

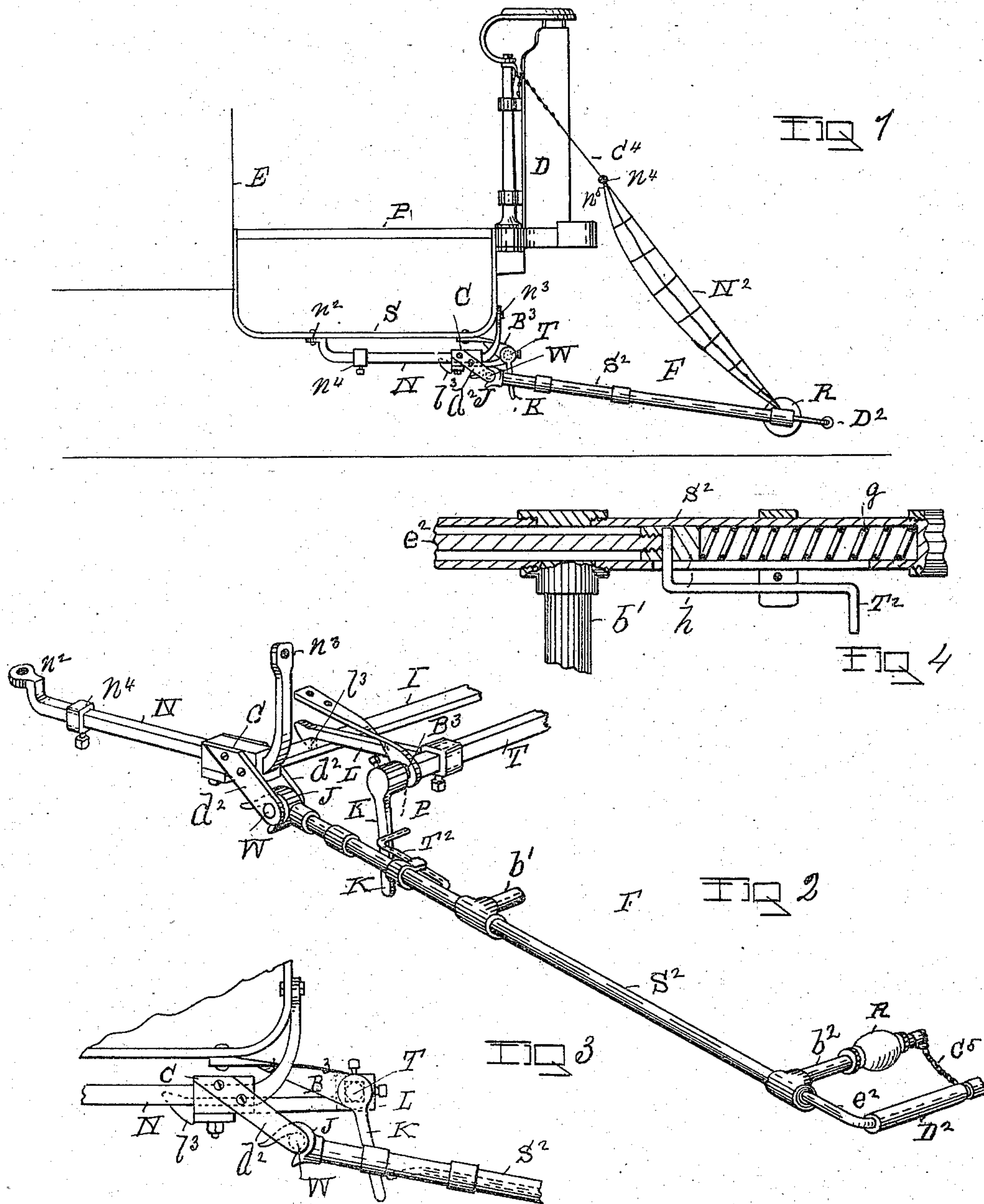
(No Model.)

2 Sheets—Sheet 1.

H. BURDEN.  
CAR FENDER.

No. 559,436.

Patented May 5, 1896.



WITNESSES

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INVENTOR

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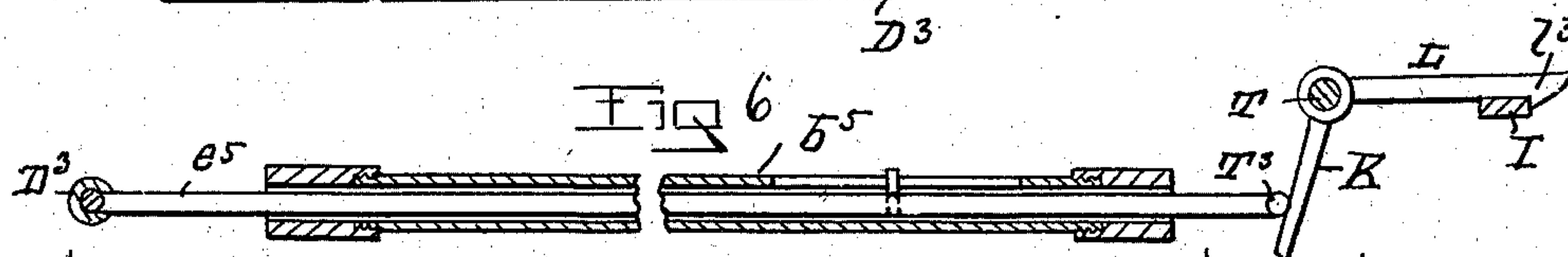
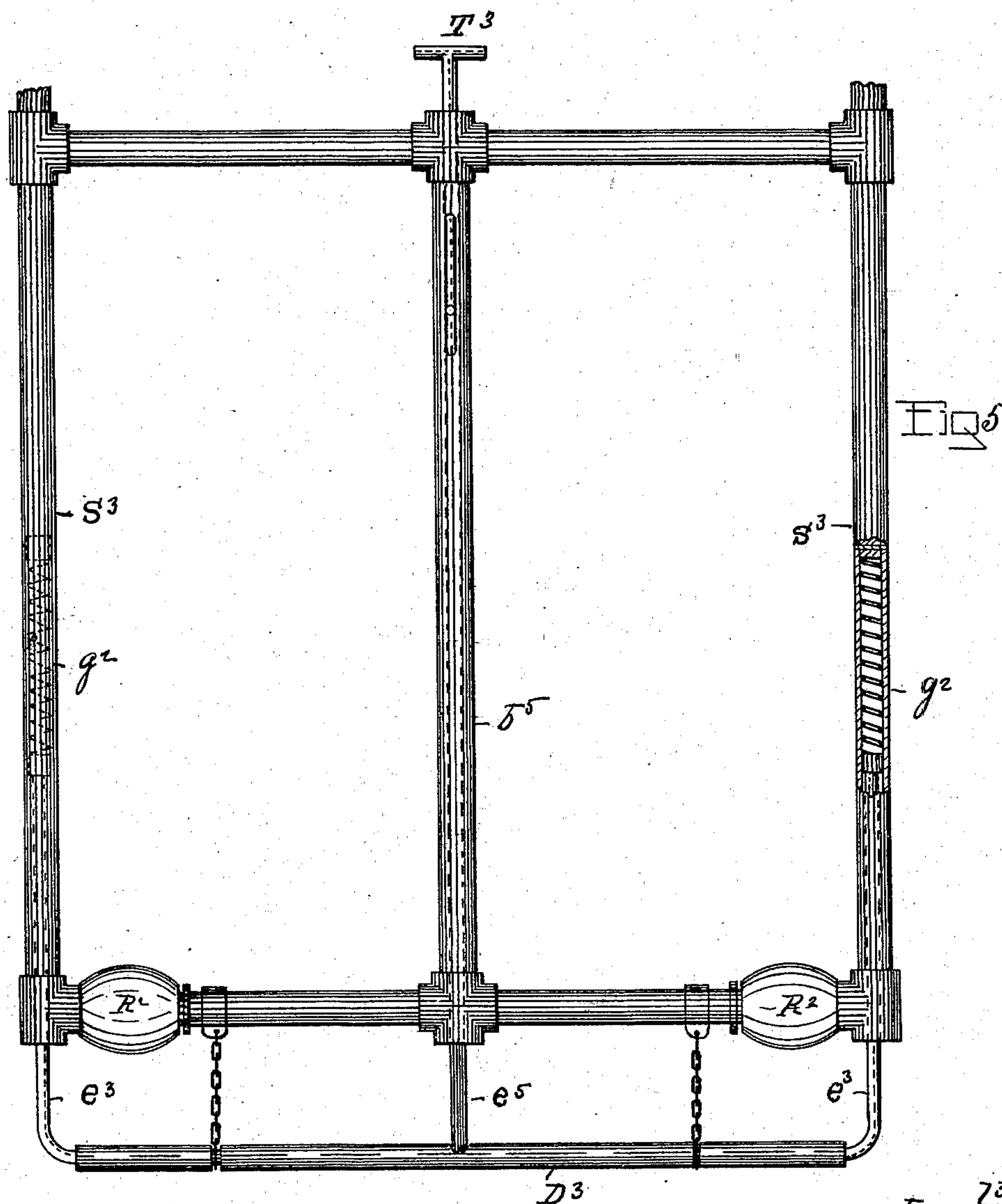
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# UNITED STATES PATENT OFFICE.

HENRY BURDEN, OF TROY, NEW YORK.

## CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 559,436, dated May 5, 1896.

Application filed December 23, 1895. Serial No. 573,005. (No model.)

*To all whom it may concern:*

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

My invention relates to improvements in that class of apparatus which is attached to the front end of cars whereby persons coming  
10 in contact with the front end of a moving car will be protected from injury and from being run over; and the object and purpose of my invention are to construct devices of this class in such a manner that will adapt them to be  
15 transferred easily from one end of the car to the other as the route direction of the car becomes changed at its terminal and to better adapt this class of devices to the uses to which they are designed.

20 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 letter reference used in all of them.

25 Of these illustrations, Figure 1 is a side elevation of a part of the front end of the car with my improved fender shown as applied thereto. Fig. 2 is a perspective of one side of the fender, both sides being the counter-  
30 part of the other. Fig. 3 is a side elevation of that part of the mechanism containing one of the fender slides, sides, slide-boxes, together with one of the latching and latch-tripping mechanisms, with a part of the fender  
35 side shown in larger representation than in the other figures. Fig. 4 is a transverse section taken through one of the fender sides, showing also one of the slide-rods arranged therein, the trigger to which the sliding rod  
40 attaches being shown in a top view, and also its head, with the spring against which the head of the rod abuts, illustrated in transverse section. Fig. 5 is a top view of a modification in which a center pipe is used and  
45 which is interiorly provided with a slide-rod arranged to be moved inwardly therein to operate a trigger, one of the fender sides being shown partly in transverse section to illustrate a slide-rod arranged in each of the fender  
50 sides to be moved rearwardly against the force of springs located in the sides and a nose-piece connecting at its ends with the slide-

rods in the sides of the fender and centrally with the slide-rod in the central pipe of the fender. Fig. 6 is a vertical section taken  
55 through the central pipe of the modification shown at Fig. 5 with slide-rod therein, the trigger with which it connects, the crank or turn lever on the tripping-shaft shown in side elevation, with the nose-piece and the trip-  
60 ping-shaft shown in vertical section.

The several parts of the apparatus thus illustrated are designated by letter reference, and the function of the parts is described as follows:

65 The letter D designates the dashboard of the car, P its front platform, S the step, and E the front end of the car-body, all of which are of the usual and ordinary form.

The letter F designates the fender, which  
70 has its sides  $S^2$  preferably made of gas-pipe. These sides are connected by the centrally-placed cross-bar  $b'$ , and the letter  $b^2$  designates the front end cross-bar of the fender, which at its ends connects with each of the  
75 sides  $S^2$ , of which but one is shown, both of the fender sides being alike and each the counterpart of the other.

The letters R designate rollers, which are preferably made of wood, and they are adapted  
80 to turn loosely on the bar  $b^2$ , there being two or three of these rollers used, as may be desired. When two are used, they are located on the bar  $b^2$  near its ends in the same manner as one is shown as used at Fig. 5. When  
85 three are used, an additional one is placed centrally on the bar  $b^2$  between those located at the ends. The function of these rollers R is to prevent the nose-piece from striking the ground by coming in contact with irregulari-  
90 ties on the latter.

The letter  $D^2$  designates a spring nose-piece, which is arranged in front of the bar  $b^2$  in parallel alinement with it and in advance of it. This nose-piece at each of its ends con-  
95 nects with the outer end of one of the slide-rods  $e^2$ , each of which latter at their inner ends is provided with a head  $h$ , which latter in each of them abuts at its inner end against a spiral spring  $g$ , by which the nose-piece  $D^2$ ,  
100 as moved rearwardly, is elastic in its movement.

The letter  $T^2$  designates a trigger, which is attached to one of the rods  $e^2$  at its inner end,



or there may be a trigger attached to each of these rods  $e^2$ .

The inner attaching ends of the fender sides  $S^2$  are each connected to a U-form hook J.

5 The letters N designate a slide-bar, of which there is one at each side of the car for the movement thereon of a sliding box C. Each of these slides N is made to connect with the under side of the car-step at its rear end  $n^2$  10 and at its front turned-up end  $n^3$  to connect with the front of the car-step. Between these upturned ends each of the slides N is provided with an adjustable stop  $n^4$  and a set-screw by which the sliding movement rear- 15 wardly of the slide-boxes C may be regulated as to sliding distance.

The letters  $d^2$   $d^2$  designate depending plates, each of which is projected downwardly and frontwardly from one of the opposite sides of 20 each of the slide-boxes C, and between each pair of which plates there is arranged the shaft or pin W, upon which latter, between the plates  $d^2$ , the U-form hooks J of the fender side bars hook when the fender is at- 25 tached to the car. As thus constructed the frame may be moved rearwardly to facilitate latching and unlatching it when being changed from one end of the car to the other.

30 The letter I designates a latching-bar, which is arranged crosswise of the fender, with its ends each loosely connected to one of the slide-boxes C.

The letter T designates a tripping-shaft arranged to journal in brackets  $B^3$ , having 35 bearings at P at each side of the fender, said brackets connecting at  $p^2$  with the under side of the car-step.

The letter K designates a crank or turn lever located at each end of the tripping-shaft, 40 although, if desired, but one may be employed.

The letter L designates a latch, of which there is one at each side of the fender, and each of these latches L at its front end connects with the tripping-shaft T and at its 45 rear end is constructed with a latch-notch  $l^3$ , whereby they are adapted to latch onto the latching-bar or be unlatched therefrom when the tripping-bar is rotated.

The letter  $N^2$  designates the fender-net, 50 which at its upper end connects with the dashboard D by means of a chain  $C^4$ , and the latter at its lower end connects with the rod  $n^4$  at the top of the net  $n^5$ .

The letters  $C^5$  designate chains connecting 55 the spring nose-piece  $D^2$  with the bar  $b'$  to prevent the nose-piece from being forced outwardly by the springs  $g$ .

As thus made the fender at its rear end is hooked onto the shafts or pins W, the latches 60 being connected to the bar I, with the front end of the fender held as raised from off the ground by the chain  $C^4$  and the net connecting with the fender. With the fender thus connected and the fender nose-piece  $D^2$  coming elastically in contact with the body of a 65 person as the car is moving, the nose-piece is forced rearwardly, as well as its connected

slide-rods  $e^2$ , moving in the sides  $S^2$  against the force of the springs  $g$ , contained therein, while the triggers attached to these slide-rods 70 each engages with one of the cranks K of the tripping-shaft T, causing the latter to turn so as to raise the latches L from off their engagement with the latching-bar I. This being done the front end of the fender falls to the 75 ground, with its rear ends turning on the shafts W, and on making a roller engagement with the ground the fender is forced rearwardly, its slide-boxes C moving on the slides N, with its front end in a position to underrun and 80 pick up a person who may have come in contact with the nose-piece  $D^2$ , the elastic impact made by the latter with the body of a person being insufficient in force to do injury.

While I have shown my apparatus as at- 85 tached to the car, it may be, if desired, attached to the truck of the car.

In the modification shown at Fig. 5 the sides  $S^3$  are made of gas-pipe and provided with the same means for connecting with the 90 slide-boxes C as in the other figures, and the nose-piece  $D^3$  of the modification is provided with slide-rods  $e^3$ , arranged to move in the sides of the fender against a spring  $g^2$ , as in the other illustrations; but this modification 95 is provided with a centrally-placed pipe  $b^5$ , arranged parallel to the sides of the fender, and this central pipe is provided with a slide-rod  $e^5$ , on the rear end of which there is a trigger  $T^3$ , adapted to engage with the crank or 100 turn lever K on the tripping-shaft T to actuate the latter to turn and thus raise the latch from off the latching-shaft. This centrally-placed pipe  $b^5$  of the modification is shown in vertical section at Fig. 6, as well as the nose- 105 piece, tripping-shaft, and latching-shaft, with the sliding rod, the trigger, the turn-lever, and latch shown in side elevation.

The letters  $R^2$  designate rollers arranged on the front end cross-bar of the modification. 110

While I have shown two latches L as connected to the tripping-shaft and two triggers, each connected to one of the slide-rods  $e^2$ , the two latches may be used and operated by one trigger, as shown at Figs. 1, 2, 3, and 4, with- 115 out the use of the central pipe and rod shown in the modification. Hence I do not limit my invention to the use of two triggers so long as one of them can be used and perform the same function with the manner of oper- 120 ating the tripping-shaft remaining the same.

I am aware that a nose-piece provided with slideways in the fender-frame sides and having slide-rods adapted to move therein is not new, considered apart from their combination 125 with triggers mounted thereon arranged to operate a crank-arm or turn-lever on a rotating tripping-shaft, by which a latch on the latter is released from a latching-bar. I am also aware that slides have been used in which 130 the rear end of the fender-frame could journal and slide rearwardly, when tripped, by the action of springs. I am also aware that slideways have been used in which the fen-



der was operated to trip and shoot forward as operated by springs. My improvements differ from these older constructions in the fact that I use no springs or any mechanism for operating the fender to move in slides, the latter being employed to facilitate the attachment and detachment of the fender and to permit of the rearward movement of the fender when its outer end comes in contact with the ground.

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

1. The combination with the slide-boxes C, each provided with a slide N, attached to the under side of the car at each end of the latter and provided with an adjustable stop  $n^4$ ; each of said slide-boxes having depending sides and intermediate pin or shaft W, and provided with a latch-bar I, which at each of its ends connects with one of said slide-boxes; of the fender sides  $S^2$ ,  $S^2$ , each provided with the U-form hook J, at its rear end, each adapted to hook on to one of the shafts or pins W; the tripping-shaft T, provided with bearings depending from the car-bottom, and having latches L, adapted to hook on to said latch-bar I; means for tripping the said shaft and a net which at its lower front end is connected to the outer end of the fender, and at its upper end connected by chains with the dashboard of the car, by which said fender may be attached and detached from each end of the car, and when attached to be held with its front end raised from the ground, substantially as shown and described.

2. In a car-fender the combination with a slide-box provided with a slideway at each side of each end of the car, and having a latch-bar arranged to connect at each of its ends with one of said slide-boxes; of the fender sides  $S^2$ ,  $S^2$ , each provided with a hook J, adapted to connect with one of said slide-boxes, substantially as described; the tripping-shaft T, having bearings in which to turn depending from the car-bottom, and provided with a latch L, adapted to hook on to said latch-bar, and having a crank or turn lever K; the nose-piece  $D^2$ , having the slide-rods

$e^2$ , provided with spring  $g$ , and arranged in the fender sides, and a trigger T, whereby when said nose-piece is moved rearwardly, its slide-rod trigger will engage with the crank K, to turn the tripping-shaft T, so as to raise its latch from the bar I, and thus allow the fender at its front end to fall to the ground, substantially as shown and described.

3. In a car-fender the combination with the fender sides  $S^2$ ,  $S^2$ , connected by the cross-bars  $b'$ , and  $b^2$ , and each provided with a slide-rod  $e^2$ ; of a spring nose-piece  $D^2$ , connected at its ends to one of the slide-bars  $e^2$ ; the slide-boxes C, C, each provided with a slide N, having the shaft or pin W; the U-form hooks J, on the rear end of the fender sides; the tripping-shaft T, provided with the turn-levers K, and latches L; the latching-bar I, and the triggers  $T^2$ ,  $T^2$ , each connected to one of the said slide-rods  $e^2$  constructed and arranged to operate substantially in the manner as and for the purposes set forth.

4. In a latching and latch-tripping mechanism for car-fenders, the combination with a slide-box, having a slide at each side and each end of the car, in which slide-boxes the rear ends of the fender sides make hook and journal; a latch-bar at each of its ends connected to one of said slide-boxes; a tripping-shaft provided with bearings in which to turn, and having latches adapted to hook on to and unlatch from off the latch-bar by the rotation of said tripping-shaft; a crank or turn lever on the latter by which it may be rotated; a nose-piece provided with a slide-rod in each of the frame sides; a trigger on the inner end of said slide-rods, whereby as the latter are moved rearwardly, said trigger will engage with the crank on the tripping-shaft to rotate the same, and raise its latch from off the latch-bar, substantially as shown and described.

Signed at the city of Troy, New York, this 19th day of December, 1895, and in the presence of the two witnesses whose names are hereto written.

HENRY BURDEN.

Witnesses:

W. E. HAGAN,

CHARLES S. BRINTNALL.