

(No Model.)

3 Sheets—Sheet 1.

J. F. MORTON.
WHEEL GUARD OR FENDER FOR CARS.

No. 519,289.

Patented May 1, 1894.

Fig 1.

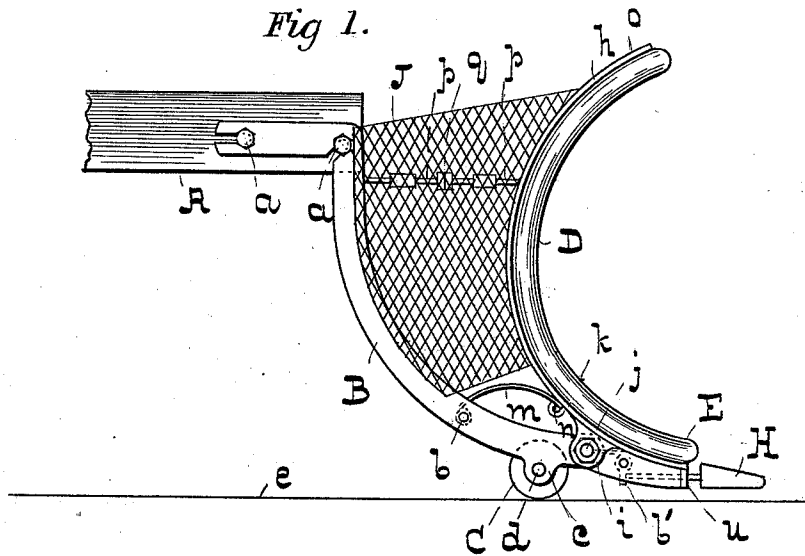
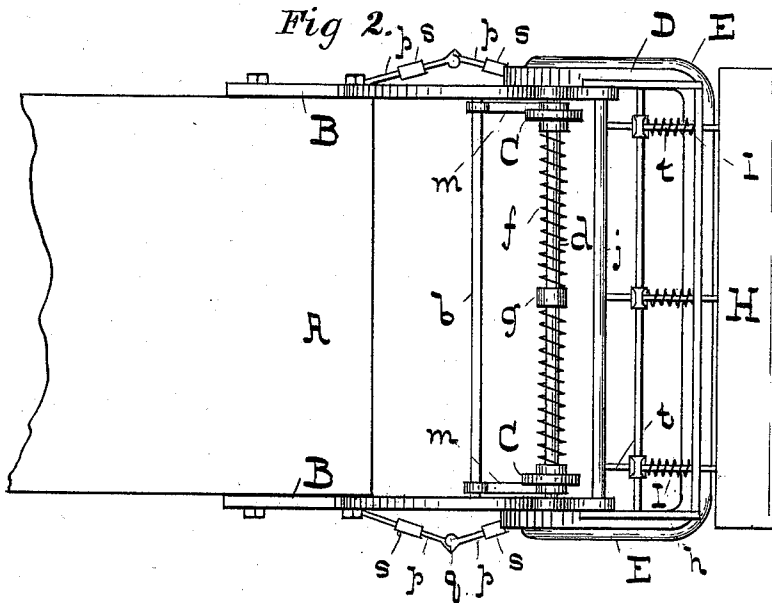


Fig 2.



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att'y.

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Fig 4.

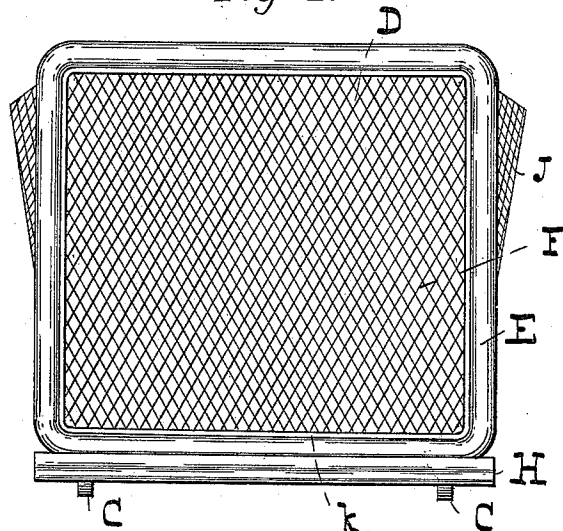


Fig 3.

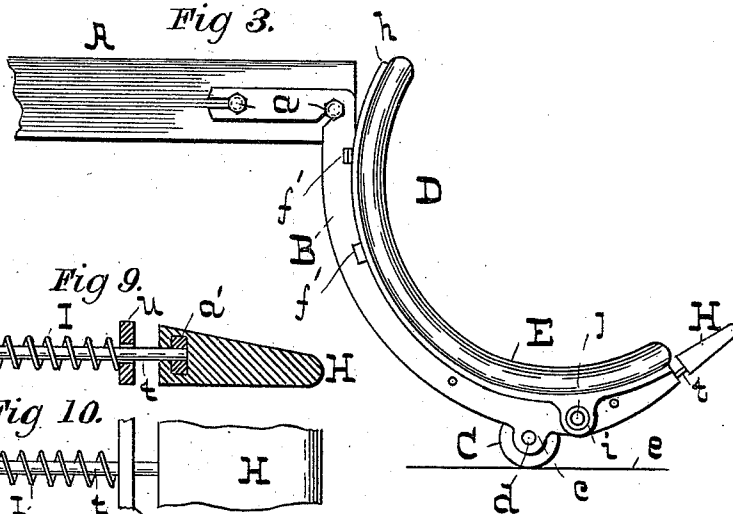


Fig 9.

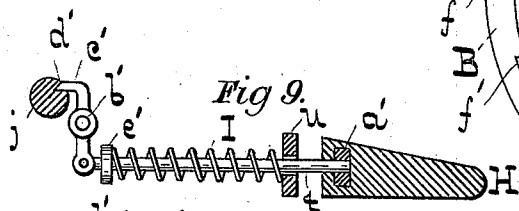
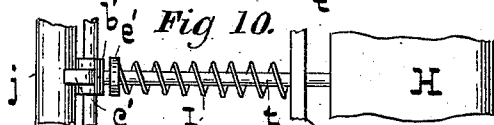


Fig 10.



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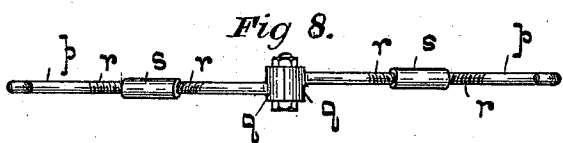
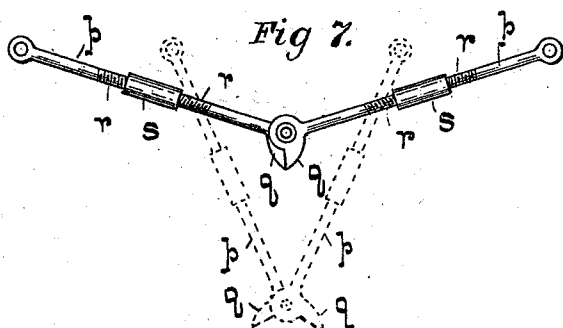
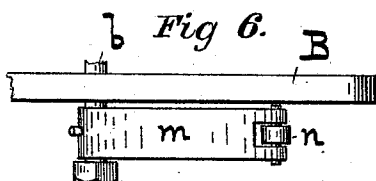
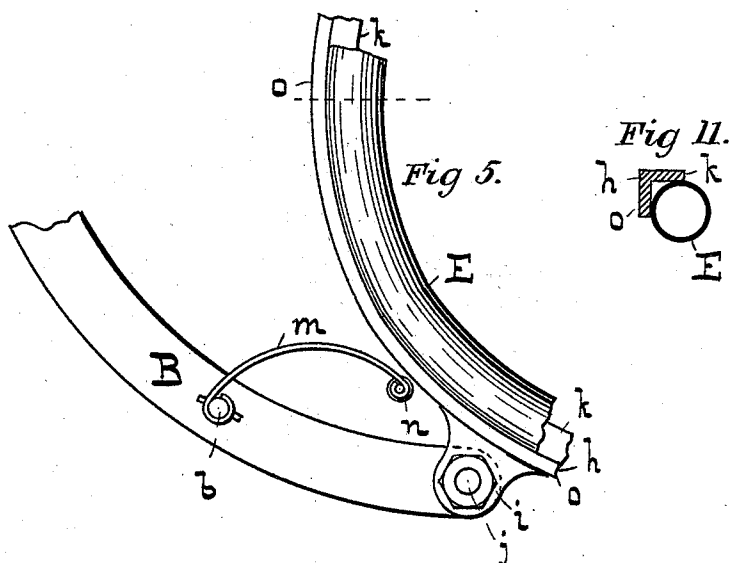
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-WITNESSES-

Dan'l Fisher
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UNITED STATES PATENT OFFICE.

JAMES F. MORTON, OF BALTIMORE, MARYLAND, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, OF ONE-HALF TO WILLIAM H. H. ANDERSON AND NICHOLAS S. HILL, JR., OF SAME PLACE.

WHEEL GUARD OR FENDER FOR CARS.

SPECIFICATION forming part of Letters Patent No. 519,289, dated May 1, 1894.

Application filed November 23, 1893. Serial No. 491,710. (No model.)

To all whom it may concern:

Be it known that I, JAMES F. MORTON, of the city of Baltimore and State of Maryland, have invented certain Improvements in Wheel Guards or Fenders for Cars, of which the following is a specification.

In the description of the said invention which follows, reference is made to the accompanying drawings forming a part hereof, and in which—

Figure 1 is an exterior side view of a portion of a car platform, and the improved wheel fender, which is shown as in its normal position. Fig. 2 is an under side view of Fig. 1. Fig. 3 is a view similar to Fig. 1 except that the fender is in the position which it assumes after the picking up of a person. Fig. 4 is a front view of Fig. 1. Figs. 5 to 11 inclusive are details of the invention on an enlarged scale.

Referring to the drawings, A is the car platform, and B B are bent supporting bars secured to the outer sides of the platform A. In order that these bars may be readily removed from the platform, the upper ends are slotted to receive the holding bolts *a*, see Fig. 1. The bars are united by a rod *b* which holds them at a proper distance apart. Each bar B has a lug *c*, and these lugs are connected by a shaft *d* carrying the rollers C which rest on the track rails denoted by a line marked *e* in Figs. 1 and 3. These rollers are loose on the shaft *d* and adapted to move longitudinally thereon when the car rounds a curve; but they are held yieldingly outward or in contact with the bars B by means of spiral springs *f* confined endwise between the rollers C and a collar *g* on the shaft, see Fig. 2.

D is a cradle formed preferably of an angle iron rectangular frame *h* which is curved as seen from the side of the car, see Figs. 1, 3 and 5. This frame has two lugs *i* which are hinged to the curved supporting bars B by means of a rod *j*. By this construction the cradle is susceptible of a backward tilting movement or a change from the position shown in Fig. 1 to that illustrated in Fig. 3.

E is an inflated endless tube, preferably of

rubber, placed over the flange *k* of the rectangular frame *h*, to form a cushion and thereby prevent a person being injured by contact with the cradle.

F is a sheet of netting, canvas or other soft material expanded over the frame *h* and secured to the flange *k* thereof. A front view of this netting is shown in Fig. 4.

The cradle is yieldingly held in the position shown in Fig. 1, by means of springs *m* fastened to the rod *b* and situated either on the outer or inner surface of the supporting bars B. The free ends of these springs have rollers *n* which bear against the flange *o* of the angle iron frame *h*. The outward movement of the cradle is limited by bars *p* loosely connected to the supporting bars B, and the rectangular frame *h*. The bars *p* are jointed at the center, and the connected ends are provided with lips *q* which come together and thereby prevent the said bars ever assuming a straight line or position, see Figs. 2 and 7. These jointed bars are adjustable in length by means of right and left threads *r* and suitable nuts *s*.

H is a flexible guard piece, preferably of rubber, having stems *t* which pass through a bracket *u* on the lower edge of the cradle. These stems have heads or nuts *a'* which are embedded in the substance of the guard piece, see Fig. 9. The inner ends of these stems are jointed to levers *b'* each having a bent end *c'* adapted to enter a notch *d'* in the rod *j*.

I I are springs coiled about the stems *t* and confined endwise between the brackets *u* and the collars *e'*. These coiled springs serve to keep the guard piece extended, as shown in Figs. 9 and 10. Stops *f'* on the bars B serve to receive the cradle in its backward movement.

J J are curtains of netting or other suitable material, secured at one edge to the bars B, and at the other to the rectangular frame *h*, and situated exteriorly of the bars *p*. These curtains serve as additional safeguards at the sides of the fender.

Supposing the fender to be extended as shown in Figs. 1 and 2, and it comes in collision

ion with a person on the track, the operation is as follows: The guard piece H being in advance of the other parts of the device, is first struck, and as it is driven in, the bent ends of the levers *b'* are withdrawn from the notches *d'* in the rod *j* which admits of the cradle tilting as before described, and in this movement, the lower edge of the cradle is elevated as shown in Fig. 3 and the person is rolled into the cradle and rests in comparative safety on the netting and the inflated tubes. In the tilting of the cradle the rods *p* are bent outward, which has the effect of distending the curtains J and preventing them from becoming injured by being caught between the cradle and the bars B which support it. As soon as the person is removed from the cradle, the springs *m* cause it to assume its original position.

I claim as my invention—

1. In a wheel fender, the combination of supporting bars secured at their upper ends to the car platform, a cradle hinged near its lower end to the lower ends of the said supporting bars and springs to yieldingly hold the upper part of the cradle from or away

from the said supporting bars, substantially as specified.

2. In a wheel fender, the combination of supporting bars secured at their upper ends to the platform of the car, a cradle hinged near its lower end to the said supporting bars, springs to yieldingly hold the upper end of the cradle from or away from the supporting bars, and locking mechanism having as an element thereof a guard which projects beyond or in front of the lower end of the cradle which upon being struck releases the cradle and admits of its being pressed back and the compression of the supporting springs, substantially as specified.

3. In a wheel fender, the combination of a tilting cradle, side curtains, and jointed bars adapted to bend in one direction only and thereby push out the said curtains as the cradle is tilted backward, substantially as specified.

JAMES F. MORTON.

Witnesses:

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WM. T. HOWARD.