

W. HEINIG.
FENDER.

APPLICATION FILED MAY 18, 1911.

Patented June 4, 1912.
2 SHEETS—SHEET 1.

1,028,119.

Fig. 1.

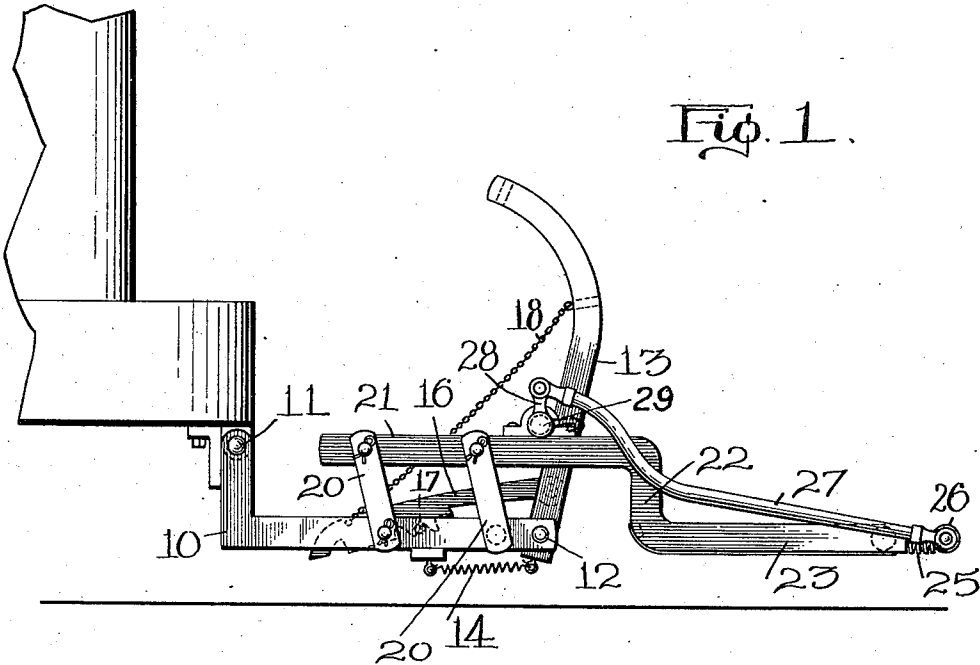
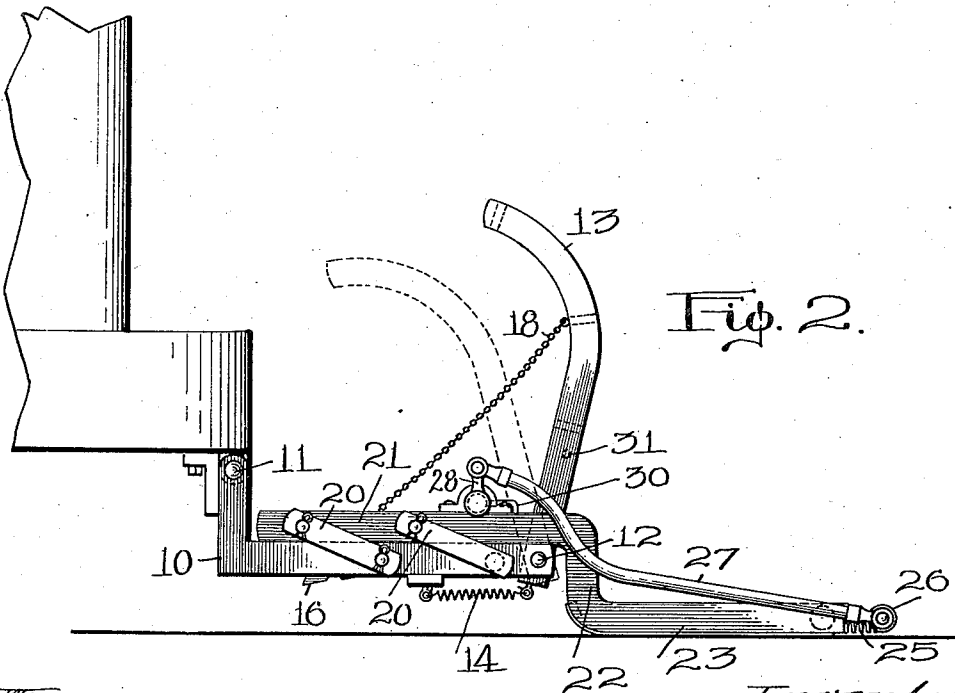


Fig. 2.



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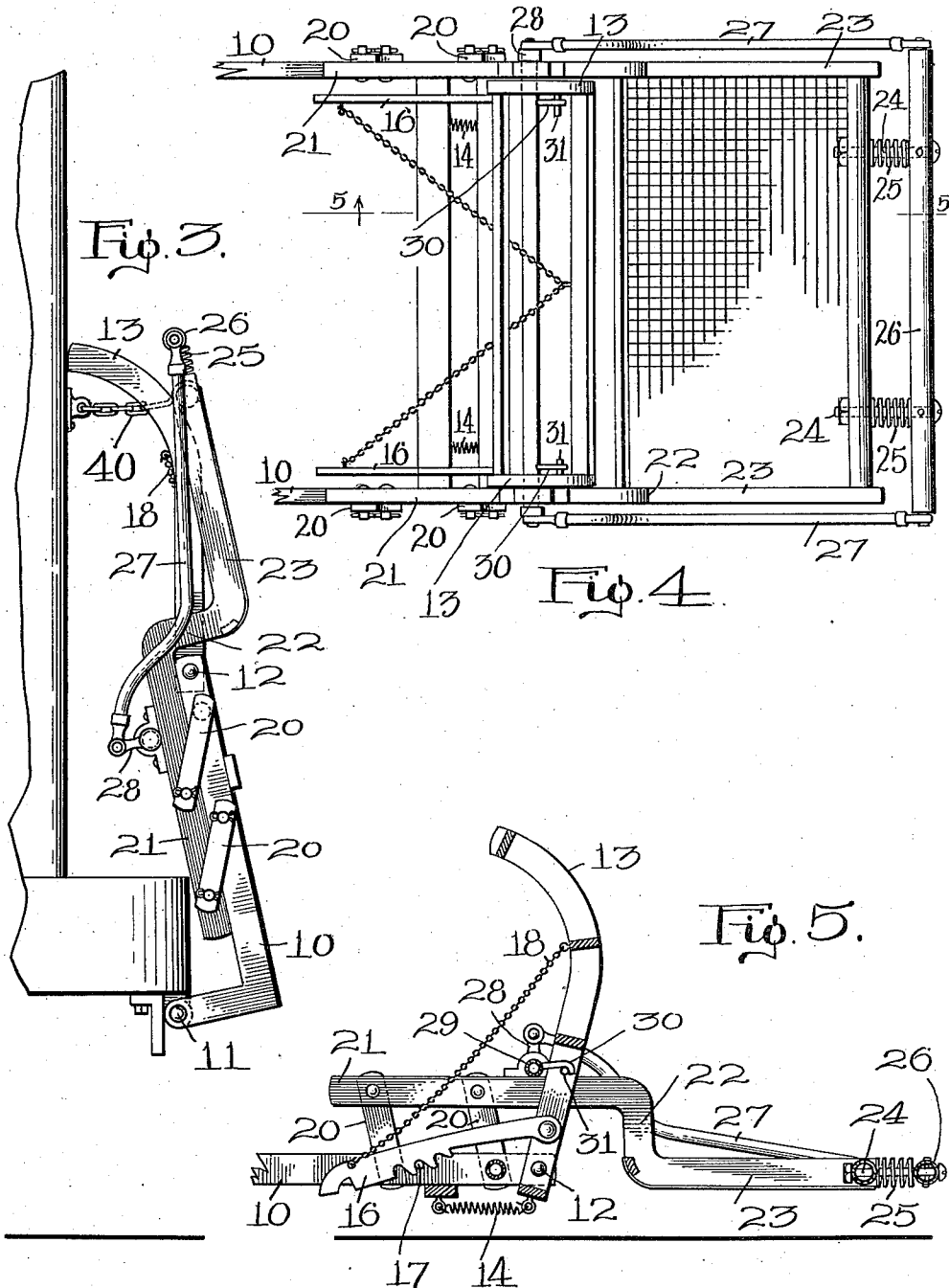
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UNITED STATES PATENT OFFICE.

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FENDER.

1,028,119.

Specification of Letters Patent.

Patented June 4, 1912.

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To all whom it may concern:

Be it known that I, WILLIAM HEINIG, a citizen of the United States, residing at Fitchburg, in the county of Worcester and State of Massachusetts, have invented a new and useful Fender, of which the following is a specification.

This invention relates to a fender which can be used, on street cars, on the motor cars used on elevated roads, subways, and the like, on automobiles, and in similar places.

The principal objects of the invention are to provide a construction consisting of few parts, and those arranged in such a way as not easily to get out of order, which will prevent the drawing of a person on the tracks under the wheels of a car; to provide means whereby when the fender hits a person the fender itself will drop down for that purpose; to provide means whereby at the same time a buffer which is yieldingly mounted in convenient position will be free to receive the shock of a body falling against it, and yet will be yieldingly held so as to break the force of the impact thereof; also to provide a construction having these qualities which can be folded up readily into position to be carried on the front of the car or the like; and to provide one of such a nature that the car cannot be operated along the track or road until the fender is set so that it will perform these operations.

Further objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings in which—

Figure 1 is a side view of a fender constructed in accordance with this invention, set and ready for operation; Fig. 2 is a similar view showing the position of the parts after the fender has struck a person standing in front of it; Fig. 3 is a side view of the fender showing how the parts are folded up out of the way; Fig. 4 is a plan of the device with the parts in the position shown in Fig. 1; and Fig. 5 is a sectional view on the line 5—5 of Fig. 4.

This invention is shown as comprising a comparatively rigid frame 10 constituting a support for the remainder of the main fender. This support is pivoted on an axis 11 on the front of the car or other vehicle to which it is applied. At the front end of the support are pivots 12 about which a

buffer frame 13 is adapted to swing. This frame is connected with these pivots at the bottom thereof. Resilient means, shown in the form of two springs 14, is provided connected with the buffer frame below the pivot for normally swinging the upper end of the buffer frame outwardly, that is forwardly, about the pivot. The buffer frame is shown also as provided with a pair of latches 16 extending backward and adapted to engage pins 17 on the support for limiting the outward or forward swinging motion of the top of the buffer frame. A pair of flexible connections 18 are shown for disengaging the rear ends of these latches. The buffer frame is provided with a lattice work or other covering and is designed to receive the impact of a body thrown into the fender.

Two pairs of links 20 are shown connected with a horizontal frame 21 and are supported by the support 10. These constitute parallel motion connections for supporting the frame 21 which is the fender proper. This frame extends downwardly at 22 and has a horizontal portion 23 in a plane below the plane of the part 21. This part 23 is provided with lattice work or other covering. The forward end of this frame is provided with longitudinal rods 24 surrounded by springs 25 extending out in front and normally holding outwardly the trip rod 26. This rod is connected at both ends by links 27 with arms 28 provided on a horizontal, oscillatable rod 29 carried on the top of the frame 21. This rod is provided with hooks 30 thereon for engaging pins 31 or the like on the buffer frame and holding the fender in the position shown in Fig. 1.

The operation of the device is very simple. With the parts set as shown in Fig. 1, if a person is in front of the vehicle in position to be struck by the fender, the rod 26 will strike him first and ordinarily trip him up and throw him into the fender proper. However during this operation the backward motion of the rod 26 relative to the fender turns the rod 29 and releases the hooks 30 from the pins 31. As these hooks and pins are the only means for keeping the fender up in the position shown in Fig. 1, it will be seen that the fender will immediately drop down to the level of the ground as shown in Fig. 2, so that if there is any tendency for the body to roll under the

fender this will be counteracted instantaneously. Although the springs 14 tend to force the outer end of the buffer frame forward, the latches 16 catch the pins 17 and prevent this motion, but the buffer frame is left in such position that if the body falling into the fender hits the buffer frame it will force it back as shown in dotted lines in Fig. 2, against the springs 14, thus cushioning the blow. This, of course will cause the teeth of the latch 16 to move over the pin 17 and hold the buffer frame substantially in the extreme rearward position to which it is forced by the blow of the body striking it. In this way it will be seen that practically all danger of the fender passing over even the smallest child is avoided, and at the same time the danger of injury to a person falling into the fender is substantially entirely avoided also. It will be observed that the fact that the fender passing along near the ground normally tends to trip up a person engaged by it is taken advantage of for the purpose of securing these results. Another advantage is that when the fender is down but not set, it will touch the ground, thus immediately warning the motor man if he starts the car without setting the fender.

When the fender is not in use it can be dropped to the position shown in full lines in Fig. 2, and then the latches 16 can be disconnected from the pins so that the buffer frame can swing out substantially parallel with the rest of the fender. Then the fender is swung upwardly into the position shown in Fig. 3, and secured at the top by any sort of a fastening device, as by chain and hook 40, for example.

While I have illustrated and described a preferred embodiment of the invention and shown it as applied to an ordinary type of street railway car, I am aware that many modifications can be made therein by any person skilled in the art, and that it can be applied to many other types of vehicles without departing from the scope of the invention as expressed in the claims. Therefore I do not wish to be limited to all the details of construction herein shown and described, or to the particular application of the fender illustrated, but

What I do claim is:—

1. As an article of manufacture, a fender comprising a horizontal support, a horizontal fender frame proper carried by said support and having pairs of parallel links connecting it therewith, said fender frame being adapted to rest on said support, and having a front part extending downwardly therefrom.

2. In a fender, the combination of a pivotally mounted support, a fender frame carried thereby in horizontal position, parallel motion connections between the support

and fender frame, a trip device on the fender frame, means for holding the fender frame in elevated position, and means operated by the trip device for detaching said holding means and permitting the fender frame to drop.

3. In a fender, the combination of a pivotally mounted support, a fender frame carried thereby in horizontal position, parallel motion connections between the support and fender frame, a trip device on the fender frame, a buffer frame extending upwardly from the support, means on the fender frame adapted to engage the buffer frame for holding the fender frame in elevated position, and means operated by the trip device for detaching said holding means and permitting the fender frame to drop.

4. In a fender, the combination of a support mounted to swing on a horizontal axis, a buffer frame pivoted at the forward end of the support and normally extending upwardly therefrom, resilient means for drawing the lower end of the buffer frame in toward the body of the support, means for limiting this motion of the buffer frame, said limiting means being adapted to be thrown out of operation, whereby the resilient means will tend to swing the buffer frame into position parallel with the support, and a fender frame supported on the support and adapted to be held in elevated position by the buffer frame when the buffer frame is upright, whereby when the holding means is disconnected the whole device can be swung about said horizontal axis into a substantially vertical position.

5. In a fender, the combination of a support mounted to swing on a horizontal axis, a buffer frame pivoted at the forward end of the support and normally extending upwardly therefrom, resilient means for drawing the lower end of the buffer frame in toward the body of the support, and means for limiting this motion of the buffer frame, said limiting means being adapted to be thrown out of operation, whereby the resilient means will swing the buffer frame into position parallel with the support.

6. In a fender, the combination of a supporting frame, a buffer frame mounted to swing on a pivot near the end of said frame and near the bottom of the buffer frame, springs connected near the bottom of the buffer frame below the pivot for drawing the lower end thereof inwardly toward the body of the supporting frame, latches connected with the buffer frame for limiting the inward motion of the bottom thereof about its pivot, a horizontal fender frame connected with said supporting frame by parallel motion connections and adapted to be moved thereon to an elevated position, a rod mounted on the fender frame behind the buffer frame and having latches thereon for

engaging the buffer frame in vertical position, said rod being adapted to be turned on its axis, and a spring-pressed rod on the front of the fender frame having connections with the first named rod for swinging the latter when the spring-pressed rod is actuated to unlatch it from the buffer frame allowing the fender frame to drop.

7. In a fender, the combination with a spring-pressed buffer frame, of means for holding the buffer frame in fixed position, a trip, and a fender frame on which said trip device is located adapted to be held in elevated position by said trip actuated means, whereby when the trip device is operated the fender frame will be caused to drop.

8. In a fender, the combination with a pivoted upright buffer frame, yielding means for normally forcing the upper end forward, movable means for preventing the forward motion of the buffer frame, a trip device for engaging said buffer frame, a fender frame, and means whereby when said trip device is actuated the fender frame will drop.

9. In a fender, the combination of a sup-

porting frame, a buffer frame mounted to swing on a pivot near the end of said supporting frame and near the bottom of the buffer frame, springs connected near the bottom of the buffer frame below the pivot for drawing the lower end thereof inwardly toward the body of the supporting frame, latches adapted to be connected with the buffer frame, and a fender adapted to be held up by said latches.

10. As an article of manufacture, a fender comprising a support, a buffer frame having a netting thereon pivoted on its lower end in front of said support and having springs for normally pulling its lower end inwardly about the pivots, and means for holding it in vertical position.

In testimony whereof I have hereunto set my hand, in the presence of subscribing witnesses.

WILLIAM HEINIG.

Witnesses:

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CARL R. GROEPPNER,
ALBERT E. FAY,
C. FORREST WESSON.