

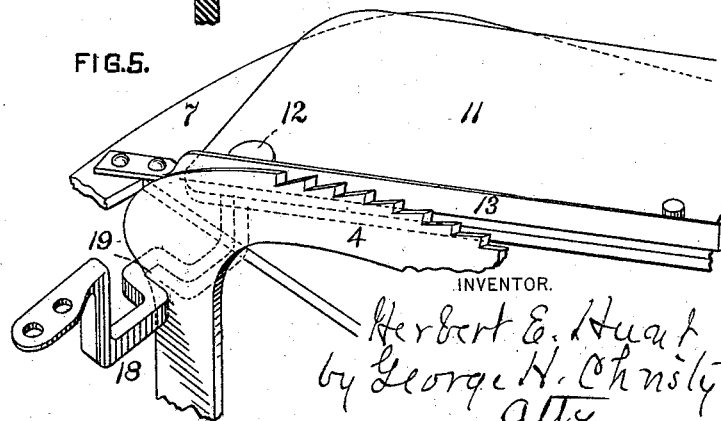
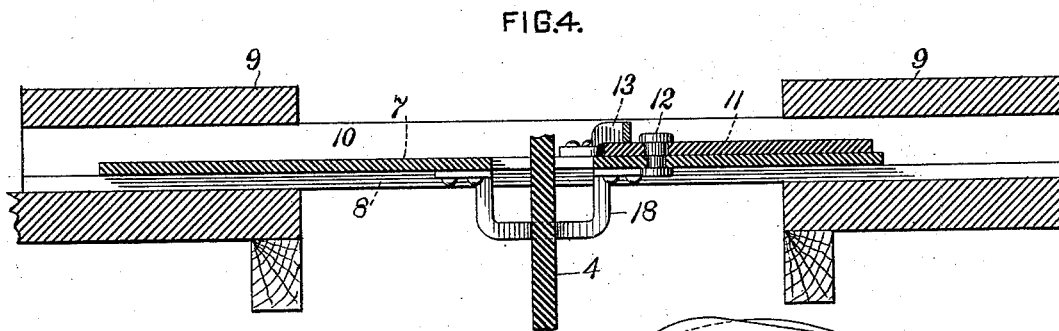
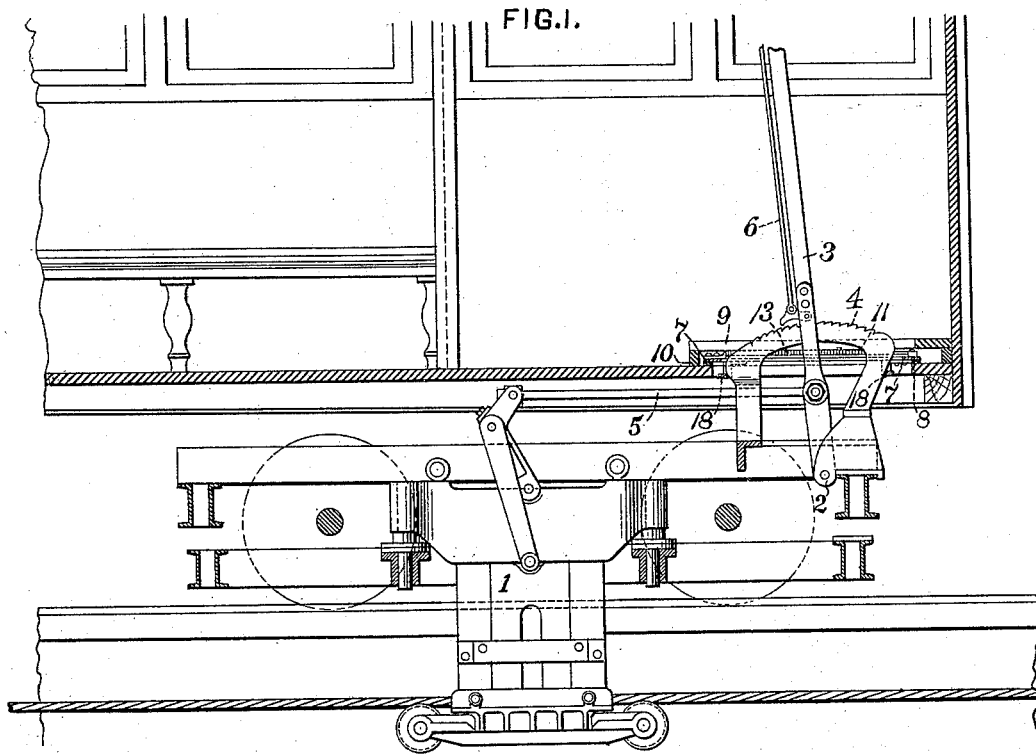
(No Model.)

2 Sheets—Sheet 1.

H. E. HUNT.
PROTECTING PLATE FOR GRIP CARS.

No. 419,677.

Patented Jan. 21, 1890.



WITNESSES.

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INVENTOR.

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FIG. 2.

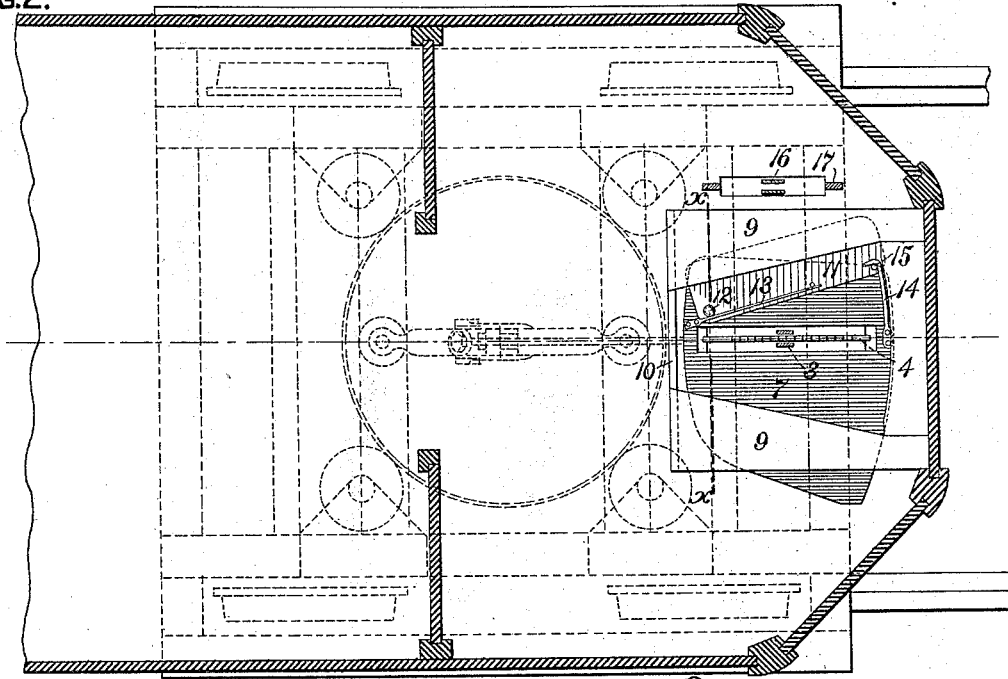
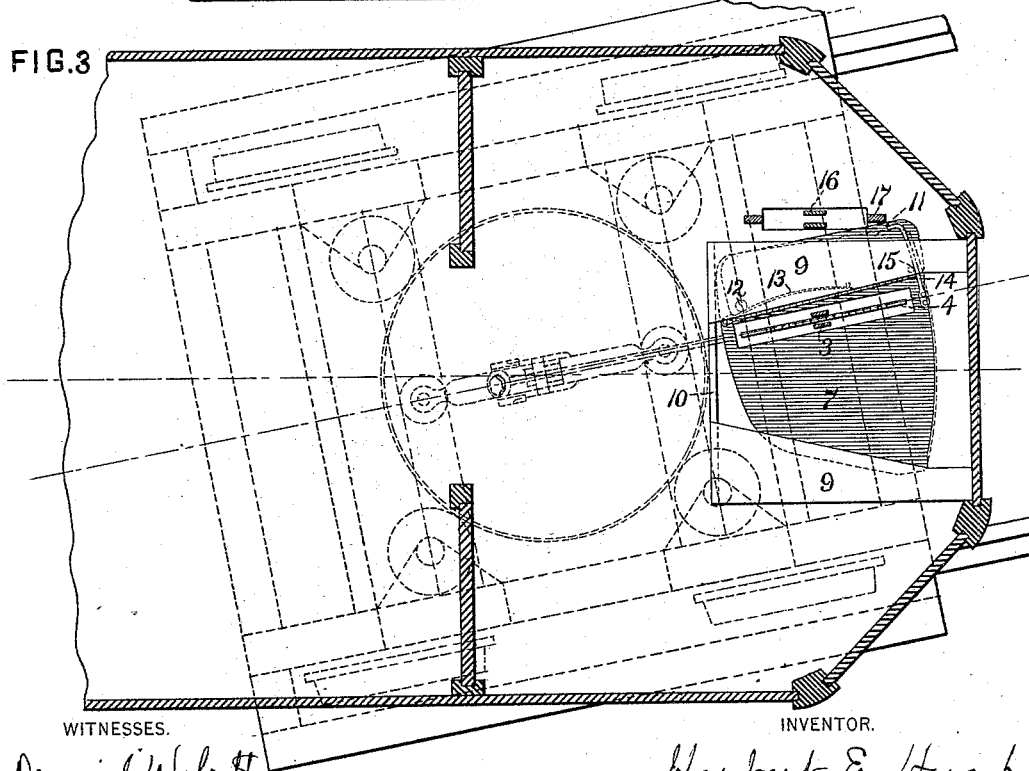


FIG. 3.



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UNITED STATES PATENT OFFICE.

HERBERT E. HUNT, OF PITTSBURG, PENNSYLVANIA.

PROTECTING-PLATE FOR GRIP-CARS.

SPECIFICATION forming part of Letters Patent No. 419,677, dated January 21, 1890.

Application filed November 29, 1889. Serial No. 331,876. (No model.)

To all whom it may concern:

Be it known that I, HERBERT E. HUNT, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented or discovered certain new and useful Improvements in Protecting-Plates for Grip-Cars, of which improvements the following is a specification.

The grip employed for connecting the car to the cable is sometimes connected to the body of the car and sometimes to the forward truck. When the latter arrangement is employed, it is necessary, as the truck and car-body do not swing in unison when passing around curves, to cut a comparatively large hole in the car-floor to permit of the free lateral movement of the grip-lever and its quadrant during the independent swinging of the car and truck. This hole, whose size depends upon the sharpness of the curves around which the car passes, is objectionable, not only on account of the cold air and dust which enter therethrough, but is also a source of danger to the gripman by reason of his liability of having his foot crushed between the quadrant and the edge of the hole.

The object of the invention is to provide a plate movable with the quadrant for covering this hole; and in general terms the invention consists in the construction and combination of mechanical devices or elements, all as more fully hereinafter described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a sectional elevation of a car having its grip connected to the truck and having my invention applied thereto. Figs. 2 and 3 are plan views showing different relative positions of the car-body and the truck and its connections, and Figs. 4 and 5 are sectional and perspective detail views on an enlarged scale.

The car is of the usual construction, and is mounted on two independent trucks connected to the car-body by a pin or any other suitable means, permitting a horizontal movement of the trucks independent of the car-body. When passing along straight portions of track, the car body and truck will be parallel with each other vertically as well as horizontally; but in passing around curves, the trucks being shorter than the car-body and each being at different points of the

curve, the trucks and car-body will take an angular position relative to each other vertically.

The grip 1 is secured to the truck in any suitable manner, as is also the pivotal bearing 2 of the lever 3 and the lever-quadrant 4, as shown in Fig. 1. The grip mechanism is of the usual or any suitable construction; and is connected to and operated by the lever 3 through the medium of the rod 5, which is attached to the lever a short distance above its pivotal point. As shown in Figs. 2 and 3, the lever is preferably slotted, the arch-bar of the quadrant passing through said slot, forming a bearing or guide to steady the movements of the lever. As is customary, the upper edge of the arch-bar is notched, and the lever is provided with a spring-catch bar 6 for engagement with said notches. The quadrant projects up through a segmentally-shaped opening in the car-floor, as shown in Figs. 2 and 3, the lateral dimensions of such opening being regulated by the curvature of the track traversed by the cars and the distance of the quadrant from the pivotal connection between the truck and car-body—that is to say, the sharper the curves in the track and the greater the distance of the quadrant from the pivotal connection the wider must be the opening in the car-floor. Over this opening is placed a plate 7, preferably formed of metal and slotted so as to permit the quadrant and lever to project up through the plate, as shown in Figs. 1, 2, and 3. This plate is supported at its front and rear ends by wearing-strips 8 of wood or metal, secured to the car-floor adjacent to the opening therethrough. The plate is made of sufficient width on each side of the slot through which the quadrant projects to insure a complete covering of the opening at all times—that is to say, the plate has a width at least equal to the width of the opening plus the amount of movement of the quadrant from side to side. The plate is held in place vertically by boards 9, passing over the plate and secured to cleats 10, fastened to the car-floor at the ends of the opening, as shown in Figs. 1, 2, and 3. It sometimes occurs that the quadrant has so large a lateral movement that the brake-levers 16 and their quadrant 17 on either side of the grip-lever will pre-

vent the plate being made sufficiently wide to entirely cover the opening at all times and at the same time have the required lateral movement. In such cases the plate is reduced in width sufficiently to permit of its lateral movements without contact with the brake-levers or their quadrants, and an auxiliary plate 11 is movably mounted thereon, preferably by means of a pivot-pin 12, passing through the main and auxiliary plates near the inner ends thereof. This plate 11 is held by a spring 13, so as to normally project beyond the edge of the main plate sufficiently far to compensate for the reduction in width of the main plate. The outward movement of the auxiliary plate is limited by means of a hook 14, secured to the main plate and engaging a pin 15 on the auxiliary plate or by any other suitably-arranged stop. In order to hold the main plate in proper relation to the quadrant, brackets 18, provided with notches 19, engaging the quadrant, as shown in Figs. 4 and 5, are attached to the under side of the plate 7.

The operation of the device will be readily understood by reference to Figs. 2 and 3. In Fig. 2 the car is represented as passing along a straight portion of track, the grip-lever and its quadrant standing in the middle of the opening in the car-floor, and the plate 7, with its auxiliary plate 11, extending an equal amount beyond the edges of said opening. As only one brake-lever is shown, the plate 7 can be made of the required width on one side of the slot therein, the auxiliary plate being required only on the side toward the brake-lever. As the front truck strikes a curve, as shown in Fig. 3, it is turned horizontally, the car-body being unchanged. The grip-lever and quadrant being attached to the front end of the truck are moved to one side of the opening in the car-floor, carrying the main and auxiliary plates with it. The brake-lever and quadrant being too close to permit of a move-

ment of the auxiliary plate equal to that of the grip-quadrant, said plate will strike against the brake-quadrant and be held stationary, while the main plate will slide under it. As the car moves to a straight portion of track the plate 7 will be moved back to the position shown in Fig. 2 and the auxiliary plate will be shifted to normal position by the action of the spring 13.

While an auxiliary plate is shown on one side only of the main plate, it can be readily applied to both sides when an emergency-brake is used.

I claim herein as my invention—

1. In combination with a car having a truck pivotally connected thereto, a cable-grip and its operating-lever attached to the truck, the lever projecting up through an opening in the car-floor, and a plate arranged over said opening and movable with the lever, substantially as set forth.

2. In combination with a car having a truck pivotally connected thereto, a cable-grip and its operating-lever attached to the truck, the lever projecting up through an opening in the car-floor, a plate arranged over said opening and movable with the lever, and an auxiliary plate, also movable with the lever, substantially as set forth.

3. In combination with a car having a truck pivotally connected thereto, a cable-grip and its operating-lever attached to the truck, the lever projecting up through an opening in the car-floor, a plate arranged over said opening and movable with the lever, an auxiliary plate pivoted to the main plate, and a spring for holding the auxiliary plate in normal position, substantially as set forth.

In testimony whereof I have hereunto set my hand.

HERBERT E. HUNT.

Witnesses:

DARWIN S. WOLCOTT,
R. H. WHITTLESEY.