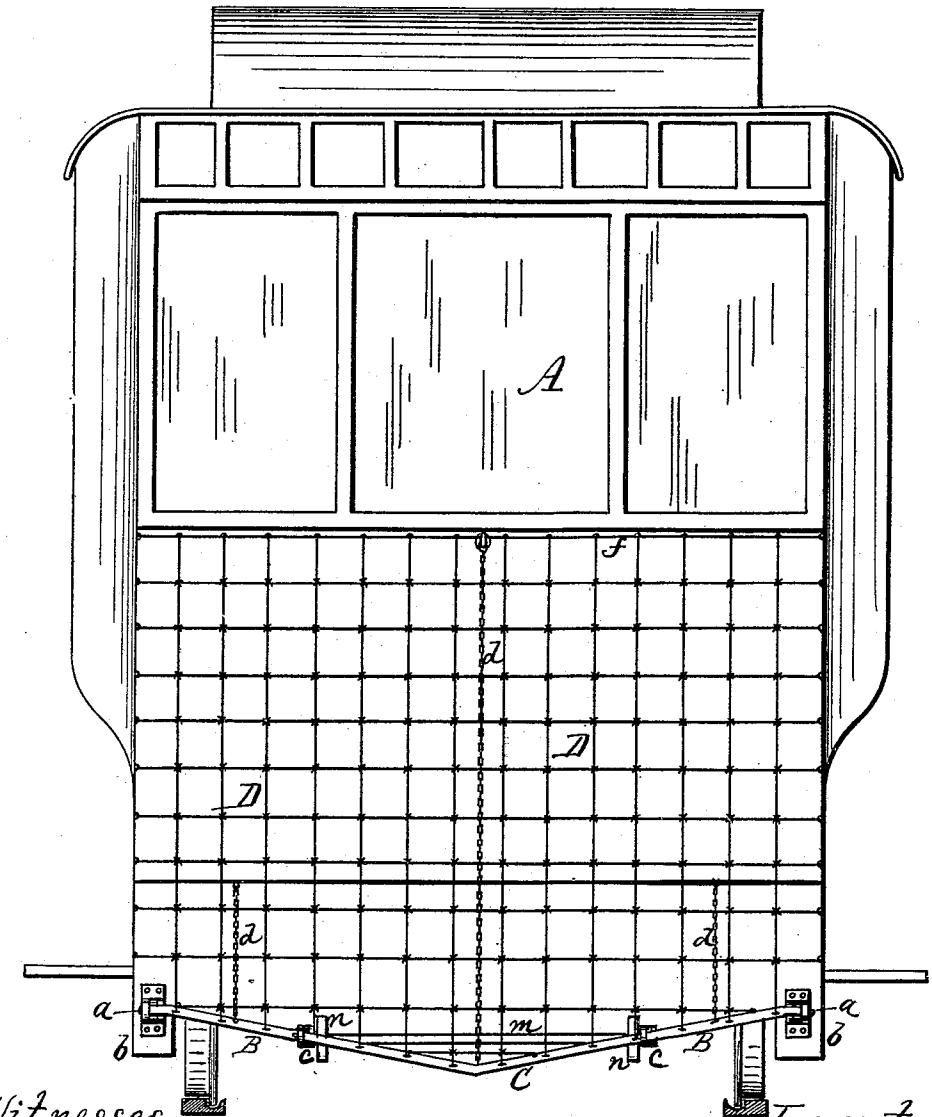
(No Model.) 2 Sheets—Sheet 1.

H. B. WILLIAMS.

PILOT FOR RAILROAD CARS.

No. 473,277. Patented Apr. 19, 1892.

Fig. 1.



Witnesses.
P. A. Costrich
A. S. Smith

Inventor.
Henry B. Williams,
by R. F. Osgood,
atty.

(No Model.) 2 Sheets—Sheet 2.

H. B. WILLIAMS.

PILOT FOR RAILROAD CARS.

No. 473,277. Patented Apr. 19, 1892.

Fig. 2.

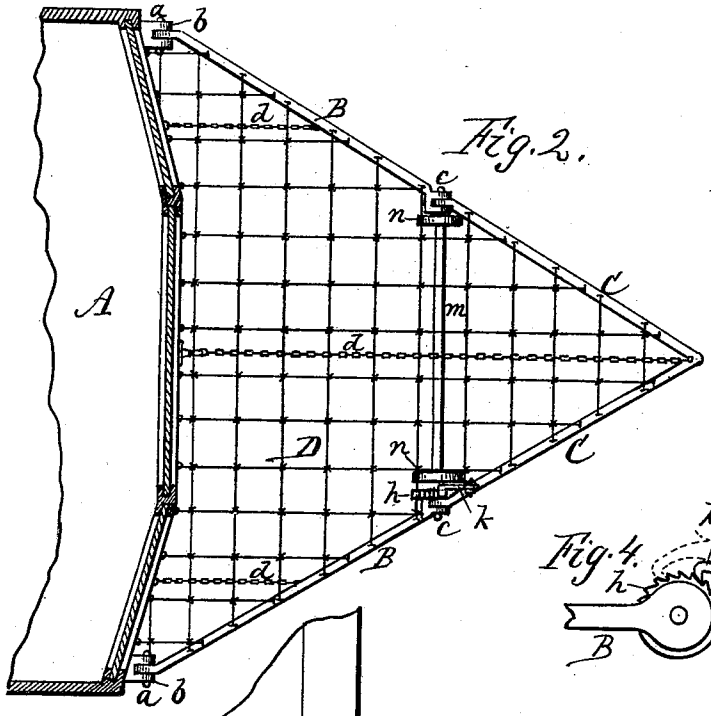


Fig. 4.

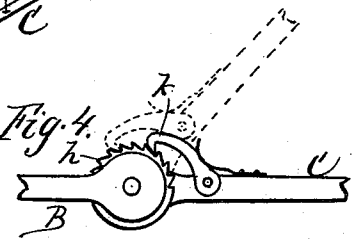
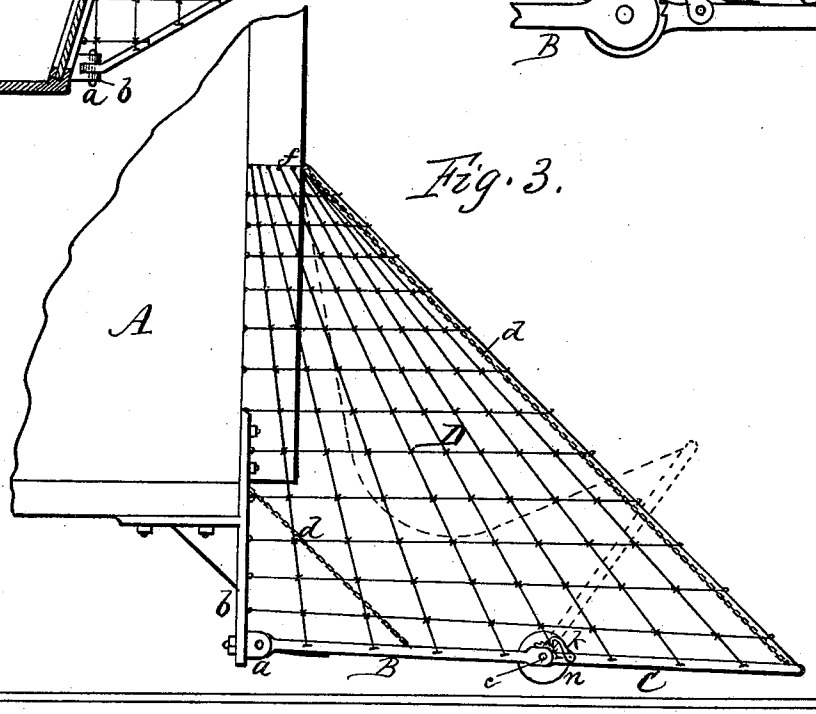


Fig. 3.



Witnesses.
P. H. Ewstich
A. L. Smith

Inventor.
Henry B. Williams.
per R. F. Osgood.
Atty.

UNITED STATES PATENT OFFICE.

HENRY B. WILLIAMS, OF ROCHESTER, NEW YORK, ASSIGNOR OF ONE-HALF TO LEMUEL A. JEFFREYS, OF SAME PLACE.

PILOT FOR RAILROAD-CARS.

SPECIFICATION forming part of Letters Patent No. 473,277, dated April 19, 1892.

Application filed November 19, 1891. Serial No. 412,362. (No model.)

To all whom it may concern:

Be it known that I, HENRY B. WILLIAMS, of Rochester, in the county of Monroe and State of New York, have invented a certain new and useful Improvement in Pilots for Railroad-Cars; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the drawings accompanying this specification.

My improvement relates to safety-pilots for street-cars, and is designed to provide means whereby if a person is struck by the car he will either be thrown to one side of the track or caught on the pilot and held in the flexible covering without material injury.

The invention consists in the construction and arrangement of parts hereinafter described and claimed.

In the drawings, Figure 1 is a front elevation of a street-car with my improvement applied thereto. Fig. 2 is a sectional plan view of the same. Fig. 3 is a side elevation. Fig. 4 is an enlarged side elevation of the ratchet device for holding the front section elevated.

A indicates the cab of a street-car, to which the pilot is attached.

The frame of the pilot consists of two jointed sections B and C of V form and arranged to turn up vertically. The ends of the rear section B are jointed at *a a* to hangers *b b* at the bottom of the car, while the ends of the front section C are jointed at *c c* to the front ends of the rear section. The joints of both sections turn vertically, so that the whole frame can be turned up or the front section can be turned up independently of the rear section. This frame is suspended and held in position by means of chains or cables *d d d*, attached at one end to the frame and at the other to the car or some stationary part of the same. Preferably they are attached to hooks on the car, by which means the frame can be adjusted to stand at any desired distance above the track. A single central chain is preferably used to hold the front section and a single chain on each side to hold the rear section. These chains, being collapsible, allow the turning of the sections on their pivots and do not interfere with the yielding of the net-work in case of accident.

D indicates the flexible covering, the same consisting, preferably, of a net-work of strong cord, although canvas or other strong material may be used. This covering is attached at *f* to the front of the car at a suitable height and at the bottom to the frame.

If a person is struck by the pilot, he is either thrown to one side of the track or is caught on the net-work, and although some personal injury might occur it would prevent his being run over. In case he is caught on the pilot he is thrown into the net-work, which at once yields and forms a sort of bag, as indicated by the dotted lines in Fig. 3. This is produced by the upward swinging of the front section of the frame, which then stands in an angular position and sustains the front end of the covering elevated. If desired, the covering may be made of a series of light metallic chains instead of cords, in which case they will retain their form at all times and present a good appearance.

In order to hold the front section C elevated when thrown up by the weight of the person on the net-work, a fixed ratchet *h* is attached to the rear section B on one side at the joint between it and the front section C of the frame, and a detent *k* is attached to the front section, which engages with it. When the front section is thrown up, the detent rides up over the teeth of the ratchet and holds therein. By this means no danger arises from the movements of the person, or otherwise of the front section falling back. If desired, the ratchet and detent can be used on both sides.

m is a shaft extending from side to side in line with the joint of the two sections, and *n n* are small wheels thereon, which ride elevated above the road-bed. In case of striking any obstruction said wheels prevent the nose of the pilot from striking the ground.

Having described my invention, I do not claim a stiff frame with a jointed outer section and a flexible covering.

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

1. The combination, with a railway-car, of the two jointed sections B C, one jointed to the car and the second to the first, the stays *d d d*, connecting said sections with the car, and the flexible covering D, the whole arranged to operate in the manner and for the purpose specified.

2. The combination, with a railroad-car, of a frame made in two sections jointed together, as described, a pair of traction-wheels on each side at the joint, and a flexible covering attached at one end to the frame and at the other to the car, as and for the purpose specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

H. B. WILLIAMS.

Witnesses:
R. F. OSGOOD,
CHAS. A. WIDENER.