(No Model.) 3 Sheets—Sheet 1.

W. M. WATTS.

CAR FENDER.

No. 574,081. Patented Dec. 29, 1896.

FIG. 1.

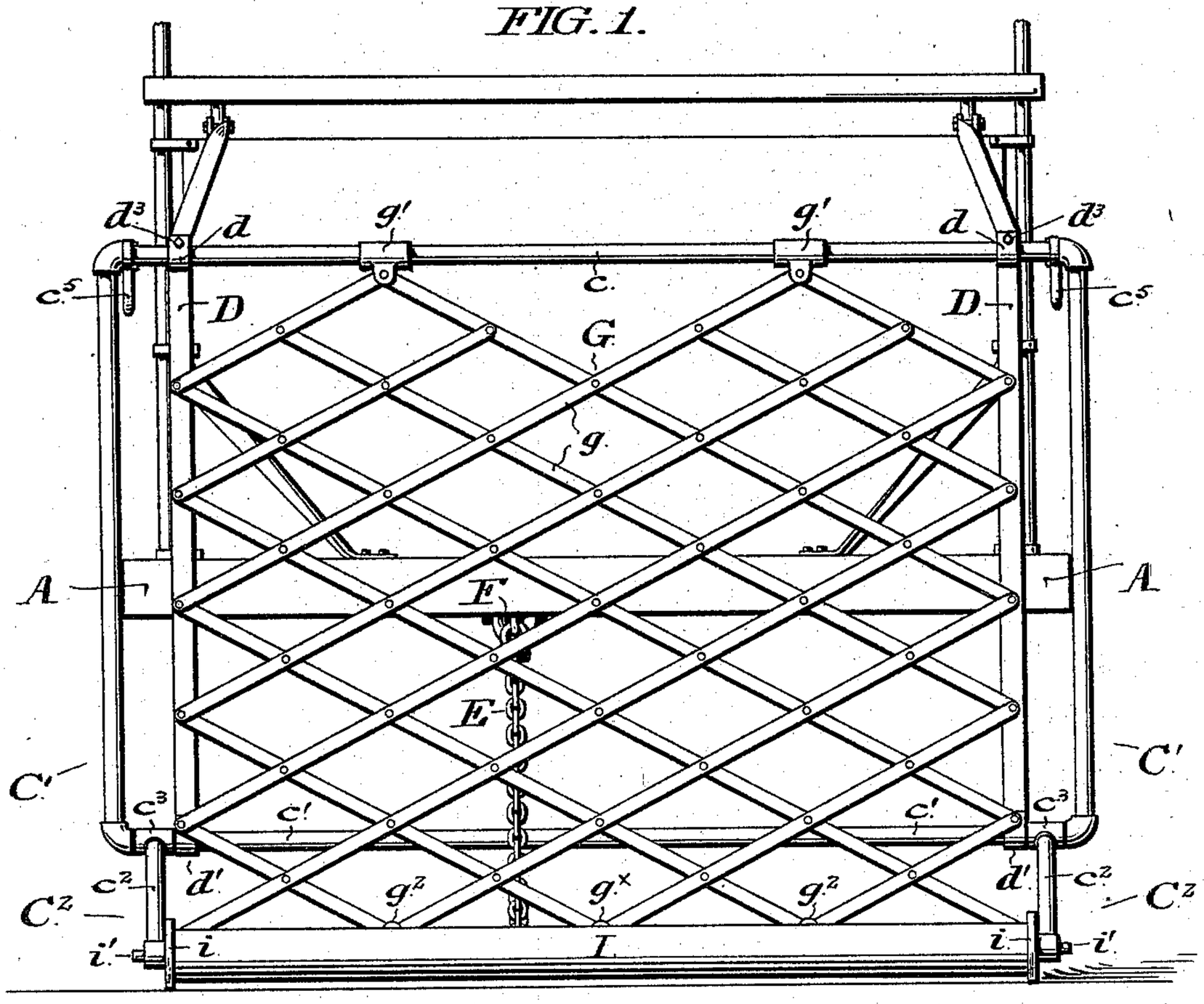
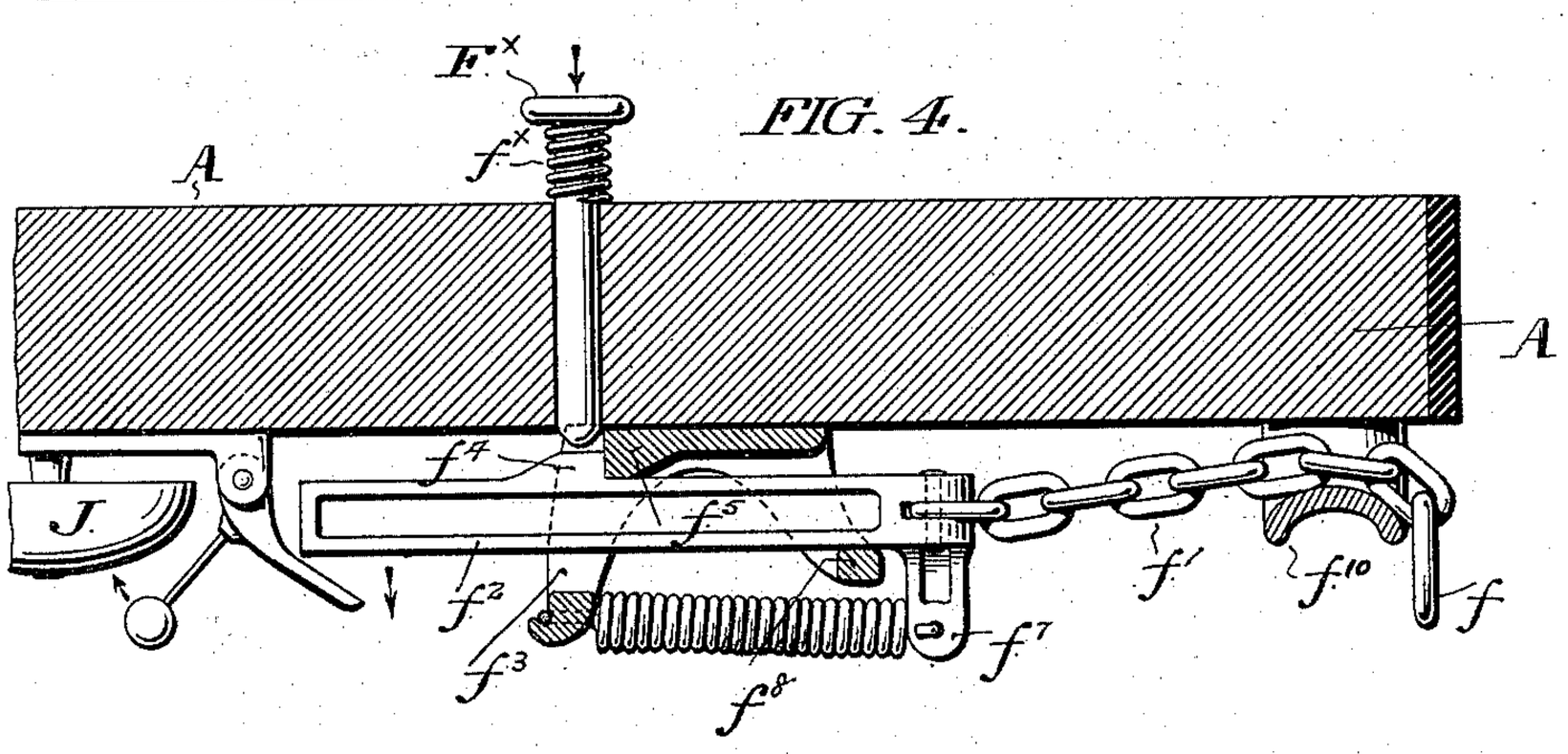


FIG. 4.



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(No Model.) 3 Sheets—Sheet 2

W. M. WATTS.

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FIG. 2.

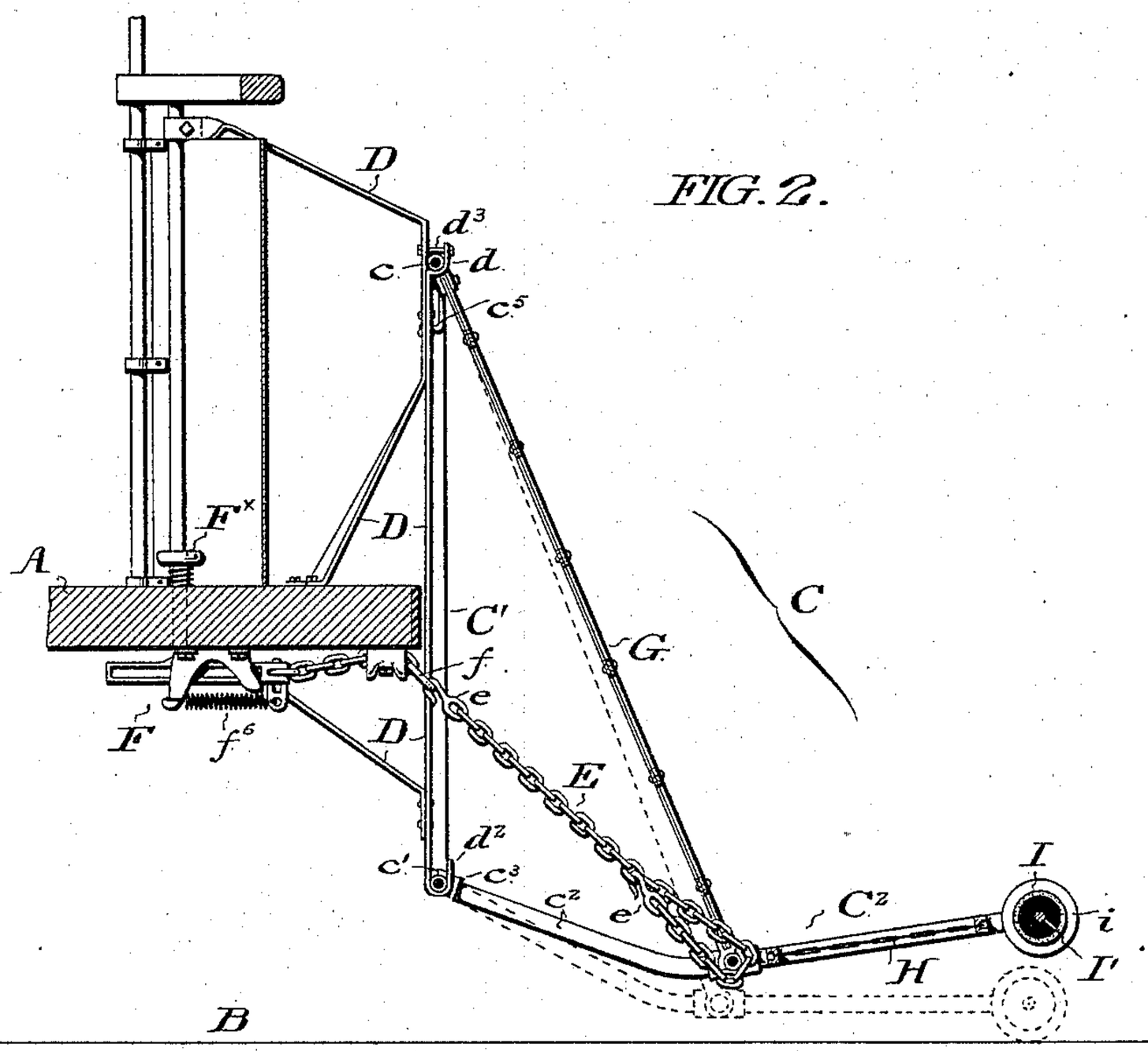
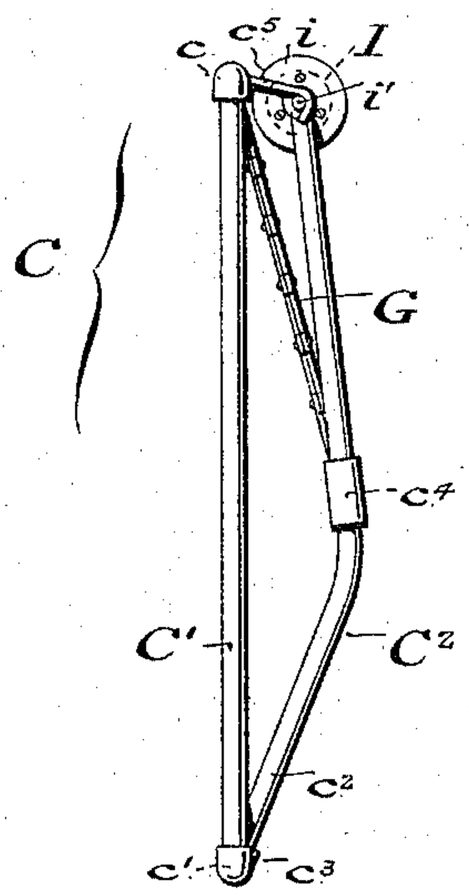


FIG. 5.



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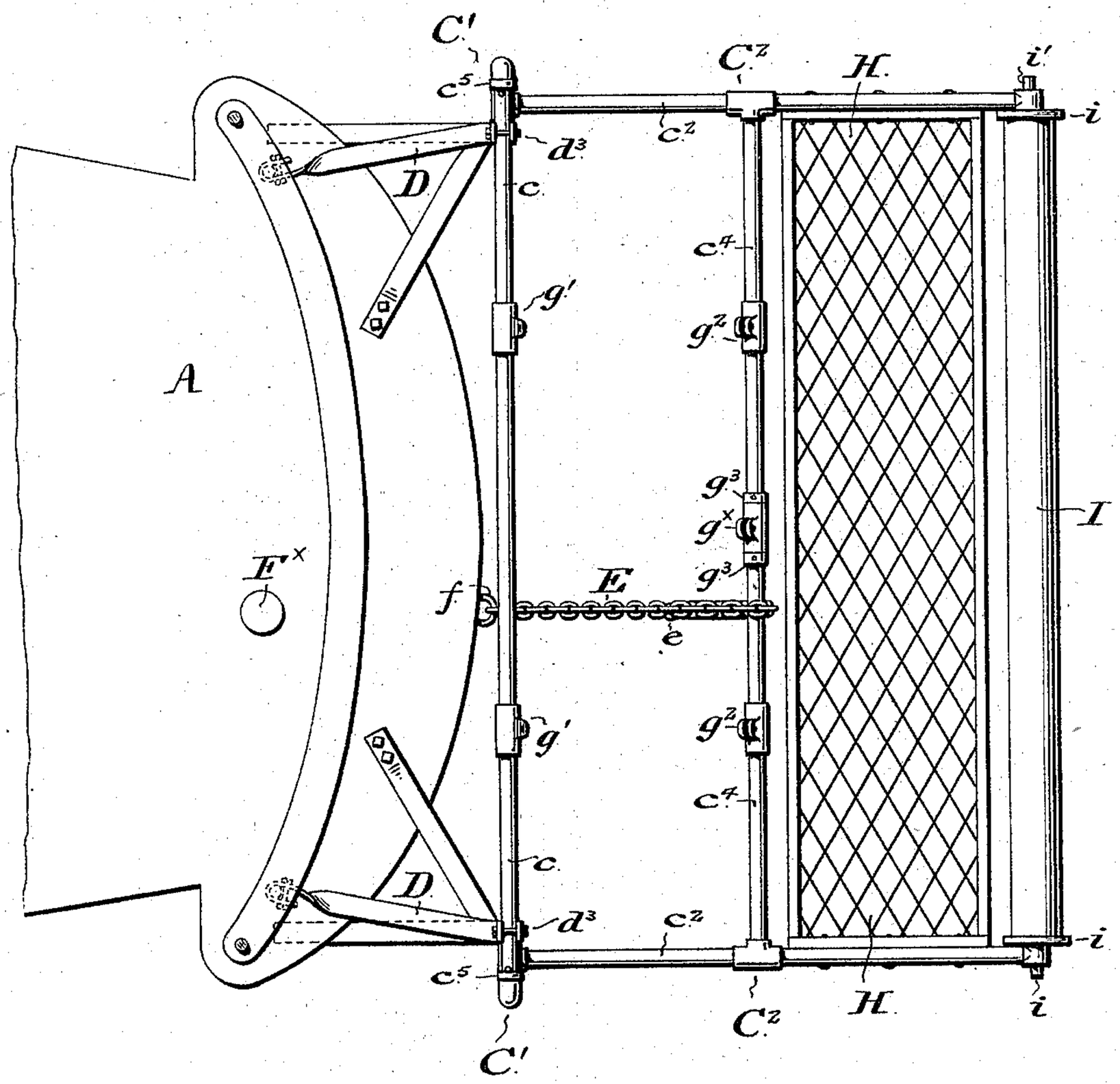
(No Model.) 3 Sheets—Sheet 3.

W. M. WATTS.

CAR FENDER.

No. 574,081. Patented Dec. 29, 1896.

FIG. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM M. WATTS, OF PHILADELPHIA, PENNSYLVANIA.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 574,081, dated December 29, 1896.

Application filed June 6, 1896. Serial No. 594,515. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MEREDITH WATTS, of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Car-Fenders and Tripping Mechanism Therefor, whereof the following is a specification, reference being had to the accompanying drawings.

My present improvements are particularly applicable to fenders of the character set forth in Letters Patent of the United States numbered 551,802 and granted to me on December 24, 1895. The said patent discloses a fender device in which is embodied a series of lazy-tongs levers forming an extensible barrier adapted to screen the space between the car and the surface of the road. The said device also comprises a member termed a "basket," the said term being comprehensive of that portion of the device which is designed to receive a body struck by the fender.

It is the object of my present improvements to provide a car-fender having a substantial distensible framework, to provide a basket conveniently adjustable to different heights above the surface of the road, and, furthermore, to provide means whereby a normally-retained car-fender may be tripped into a position of greater efficiency by an operator upon the car.

I have shown a convenient embodiment of my invention in the accompanying drawings, in which—

Figure 1 is a front elevation of a portion of a car with my fender shown thereon in the position it assumes when tripped. Fig. 2 is a sectional view of the same on the line 2 2 of Fig. 1, the fender being shown in its normal position. Fig. 3 is a plan view of the same, the lever-barrier being omitted. Fig. 4 is an enlarged sectional view of the tripping device shown in Figs. 1, 2, and 3. Fig. 5 is a side elevation of the fender folded and detached from the car.

In the said figures, A is the car, and B the surface of the road.

C is the fender; D, the fender-supporting brackets upon the car A; and E is the chain connecting the fender C with the tripping device F upon the car.

The frame of the fender C is conveniently made in two parts, C′ being the rectangular vertical member and C^2 the horizontal member, hingedly connected to the member C′ upon the lower cross-bar c'. The said connection is made by the side arms c^2 of the member C^2, which terminate in T's c^3, mounted to rock upon the said cross-piece c'.

The frame member C is supported in a vertical plane upon the car by the brackets D, fixed thereon, the said brackets being provided with upper and lower sockets d and d', respectively, adapted to receive the upper and lower cross-bars c and c' of the member C′. The shape of the said sockets (see Fig. 2) permits of the ready removal of the fender from the car. To prevent the accidental displacement of the fender from the said sockets, a keeper-bolt or kindred device may be provided upon each bracket, as shown at d^3 in the said figure.

The barrier G, composed of lazy-tongs levers g, is pivotally secured to the slide-bearings g', mounted upon the upper cross-bar c of the frame member C′, to the similar bearings g^2, and to the bearing $g^\times$, mounted upon the cross-bar c^4 of the frame member C^2. Lateral displacement of the said barrier is prevented by the fixed collars g^3, which confine the bearing $g^\times$ upon the cross-bar c^4 in a central position. The said barrier may, however, freely expand and contract in accordance with the angular relation of the frame members C′ and C^2, the bearings g' and g^2 being mounted to slide upon the respective cross-bars c and c^4 for that purpose. It will be seen that the said barrier completely screens the car front when the frame members C′ and C^2 are distended, as shown in Fig. 1, and may be compactly folded when not in use, as shown in Fig. 5. In like manner the said barrier G automatically adjusts itself to any angular distention of the frame members C′ and C^2.

The most effective operative position of the fender C is of course that of Fig. 1. (Indicated in dotted lines in Fig. 2.) In the said position the frame member C^2 is dropped to the surface of the road, where any body struck by said fender may be most securely supported upon the basket H, which fills the frame C^2 forward of the barrier G. The cy-

lindrical roller I, preferably of elastic material, serves as a buffer for the front edge of the basket H and is further upheld by its end disk wheels *i i*, which are of larger diameter than the said roller. I find, however, that it is expedient to normally retain the fender slightly above the surface of the road, as shown in full lines in Fig. 2, not only that the fender front may clear ordinary obstructions upon the track, but that the car may pass freely around curves in the line of way.

The fender is very effective in its operation in the position last mentioned, but I have provided means, as follows, whereby it may not only be normally retained in the said position, but may also be instantly tripped into its lowest position of contact with the surface of the road at the volition of the operator.

A chain E connects the cross-bar c^4 of the frame member C^2 with the normally stationary ring *f* of the tripping device F. The said ring depends through a hanger f^{10} beneath the front edge of the car-platform.

The angular relation of the frame members C′ and C^2 may be conveniently adjusted by means of the variable length of the said chain E, which is provided with end hooks *e*, by which it may be engaged upon itself, as indicated in Fig. 2.

The ring *f* is connected by a short chain *f′* with one end of a lever f^2. The said lever f^2 is loosely mounted for reciprocation in a housing f^3 and is provided upon its upper side with a detent-lug f^4, adapted to engage a corresponding lug f^5 upon the housing f^3.

The foot-plunger $F^\times$, extending through the platform and normally upheld by the spring $f^\times$, serves as a convenient means by which an operator upon the car-platform may dislodge the lever f^2 from its normal position of engagement, and thus permit the frame member C^2, normally upheld by the chain E, ring *f*, chain *f′*, and lever f^2, to descend to its lowest position, the weight of the fender-frame C^2 and its connected parts being sufficient to overcome the tension of the spring f^6. The spring f^6, connecting the arm f^7 of the lever f^2 to the housing f^3, serves to automatically return the said lever f^2 to its normal position, (shown in Fig. 4,) when the fender-frame C^2 is restored to its normal position, the proportion of the parts just described being such that the cross-bar f^8 of the housing f^3 serves as a fulcrum for the said lever f^2 in the said return movement. The lever f^2 is thus, by the tension of the said spring f^6, simultaneously drawn backward and tilted upward to engage its lug f^4 with the lug f^5 of the housing f^3.

As indicated in Fig. 4, the various parts may be so disposed that the operator may by a single tread occasion the operation of the tripping mechanism and the sounding of a gong J.

To secure the fender in the folded position, (shown in Fig. 5,) I provide upon the top cross-bar *c* of the vertical frame C′ two hooks c^5, one at each side thereof, in position to engage the projecting ends *i′* of the roller-spindle I′. (See Fig. 1.)

I do not desire to limit myself to the precise embodiment of my invention herein set forth, as it is obvious that various changes may be made therein without departing from the spirit of my invention. For instance, I have used the term "chain" in certain of the following claims as comprehensive of any suitable connector between the fender and the tripping device.

I therefore claim—

1. In a car-fender, a depending barrier comprising a series of lazy-tongs levers, a support for the upper edge of the said barrier adapted to be secured upon a car, a basket secured to the lower edge of the said barrier, and a rock-frame for the said basket, substantially as set forth.

2. In a car-fender, an extensible depending barrier comprising a series of lazy-tongs levers, a support for the upper edge of the said barrier adapted to be secured upon a car, a basket secured to the lower edge of the said barrier, a rock-frame for the said basket, means to secure said barrier in a retracted position, and means upon the car whereby the said barrier and basket may be released from the said retracted position, substantially as set forth.

3. In a car-fender, a barrier comprising a series of normally-retracted lazy-tongs levers, a support for the upper edge of the said barrier, a basket supported upon the front of the said barrier, a rock-frame for the said basket, and tripping mechanism whereby the said barrier may be alternately engaged and released, substantially as set forth.

4. In a car-fender, a depending barrier comprising a series of lazy-tongs levers, a support for the upper edge of the said barrier adapted to be secured upon a car, a basket secured to the lower edge of the said barrier, a rock-frame for the said basket, and a roller mounted upon the said rock-frame, substantially as set forth.

5. In a car-fender, a rectangular frame adapted to be vertically mounted upon a car, a rock-frame hingedly connected with said first frame, a barrier comprising a series of lazy-tongs levers, connected at its upper and lower edges respectively, with the first and second frames aforesaid, and means to secure said frames in a predetermined angular relation, substantially as set forth.

6. In a car-fender, a rectangular frame adapted to be vertically mounted upon a car, a rock-frame hingedly connected with the said first frame, a barrier comprising a series of lazy-tongs levers, connected at its upper and lower edges respectively, with the first and second frames aforesaid, and means to secure the said frames in a folded position, substantially as set forth.

7. In a car-fender, a distensible frame comprising two members hingedly connected, a chain by which the said frame members may

be maintained in a predetermined angular relation, tripping mechanism whereby an operator upon the car may release said chain, and means by which the said chain may be automatically reëngaged upon the return of the said frame members to the said predetermined angular relation, substantially as set forth.

8. In a car-fender, a frame comprising two members hingedly connected, a chain by which the said frame members may be maintained in a predetermined angular relation, tripping mechanism whereby an operator upon the car may release said chain, means by which the said chain may be automatically reëngaged upon the return of the said frame members to the said predetermined angular relation, and an alarm operatively connected with the said tripping mechanism, substantially as set forth.

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