

No. 824,542.

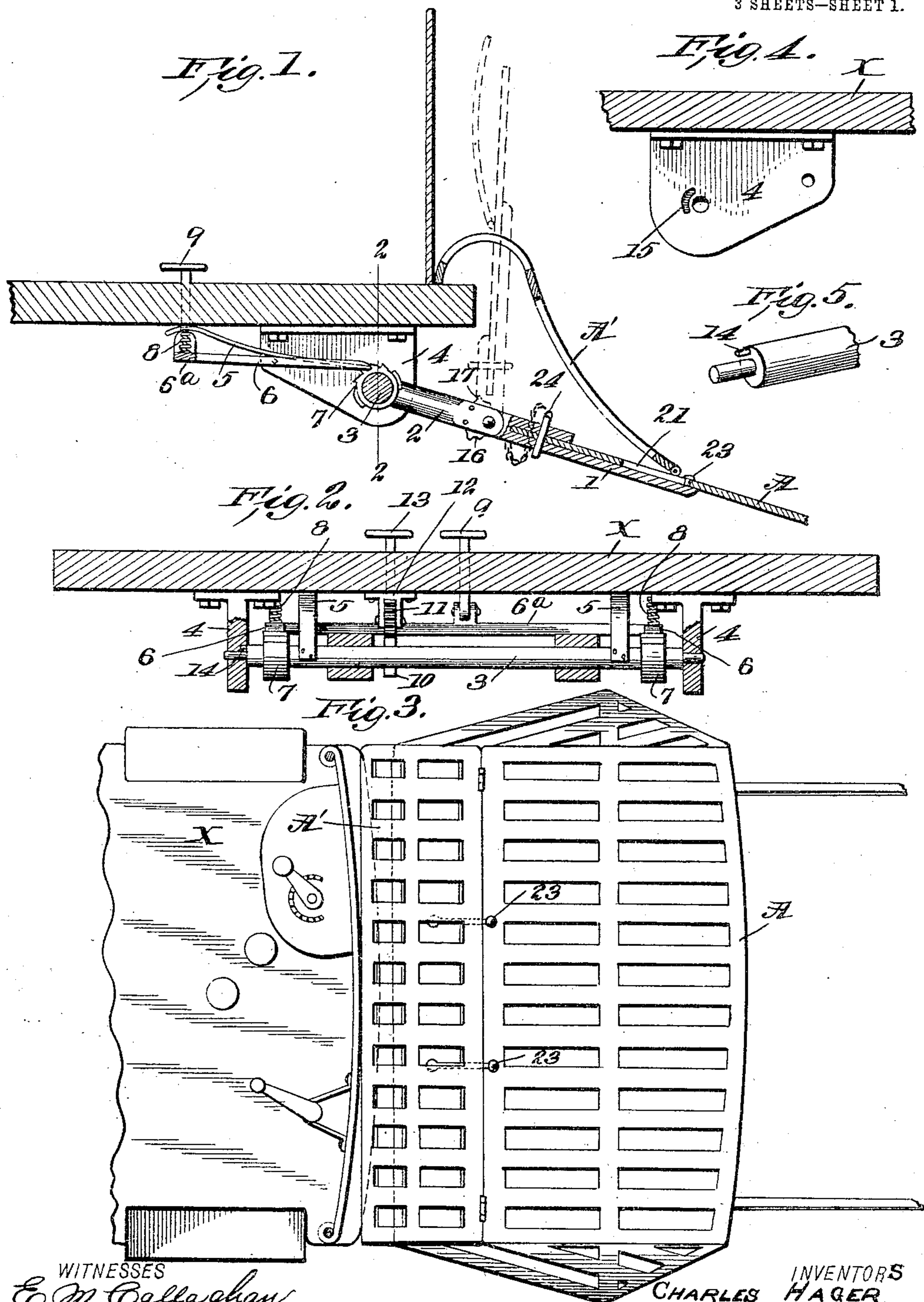
PATENTED JUNE 26, 1906.

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CAR FENDER.

APPLICATION FILED APR. 10, 1906.

3 SHEETS—SHEET 1.



WITNESSES
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3 SHEETS—SHEET 2.

Fig. 6.

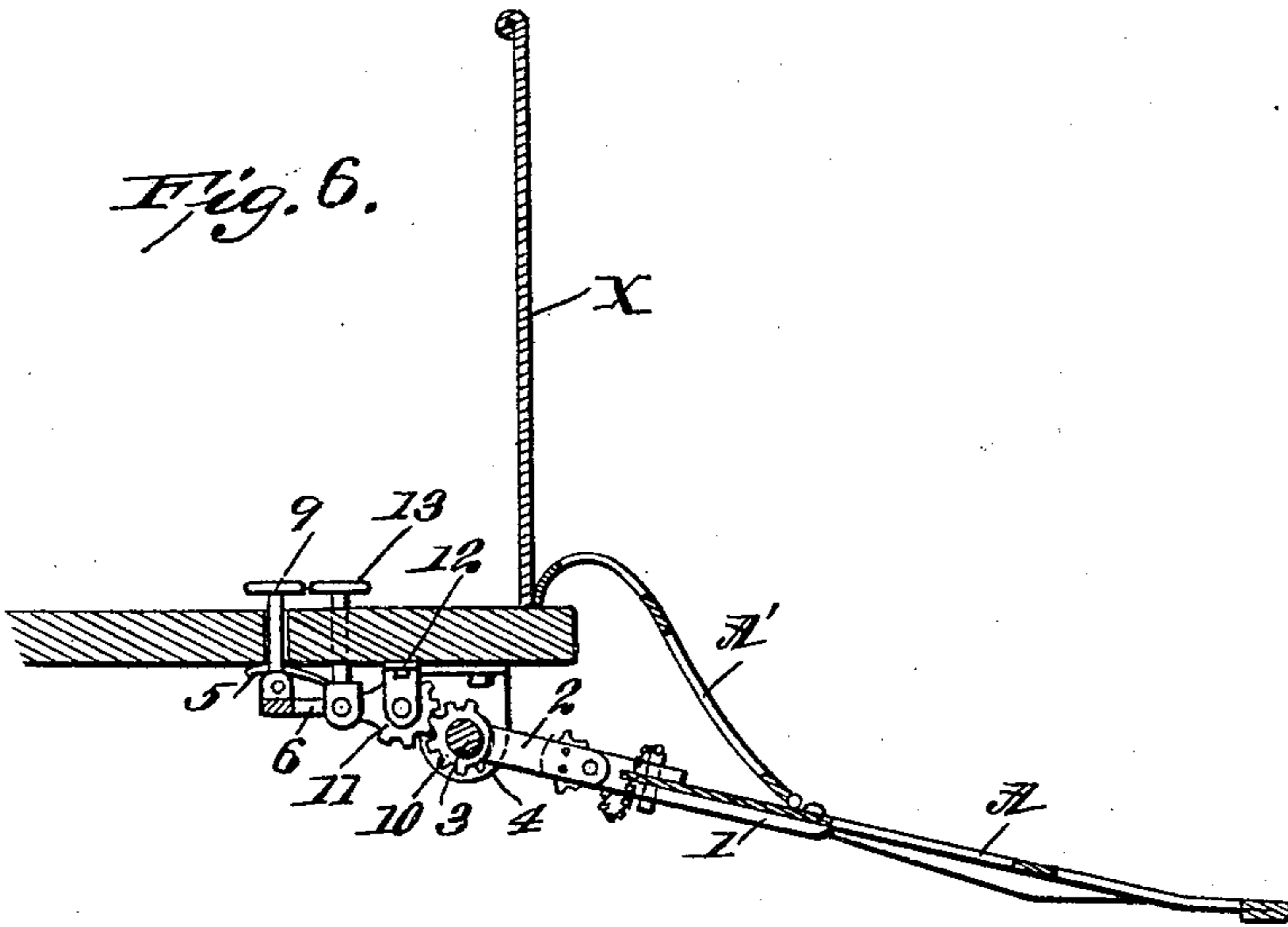
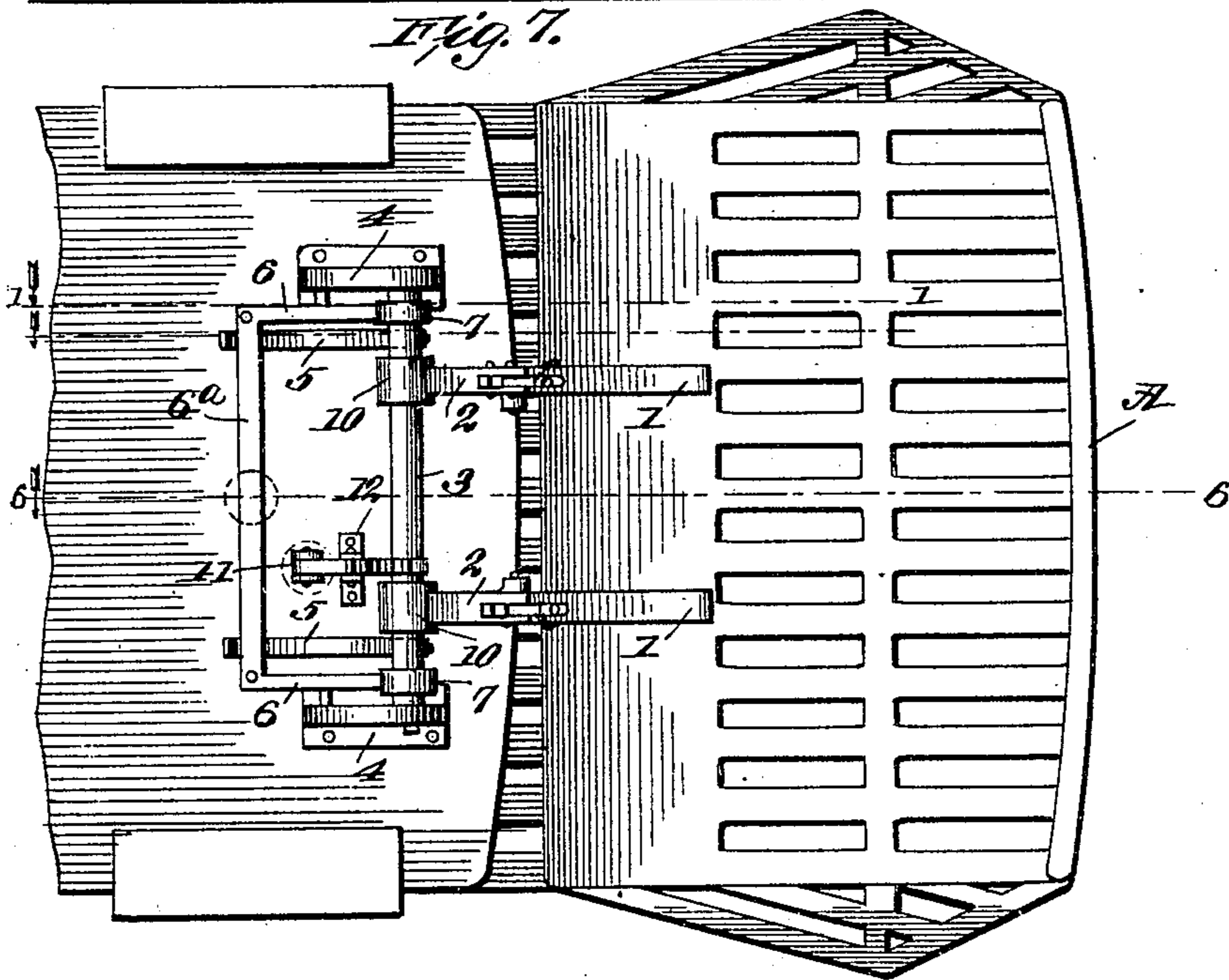


Fig. 7.



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UNITED STATES PATENT OFFICE.

CHARLES HAGER AND THOMAS D. FINIZIE, OF NEW YORK, N. Y.

CAR-FENDER.

No. 824,542.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, CHARLES HAGER, a citizen of the United States, and THOMAS D. FINIZIE, a subject of the King of Italy, residents of New York, in the county of New York and State of New York, have invented a new and Improved Car-Fender, of which the following is a specification.

Our invention is an improvement in the class of car-fenders which are detachably connected with the fronts or platforms of street-cars and adapted to be lowered from normal position in a case of emergency.

The invention is embodied in a novel construction, arrangement, and combination of parts hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a longitudinal vertical section, on the line 1 1 of Fig. 7, of our improved fender and a car-platform to which it is applied. Fig. 2 is a vertical transverse section on the line 2 2 of Fig. 1. Fig. 3 is a plan view of the fender and a portion of a car-platform to which it is attached. Fig. 4 is a view of one of the hangers or brackets attached to the under side of a car-platform, and in which is journaled a shaft or roller with which the fender proper is connected. Fig. 5 is a perspective view of one end of such shaft or roller. Fig. 6 is a central longitudinal section on the line 6 6 of Fig. 7. Fig. 7 is an inverted plan view of the fender proper and the platform attachments with which it is connected. Fig. 8 is a longitudinal section of the car-platform and attachments, the fender-supports being elevated as when the fender is not in use. Fig. 9 is an enlarged sectional view showing the fender-supports locked in the elevated position. Fig. 10 is a plan view of the fender proper with its hinged upper portion or section thrown downward or folded as when not required for use. Fig. 11 is a perspective view of one of the fender-supports in the extended or alined position, a portion being broken away to show the joint and arrangement for locking the fender-support in the extended position.

The fender proper comprises a main lower part A and a smaller upper part A', (see Figs. 1, 3, 6, and 10,) the upper part being hinged to the upper portion of the main part and thus adapted to be thrown back, as shown in Figs. 1, 3, and 6, as when required for use. Its outer end is curved or hook-shaped,

whereby it is adapted to rest upon the projecting end of the platform X. The part A' thus constitutes practically a rear extension of the fender proper. Both parts A A' are made of elastic material, preferably sheet steel, the same having numerous slots or openings to reduce the weight and increase elasticity. The fender is attached to arms 1, (see Figs. 1, 8, 9, and 11,) which are in turn pivoted to other arms 2 that form forward extensions of a transverse shaft or roller 3. The latter is journaled in hangers or brackets 4, (see Figs. 1, 2, 4, and 7,) that are bolted to the under side of the platform X and pendent therefrom in parallel position. Plate-springs 5 are attached to the shaft or roller 3 (see Figs. 2, 6, and 7) and extend rearward therefrom, their curved upper ends bearing upward against the under side of the platform X. These springs are under tension at all times, and they tend to rotate the shaft or roller 3 backward and thereby support the arms which carry the fender, tending to raise the latter, and, in fact, serving as an elastic support therefor. In other words, the springs 5 resist the rotation of the shaft or roller 3 in the forward direction which is due to the weight of the projecting arms and the fender attached thereto. The springs thus hold the fender supported in the position indicated in Figs. 1 and 6, which is the normal one relative to the track or car rails. In order to prevent the shaft or roller from rotating too far under the tension of the springs 5, we apply pawls 6 in such manner that they engage ratchets 7, fixed on the shaft 3. These pawls are pivoted at the middle of their length to the hangers or brackets 4, and their rear ends are connected by a cross-bar 6^a. Spiral springs 8 are arranged between the platform and the said bar 6^a and connect the latter therewith, whereby the springs hold the rear ends of the pawls elevated and their noses or front ends, therefore, engaged with the ratchets 7. The pawls may be readily disengaged from the ratchets by applying pressure upon the rear bar 6^a through the medium of the push-bar or trip 9, that projects through the platform X and is provided with an enlarged head, as shown in several figures. Thus the operator, by placing his heel upon the push-bar, may at any time unlock the shaft 3 and thus allow the springs 5 to raise the fender as required.

In a case of emergency it is desirable to drop the fender so its end shall ride upon the car-rails, or at least approach very closely thereto, in order to take up the body of a person or other object that may be lying on the track. For this purpose we employ the mechanism now to be described. The shaft or roller 3 is provided with a mutilated spur-gear 10, and a segment-lever 11 engages the same, it being pivoted in hangers 12, pendent from the car-platform X, and its rear end connected with a push-bar 13, that projects through an opening in the platform and is provided with an enlarged head above the same. It is apparent that if the operator apply due foot-pressure upon the push-bar 13 the rear end of the lever 11 will be depressed and the toothed semicircular head of the same rotated, thus in turn rotating the shaft or roller 3 and throwing the arms 2 1 downward, so that the fender proper, A, is lowered correspondingly. It will be understood that the force required to effect this is merely such as sufficient to overcome the tension of the plate-springs 5, since they are the sole means tending to elevate the fender or hold it supported at the required elevation. Thus through the medium of push-bar 13 the operator may lower the fender A, and it is apparent that the pawls 5 in such case slide upon the ratchets 7 and reengage the same, so as to hold the fender in the lowered position until released by foot-pressure upon the push-rod 9, as before described.

Since the springs 5 might raise the fender too high when the pawls are released from the ratchets, we provide a stop consisting of a pin 14, (see Fig. 5,) that projects from the end of the roller adjacent to the journal and enters an arc-slot 15 in the adjacent hanger. (See Figs. 2 and 4.) When the roller is rotated backward, the stop 14 strikes the lower end of the arc-slot 15, and thus arrests further rotation. This arrest will be at the point required for the proper downward inclination of the fender. (Indicated in Fig. 1.) In practice each end of the shaft or roller 3 will be provided with a stop-pin 14 and both hangers 4 with an arc-slot, as described.

The forward end of the shaft or roller-arms 2 are bifurcated, and the fender-supports proper—that is to say, the parts 1, to which the fender is directly attached—are pivoted in the forks thus provided. (See especially Fig. 11.) In the forks we also arrange two pivoted dogs 16 and 17, the shanks of the same being engaged by a plate-spring 18. (See Fig. 9.) In order to furnish a duly-extended bearing for the pivot of the fender-supports 1, one of the forks of the arms 2 may be extended laterally, as shown in Fig. 11. When the fender is lowered, the arms 1 pass to alinement with the arms 2 and cannot descend lower, because their rear ends then abut the lower dog 16, as shown in Fig.

1, the said dog being in such case pressed back from the locking position shown in Fig. 9. The upper dog 17 also engages a shoulder 19 in the end of the supports 1, and thus the latter are locked in the extended or alined position. When, however, the said arms 1 are raised, as shown in Figs. 8 and 9, the lower pawl 16 engages a shoulder 20, provided in the rear ends of the arms 1, and thus locks them in the elevated position. The shape of the inner ends or shanks of the pawls 16 17 is such that the spring 18 tends to hold them in the locked or unlocked position, as will be readily understood by reference to Fig. 9.

In Fig. 1 the dotted lines indicate the position of the fender when thrown up and locked out of use, in such case the hinged portion A' being thrown forward upon the main portion A, as indicated in Fig. 10.

When the fender is detached from the supports 1 or not in use, the said supports may be thrown up and locked in the position indicated in Figs. 8 and 9.

The fender or fender-plate A is detachably connected with the supports 1. The fender is provided with two keyhole-slots 21 (see Fig. 10) and with holes 22, which are in alinement with the slots. The lower bifurcation of the supports 1 is provided at its outer end with a headed pin 23, and a pin 24 is adapted to pass through the rear ends of the bifurcations, the same being connected with the supports by a chain 25. It will be seen that if the supports 1 be lowered into the alined position indicated in Figs. 1 and 6 and the pins 24 be withdrawn the fender A may be slid into place between the bifurcations of supports 1, the headed pins 23 in such case passing through the enlarged upper portions of the slots 21, whereupon the fender may be pushed back until the pins pass to the lower ends of the slots, which brings the holes 22 of the fender in alinement with the pin-holes in the supports 1, and the pins 24 being then introduced, as in Figs. 1 and 6, the fender is secured firmly in place. It is obvious that by withdrawing the pins 24 the fender may be slid down until the headed pins 23 of supports 1 reach the enlarged upper portions of slots 21 in the fender, when the latter may be lifted off the supports, such movement being provided for by reason of the fact that the upper arm or bifurcation of the supports is shorter than the under one.

What we claim is—

1. The combination, with the car-platform of a fender comprising a fender proper, a rotatable shaft or rail and hangers therefor attached to the under side of the platform, arms extending forward from the shaft and connected with the fender, plate-springs secured at their forward ends to the shaft, their rear ends bearing against the under side of the platform thus tending to rotate

the shaft and raise the fender, ratchets on the shaft, pivoted pawls engaging the same, springs engaging with the pawls and tending to hold them engaged with the ratchets, and
 5 a push-rod extending through the platform into position for manual operation, substantially as described.

2. The combination, with the car-platform, of a fender and supports therefor, a rotatable
 10 shaft with which such supports are connected, springs tending to rotate the shaft backward and thus raise the fender, ratchet-and-pawl mechanism for locking the shaft against the tension of the springs, and means under man-
 15 ual control for releasing the pawls, substantially as described.

3. The combination, with the car-platform of a fender and supports therefor, a rotatable shaft with which said supports are connected,
 20 springs tending to elevate the fender, means for locking the shaft against the tension of the springs, a device under manual control for disengaging such means, and an automatic stop for limiting the upward movement of the
 25 fender, substantially as described.

4. The combination, with the car-platform of a fender and supports therefor, a rotatable shaft with which such supports are rigidly
 30 connected, hangers in which the shaft is journaled, the same being provided with arc-slots and the shaft with pins adapted to work in such slots, springs tending to rotate the shaft and raise the fender, means for locking the fender in the lowered position, and a releasing
 35 device under manual control, the rotation of the shaft and the consequent elevation of the fender being thus automatically stopped at the required point, substantially as described.

5. The combination, with a car-platform
 40 and a rotatable shaft journaled beneath the same and having forwardly-extending arms for supporting the fender, means tending to rotate the shaft and raise the fender, ratchets applied to the shaft, pivoted pawls engaging
 45 the ratchets, springs connecting the rear ends of the pawls with the platform and tending to hold the front ends of the pawls depressed and engaged with the ratchets while leaving them free to slide over the latter when the
 50 fender is lowered, a push-rod connecting with the rear ends of the pawls and extending above the platform so that the pawls may be manually released at will, and stops for limiting the upward movement of the fender when
 55 thus released, the same comprising pins projecting from the ends of the shaft and entering the slots in the adjacent journal-supports, substantially as described.

6. The combination, with the car-platform,
 60 of a fender and supports therefor, a rotatable shaft with which the supports are rigidly connected, means under the control of the grip-man for rotating the shaft for lowering the fender to the emergency position, springs at-
 65 tached to the shaft and extending rearward

and tending to rotate the shaft and raise the fender, pawls and ratchets for holding the shaft locked in any position to which it may be rotated in lowering the fender, and means
 70 under manual control for releasing the pawls and thereby allowing the springs to restore the shaft and fender to the normal elevated position, substantially as described.

7. The combination, with the car-platform and the fender, of the fender-supports com-
 75 prising arms extending forward and supplemental arms pivoted thereto and to which the fender is directly attached, and means for locking said supplemental arms in the ex-
 80 tended position, substantially as described.

8. The combination, with the car-platform, the fender and supports therefor comprising arms extending forward from beneath the platform and supplemental arms pivoted
 85 thereto and provided with shoulders in rear of the pivot, of spring-actuated dogs pivoted to the said arms and adapted to alternately engage the shoulders for locking the fender-supports in the extended or elevated position,
 90 substantially as described.

9. The combination of the car-platform, a fender and a rotatable shaft journaled be-
 95 neath the platform and having arms extended forward and bifurcated at their outer ends, dogs pivoted in the bifurcations, and a spring applied to the polygonal shanks thereof for holding them in either the locking or unlocked position, a fender, and supports therefor
 100 which are pivoted in the forks of said arms adjacent to the dogs, the latter being adapted to engage the adjacent end of the supports for locking them in the manner described.

10. The combination, with a car-platform, a rotatable shaft journaled beneath the same
 105 and having forwardly-extended arms, fender-supports comprising arms pivoted to the first-named ones, and means for locking them in the required positions, substantially as set forth.

11. The combination, with the car-plat-
 110 form, of fender-supports extending from beneath the same and comprising bifurcated arms whose lower members are provided with headed pins, removable pins passing through holes in the base portions of the sup-
 115 ports, and the fender proper having keyhole-slots adapted to receive the headed pins of said supports and to slide thereon, and also with holes adapted to receive the removable pins, the fender when applied to the supports
 120 sliding in the bifurcations or notches of the same, substantially as described.

12. The combination, with the car-plat-
 125 form of fender-supports comprising a rotatable shaft, arms extending forward therefrom, fender-supports comprising bifurcated arms pivoted to the first-named arms and provided with fixed headed pins and with re-
 130 movable pins, the fender proper having keyhole-slots, and holes adapted to receive the

respective pins whereby it is adapted for convenient attachment to and detachment from the support, substantially as described.

13. The improved car-fender comprising a
5 metal plate which is reticulated, and a reticulated supplemental metal portion hinged thereto, substantially as described.

14. An improved car-fender comprising a

reticulated sheet-steel plate, substantially as described.

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Witnesses:

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AMOS W. HART.