

No. 677,069.

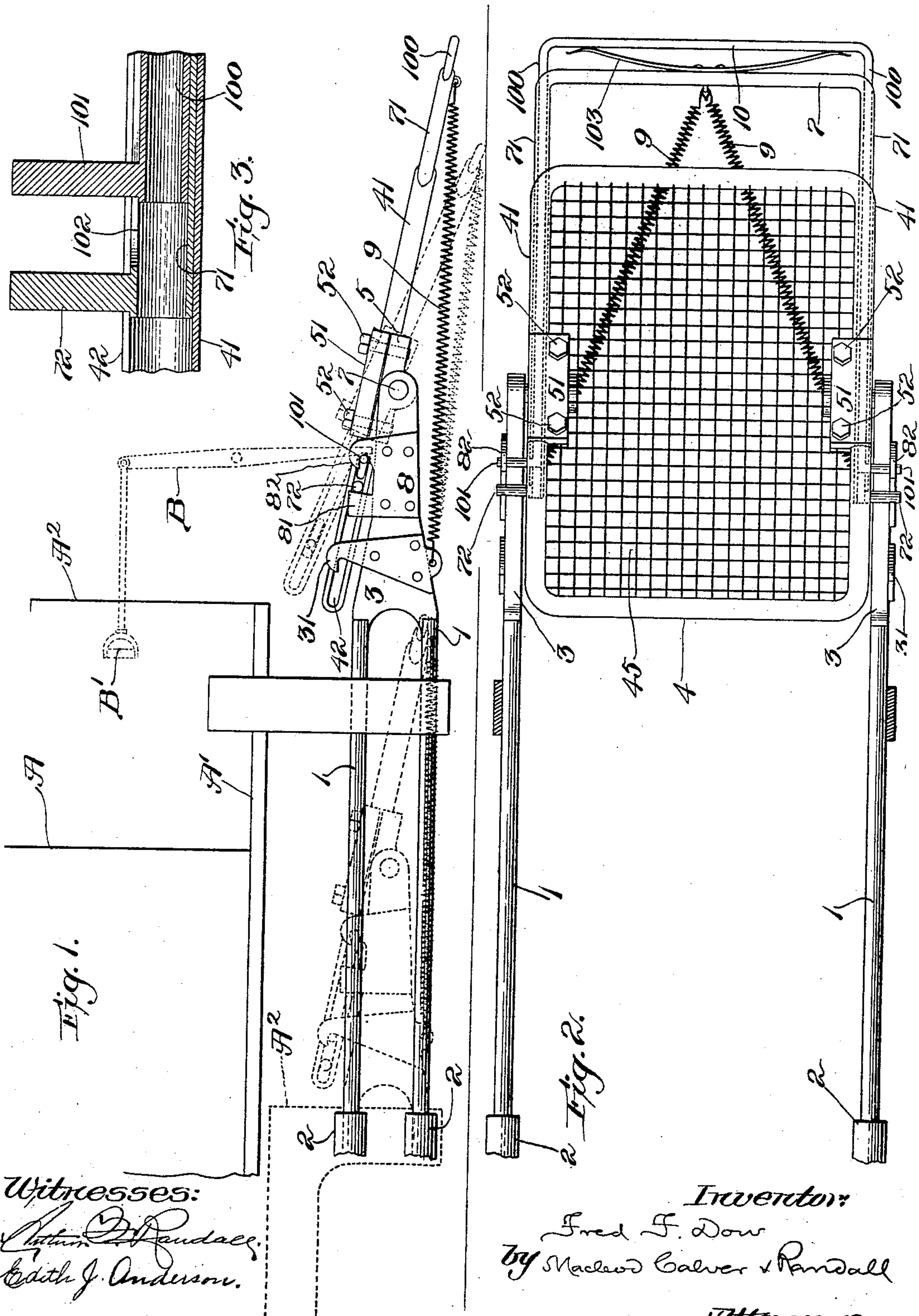
Patented June 25, 1901.

F. F. DOW.
CAR FENDER.

(Application filed Feb. 4, 1901.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:
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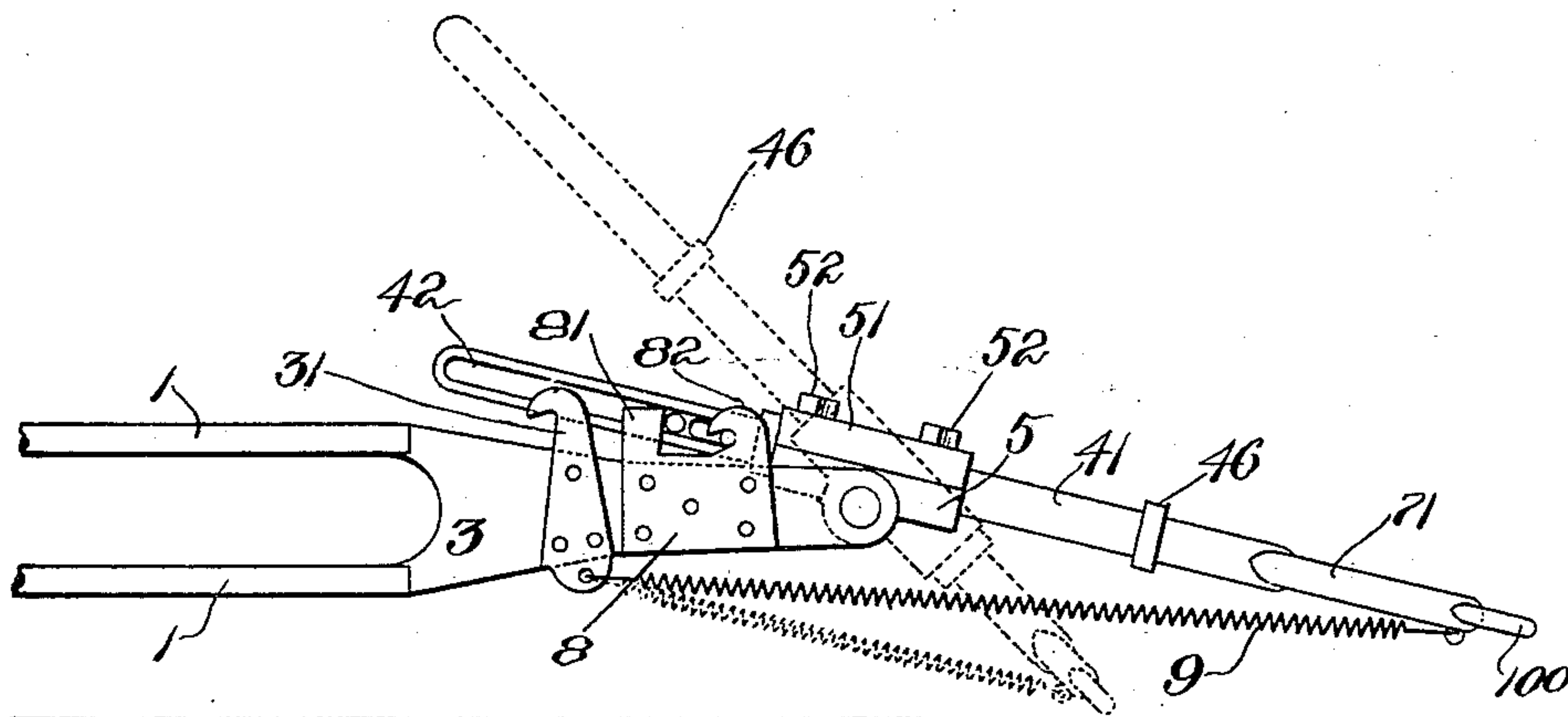


Fig. 5.

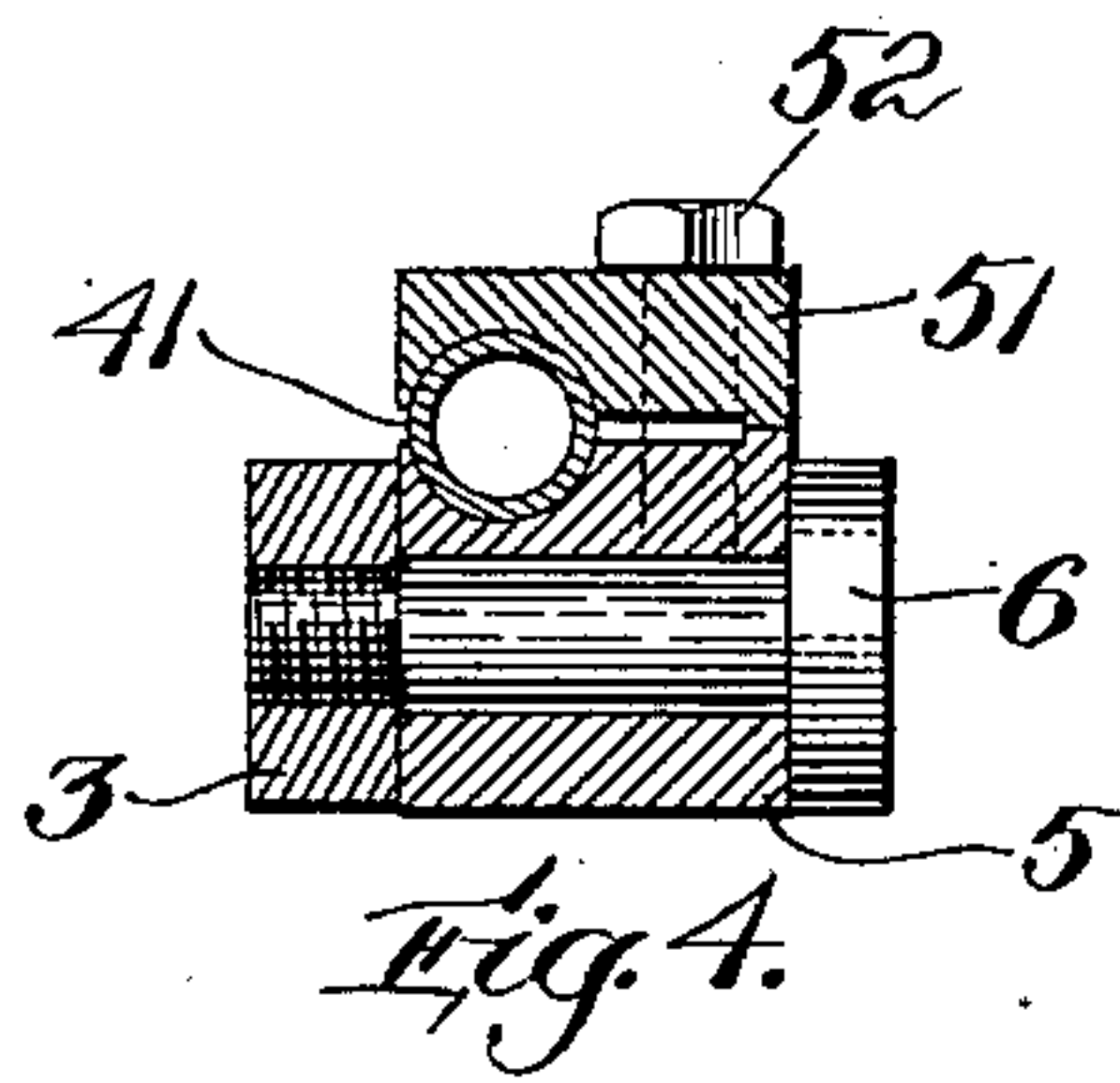


Fig. 4.

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UNITED STATES PATENT OFFICE.

FRED F. DOW, OF FREDERICTON, CANADA.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 677,069, dated June 25, 1901.

Application filed February 4, 1901. Serial No. 45,893. (No model.)

To all whom it may concern:

Be it known that I, FRED F. DOW, a citizen of the United States, residing at Fredericton, in the county of York, New Brunswick, Canada, have invented a certain new and useful Improvement in Car-Fenders, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention is an improvement in fenders which are applied to street-cars or the like for the purpose of preventing persons or other objects in the path of a car from getting under the wheels of the latter.

The invention comprises various features of improvement, which I will now proceed to describe with the aid of the accompanying drawings, in which latter I have illustrated the best embodiment of the invention that I have yet contrived.

Having reference to the drawings, Figure 1 shows in side elevation the said embodiment of the invention, certain portions of a car being indicated for assistance in presenting the invention. Fig. 2 shows the said embodiment in plan. Fig. 3 is a sectional detail view showing portions of the side bars of the fender, pilot-frame, and latching-frame, and the pins which are applied to the latter two. Fig. 4 is a sectional view illustrating the means of supporting the fender pivotally. Fig. 5 is a side elevation of the fender, &c., illustrating the operation thereof.

Having reference to Fig. 1, at A is meant to be indicated a portion of the body of a car, at A' one of the platforms of a car, at A² the corresponding dasher, and at A³ a portion of the truck of the car.

1 1, Figs. 1, 2, and 4, designate a pair of rods or tubes at each side of the car, mounted in supports, as 2 2, conveniently applied to the car, the said rods or tubes pertaining to the supporting-framework of the fender. Preferably in practice I provide for supporting the fender from the truck of the car, since when this is the case the fender does not partake of the vertical oscillations of the body of the car, which frequently occur during rapid running of the car. Hence the supports 2 2 are connected with the truck A³. In order to enable the fender to be shifted from its working position, (indicated in full lines in Fig. 1,) projecting at the end of the car, into the

retracted position underneath the body of the car, as indicated by dotted lines in said figure, the rods or tubes 1 1 are mounted in the said supports 2 2, with capacity to slide horizontally therein in the direction of the length of the rods or tubes. The pair of rods or tubes 1 1 at each side of the car are restrained from transverse vibratory movement when in their advanced position by means of arms or brackets A⁴, projecting downwardly from the body of the car or the platform thereof outside the respective pairs of rods or tubes. The pair of rods or tubes have attached to their forward ends a stand or bracket 3, Figs. 1, 2, and 5. With the stands or brackets 3 3 the fender 4 is connected pivotally. The frame of the said fender is rectangular, and the side bars 41 41 have connected therewith blocks 5, Figs. 1, 4, and 5, provided with caps 51 51. The proximate faces of the said blocks and caps are grooved to fit and embrace the side bars 41 41 of the fender, and each block and its cap are drawn together by means of screws or bolts 52 52, and thereby clamped upon the corresponding side bar. Each block 5 is connected with the adjacent stand or bracket 3 by means of a pivotal bolt 6, connected to or engaging with said stand or bracket, and preferably having a head or collar to hold the block from lateral displacement, the said blocks 5 5 and pivots constituting pivotal supports or mountings for the fender.

With the fender I connect the relatively movable pilot or locking frame 7. This latter is made to project at the front of the fender, as indicated best in Fig. 2; and in the illustrated embodiment of the invention is substantially U-shaped. Preferably I form the frame of the fender or, at least, the side bars 41 41 thereof tubular, as indicated in Fig. 3, and the side bars 71 71 of the pilot-frame 7 slide within the said tubular side bars 41 41, as shown in full lines in Fig. 3 and in dotted lines in Fig. 2. The rear extremities of the side bars 71 71 of the pilot-frame have secured thereto pins 72 72 or equivalent projections, extending outwardly through longitudinal slots, as at 42, Figs. 1, 3, and 5, in the outer sides of the side bars 41 41 of the fender-frame. The said pins 72 72 are provided for the purpose of holding the pilot-frame

locked in its advanced position relatively to the fender. A plate 8, attached to each bracket or stand 3, has an upward extension 81, and when the pilot-frame 7 is in its relatively advanced position and the fender is swung vertically on its pivots into the full-line position represented in Fig. 1 the pins 72 72 occupy positions immediately adjacent the front sides of the said upward extensions 81 81. Spiral springs 9 9, connected with the cross-bar of the pilot-frame and also connected directly or indirectly with the stands or brackets 3 3, act with a tendency to pull the pilot-frame rearward relatively to the fender. This tendency is resisted by the contact of pins 72 72 with the front sides of the extensions 81 81, and consequently the latter are characterized by me as "abutments," cooperating with the pilot-frame to hold the latter in its relatively projected position, Figs. 1 and 2.

For the purpose of holding the fender in the full-line position shown in Fig. 1, with pins 72 72 in engagement with abutments 81 81, I apply to the fender the latching-frame 10. With the side arms 100 100 of the said latching-frame 10 I combine latching pins or projections 101, which project transversely and in the full-line position of the fender shown in Figs. 1 and 2 engage with fixed hooks 82 82, which latter herein are shown provided on the plates 8 8. So long as latching-pins 101 101 remain under the fixed hooks 82 82 the fender is held in the full-line position shown in Fig. 1, with pins 72 72 in front of and in engagement with the abutments 81 81. This is the normal working position of the fender. The latching-frame 10 is mounted with capacity to move relatively to the fender and the pilot-frame. In the present embodiment of the invention the pilot-frame, or at least the side arms 71 71 thereof, are tubular, and within the said side arms fit the side arms 100 100 of the latching-frame, which last is substantially U-shaped, as shown in Fig. 2. The latching-pins 101 101 are connected with the rear extremities of the side arms 100 100 of the latching-frame and project out through slots 102 in the side arms 71 71 and the slots 42 in the sides of the fender. Slots 102 and 42 register with each other. A bent leaf-spring 103 is interposed between the cross-bars of the pilot-frame and the latching-frame and acts with a tendency to hold the said latching-frame advanced relatively to the pilot-frame, with its latching-pins 101 101 under the fixed hooks 82 82 on the plates 8 8, carried by the stands or brackets 3 3. Should now a person or other object be in the path of the advancing car, the encounter of the latching-frame 10 therewith would result in backward flexure of the leaf-spring 103 and relative rearward movement of the latching-frame, resulting in withdrawal of the latching-pins 101 101 from under the fixed hooks 82 82. The springs 9 9 are arranged, preferably, to exert a certain amount of downward draft upon the forward portion

of the pilot-frame. This draft and the pressure against the said person or object, aided by the weight of the parts in advance of the pivots, causes the fender to swing vertically on the said pivots so soon as freed by the disengagement of the latching-pins from the fixed hooks, carrying the front of the fender downward and raising the locking-pins 72 72 above the abutments 81 81. Thereupon the draft of the springs acts to retract the pilot-frame suddenly rearward, withdrawing it completely from proximity to the said person or object and enabling the forward part of the fender and the frames carried thereby to descend quickly until their front parts are in immediate proximity to the track, as shown in dotted lines in Fig. 1, without any possibility of obstruction to the completion of such turning movement. This effectually obviates possibility of catching under the forward part of the fender in its descent the arm, leg, or any other portion of the body of a man standing or lying on the track, or any other object or obstruction. The loose pivoting of the fender enables the forward portion of the latter to be held down close to the track, however much the car may oscillate, in case the fender-supports are applied in connection with the car-body.

In some cases the side bars of the fender are clamped tightly to the pivotal supports or mountings 5 5, so as to be immovable relatively to the latter. In some cases, however, the said side bars may be clamped only hard enough to prevent the said side bars from being moved relatively to the said pivotal supports or mountings by the power of the springs 9 9, so that in the case of a man standing in the path of the fender after the unlatching of the fender, the unlocking and retraction of the pilot or locking frame, and the depression of the forward portion of the fender the resistance offered by the man's feet or legs to the advance of the fender will operate to cause rearward movement of the fender relative to the said pivotal mountings until the greater portion of the fender is at the rear of the pivots. (See Fig. 5.) If now the man is tripped and falls into the fender, he will strike the latter with the greater part of his weight above and at the rear of the pivots. Naturally the tendency would then be for his weight to rock the fender and cause it to assume a substantially horizontal position, the man remaining supported by the netting 45 without danger of being tossed or dropped from the fender. 46 46, Fig. 5, designate stops on the side arms of the fender to limit the movement of the fender relative to its pivotal mountings.

For the purpose of indicating the possibility of dropping the fender at will from its full-line position in Fig. 1 to its dotted-line position in the said figure I have represented in dotted lines in Fig. 1 a disengaging lever B for coaction with one of the latching-pins 101 and a handle B' connected with the said lever.

At 31 is shown a fixed hook on each stand or bracket 3, with which the latching-pins 101 101 may be made to engage after the latching-frame and pilot-frame have been retracted 5 relatively to the fender by swinging the rear portion of the fender downward. (See dotted lines at the left in Fig. 1.) This holds the parts drawn into small compass, so that when the fender is pushed under the car it will not 10 project beyond the platform A'. (See Fig. 1.)

What I claim is—

1. In a car-fender, in combination, stands or brackets, the fender pivotally connected with said stands or brackets, the pilot-frame 15 applied to said fender, a spring tending to retract the said pilot-frame, the spring-pressed latching-frame projecting at the front of the pilot-frame, latching devices in connection with the said latching-frame to hold the fender 20 in its normal raised position, and locking devices in connection with said pilot-frame to release the latter when the fender swings to its working position and permit said spring to retract said pilot-frame, substantially as 25 described.

2. In a car-fender, in combination, stands or brackets, the fender pivotally connected with said stands or brackets, the pilot-frame 30 applied to said fender and projecting at the front thereof, a spring tending to retract said pilot-frame, locking devices in connection with said pilot-frame to hold it advanced so long as the fender occupies its raised position, and latching means to hold the said fender 35 in such position but operable by an obstruction to leave the fender free to drop and also free the pilot-frame to be retracted by its spring, substantially as described.

3. In a car-fender, in combination, stands 40 or brackets, one or both thereof provided with an abutment and a catch, the fender pivotally connected with said stands or brackets, the auxiliary or pilot frame applied to said fender, normally projecting at the front of 45 the latter, and provided with the locking-pin which is adapted to cooperate with the said abutment in the normal position of the fender and thereby hold the auxiliary or pilot frame advanced, a spring tending to retract the aux- 50 iliary or pilot frame, and the spring-pressed latching-frame projecting at the front of the auxiliary or pilot frame and provided with a pin which engages with the said catch to hold the fender in its normal position, substan- 55 tially as described.

4. In a car-fender, in combination, stands or brackets, one or both thereof provided with an abutment and with a catch, the fender piv- 60 otally connected with said stands or brackets, the auxiliary or pilot frame projecting at the front of the fender, provided with the projecting pin which engages with said abutment in the normal position of the fender and there- 65 by keeps the auxiliary frame advanced, and having the side arms thereof fitted to slide within the sides of the fender, the spring tend-

ing to retract the auxiliary or pilot frame, and the spring-pressed latching-frame projecting at the front of the auxiliary or pilot frame, provided with a pin which engages with the 70 said catch to hold the fender in its normal position, and having the side arms thereof fitted to slide within the side arms of the auxiliary or pilot frame, substantially as de- 75 scribed.

5. In a car-fender, in combination, stands or brackets, movable horizontally to place the fender in its operative position or in its inop- 80 erative position under the car, one or both thereof provided with an abutment and a catch, the fender connected with said stands or brackets, the pilot-frame applied to said fender, normally projecting at the front of 85 the latter, and provided with the locking-pin which is adapted to cooperate with the said abutment in the normal position of the fender and thereby hold the pilot-frame advanced, the spring tending to retract the pilot-frame, the spring-pressed latching-frame projecting 90 at the front and provided with a pin which engages with the said catch to hold the fender in its normal position, and the catch on one of the said stands or brackets to hold the fender locked with its pilot-frame retracted, substan- 95 tially as described.

6. In a car-fender, in combination, stands or brackets, movable horizontally to place the fender in its operative position or in its inop- 100 erative position under the car, one or both thereof provided with an abutment and with a catch, the fender connected with said stands or brackets, the pilot-frame projecting at the front of the fender provided with the pro- 105 jecting pin which engages with said abutment in the normal position of the fender and thereby keeps the pilot-frame advanced, and having the side arms thereof fitted to slide within the sides of the fender, the spring 110 tending to retract the pilot-frame, the spring-pressed latching-frame provided with a pin which engages with the said catch to hold the fender in its normal position, and having the side arms thereof fitted to slide within the side arms of the pilot-frame, and the catch on 115 one of the said stands or brackets to engage with the latching-pin to hold the fender locked with the pilot-frame and latching-frame re- 120 tracted, substantially as described.

7. In a car-fender, in combination, stands or brackets, one or both thereof provided with 120 an abutment and with a catch, the fender, swinging fender-supports carried by said stands or brackets and having friction-clips in engagement with the fender arranged to 125 permit the fender to yield when the latter encounters an obstruction, the auxiliary frame projecting at the front of the fender, provided with the projecting pin which engages with said abutment in the normal position of 130 the fender and thereby keeps the auxiliary frame advanced, and having the side arms thereof fitted to slide within the sides of the

fender, the spring tending to retract the auxiliary frame, and the spring-pressed latching-frame provided with a pin which engages with the said catch to hold the fender in its normal position and having the side arms thereof fitted to slide within the side arms of the auxiliary frame, substantially as described.

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

FRED F. DOW.

Witnesses:

CHAS. F. RANDALL,
WILLIAM A. COPELAND.