

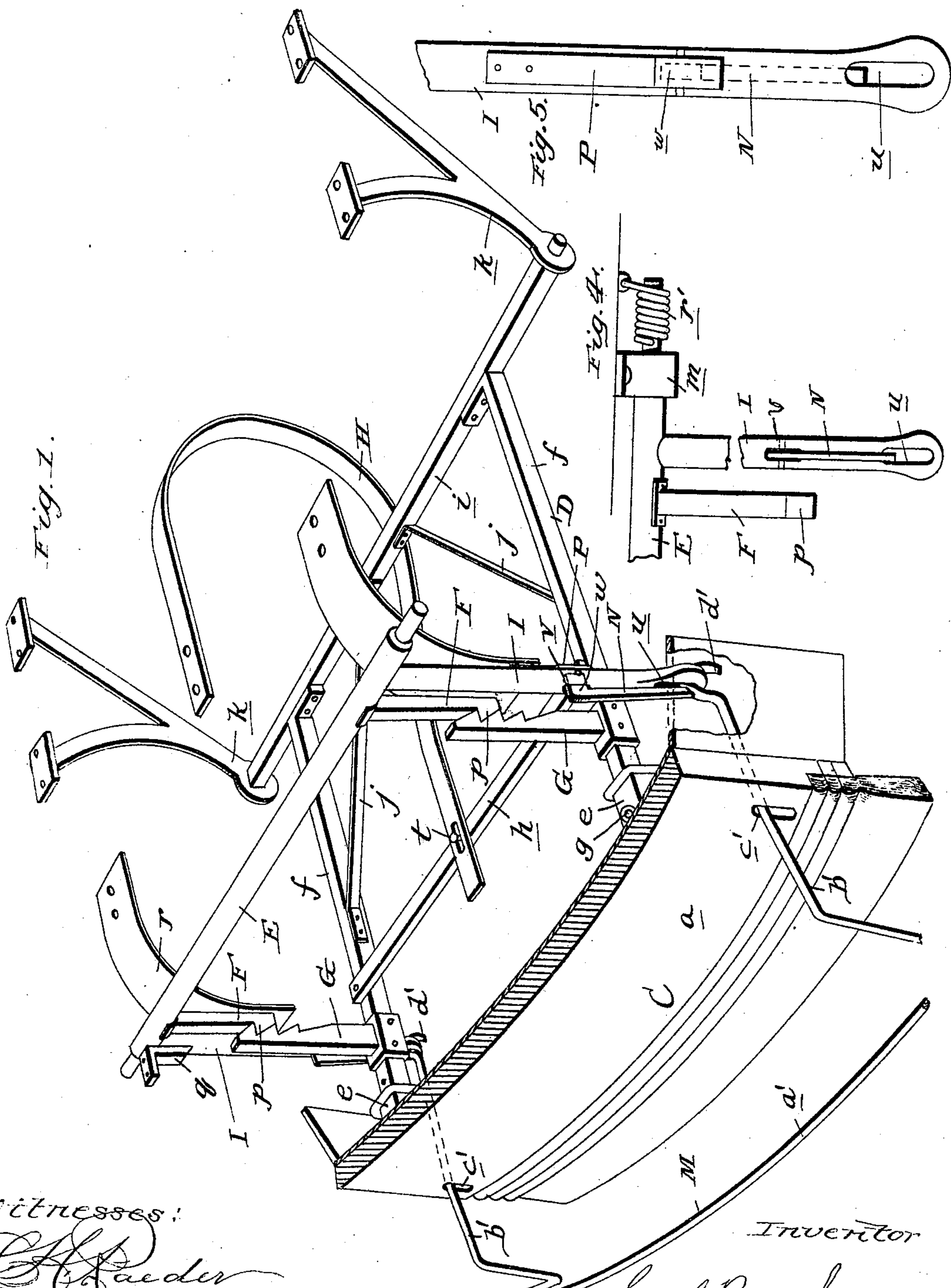
(No Model.)

C. BERSCH.  
CAR FENDER.

2 Sheets—Sheet 1.

No. 519,562.

Patented May 8, 1894.



Witnesses:

*C. H. Faeder*  
*W. F. Matthews.*

Inventor

*Carl Bersch.*  
By *James J. Sheehy*

Attorney

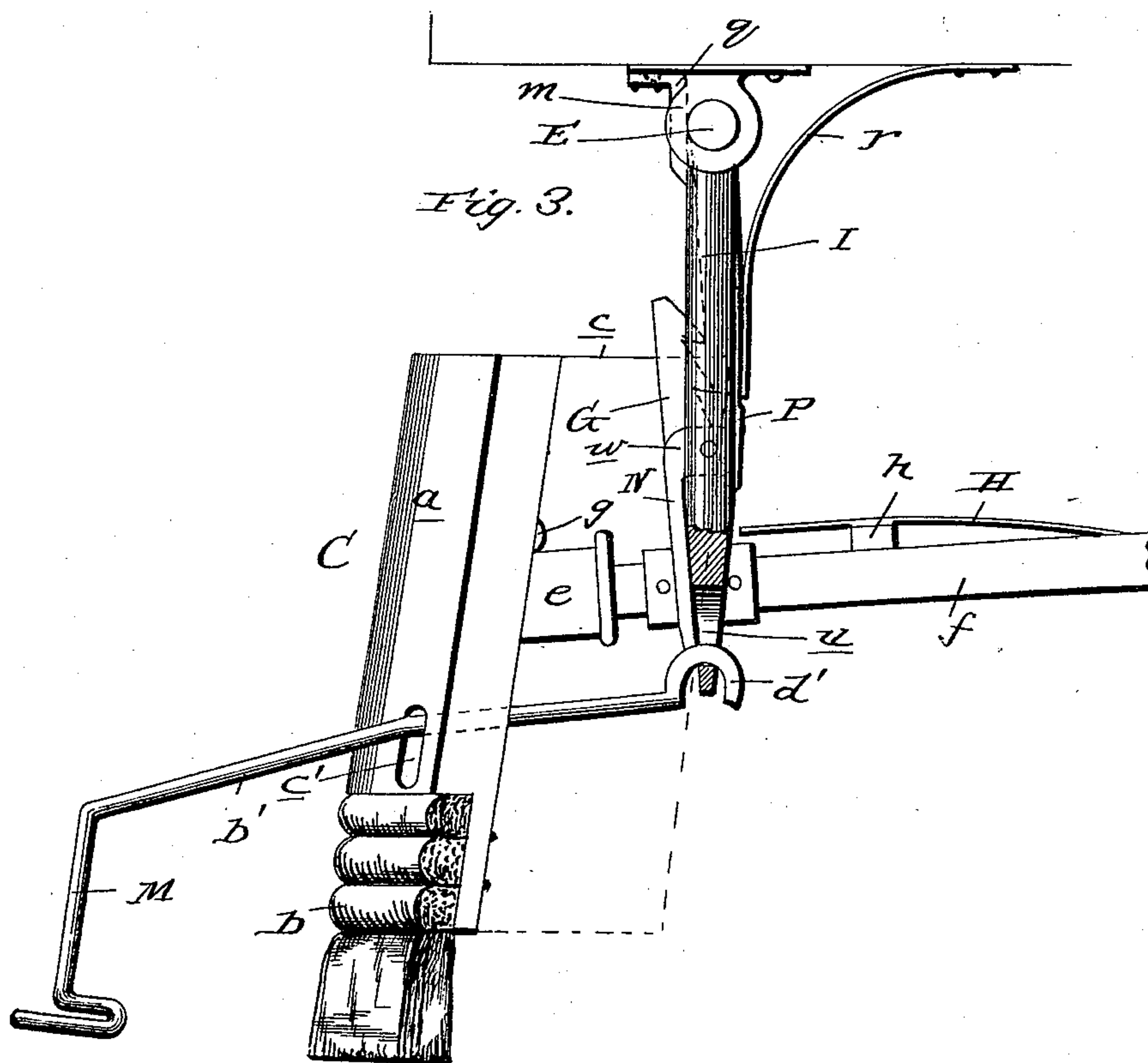
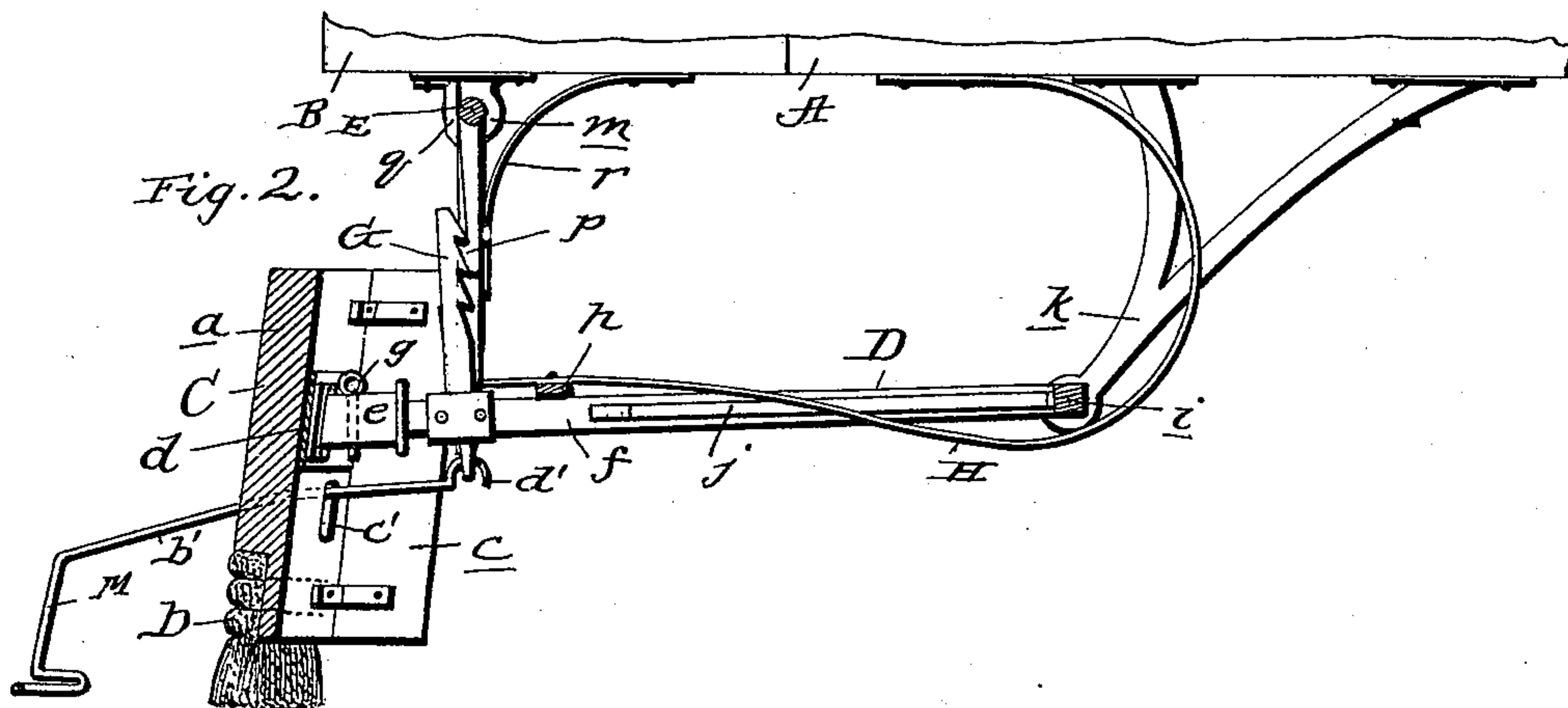
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# UNITED STATES PATENT OFFICE.

CARL BERSCH, OF BALTIMORE, MARYLAND.

## CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 519,562, dated May 8, 1894.

Application filed September 25, 1893. Serial No. 486,413. (No model.)

*To all whom it may concern:*

Be it known that I, CARL BERSCH, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Car-Fenders; and I do declare the following to be 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.

My invention relates to improvements in that class of fenders designed more especially for use upon street cars; and it has for its general object to provide such a fender of a peculiar and advantageous construction and one embodying a guard or fender proper; means for normally holding said guard above the ground so that it will not interfere with the progress of the car; and means adapted to engage the body of a person or any obstruction upon the track and thereby effect an automatic release of the guard so as to enable the same to fall to the ground and effectually prevent the prostrate body or obstruction from getting beneath the wheels of a car.

Other objects and advantages of the invention will be fully understood from the following description and claims when taken in conjunction with the annexed drawings, in which—

Figure 1, is a perspective view of the fender ready to be applied to a car. Fig. 2, is a longitudinal section of the fender in position upon a car. Fig. 3, is an enlarged detail side elevation. Fig. 4, is a detail front elevation illustrating a modification, and Fig. 5, is an enlarged rear elevation of one of the arms engaged by the trigger frame.

In the said drawings, similar letters designate corresponding parts throughout the several views, referring to which—

A, indicates the floor of a car body which may be extended, if desired, so as to form the platform B; and C, indicates the guard or fender proper which is arranged transversely of the car, preferably beneath the platform B, and comprises the body *a*, and the depending, yielding portion *b*, as shown. The body *a*, of the guard may be formed from wood or other suitable material, and it is slightly bowed in the direction of its length and is provided at its ends with the rearwardly and laterally ex-

tended auxiliary wings or branches *c*, so as to better enable it to move a person laterally off the track. The said body *a*, of the guard is also preferably provided upon its rear side with a strengthening rib or strip *d*, (see Fig. 2,) which also serves for the connection of the rearwardly extended sockets *e*, presently described.

In the drawings, I have shown the yielding portion *b*, of the guard C, as a brush, but it is obvious that said yielding portion which is designed to bend beneath the body *a*, when it falls to the ground so as to form a sled or shoe for the same, may be formed from rubber, leather or other sufficiently yielding material.

D, indicates the guard carrying frame, which may be of any approved construction and may be pivotally or flexibly connected to the car body in any approved manner. In the present embodiment of my invention, I prefer to employ a frame D, such as is better illustrated in Fig. 1, which comprises the side bars *f*, designed to take into the sockets *e*, and be connected thereto by the pins *g*, and the transverse bar *h*, which connects the bars *f*, as shown. This frame D, is fixedly connected at its rear end to a transverse shaft *i*, and is preferably braced by straps as *j*, and the said shaft *i*, is journaled in hangers *k*, depending from the floor A, whereby it will be seen that the frame and the guard carried thereby are free to fall when released as will be presently described.

Journaled in bearings as *m*, connected to the bottom of the floor A, in advance of the hangers *k*, is a transverse rock shaft E, carrying the arms or branches F, which are provided with hooks *p*, as illustrated. These hook-arms or branches F, are normally held in an approximately vertical position against the stops *q*, by flat springs *r*, as shown in Fig. 1, or by a coiled spring *r'*, as shown in Fig. 4, and they are designed and adapted to engage the toothed bars or branches G, of the frame D, so as to normally hold or support said frame and the guard or fender C, above the ground and thereby prevent the same from interfering with the progress of the car.

In order to render the engagement between the supporting arms F, and the bars G, more positive and thereby prevent a casual disen-



gagement of the same, I have provided the flat spring H, which exerts a downward pressure on the frame D. This spring H, is connected to the floor A, of the car and has a slot adjacent to its forward end to receive a pin *t*, on the bar *h*, and it serves in addition to the purpose stated, to force the frame D, and its guard to the ground and hold said guard upon the ground so as to prevent a person from passing beneath the same.

I, indicates arms or branches which are fixed upon or formed integral with the shaft E, and are preferably arranged upon the outside of the arms F, as illustrated. These arms I, are provided at or adjacent to their lower ends with slots *u*, designed to receive the hooked ends of what I prefer to denominate the "trigger frame" M; and said arms I, are also provided above the slots *u*, with slots *v*, which are designed to receive the bodies or enlarged portions *w*, of the fingers N, which are pivoted in the slots *v*, as shown. The said fingers N, are normally held in the position illustrated in Fig. 3, so as to prevent a casual disengagement of the frame M, from the arms I, by the flat springs P, which are connected to the rear side of the arms I, and serve to engage the bodies or enlarged portions *w*, of the fingers as shown. In addition to holding the fingers N, against the arms I, for the purpose stated, the springs P, serve to lock said fingers when the same are raised away from the arms so as to permit of a ready interposition or removal of the hooks of the trigger frame. The said trigger frame M, is preferably formed from iron-wire although any suitable material may be employed, and it comprises, by preference, the transverse portion *a'*, which traverses the entire width of the track and rests at about the proportional distance illustrated, in advance of the guard C, and the rearwardly extended arms *b'*, which take through slots *c'*, in the body *a*, of the guard and have hooks *d'*, at their rear ends to engage the slots *u*, of the arms I, before described.

In the practice of the invention, the guard C, and the other parts of the fender normally rest in the position shown in Fig. 2, so as not to interfere with the progress of the car or engage sticks, stones, &c., upon the track. The trigger frame M, however rests in a position to engage a person or other large body on the track, and by reason of the construction described, it will be seen that when such engagement takes place, the pressure of the springs *r*, will be overcome, and the arms I, F, will be immediately swung in a rearward direction so as to release the toothed bars G, from said arms I, when the frame D, and the guard C, will fall to the ground so as to effectually prevent the prostrate body from getting beneath the wheels of the car. When the guard C, falls to the ground the yielding portion *b*, thereof will bend under the lower edge of the body *a*, and forming a sledge or shoe for the said body will enable it to slide

over cobble stones and other uneven paving stones, without being damaged. By reason of the bars G, being provided with a plurality of teeth as described, it will be seen that the guard frame D, and consequently the guard may be secured at such a distance from the car bottom, that it (the guard) will not drag upon the ground when the car is heavily loaded. It will also be seen that by reason of the guard C, being detachably connected to the frame D, and the trigger frame M, being detachably connected to the arms I, that said guard and frame may be readily disconnected from the frame D, and arms I, at one end of the car when the same has completed a trip, and may as readily be connected to a similar frame D, and arms I, at the opposite end of the car so as to travel in advance of the wheels on the return trip. Thus the necessity of employing two guards C, and two trigger frames M, may be obviated.

It will be noted from the foregoing description taken in connection with the drawings that my improved fender is very simple and durable; that it embodies no complicated mechanism which is likely to get out of order; that it is quick and effective in operation, and that it may be applied to cars of the ordinary construction without modifying them in any manner whatsoever, which is an important advantage.

I have specifically described the exact construction and arrangement of the several parts embodied in my fender in order to impart a full and clear understanding of the same but I do not desire to be understood as confining myself to such exact construction and arrangement, as I reserve the right to make, in practice, such changes or modifications as fall within the scope of my invention.

Having described my invention, what I claim is—

1. In a fender, the combination with a guard or fender proper and a pivoted frame carrying said guard or fender and having an upwardly extending toothed bar; of a swinging support adapted to engage the toothed bar of the guard frame so as to normally hold the guard above the ground or surface of the track, and a suitable means for moving the swinging support so as to release the guard frame, substantially as and for the purpose set forth.

2. In a fender, the combination with a guard or fender proper, a pivoted frame carrying said guard or fender, a swinging support for the guard frame adapted to normally hold the guard above the ground, and a suitable means for moving said swinging support to release the guard frame; of a spring adapted to force the guard frame downwardly when released so as to hold the guard to the ground, substantially as and for the purpose set forth.

3. In a fender, the combination with a guard or fender proper, a pivoted frame carrying said guard or fender and having an upwardly extending toothed bar, and a swinging sup-



porting arm having a hook to engage the toothed bar of the guard frame; of a trigger frame extending in advance of the guard or fender proper and engaging the swinging supporting arm, all substantially as and for the purpose set forth.

4. In a fender, the combination with a guard or fender proper, a frame carrying said guard or fender and mounted on a shaft carried by hangers connected to a car body, and toothed bars connected to and extending upwardly from the guard frame; of the swinging supporting arms F, having hooks adapted to engage said toothed bars of the guard frame, arms as I, fixed with respect to the arms F, and a trigger frame engaging the arms I, and extending in advance of the guard or fender proper, substantially as specified.

5. In a fender, the combination with a guard or fender proper, and a pivoted frame carrying said guard or fender and having an upwardly extended toothed bar; of a swinging support engaging the said toothed bar so as to hold the frame and guard or fender above the ground, and a spring adapted to normally hold the swinging support in an approximately vertical position, substantially as specified.

6. In a fender, the combination with a swinging supporting arm, having a slot *u*, and a trigger frame having a hook adapted to take into the slot *u*; of a finger having an enlargement or body at one end pivotally connected to the swinging arm, and a spring engaging the said enlargement or body of the finger

and adapted to hold the finger against the swinging arm, so as to prevent a casual disengagement of the trigger frame, substantially as specified.

7. In a fender, the combination with a frame comprising side bars as *f*; of a guard or fender proper having sockets on its rear side adapted to receive the ends of the bars *f*, and pins taking through said sockets and bars *f*, and adapted to connect the same, substantially as specified.

8. In a fender, the combination with a guard or fender proper, a frame carrying said guard or fender and connected to a shaft carried by hangers, toothed bars connected to and extending upwardly from the guard frame, and a bowed spring connected to and adapted to exert a downward pressure upon said frame; of a rock-shaft E, journaled in bearings connected to a car body, the arms F, fixed with respect to said shaft and having hooks to engage the toothed bars of the frame, the arms I, also fixed with respect to the rock shaft, springs backing the said arms F, I, and a trigger frame engaging the arms I, and extending in advance of the guard or fender proper, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

CARL BERSCH.

Witnesses:

AUGUST ZIEGLER,

THOS. KELL BRADFORD.