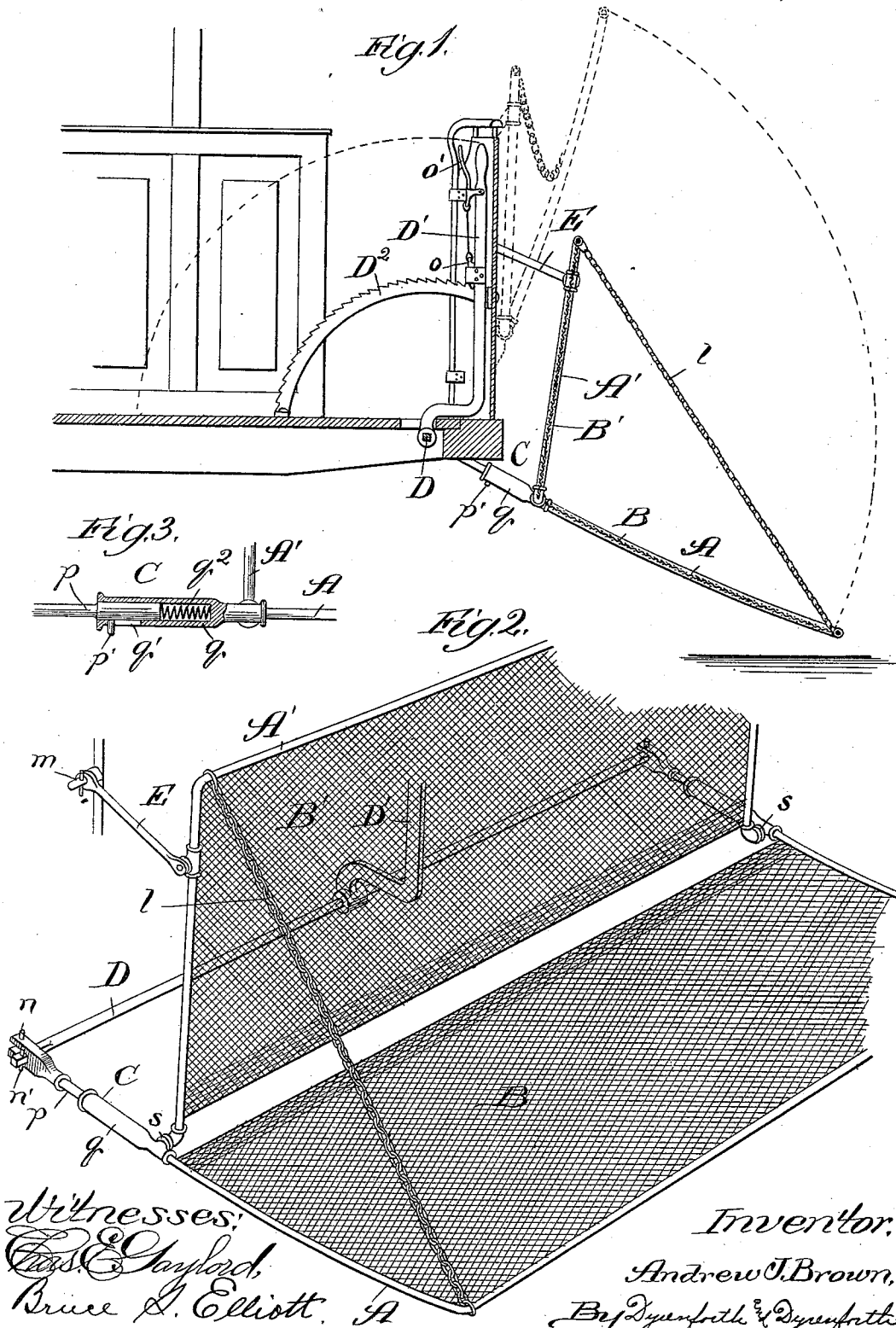


(No Model.)

A. J. BROWN.
SAFETY GUARD FOR CARS.

No. 466,115.

Patented Dec. 29, 1891.



Witnesses:
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UNITED STATES PATENT OFFICE.

ANDREW J. BROWN, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-THIRD TO
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SAFETY-GUARD FOR CARS.

SPECIFICATION forming part of Letters Patent No. 466,115, dated December 29, 1891.

Application filed July 25, 1891. Serial No. 400,694. (No model.)

To all whom it may concern:

Be it known that I, ANDREW J. BROWN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Safety-Guards for Cars, of which the following is a specification.

My object is to provide an attachment of improved construction for the forward ends
10 of locomotives or grip or motor cars, to operate as a guard for the safety of the public, and to prevent persons run down by the car from falling under the wheels or being seriously injured by the concussion.

15 My object is, further, to provide an adjustable device for the above purpose which shall be under the control of the engineer or gripman, whereby he may lower it to the proper distance above the road-bed, raise it to override obstacles, or fold it out of the way at will.

20 My object is, still further, to provide a safety-guard of the nature described which shall be readily removable from and replaceable upon the car, and to so construct the device
25 as to render it particularly light, strong, durable, and desirable for its purpose.

In the drawings, Figure 1 is a broken longitudinal and vertical section of the forward end of a car provided with my improved
30 safety-guard, which is also shown in section; Fig. 2, an enlarged broken perspective view of the safety-guard and its operating-lever, and Fig. 3 a broken sectional view of a detail of the construction.

35 The safety-guard proper is formed with a skeleton frame in two parts A A', secured pivotally together. Each frame is made, preferably, of gas-pipe or other tubing, to be as light as possible consistent with the strength
40 required, and may be of the rectangular shape shown. Each frame is filled with a texture or other soft or yielding material to afford the cushioned platform B and wall B'. Mattresses of woven wire may be employed for
45 the purpose, as indicated in the drawings.

On the frame A are socket-bearings *s* for the lower ends of the frame A', which fit loosely into the said socket-bearings to produce a hinge connection between the frame
50 A and A'. At opposite ends of the frame A

are backward-extending bars C. The bars C may be made in telescope-sections *q p*, the sections *q* being rigidly secured to or integral with the frame A and forming sockets to receive the ends of the sections *p*. In the sections *q* are longitudinal openings *q'*, and on the sections *p* are pins or lugs *p'*, which extend into the said openings and act as stops to prevent the sections from separating, while
55 permitting them to move longitudinally upon each other a limited distance. In the sockets of the parts *q* are coiled springs *q''*, which bear against the ends of the sections *p* and maintain the parts normally extended.

D is a rock-shaft extending across the forward end portion of the car and mounted in bearings on the latter. Secured to the shaft D is an operating-lever D', which extends upward to be within easy reach of the engineer or gripman. At the side of the lever D' is a segmental rack D², describing an arc of which the shaft D is the center. Spring-catch mechanism *o* on the lever D' normally engages the rack D² and is connected with a lever *o'* at the handle of the lever D'. When the lever
65 D' is grasped, the lever *o'* may be grasped at the same time and pressed, whereby it operates to disengage the catch from the rack and permit the lever D' to be swung in the forward direction. The ends of the shaft D
70 are squared and project beyond its bearings. The free ends of the section *p* of the bars C are bifurcated, as shown, to receive the squared ends of the shaft D, and are held against displacement by removable pins *n*,
75 which are passed through openings in the forks beyond the shaft, and stops *n'* on the shaft, which prevent the bars C from slipping off the ends of the latter. The bifurcated ends of the bars C fit closely upon the squared
80 ends of the shaft D, so that the frame A is swung at its fore end in the vertical plane as the shaft is turned. The frame A' is connected near its upper end with the front end of the car by links E. The links E are pivotally secured at one end to the frame, A' and
85 at their opposite ends are provided with openings to fit over pins *m*, which may extend horizontally beyond the opposite ends of the dash-board. The links E operate to brace the
90
95
100

frame A' and maintain it some distance forward of the front end of the car, so as to clear the head-light, which is usually fastened against the dash-board.

5 To render the frame A capable of sustaining any weight which may fall upon it, I provide chains or other preferably flexible mediums l , which are fastened at opposite ends, respectively, to the outer bar of the frame A
10 and upper bar of the frame A' at opposite sides of the device.

In practice, while the car is making a trip the safety-guard will be maintained in the lowered position shown in Fig. 1, the forward
15 end of the frame A being an inch or slightly more above the road-bed. Should a person be run down by the car, the tendency of the guard will be to trip him up and cause him to fall upon the mattress B and against the mat-
20 tress B'. The cushions afforded by the spring q^2 in the bars C render the guard yielding, and will thus tend to lessen the force of a blow against the feet of a person.

If desired, the forward edge of the platform
25 A may be provided with a strip of rubber or other yielding material to reduce still further the force of its impact. The side bars of the frame A may be bent, as shown, to render the mattress B slightly concave on its upper side,
30 and this concavity, when increased by the sagging of the mattress under the weight of a person, will tend, with the forward movement of the car, to prevent his rolling off the mattress.

35 In case an obstacle should appear upon the road-bed which it is desirable to override, the operator may, by drawing the lever in the backward direction, swing the frame A upward, and the engagement of the pawl or
40 catch o with the rack D^2 will maintain the guard at any elevation.

When desired, the device may be folded, as shown by dotted lines in Fig. 1.

The connections between the bars C and
45 shaft D and between the links E and pins m

described render the guard readily removable and replaceable upon the car.

If desired, the cushions B B' may be formed in one continuous length of the material employed therefor. While the various details
50 of construction shown in the drawings are the ones I prefer to employ, they are subject to modifications which would not depart from the spirit of my invention, and are intended to be included by the claims. 55

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a car, of an adjustable safety-guard pivotally secured to the front end portion of the car and extending
60 forward therefrom over the road-bed, comprising a cushioned platform B and a cushioned back B', and means upon the car for raising and lowering the guard upon its pivot to adjust it with relation to the road-bed, sub-
65 stantially as described.

2. The combination, with a car, of a safety-guard extending forward from the front end thereof over the road-bed, comprising a cushion-frame A, pivotally secured to the car, a
70 back cushion-frame A', connected pivotally with the frame A at its lower end and with the car near its upper end, cushions in the said frames, and means upon the car for raising and lowering the frames upon the pivots
75 to adjust the guard with relation to the road-bed, substantially as described.

3. The combination, with a car, of a horizontal rock-shaft D and operating-lever D' therefor upon the car, and a safety-guard at
80 the front end of the car, comprising a frame filled with cushioning material and connected rigidly with the rock-shaft, to be swung in the vertical plane as the shaft is rocked, substantially as described.

ANDREW J. BROWN.

In presence of—

M. J. FROST,

A. DYRENFORTH.