

(No Model.)

2 Sheets—Sheet 1.

A. E. FLATTICK.
CAR FENDER.

No. 539,048.

Patented May 14, 1895.

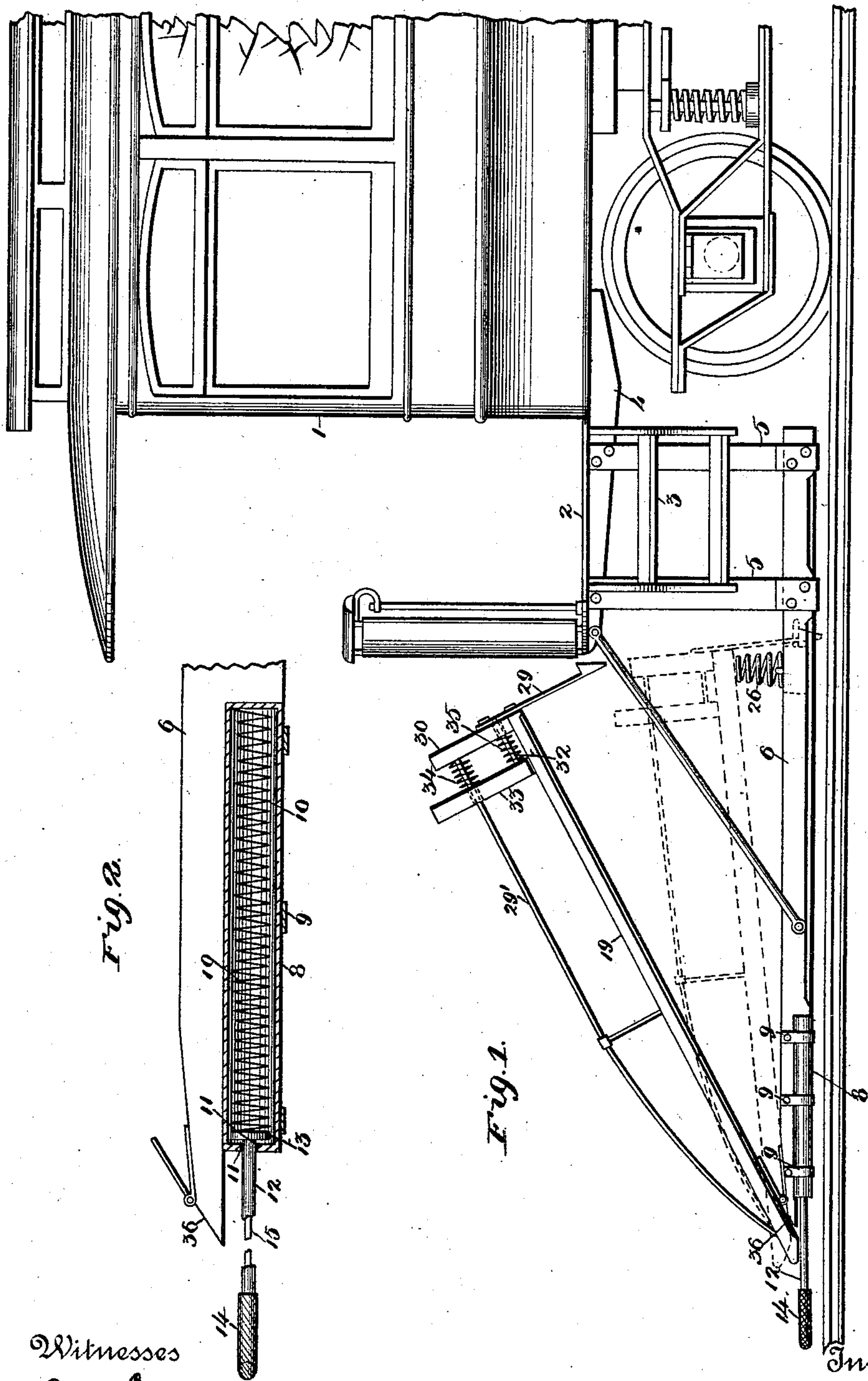


Fig. 2.

Fig. 1

Witnesses
Lee Sale
Fred. Sandidge

By His Attorneys
H. E. Flattick
Keller & Starck

(No Model.)

2 Sheets—Sheet 2.

A. E. FLATTICK.
CAR FENDER.

No. 539,048.

Patented May 14, 1895.

Fig. 3.

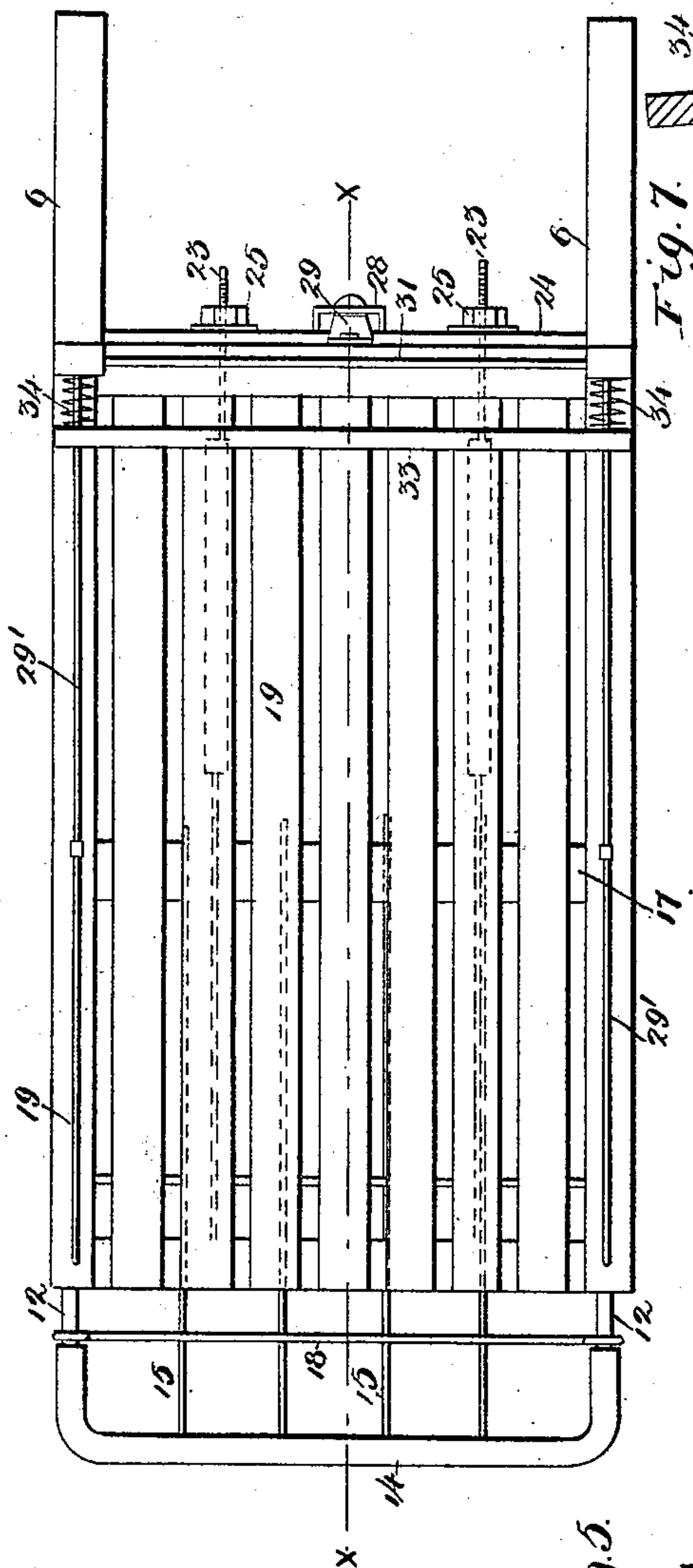


Fig. 5.

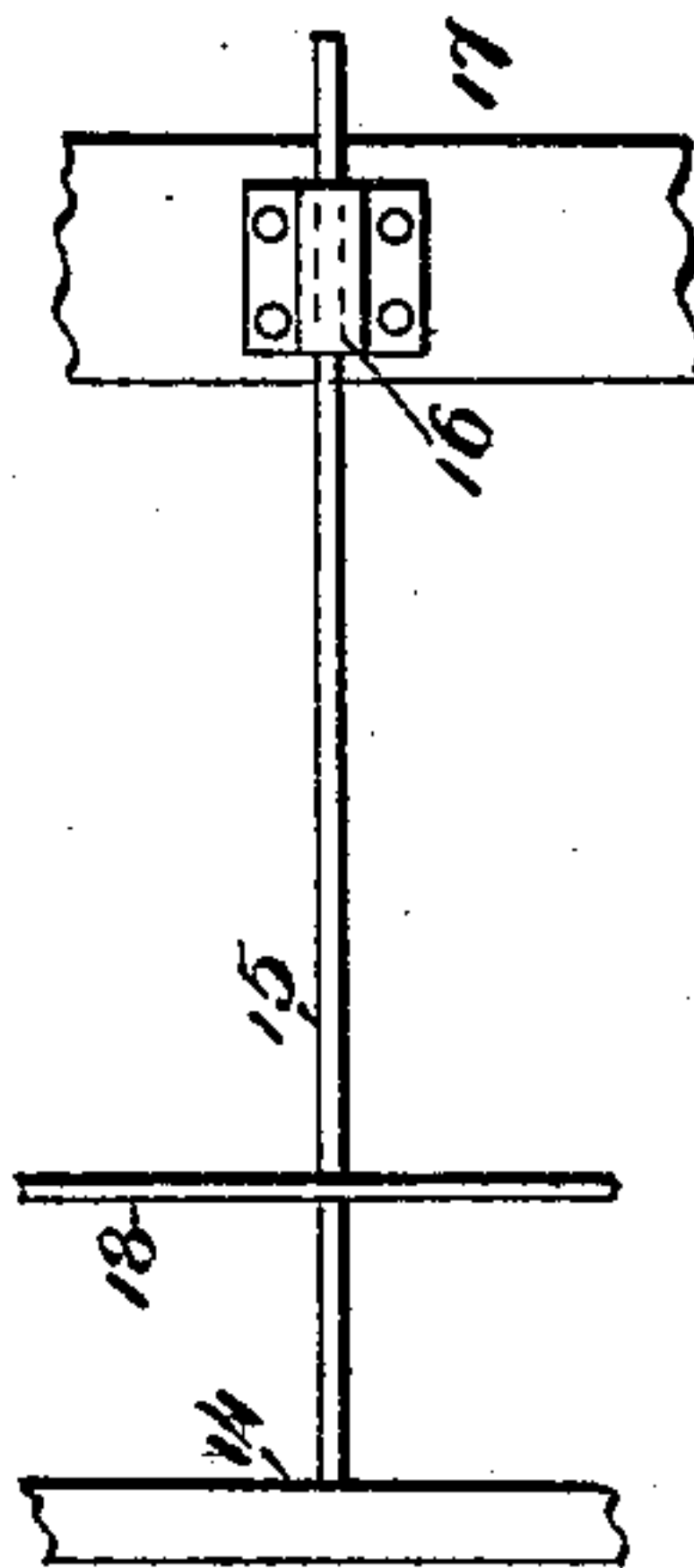


Fig. 4.

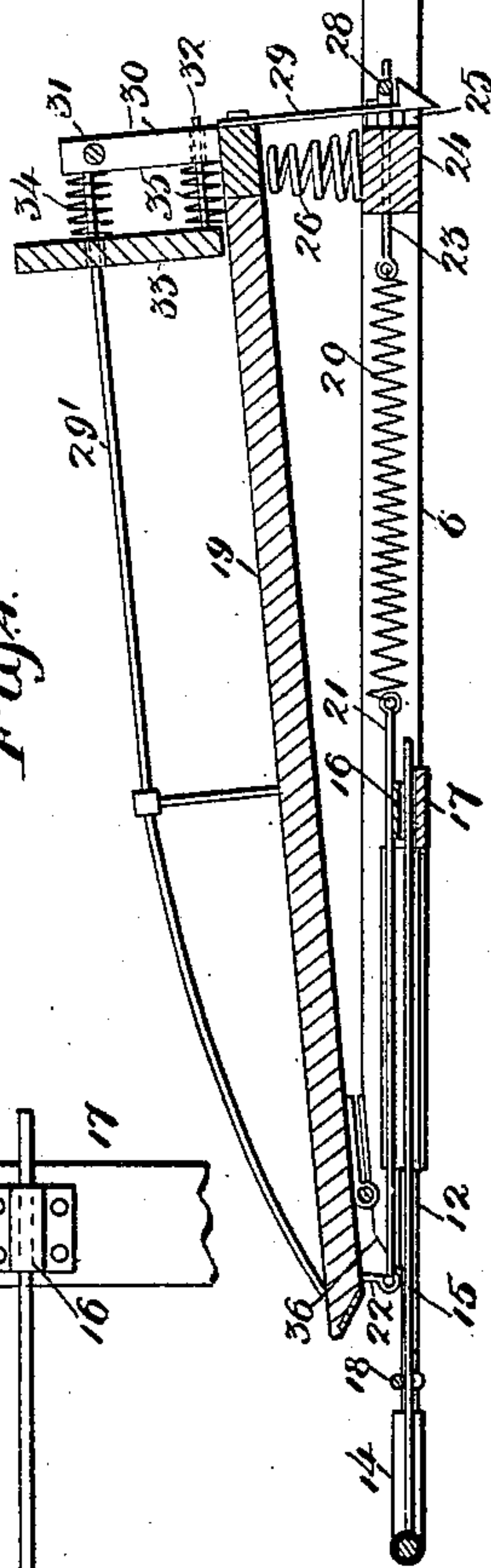


Fig. 7.

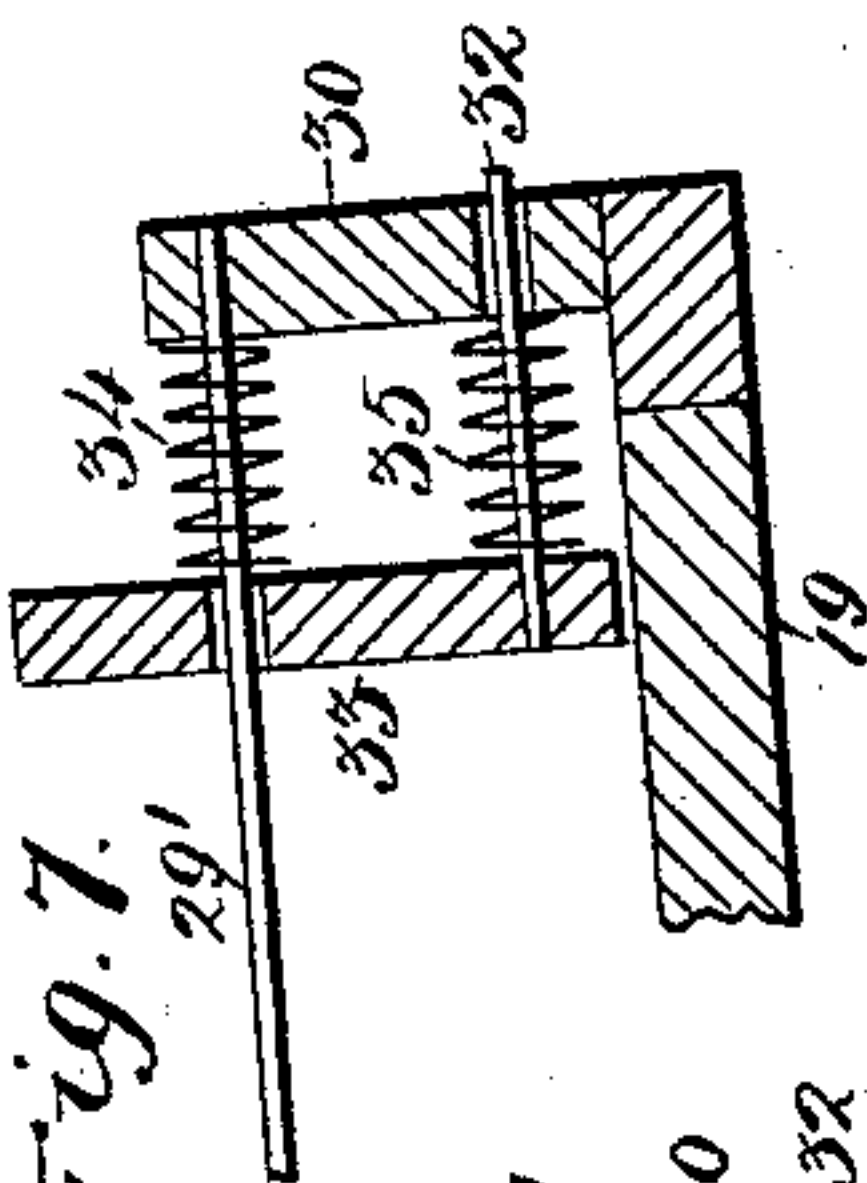
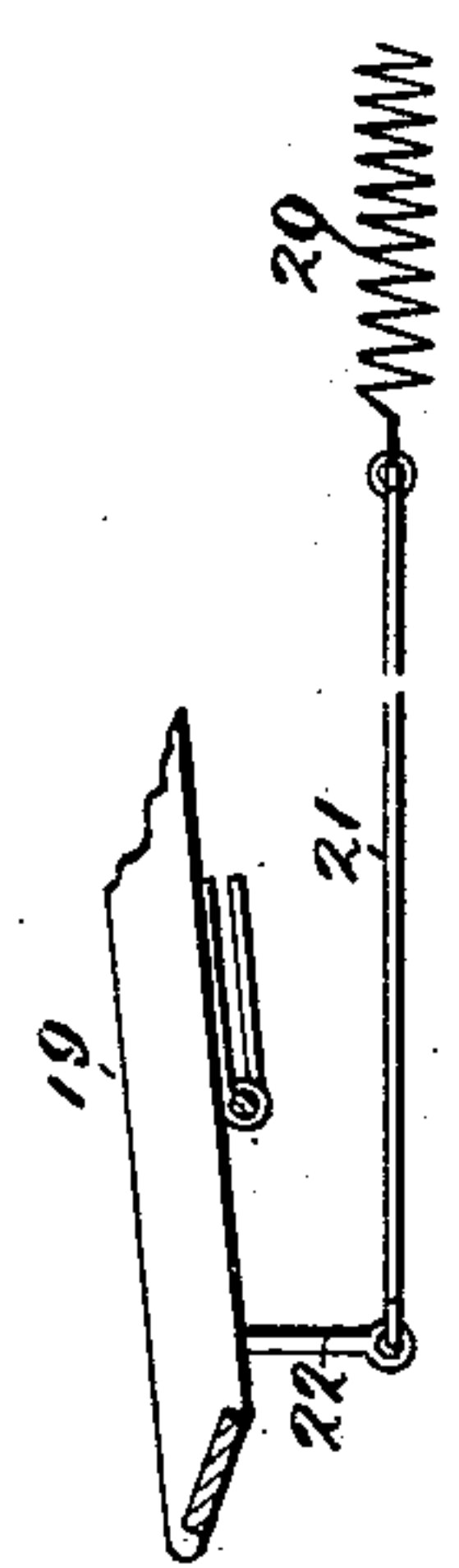


Fig. 6.



Witnesses
Lee Sale
Fred. Sandidge

Inventor
A. E. Flatlick.
By *his* Attorneys
Keller & Starnes

UNITED STATES PATENT OFFICE.

ANDREW E. FLATTICK, OF ST. LOUIS, MISSOURI.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 539,048, dated May 14, 1895.

Application filed January 28, 1895. Serial No. 536,434. (No model.)

To all whom it may concern:

Be it known that I, ANDREW E. FLATTICK, a citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Life-Saving Guards or Fenders for Street-Cars, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

10 My invention has relation to improvements in street car fenders or life guards and consists in the novel arrangement and combination of parts more fully set forth in the specification and pointed out in the claims.

15 In the drawings, Figure 1 is a side elevation of my invention as attached to a car. Fig. 2 is an enlarged sectional detail of the casing within which the side rods of the yielding buffer operate and which contains the spring for controlling said rods. Fig. 3 is a plan view of the life-guard. Fig. 4 is a section on the line xx of Fig. 3. Fig. 5 is a plan view of a portion of the yielding buffer, showing one of the guide-rods for the same. 25 Fig. 6 is an enlarged detail of the hinged end of the pivoted frame, showing the connection of the front part thereof with the spring which retains it in its upwardly-inclined position; and Fig. 7 is a section on the line xx of Fig. 3, showing the cushioning-board at the free end of the pivoted frame and its co-operating parts enlarged. 30

The object of my invention is to construct a life saving guard or fender which will most effectively and with the least amount of danger check the striking force due to the momentum of a rapidly moving car in case the latter should strike an object or person on the track. The present device contemplates 40 the use of a yielding buffer adapted to strike the person on the track, and a suitable pivoted or hinged frame for catching said person should he be tripped.

The device in detail may be described as follows: 45

Referring to the drawings, 1 represents a portion of a car having the usual platform 2 and steps 3 leading thereto. Below the platform are suitable beams 4 from which depend the hangers 5 to which are secured the lateral bars 6 of a rigid frame on which the parts constituting my improvement are mounted. 50

The forward end of each of the bars 6 carries a guide tube or casing 8 secured to the bar by straps 9. Within each tube is confined a yielding coiled spring 10. Within a central opening of the head 11 of each casing is adapted to reciprocate the lateral rod 12 whose inner end carries a piston 13, the said rods 12 forming a part or continuation of the front transverse bar of the yielding buffer, which is covered with layers of rubber or similar cushioning material 14 as best shown in Figs. 1 and 2. From the front transverse bar of the yielding buffer extend a series of parallel rods 15 whose rear free ends are guided within suitable clips 16 secured to a transverse beam 17 of the rigid frame. The terminal rods 12 are reinforced by the tie bar 18. It is apparent from the construction thus far described that if a person is struck by the yielding buffer or rather by the front transverse cushioned bar of the same, the momentum will be taken up to some degree by the yielding springs 10 which will be accordingly compressed by the inward movement of the rods 12 and pistons 13 secured thereto. A person thus struck would be tripped toward the car, and I accordingly make the following provision to catch the person when tripped. 80

Hinged at the free ends of the lateral members 6 of the rigid frame is a pivoted frame 19 normally inclined toward the yielding buffer at an angle of between thirty to forty degrees, the said hinged frame 19 being held to this angle by the springs 20 secured at one end to the rods 21 whose opposite ends are pivotally connected to the depending bars 22 secured to the forward end of the frame 19 in front of the hinge line, and the opposite ends of the springs 20 being secured to the adjustable bars 23 passing through a transverse beam 24 of the rigid frame, the outer ends of the bars being screw-threaded and the tension of the springs being controlled by the nuts 25 passed over said screw-threaded ends. If a person is tripped and then caught on the hinged frame as before explained, the weight of his body will depress the frame against the action of the springs 20, closing it to the position shown in dotted lines in Fig. 1, the fall of the frame and the person on it being taken up by the series of yielding supporting springs 26 disposed along the transverse member or 100

beam 24. The medial portion of the free or swinging end of the frame 19 carries a spring latch 29 which will snap over the staple 28 secured to the member 24, so that when the swinging frame is once depressed it will remain locked in its depressed position against the action of the springs 20 which might have a tendency by their resilient action to tilt the frame back to its normally inclined position and throw the individual out. On either side of the hinged frame 19 is a railing 29' which connects at the free end of the frame with the corner posts 30 said posts being transversely braced by the tie rod 31. From the base of each post 30 projects inwardly and directly in line with and under the rail 29' a guide rod 32. Over the railings and simultaneously over the guide rods is adapted to slide a yielding cushioning board 33 held normally at a suitable distance from the posts 30 by the coiled springs 34 and 35 encircling respectively the railings 29' and guide rods 32, and interposed between the posts and the cushioning board 33. Should a person caught by the hinged frame be accidentally thrown too forcibly toward the car, the shock will be taken up by the yielding springs 34 and 35 in the rear of the board 33 against which the person may accidentally be landed in the collision.

It will thus be seen that the present life saving guard is provided with a maximum number of yielding surfaces against which the person struck is liable to come in contact. The fender is yielding, and when the person is landed on the hinged frame, the shock is taken up both by the springs 26 which check the downward fall of the hinged frame, and by the springs 34 and 35 which check the outward throw that the individual may be subjected to.

The hinged end of the frame 19 on either side rests, when in its normally tilted position, against the inclined ends 36 of the members 6, said inclined ends preventing the front edge of the said frame from coming in contact with the side rods 12 of the yielding buffer, and interfering with the same during

the movement of the latter. When the person struck by the yielding buffer has been landed on the hinged frame the springs 10 restore the fender to its normal position to catch the individual should he accidentally slip off from the frame.

Having described my invention, what I claim is—

1. In a life guard for cars, a rigid frame, a yielding buffer carried at the forward end thereof, a pivoted frame hinged adjacent to the buffer and normally inclined thereto, a series of springs secured to the pivoted frame along a line exterior to the hinge line, tension adjusting devices for said springs, a series of yielding springs adapted to support the free end of the pivoted frame when in its closed or depressed position, and a suitable locking device for securing the free end against the action of the springs, substantially as set forth.

2. In a life guard for cars, a pivoted frame, means for normally inclining said frame, a guard rail on each side of said frame, a cushioning board adapted to slide over the guard rails, additional guide rods for said board, and suitable springs interposed between the rear surface of the board and the free end of the frame and encircling the said guard rails and guide rods, substantially as set forth.

3. A life guard for cars comprising a rigid frame, a spring controlled buffer carried by the forward end of said rigid frame, a hinged frame normally inclined to the buffer and out of contact therewith, a cushioning device at the free end of the pivoted or hinged frame, yielding supports for supporting the free end of the hinged frame when in its depressed position, means for locking the hinged frame in its depressed position, and suitable springs for restoring the hinged frame to its normally inclined position, substantially as set forth.

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

ANDREW E. FLATTICK.

Witnesses:

LEE SALE,
E. STAREK.