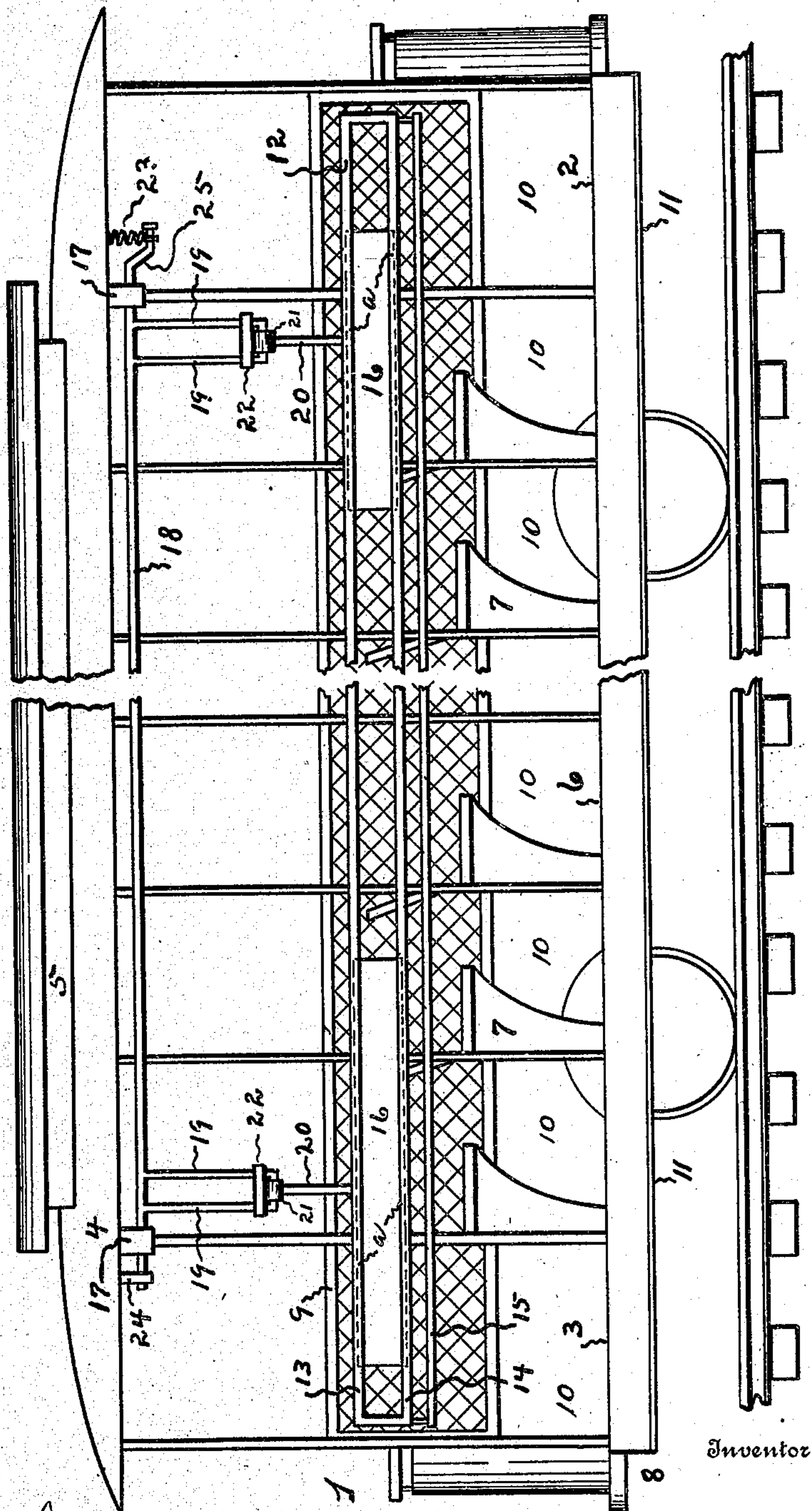


900,187.

M. MEYER.
SAFETY GUARD FOR CARS.
APPLICATION FILED JAN. 2, 1908.

Patented Oct. 6, 1908.
2 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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George W. Lovell.

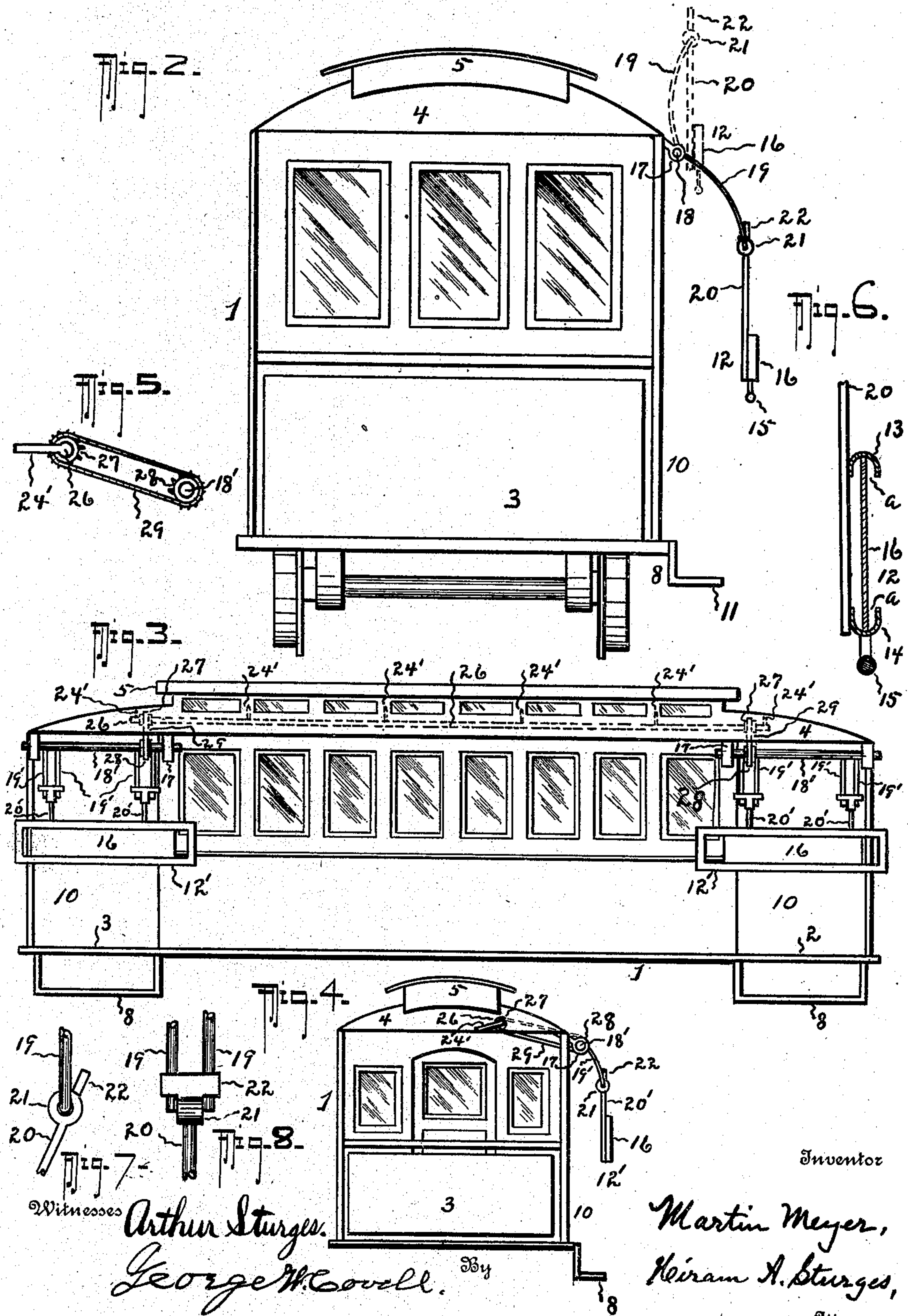
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UNITED STATES PATENT OFFICE.

MARTIN MEYER, OF OMAHA, NEBRASKA, ASSIGNOR TO MEYER SAFETY GUARD COMPANY,
OF OMAHA, NEBRASKA, A CORPORATION.

SAFETY-GUARD FOR CARS.

No. 900,187.

Specification of Letters Patent.

Patented Oct. 6, 1908.

Application filed January 2, 1908. Serial No. 408,868.

To all whom it may concern:

Be it known that I, MARTIN MEYER, a citizen of the United States, residing at Omaha, in the county of Douglas and State of Nebraska, have invented certain new and useful Improvements in Safety-Guards for Cars, of which the following is a specification.

This invention relates to improvements in safety guards for cars, found especially useful for street car purposes, and refers to a reliable and convenient means, under control of the employee in charge, for allowing passengers to depart safely from or enter the car. Devices heretofore provided for this purpose have consisted of gates occupying floor space, or which rotate in a manner to be obtrusive, and have not proven entirely satisfactory.

The present invention has for its principal object the provision of a frame or frames, or parallel bars extended longitudinally of the car and to be disposed in front of the platform, platforms or passage ways which define exit ways to or from the car, the same to hang dependably from a pivotal support located at or near the roof of the car, and to be under the control of the employee in charge, so that the guard above mentioned, may be readily swung upward or downward to allow or prevent entry or exit, and thereby to prevent accidental injuries.

Another object is to provide a means which will permit a control of all of the passage ways by the conductor of a car or other person in charge, wherever he may be located.

Another object is to provide a closure for the passage ways of cars, which may be operated to move the closure in a direction which will be unobtrusive to passengers or others.

The invention includes a construction and arrangement of holding and lifting arms and their mounting, found to be convenient, and describes devices comprising the safety guard having the lightest weight possible but which will have the required strength for its uses and operation, which may be economically constructed, easily operated, and which will be durable.

The invention consists of the novel construction and arrangement of parts as described herein and in the appended claims, and illustrated in the accompanying drawing, wherein,—

Figure 1 represents a side elevation of an

“open” or “summer” street car with my newly invented safety guard mounted operatively thereon, said guard being in a lowered or “closed” position, the figure being broken. Fig. 2 is a rear end view of the car and parts shown in Fig. 1, the broken lines illustrating the relative position of the guard when raised or elevated. Fig. 3 represents a side view of a “closed” or “winter” car with the safety guard mounted thereon, and Fig. 4 is an end view of the car and parts shown in Fig. 3. Fig. 5 is a detail relating to Figs. 3 and 4 to show sprocket connection and rotating means. Fig. 6 is a detail to show preferred construction of the guard-rail or fender. Figs. 7 and 8 are details to clearly show pivotal connection between the arms referred to.

Referring now to the drawing for a more particular description, numeral 1 indicates a street car, numerals 2 and 3 indicate the front and rear platforms thereof, and 4 indicates the roof, 5 the deck, 6 the floor, 7 the passenger seats, 8 the platform-step; numerals 9 and 11 indicate, respectively, the wire net-work and the “running board” or side step used upon “summer” cars, said net-work being secured along and upon the blind side of the car, and the side step extending the whole side of the “open” part of the car.

For purposes of the invention I employ a guard member 12, extending longitudinally of the car in front of the passageways 10; the guard-member 12 may consist of any suitable fender, as a frame-work composed of the parallel bars 13, 14 and 15 joined at or intermediate their ends, preferably, to occupy a single plane; the framework thus described has been constructed to provide longitudinal grooves *a* in bars 13 and 14 within which grooves, panels 16 may be conveniently inserted as indicated in the drawing, said panels causing the frame work to be more visible and more readily distinguished than open frame-work, and useful for advertising or sign displays.

I provide supporting-brackets 17, secured externally of the car and above the exit-ways these brackets being fastened, preferably, closely adjacent the side eaves of the car, and in supporting-brackets 17 is pivotally mounted the rotatable supporting-rod or shaft 18. Rigidly secured to shaft 18 and disposed in alinement with each other are lifting-arms 19, preferably bent outwardly and

longitudinally, and therefore being bow-shaped from their pivotal mounting upon shaft 18 to their outer ends; these arms have been used in pairs to advantage, substantially as U-shaped arms, to combine strength with lesser material, the lower part of the U, however, being angular; as thus used, each pair of arms 19 furnish, at the junction of their lower ends, a pivotal mounting for the upper end of one of the dependable supporting-arms 20.

The lower ends of supporting-arms 20 are secured to the frame or guard-member 12, and they are each provided with a transverse sleeve 21 upon their upper ends, and I provide a keeper formed as a detaining-plate 22 disposed parallel with sleeve 21, and having a length greater than the distance apart of the pair of lifting-arms 19 and disposed to overlap and make contact with the lower or outer ends of said lifting-arms, the function of this particular construction being, that a keeper 22 will prevent any outward swinging movement of a supporting-arm when the guard is in a lowered position unless a movement is communicated to lifting-arms 19, and thereby preventing an outward swinging movement of any part of the frame or guard-member 12, unless said frame or guard moves as a unit and carries with it all of the arms, as a united structure.

Having described the principal parts, operation of the safety guard will be readily understood. It is intended to be under control of an employee who is in charge of the car. When the car is moving, the guard-rail is in a lowered position. If a passenger wishes to leave the car, the person in charge, after the car has come to a position of rest, lifts the frame or guard-rail 12, by manually raising it, spring 23 assisting in the movement of the frame-work; when elevated, the parts assume, substantially, the position shown by broken lines in Fig. 2, the frame being just below the deck and near the eaves of the car; the movement of the parts at this time is upward and swinging, arms 20 and frame 12 remaining vertical and held by the pivotal mounting upon the pairs of U-shaped arms; this movement is not obtrusive to disturb any passenger or other person, and the parts occupy no floor space, as is obvious; it is intended that the elevation of the frame work may be accomplished easily; while it must be lifted manually to cause its elevation, the resiliency of the spring on its crank-mounting will cause the guard-member 12 and the arms connected therewith to be elevated, without any considerable manual effort. After the parts have been elevated as described, they will remain in a raised position from the resilient force of spring 23; after a passenger has left or entered the car, the guard-member is lowered; to effect a lowering of the guard-rail or member, the

employee pulls downward upon rail 15, or either of rails 13 or 14, or by partly turning crank-lever 24, secured to shaft 18.

By referring to Fig. 1, showing use of the guard upon a "summer" or open car, it will be seen that frame-work 12 makes a closure of all of the entry or exit ways; the running-board or side platform extends the entire length of the car, and devices now in use afford no protection tending to prevent a person from leaving any part of such car, while the car is in motion; it is therefore considered that the present invention provides a construction tending to prevent injuries, and is particularly adapted for use upon this class of street cars.

With reference to use of the guard upon "summer" cars, it will be noted that, when the guard-member is in a lowered position, a conductor or other person may stand upon or pass along the running-board, since supporting-arms 20 and frame 12 are normally disposed adjacent the open side of the car a sufficient distance for this purpose. I provide crank 25 upon shaft 18, and the coiled spring has one of its ends mounted thereon, its opposite end being mounted under the roof of the car, the parts being so adjusted that the spring assists in raising frame 12, whenever required, and operates to sustain the parts in an elevated position, until frame 12 is manually lowered.

Figs. 3 and 4 show adaptation of use of the safety guard in connection with a closed or "winter" street car, the parts being the same as just described with slight variations, these changes not being considered sufficient to constitute a departure from the invention. For use of the safety guard upon this class of street cars, two short frames 12' are used, which are disposed in front of each end platform 2 and 3 of the car, shafts 18', lifting-arms 19' and supporting-arms 20' being used in connection with the longitudinal frames 12'. Said frames may be manually lifted by an employee in charge of the car, in the same manner as already described, to allow a passenger to enter or depart; while shaft 18' does not extend the entire length of the car, a longitudinal actuating-shaft 26 is mounted interiorly of the car for the purpose of operating shafts 18' in unison, the ends of shaft 26 being provided with sprocket wheels 27. A sprocket wheel 28 is mounted upon each of exterior shafts 18', and these wheels are connected by the chain 29; actuating-shaft 26 has a series of crank-levers 24' secured thereon, and a conductor when within the car, may, by manual use of one of these levers, cause a common rotative movement of the exterior shafts 18', thereby elevating or lowering frames 12' as desired.

It will be noted that the lifting-arms and supporting-arms are transversely disposed with reference to the parallel shaft 18 and

guard-rail 12 upon which they are respectively mounted, whereby the swinging movement of the guard-rail is maintained substantially parallel with the car. I have specifically mentioned lifting-arms and supporting-arms for convenience of description only, and this particular designation is not important; the function of all of said arms is to support and to cooperate in a control of the guard-member.

Having fully described construction and operation, what I claim as new and desire to secure by Letters Patent of the United States is,—

1. A safety guard for the passage way of a car, comprising a fender disposed longitudinally of the car, supporting members mounted upon the upper part of the car and extended transversely from the side of said car to a mounting upon the fender, said supporting members adapted to have swinging movements exteriorly and transversely of the car to elevate or lower the fender.

2. A safety guard for the passage way of a car, comprising a fender disposed longitudinally of the car, supporting members pivotally mounted upon the upper part of the car and extended exteriorly and transversely from the side of said car to a mounting upon the fender, and means to actuate the supporting arms to elevate or lower the fender.

3. A safety guard for the passage way of a car, comprising an operating shaft mounted upon the upper part and longitudinally of the car, a fender disposed substantially parallel with the operating shaft and adjacent said passage way; supporting members having rigid end-mountings upon the operating shaft and extended transversely therefrom to a mounting upon said fender, said operating shaft being rotatable to elevate or lower said fender.

4. In combination with the longitudinal side step of a car, a safety guard, comprising a fender disposed substantially parallel with said longitudinal side step, supporting members mounted upon the upper part of the car and extended outwardly from the side of said car to a mounting upon the fender, said supporting members adapted to have swinging movements upon planes transverse to said longitudinal step for elevating or lowering the fender.

5. In combination, a safety guard for the passage way of a car, comprising a plurality of bars disposed adjacent and substantially in alinement to define a fender, said fender extending lengthwise and exteriorly of the car; supporting members mounted upon the upper part of the car and extended transversely to a mounting upon said fender, said supporting members adapted to have swinging movements upon planes transverse to the fender, for the purpose of raising or lowering said fender.

6. In combination, a safety guard for the passage way of a car, comprising a plurality of bars disposed adjacent and substantially in alinement to define a fender, said fender disposed longitudinally and exteriorly of the car and having panels longitudinally disposed thereon; lifting members; each of said lifting members disposed upon a plane transverse to the fender and having one of its ends pivotally mounted upon the upper part of the car, its opposite end having a pivotal connection with said fender.

7. A safety guard for the passage way of a car, comprising a fender disposed longitudinally and exteriorly of the car, and having transversely disposed supporting arms rigidly mounted thereon; lifting arms pivotally mounted upon the upper part of the car and having a pivotal connection with the transversely disposed supporting arms of the fender.

8. A safety device for the passage way of a car, comprising a guard-rail having transversely-disposed supporting-arms rigidly mounted thereon, said guard rail being disposed longitudinally of the car; lifting-arms resiliently and pivotally mounted upon the upper part of the car and having a pivotal connection with the transversely-disposed supporting-arms of the guard-rail; means to cause a swinging movement of the lifting-arms upon planes transverse to the guard-rail.

9. A safety device for the passage way of a car, comprising a plurality of bars disposed adjacent and substantially in alinement to define a guard-member, said guard-member being disposed upon longitudinal planes with reference to and exteriorly of the car, and provided with longitudinal panels; supporting-arms rigidly secured upon and extended outwardly from said guard-member; lifting-arms pivotally mounted upon the upper part of the car and having a pivotal connection with the supporting-arms, said lifting-arms adapted to have swinging movements upon planes transverse to said longitudinal planes occupied by said guard-member.

10. In combination, a safety device for the passage ways of a car; a plurality of bars disposed to occupy, substantially, the same plane, and defining a guard-member; said guard-member disposed upon longitudinal planes with reference to and exteriorly of the car, and having panels longitudinally disposed thereon; supporting-arms, each having one of their terminals mounted upon said guard-member and having their opposite terminals formed as a sleeve; U-shaped lifting-arms having pivotal end-mountings upon the car above said passage-ways, their opposite ends seated in said sleeves; a keeper upon each of said sleeves of said supporting-arms; said U-shaped lifting-arms adapted to have swinging movements upon planes transverse

to the longitudinal planes of said guard-member to raise or lower the guard-member and to cause said keepers to make contact with said U-shaped lifting-arms.

5 11. In a safety guard for cars, the combination of a guard-rail disposed lengthwise and exteriorly of the car; transversely-disposed supporting-arms having rigid end-mountings upon the guard-rail and having
10 sleeves formed upon their opposite ends; a keeper upon each of said sleeves of the supporting-arms; U-shaped lifting arms each having one of their terminals pivotally
15 mounted adjacent the side eaves of the car and formed with a longitudinal curvature, the opposite terminals of said U-shaped lifting-arms seated in the sleeves of said supporting-arms; said U-shaped lifting-arms
20 adapted to have swinging movements upon planes transverse to the lengthwise disposed guard-rail to raise or lower the guard-rail and to cause said keepers to make contact with said U-shaped lifting-arms.

25 12. In a safety guard for cars, the combination of a resiliently mounted, crank-bearing shaft disposed longitudinally of the car and having transversely-disposed, U-shaped arms rigidly mounted thereon; a guard-rail disposed substantially parallel with said
30 resiliently-mounted crank-bearing shaft and having arms extended to a pivotal mounting upon said transversely-disposed U-shaped arms, and means to cause a rotatable movement of said resiliently-mounted crank-bearing
35 shaft.

13. A safety fender for cars, comprising a guard-rail disposed longitudinally of the car,

arms pivotally mounted upon the upper part of the car and extended exteriorly of said car upon planes transverse to and for a
40 mounting upon said guard-rail.

14. A safety fender for cars, comprising a shaft mounted near the upper part and longitudinally of the car, a guard-rail disposed
45 longitudinally of the car and having supporting-arms rigidly mounted thereon with outwardly-extending terminals; lifting-arms disposed transversely with reference to said shaft and guard-rail; each of said lifting-arms having one of its terminals rigidly
50 mounted upon said shaft, its opposite terminal having a pivotal connection with the outwardly-extending terminals of one of the supporting-arms.

15. A safety fender for cars, comprising a
55 resiliently-mounted crank-bearing shaft mounted longitudinally of the car, a guard-rail disposed longitudinally of the car and having supporting-arms rigidly mounted thereon; lifting arms; each of said lifting-arms having a longitudinal curvature and
60 disposed transversely with reference to said resiliently-mounted crank-bearing shaft and guard-rail; said lifting-arms having one of their terminals rigidly mounted upon said
65 shaft, their opposite terminals having pivotal mountings upon the supporting-arms of the guard-rail.

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

MARTIN MEYER.

Witnesses:

HIRAM A. STURGES,
OTTO BAYSDORFER.