

(No Model.)

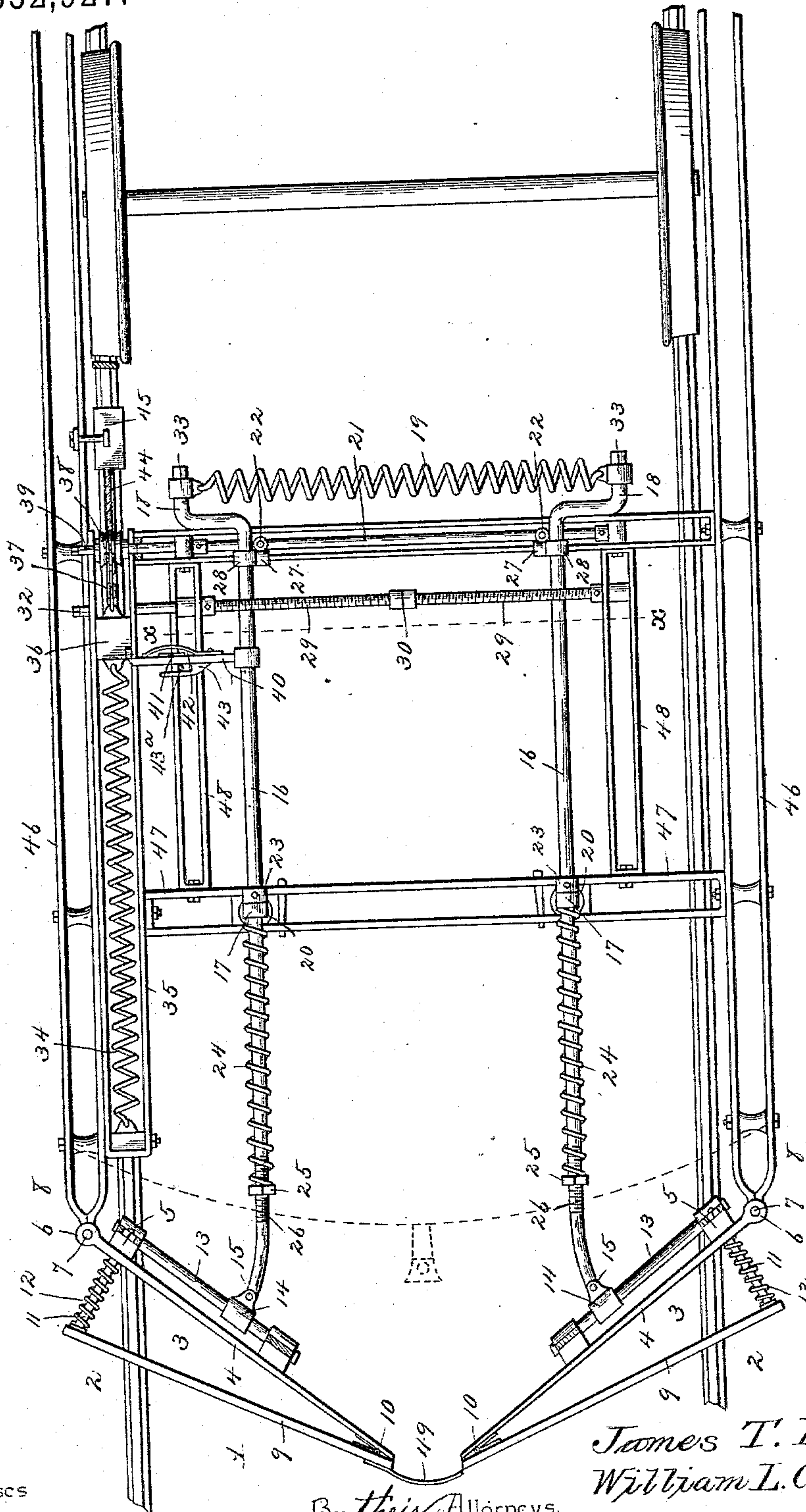
2 Sheets—Sheet 1.

J. T. RODGERS & W. L. CROWSON.  
CAR FENDER.

No. 552,927.

Patented Jan. 14, 1896.

FIG. 1.



Witnesses

*Harry L. Ames.*  
*J. F. Riley*

By their Attorneys.

Inventors

*James T. Rodgers and*  
*William L. Crowson.*

*C. A. Snow & Co.*

(No Model.)

2 Sheets—Sheet 2.

J. T. RODGERS & W. L. CROWSON.

CAR FENDER.

No. 552,927.

Patented Jan. 14, 1896.

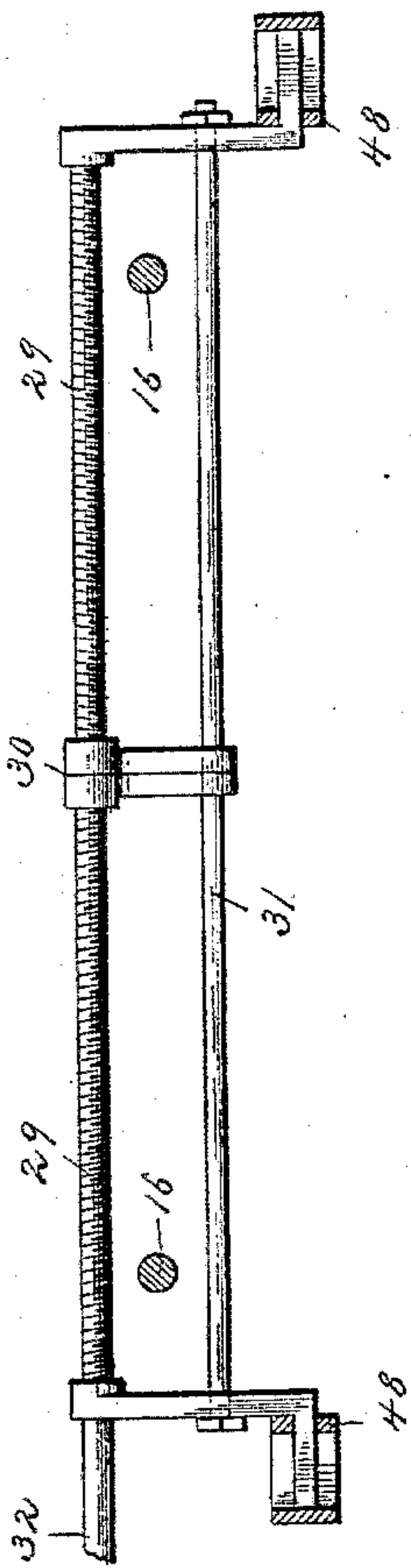


FIG. 3.

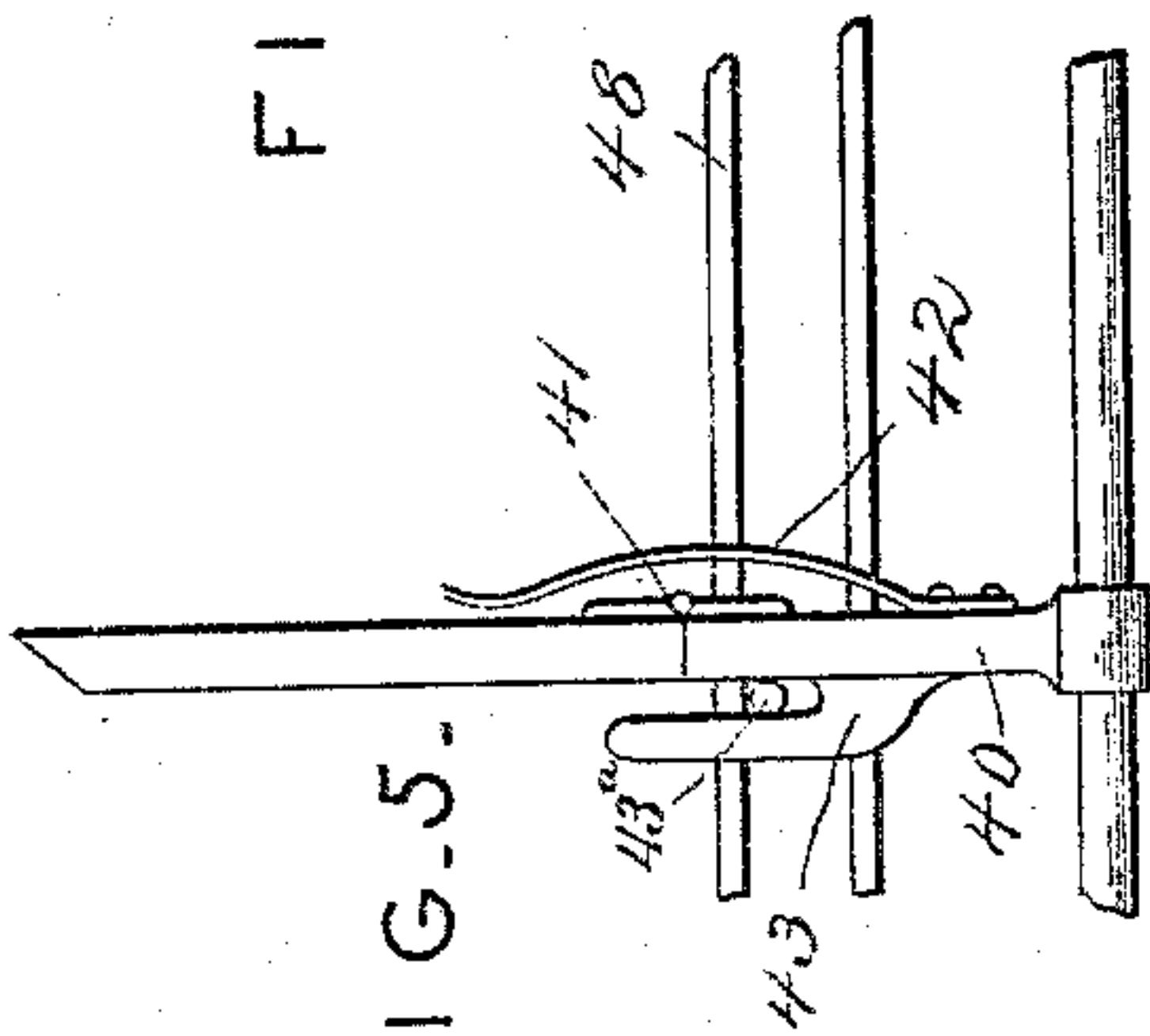


FIG. 5.

Witnesses

Harry L. Amer.  
J. H. Riley

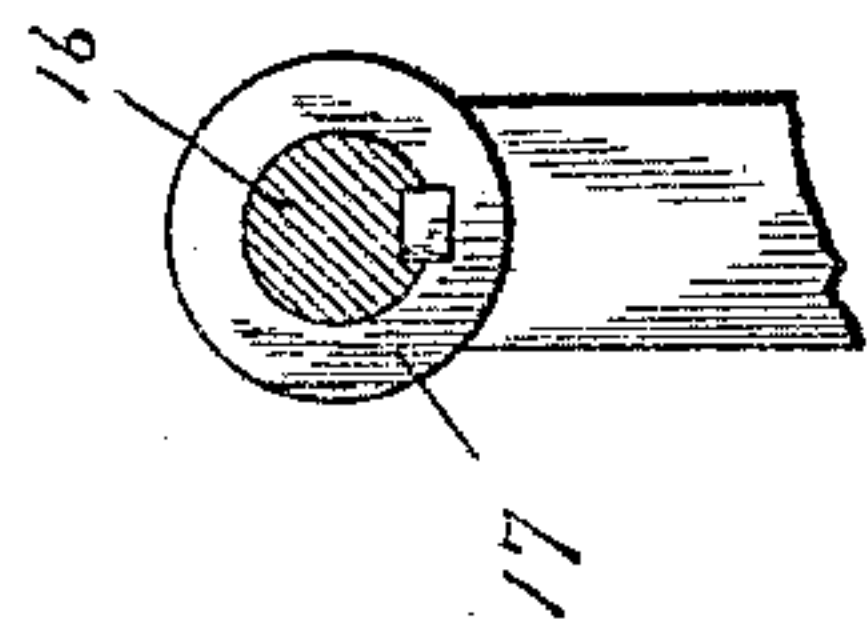


FIG. 4.

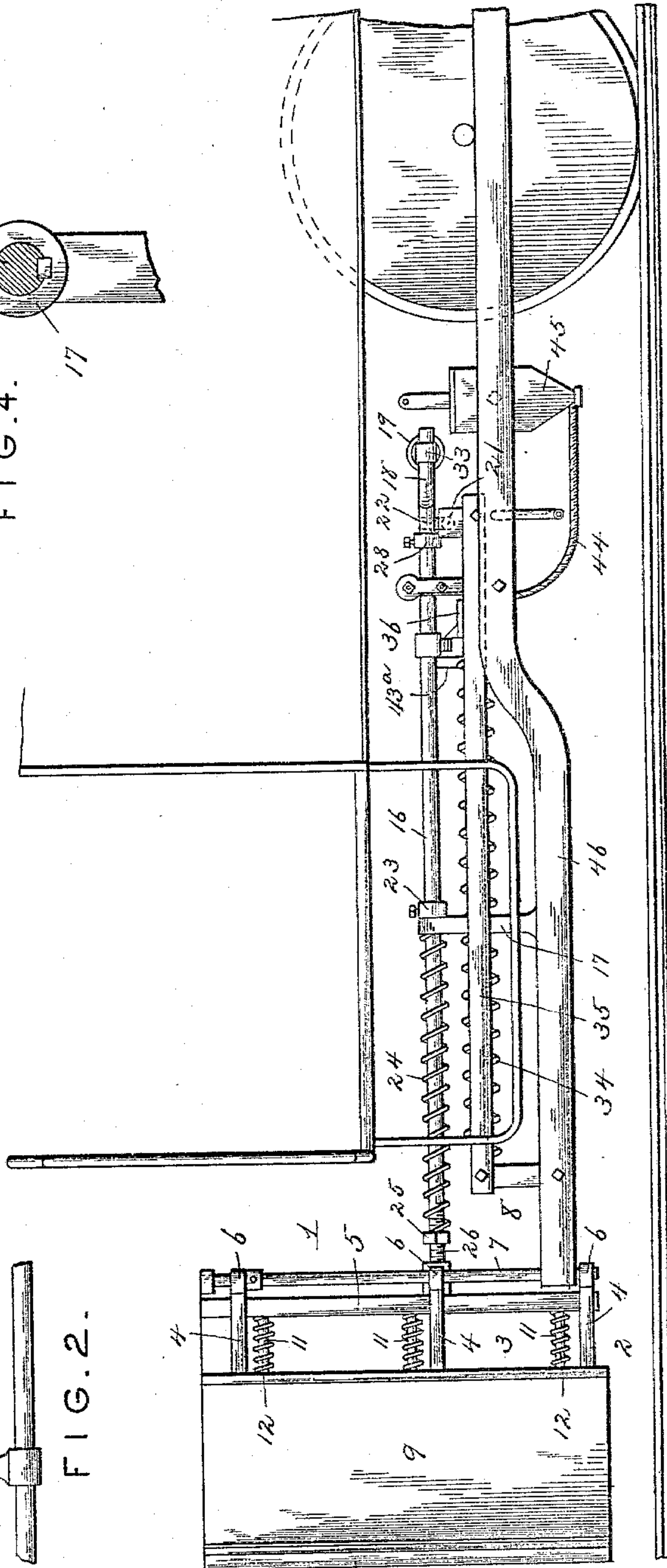


FIG. 2.

By their Attorneys,

C. A. Snow & Co.

Inventors  
James T. Rodgers  
and  
William L. Crowson.



# UNITED STATES PATENT OFFICE.

JAMES T. RODGERS AND WILLIAM L. CROWSON, OF MEMPHIS, TENNESSEE,  
ASSIGNORS OF ONE-HALF TO E. W. SMITH AND KIRK ALLEN, OF SAME  
PLACE.

## CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 552,927, dated January 14, 1896.

Application filed April 2, 1895. Serial No. 544,202. (No model.)

*To all whom it may concern:*

Be it known that we, JAMES T. RODGERS and WILLIAM L. CROWSON, citizens of the United States, residing at Memphis, in the county of Shelby and State of Tennessee, have invented a new and useful Car-Fender, of which the following is a specification.

The invention relates to improvements in car-fenders.

10 The object of the present invention is to provide a car-fender adapted for use on all kinds of cars and locomotives, but particularly designed for use in connection with cable and electric street-railways, and capable  
15 of preventing a person or other object from coming in contact with the wheels of a car.

Another object of the invention is to provide a car-fender adapted to be mounted on a truck to avoid the up-and-down motion of  
20 the body of a car, and capable of cushioning the blow incident to striking a person or other object, and of throwing such person or object to one side of the track out of the way of the car or train.

25 A further object of the invention is to apply the brake and sand the track simultaneously with the operation of the fender and automatically to stop the car or check the speed sufficiently to lessen materially the shock.

30 The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

35 In the drawings, Figure 1 is a plan view of a car-fender constructed in accordance with this invention and shown applied to a truck. Fig. 2 is a side elevation of the same. Fig. 3  
40 is a detail sectional view illustrating the construction of the screw and the nuts for resetting the spring-actuated levers. Fig. 4 is a detail sectional view illustrating the manner of feathering or keying the levers in the swiveled guides or eyes. Fig. 5 is a detail  
45 view of the latch.

Like numerals of reference indicate corresponding parts in all the figures of the drawings.

50 1 designates a car-fender composed of two sections 2 located in advance of a car, and converging forward from the sides of the

track to the center thereof, and having their rear or outer ends hingedly mounted, whereby the sections are adapted to open or spread and swing outward to carry a person or other  
55 object off the track and out of the way of the car, and thereby prevent any liability of a person or other object coming in contact with the wheels of the car or the motor mechanism thereof. Each fender-section 2 is provided  
60 with a frame 3 composed of horizontal bars 4 connected by vertical posts 5, and terminating at their rear or outer ends in eyes 6 arranged on vertically-disposed pintle-rods 7 carried by the truck 8. On each frame 3 and in advance  
65 of the same is a yieldingly-mounted front portion or cushion 9, constructed of any suitable material, and substantially the same size and shape of the frame 3, and hinged at its inner end at 10 to the same. The cushion or guard  
70 9 is arranged at an angle to the frame 3 of the section, diverging rearwardly, and having its rear end connected with the frame by a series of rods 11, on which are arranged spiral springs 12, and the rods 11 have their front ends se-  
75 cured to the inner faces of the guards or cushions 9, and their rear ends are loosely arranged in openings or perforations of the outer post 5 and provided with nuts, whereby the tension of the springs may be regulated. 80

Should a person or other object come in contact with the fender at a point at either side of the track, the adjacent cushion or guard would be compressed or moved rearward and inward to cushion the blow, and its obliquity  
85 would be increased, and the person or object would be forced laterally beyond the track and out of the way of the car. As soon as the pressure is removed from the cushion or guard the compressed springs operate to re-  
90 turn the cushion or guard to its normal position. This construction will prevent a person or other object at one side of the track from being struck by the car and thrown down upon the track and run over. 95

The frames 3 of the fender-sections have mounted on them horizontal rods 13, secured at their ends to the posts 5, and forming ways or guides for sliding sleeves 14, which are hingedly connected by pivots 15 with longi-  
100 tudinally-disposed levers 16. The levers 16 are loosely arranged in swiveled guides or



eyes 17, forming fulcrums for the levers, and located intermediate of the ends thereof, and the rear ends 18 of the levers are angularly bent and laterally offset, and are connected  
 5 by a heavy spiral spring 19, adapted to swing the rear portions of the levers 16 inward and the front portions thereof outward, to open or spread the sections of the fender, to sweep a person or other object off the track out of the  
 10 way of the car.

The guide 17 consists of an eye to receive the lever and a disk 20 arranged in a bearing-opening of the supporting-framework and adapted to turn or rotate therein to permit a  
 15 swinging movement of the levers 16. The levers are preferably constructed of rod metal; but any suitable material can be employed, and they are capable of longitudinal movement in the guides 17, and to prevent them  
 20 from twisting they are keyed or feathered at the bottom.

The rear portions of the levers 16 are held separated to distend the connecting-spring 19, and to set the device by a transverse rod  
 25 21 journaled in suitable bearings of the supporting-framework, and provided with stops 22, preferably composed of rollers projecting upward from the transverse rod 21, and engaging the inner faces of the levers and hold-  
 30 ing the same separated. When the levers are set they are parallel, and they are held against forward movement by collars 23, arranged in rear of the guides 17 and provided with set-screws for securing them at the desired ad-  
 35 justment. Spiral springs 24 are disposed on the front portions of the levers, and have their rear ends bearing against the guides 17, and the front ends of the springs are engaged by  
 40 nuts 25, arranged on threaded portions 26 of the levers, and adapted for regulating the tension of the springs 24.

The springs 24 operate to cushion the sections of the fender, and when a person or other object in the middle of the track comes  
 45 in contact with the fender the levers 16 are moved rearward, the force of the blow being cushioned by the springs 24, and projections 27, near the rear ends of the levers, are carried in contact with the stops 22 of the transverse  
 50 rod 21, and swing the stops downward, and thereby release the rear portions of the levers. As soon as the rear portions of the levers are released the spring 19 suddenly contracts and swings the sections of the fender outward.  
 55 The projections 27 preferably consist of rollers mounted on sleeves 28, provided with set-screws for securing them at the desired adjustment.

The rear portions of the levers are moved  
 60 outward for setting by a transversely-disposed screw 29, journaled in suitable bearings, and provided with right and left hand screw-threads, and carrying nuts 30, and the latter are held against rotation by a rod 31, whereby  
 65 when the screw is rotated in one direction the nuts will be moved outward and will carry with them the levers. After the rear

portions of the levers have been sufficiently spread, the transverse rod 21 is rotated to swing the stops 22 upward into engagement  
 70 with the levers, and the screw is then reversely rotated to return the nuts to their initial position at the center of the screw. The screw has an extension 32 with a squared outer end for the reception of a crank-handle, and the  
 75 adjacent end of the transverse rod 21 is similarly squared to receive a handle for rotating it to swing the stops 22 upward. The terminals of the spring 19 are attached to perforated ears of sleeves 33, which are secured to  
 80 the rear ends of the levers.

Simultaneously with the tripping of the levers the brake of the car is applied, and the track is sanded, and to accomplish this result a longitudinally-disposed spiral spring  
 85 34 is mounted in a guide 35, and is located at the side of the car where the brake-rod or connections between the brake shaft or levers and the brake-beams are disposed. The front  
 90 end of the spring is secured to the front of the guide, which is oblong, and the rear end of the spring 34 is attached to a sliding block 36, adapted to move back and forth in the  
 95 guide 35. The sliding block 36 is provided at its front side with a perforated ear for the reception of the end of the spring 34, and it has a similar ear at its rear side, and linked  
 100 into the latter is a chain 37. The spring 34 is designed to be distended, and this is accomplished by winding the free end of the chain 37 around a drum or spool 38 of a short  
 105 shaft 39, and the sliding block is automatically locked when it has reached the rearward limit of its movement by a latch 40. After the block has been set through its engage-  
 110 ment with the latch the chain is disconnected from the drum or spool, which operates as a windlass, and it is designed to be connected with the brake mechanism, whereby when the  
 115 sliding block is tripped the contraction of the spring will apply the brake. The outer end of the windlass-shaft 39 is squared, and is adapted to receive a crank-handle to enable the chain to be readily wound on the spool or drum to distend the spring.

The latch 40 is disposed transversely of the guide 35, and its outer end is beveled at the front side, and it is composed of two sections connected at their inner ends by a hinge 41,  
 120 arranged at the rear side of the latch. A spring 42 holds the sections normally in alignment to provide a straight latch-bar; but the sliding block 36 in moving rearward is adapted to engage the outer section of the latch, and swing the same rearward, and pass it.  
 125 After the sliding block passes the latch, the outer section is returned to its normal position by the spring 42, and the latch is provided with a laterally-offset arm 43, carried by the inner section of the latch and arranged  
 130 parallel with the latch, and located in advance of a stop or support 43<sup>a</sup>, interposed between the arm 43 and the inner section of the latch. The inner end of the latch is connected with



the adjacent lever 16, and is provided with an eye for the reception of the same, and when the lever is swung inward after it has been tripped the latch is withdrawn from its engagement with the sliding block and swings inward away from the support or stop 43<sup>a</sup>. The inner end of the latch is loosely connected with the adjacent lever 16, to permit the same to move rearward, and when the latch is withdrawn from its engagement with the sliding block 36 the spring 34 is free to act on the brake mechanism and to apply the brake. When the levers are again set the latch is automatically returned in position for engaging the sliding block.

A flexible connection, such as a rope 44 or the like, has one end attached to the sliding block 36, and its other end is detachably secured to the cut-off or slide of a sand-box 45, located in advance of the adjacent wheel. When the slide 36 is carried forward by the contraction of the spring 34, it operates the slide or cut-off of the sand-box and sands the rail, and increases the effectiveness of the brake.

The supporting - framework for mounting the operating mechanism on the truck consists of sides 46 and cross-pieces 47. The sides are composed of parallel bars separated by spacing sleeves or blocks and the cross-pieces 47 are also composed of parallel bars and are connected by longitudinal braces 48.

The adjacent ends of the sections 2 of the car-fender are slightly separated, to enable them to be readily swung inward without contracting, and one of the sections carries an extension 49, extending across the space between the front ends of the sections, to prevent a person or other object from coming in contact with the ends of the sections.

It will be seen that the car-fender is simple and comparatively inexpensive in construction, that it is adapted to be readily applied to all kinds of cars or locomotives, and that it is particularly applicable to electric and cable street-railways.

It will also be apparent that by being mounted on the truck the up-and-down motion of the body of the car is not communicated to it, and that it is capable of effectually preventing a person or other object from getting under the wheels of a car. The application of the brake and the sanding of the rail is automatic, and it materially lessens the shock and prevents injury to a person contacting with the fender.

Another advantageous feature of the invention is the construction and arrangement of the cushions or guards which prevent a person at the side of the track from being struck by a car and thrown on the track directly in front of the car.

Changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

What we claim is—

1. The combination with a car, of a fender composed of two sections located in advance of the car and converging forward from opposite sides of the car, and the guards or cushions disposed in a vertical plane and arranged at the fronts of the sections of the fender and hinged at their inner ends, to the free ends of the fender sections and having their outer ends separated from the body or frame of the sections and adapted to be swung inward, substantially as and for the purpose described.

2. A fender, composed of two sections arranged at an angle, and each comprising a frame, a guard or cushion arranged at an angle to the frame and having its inner end hinged to the same, rods extending from the guard or cushion to the frame and loosely mounted on the latter, and provided with nuts, and spiral springs disposed on the rods and interposed between the guard or cushion and the frame, and having their tensions regulated by the nuts, substantially as described.

3. The combination with a car, of a fender composed of two sections hingedly connected at their outer ends with the car and arranged to swing horizontally, a pair of longitudinally disposed levers fulcrumed intermediate of their ends and having their front ends connected with the sections of the fender, and means for automatically swinging the rear ends of the levers inward, whereby the sections of the fender are swung outward, substantially as described.

4. The combination with a car, of a fender composed of sections hinged to the car and arranged to swing horizontally, longitudinally disposed levers fulcrumed intermediate of their ends and having their front ends connected with the sections of the fender, a spring for swinging the rear ends of the levers inward, and means for setting the levers and for tripping the same, substantially as and for the purpose described.

5. The combination with a car, of a fender composed of sections hingedly connected with the car and arranged to swing horizontally, levers fulcrumed intermediate of their ends and capable of longitudinal movement and having their front ends connected with the sections, a spring connection between the rear ends of the levers, a transverse rod provided with stops for engaging the levers for holding the same separated, and projections mounted on the levers and arranged, when the levers are moved longitudinally, to throw the said stops out of engagement, whereby the levers are tripped, substantially as described.

6. The combination with a car, of a fender composed of sections mounted on the car and arranged to swing horizontally, longitudinally disposed levers connected at their front ends with the sections and provided at their rear ends with a spring connection, swiveled



guides receiving and fulcruming the levers, spiral springs disposed on the levers and arranged in advance of the guides and cushioning the rearward movement of the levers, 5 a transverse rod provided with stops engaging the levers and holding the same separated, and projections mounted on the levers and arranged to throw the stops out of their engagement with the levers, substantially as 10 described.

7. The combination with a car, of a fender composed of sections mounted on the car and arranged to swing horizontally, rods mounted on the sections and disposed horizontally and 15 forming ways, slides mounted on the rods, longitudinally disposed levers hingedly connected at their front ends to said slides, swiveled guides receiving and fulcruming the levers and located intermediate of the ends thereof, spiral springs disposed on the front 20 portions of the rods in advance of the guides, collars arranged in rear of the guides and limiting the forward movement of the levers, nuts mounted on the levers and regulating the tensions of the springs, a spring connection between the rear ends of the levers, a 25 transverse rod provided with rollers forming stops and arranged to engage the rear ends of the levers, and rollers mounted on the levers and projecting therefrom and located in advance of the rollers of said rod, substantially 30 as described.

8. The combination of a fender, composed of two sections, hinged at their outer ends 35 and arranged to swing horizontally, longitudinally disposed levers connected with the sections, a spring for actuating the levers for swinging the section outward, and a transversely disposed screw having right and left 40 hand threads and carrying nuts arranged to engage the levers for setting the same, substantially as described.

9. The combination of a fender composed of two sections, hinged at their outer ends 45 and arranged to swing horizontally, spring actuated levers disposed horizontally and extending longitudinally of a car, and connected at their front ends with the sections and adapted to swing laterally to throw the sections 50 outward, and means for setting and for tripping the levers, substantially as described.

10. The combination of a fender, composed of two horizontally swinging sections, spring 55 actuated levers connected with and adapted to swing the sections of the fender outward,

an extensible spring provided with a chain designed to be attached to the brake mechanism of a car, a latch for locking the spring in its distended position, and connections between the latch and one of the levers, whereby when the sections of the fender are swung outward the brake will be automatically applied, substantially as described. 60

11. The combination of a fender, composed 65 of two horizontally swinging sections, spring actuated levers connected with the sections of the fender and adapted to swing the same outward, a spring adapted to be distended, a latch connected with one of the levers and 70 adapted to hold the spring in its distended position, and means for connecting the spring with the brake mechanism of a car and the slide or cut off of a sand box, whereby when the fender sections are swung outward the 75 brake will be automatically applied and the track sanded, substantially as described.

12. The combination of a guide, a sliding block mounted therein, a spring connected 80 with the sliding block and adapted to be distended, a latch composed of two hinged sections and arranged to engage the block to hold the spring distended, and means for connecting the block with a brake mechanism of 85 the car, substantially as described.

13. The combination of a sliding block, a spring connected with the same, a latch for engaging the sliding block to hold the spring 90 distended, a chain connected with the sliding block, and a windlass adapted to receive the chain and to have the same wound on it for distending the spring, substantially as described. 95

14. The combination of a fender composed of two sections arranged at an angle to each 95 other and hinged at their outer ends for horizontal swinging, the inner ends of the sections being slightly separated, and an extension mounted on the inner end of one of the sections and projecting across the space between 100 the sections, and means for swinging the sections outward, substantially as described.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses. 105

JAMES T. RODGERS.  
WILLIAM L. CROWSON.

Witnesses:  
B. W. CAPPS,  
W. E. GAY.