(No Model.) 3 Sheets—Sheet 1.

H. W. BODEMAN.

FENDER FOR STREET CARS.

No. 599,281. Patented Feb. 15, 1898.

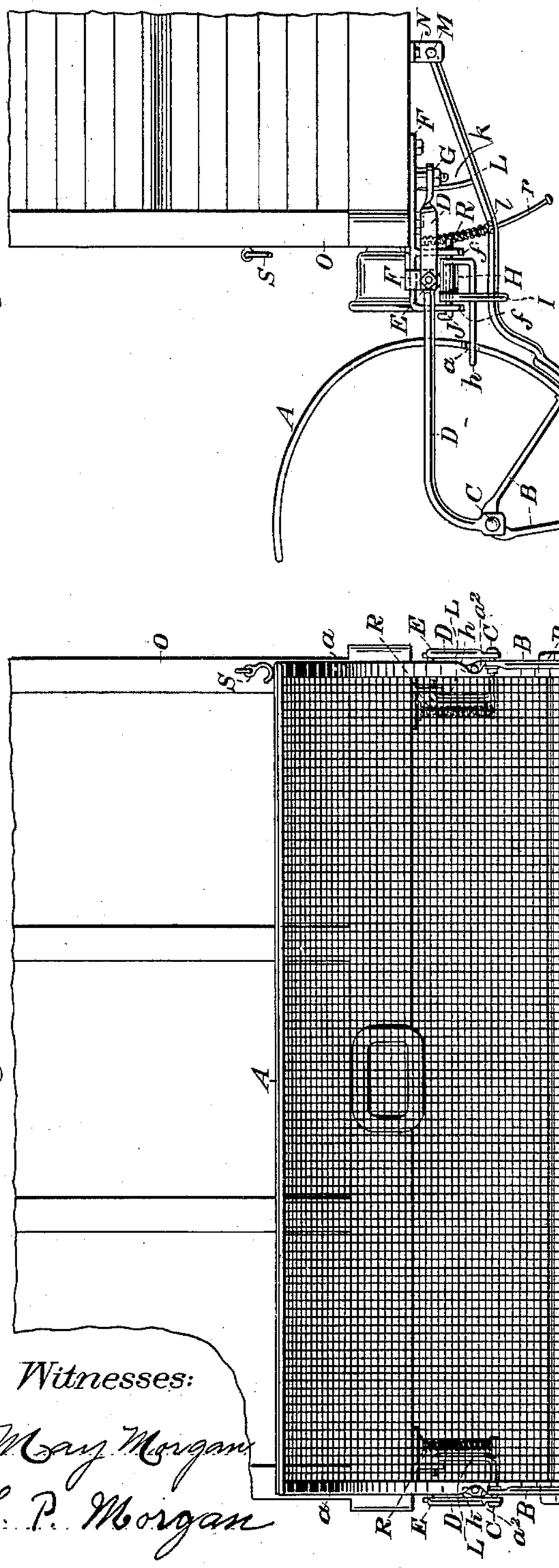

Fig. 1.

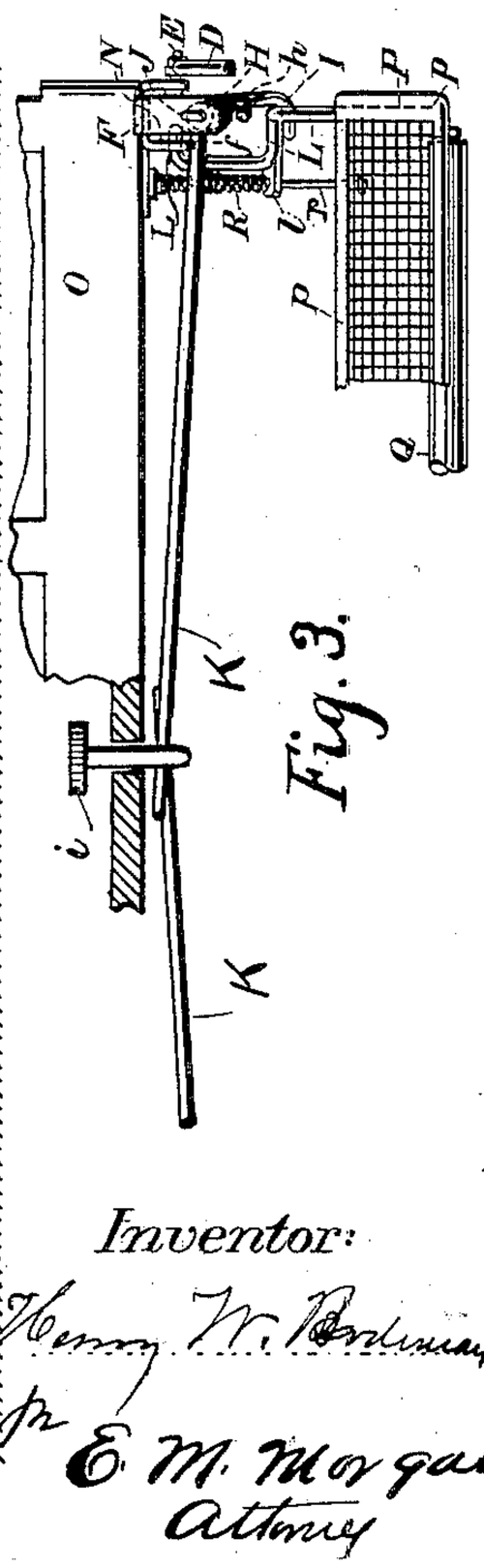

Fig. 3.

Witnesses:

Mary Morgan

L. P. Morgan

Inventor:

Henry W. Bodeman

by E. M. Morgan

Attorney

(No Model.) 3 Sheets—Sheet 2.

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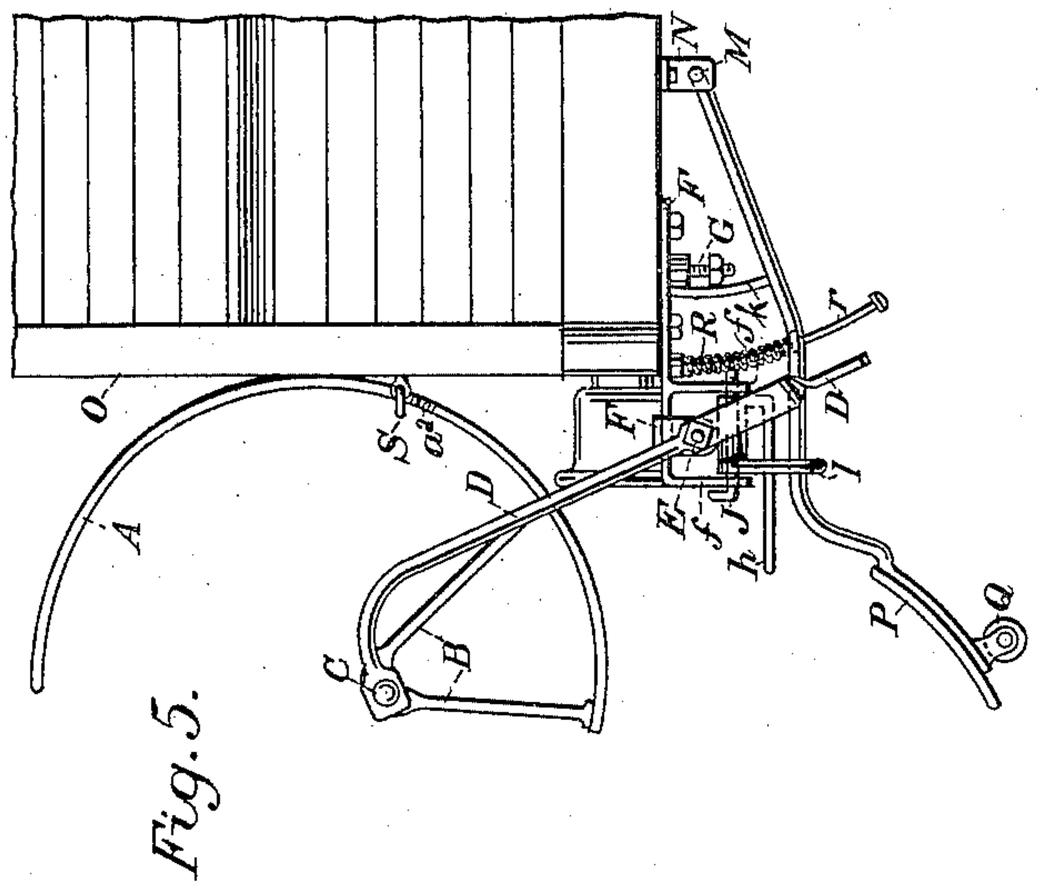

Fig. 5.

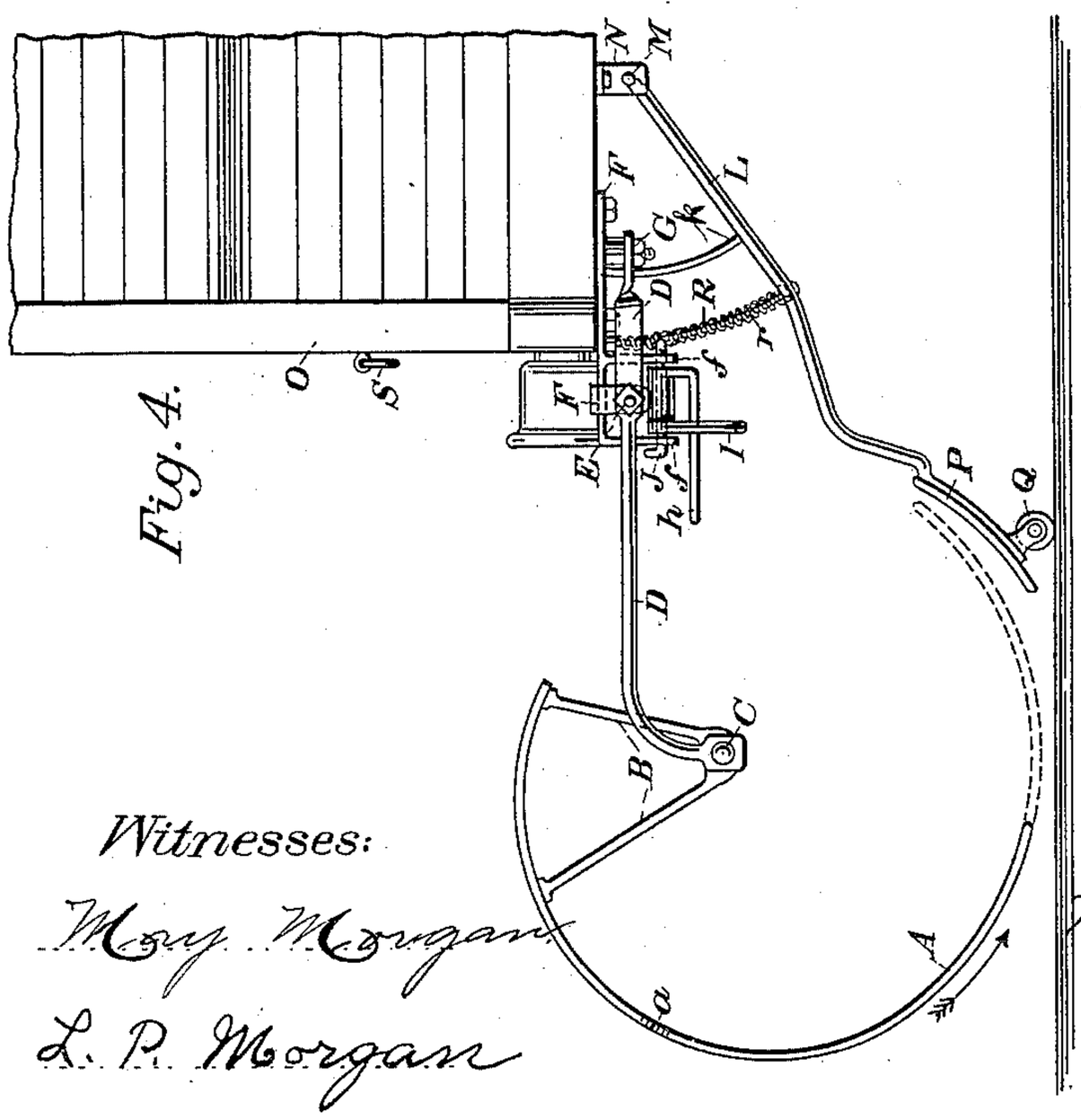

Fig. 4.

Witnesses:

Mary Morgan

L. P. Morgan

Inventor:

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(No Model.) 3 Sheets—Sheet 3.

H. W. BODEMAN.

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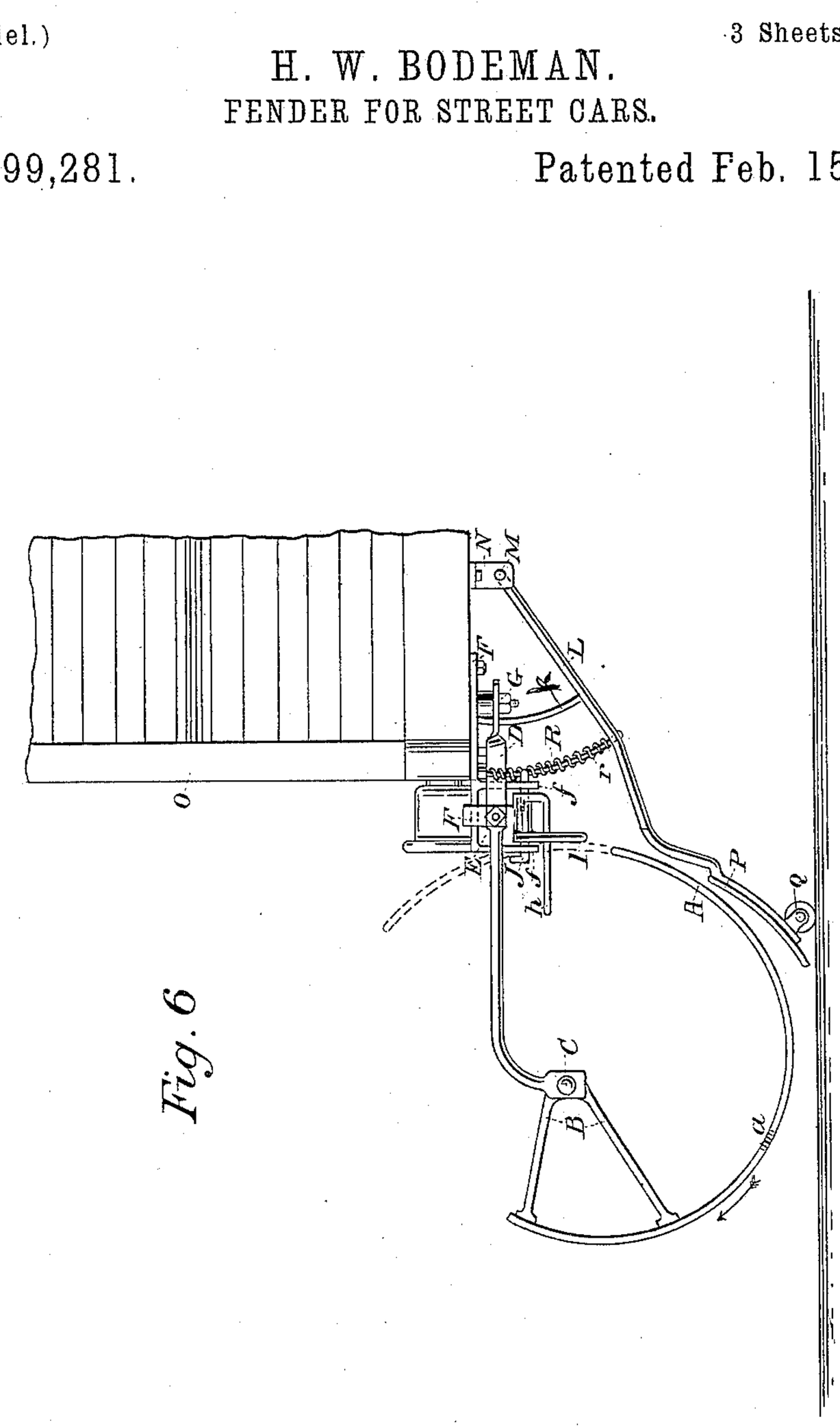

Fig. 6

Witnesses:
Mary Morgan
L. O. Morgan

Inventor
Henry W. Bodeman
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Attorney.

UNITED STATES PATENT OFFICE.

HENRY W. BODEMAN, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR OF ONE-HALF TO M. H. LOGAN, OF SAME PLACE.

FENDER FOR STREET-CARS.

SPECIFICATION forming part of Letters Patent No. 599,281, dated February 15, 1898.

Application filed April 21, 1897. Serial No. 633,153. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. BODEMAN, a citizen of the United States, and a resident of San Francisco, and State of California, have invented a new and useful Safety Device; and I do hereby declare that the following is a full, clear, and exact description of said invention, such as will enable others skilled in the art to which it most nearly appertains to make, use, and practice the same.

My invention relates to that class of safety devices known as "fenders," which are placed in front of street-cars or tramways for the purpose of removing any obstructions which may lie in the path of a running car or to protect human beings from injury by cars not provided with proper safety-guards.

The object of my invention is to produce a device which is simple in construction, effective in operation, and convenient in manipulation, so arranged and constructed that any object which may be in the path of the car can be removed without the slightest injury and kept safely out of the way until the car is fully under the control of the motorman or comes to a standstill.

To these ends my invention consists—viz., first, to construct fenders, in the shape of a receiving basket or scoop fastened in front of the car, adapted to rotate in either direction and provided with rear guard, fastened preferably beneath the car, so that when an obstruction comes in contact with any part of the scoop a rotary movement will depart therefrom and cause its upper edge to drop downward, while the rear guard likewise drops on the track and pushes the object into the scoop as the car goes along; secondly, to provide appliances and improvements in various parts of the device whereby both the scoop and the rear guard can be automatically controlled and operated, which will be hereinafter fully described and claimed.

As a full and complete understanding of my invention can be had to better advantage by a detailed description thereof, I will now proceed to describe the preferred embodiment of the invention, reference being had to the accompanying drawings, which form part of the specification, in which—

Figure 1 is a front elevation, broken away, of an ordinary street-car, showing the scoop as it appears when the same is ready for operation. Fig. 2 is a side elevation of Fig. 1, showing also a side elevation of the rear guard and the manner by which both the scoop and the rear guard are connected to the car. Fig. 3 is a front portion of the rear guard, broken away, showing the manner in which it is secured to the car. Fig. 4 is a similar illustration of Fig. 2, but showing the scoop and rear guard as they appear before removing an object, illustrating also the forward movement of the scoop. Fig. 5 is a similar illustration, but showing the scoop moved out of the way and secured to the front end of the car. Fig. 6 shows my device in position as it appears after the object has been removed and safely carried out of the way, illustrating also the backward movement of the scoop.

Similar letters of reference denote corresponding parts throughout the various figures of the drawings.

A represents the framework of the scoop, which is semicircular in shape and supported beyond its axis by means of bracket B, pivoted, as at C, to the side bar D, and at E is a bolt suitably secured to bracket F, by which the side bar D is pivotally held in position at the forward end of the car for the purpose of providing room for the rotary movement of the scoop and to remove the device out of the way, if desired, as shown particularly in Fig. 5. The rear end of bar D extends beneath the bottom of the car and is removably secured thereto by means of bolt G, or other means may be used, if desired. The bracket F is preferably secured or otherwise bolted to the bottom of the car and has at its forward end two downward prongs *f*, between which block H is movably secured by means of pin J. Suitably secured to said block is a forward-projecting rod *h*, which extends into a corresponding notch *a*, cut angularly upon the side of the scoop for the purpose of keeping the latter in position when not in operation. This rod is so constructed as to press inwardly against the side of the scoop. Near the circumference of the outer side of the scoop is the rear guard, which is connected, preferably, to the bottom of the car by means of connecting-rod L, pivoted, as at M, to bracket N, which is suitably bolted to the car.

P is the framework of the rear guard, and Q a roller suitably secured to its lower edge and adapted to roll upon the track when the rear guard is in operation.

Movably secured to the pin J and against rod *h* is a hook I for the purpose of keeping the rear guard above the track when not in operation, and when released the rear guard is forced downward by means of spring R, secured between the bottom of the car and the connecting-rod L. This spring is provided with guide *r*, which is bolted to the bottom of the car and passes through a hole bored in bar *l* of the connecting-rod L. The hook just described is provided with a rectangular bar K, which extends, preferably, beneath the car and connected at its forward end about the middle of the foot-power *i*, so that the hook can be released by foot independently of the scoop, if desired, causing thereby the rear guard to drop downward.

O is a portion of an ordinary car, and S a hook secured to the forward end of the car for the purpose of holding the scoop when the same has been removed out of the way, as particularly shown in Fig. 5.

Both the edges of the frame of the scoop and its rear guard are provided with rubber or other elastic material for the purpose of lessening the shock when the same strikes an object which may happen to be in the way, and the interior portion is preferably provided with suitable netting, as plainly shown in Figs. 1 and 3.

So that a more comprehensible understanding of the value of my invention can be had I shall give a brief résumé of its working when the same is in operation. The fender and its rear guard are placed and held in their respective positions by means of hook I and projecting rod *h*. Thus the device is ready for operation, and while the car moves forward if an object comes in contact with the scoop the same will cause it to rotate and force the rod *h* to slide out of notch *a* by means of the inclined planes formed upon the side of the notch, thus forcing the hook I to rock outwardly, releasing thereby the rear guard, which drops upon the track. It will be readily seen that if an object strikes the scoop at its upper edge the same will naturally drop backward, carrying the object into its netting, and when struck at its lower edge the upper edge, which extends forward of its axis, will drop forward upon the track, while the forward movements of the rear guard push the same into the scoop, where it is safely kept until released. Then the rear guard is moved back to its normal position. Likewise the scoop is returned to its former position. Thus the device is ready for a similar operation.

Believing that I have produced a valuable improvement in safety devices for street-cars and having described the same, what I claim as new, and desire to secure by United States Letters Patent, is—

1. In an article of the class described the combination of a rear guard with a forward eccentrically-pivoted revolving basket, said basket being capable of motion in either direction past said guard according as it is struck above or below its pivotal point for the purpose set forth.

2. In an article of the class described the combination of a forward approximately semicircular and eccentrically-pivoted revolving basket, with a rear guard brought into action by the motion of said basket for the purpose set forth.

3. A car-fender consisting of a rear guard and a forward eccentrically-pivoted basket, the outer edges of said guard and said basket being adapted to advance toward each other and overlap for the purpose set forth.

4. A car-fender provided with a forward eccentrically-pivoted basket, in combination with a rear guard, a portion of the periphery of said basket being adapted, during its partial revolution, to come in contact with the road-bed, said rear guard being approximately tangent to the circle of revolution of said portion for the purpose set forth.

5. A car-fender provided with a rear guard, a forward eccentrically-pivoted revolving basket having engagement with said guard, said basket being adapted to revolve entirely over and under any obstructing body and draw it toward said pivotal point thereby elevating it from the road-bed, the motion of said basket being further directed to cause the lowering of said guard for the purpose set forth.

6. A car-fender provided with an eccentrically-pivoted revolving basket, the major radius of said basket being greater than the distance between the road-bed and said pivotal point, while its minor radius is less than said distance, said basket being partially revolved by contact with said bed for the purpose set forth.

In testimony whereof have hereunto set my hand this 8th day of January, A. D. 1897.

HENRY W. BODEMAN.

In presence of—
MAY MORGAN,
I. J. TRUMAN, Jr.