(No Model)

2 Sheets—Sheet 1.

G. F. TOPLIFF & F. B. COMINS.

CAR FENDER.

No. 489,134. Patented Jan. 3, 1893.

Fig. 1.

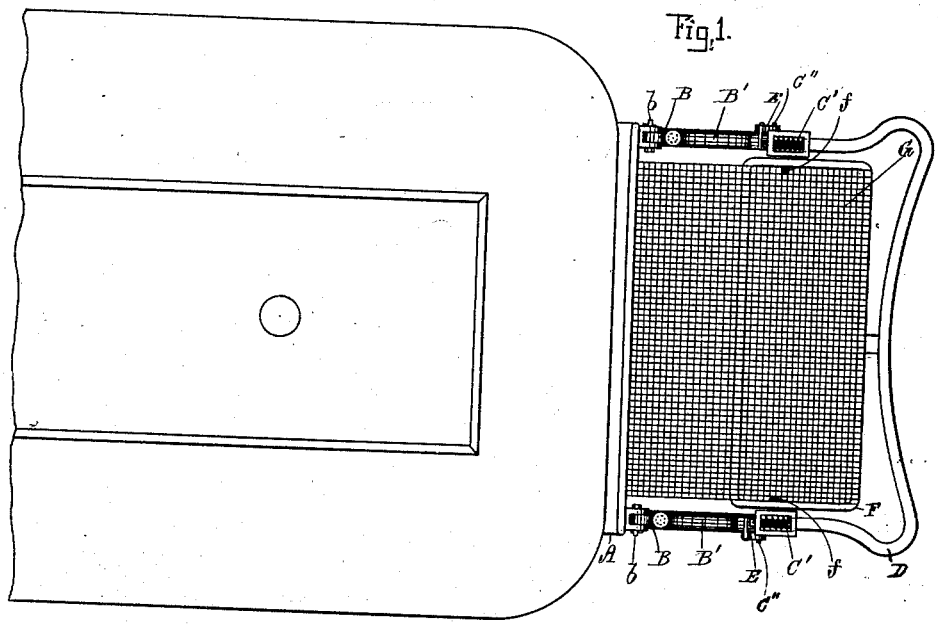
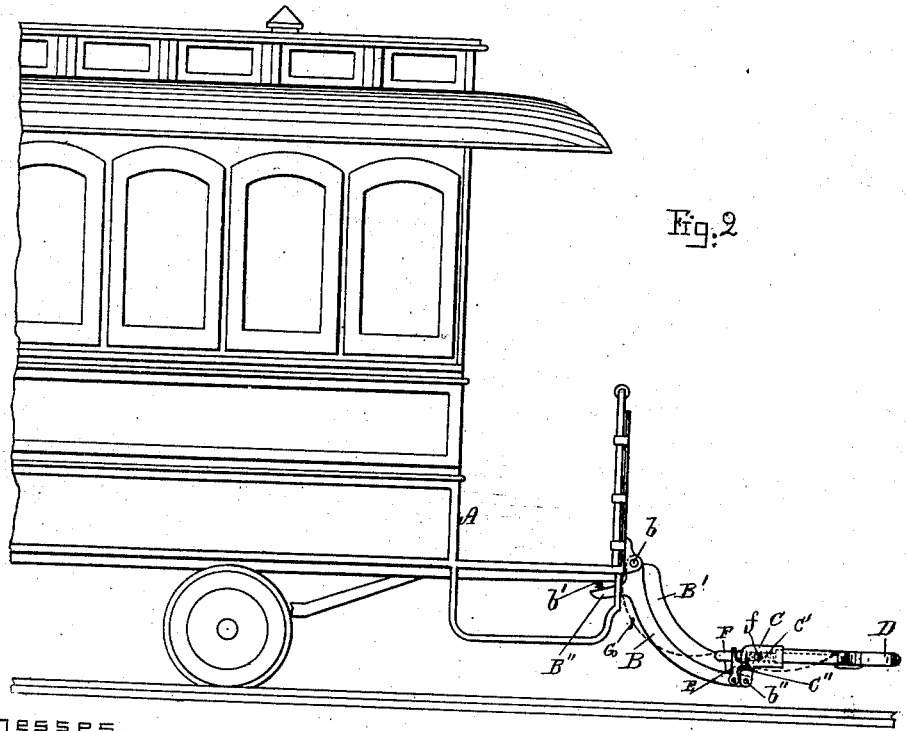


Fig. 2



Witnesses.

Laurits N. Höller.

Karl A. Andrén.

Inventors.

George Francis Topliff and Frank B. Comins

by Attorneys Andrén & Andrén their atty.

(No Model.)

2 Sheets—Sheet 2.

G. F. TOPLIFF & F. B. COMINS.

CAR FENDER.

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Fig. 3.

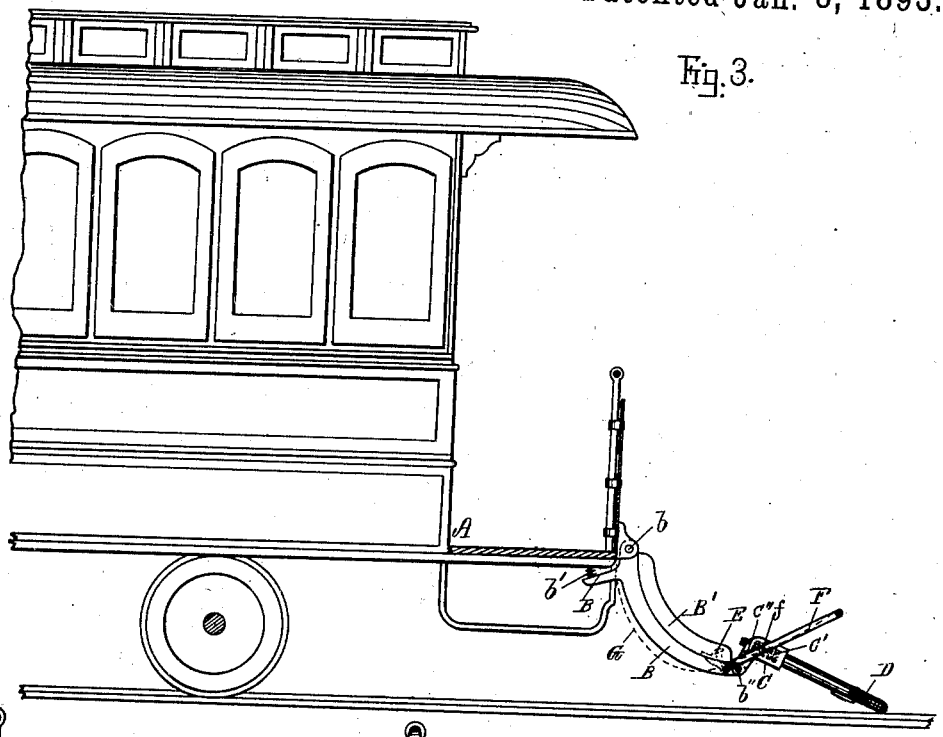


Fig. 5.

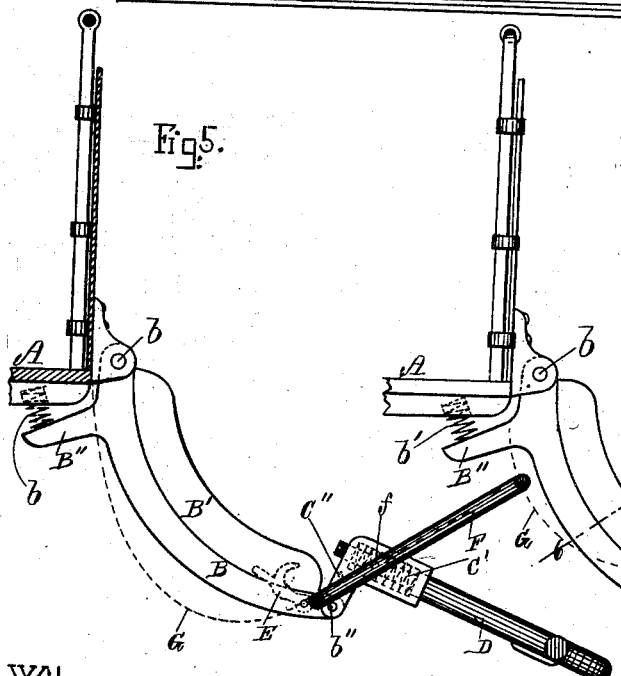
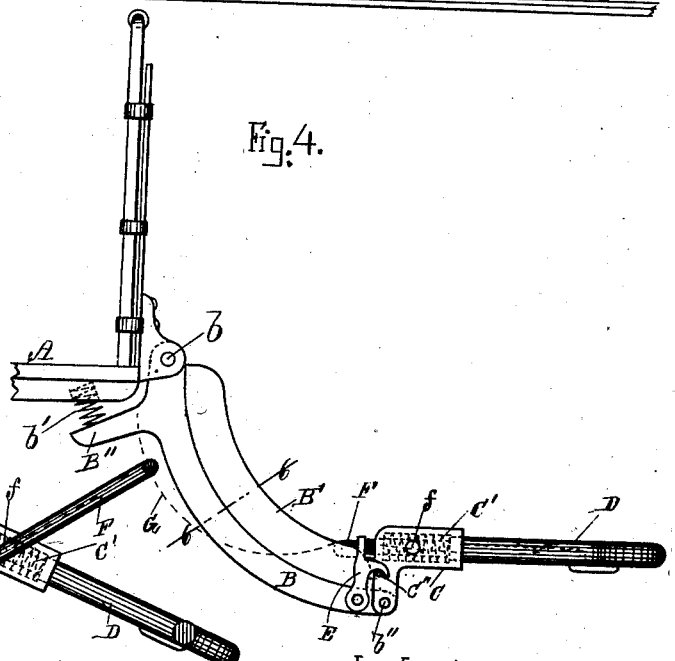


Fig. 4.



Witnesses.

Laurentz N. Moller.

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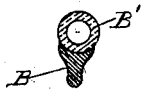
Fig. 6.



Inventors.

George Francis Topliff and Frank B. Comins.

by Albert G. Davis & Andrén their atty.

UNITED STATES PATENT OFFICE.

GEORGE FRANCIS TOPLIFF, OF BOSTON, MASSACHUSETTS, AND FRANK B. COMINS, OF PROVIDENCE, RHODE ISLAND.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 489,134, dated January 3, 1893.

Application filed September 21, 1892. Serial No. 446,385. (No model.)

To all whom it may concern:

Be it known that we, GEORGE FRANCIS TOPLIFF, residing at Boston, in the county of Suffolk and State of Massachusetts, and FRANK B. COMINS, residing at Providence, in the county of Providence and State of Rhode Island, citizens of the United States, have jointly invented new and useful Improvements in Car-Fenders, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relates to improvements in life saving car fenders for cable, electric, or other motor propelled cars and it has for its object to prevent serious injury to persons or animals coming in contact with the car when in motion, and it is carried out as follows, reference being had to the accompanying drawings wherein:

Figure 1 represents a plan view of the invention: and Fig. 2 represents a side elevation showing the car fender in its normal position: Fig. 3 represents a longitudinal section showing the device in position after striking and receiving a person or object. Fig. 4 represents a detail side elevation of the car fender in its normal position: Fig. 5 represents a similar view showing the car fender in a position like that shown in Fig. 3: and Fig. 6 represents a cross-section on the line 6—6 shown in Fig. 4.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

In the drawings A represents the front end of the car frame or platform to which are hinged at *b*, *b* the curved arms or brackets B, B preferably provided on their upper sides with pneumatic tubes of rubber or other elastic cushions B′, B′ as shown. The said arms or brackets are preferably held in their normal positions by means of yielding springs *b′*, *b′*, interposed between the bottom of the car and ears or projections B″, B″ on the arms or brackets B, B as shown in Figs. 2, 3, 4 and 5. To the lower forward ends of the arms B B are hinged at *b″*, *b″* the boxes C, C through which is guided the upper ends of the ⌐ shaped outer and yielding frame D which is adapted to yield against springs C′, C′ arranged within the boxes C C as shown, when said outer frame strikes an object or person. The upper ends of said outer frame D are prevented from getting detached from the boxes C, C by means of pins passing through such parts or by means of nuts secured to the upper projecting ends of said frame D or in any other equivalent or well known manner. The frame D is ordinarily held in its normal position relative to the brackets or arms B, B by means of any suitable latch or locking device and in the drawings we have shown for this purpose hooks or latches E, E pivoted on the lower ends of the arms or brackets B, B and adapted to engage and lock onto projections C″, C″ on the boxes C, C as shown. The particular construction, arrangement and operation of such locking device are not essential and we desire to state that we do not wish to confine ourselves to the precise construction shown as any suitable device may be used for this purpose without departing from the essence of our invention.

In front of the pivots *b″*, *b″* is pivoted at *f*, *f* on the boxes C, C the inner frame F the front end of which is loosely supported on the forward end of the outer frame D or projections thereon as shown.

G is a flexible or yielding sheet or apron the front end of which is attached to the front end of the inner frame F and having its rear end attached to the car platform, dasher or other part of the front end of the car as shown.

The operation of the device is as follows: The outer frame D is normally held by the latches E, E, in the raised position shown in Figs. 2 and 4, and the inner frame F is likewise held in a similar horizontal or nearly so position on account of the forward end being supported on the outer frame or its connections. If a person or object is being struck by the outer frame D it causes the latter to yield against the springs C′, C′ and as it yields its rear ends come in contact with the latches E, E causing them to be swung backward and disconnected from the pins or projections C″, C″ on the boxes C, C by which the outer frame D is released and allowed to swing downward against the track or rails as shown in Figs. 3 and 5: such movement of the outer frame causes the inner frame likewise to follow the motion of the outer frame D on

account of the latter being hung in advance of the pivots of said outer frame: the person or object that is struck will thus be landed on the rear portion of the netting or apron G which as it sags down by the weight of the person, causes the inner frame F to be swung upward as shown in Figs. 3 and 5 by which the person or object is retained as it were in a cradle and prevented from dropping off. After removing the person or object, the frames D and F are placed and temporarily locked in their original positions as shown in Figs. 2 and 4.

Having thus fully described the nature, construction and operation of our invention, we wish to secure by Letters Patent and claim:

A car fender consisting of arms attached or pivoted to the car, an outer frame pivoted to said arms and adapted to yield in relation thereto and having a locking device for holding said outer frame normally in position and a pivoted inner frame provided with an apron connected to the front end of the car, substantially as and for the purpose set forth.

In testimony whereof we have signed our names to this specification, in the presence of two subscribing witnesses, on this 3d day of September, A. D. 1892.

GEORGE FRANCIS TOPLIFF.
FRANK B. COMINS.

Witnesses:
ALBAN ANDRÉN,
LAURITZ N. MÖLLER.