

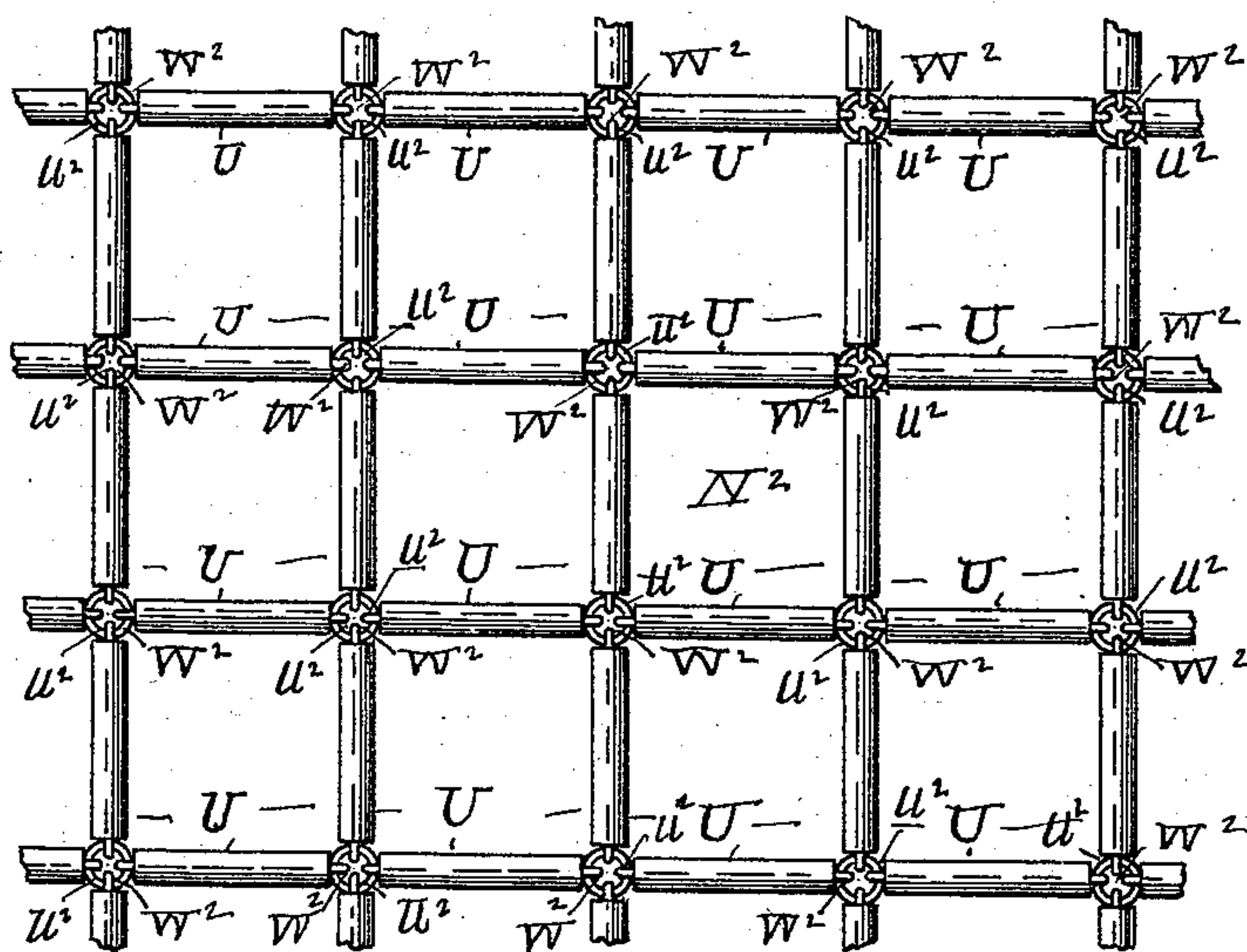
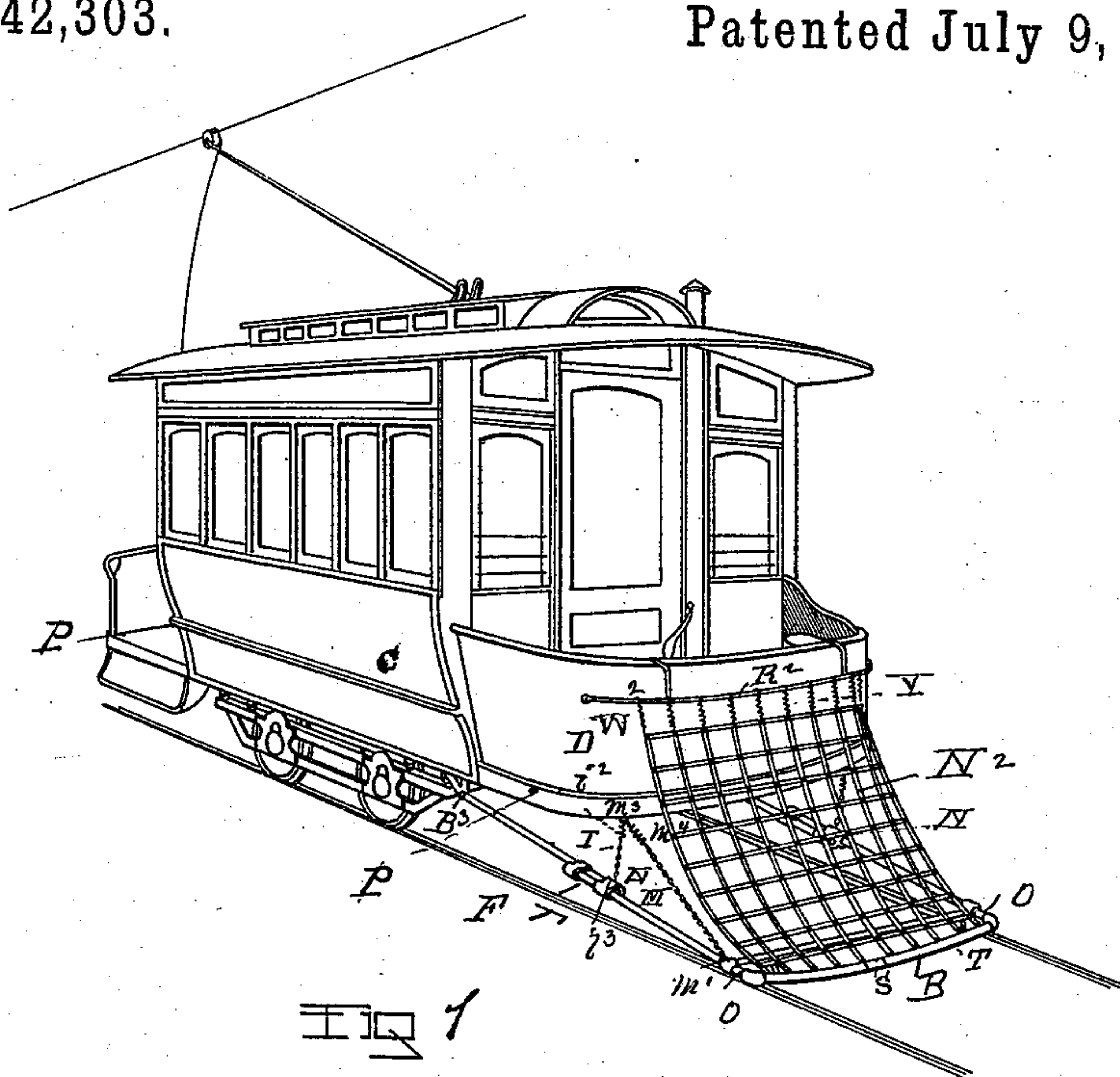
(No Model.)

2 Sheets—Sheet 1.

H. BURDEN.
CAR GUARD OR FENDER.

No. 542,303.

Patented July 9, 1895.



WITNESSES

William A. Sweet

Charles S. Brintnall

INVENTOR

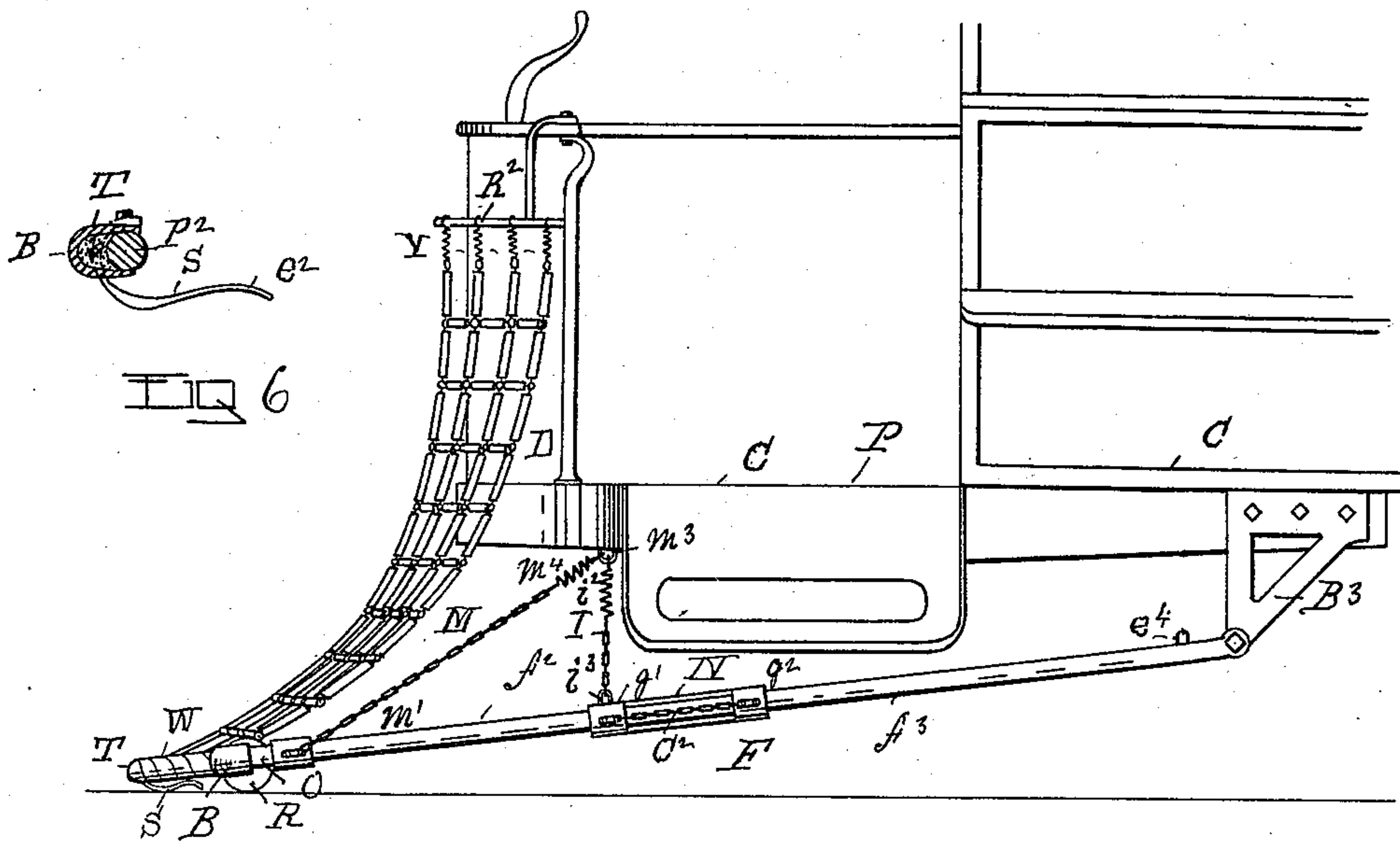
Henry Burden

by W^o Hagan atty

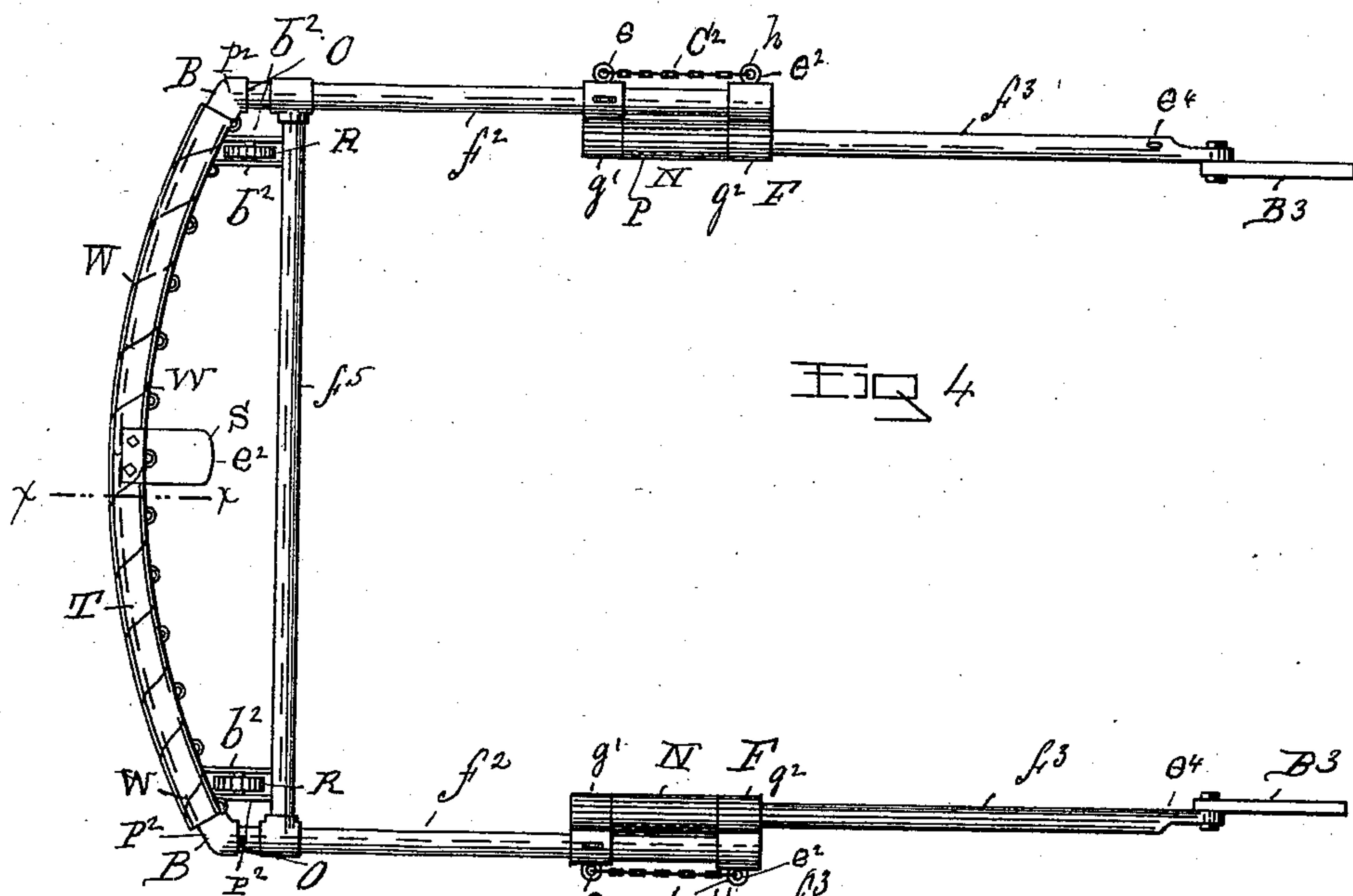
2 Sheets—Sheet 2.

No. 542,303.

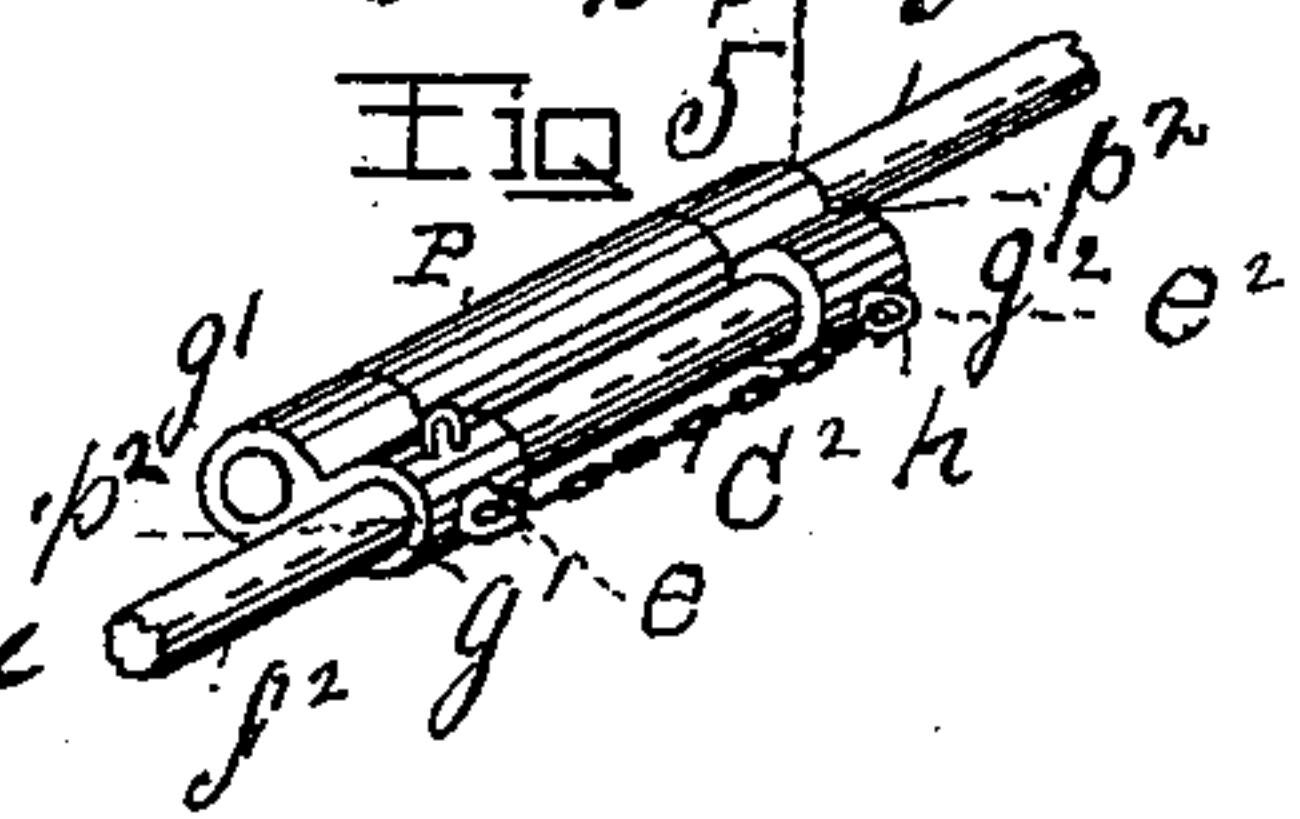
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UNITED STATES PATENT OFFICE.

HENRY BURDEN, OF TROY, NEW YORK.

CAR GUARD OR FENDER.

SPECIFICATION forming part of Letters Patent No. 542,303, dated July 9, 1895.

Application filed April 8, 1895. Serial No. 544,845. (No model.)

To all whom it may concern:

Be it known that I, HENRY BURDEN, of the city of Troy, county of Rensselaer, State of New York, have invented new and useful Improvements in Car Guards or Fenders, of which the following is a specification.

My invention relates to improvements in car guards or fenders, and more particularly to the construction and arrangement of a net for connection with that class of apparatus, it being the object and purpose of my invention and improvement to so construct the net that it will be elastic in its contact with the body of a person struck by or who may have fallen in front of a moving car. To make the net so used and to have it yielding and elastic, I form it from a series of elastic tube-sections, which are strung upon chains or on wires which cross each other at right angles, where they interlock between the tube-sections with the chains or wires at their lower ends connecting with a fender-bar which is provided with an elastic covering, and at their upper ends the chains or wires connect with a top rail, with the fender-bar attached to a frame which at its inner ends is hinged to a bracket at each side of the car, said frame being provided with slides, in which it may be drawn rearwardly and raised and held as raised. To give to the fender-bar means to easily pass over inequalities of the ground it is provided with idler-rollers and a drag-spring.

Accompanying this specification to form a part of it there are two plates of drawings, containing six figures, illustrating my invention, with the same designation of parts by reference-letters used in all of them.

Of the illustrations, Figure 1 is a perspective of a motor-car with my improved guard or fender attached thereto. Fig. 2 is a side elevation of a part of a motor-car with my invention shown as applied thereto. Fig. 3 is a plan view of a part of the net. Fig. 4 is a plan view of the frame with the net omitted. Fig. 5 is a perspective of one of the frame-slides, showing also parts of the frame sides. Fig. 6 is a section taken on the line $x x$ of Fig. 3, with the drag-spring shown in side elevation.

The several parts of the apparatus thus illustrated are designated by letter-reference,

and the function of the parts is described as follows:

The letter C designates the car; P, its end platforms; D, its dashboard.

The letters F designate the guard or fender frame, it having two sides, each side being divided in two parts $f^2 f^3$, and the latter where extended rearwardly making a hinged connection with the bracket B^3 at each side of the car-bottom, and the letter B designates the fender-bar, with which the outer ends of the frame sides connect.

The letter f^5 designates a cross-bar connecting the sides of the frame back of the fender-bar B. The latter is covered with an elastic covering, which will be more fully described hereinafter.

The letters R R designate idler-rollers arranged to journal in the bars $b^2 b^3$, extending from the cross-bar f^5 to the fender-bar B at each side of the frame.

The letter S designates a drag-spring, which at its front end connects with the fender-bar B, and it has its free end e^2 projected rearwardly and in such a position as will relieve the bar B and connected parts from the effect of any abrupt contact with inequalities of the ground over which the apparatus is being moved.

The letters N designate a slide, of which there is one formed in each side of the frame F, and this slide is produced by means of the guides g' and g^2 , they each having a slide-passage p' and an eye for attachment to one of the frame parts f^2 and f^3 . The guide g' is attached to the outer end of each of the frame parts f^3 at each side of the frame, with the frame part f^2 passing through the passage p^2 of the guide g' , and the guide part g^2 is attached at p' to the inner end of the frame part f^2 , with the frame part f^3 passing freely through the passage p' of the guide part g^2 .

The letter P designates a sleeve which is arranged on the frame part f^3 , between the guides g' and g^2 , in each of the slides N, and the function of this sleeve is to limit the indrawing movement of the frame parts.

The letter C^2 designates a chain attached to an eye e^2 on the guide part g^2 to connect by means of a hook h in the eye e on the guide part g' to keep the parts in position when moved outwardly on the slides. As

thus constructed when the chain C^2 is unhooked from the eye e the frame may at its front be moved inwardly in its slides and hooked in such a position by means of the chain C^2 , connecting with an eye e^4 in each of the frame sides.

The letters M designate chains, of which there is one at each side of the frame, and these chains at their lower ends each connect at m' to one of the sides of the frame, and at their upper ends they each connect with an eye m^3 on the under side of the platform; and to render these chains elastic as to tension they are each provided with a spiral spring m^4 , arranged between the upper end of the chain and its connection thereat.

The letters I designate other chains, of which there is one at each side of the frame, and they are each provided with a spiral spring i^2 , arranged between where the chains attach to connect with the eye m^3 and the frame sides at i^3 .

The net N^2 is made from a series of tube parts U, preferably of rubber, and these tube sections are strung upon wires or chains W^2 , with the latter arranged to intersect each other angularly, and where intersecting to connect at w^2 , as shown at Fig. 3, by which the net is rendered flexible, and its contact-surface is elastic. The net N^2 at its lower end connects with the fender-bar B and at its upper end to the rail R^2 by means of the spiral springs Y.

The fender-bar B is made from a piece of pipe P^2 , which constitutes the fender-bar proper, and this pipe is curved outwardly and centrally at its ends O O to connect with the frame sides.

The letter T designates a length of rubber tubing which is slit throughout its length on one side, and where thus slit its edges are arranged to embrace so as to overlap and underlap the fender-bar proper, and in which position it is secured by a wire W, with wool or other like cushioning material placed between the front side of the fender-bar part P^2 and the innerside of the rubber tubing T, as shown at Fig. 6.

The principal feature of my invention being the manner of constructing and arranging the net whereby it will be flexible and make an elastic impact with a body with which it may be brought in contact, I do not limit my invention thereof, as I illustrate and describe it, to the particular mechanism to which I show it to be attached, for its construction, as detailed herein by me, can be applied to many of the well-known car guards or fenders in

which a net or screen is employed. Neither do I limit my method of constructing the fender-bar to its combination with the particular mechanism to which I show it to be applied, as it may be used in connection with the fender-bars of other and well-known car guards or fenders.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination in a net for a car-guard or fender of a series of elastic tube-parts strung upon wires or chains arranged to intersect each other angularly between the tube-parts and to connect thereat, with a bar at the bottom of the net and a rail at the top substantially in the manner as and for the purposes set forth.

2. The combination with a net for a car-guard or fender composed of a series of elastic tube-sections strung upon chains or wires arranged to intersect each other angularly between the tube-parts and to connect thereat; of a fender bar provided with an elastic covering at its front side connected to the lower end of said net, and a top rail connected to the upper end of the net, substantially in the manner as and for the purposes set forth.

3. In a fender-bar for a car-guard or fender the combination with the fender-bar proper of a cushion on its front side formed from a section of rubber tubing which is slit throughout its length on one side and with the slit edges of the tubing embracing the bar, and secured thereon by wire, and a cushioning material inserted between the inner surface of the tubing and the outer side face of the bar, substantially in the manner as and for the purposes set forth.

4. The combination with the net N^2 , constructed with elastic tubular sections strung upon wires or chains so as to intersect each other between the tube sections and at the top connected by means of the springs Y, with the rail R^2 ; the bar B, connected to the bottom of the net; the frame F, at its front end connecting with the bar B, and provided with slides N, in each of its sides with the rear ends of the frame hinged to a bracket at each side of the car, substantially as and for the purposes set forth.

Signed at Troy, New York, this 1st day of April, 1895.

HENRY BURDEN.

Witnesses:

W. E. HAGAN,
CHARLES S. BRINTNALL.