

M. L. KEIZUR.

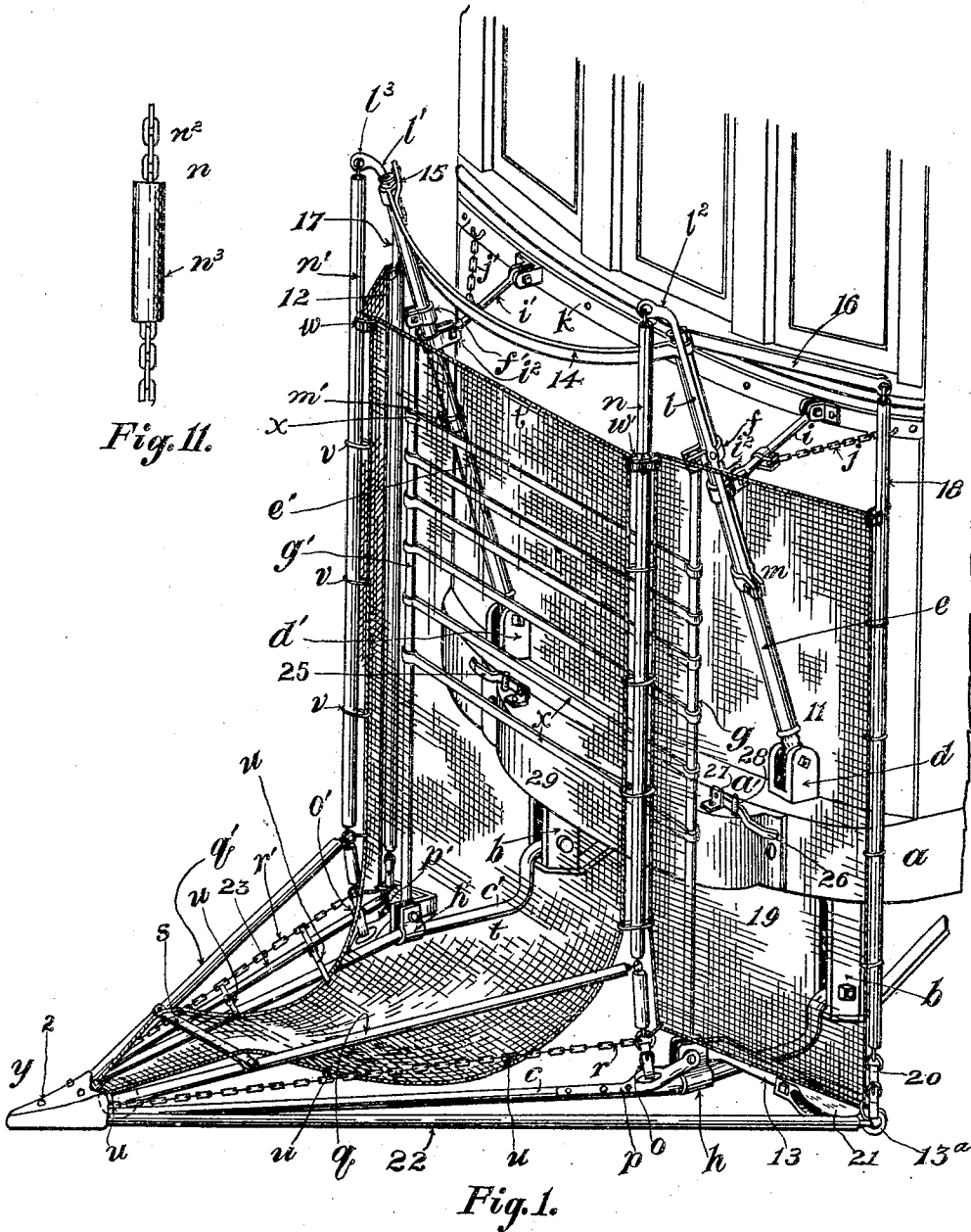
CAR FENDER.

APPLICATION FILED DEC. 30, 1907.

939,915.

Patented Nov. 9, 1909.

4 SHEETS—SHEET 1.



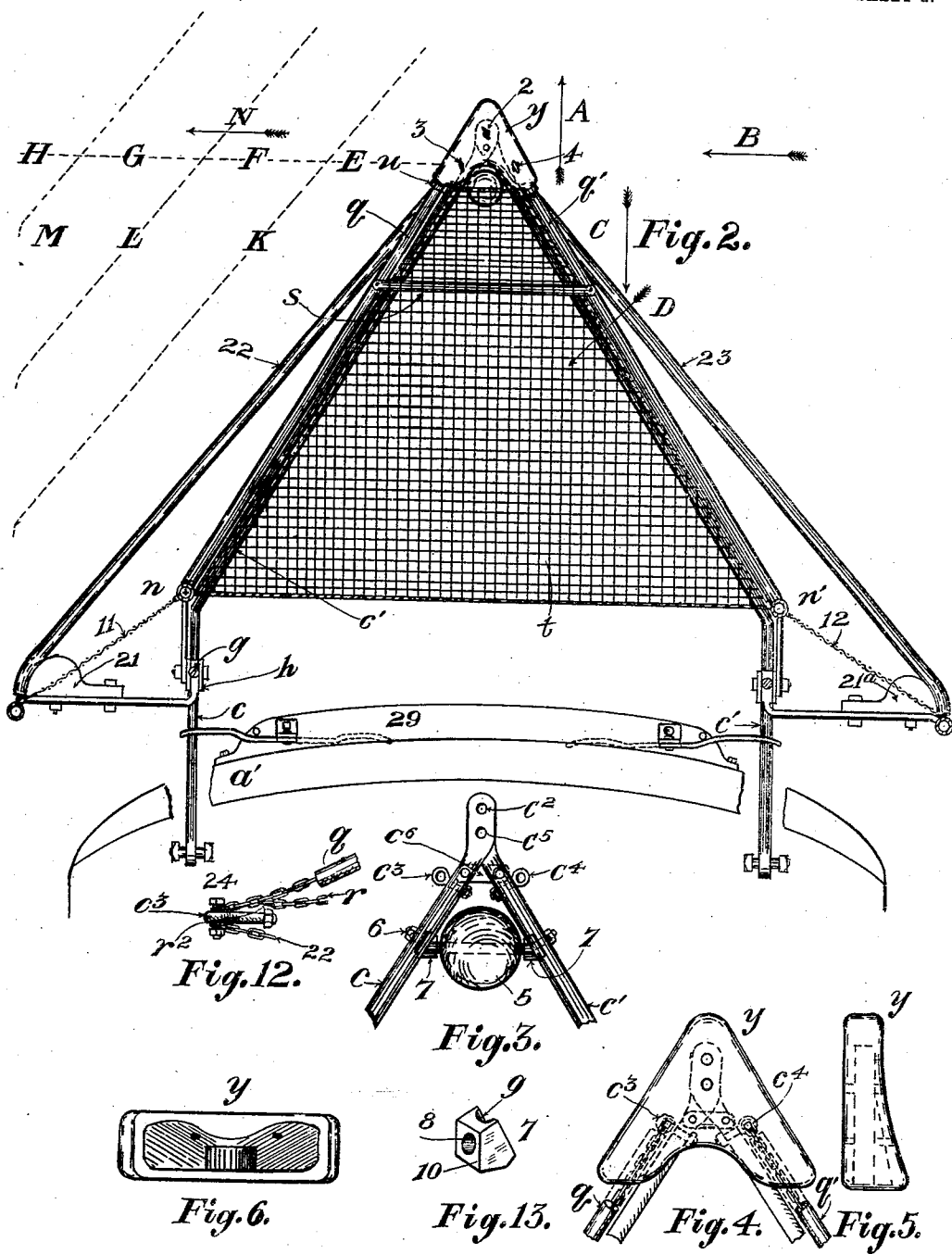
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INVENTOR:
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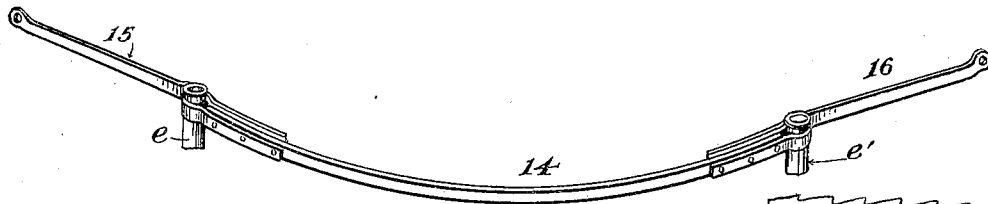


Fig. 10.

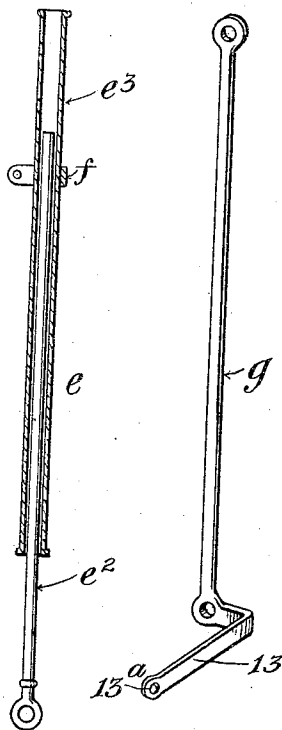


Fig. 7.

Fig. 8.

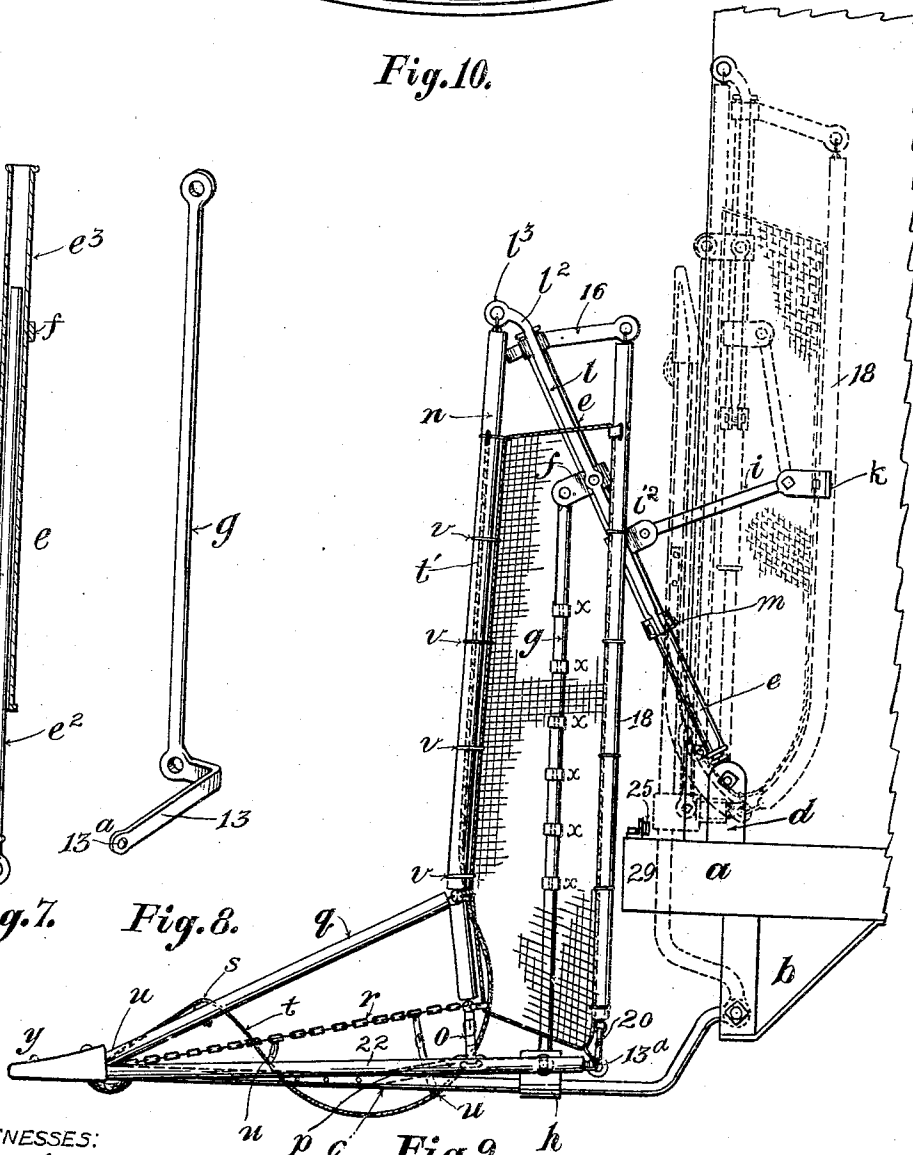


Fig. 9.

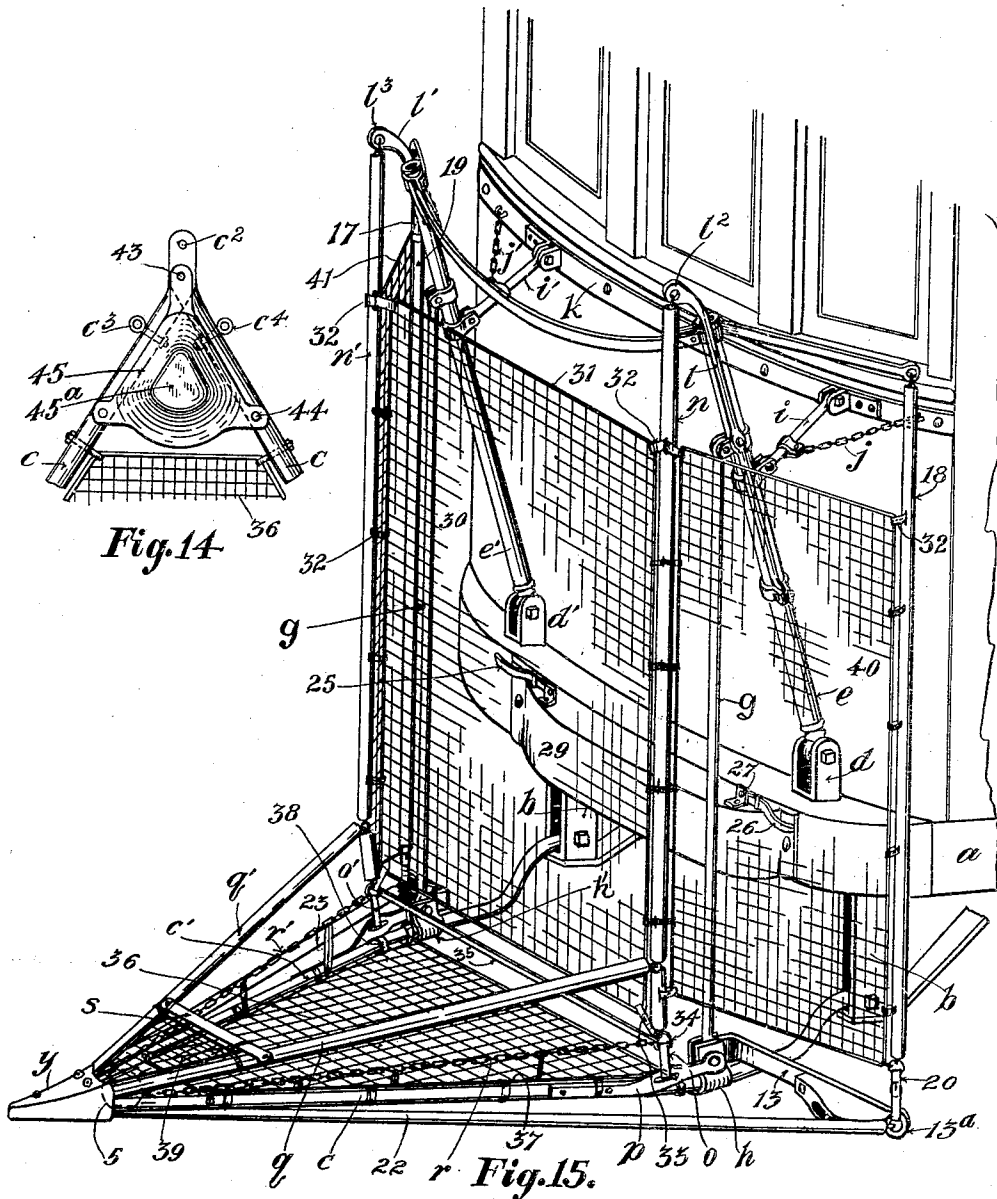
WITNESSES:
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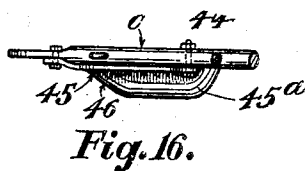
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UNITED STATES PATENT OFFICE.

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CAR-FENDER.

939,915.

Specification of Letters Patent.

Patented Nov. 9, 1909.

Application filed December 30, 1907. Serial No. 408,705.

To all whom it may concern:

Be it known that I, MARCUS L. KEIZUR, a citizen of the United States, and a resident of Baker City, in the county of Baker and State of Oregon, have invented a new and useful Improvement in Car-Fenders, of which the following is a specification, reference being had to the accompanying drawings as constituting a part thereof.

In all car fenders, heretofore in use, exists an inherent defect in this, that they have various rigid and unyielding parts, which are so located as to be apt to strike the person run down and deal as hard a blow and cause as much injury as if the person were struck by the car itself; and furthermore, in my judgment, no effective, practical means are provided for holding the person run down on the fender until it can be brought to a standstill, and, therefore there is great danger of the person run down, and who has fallen on the carrier part of the fender, being thrown out by the rebound, or falling off while stunned from the effect of the impact; and furthermore, all effective fenders should embody practical means arranged to prevent the person run down from striking the outer corners of the car, which of course are just as liable to inflict bodily harm as the central portion of the car-end.

My invention, therefore, has for its object, first, to obtain a fender which has absolutely no rigid and unyielding parts, so located as to strike any vital part of the person run down; second: to obtain a fender so arranged as to safely and effectively hold and carry the person caught in a yielding life-net, until the car can be brought to a standstill; third: to provide effective and yielding means arranged to push or shear, as it were, the person away from the corners of the car, when such person is standing too far out to be caught and carried along by the fender proper; fourth: to provide a fender that, in running into a person will inflict only a sheering blow instead of, and of less force than a direct blow, and which, in tripping the person shall cause him to fall into the life-net or basket-carrier of my fender; fifth: to so arrange the fender that the person, in danger of being run down, shall still have an opportunity to step aside and avoid collision, though the front end of the

fender has already passed the point at which such person is standing; sixth: to so arrange my fender that the projecting part will safely pass around a curved section of the track, without running into another car approaching on the other track, or impinging on a guard rail, telegraph pole, or other close object; seventh: to provide a fender, which, in addition to the features enumerated shall also be conveniently and readily lifted and folded up against the car, out of the way, when required.

I attain my object by the arrangement and combination of the parts illustrated in the accompanying drawings.

In such drawings, Figure 1 shows my improved fender, in perspective, as attached to the car, the life-net being broken away in parts to more clearly disclose the frame work and other parts; Fig. 2 is a plan or top view of the carrier part of my fender, showing more particularly the details of construction of the front end or nose of my fender, also showing the relative position of the sheering resilient leaders; Fig. 3 is a view of the extreme front end of the frame of my fender, showing the position of the single globular wheel, and the means provided for attaching the various parts to said front end; Figs. 4, 5, and 6 are respectively details, showing the top, side and back end, and the means provided for fastening said hood in place; these details agreeing in measurement with Fig. 3; Figs. 7 and 8 are details (drawn on slightly larger scale) of the frame work, as more fully described in the body of this specification; Fig. 9 is a side elevation of my fender in its active position; and the dotted lines in this figure show my fender in its inactive or uplifted position; Fig. 10 is a detail of the parts spacing the upper portion of the frame work of my fender and serving to rigidly support the sheering wings of my fender; Figs. 11, 12 and 13 are details of construction, fully described in the body of the specification; Fig. 14 is an inverted plan or bottom view of a modified means for supporting the tip end of basket-carrier against contact with the road-surface; Fig. 15 is a perspective view of my fender, in general aspects similar to the view thereof shown

in Fig. 1, but illustrating the arrangement of the parts so as to substitute wire-netting as a fender-apron and closure for the bottom of the basket-carrier; and Fig. 16 is a partial side elevation of the modified means shown in Fig. 14, for supporting the tip end of the basket-carrier above the road-surface.

The letters and numerals designate the parts referred to.

To the under part, at the ends of the car-body, at both sides, are fastened pendent brackets b, b' , (see Figs. 1 and 9). In the brackets are hinged the rear ends of the rods c, c' . The latter extend parallel for part of their length and then are bent together so as to come to a point at their forward lapping extremities, as more clearly seen in Figs. 2 and 3. The overlapping extremities of the frame-members c, c' are riveted together with a rivet c^5 .

The rods c, c' constitute the bottom members of a V-shaped pilot-like frame. To support said frame part in a position substantially parallel to the road-bed, I provide the car-sill a' with hinge-ears d, d' , in which are hinged the lower ends of the extensible supporting arms e, e' . The supporting arms e, e' are necessarily made of two telescoping members, consisting of a rod e^2 and pipe e^3 , as shown in Fig. 7, so as to enable said arms to lengthen and shorten, as required to accommodate itself to the active and inactive positions of my fender.

On the sleeve members e^3 of the arms e, e' are fastened clamps f, f' , from which are hingedly supported the upper ends of pendent rods g, g' , the lower ends of which rods are fastened by means of clamps h, h' to the said bottom frame-members c, c' ; and said rods g, g' constitute the main supports of said frame-members. By reason of the clamps f, f' being movable on the arms e, e' , the supporting rods g, g' and therewith the frame-members c, c' may be adjusted as required. The arms e, e' are held in their oblique position by arms i, i' , which are hingedly fastened to the front of the car, and are hingedly and adjustably fastened to the arms e, e' by means of clamps i^2 , as illustrated in Figs. 1 and 9. The arms i, i' are held against lateral motion by stay-chains j, j' . Since the arms i, i' and stay-chains j, j' , as shown, are necessarily fastened to that part of the car-end having usually but little body or stock, I have provided for the circumstances by reinforcing that portion of the car-end with an exterior metal bar k . The bar k being made to conform to the curves of the car-end and securely fastened in place to the more substantial frame portions of the car-end.

To the clamps f, f' are bolted rods l, l' , the upper extremities of which are curved somewhat forward and provided with an eye, so as to bring said eye portions for-

ward of the supporting rods g, g' . The lower ends of the rods l, l' are fastened to clamps m, m' , the latter serving as additional supporting means for said rods l, l' . Of course, in the practical construction of my fender, some of the details herein described may be varied in accordance with the ideas of the builders.

From the curved ends l^2, l^3 , of the rods l, l' are suspended cables n, n' , consisting of chain lengths n^2 , incased in a casing of resilient fabric n^3 , (see Fig. 11), such as hose for example, for the purpose of covering the hard metal links of the chain and preventing the same bruising the person falling against my fender. The lower ends of the cables n, n' are adjustably fastened by straps o, o' to the ears p, p' , rigidly fastened to the rods c, c' . The purpose of the straps o, o' is to provide a fastening means which may be shortened or lengthened so as to thereby adjust the tension of the cables n, n' , which also suspend the rods or frame-members c, c' , in this respect supplementing the rods g, g' . At some distance above the frame-members c, c' are fastened cables q, q' , and intermediate of said parts also chains or cables r, r' , the cables q, q' and r, r' constituting resilient sides of the projecting basket-part of my fender, the rear ends of said cables q, q' and r, r' being fastened to the suspending cables n, n' , and the forward ends of said cables being fastened to the forward end of the frame-members c, c' by the following means:

The rods c, c' are provided with eyes c^3, c^4 , and to said eyes are fastened the forward extremities of the cables q, q' by a bolt and nut 24; and the forward extremities of the chains r, r' are fastened at r^2 to said cables q, q' , as illustrated in Fig. 12. Fastened transversely between the cables q, q' is a bar s . To the tip of the frame of my fender is fastened the life-net t . The fastening in place of the forward end of the life-net is accomplished by a series of straps u . This part of the life-net being arranged to serve as a basket, of which the cables q, q' and r, r' constitute the side closures, and the bar s the front closure. The upright part of the life-net t' is fastened to the suspending cables n, n' by a series of loops v , and the upper ends of the net are fastened by straps w, w' . The straps w, w' may be inserted through links of the chains comprised in the cables n, n' , the outer covering of said cables being cut away or perforated for such purpose.

The life-net, in its lower part, constitutes a basket-carrier t , and in its upper part a vertical fending apron t' , as shown in Figs. 1 and 9, and said life-net is made of rope netting; but any serviceable material may be used in place of netting.

It is to be noted that the suspending ca-

bles n, n' are located in advance of and spaced from the supporting rods g, g' , and that the tension of said cables n, n' incidentally regulates the transverse tension of the upright part of the life-net. It is further to be noted that the bottom of the life-net is so arranged over the transverse bar as to bag in basket-like form between the side frame-members q, q', r, r' and e, e' , as already mentioned.

The tip of the pilot-like projecting part of my fender is covered by a yielding hood y , secured in place by any convenient means, the idea being to make this part of my fender just as yielding as possible and thus reduce the blow thereby delivered against the person struck by that part of the fender point. An interior view of the hood y is shown in Fig. 6.

As a means for fastening the hood y in place, I prefer to use a key 2, inserted through registering perforations of the hood, and a perforation c^2 in the extremities of the bar c, c' and supplemental keys 3, 4, inserted through perforations of the hood y , and underlying links of the cables q, q' .

The tension of the upright portion t' of my fender is supplemented by a series of transverse tension-straps or bands x , of any suitable yielding material, and fastened at their ends to the supporting rods g, g' , the purpose thereof being to prevent the person centrally falling against said upright portion t' of the life-net, by any possibility striking against the sill or other rigid part of the end of the car-body.

To allow the projecting part of my fender to be positioned closely to the road-bed, but yet prevent the tip of the fender striking any obstructions in the road-bed, I journal a globular wheel 5, on an axle conveniently made of a rod 6, the ends of which are bent and inserted through perforations therefor made in the frame-members c, c' , as shown in Fig. 3. The projecting ends of the rod 6 are threaded and nuts fastened thereon. To hold the globular wheel 5 in central position, I find it convenient to provide washers 7, a detail of which is shown in Fig. 13; having an aperture 8 for the rod 6 and concavity 9 to adapt the washer to straddle the rods c, c' ; the wear faces 10 abutting against the sides of the wheel 5. The wheel 5 is to be placed on its axle-rod 6, of course, before the ends of the rod are bent.

The foregoing description of my fender is practically complete. But the described construction may be effectively supplemented by lateral sheering wings 11, 12, the purpose of which is to cover the exposed corners of the car, in short, to sheer the person struck obliquely away from the corner of the car, and prevent injury from such occurrence.

When lateral sheering wings are to be used, the supporting rods g, g' are made

with bent rigid lateral extensions 13, as shown in Fig. 8. To the upper ends of the arms e, e' is fastened a curved bar 14, and to the ends of such bar are rigidly secured lateral extensions 15, 16. See Figs. 1, 9, and 10. From the outer ends of the arms 15, 16 are suspended cables 17, 18, the lower ends of which are fastened by adjustable straps 20 to the eyes 13^a of the lateral extensions 13 of the rods g, g' . Between the cables n, n' and the cables 17, 18 are pendently supported sheets or netting 19 constituting the body of such sheering wings. The netting 19 of the wings 11, 12 is stretched taut both laterally and vertically between the cables n and 18, and n' and 17, by any convenient fastening means. It is to be noted that the upper rigid supporting parts of the arms e, e' , the bar 14 fastened thereto, and the lateral extensions 15, 16 of said bar 14, are all located at such height as to be above the head of an ordinarily tall man. Therefore the last described rigid parts cannot inflict any blow on the person run down.

In most cases I prefer that the sheering wings be made substantially of the proportions illustrated with regard to the fender proper; but it is optional with the builder to make them of any dimensions, or omit them altogether, as it will readily be seen that the fender itself may also be made wide enough to cover the entire width of the car, where the construction of the car and other conditions would make it more convenient so to do, according to the ideas of the builder.

On the outer ends of the lateral extensions 13 of the rods g, g' are fastened blocks or cushions 21, 21^a, and to the eyes 13^a of said lateral extensions 13 are fastened the inner ends of obliquely positioned sheering strands 22, 23; the inner ends of which strands are led around said blocks 21, 21^a, the outer ends of which are fastened to the tip of the pilot frame. Such fastening is accomplished by means of bolts 24 inserted through the eye-bolts c^3, c^4 . The sheering strands 22, 23 are secured by the bolts 24, as shown in Fig. 12.

The purpose of the sheering strands is to guard the lower limbs of the person run into against being struck by the rigid frame-members or the rods c, c' .

In Fig. 9 is shown how the parts of my fender operate and accommodate themselves to allow my fender to be raised to its uplifted, inactive position. And it will be seen that when uplifted the whole thereof is positioned out of the way above the sill of the car.

When adjusted to its inactive position, my fender is latched in place by latch-bars 25, 26, hinged to ears 27, and braced by pins 28. The latch-bars are lifted and dropped back so as to engage and lock with the frame rods c, c' , after the fender has been arranged

in its uplifted position. To prevent the fenders of two coupled or abutting cars coming in contact with each other, I prefer to fasten to the cars a sill or auxiliary bumper 29.

I have now fully described the construction of my fender in all its parts. Next, I believe it well to briefly call attention to its advantages, over the square or semi-circular front type of fenders.

Having reference to Fig. 2, let the arrow A represent the direction in which the car is moving, B the direction in which the person in danger is moving, and C the point at which collision occurs. The arrow D will then represent, approximately, the direction in which the person run down will fall into the basket-carrier of my fender. The feet being swept outward by a glancing blow, and causing the body to fall over, inward, onto the basket-carrier. For, in any case, the lower limbs of the person struck would be gripped, as it were, and carried along by the frictional contact of one of the sheering strands 22, 23 striking against the feet, and thus, obviously, the body itself would be forcibly inclined over the basket part of my fender. Furthermore, the fender continues to move forwardly with the car, and therefore, during the interval the body is falling, the basket part of my fender becomes so positioned as to insure that it will catch the falling person. On the other hand, if the person in danger stands too far to one side to be caught by the basket, then he is simply brushed aside, as it were, by the resilient sheering strands 22, 23 and the sheering wings 11, 12.

The pilot-like construction of my fender also allows the person in danger a better chance of escape from imminent collision than would the square or semi-circular front type of fenders. For example, assuming a person to be walking quickly along the line E, F, G, H in the direction indicated by the arrow N, then presuming the person to move from E to F while the side of the carrier part of my fender is moving to the position indicated by dotted line K and that the person then moves from F to G, while the fender is moving to the dotted line L, then lastly the person continuing such rate of speed would gain the point H and wholly escape, while the fender was yet in the position indicated by the dotted line M. But if over taken and struck by one of the sheering strands 22, he will either be thrown clear of the track, or else backward into the basket-part of my fender. Whereas, in the case of a fender of the square or semi-circular front type, the person standing at E must, perforce of the situation, be run down the very next instant, presuming the car to continue under head-way. It will therefore be seen that my fender differs essentially

from all others of the V-shaped type in this: My fender is designed to catch and carry along the person tripped up, instead of merely hurling him aside.

The modification view, Fig. 15, as already mentioned, in its general aspect is substantially the same in all particulars of construction, except as to the material used, and the arrangement of the vertical fending apron and the closure for the bottom of the basket-carrier. In this case the material used for said purposes is wire netting, and since the same has inherently some degree of rigidity, which would interfere with the folding up of my fender, when arranged in its out-of-the-way or inactive position, it is necessary to make a break between the base of the vertical fending apron and the inner end of the bottom closure for the basket-carrier. The vertical fending apron 30 comprises an outer frame 31, and an interior closure therefor of common wire netting of suitable fineness of mesh and resiliency. The apron 30 is fastened at its lateral ends to the pendent flexible supporting strands n, n' , by straps 32, and its lower end is securely adjusted by straps 33, passing through links 34. Transversely stretched between the links 34 is a strap 35. To close the space intermediate the bottom end of the vertical fending apron 30 and the bottom closure 36 of the basket-carrier. Said bottom closure is made of wire netting of a suitable grade. It has a marginal reinforcement or frame of spring wire 37, and secured in place between the frame-members c, c' by a series of straps 38, made of leather or metal. In this connection, it is to be noted of course that the closure for the bottom of the basket-carrier of my fender, when constructed as illustrated in Fig. 15 and just described, would be of a taut character instead of the loose and bagging character shown in Fig. 1. The transverse bar s , shown in Fig. 1, is necessarily of the construction shown in Fig. 15, to give the same effect as above described concerning the functions of said bar s , and I consider it a good plan to cover the space forward of said bar and between the resilient side members g, g' and the nose y by a small piece of wire netting, or like suitable material 39. The lateral fending wings 40, 41 are duplicates of the fending wings 11, 12, (seen in Fig. 1) except that these wings, as shown in Fig. 15, are made of the same construction as described concerning the vertical fending apron 30, except that the material chosen out of which to construct the body of the fending wings 40, 41, if the same are to be made of wire netting or cloth must have a fineness of mesh sufficient to prevent fingers or any projecting part of the face from being inserted in the meshes of the material, which accident might have serious results.

The sheering aprons 40, 41 are fastened

between the pendent flexible strands n , n' and 17, 18, by straps 32. In the use of the vertical fending apron 30, constructed as shown in Fig. 15, the reinforcing back-stays or straps a , seen in Fig. 1 as fastened transversely between the pendent rigid rods g , g' are not necessary, since the greater inflexibility of the material out of which said vertical fending apron 30 is constructed would itself insure that the person run down would not by any possibility have violent contact with the end of the car.

In specifying wire netting, or in fact in specifying any particular material throughout the foregoing description of my invention, I do not want to be understood as having chosen such material to the exclusion of any other, which might answer the same purpose. All parts not above specifically referred to concerning the construction shown in Fig. 15, it is to be understood are the same as like parts seen in the other views of my invention, and described in the general description thereof above given.

Where wire netting is used, the described telescoping construction of the arms e , e' and suspending means thereby supported will serve to keep the upright or vertical section 30 of the netting in upright position and thus avoid the kinking thereof; when adjusting my fender to its inactive position.

In Figs. 14 and 16 are shown an inverted plan and a side elevation of the tip or front end of my basket-carrier, for the purpose of illustrating a modified means for supporting said tip-end of the basket-carrier against occasional contact with protruding portions or inequalities on the road-surface. The means in said figure shown as provided consist of a plate 45 adapted to be fastened by bolts 43, 44, and having a shoe or downwardly protruding bearing part 45^a, which in case of occasional contact with the road-surface would lift the tip-end of the basket-carrier over the obstruction. The bottom of the shoe 45 is convexed so as to better adapt the sides 46 to climb over elevated inequalities or obstructions in the road-surface, forward, backward or sidewise.

The shoe 45, which is preferably made of chilled iron or steel, like the globular wheel 5, referred to in the above description of my invention, also prevents unnecessary wear of the nose y .

In this connection it should be noted that I am able to run my fender very close to the ground by reason of my providing resilient side-closure members g , g' , and the transverse bar s , all so arranged as to hold the feet of the person run down, up off the ground, when the person has fallen into the basket-carrier of my fender. In other words, there is no danger of the person's legs being doubled back under the frame and thus injured, notwithstanding the basket-

carrier of my fender be run very near to the road-surface.

I finally desire to direct special attention to the positioning of the vertical apron t' , in conjunction with the sheering wings 11, 12, (see Fig. 1,) and the vertical apron 30, in similar conjunction with the sheering wings 40, 41 (see Fig. 15), all being secured at proper tension to the resilient cables, as described, and thus providing an effectual resilient covering spaced apart from and in advance of the upper frame work of my fender, and the car body.

I further desire to direct attention to the relative positioning of the resilient cables g , g' and 22, 23 (see Figs. 1 and 15), said cables being spaced from the V-shaped frame-members c , c' and being at the proper tension, and therefore providing effectual resilient guards against either the body or the limbs coming in contact with the rigid frame of the carrier part of my fender. Hence it is obvious that there is absolutely no rigid and unyielding part so located as to strike any vital part of the person run down.

I claim:

1. The combination with a car, of a V-shaped basket-like carrier hinged at its inner end to the car and comprising converging frame-members, and a yielding bottom covering therefor, means supporting said carrier in extended position from the car, such means including pendent flexible members, yielding strands stretched taut between said pendent members and the tip of said carrier, said strands being arranged to constitute side inclosures for said carrier, spaced apart from and above the underlying outer rigid frame-members of said carrier, and serving also as yielding guards for said rigid frame-members.

2. The combination with a car, of a V-shaped basket-like carrier hinged at its inner end to the car and comprising converging frame-members, and a yielding bottom covering therefor, means supporting said carrier in extended position from the car, such means including pendent flexible members, yielding strands stretched taut between said pendent members and the tip of said carrier, said strands being arranged to constitute side inclosures for said carrier, spaced apart from and above the underlying outer rigid frame-members of said carrier, and serving also as yielding guards for said rigid frame-members, a bar transversely fastened on said side-inclosures of said carrier near the forward end of and providing a closure for said carrier.

3. The combination with a car, of a V-shaped basket-like carrier hinged at its inner end to the car and comprising converging frame-members, and a yielding bottom covering therefor, means supporting said carrier in extended position from the car,

such means including pendent flexible members, yielding strands stretched taut between said pendent members and the tip of said carrier, said strands being arranged to constitute side inclosures for said carrier, spaced apart from and positioned above the underlying outer rigid frame-members of said carrier, and serving also as yielding guards for said rigid frame-members, and yielding sheering guards arranged to extend taut along the sides of said carrier laterally spaced therefrom.

4. The combination with a car, of a V-shaped basket-like carrier hinged at its inner end to the car and comprising converging frame-members and a yielding bottom covering therefor, extensible arms each comprising two telescoping members hingedly supported by the car, means supporting said arms in oblique position, non-flexible supporting members hingedly suspended from said extensible arms, the lower ends of said non flexible members being jointly connected to and normally supporting said V-shaped carrier in extended position, flexible strands pendent from said extensible arms and fastened at their lower ends to the side frame-members of said carrier, said flexible pendent strands being arranged in advance of and spaced from said non-flexible frame-supporting members, means whereby said flexible pendent strands are maintained at a tension, yielding strands stretched taut between said pendent members and the tip of said carrier, said strands being arranged to constitute side inclosures for said carrier spaced apart from and positioned above the underlying outer rigid frame-members of said carrier and serving also as yielding guards for said rigid frame-members, yielding sheering guards arranged to extend taut along the sides of said carrier and laterally spaced therefrom, a bar transversely fastened on said side-inclosures of said carrier near the forward end of and providing a front end closure for said carrier, and a transversely arranged and vertically extending apron secured at its sides to said flexible pendent strands.

5. The combination with a car, of a V-shaped basket-like carrier hinged at its inner end to the car and comprising converging frame-members and a yielding bottom covering therefor, extensible arms each comprising two telescoping members hingedly supported by the car, means supporting said arms in oblique position, non-flexible supporting members hingedly suspended from said extensible arms, the lower ends of said non flexible members being jointly connected to and normally supporting said V-shaped carrier in extended position, flexible strands pendent from said extensible arms and fastened at their lower ends to the side frame-members of said carrier, said

flexible pendent strands being arranged in advance of and spaced from said non-flexible frame-supporting members, and means whereby said flexible pendent strands are maintained at a tension, yielding strands stretched taut between said pendent members and the tip of said carrier, said strands being arranged to constitute side inclosures for said carrier spaced apart from and positioned above the underlying outer rigid frame-members of said carrier and serving also as yielding guards for said rigid frame-members, yielding sheering guards arranged to extend taut along the sides of said carrier and laterally spaced therefrom, a bar transversely fastened on said side-inclosures of said carrier near the forward end of and providing a front end closure for said carrier, and a transversely arranged vertically extending apron secured at its sides to said flexible pendent strands, and vertical sheering wings comprising a frame and a yielding covering therefor, which sheering wings are arranged at a sheering angle in advance of and spaced from the corners of the car.

6. The combination with a car, of a V-shaped basket-like carrier hinged at its inner end to the car and comprising converging frame-members and a yielding bottom covering therefor, extensible arms each comprising two telescoping members hingedly supported by the car, means supporting said arms in oblique position, non-flexible supporting members hingedly suspended from said extensible arms, the lower ends of said non flexible members being jointly connected to and normally supporting said V-shaped carrier in extended position, flexible strands pendent from said extensible arms and fastened at their lower ends to the side frame-members of said carrier, said flexible pendent strands being arranged in advance of and spaced from said non-flexible frame-supporting members, and means whereby said flexible pendent strands are maintained at a tension, yielding strands stretched taut between said pendent members and the tip of said carrier, said strands being arranged to constitute side inclosures for said carrier spaced apart from and positioned above the underlying outer rigid frame-members of said carrier and serving also as yielding guards for said rigid frame-members, yielding sheering guards arranged to extend taut along the sides of said carrier and laterally spaced therefrom, a bar transversely fastened on said side-inclosures of said carrier near the forward end of and providing a front end closure for said carrier, and a transversely arranged vertically extending apron secured at its sides to said flexible pendent strands, vertical sheering wings comprising a frame and a yielding covering therefor, and means affixed to the members supporting said carrier and ar-

ranged to support said sheering wings at a sheering angle in advance of and spaced from the corners of the car.

7. The combination with a car, of a V-shaped basket-like carrier hinged at its inner end to the car and comprising converging frame-members and a yielding bottom covering therefor, extensible arms each comprising two telescoping members hingedly supported by the car, means supporting said arms in oblique position, non-flexible supporting members hingedly suspended from said extensible arms, the lower ends of said non flexible members being jointly connected to and normally supporting said V-shaped carrier in extended position, flexible strands pendent from said extensible arms and fastened at their lower ends to the side frame-members of said carrier, said flexible pendent strands being arranged in advance of and spaced from said non-flexible frame-supporting members, and means whereby said flexible pendent strands are maintained at a tension, yielding strands stretched taut between said pendent members and the tip of said carrier, said strands being arranged to constitute side inclosures for said carrier spaced apart from and positioned above the underlying outer rigid frame-members of said carrier and serving also as yielding guards for said rigid frame-members, yielding sheering guards arranged to extend taut along the sides of said carrier and laterally spaced therefrom, a bar transversely fastened on said side-inclosures of said carrier near the forward end of and providing a front end closure for said carrier, and a transversely arranged vertically extending apron secured at its sides to said flexible pendent strands, and reinforcing strands arranged transversely behind said fending apron.

8. The combination with a car, of a V-shaped basket-like carrier hinged at its inner end to the car and comprising converging frame-members and a yielding bottom covering therefor, extensible arms each comprising two telescoping members hingedly supported by the car, means supporting said arms in oblique position, non-flexible supporting members hingedly suspended from said extensible arms, the lower ends of said non flexible members being jointly connected to and normally supporting said V-shaped carrier in extended position, flexible strands pendent from said extensible arms and fastened at their lower ends to the side frame-members of said carrier, said flexible pendent strands being arranged in advance of and spaced from said non-flexible frame-supporting members, and means whereby said flexible pendent strands are maintained at a tension, yielding strands stretched taut between said pendent members and the tip of said carrier, said strands being arranged

to constitute side inclosures for said carrier spaced apart from and positioned above the underlying outer rigid frame-members of said carrier and serving also as yielding guards for said rigid frame-members, yielding sheering guards arranged to extend taut along the sides of said carrier and laterally spaced therefrom, a bar transversely fastened on said side-inclosures of said carrier near the forward end of and providing a front end closure for said carrier, and a transversely arranged vertically extending apron secured at its sides to said flexible pendent strands, and reinforcing strands arranged transversely behind said fending apron, and the ends of said strands being secured to said non-flexible frame-supporting members.

9. The combination with a car, of a V-shaped basket-like carrier hinged at its inner end to the car and comprising converging frame-members and a yielding bottom covering therefor, extensible arms each comprising two telescoping members hingedly supported by the car, means supporting said arms in oblique position, non-flexible supporting members hingedly suspended from said extensible arms, the lower ends of said non-flexible members being jointly connected to and normally supporting said V-shaped carrier in extended position, flexible strands pendent from said extensible arms and fastened at their lower ends to the side frame-members of said carrier, said flexible pendent strands being arranged in advance of and spaced from said non-flexible frame-supporting members, and means whereby said flexible pendent strands are maintained at a tension, yielding strands stretched taut between said pendent members and the tip of said carrier, said strands being arranged to constitute side inclosures for said carrier spaced apart from and positioned above the underlying outer rigid frame-members of said carrier and serving also as yielding guards for said rigid frame-members, yielding sheering guards arranged to extend taut along the sides of said carrier and laterally spaced therefrom, a bar transversely fastened on said side-inclosures of said carrier near the forward end of and providing a front end closure for said carrier, and a transversely arranged vertically extending apron secured at its sides to said flexible pendent strands, reinforcing strands arranged transversely behind said fending apron, and the ends of said strands being secured to said non-flexible frame-supporting members, vertical sheering wings comprising a frame and a yielding covering therefor, means affixed to the members supporting said carrier and arranged to support said sheering wings at a sheering angle in advance of and spaced from the corners of the car.

10. The combination with a car, of a V-shaped basket-like carrier hinged at its inner end to the car and comprising converging frame-members and a yielding bottom covering therefor, extensible arms each comprising two telescoping members hingedly supported by the car, means supporting said arms in oblique position, non-flexible supporting members hingedly suspended from said extensible arms, the lower ends of said non flexible members being jointly connected to and normally supporting said V-shaped carrier in extended position, flexible strands pendent from said extensible arms and fastened at their lower ends to the side frame-members of said carrier, said flexible pendent strands being arranged in advance of and spaced from said non-flexible frame-supporting members, and means whereby said flexible pendent strands are maintained at a tension, yielding strands stretched taut between said pendent members and the tip of said carrier, said strands being arranged to constitute side inclosures for said carrier spaced apart from and positioned above the underlying outer rigid frame-members of said carrier and serving also as yielding guards for said rigid frame-members, yielding sheering guards arranged to extend taut along the sides of said carrier and laterally spaced therefrom, a bar transversely fastened on said side-inclosures of said carrier near the forward end of and providing a front end closure for said carrier, and a transversely arranged vertically extending apron secured at its sides to said flexible pendent strands, reinforcing strands arranged transversely behind said fending apron, and the ends of said strands being secured to said non-flexible frame-supporting members, upper arms projecting laterally from said extensible supporting arms, lower corresponding arms projecting laterally from the lower extremities of said non-flexible supporting members of said carrier, taut flexible strands jointly connecting the extremities of said upper and lower lateral arms, sheering aprons stretched transversely between said flexible pendent strands of the carrier-frame and said flexible pendent strands connecting the upper and lower lateral arms, whereby said sheering aprons are supported at a sheering angle in advance of and apart from the corners of the car, stays arranged to hold the extensible supporting arms against lateral movement, and latches arranged to hold the carrier and therewith the other parts in their uplifted inoperative position.

11. The combination with a car, of a V-shaped basket-like carrier hinged at its inner end to the car and comprising converging frame-members and a yielding bottom covering therefor, extensible arms each comprising two telescoping members hingedly

supported by the car, means supporting said arms in oblique position, non-flexible supporting members hingedly suspended from said extensible arms, the lower ends of said non flexible members being jointly connected to and normally supporting said V-shaped carrier in extended position, flexible strands pendent from said extensible arms and fastened at their lower ends to the side frame-members of said carrier, said flexible pendent strands being arranged in advance of and spaced from said non-flexible frame-supporting members, and means whereby said flexible pendent strands are maintained at a tension, yielding strands stretched taut between said pendent members and the tip of said carrier, said strands being arranged to constitute side inclosures for said carrier spaced apart from and positioned above the underlying outer rigid frame-members of said carrier and serving also as yielding guards for said rigid frame-members, yielding sheering guards arranged to extend taut along the sides of said carrier and laterally spaced therefrom, a bar transversely fastened on said side-inclosures of said carrier near the forward end of and providing a front end closure for said carrier, a transversely arranged vertically extending apron secured at its sides to said flexible pendent strands, reinforcing strands arranged transversely behind said fending apron, and the ends of said strands being secured to said non-flexible frame-supporting members, upper arms projecting laterally from said extensible supporting arms, lower corresponding arms projecting laterally from the lower extremities of said non-flexible supporting members of said carrier, taut flexible strands jointly connecting the extremities of said upper and lower lateral arms, sheering aprons stretched transversely between said flexible pendent strands of the carrier-frame and said flexible pendent strands connecting the upper and lower lateral arms, whereby said sheering aprons are supported at a sheering angle in advance of and apart from the corners of the car, stays arranged to hold the extensible supporting arms against lateral movement, and latches arranged to hold the carrier and therewith the other parts, in their uplifted inoperative position, the parts being so arranged as to cause the flexible pendent strands to be relieved of tension upon the lifting of the carrier to its inactive position, and a hood of yielding material covering the tip of the carrier.

12. In a car fender, the combination with the car, of a fender-frame pivotally supported from the car, and suspending devices, including telescoping arms, whereby the suspending devices are adapted to accommodate themselves to the change of position of said fender-frame from its active or projecting position to its inactive or uplifted position.

13. In a car fender, the combination with the car, of a fender-frame pivotally supported at a point below the sill of the car, and suspending devices, including arms pivotally supported on the car sill, said arms being adapted to telescope so as to allow the same to accommodate themselves to the change of position of said fender-frame from its active or projecting position to its inactive or up-
lifted position.

14. In a car fender, the combination with the car, of a fender-frame pivotally supported at a point below the sill of the car, and suspending devices, including arms pivotally supported on the car-sill, said arms being adapted to telescope so as to allow the same to accommodate themselves to the change of position of said fender-frame from its active or projecting position to its inactive or up-
lifted position, and an auxiliary bumper fastened to the car-sill, the fender-frame being arranged to straddle such bumper, when said frame is lifted to its inactive position.

15. In a car fender, the combination with a car, of a fender-frame supported in projecting position from the car, suspending devices adapted to accommodate themselves to the change of position of said fender-frame

from its active or projecting position to its inactive or uplifted position, resilient strands extending from said suspending devices to the tip-end of the fender-frame and providing side inclosures for said fender-frame, and a transverse bar bridging said side inclosures near the tip-end of the fender-frame, for the purpose described.

16. In a car fender, the combination with a car, of a fender-frame supported in projecting position from the car, suspending devices, including telescoping arms, whereby the suspending devices are adapted to accommodate themselves to the change of position of said fender-frame from its active or projecting position to its inactive or uplifted position, resilient strands extending from said suspending devices to the tip-end of the fender-frame and providing side inclosures for said fender frame, and a transverse bar bridging said side inclosures near the tip-end of the fender-frame, for the purpose described.

MARCUS L. KEIZUR.

Witnesses:

CECIL LONG,
A. D. GERKING.