

910,100.

G. TROTTIER.
CAR FENDER AND BRAKE.
APPLICATION FILED FEB. 6, 1908.

Patented Jan. 19, 1909.
3 SHEETS—SHEET 1.

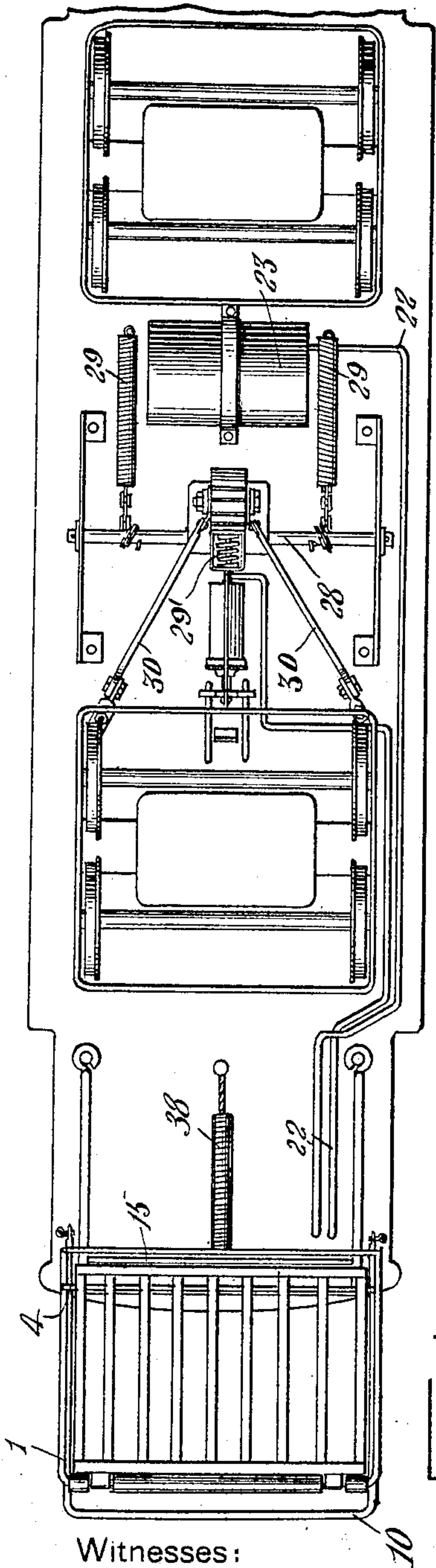


FIG. 1.

Witnesses:

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W. S. Babcock

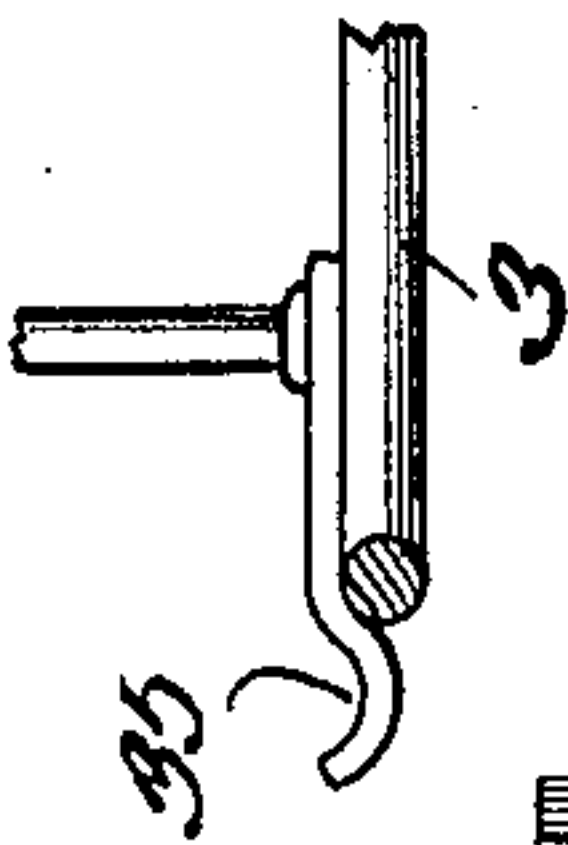


FIG. 9.

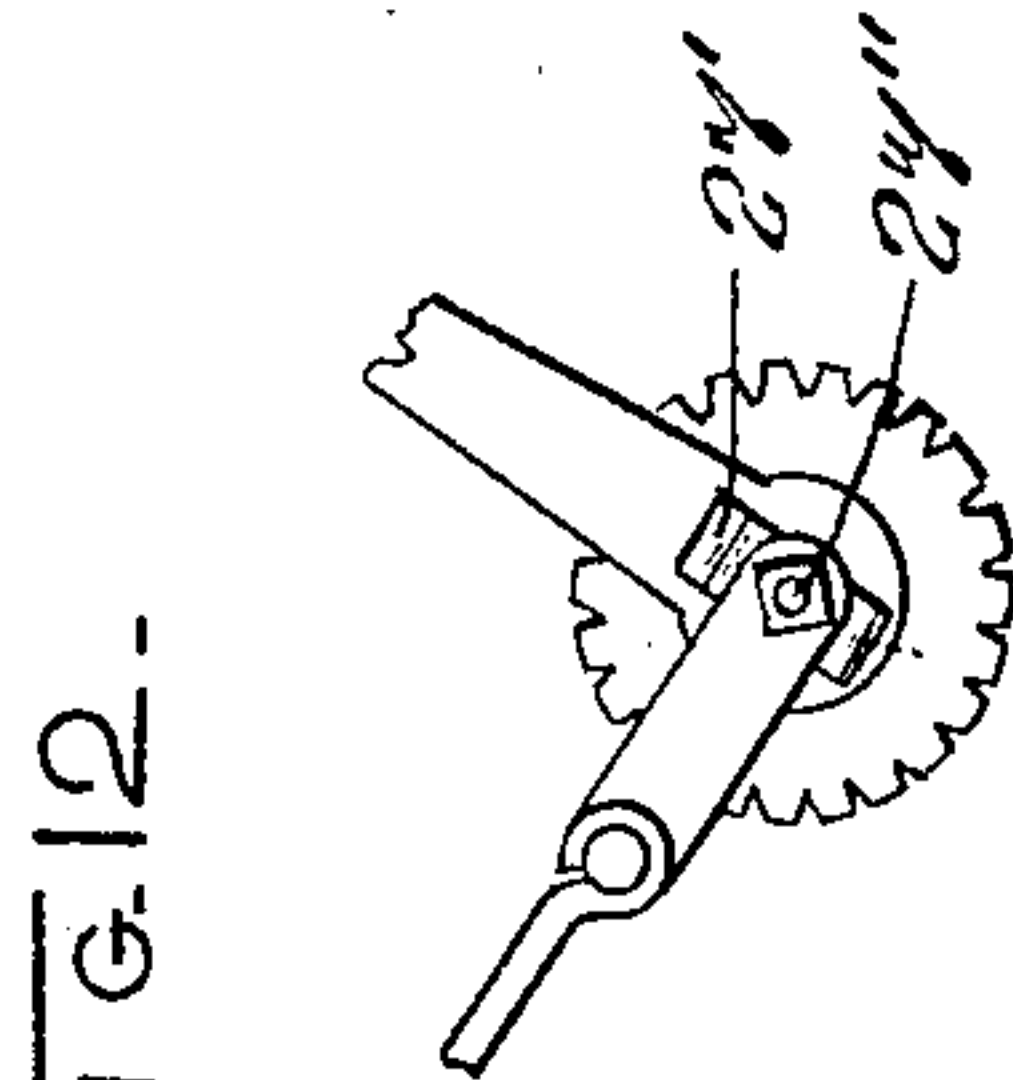
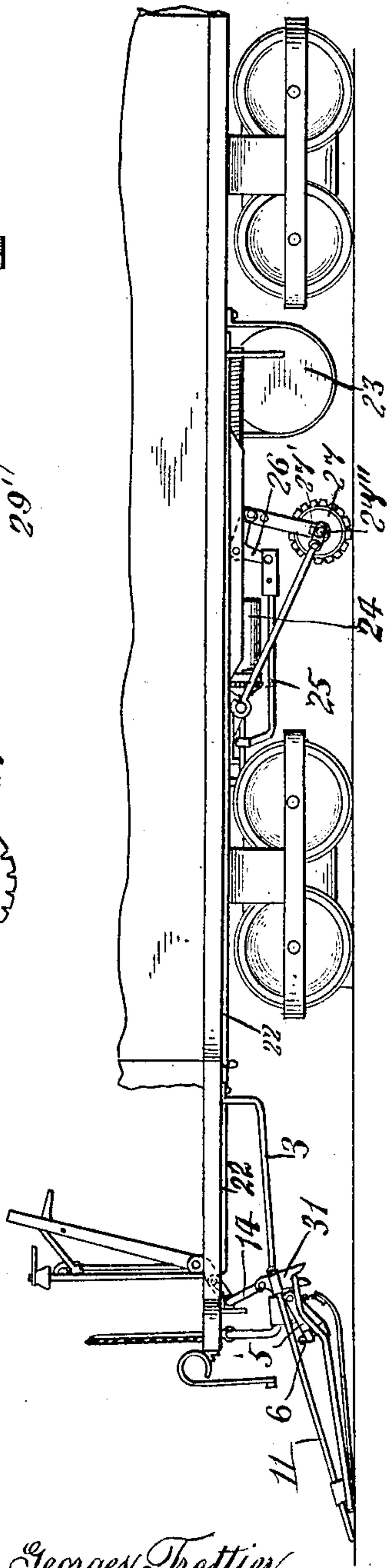


FIG. 12.

FIG. 2.



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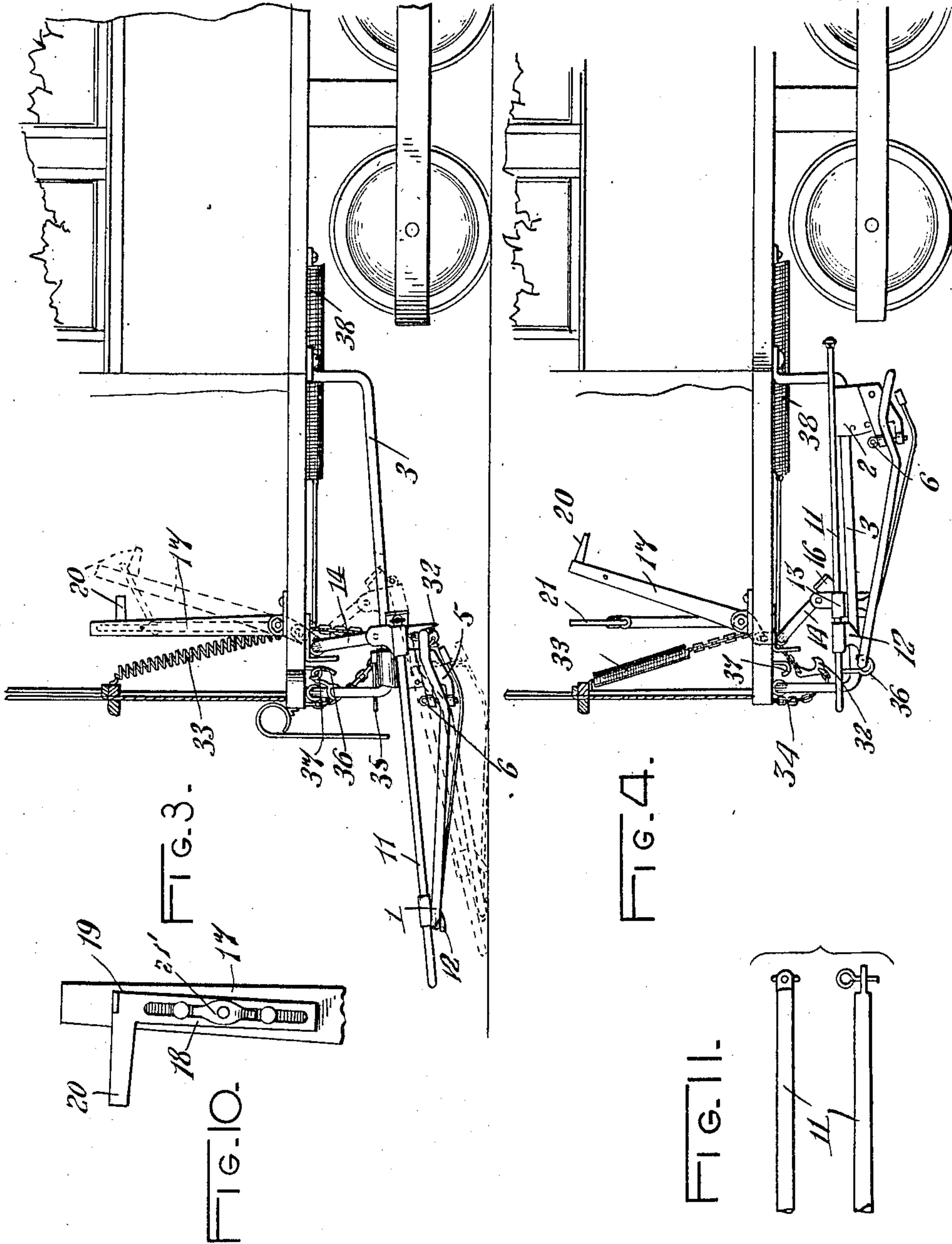
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

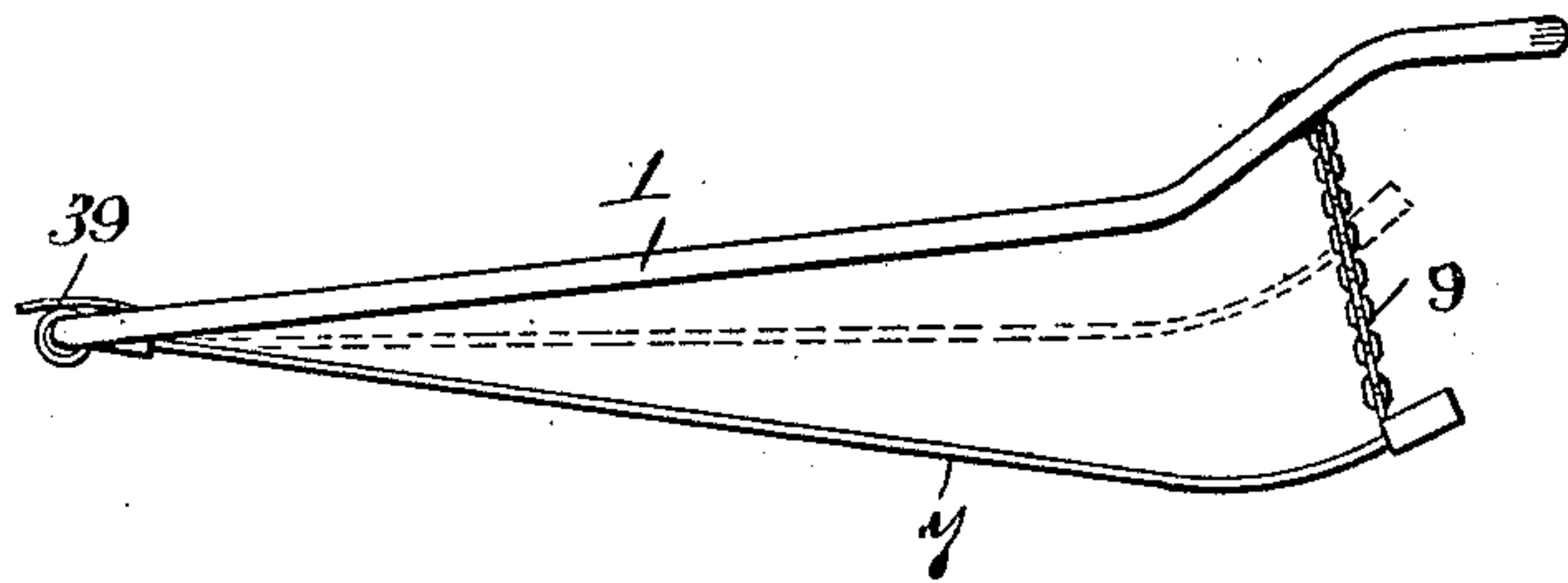


FIG. 5.

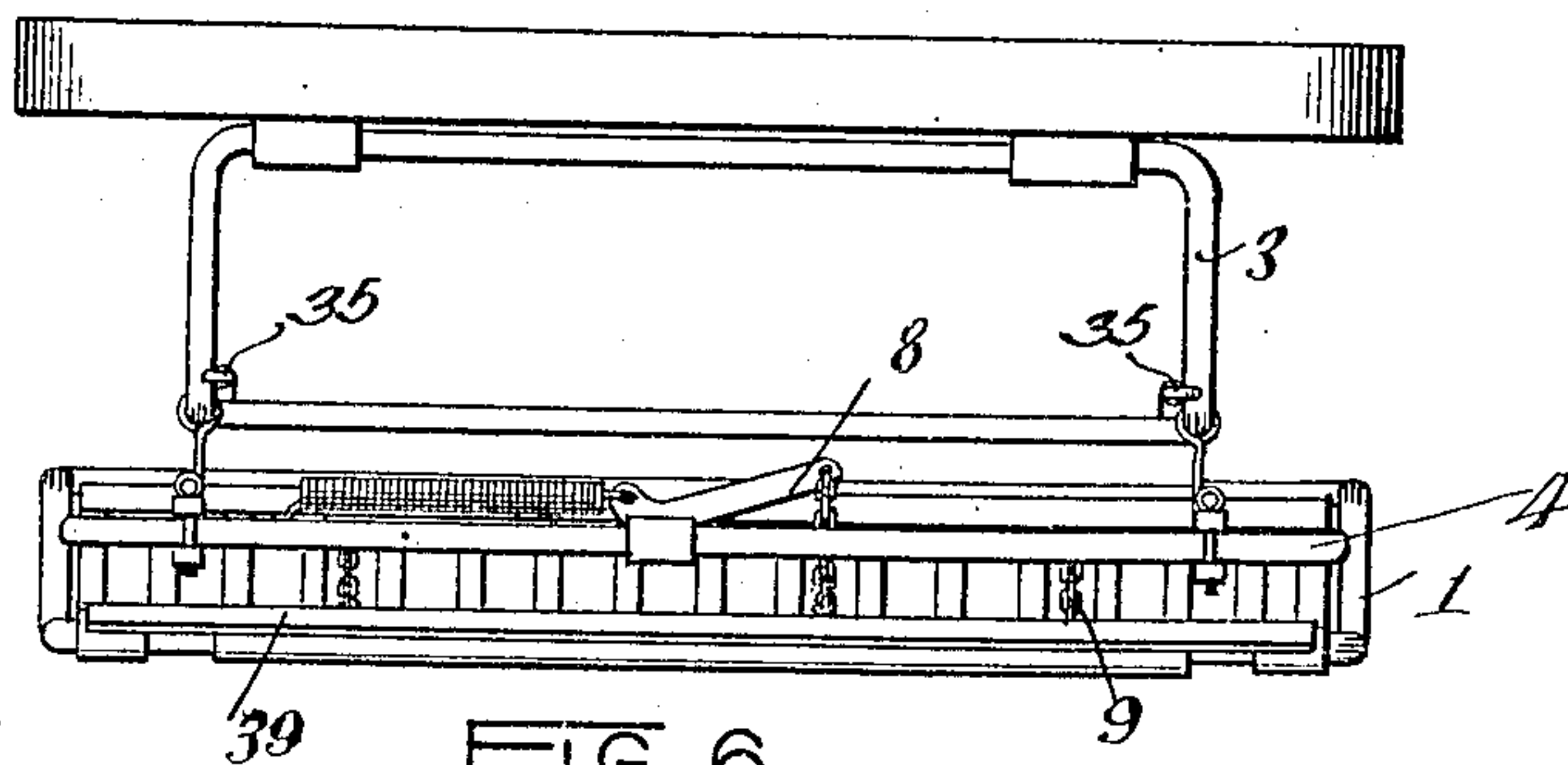


FIG. 6.

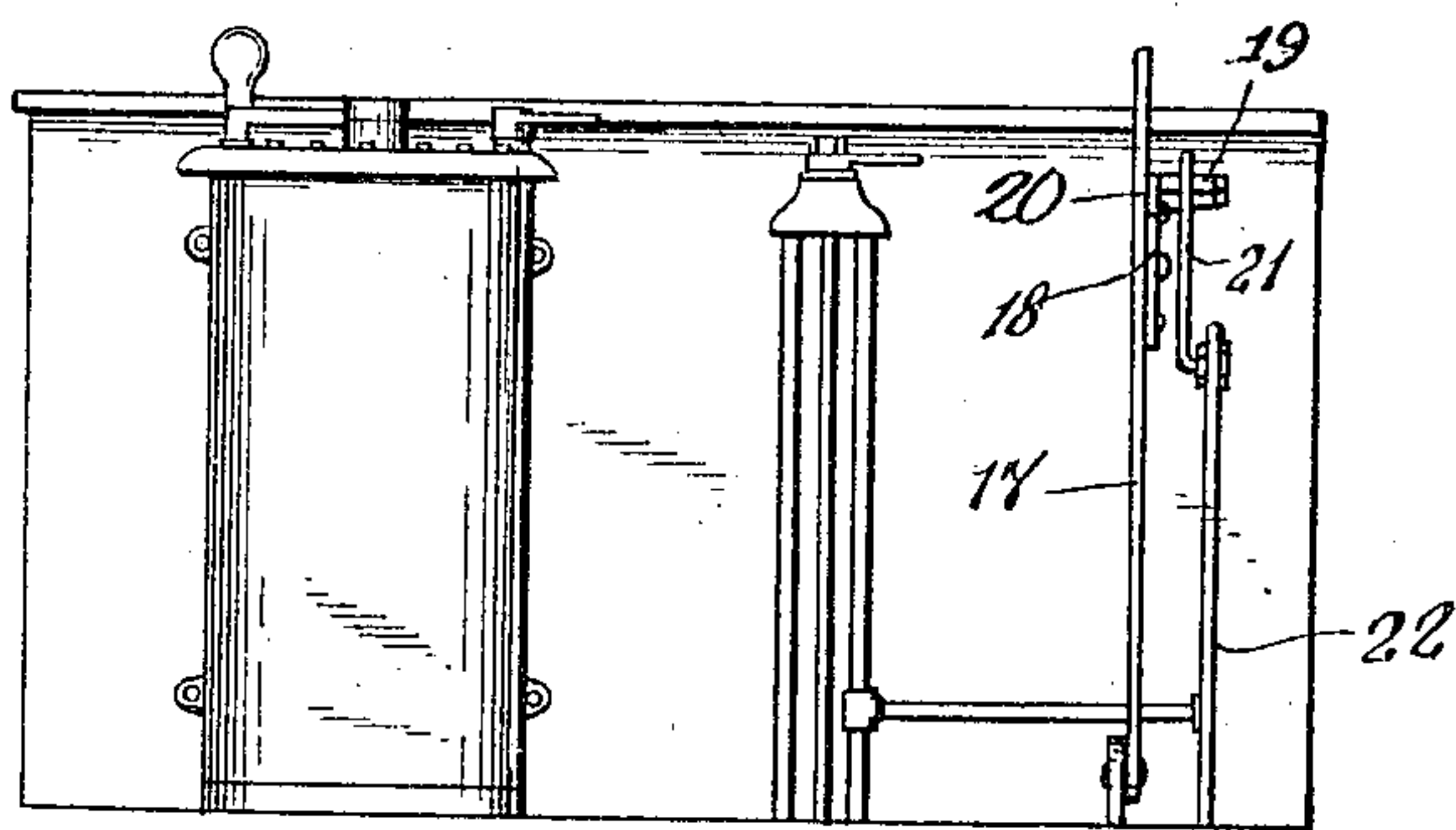
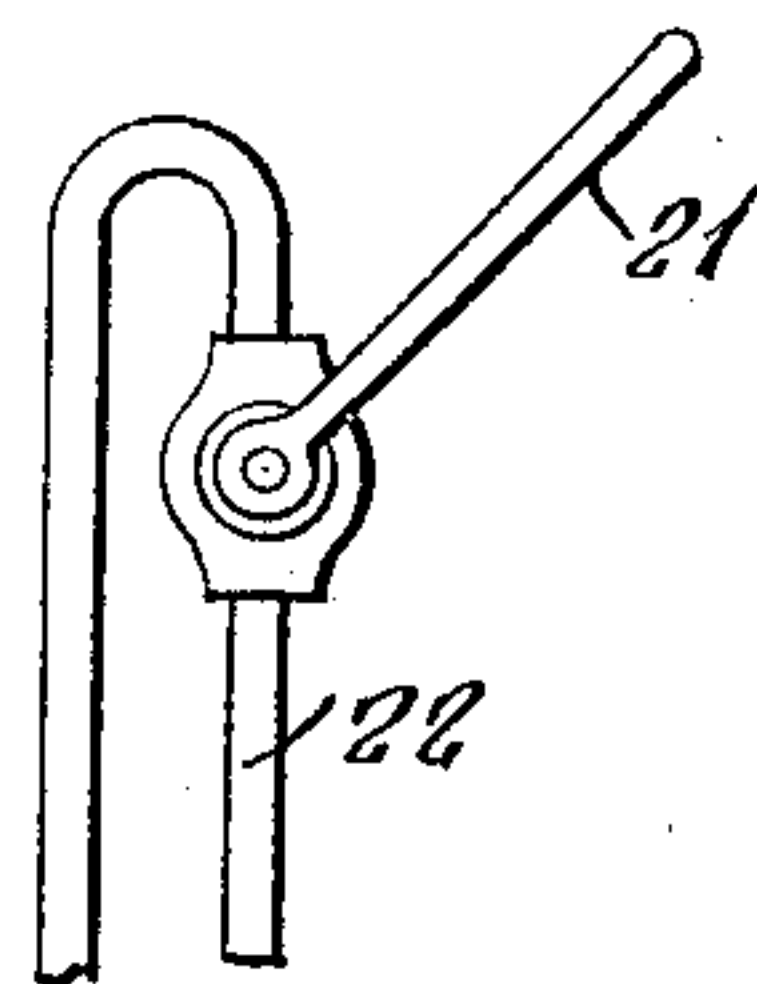


FIG. 7.

FIG. 8.



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UNITED STATES PATENT OFFICE.

GEORGES TROTTIER, OF MONTREAL, QUEBEC, CANADA.

CAR FENDER AND BRAKE.

No. 910,100.

Specification of Letters Patent.

Patented Jan. 19, 1909.

Application filed February 6, 1908. Serial No. 414,567.

To all whom it may concern:

Be it known that I, GEORGES TROTTIER, a subject of the King of Great Britain, residing at the city and district of Montreal, in the Province of Quebec, Canada, have invented certain new and useful Improvements in Car Fenders and Brakes; and I do hereby declare that the following is 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.

The invention to be hereinafter described relates to mechanism for simultaneously lowering a fender and applying a brake, as applied to railway cars, and means whereby the fender may be slid completely beneath the body of the car.

Broadly speaking, the invention comprises a pivotally mounted fender adapted to be held normally at the front of the car and to be slid rearwardly beneath the car when desired, a movable feeler bar freely carried by the fender, a track or road brake adapted to engage the road bed, a compressed air system for operating the brake, and connections between the feeler bar and the compressed air system whereby a valve in the system will be operated by movement of the feeler bar to actuate the brake.

In order to enable one skilled in the art to which the invention relates to more readily understand the construction, operation and application of the same, reference should be had to the accompanying drawings, forming part of this application.

In the drawings, the same reference characters designate like parts throughout the several views.

In the drawings: Figure 1 is a bottom plan view of the invention, showing its application to a car; Fig. 2 is a side elevation of Fig. 1; Fig. 3 is a detail side elevation showing the fender, feeler bar and connections in normal position in full lines, and the same parts in operative position in dotted lines; Fig. 4 is a side view similar to Fig. 3, but showing the fender and feeler bar retracted beneath the car; Fig. 5 is a detail end view of the fender frame and fender basket detached, showing the basket in open or full extended position; Fig. 6 is

a front view of the fender and feeler bar, showing the mechanism for holding the fender basket normally closed; Fig. 7 is a rear view of the device for manually operating the fender and automatically operating the air system for actuating the track brake; Fig. 8 is a detail showing the controlling valve for the track brake system in elevation; Fig. 9 is a detail of a spring take-up connection between the brake piston and the brake lever; Fig. 10 is a detail plan view of the plate 18; Fig. 11 are detail views showing the cotter pins for locking the arms 11 in place; Fig. 12 is a detail side elevation of the spur wheel, showing the friction clamp; and Fig. 13 is a detail plan view, showing one of the spring fingers 35 in operative position.

A fender frame or body 1 of any suitable construction is provided with sleeves 2, which surround and slide freely on the brackets 3 depending from the car floor. The frame 1 is provided with a cross bar 4, which is loosely seated in notches formed in ears 5 of the sleeves 2, cotter pins 6 acting to lock the cross bar in place. Thus it will be seen that the pivotal point of the fender frame is slightly in advance of its rear edge. To the frame or body 1 is pivotally secured the slatted catch basket 7, which is normally held raised or closed by means of the spring-actuated bell crank lever 8, its downward movement being limited by connecting chains 9 between its rear end and the cross bar 4.

A feeler bar 10, having arms 11, rests loosely upon the fender, the arms being provided with hooks 12, which pass beneath the forward edge or front bar of the fender and prevent movement of the feeler bar relatively to the fender, except in a rearward direction. The rearwardly extending arms 11 slide freely through tubular sleeves 13 pivoted to the ends of arms 14 of a rock shaft 15. Laterally extending ears 16 project from the arms 14 to the rear of the tubular sleeves 13, in such position as to be struck by the arms 11 when the feeler bar is forced rearwardly by contact with an obstruction. As the arms 11 strike the ears 16, they force the same rearwardly until the arms can pass below them, thus rocking the rock shaft 15.

To this rock shaft is connected, by suitable means, an operating lever 17, the connections between the operating lever and rock shaft being such that as the arms 14 are swung to the rear, the lever 17 will also be swung to the rear.

To one side of the lever 17 is, slidably and adjustably secured, a plate 18, having projecting legs 19 and 20, the leg 20 affording a grip by which the plate may be raised and lowered for a purpose to be later disclosed. A spring 21 serves to hold the plate 18 in adjusted position, while at the same time not exerting sufficient force to prevent adjustment of the plate as desired. Normally, the plate is adjusted to its lowest position. In such position, the leg 19 in its rearward movement strikes the handle 21 of a plug valve in the compressed air pipe 22, and allows air from the reservoir 23 to pass through the pipe and into the brake cylinder 24. As the compressed air enters the cylinder 24, it acts on the piston therein, forcing it forward and carrying with it the pivotally connected rod 25, to the free end of which is connected one arm of a bell crank lever 26, the other arm of the lever being pivotally coupled to a yoke carrying a dog or spur wheel 27. In order to retard the rotation of the spur wheel and insure a tight grip of the same on the road bed, a spring disk 27' is mounted on the axle and adapted to exert a friction on the wheel face, such friction being regulated by tightening of the nut 27''. In order to retain the spur wheel in raised position when not in use, a shaft 28 is fixed to the elbow of the bell crank, and journaled to rotate freely in brackets or plates carried by the car floor. Coil springs 29 are fixed at one end to the car floor, and have their opposite ends secured to chains or the like, which are wound about the shaft 28, the normal tension of the springs acting to rotate the shaft 28 in a direction to raise the spur wheel. It is evident that when the spur wheel engages the surface of the road bed, there will be a greater or less tendency for it to jump or jerk, according to the nature of the surface over which it travels. In order to overcome the sudden excessive strains resulting from such jumping or jerking, a spring 29 is interposed between the end of the rod connecting the bell crank and piston and the end of the arm of the lever to which the rod is coupled. Connecting rods or braces 30 serve to limit the rearward movement of the spur wheel and to insure a tight grip of the same on the road bed.

To prevent the fender dropping too far and dragging on the road bed, pivotally mounted slotted wings 31 extend downwardly from the lower ends of the arms 14, and engage the rear bar of the fender frame. In order to keep the rear bar firmly seated within the slots of these arms, a hook 32 is pro-

vided. This hook is secured to a chain or similar device, which in turn is attached to the lower end of a coil spring 33, the upper end of which is made fast to the car frame, the tension of the spring acting to hold the hook raised. To this hook is also secured a limit chain 34, which disengages it from the bar as the fender frame is slid backward on the brackets 3. The fender is held in operative or forward position by means of bent spring fingers 35, provided with shoulders and secured to the sleeves 2 of the fender frame. In the forward position of the fender, these shoulders frictionally engage the upright portions of the bracket 3 and hold the fender forward against all normal strains.

Should it be desired to carry the fender beneath the car, as when one car is pushing another, it is simply necessary to slide the plate 18 upward on the lever 17, so that the leg 19 will not strike the handle 21 of the brake system valve, slide feeler bar 10 rearwardly, rocking the shaft 15 and arms 14, and freeing the wings 31 from the rear bar of the fender frame, and then to push the fender frame rearwardly with sufficient force to disengage the shoulders of the bent fingers 35 from the uprights of the bracket 3.

As soon as the spring fingers 35 are freed, the fender and the feeler bar may be slid together clear beneath the car floor. For holding the forward end of the fender raised when beneath the car, hooks 36 are provided. These hooks have eyes which slide freely on the brackets 3 and are adapted to engage other similar hooks 37 secured to the floor of the car, the hooks 37 acting to hold the hooks 36 in inoperative position.

In order to hold the rock shaft 15 with its arms 14 downward, the ears 16 in the path of the arms 11 of the feeler bar 10, and the ears 31 in position to engage the rear bar of the fender, a coil spring 38 is provided, one end of the spring being secured to a hook in the under face of the car floor, and its opposite end being secured to a chain or similar connection wound about the shaft 15, the tension of the spring acting to unwind the chain and swing the shaft with the arms 14 into operative position.

The operation of the invention is as follows: The fender, feeler bar and brake are placed in normal position; the fender extending forwardly in front of the car, the shoulders of the spring fingers 35 engaging the uprights of the brackets 3, the arms 14 of the rock shaft 15 extending downwardly, the pivotally slotted wings extending in alignment with the arms 14 and receiving the rear bar of the frame of the fender, the hook 32 engaging the rear bar of the fender from beneath and holding it seated in the slots of the wings 31, the ears 16 blocking the passage of the arms 11 of the feeler bar,

the slatted catch basket raised, the lever 17 forward and the brake raised. As the feeler bar 10 strikes an obstacle, its arms 11 are forced rearwardly through the sleeves 13 and come in contact with the ears 16. As they strike these ears, the arms 14 are swung rearwardly, carrying with them, in an upward and rearward swing, the slotted wings 31, and freeing the rear bar of the fender frame, thus allowing the forward end to drop to receive the obstruction, which falls in the basket, its weight forcing the rear end of the basket down against the tension of the spring actuated lever 8. Simultaneously with the rearward movement of the feeler bar 10, the lever 17 springs rearwardly and the leg 19 strikes the handle 21 of the valve of the brake system, allowing the passage of compressed air from the reservoir 23 to the air brake cylinder 24, thus swinging the spurred wheel 27 downwardly into engagement with the surface of the road bed and holding it so.

In order to reset the feeler bar, fender and brake, it is simply necessary to draw forward the feeler bar until the hooks 12 lie beneath the forward bar of the fender, swing the handle 21 of the valve to cutting off position and to engage the hook 32 beneath the rear bar of the fender. The forward swing of the lever 17 will seat the slotted wings over the rear bar of the fender and place the ears 16 in position to be struck by the arms 11, and the springs 29 will automatically return the brake to inoperative position.

Of course, if it is desired to operate the whole train of devices, including the brake, manually, it is simply necessary for the driver to slide the plate 18 to such position that the leg 19 will strike the valve handle 21, and then to grasp the lever 17 and swing it rearwardly.

Should it be desired to operate the fender only, and not the brake, it is simply necessary to raise the plate 18 so that the leg 19 will not strike the valve handle 21, and then to swing the lever 17 rearwardly as before. The roller on the front of the fender frame, coming in contact with the roadbed, revolves in a forward direction, and consequently anyone falling on or against this roller will be thrown away from the fender instead of being caught by it. In order to prevent this, a curved guard plate 39 is extended forwardly and downwardly over the roller in such manner as to prevent anyone falling directly upon the roller.

Many changes in the constructions of the several details of the invention, many other combinations of the various parts, many rearrangements of these parts and many substitutions may be made, without in any way departing from the field and scope of the present invention, and it is meant to include

all such within this application, wherein only one preferred form of construction has been shown and described.

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

1. A fender and brake comprising brackets adapted to be secured to the car body, a fender slidably mounted on said brackets, a feeler bar slidably mounted above said fender, a brake, brake actuating means, and connections between the feeler bar and the brake actuating means.

2. A fender and brake comprising brackets adapted to be secured to the car body, a fender slidably mounted on said brackets and adapted to slide beneath the car body, means for holding the fender in its forward position, a feeler bar slidably mounted above said fender, a brake, brake actuating means, and connections between the feeler bar and the brake actuating means.

3. A fender and brake comprising brackets adapted to be secured to the car body, a fender slidably mounted on said brackets and adapted to slide beneath the car body, yieldable means for holding the fender in forward position, a feeler bar slidably mounted above said fender, a brake, brake actuating means, and connections between said feeler bar and brake actuating means.

4. A fender and brake comprising brackets adapted to be attached to the car body, a fender slidably mounted on said brackets and adapted to slide beneath the car body, means for holding the forward end of the fender raised, a feeler bar slidably mounted above said fender, a brake, brake actuating means, and connections between said feeler bar and brake actuating means.

5. A fender and brake comprising brackets adapted to be secured to the car body, a fender slidably mounted on said brackets, a feeler bar slidably mounted above said fender, a brake, brake actuating means, connections between the feeler bar and the brake actuating means, and means for normally holding said brake inoperative.

6. A fender and brake comprising brackets adapted to be secured to the car body, a fender slidably mounted on said brackets and adapted to slide beneath the car body, means for supporting the forward part of said fender when beneath the car body, means for holding the fender in its forward position, a feeler bar slidably mounted above said fender, a brake, brake actuating means, and connections between the feeler bar and the brake actuating means.

7. A fender and brake comprising brackets adapted to be secured to the car body, a fender slidably mounted on said brackets, a feeler bar slidably mounted above said fender, a brake, brake actuating means, connections between the feeler bar and the

brake actuating means, a basket carried by the frame of the fender, and spring-actuated means for holding the basket closed.

8. A fender and brake comprising brackets adapted to be secured to the car body, a fender slidably mounted on said brackets, a feeler bar slidably mounted above said fender, a brake, brake actuating means, a rock shaft adapted to be rocked by rearward

movement of the feeler bar, and connections between the rock shaft and the brake actuating means. 10

In witness whereof I have hereunto set my hand in the presence of two witnesses.

GEORGES TROTTIER.

Witnesses:

E. L. RIVARD,

W. S. BABCOCK.