

No. 773,618.

PATENTED NOV. 1, 1904

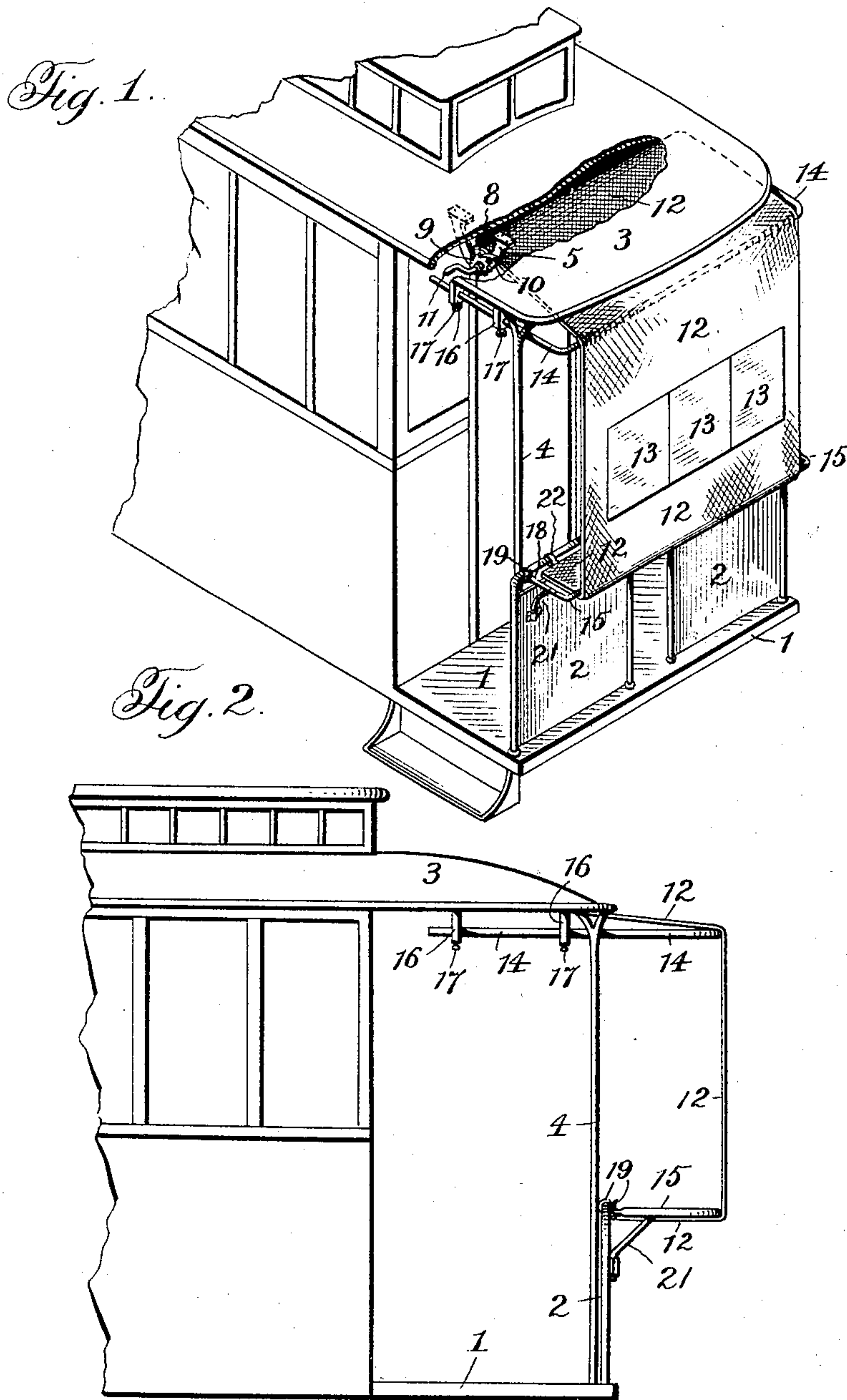
H. M. ADAMS.

PORTABLE STORM FRONT FOR STREET RAILWAY CARS.

APPLICATION FILED APR. 30, 1904.

NO MODEL.

2 SHEETS—SHEET 1



Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

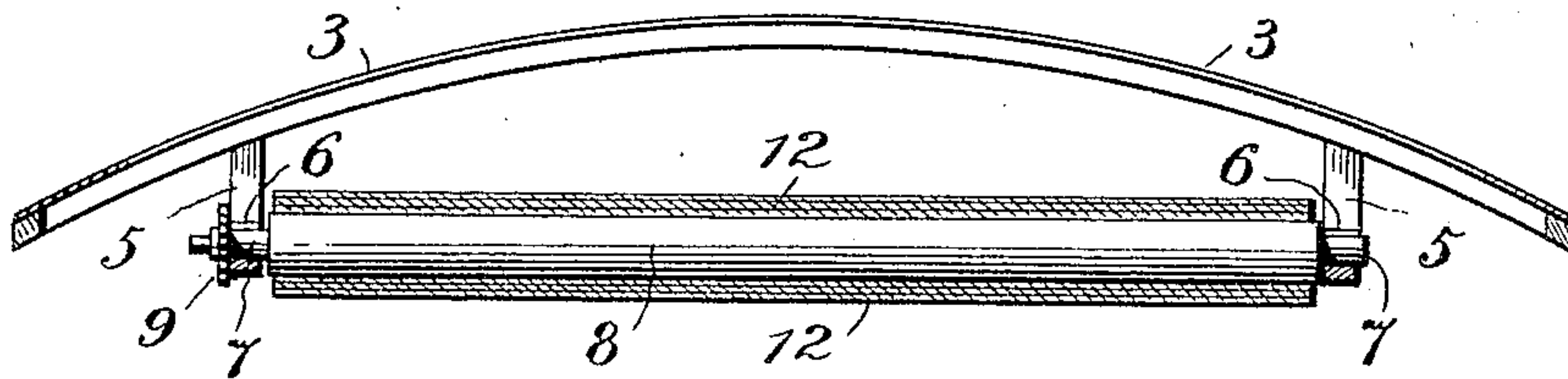


Fig. 4.

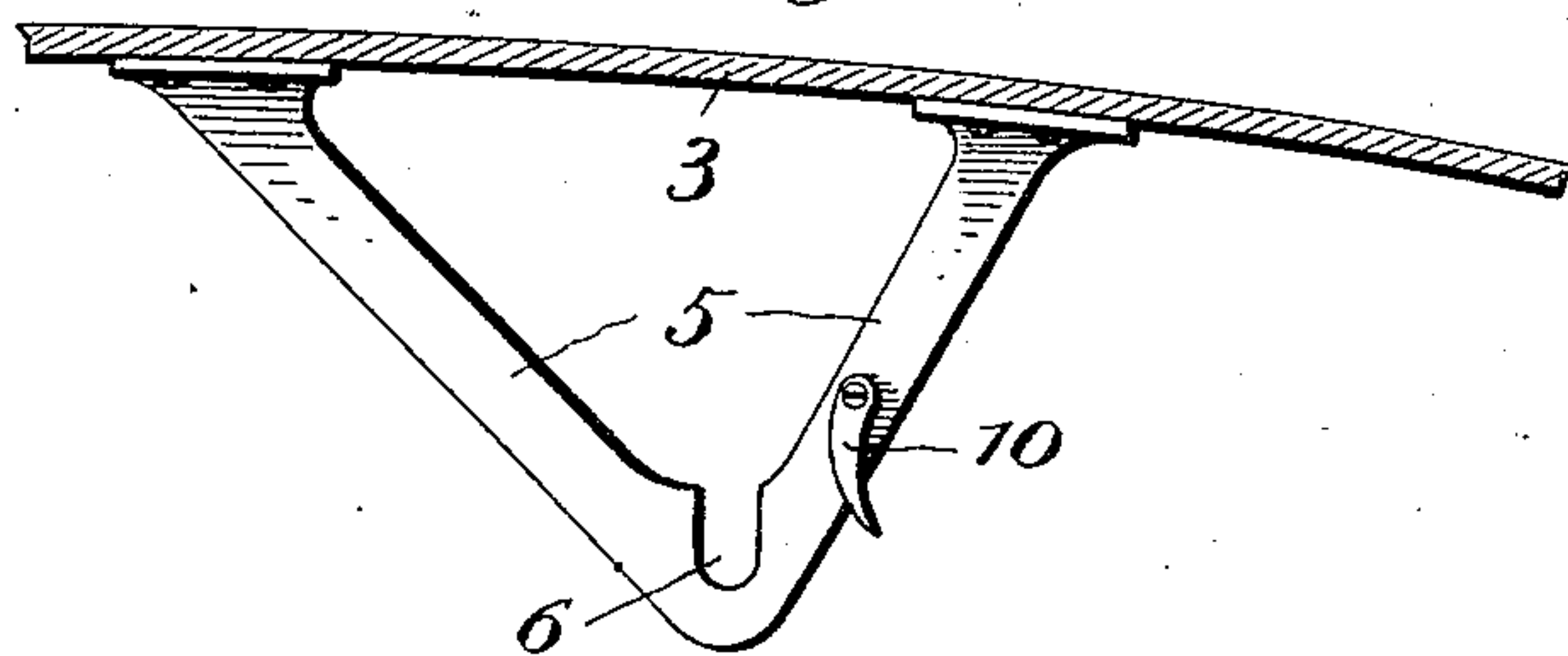


Fig. 5.

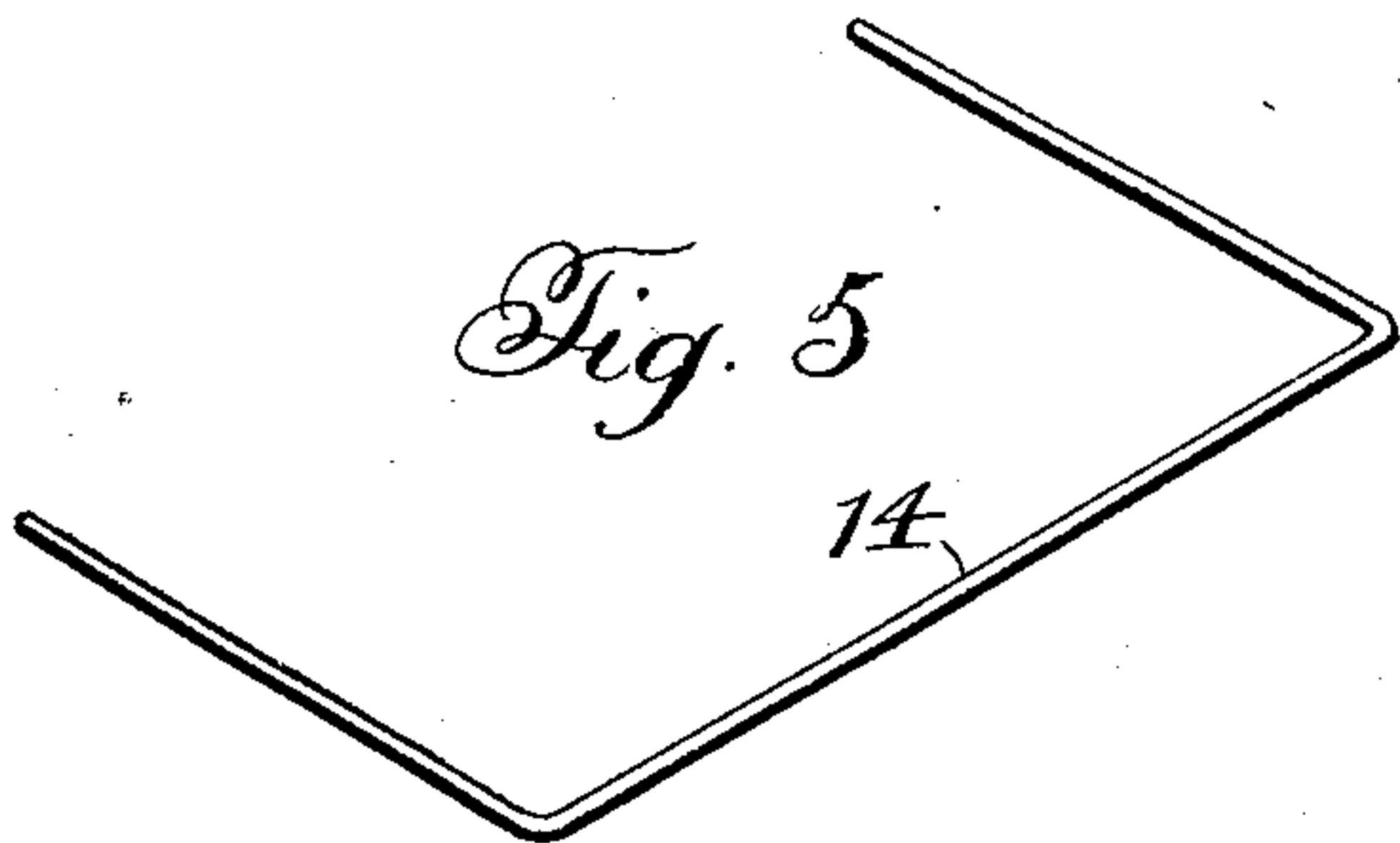


Fig. 6.

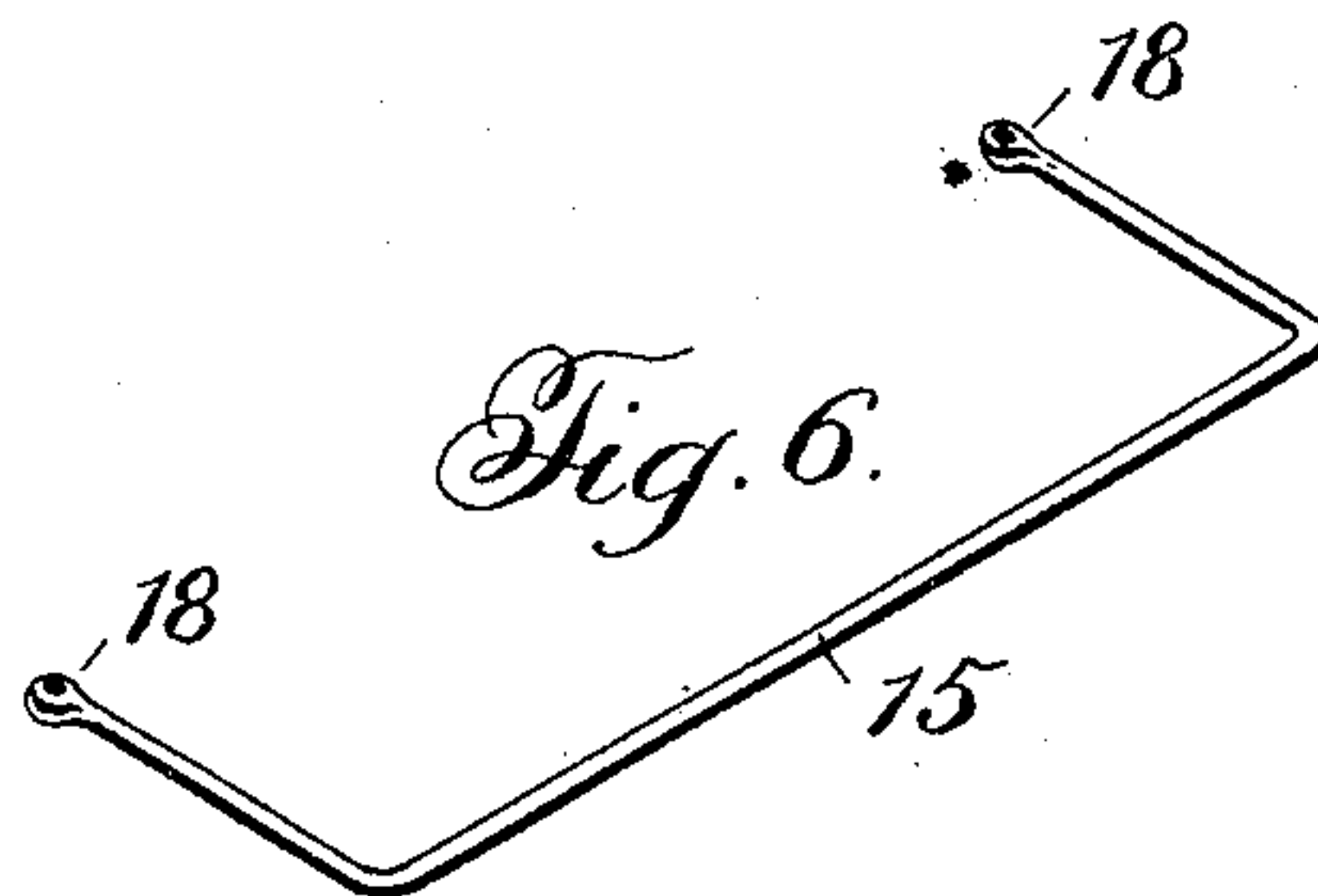


Fig. 8.

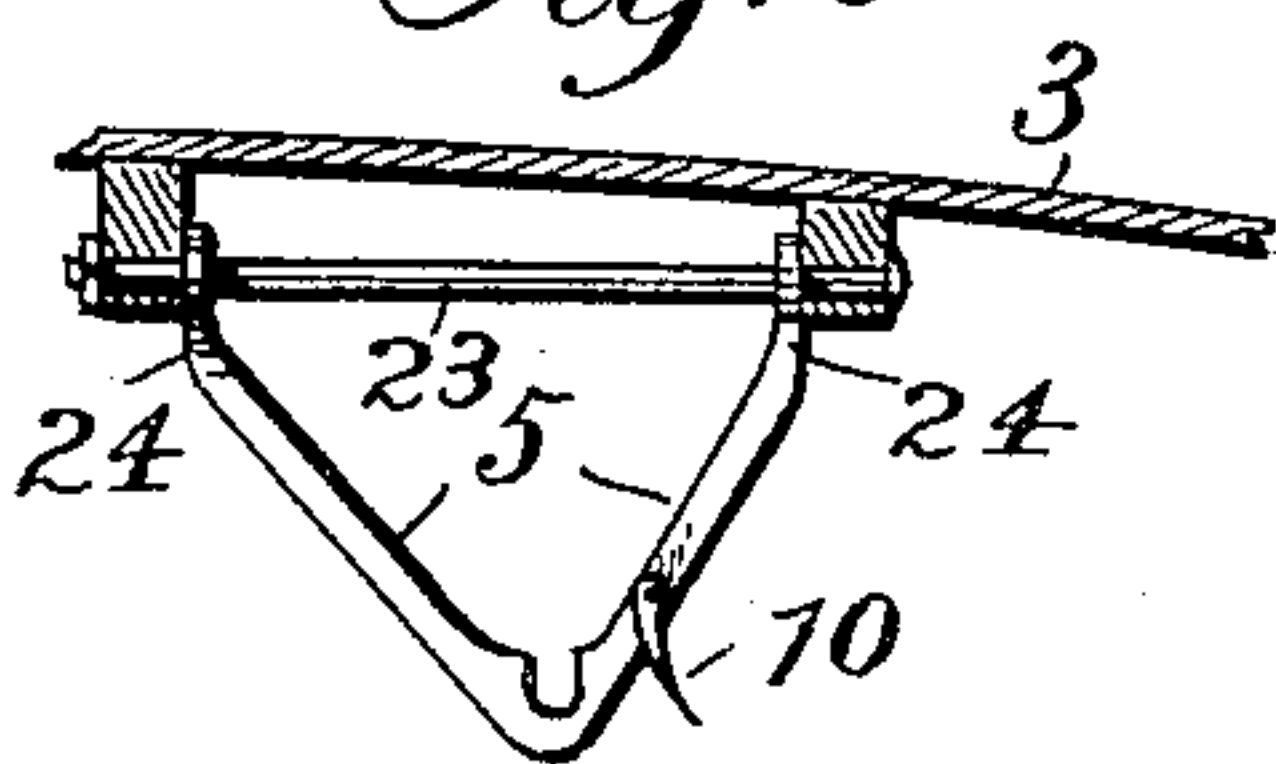


Fig. 9.

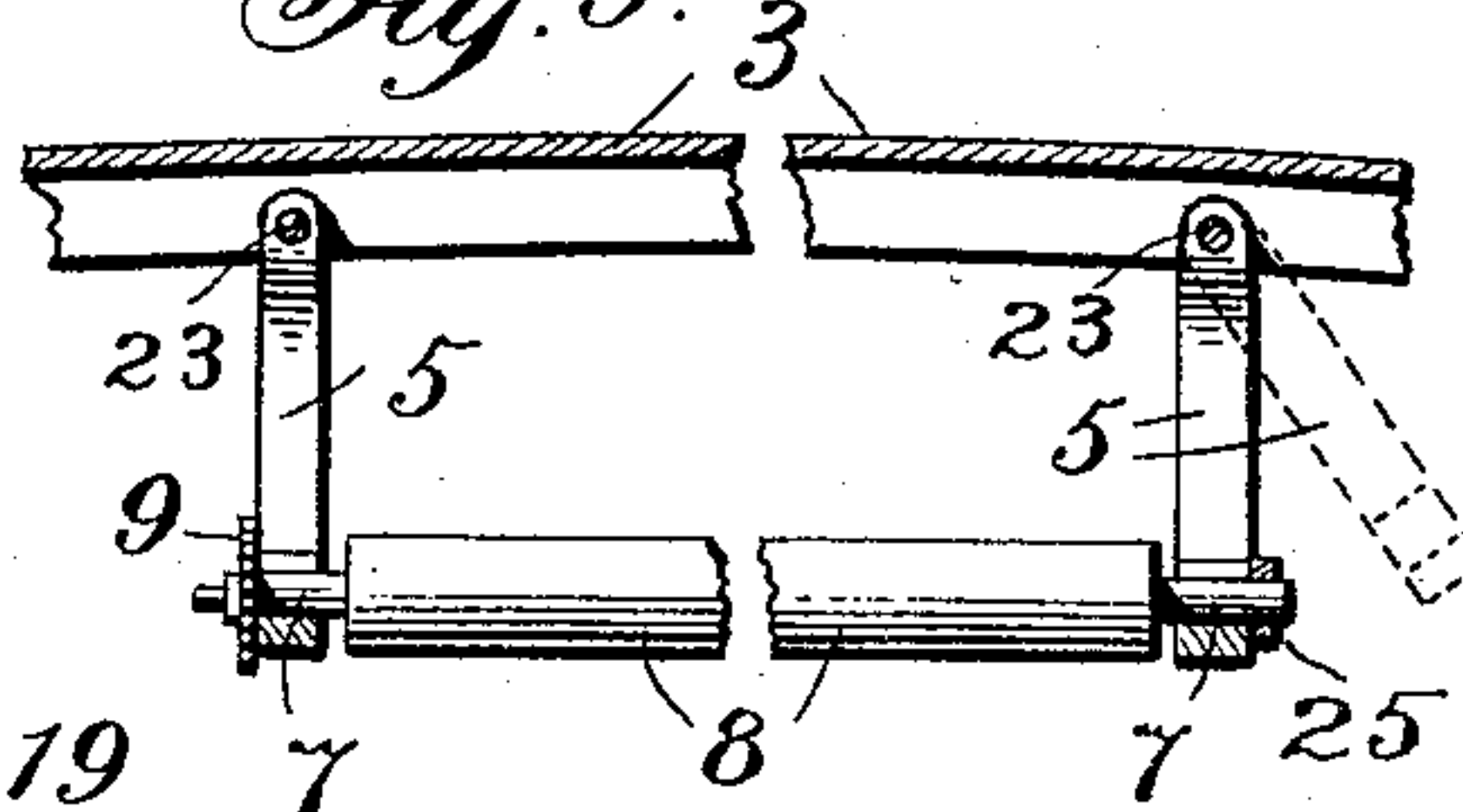
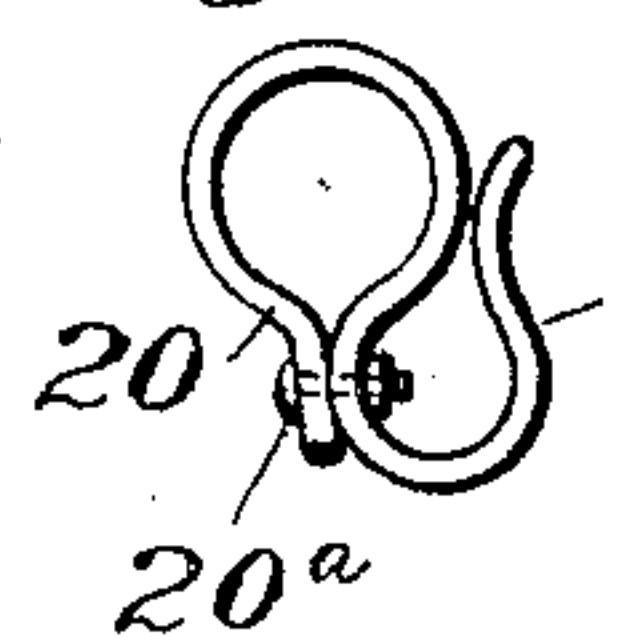


Fig. 7.



Witnesses

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UNITED STATES PATENT OFFICE.

HUGH M. ADAMS, OF WASHINGTON, DISTRICT OF COLUMBIA.

PORTABLE STORM-FRONT FOR STREET-RAILWAY CARS.

SPECIFICATION forming part of Letters Patent No. 773,618, dated November 1, 1904.

Application filed April 30, 1904. Serial No. 205,813. (No model.)

To all whom it may concern:

Be it known that I, HUGH M. ADAMS, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Portable Storm-Fronts for Street-Railway Cars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in portable storm-fronts for street-railway cars for the protection of the operatives thereof from the elements.

The main and primary object of the present invention is the provision of a storm-front of the character mentioned which may be quickly and easily placed in position and when not required for use may be reeled upon a suitable roller suspended in a vertical position upon the car, thus removing the storm-front from the point of its effective use and placing the front in a position so as not to disfigure the car, but still to be readily accessible for its further use when such is desired.

A further object of the present invention is to provide a storm-front which may be readily detached from its position at one end of a car and transferred to the other end thereof or to another car, thus adapting the invention for general application and not confining it to any particular car or part thereof.

A further object sought to be accomplished by the present invention is the provision of a device of the character mentioned which may be easily and cheaply manufactured, whereby the expense and difficulty of equipping cars with permanent vestibules for the protection of operatives is entirely overcome, and by the employment of which cars may be provided with the necessary storm protective at a minimum cost and without any special change in their usual construction.

With these general objects in view and others, which will appear as the nature of the improvements is better understood, the invention consists, substantially, in the novel construction, combination, and arrangement of parts, as will be hereinafter fully described,

illustrated in the accompanying drawings, and pointed out in the appended claims.

While the form of the invention herein shown and described is what is believed to be a preferable embodiment thereof, it is obvious that the same is susceptible of various changes in the form, proportion, and minor details of construction, and the right is accordingly reserved to modify or vary the invention as falls within the spirit and scope thereof.

In the drawings, Figure 1 is a perspective view of one end of a car equipped with a storm-front embodying the herein-described invention. Fig. 2 is a sectional side elevation thereof. Fig. 3 is a transverse sectional view of the car roof or hood and illustrating the application of the suspending-brackets thereto, the curtain being shown as wound upon its reel. Fig. 4 is a side elevation of one of the suspending-brackets. Figs. 5 and 6 are detail perspective views, respectively, of the upper and lower distenders. Fig. 7 is a detail elevation of one of the supporting-hooks, whereby the lower distender is held upon the dashboard of the car. Figs. 8 and 9 are also detail views illustrating an alternative manner of attaching the suspending-brackets to the hood of the car.

Referring to the drawings, the numeral 1 designates a car-platform; 2, the dashboard thereof; 3, the car roof or hood overhanging the platform 1, and 4 the vertical supporting-rods extending from the platform to the hood. All of these are of the usual construction and relative arrangement, the present invention not contemplating any change whatever in the structure of the car.

Arranged at the under side of the hood 3 and fixedly connected thereto is a pair of substantially V-shaped suspending-brackets 5, which brackets may be arranged upon the rafters of the roof or between the same, and said brackets are preferably formed of cast-iron for economy. At the juncture of the arms of each bracket the same is provided with an elongated slot or bearing 6, said bearings forming journals for the reception of the shaft 7 of a roller 8, the latter being of any desired construction; but it will be noted that one end of said shaft is prolonged in or-

der to project through and beyond the bracket 5, in which the same is pivoted, and mounted upon said prolongation of the shaft is a ratchet-wheel 9, designed to bear against the outer face of the bracket 5 next adjacent, and with which ratchet-wheel a pawl 10 coacts, said pawl being pivoted upon the bracket 5 and in proximity to said ratchet-wheel. It will be noted, however, that the pawl 10 is pivoted at a point slightly above the periphery of the ratchet-wheel 9, the purpose of which is to prevent the shaft 7 rising in its bearings, and by reason of said pawl the roller 8 is also prevented rotating backwardly, thus locking said roller in the position to which the same is adjusted, as will appear more fully hereinafter.

To manually rotate the roller 8, a detachable crank 11 is provided, said crank being mounted upon the prolonged end of the shaft 7 adjacent to the ratchet-wheel 9.

Connected to the roller 8 is a curtain 12, said curtain constituting the storm-front proper and being formed of rubber cloth, canvas, or any other material suitable for the purpose. At a suitable point in the curtain 12 a sight-opening is formed, said opening being covered by transparent panes 13, which may either be of celluloid, glass, or other material adapted for the purpose, and if formed of celluloid it is obvious that the entire curtain may be reeled upon the roller 8, the celluloid being flexible and readily conforming to the curved surface of the roller. If of glass, the portion of the curtain in advance will readily wrap around the roller, and when the glass panes arrive at the roller the part of the curtain containing the same may be readily hooked to the under side of the hood 3, the panes being arranged in the curtain near its lower end, and thus only a small portion of the curtain will not be reeled upon the roller. The panes 13 may be held in the curtain by a suitable framing of wood or like material, or any other suitable means may be employed for this purpose.

In order to distend or project the curtain 12 a sufficient distance in advance of the car operative to permit the power and brake controlling mechanism being properly manipulated, upper and lower distenders 14 and 15, respectively, are employed, said distenders being approximately U-shaped, as clearly seen in Figs. 4 and 5. The upper distender 14 has its sides slidably mounted in staples or sockets 16, arranged at the under side of the hood 3 and provided with set-screws 17 or their equivalent, and by means of the latter the upper distender may be locked in the position to which the same is adjusted, either under the hood 3 or when projected in advance thereof, as when the curtain is in use. The lower distender 15 has the extremities of its sides formed with eyes or loops 18, said eyes or loops being detachably connected with

supporting-hooks 19, carried by the dashboard, said hooks having inverted-U-shaped clamping-clips 20 formed integral therewith, which embrace the rail of the dashboard and are secured thereto through the medium of bolts 20. Thus the lower distender 15 is free to be detached from the dashboard in an obvious manner, which is a desideratum in cars of that class wherein sliding gates are employed in the dashboard for passage between the cars of a train. Normally, as when the curtain is not in use, the lower distender will be suspended from the hooks 19 and rest against the dashboard; but when it is desired to employ the curtain the lower distender is swung upwardly to occupy a horizontal position and is secured therein by a brace 21, carried by the dashboard and designed to engage one side of the distender 15 to maintain the same in the position referred to. It is also obvious that the edges of the curtain 12 will be suitably reinforced in any desired manner to prevent fraying or raveling, and the lower or outer extremity thereof is also provided with a series of straps 22 to be attached to the rail of the dashboard, and thereby fasten the curtain to the latter when the curtain is in use. Snap-hooks or other suitable fastening devices may also be substituted for the straps 22.

The normal position of the curtain is reeled upon the roller 8; but when desired for use the lower distender 15 is raised and fastened in its operative position by the brace 21. The curtain 10 is then unrolled, this being accomplished by releasing the pawl 10 from engagement with the ratchet-wheel 9. The curtain is passed over the outer arm of the upper distender 14, said distender having been projected forwardly and suitably adjusted in proper position. The curtain is then carried down and under the outer arm of the lower distender 15 and then back to the rail of the dashboard, where it is fastened to the rail by the straps 22, attached to the lower end of the curtain. The latter is then drawn taut or tensioned by rotating the roller 8, the crank 11 being employed for this purpose, and as the roller rotates the pawl 10 will engage the teeth of the ratchet-wheel 9 and lock said wheel against retrograde movement. When it is desired to reel the curtain, the roller is rotated until the sight-opening reaches the roller, when the lower end of the curtain may be hooked to the under side of the hood 3 out of the way. Should celluloid be employed for closing the sight-opening, the entire curtain may be reeled upon the roller, as previously stated.

By employing duplicates of the brackets 5 and the distenders 14 and 15 a single curtain will suffice for one car, as the same may be readily transferred to and used upon either end of the car, the roller 8 and shaft 7 being easily lifted from the brackets 5 at one end and fitted to these elements at the other end.

In Figs. 8 and 9 is shown an alternative manner of attaching the suspending-brackets to the hood of the car, and by referring to these figures it will be observed that a pair
 5 of pivotal rods or bolts 23 extend in a direction lengthwise of the car, said rods being seated in suitable openings formed in adjacent rafters of the car-roof and in which they are held. The legs of the brackets 5 are provided
 10 at their upper ends with eyes 24, which receive the rods 23, so as to permit the brackets having a swinging movement laterally of the car. With this construction the roller 8 will be effectually held in one of the brackets by
 15 the ratchet-wheel 9, a nut 25 being mounted upon the other end of the shaft 7 to hold the roller in the other bracket, and hence displacement of the roller from the brackets is prevented. When, however, it is desired to
 20 remove the roller, it is only necessary to lift one end thereof from its journal, whereupon the bracket from which the removal has been effected may be swung outwardly, as shown by dotted lines in Fig. 9, when the other end
 25 of the roller may be removed from its bracket.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. A portable storm-front for cars, comprising
 30 ing a curtain having a sight-opening formed therein and covered with transparent material, a roller to which said curtain is connected and upon which the same is reeled, suspending-brackets depending from the hood of
 35 the car and having journals formed therein, the axis of said roller being seated in said journals, means for locking said roller against retrograde movement and for holding the axis thereof in said journals, means for connecting
 40 the free end of the curtain to the dashboard of the car, and means for distending the curtain to project the same in advance of the dashboard.

2. A portable storm-front for cars, comprising
 45 ing a curtain having a sight-opening formed therein and covered with transparent material, a roller to which said curtain is connected and upon which the same is reeled, suspending-brackets depending from the hood of
 50 the car and having journals formed therein, the axis of said roller being seated in said journals, means for locking said roller against retrograde movement and for holding the axis thereof in said journals, means for connecting
 55 the free end of the curtain to the dashboard of the car, and substantially U-shaped distenders connected to the hood and the dashboard of the car for projecting the curtain in advance of the dashboard.

60 3. A portable storm-front for cars, comprising

ing a curtain having a sight-opening formed therein and covered with transparent material, a roller to which said curtain is connected and upon which the same is reeled, suspending-brackets depending from the hood
 65 of the car and having journals formed therein, the axis of said roller being seated in said journals, a ratchet-wheel carried by the axis of the roller, a pawl carried by the supporting-bracket adjacent to said ratchet-wheel and
 70 engaging the teeth of the latter for locking the roller against retrograde movement and for holding the axis thereof in said journals, means for connecting the free end of the curtain to the dashboard of the car, and means
 75 for distending the curtain to project the same in advance of the dashboard.

4. A portable storm-front for cars, comprising
 80 ing a curtain having a sight-opening formed therein and covered with transparent material, a roller to which said curtain is connected and upon which the same is reeled, substantially V-shaped suspending-brackets depending from the under side of the hood of
 85 the car and having elongated slots or journals formed at the juncture of the arms thereof, the axis of said roller being seated in said journals, means for locking said roller against retrograde movement and for holding the axis thereof in said journals, means for connecting
 90 the free end of the curtain to the dashboard of the car, and means for distending the curtain to project the same in advance of the dashboard.

5. A portable storm-front for cars, comprising
 95 ing a curtain having a sight-opening formed therein and covered with transparent material, a roller to which said curtain is connected and upon which the same is reeled, suspending-brackets depending from the hood of
 100 the car and having journals formed therein, the axis of said roller being seated in said journals, means for locking said roller against retrograde movement and for holding the axis thereof in said journals, means for connecting
 105 the free end of the curtain to the dashboard of the car, an upper distender slidably mounted at the under side of the hood, a lower distender hingedly connected to the dashboard,
 110 and means for maintaining the lower distender in a horizontal position, said distenders being adapted to project the curtain in advance of the dashboard.

In testimony whereof I affix my signature in the presence of two witnesses.

HUGH M. ADAMS.

Witnesses:

HENRY E. COOPER,
 FANNIE R. FITTON.