

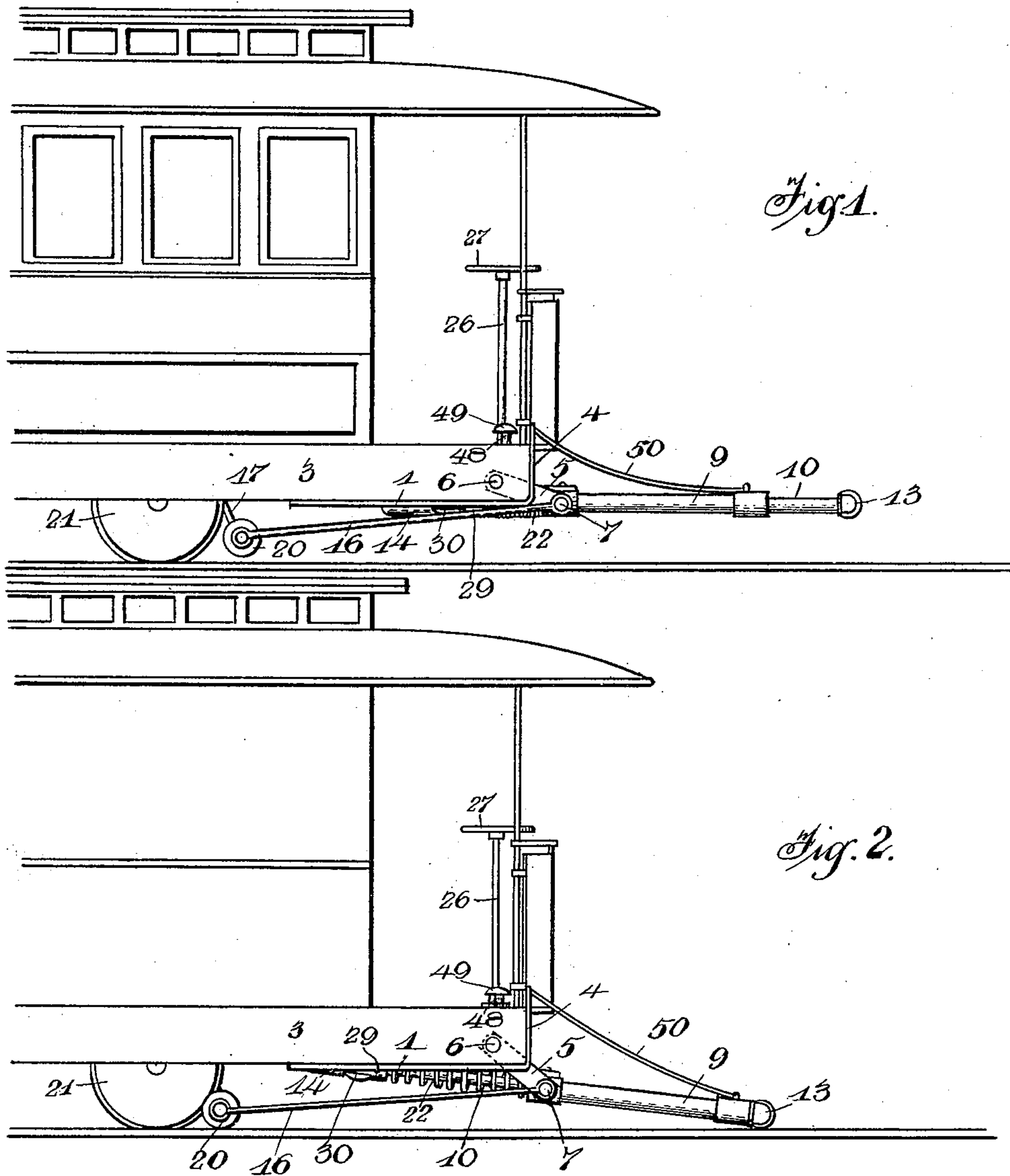
(No Model.)

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S. C. BOLE.  
CAR FENDER.

No. 583,393.

Patented May 25, 1897.



Witnesses

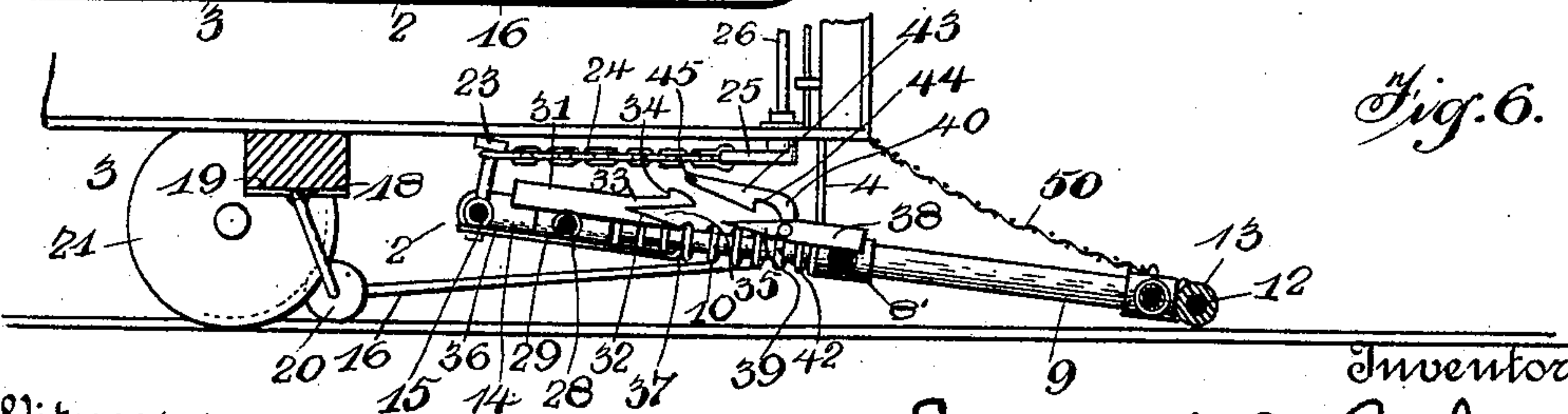
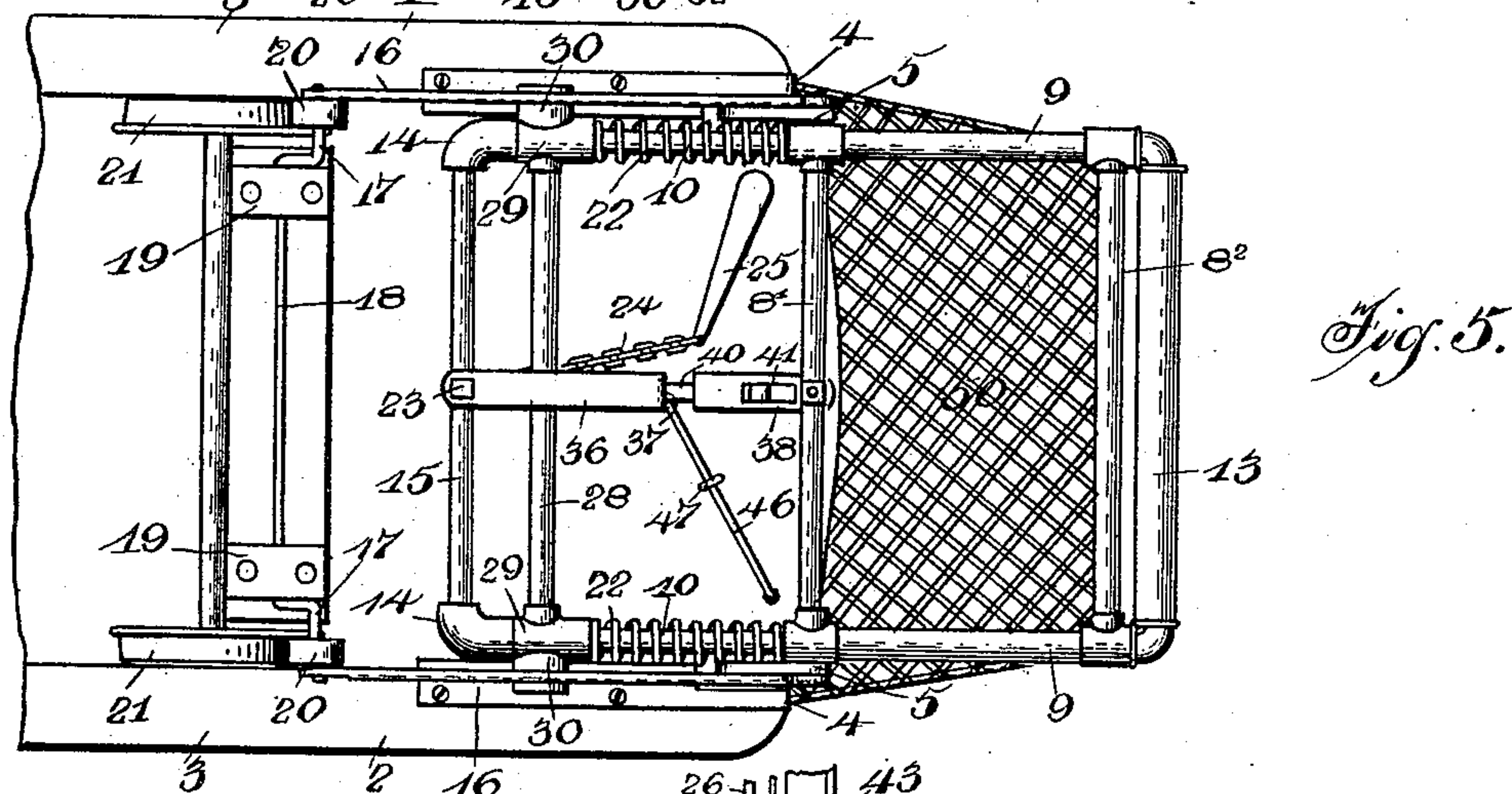
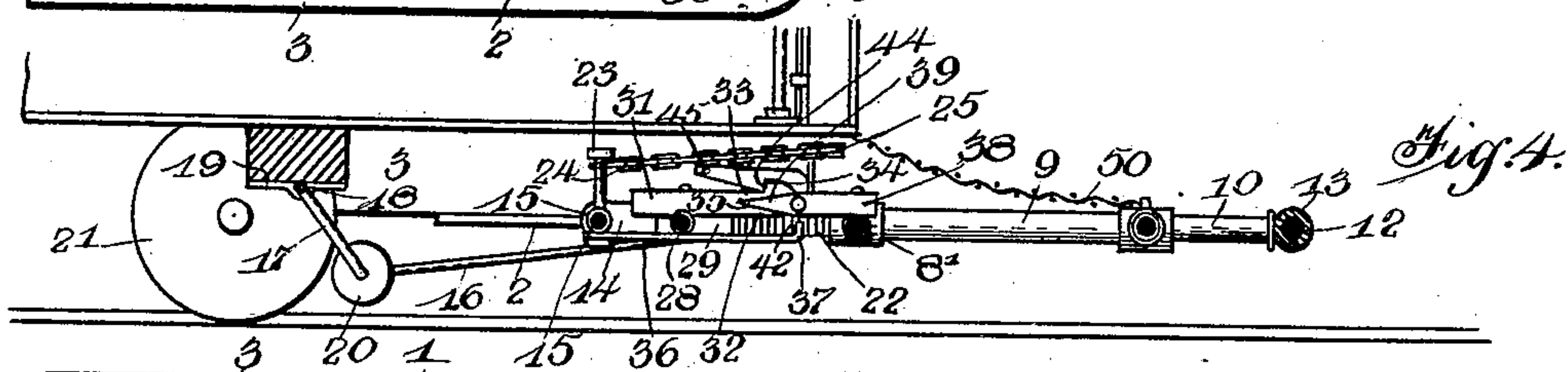
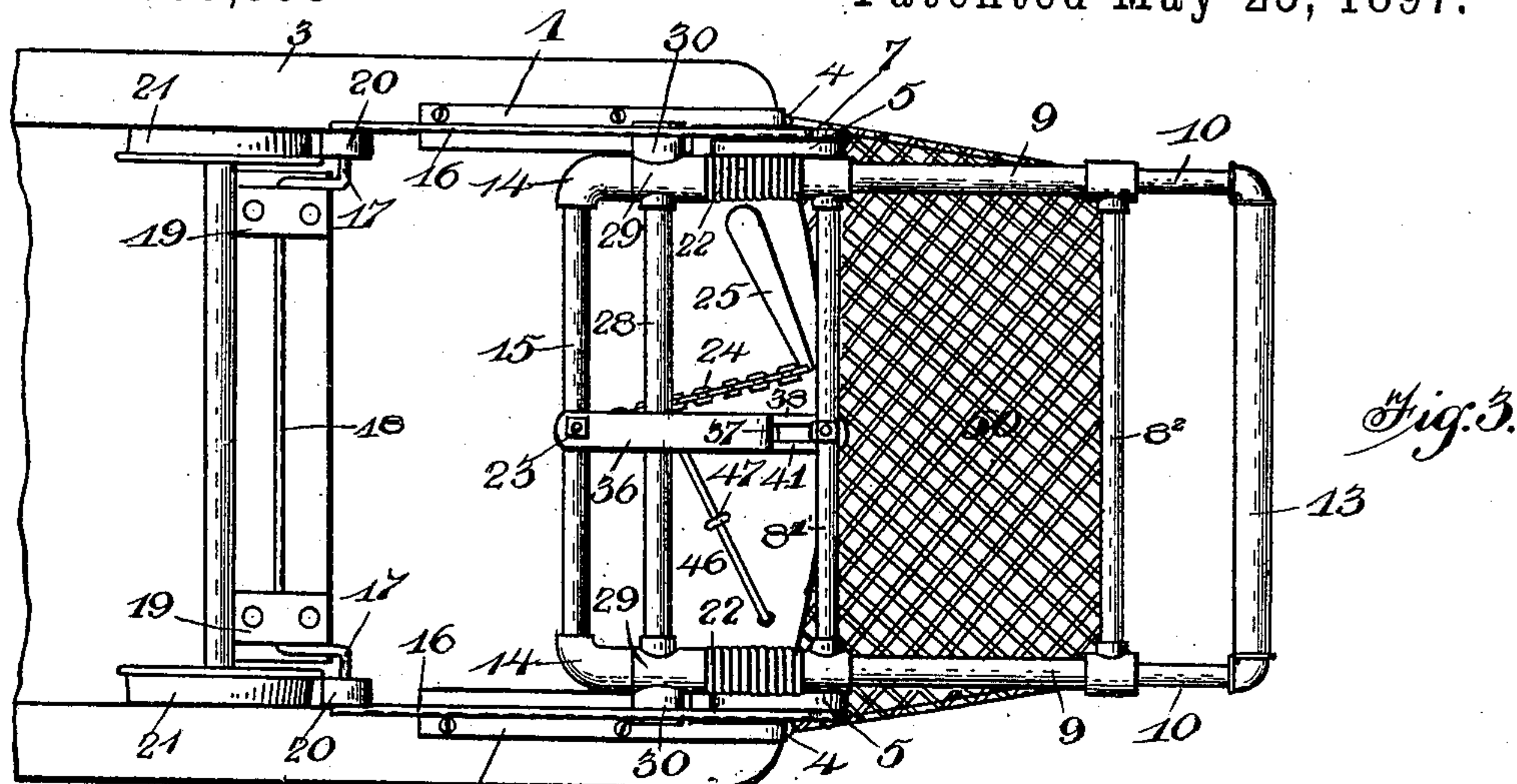
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# UNITED STATES PATENT OFFICE.

SAMUEL C. BOLE, OF LEECHBURG, PENNSYLVANIA, ASSIGNOR OF THREE-FOURTHS TO JOSEPH G. BEALE, OF SAME PLACE.

## CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 583,393, dated May 25, 1897.

Application filed June 10, 1896. Serial No. 594,973. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL C. BOLE, a citizen of the United States, residing at Leechburg, in the county of Armstrong and State of Pennsylvania, have invented certain new and useful Improvements in Car-Fenders; and I do 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 use the same.

My invention has relation to improvements in street-car fenders, and the object is to provide a simple, durable, and effective device of this kind; and to this end the novelty consists in the construction, combination, and arrangement of the same, as will be hereinafter more fully described, and particularly pointed out in the claims.

In the accompanying drawings the same reference-numerals indicate the same parts of the invention.

Figure 1 is a side elevation of the front end of a street-car with my improved car-fender in position thereon. Fig. 2 is a similar view with the fender in position for use. Fig. 3 is a bottom plan view of the fender in the position shown in Fig. 1. Fig. 4 is a longitudinal section of the same. Fig. 5 is a bottom plan view of the fender in the position shown in Fig. 2, and Fig. 6 is a longitudinal section of the same.

1 and 2 represent a pair of guide-plates permanently secured to the side beams 3 3 of the car-body, their front ends being bent up vertically at each end of the dashboard to form stanchions 4 4.

5 5 represent two straps pivoted at one end by a bolt 6 on the inside of the beams 3 3, their lower ends being pivoted on a stud 7, projecting on each side of a rectangular frame 8, the sides 9 9 of which are constructed of pipe, through which pass the rods 10 10, the front or forward ends of which are connected by a cross-bar 12, on which is mounted a rubber tube 13, while their rear ends are provided with couplings 14 14, connected to a cross-rod 15.

16 16 represent two connecting-rods, their forward ends pivoted on the studs 7 7, their rear ends pivoted to the projecting ends of

the crank-arms 17 17 of the crank-shaft 18, hinged in bearings 19 19 underneath the car.

20 20 represent friction-rollers mounted on the crank-arms 17, and they are arranged to travel to and from the car-wheels 21 21.

22 22 represent spiral springs encompassing the rods 10 10, their tension being exerted to press the cross-bar 12 and rod 15 backward when the fender is tripped, as will be hereinafter explained.

23 is an eyebolt on the rod 15, and a chain 24 connects it with the outer end of a crank-arm 25, fixed on the lower end of a vertical shaft 26, extending up through the front platform, its upper end being provided with a hand-wheel 27.

28 represents a cross-rod provided at each end with a guide-bracket 29, sliding freely on the rods 10 10. The outer ends of these guide-brackets 29 29 are formed with parallel ears 30 30, which project above and below the guide-plates.

31 represents an arm rigidly secured to the cross-rod 28, its forward end formed with a wedge-shaped tongue 32, and immediately above said tongue is an integral finger 33, having a locking-pawl 34 on its upper face, the finger and tongue being separated by a V-shaped slot 35. A spring-arm 36 is rigidly fixed at one end to the rear rod 15, and it projects forwardly under the rod 28, its front end extending a short distance beyond the end of the tongue 32 and terminating in a right-angular catch 37.

38 represents an arm rigidly fixed on the rear cross-bar 8' of the frame 8, the rear end of said arm 38 terminating in a wedge-shaped tooth 39, corresponding in shape to the slot 35 in the arm 31.

40 represents a bell-crank lever fulcrumed in a vertical slot 41 in the arm 38, the shorter end 42 of which extends downward and is adapted to engage the catch 37 on the spring-arm 36 when the parts are brought together. The longer horizontal arm 43 of the lever 40 is formed with a detent 44, which engages the pawl 34 on the finger 33 at the same time that the short end 42 of the lever 40 engages the spring-arm 36.

The outer end of the arm 43 is formed with



an eye 45, which engages the inner end of a lever 46, fulcrumed in a bracket 47, secured underneath the car, the outer end of said lever being connected to a vertical rod 48, passing through the front platform and terminating in a pedal-button 49 within convenient reach of the foot of the motorman.

50 represents the usual flexible fender-netting, extending forwardly and downwardly from the stanchions 4 4 to the cross-rod 8<sup>2</sup>, which forms the front end of the rectangular frame 8.

In order to set the fender for use, the hand-wheel 27 is turned to the right and through the medium of its crank 25 and chain 24 draws the cross-rod 15 forward, compressing the springs 22 22 until the spring-arm 36 engages the shorter end 42 of the lever 40, and at the same time the pawl 34 on the finger 33 engages the detent 44 on the lever 40. This arrangement forms a positive lock for the fender in this position, and when in this position the forward end or cross-bar 12 is extended some distance ahead of the rectangular frame 8 and the whole fender is raised clear of the track. At the same time the friction-rollers 20 20 are brought forward by their connecting-rods 16 16 to clear both the track and the car-wheels.

When the parts are set in the above position and there be an obstruction on the track, the motorman presses down on the button 49. This operation throws the rear end of the bell-crank lever 40 up, releasing the detent 44 from the pawl 34 and the shorter end 42 from the spring-arm 36, allowing the springs 22 22 to force the cross-rods 15 and 28 rearward. This movement also draws the rectangular frame 8 backward, and as it is pivoted to the side beams 3 3 by the straps 5 5 these straps allow the frame to drop down, so that its forward end touches the track in front of the car, and at the same time the rods 16 16 force the rollers 20 20 into contact with the wheels and the track, and as the frictional contact of the wheels with the rollers causes them to rotate in a reverse direction to the wheels they act as a brake and bring the car to a stop. It will thus be seen that the device combines a brake with the fender when the latter is thrown into operation.

Although I have specifically described the construction and relative arrangement of the

several elements of my invention, I do not desire to be confined to the same, as such changes or modifications may be made as clearly fall within the scope of my invention without departing from the spirit thereof.

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

1. A combined fender and brake, comprising the guide-plates 1 and 2, the pivoted straps 5 5, the rectangular frame 8, pivoted to the lower ends of said straps, the rods 10 10 mounted in said frame 8, the spiral springs 22 22 mounted on said rods, the cross-rod 15 connecting the rear ends of the rods 10 10, and provided with the eyebolt 23, the crank-arm 25, connected to said eyebolt by a chain 24, and mounted on a vertical shaft 26, provided with an operating-wheel 27, the spring-arm 36 fixed on the cross-rod 15, and the arm 38 rigidly mounted on the cross-rod 8' and formed with vertical slot 41, the bell-crank lever 40 fulcrumed in said slot, and having a depending end 42, and a longer horizontal arm 43, a lever 46 fulcrumed in a bracket 47, and having its inner end pivoted to said arm 43 and its outer end connected to a vertical rod 48 extending through the front platform, substantially as shown and described.

2. A combined brake and fender, comprising the rectangular frame 8, suspended from the car by the pivoted straps 5 5, the arm 38 rigidly fixed on the cross-bar 8' of said frame, and formed with a wedge-shaped tooth 39 and a vertical slot 41, a bell-crank lever 40 fulcrumed in said slot, said lever having a short depending end 42, and its horizontal arm 43 provided with a detent 44, a lever 46 pivoted to the outer end of said arm and provided with a vertical rod 48 extending upwardly through the car-platform, in combination with the spring-arm 36 fixed on the cross-rod 15, and the arm 31 fixed on the cross-rod 28, and having a wedge-shaped tongue 32 and an integral finger 33 having a locking-pawl 34, substantially as shown and described.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

SAMUEL C. BOLE.

Witnesses:

JAS. B. KIFER,  
N. K. COLLIER.