No. 615,977. Patented Dec. 13, 1898.

M. F. FIELD.

CAR FENDER.

(Application filed Mar. 4, 1898.)

(No Model.)

Fig. 1.

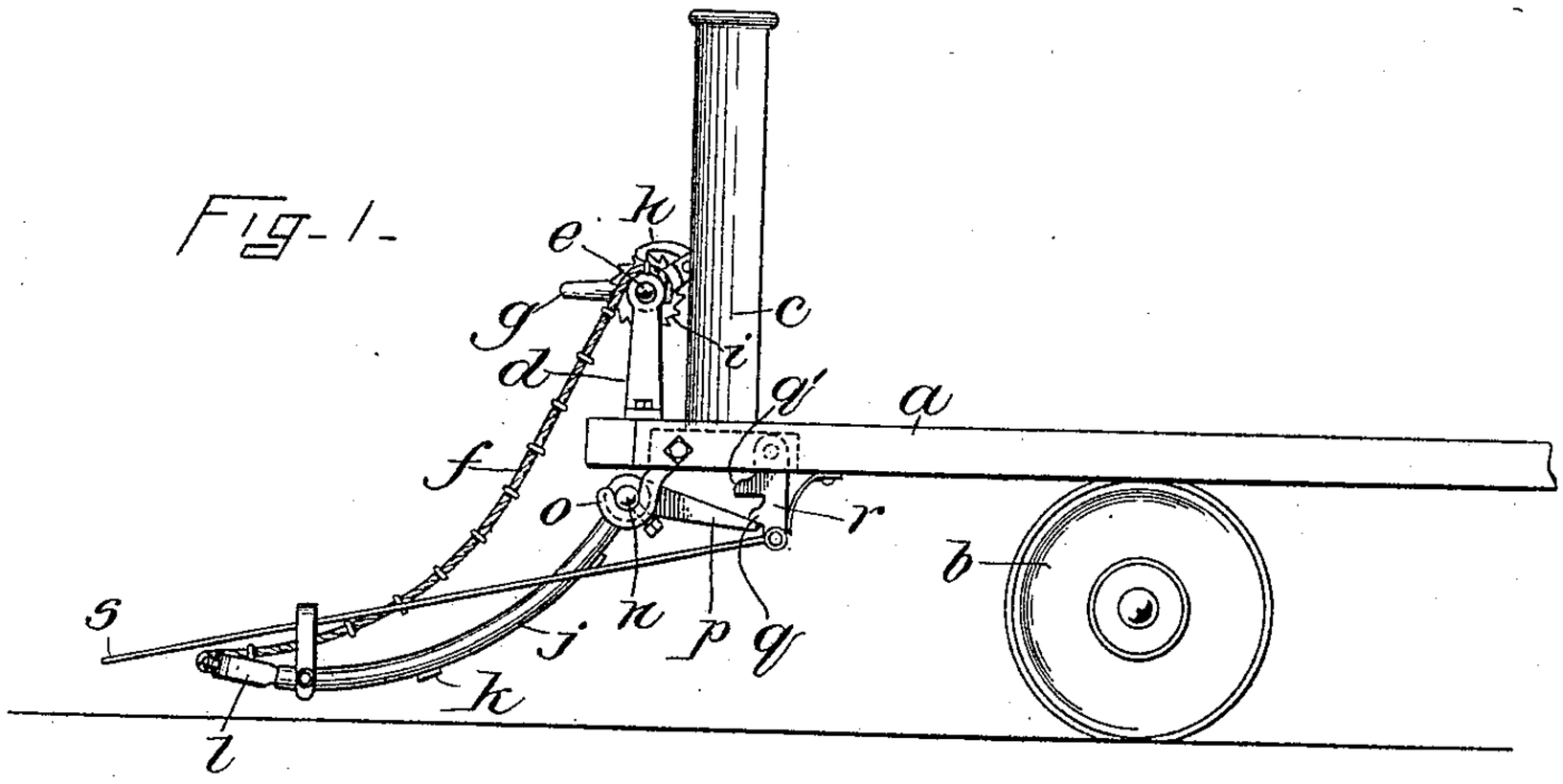
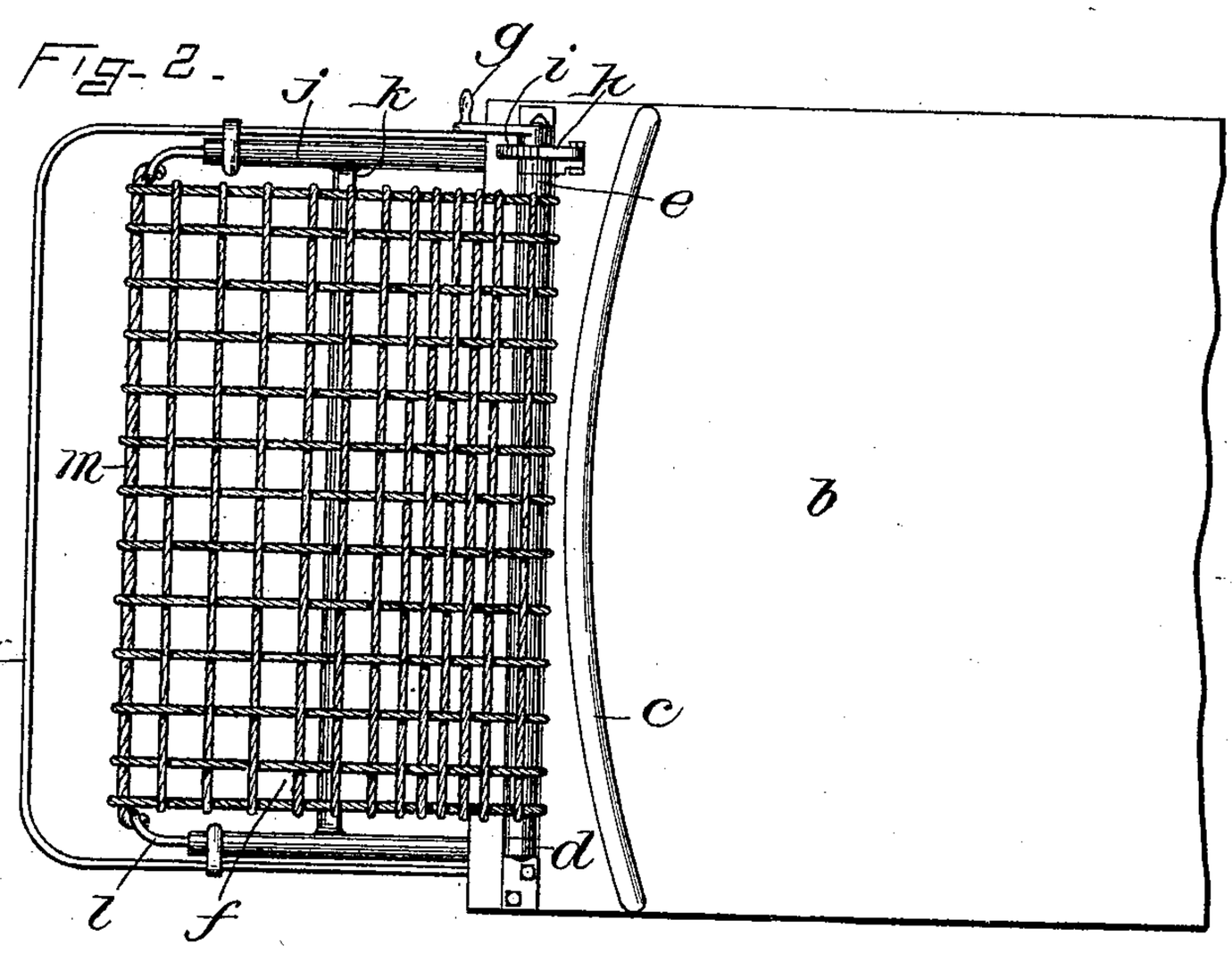


Fig. 2.



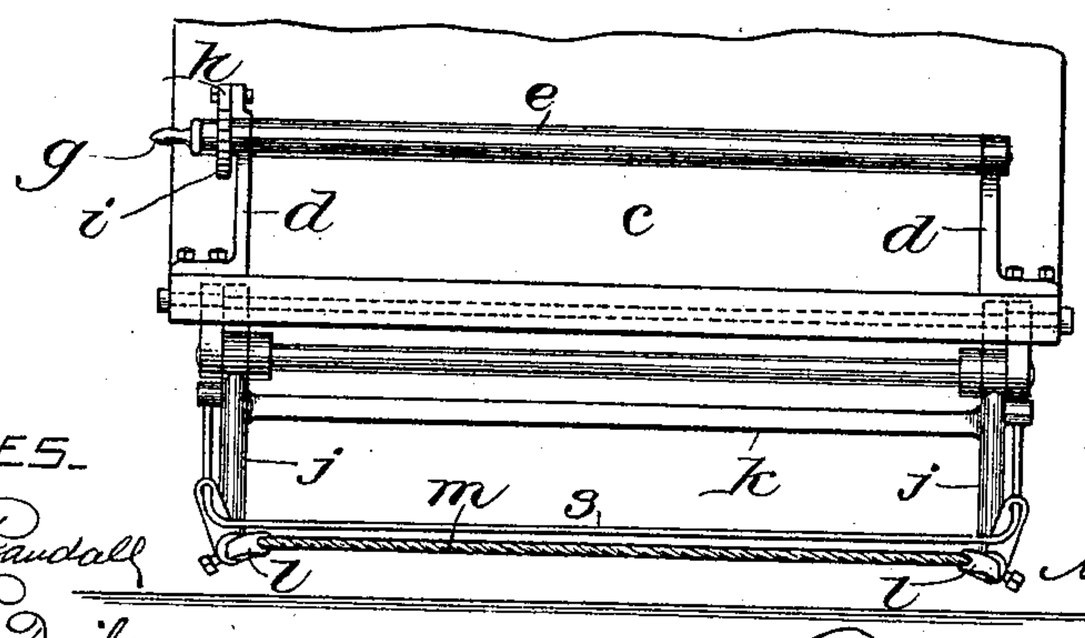


Fig. 3.

WITNESSES.

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UNITED STATES PATENT OFFICE.

MILLARD F. FIELD, OF BOSTON, MASSACHUSETTS.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 615,977, dated December 13, 1898.

Application filed March 4, 1898. Serial No. 672,511. (No model.)

To all whom it may concern:

Be it known that I, MILLARD F. FIELD, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Car-Fenders, of which the following is a description sufficiently full, clear, and exact to enable those skilled in the art to which it appertains or with which it is most nearly connected to make and use the same.

This invention has relation to fenders designed practically for use on power-propelled railway-cars.

The kind of fenders chosen to be operated upon to effect my improvements is one employing a netting or its equivalent, into which a person or object struck may be thrown and caught without injury to the person or thing.

It is the object of the invention to provide the fender with improved tripping means which shall release it, so that its forward end may be dropped before the fender proper strikes the object. In other words, it is the purpose of the invention to provide a fender with means independent of the fender whereby it may be automatically tripped or unlatched to lower its forward end to the ground, or substantially to the ground, before the forward end of the fender proper strikes the person or object subsequently caught in the netting, leaving the motorman with nothing to do to effect said operations.

My invention also has for its object the improvement of the fender in other respects than that mentioned, to the end that it may be rendered more serviceable and ready of adjustment and use than heretofore.

To these ends the invention consists of the construction and arrangement of groups of parts or devices, as hereinafter explained, for accomplishing the objects set forth in connection with such explanation.

The invention also consists of peculiar means actuated by the movement of the guard to actuate the fender-latch and means coacting with the latter to prevent the fender from being raised after once having been lowered to accident-operative position.

The invention also consists of other improvements incidental to the foregoing, as I will hereinafter describe in detail and point out with particularity.

Reference is to be had to the annexed drawings, and to the letters marked thereon, forming a part of this specification, the same letters designating the same parts or features, as the case may be, wherever they occur.

Of the drawings, Figure 1 is a side elevation of the front of a car equipped with my improved fender. Fig. 2 is a plan view of the invention and its connections as shown in Fig. 1. Fig. 3 is an end view, the netting being represented as removed.

In the drawings, *a* designates the car-frame. *b* is the wheels, and *c* is the dashboard at the outer end of the car-platform.

In the upper ends of uprights *d*, connected with the car-frame, is journaled a roller *e*, capable of having the netting *f* of the fender rolled up thereon by turning the crank *g*. A pawl *h* coöperates with a ratchet-wheel *i*, fast on the roller *e*, so as to prevent the accidental winding of the net.

The fender-frame consists of the side rods *j*. Connected at their ends with the side rods *j* are as many cross bars or rods *k* as may be necessary. These rods or bars may be made hollow, as of piping, if necessary or desirable. The same thing may be done with the roller *e* or other parts.

In or to the ends of the side rods or pipes *j* of the fender-frame are affixed suitably-constructed spring-pieces *l*, to the ends of which in any desirable manner are secured the ends of a taut rope *m*, forming the means to which the lower end of the netting *f* is connected, as also the front edge of the fender, which would be likely to first strike the object on the track of the car with which the fender might come into contact. At their upper ends the side rods *j* are provided with angular journaling parts *n*, resting in bearings *o*, connected with the car-frame.

Connected with the fender-frame and extending rearwardly therefrom are arms *p*, the ends of which engage a projection or catch *q*, formed on a swinging spring-pressed latch *r*, pivoted to the car-frame. Above the catch *q* is a secondary catch *q'*, so that when the free end of the arm *p* is released from the catch *q* it will be engaged and held by the catch *q'*. Pivoted to the lower end of the swinging spring-pressed latch *r* is the inner rod or part of the feeler-guard *s*, which extends outside

and forward of the fender and is supported in suitable bearings, so that when it strikes an object it may move rearward.

The operation of my invention may now be explained. When it is in its normal position, which is that shown in the drawings and which will appear from further description, the car may be run without trouble; but should a person or other object be encountered upon the track it will be struck by the feeler-guard *s*, which will press back the spring-pressed latch *r*, releasing the free end of the arm *p* from the catch *q* and permitting it to be engaged by the longer catch *q'* and there held. At the same time the forward end of the fender will drop, so that the object struck will topple over and be caught in the netting, and the fender will be held against raising or lowering by its inner end or portion being held between the catches or stops *q q'*. Under this construction the dropping of the fender when it strikes an object will be automatic or self-acting in its dropping motion and will not require any attention from the motorman. It will be dropped at exactly the proper time and will be held against dropping too far or from being raised after being dropped. Again, when the fender is lowered or in position for use it will extend so far forward of the bumping or buffing head *t* of the car that nothing caught by the fender will be likely to strike the bumper, and yet when the fender is folded up the netting may be wound upon its roller, as before stated, so that the buffer will be free to coact with the buffer of another car without injury to the car.

The construction is exceedingly simple, is easily applied and removed, and in practice is most highly efficient.

Having thus explained the nature of the invention and described a way of constructing and using the same, though without attempting to set forth all of the forms in which it may be made or all of the modes of its use, it is declared that what is claimed is—

1. A car-fender adapted at its inner end to be hinged or pivotally connected with a car, a swinging latch provided with a catch to engage the fender when raised and hold it in raised position, a guard connected with the latch and extending forward of the fender to release the latter when the guard is struck by an object, and a second catch on the latch to engage and hold the fender in place when lowered or first unlatched.

2. The combination, with the car-frame of the swinging latch, *r*, provided with catches, as set forth; of the pivoted fender-frame provided with the arms, *p*, adapted to engage the catches of the latch.

3. The combination, with the car-frame of the swinging latch, *r*, provided with catches, one above the other adapted to hold the fender in raised position and to latch it in definite position when lowered as set forth; of the pivoted fender-frame provided with the arms, *p*, adapted to engage the catches of the latch, and the suitably-supported guard extending in front of the fender and pivotally connected at its rear end with the swinging latch.

4. The fender-frame having the side rods or bars, *j*, the spring parts, *l*, at the forward ends thereof and the rope, *m*, connecting said spring portions.

5. The fender-frame having the side rods or bars, *j*, the spring parts, *l*, at the forward ends thereof, and the rope, *m*, connecting said spring portions, combined with the net, *f*, connected at its forward edge to said rope and at its rearward edge to another suitable support.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 26th day of February, A. D. 1898.

MILLARD F. FIELD.

Witnesses:
ARTHUR W. CROSSLEY,
ANNIE J. DAILEY.