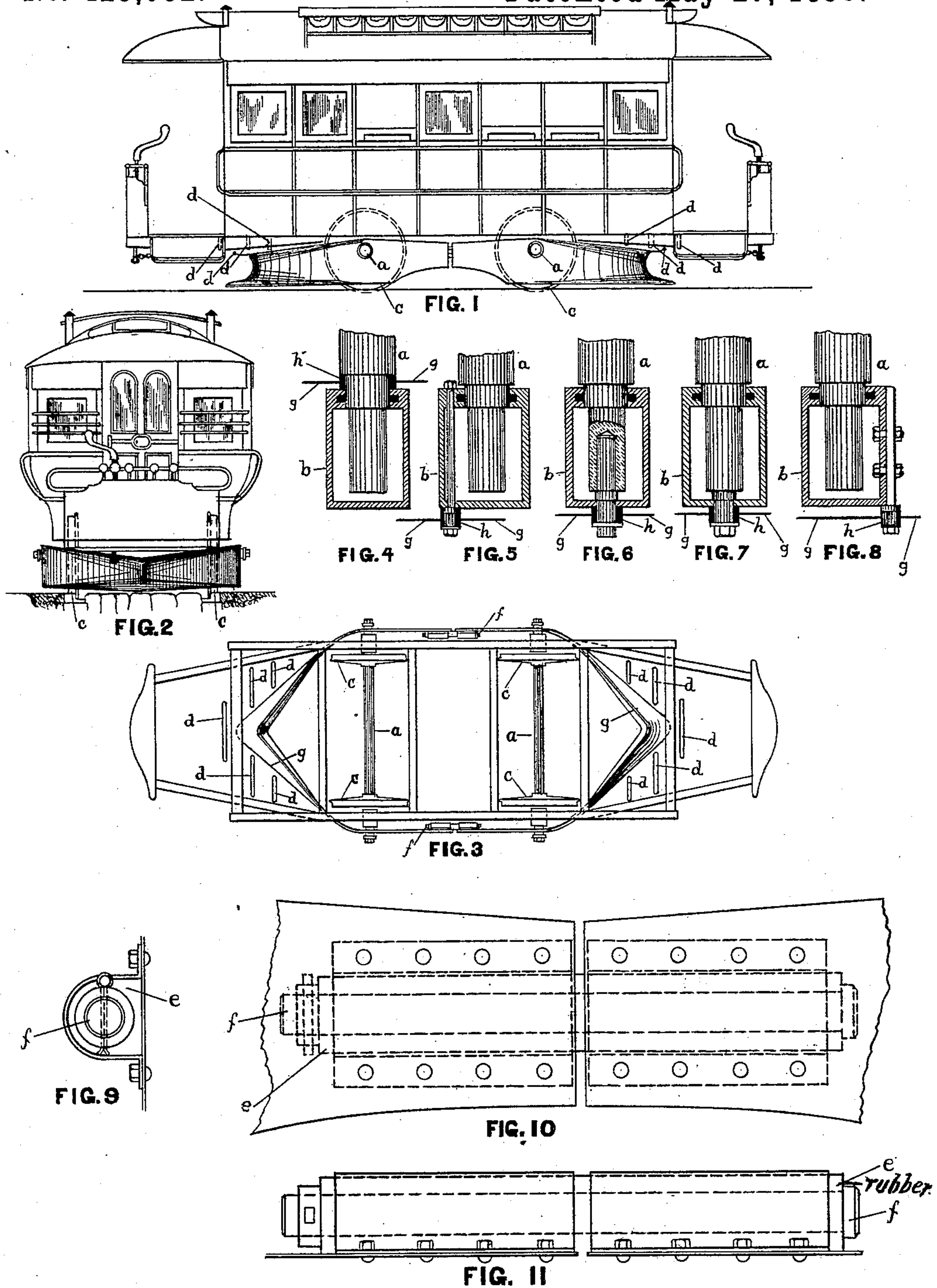


(No Model.)

C. CARR.
LIFE GUARD FOR CARS.

No. 429,082.

Patented May 27, 1890.



WITNESSES:

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CHARLES CARR, OF BOSTON, MASSACHUSETTS.

LIFE-GUARD FOR CARS.

SPECIFICATION forming part of Letters Patent No. 429,082, dated May 27, 1890.

Application filed February 28, 1890. Serial No. 342,117. (No model.)

To all whom it may concern:

Be it known that I, CHARLES CARR, of the city of Boston, county of Suffolk, and State of Massachusetts, have invented an Improved Life-Guard to be Applied to Electrically-Propelled and other Cars, of which the following is a specification.

The object of my improvement is to prevent bodies from being run over and getting injured and crushed by the car-wheels, and incidentally also to prevent injury to the cars and passengers riding in and upon them.

The nature of the invention relates to the construction, combination, and relative arrangement of the guard with and in respect to the car-wheels, their axles, the truck-frame, and car-body, substantially as hereinafter more fully described and illustrated in accompanying drawings, which, with the reference-letters, form part of this specification.

Of the drawings, Figure 1 is a side elevation of a car, showing the life-guard as applied thereto. Fig. 2 is an end elevation of the same. Fig. 3 is a plan of the truck-frame and wheels, axles, &c., with the improved life-guard applied. Figs. 4, 5, 6, 7, and 8 are sectional plan views illustrating the application of the guard directly, or by means of the axle journal-box, to the axle. Fig. 9 is an end view, and Fig. 11 a plan, of the flexible central jointing of the life-guard. Fig. 10 is a side elevation of the same.

Recent serious accidents affecting life and limbs have exemplified the imperative need of some better devices than those in use for the purposes above noted. The improved guard, which I will proceed to describe, will, it is believed, meet, or more nearly so than any other known device, this great need. Devices for this purpose have generally been of such a character and so attached as not to maintain a steady and uniform relation to the road-bed or track. In consequence of this they have had an up-and-down or bobbing motion, which has permitted them to override a body on the track, adding injury and permitting it to pass and be crushed by the wheels.

My device maintains a comparatively, if not perfectly, uniform relative position in relation to the track and road-bed, however much the

car-body or truck-frame and dependent parts may vary and bob up and down.

The car-axle is shown at *a*, and *b* is the journal-box. The truck-wheels are at *c*. The guard is constructed to inclose all the wheels, as will be understood by reference to Fig. 3, where it will be identified by its reference-letter *g*.

Like letters refer to the like or corresponding parts in all the figures.

The guard is shown of a taper form in the horizontal projection at each end. (See Fig. 3.) This is the preferable form, but may be varied to suit circumstances and preferences. In vertical projection the form is preferably a curve, turning slightly forward at the top, while at the bottom it turns considerably forward, so much so, preferably, as to form a shelf onto which a person so unfortunate as to be struck by it might roll and hold on by rods or handles *d*, depending from the framework of car or truck-frame, or, better still, reaching over from the guard itself.

The guard may be of any suitable material, approximately in the described form. It, however, should be provided with a degree of flexibility somewhere in its midway section, the better to accommodate itself to the slight irregularities of relative position to which the axles are subject in operation. I have illustrated in Figs. 9, 10, and 11 one method of securing the desired flexibility, the guard being formed in two parts and joined by means of a rod or bolt, between which and its chamber in each part is inserted an elastic sleeve or rubber pipe *e*. The rod is at *f*.

To secure a uniform, or practically so, relation or relative position of the guard with reference to the track or road-bed, the guard is provided with journal-sockets at *h*, which are carried either directly upon the axle as a journal or upon a journal pin or support, which itself is carried directly upon the axle or by being attached to the journal-box or otherwise. Thus as the wheels keep the axle at a uniform distance from the track and the journal and its box are fitted directly to the axle and the guard to them, there can be no appreciable, or at least no objectionable or troublesome, variation in relative position in respect to the track.

The guard, as above stated, may be of any suitable material, light steel plate, however, being preferable.

I claim—

5 1. The guard as constructed in two parts, front and rear, with tapered ends, each part mounted and supported solely and directly upon the axles or axle-boxes, and both connected together midway between the front
10 and rear axles by a slightly yielding or elastic joint and inclosing all the wheels, substantially as described.

2. The one guard having an elastic joint in the middle of its length inclosing all the wheels
15 and supported by four bearings directly upon the axle, axle-box, or pins carried by the axle-box, substantially as described.

3. The one guard having an approximately central flexible joint inclosing all the wheels
20 and having its sole support at the axles or axle-boxes, substantially as described.

4. The guard mounted directly upon the axles or axle journal-boxes and having the

horizontally-tapered ends formed vertically into a curve terminating in a broad shelf at 25 the bottom, substantially as described.

5. The guard mounted directly upon the axles or axle journal-boxes and having the shelf at the bottom, in combination with catch rods or handles placed conveniently above it, 30 substantially as described.

6. The guard mounted directly upon the axles or axle journal-boxes and having the shelf at the bottom, in combination with catch rods or handles extending above from the 35 guard itself, substantially as described.

7. The taper front and rear guard jointed at a point midway between the front and rear axles and having its sole support upon the axles or axle-boxes, and provided with the 40 catch rods or handles, substantially as described.

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Witnesses:

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