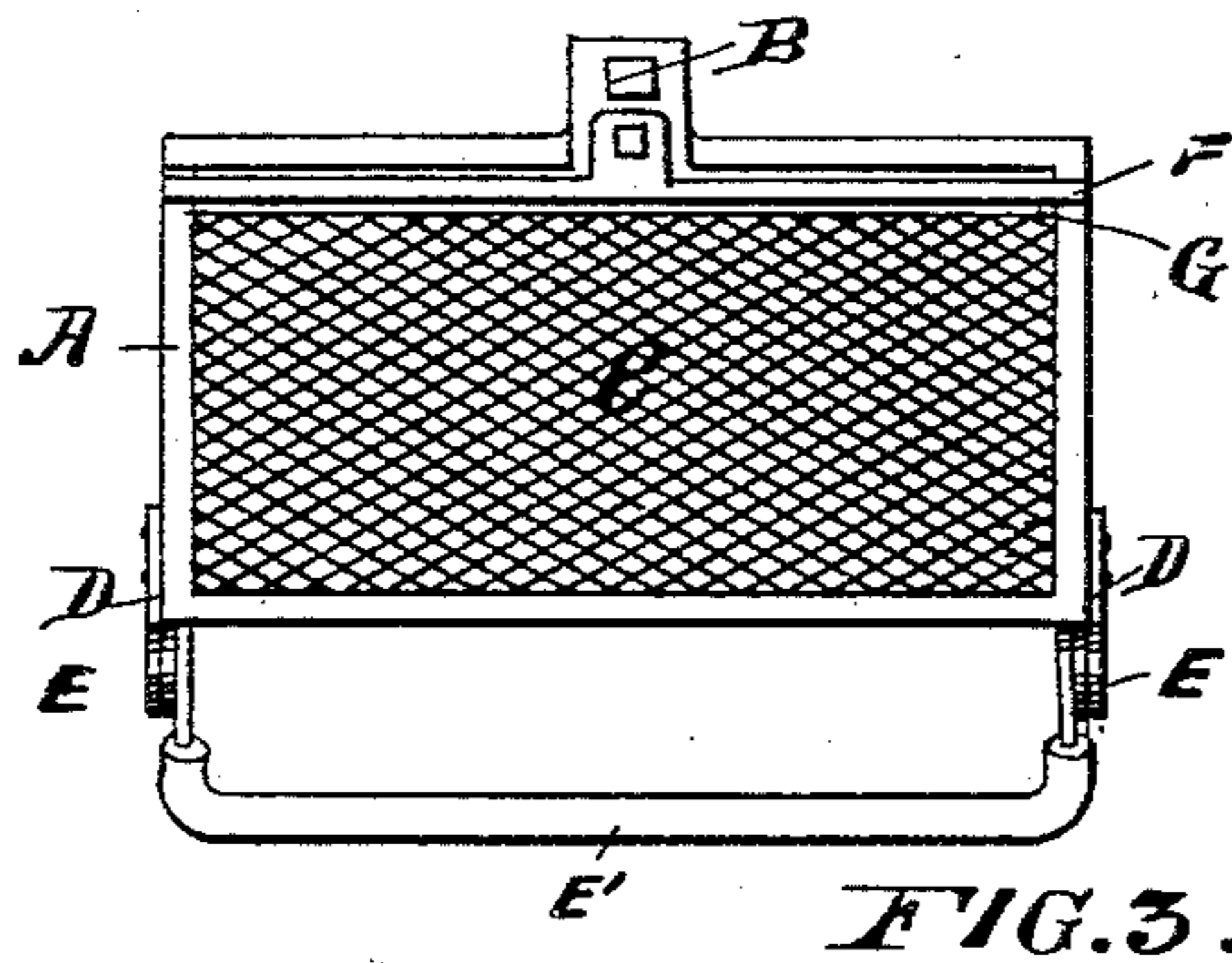


FIG. 3.

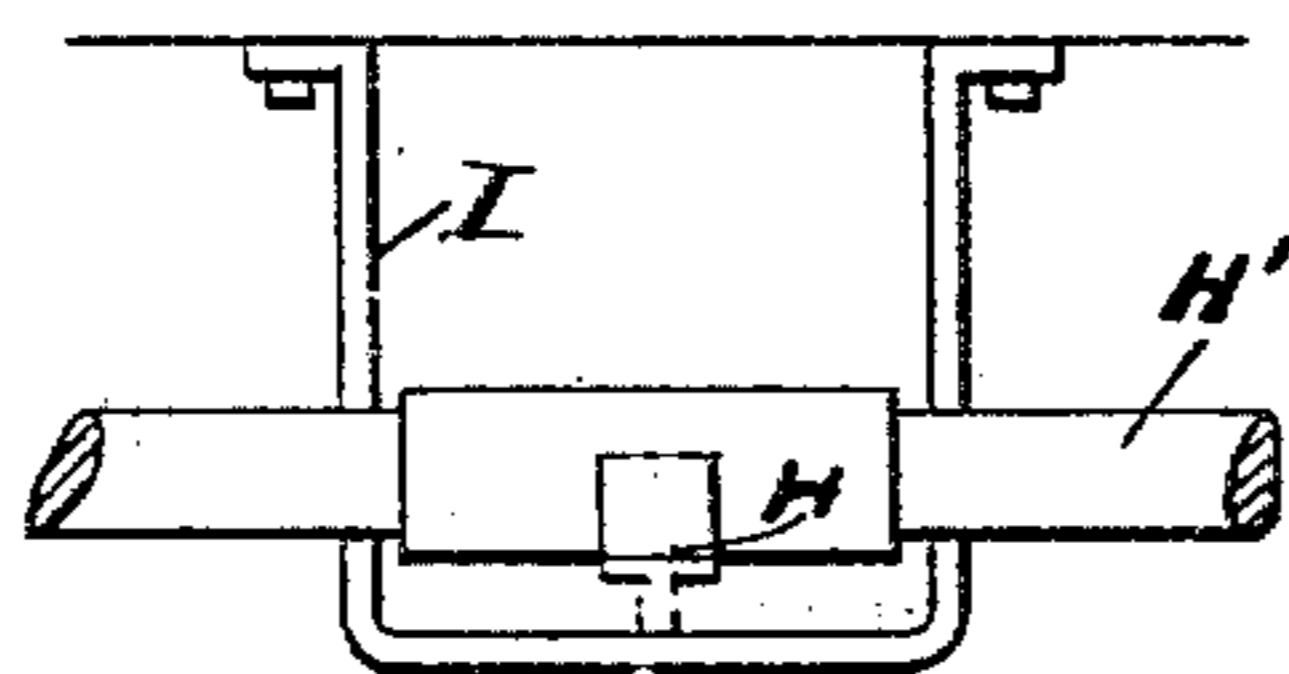


FIG. 4.

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SAFETY ATTACHMENT FOR CARS.

SPECIFICATION forming part of Letters Patent No. 504,798, dated September 12, 1893.

Application filed May 3, 1893. Serial No. 472,884. (No model.)

To all whom it may concern:

Be it known that we, INGHAM W. BISBING and JOHN E. GERHART, citizens of the United States, and residents of the city and county of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Safety Attachments for Cars, of which the following is a specification.

Our invention relates to improvements in safety attachments for cars and more particularly for trolley and cable cars, and the object of our invention is to furnish an attachment for the front of cars which will effectually prevent the car from running down and injuring persons.

Our invention consists of an L shaped frame which is pivotally attached to the front of the car, and to the forward end of which is attached a spring guard which extends diagonally forward and downward to within some four inches, more or less, of the track and from one side of the track to the other. This spring frame is covered with rubber tubing or some similar and suitable material which will be soft and yielding so as not to injure a person struck by it. The L shaped frame is guided by a beam or brace which is carried by the axle or truck of the car, so that it may cover the track in rounding curves instead of following the front end of the car at this time, and leave one rail of the track unprotected. The horizontal part of the frame is fitted with slat or wire work forming a shelf to hold a person that may be thrown upon it, and the vertical part of this frame is furnished with an upholstered screen, preferably detachable from it, to prevent a person from being thrown violently against the front or under the car. The spring frame operates through suitable mechanism, when it strikes a person, a bell, which attracts the attention of the man in control of the mechanism of the car should he not see that some one has been struck.

In the accompanying drawings forming a part of this specification and in which similar letters of reference indicate similar parts throughout the several views, Figure 1, is a side elevation of the front part of a car with our safety attachment in place; Fig. 2, a front view of the safety attachment; Fig. 3, a plan of the same; Fig. 4, a front elevation of part

of the axle, the guiding beam, and the stirrup carried by the car for supporting the front end of the axle.

Our safety attachment consists of an L shaped frame A the upper part of which is pivotally attached at B to the front part of the platform of the car. The lower or horizontal part of the frame projects forward and forms a shelf the edges of which are formed by the frame and the center part of which is formed by a wire netting or slat work C.

To the front end of the sides of the horizontal part of the frame A, are attached the ends of a stout rod D. This rod is bent so as to form coil springs E and is then continued down and forward to within some four inches, more or less, of the tracks and extends across from one track to the other. The forward part of this rod is covered with rubber tubing E' or some other soft material which will not be liable to injure a person whom it may strike.

F, is a frame which is carried by the vertical part of the frame A and which is furnished with upholstered slats G. This frame is as wide as the horizontal part of frame A and operates to prevent a person who may be thrown upon the horizontal part of the frame from being thrown against, or under, the forward part of the car.

H is a guide frame or beam the rear end of which is carried by the axle H' of the front wheels of the car, or by the forward truck, if trucks are used, and which is further supported by a frame or stirrup I, depending from the car, and to the forward end of which the frame A is secured by means of lugs J projecting downward from this frame, or in any other suitable manner. The beam H is always perpendicular to the forward axle of the car, and as the frame A is attached rigidly to this beam and pivotally to the platform of the car, it will not turn with the front end of the car in rounding curves, but will be guided by the beam H which will cause it to turn the curve radially as the axle does, not tangentially as does the body of the car. The frame thus always affords a guard to prevent accidents which it would not do were it rigidly secured to the front of the car. If the latter were the case the outside track on short curves would be entirely unprotected. If a

person is struck by the device the spring guard rod D yields and prevents a severe shock, and the person is thrown by it up onto the horizontal part or shelf of the frame A and is prevented from injury by striking the upholstered screen or frame F. The frame A and screen F are made separately so that the device may readily be moved from one end of the car to the other if necessary.

10 *a*, is a rod one end of which is secured to the spring rod D and the other to a bell crank lever *b* pivoted to beam H.

c, is a rod connected to the other arm of this bell crank and to one arm of a bell crank *d* the other arm of which forms a hammer *e* which is adapted to strike a bell *f*. Should a person be struck by the rod D, the gong or bell *f* will be operated, through rods *a* and *c*, and bell cranks *b* and *d*, to give notice to the operator in the car, that he may stop it.

20 Having thus described our invention, we claim—

1. The combination with a car, of an L shaped frame the upper end of which is pivotally attached to the forward end of the car, and the lower end of which projects forward forming a shelf, a spring guard secured to the forward ends of the sides of said L shaped frame and extending downward and forward, and from one side to the other of said frame, and the lower part of which is covered with rubber tubing or some other yielding material, and an upholstered screen secured to and

extending across the front of the vertical part of said L shaped frame. 35

2. The combination with a car of an L shaped frame the upper part of which is pivotally attached to the forward end of said car and the lower part of which projects forward, a spring guard as described, carried by the forward end of the lower part of said frame, a guide beam one end of which is carried by the forward axle of the car and which projects horizontally forward from this axle and the front end of which is secured to the L shaped frame, and a stirrup carried by the car and supporting the forward end of said guide beam. 40 45

3. The combination with a car of the L shaped frame, the spring guard attached to the forward end of said frame as described, a guiding beam for keeping said frame parallel to the front axle of the car, a rod connected at one end to said spring frame and at the other to a bell crank lever pivoted upon said guiding beam, said bell crank lever, a rod connecting said bell crank with a second bell crank lever, said second bell crank lever, and a bell operated by said second bell crank lever, all substantially as and for the purposes set forth. 50 55 60

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