

No. 626,639.

Patented June 6, 1899.

W. E. SMITH.
CAR FENDER.

(Application filed May 20, 1897.)

(No Model.)

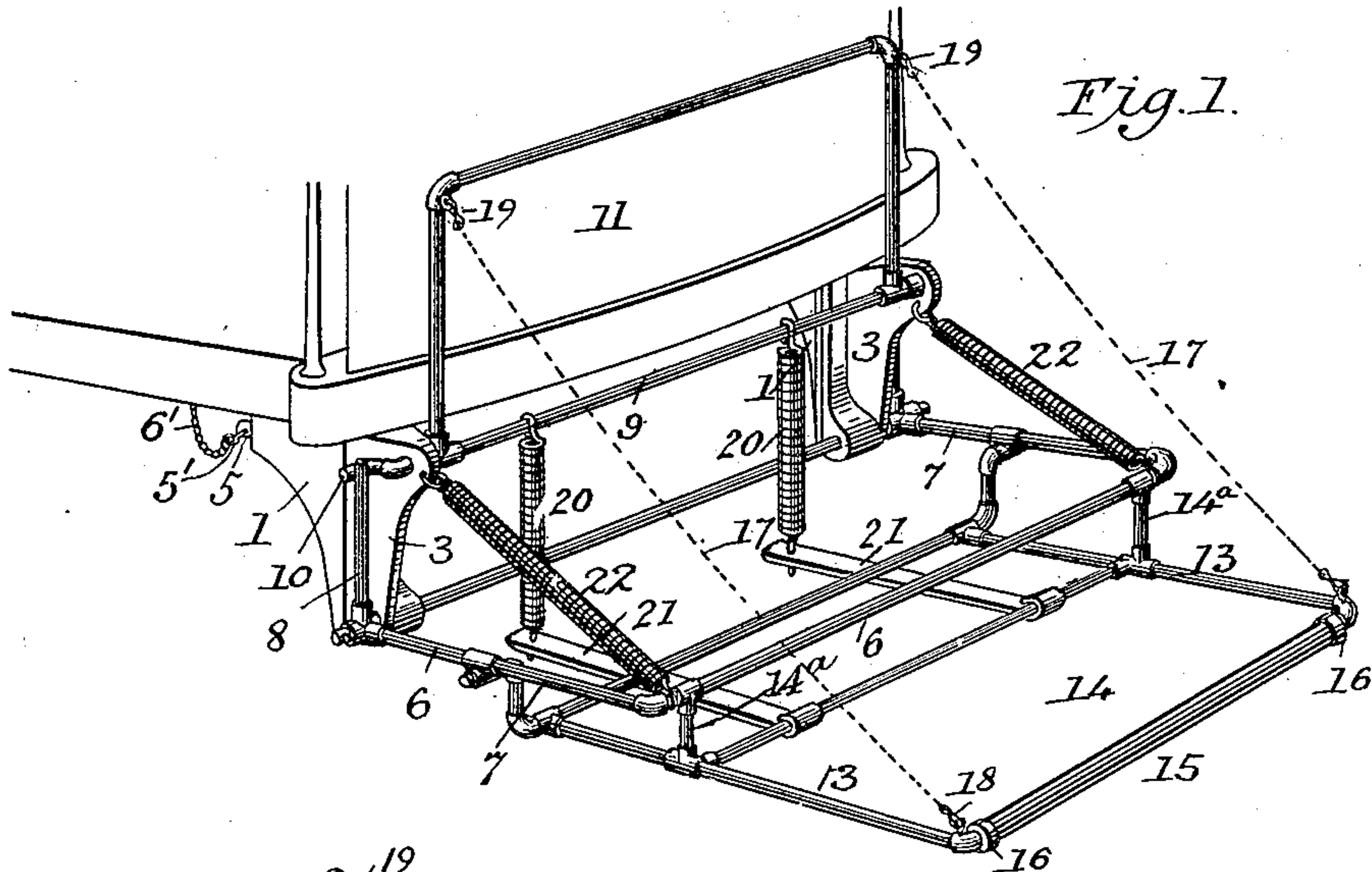


Fig. 1.

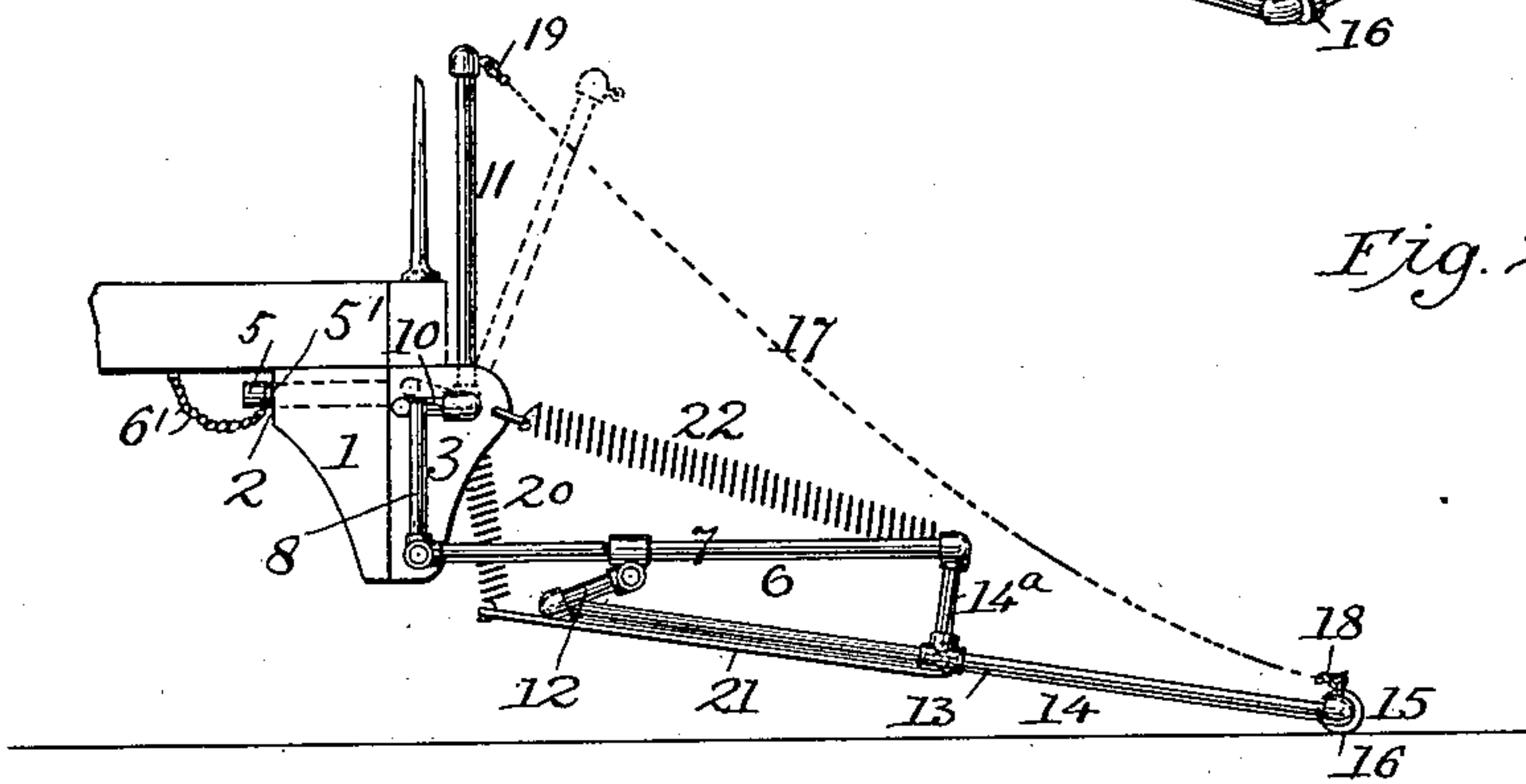


Fig. 2.

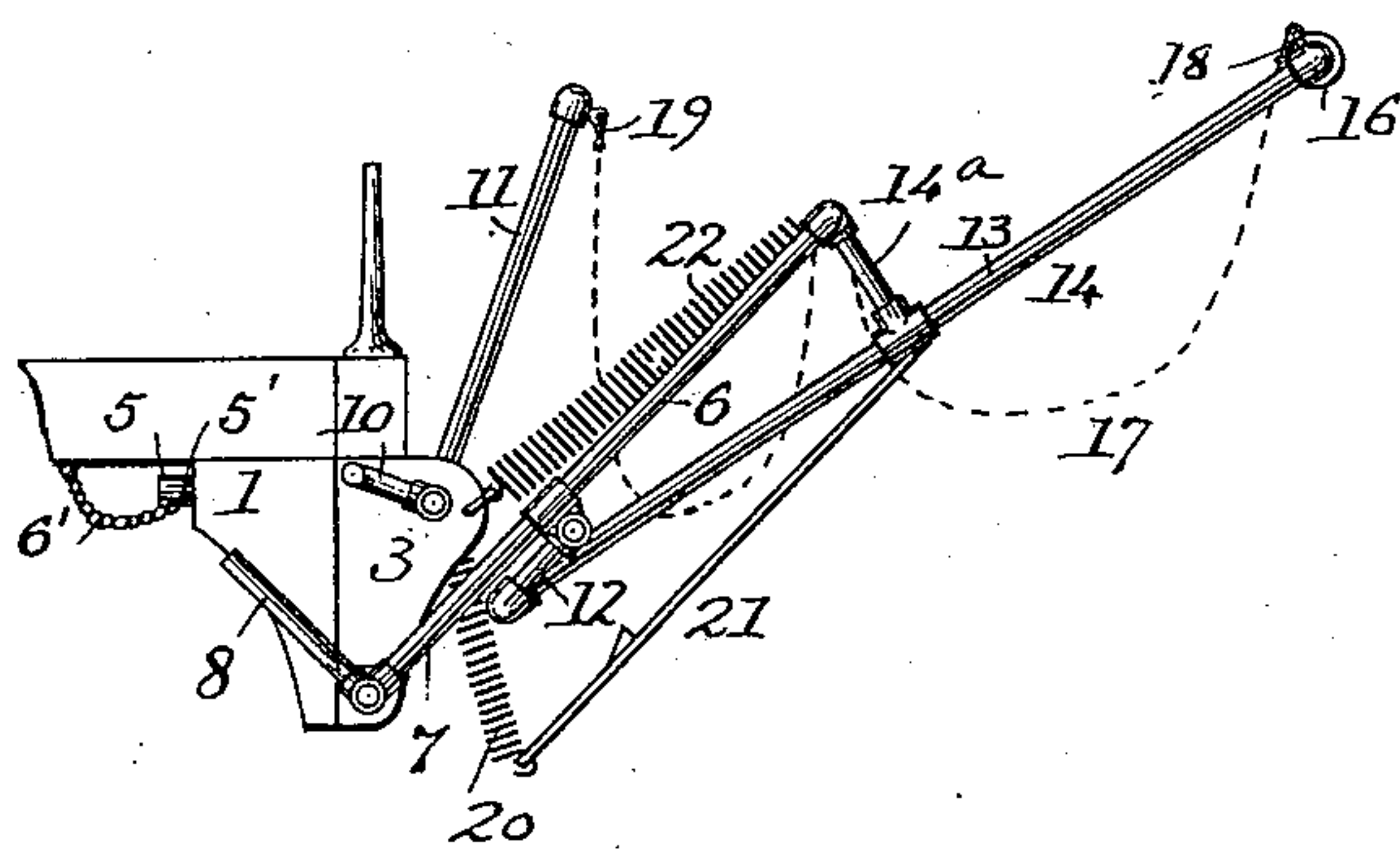


Fig. 3.

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UNITED STATES PATENT OFFICE.

WALTER E. SMITH, OF DUNELLEN, NEW JERSEY.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 626,639, dated June 6, 1899.

Application filed May 20, 1897. Serial No. 637,359. (No model.)

To all whom it may concern:

Be it known that I, WALTER E. SMITH, of Dunellen, in the county of Middlesex and State of New Jersey, have invented certain
5 new and useful Improvements in Car-Fenders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and
10 use the same.

This invention relates to improvements in car-fenders; and the object of the same is to provide a fender which when tripped by contact with a person or object upon the track
15 will drop downward upon the track and prevent the person from passing beneath the wheels of the car and which will also be tripped by the weight of a person falling upon the netting or bag to automatically raise the
20 person or object from the track.

The invention also consists of certain other novel features of construction hereinafter more particularly set forth and claimed.

In the accompanying drawings, forming a
25 part of this specification, Figure 1 is a perspective view of my invention, showing the same in operative position. Fig. 2 is a similar view showing its position after coming in contact with the object upon the track, and
30 Fig. 3 is a side elevation of the fender after the same has been tripped by the weight of the object falling upon the netting or bag.

Referring to the numerals on the drawings, 1 indicates castings which are bolted to the
35 under side of the car-platform, at the sides thereof, and provided with the longitudinal passages 2 therethrough.

3 indicates the standards or side pieces of the fender, which are connected by the cross-
40 bar 4 and provided on their rear edges with bolts 5, said bolts extending through the passages 2 in the castings 1, their removal therefrom being prevented by the pins 5, which are attached to the ends of chain 6, which are
45 secured to the car. Thus when it is desired to remove the fender the pins are withdrawn from the bolts and are prevented from becoming misplaced by the chains, which connect them to the car.

50 6 indicates a frame having its arms 7 pivoted at their inner ends to the side pieces or standard 3 and having the upwardly-project-

ing pins 8 secured thereto. Journaled in the upper ends of the cross-pieces is the transversely-extending shaft 9, having the angular ends 10, which are on the outer side of the
55 standard or end pieces. Secured to this shaft is the vertical frame 11.

Journaled upon the arms 7 of frame 6 is the crank-shaft 12, secured to which are the arms
60 13 of the forwardly-extending frame 14, said arms being guided by loops 14', secured to the under side of the frame 6. Upon the outer horizontal bar 15 of this frame are the
65 rollers 16, and said bar is also cushioned to prevent injury to the person with whom it comes in contact.

17 indicates the netting or bag of the fender, which is provided with hooks 18 at its lower end, by means of which it is detachably
70 secured to the cross-bar of the frame 14, and at its opposite end with hooks 19, by means of which it is attached to the vertical frame 11. Coiled springs 20 are secured at their
75 upper ends to the shaft 9 and at their lower ends to the inner ends of the links 21, the outer ends of said links being pivoted to the underside of the cross-bar of frame 6. Coiled
80 springs 22 are secured at their inner ends to the standard or side pieces 3 and at their opposite ends to the cross-bar of frame 6.

The operation of my device is as follows: To set the fender, the frame 14 is drawn outward, swinging the shaft 12 downward until the same engages the notches formed in the
85 links 21, said shaft being held by the tension of springs 20. The outer end of frame 14 is then moved downward, carrying with it the frame 6 against the tension of springs 22, and positioning the angular ends of shaft 9
90 in rear of the pins 8, so that the fender is held elevated a slight distance from the track. When the cushioned bar of the forward frame comes in contact with a person or object upon
95 the track, the frame is moved inward toward the car, disengaging its crank-shaft from the notched links and permitting its forward end to drop downward upon the track, the rollers carried by the cross-bar moving on the track. Thus the person or object is prevented from
100 passing beneath the fender to the car-wheels. As soon as the person or object falls within the netting or bag his weight will cause the netting to draw downward upon the vertical

frame and lift the angular ends of the shaft to which it is secured out of engagement with the pins of the inner frame, when the fender will be raised by the springs 22 lifting the outer frame and object clear of the track. Stops are provided for limiting the upward movement of the crank-shaft and stops for performing a similar function in connection with the angular ends of shaft 10.

The fender may be positioned on either end of the car by simply providing the car with the castings 1 at both ends, and the whole construction is extremely simple and positive and reliable in its operation.

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

1. In a wheel-fender the combination of a rear section, and a front section connected to the former by means of a crank-arm provided with a spring to tilt it downward and the former provided with a trip to be released by the fall of an object upon the fender, and with springs to elevate both the rear and the front section after the object has fallen upon it, and the front section has been tilted downward, all substantially as described.

2. A car-fender comprising sections, one of said sections adapted to be pivotally secured to the car, the other section pivoted to the first-named section and adapted to swing downward when engaged by an object to prevent the passage of the latter beneath the car, the first section adapted to be drawn downward and held in that position, a tripping mechanism operated by the falling of an object upon the fender for releasing the section and causing it to swing upward carrying with it the other section and the object thereupon, and means for effecting the upward movement of said section when the upper tripping mechanism has been operated, substantially as described.

3. A fender comprising an inner frame pivoted to a car, pins carried by said frame, a crank-shaft pivoted to said frame, an outer frame secured to said shaft, means for holding said outer frame normally raised from the

track and permitting the same to drop thereupon when engaged by an object, a tripping mechanism operated by the falling of the object upon the fender to raise the latter from the track, and means for effecting said movement of the fender when released by the tripping mechanism, substantially as described.

4. The combination of an inner frame adapted to be pivotally secured to the car, pins carried by said frame, a shaft journaled to the car and having angular ends, springs secured to said frame and to the car against the tension of which the frame is drawn downward and held in that position by the engagement of its pins with the angular ends of the shaft, an outer frame pivoted to the inner frame and adapted to drop down upon the track when engaged by an object, and a connection between the shaft and the outer frame, whereby the ends of the shaft are drawn out of engagement with the pins of the inner frame when an object falls upon the fender for the purpose of raising the fender and the object from the track, substantially as described.

5. A fender comprising an inner frame pivoted to the car, means for holding said frame normally raised, said frame adapted to be drawn downward and secured until tripped, a tripping mechanism for tripping said frame, a crank-shaft pivoted to said frame, links pivoted at one end to said frame, springs secured to the opposite ends of said links, an outer frame secured to the crank-shaft, said outer frame adapted to be drawn upward and retained in that position by the engagement of the crank-shaft with the links, and connections between the outer frame and the tripping mechanism, the parts operating substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WALTER E. SMITH.

Witnesses:

JOSEPH OWEN,
EDWIN G. LEWIS.