

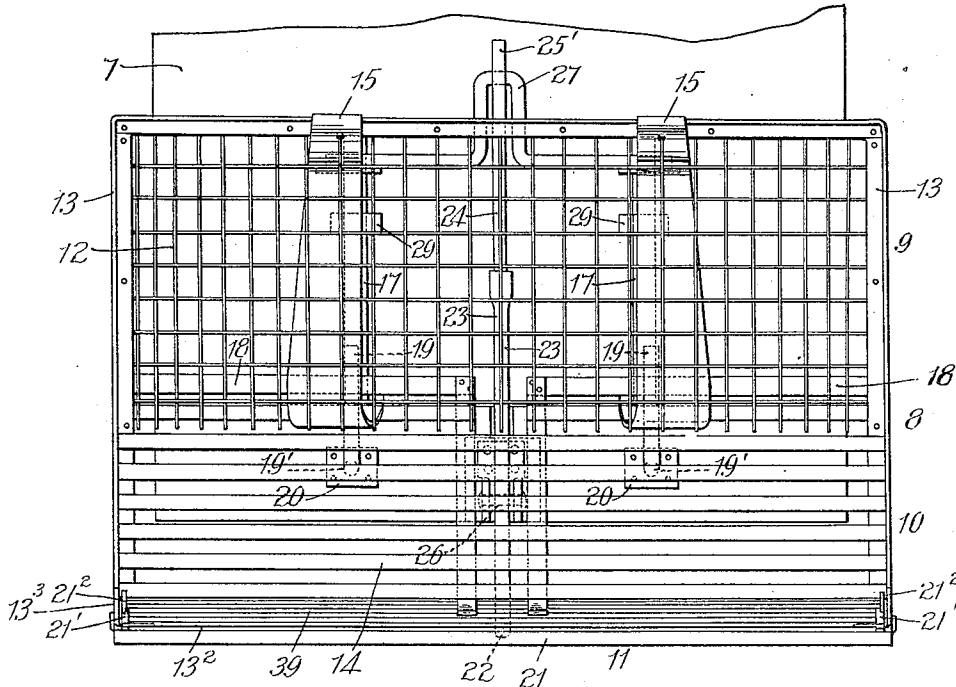
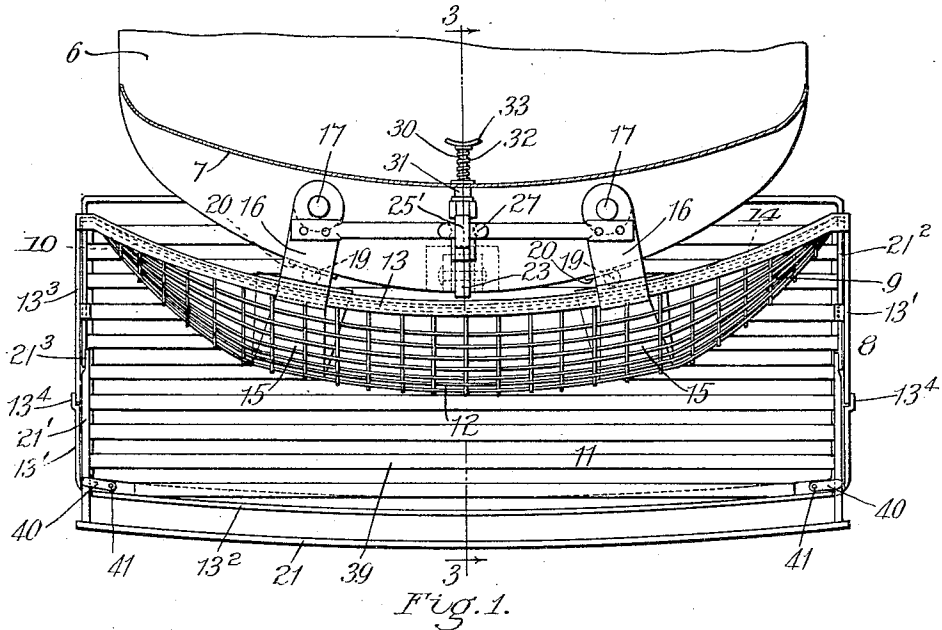
G. H. CLAPP.
CAR FENDER.

APPLICATION FILED JAN. 24, 1912.

Patented Feb. 4, 1913.

1,051,947.

2 SHEETS—SHEET 1.



Witnesses.
Franklin E. Low.
John C. Citchison

Inventor.
George H. Clapp,
by his attorney, Charles S. Gooding.

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2 SHEETS-SHEET 2.

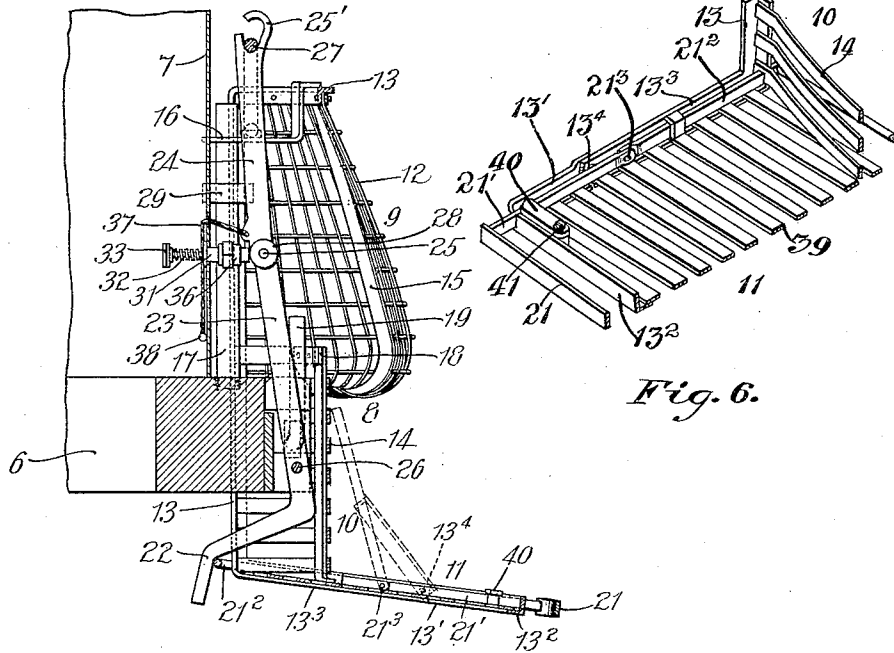


Fig. 6.

Fig. 3.

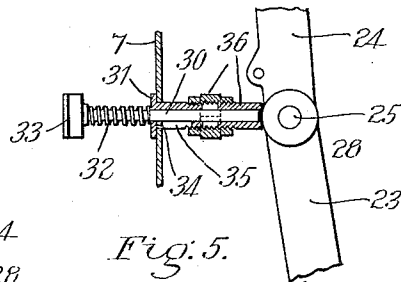
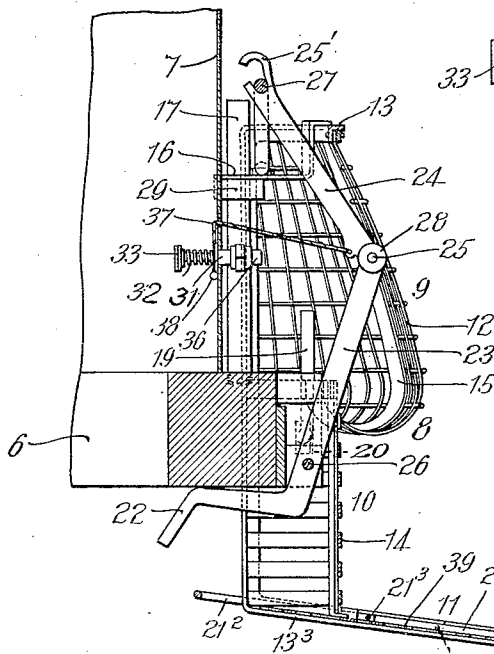


Fig. 5.

Witnesses.
Franklin E. Low
John P. Hutchison

Fig. 4. Inventor:
George H. Clapp,
by his attorney, Charles S. Gooding.

UNITED STATES PATENT OFFICE.

GEORGE H. CLAPP, OF HYDE PARK, MASSACHUSETTS.

CAR-FENDER.

1,051,947.

Specification of Letters Patent.

Patented Feb. 4, 1913.

Application filed January 24, 1912. Serial No. 673,154.

To all whom it may concern:

Be it known that I, GEORGE H. CLAPP, a citizen of the United States, residing at Hyde Park, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Car-Fenders, of which the following is a specification.

This invention relates to an improved car fender, particularly adapted to be used upon electric street cars, the object of the invention being to provide a fender which under ordinary circumstances is raised several inches from the ground but when the front edge of the same encounters an obstacle, such for instance as that of a human body, it will be automatically caused to drop by reason of contact with said body, so that said body will be scooped up on the fender instead of being allowed to pass underneath the same and into contact with the wheels of the car.

The object of the invention is further to provide a fender such as hereinbefore described which is adapted to be raised or lowered at will by the motorman of the car to which it is attached.

The invention consists in the combination and arrangement of parts set forth in the following specification and particularly pointed out in the claims thereof.

Referring to the drawings: Figure 1 is a plan view of my improved fender and a portion of the body of the car to which it is attached. Fig. 2 is a front elevation of the same. Fig. 3 is a sectional elevation taken on line 3-3 of Fig. 1 showing the fender in its raised position. Fig. 4 is a sectional elevation similar to Fig. 3 showing the fender in its lowered position. Fig. 5 is a sectional detail of the mechanism for tripping the toggle. Fig. 6 is a perspective view of a portion of the tripper frame showing how the same is slidably mounted upon the portion 13' of the frame 13.

Like numerals refer to like parts throughout the several views of the drawings.

In the drawings, 6 is the frame of the car body, 7 is the dasher forming a part of said car body, 8 is the car fender which consists of a curved upper portion 9, an intermediate portion 10 and a horizontal portion 11. The upper portion 9 is formed of a wire mesh 12 and may be supported in any suitable manner by the frame 13 made of convex form, as seen in Fig. 1, to inclose the working parts of the mechanism which operate to raise and lower the fender as a whole. The

intermediate portion 10 is formed of slats 14 which extend across the entire width of the fender and are fastened at the ends to the downwardly extending portion of the frame 13.

The fender, as a whole, is strengthened by brackets 15, which at their upper ends are bent to form right angle portions 16, the horizontal part of said right angular portions being slidably mounted upon two vertical rods 17. Said rods 17 are inserted at their lower ends in the framework 6 of the car body and are unsupported at their upper ends, so that the fender, as a whole, together with the brackets 15, can be moved upwardly and be removed from the rods 17, when it is desired to take the fender off of the car.

The brackets 15 at their lower ends are curved inwardly (see Figs. 2, 3 and 4) and are fastened to transversely extending parts 18 of the intermediate portion 10 of the fender 8. These transversely extending parts 18 are arranged to bear against vertically extended rods 19, which at their lower ends are bent at right angles (see Fig. 2) at 19', and terminate in plates 20, which are fastened to the frame of the car body. Thus, the fender, as a whole, is adapted to slide vertically upon the rods 17, and has sliding engagement therewith through the brackets 15, the parts 18 being arranged to bear against the front of the rods 19.

The frame 13 is formed preferably of angle iron and is bent at its lower end to extend horizontally forward at 13', as clearly seen in Fig. 1, and upon these horizontal and forwardly extending portions 13' of the frame 13 is slidably mounted a tripper frame 21, which is formed as a rectangular framework, the front portion of which extends forwardly in front of the portions 13' and the rear portion of which is adapted to engage an arm 22, forming a part of the lower member 23 of a pair of toggles, the upper member 24 of which is pivoted to the lower member 23 at 25. The lower member 23 is pivoted at 26 to the car body frame 6. The upper member 24 terminates at its upper end in an open hook 25' and is pivotally connected at its upper end at the bottom of said hook to a U-shaped brace 27, said brace being fastened to the brackets 15 forming a part of the fender to which said brackets are rigidly attached.

When the upper and lower members of

the toggle 28 are in the position illustrated in Fig. 3, with the median axial line of the pivot 25 slightly to the left of a plane passing through the median axial lines of the pivots 26 and 27, the fender will be in its elevated position. When the parts of said fender are in the position illustrated in Fig. 4, then the fender will be in its lowered position and the toggle will be in the condition known as "broken." This condition may be brought about by pushing the tripper frame 21 backwardly along the horizontally extended portion 13' of the frame 13 until said frame 21 engages the arm 22, which will rock the lower member 23 upon its pivot 26, thus moving the upper member 24 outwardly and "breaking" the toggle and allowing the fender to descend until the brackets 15 engage the collars 29 upon the rods 17, when the fender will be close to the ground, as illustrated in Fig. 4.

If desired, the toggle may be operated by hand to "break" the same and allow the fender to drop to its lowermost position and also said toggle may be operated by the motorman from the platform of the car to bring the toggle back from the position illustrated in Fig. 4 to the position illustrated in Fig. 3.

In order to "break" the toggle and to move it from the position illustrated in Fig. 3 to that illustrated in Fig. 4 a tripper adapted to be operated by the motorman from the platform is provided (see Fig. 5). This tripper consists of a rod 30 adapted to slide in a sleeve bearing 31 fast to the dasher 7 of the car body. The forward end of the rod 30 is adapted to abut against the lower member 23 adjacent to the pivotal connection 25 of the lower member 23 and the upper member 24. Said rod 30 is encircled by a helical spring 32 which bears against a head 33 at one end of said rod, said spring bearing against the sleeve bearing 31 at the other end thereof. A pin 34 is fastened to the rod 30 and slides in a slot 35 in said sleeve bearing, said pin determining the distance to which the rod 30 can be moved in one direction by the knee of the motorman and in the opposite direction by the spring 32.

A stop 36 has screw-threaded engagement with the sleeve-bearing 31 and encircles the rod 30, the forward end of said stop bearing against the member 23 adjacent to the pivot 25, thus regulating the distance to which the members of the toggle can be moved toward the left (Fig. 3). Said members are moved toward the left (Fig. 3) from the position illustrated in Fig. 4 to that illustrated in Fig. 3 by means of a flexible cord or chain 37 which is within the control of the motorman and is attached to the upper member 24, passing from said upper member through the dasher 7 and having pref-

erably attached thereto a ring 38 by which the motorman can pull the chain or cord 37 to move the members of the toggle from the position illustrated in Fig. 4 to that illustrated in Fig. 3, thus raising the fender from its lowered to its elevated position.

The horizontal portion of the frame 13 is provided with transversely extending slats 39 and the tripper frame 21 is formed in two parts 21', 21² which are pivoted to each other at 21³. The horizontal portion 13' of the frame 13 is also made in two parts 13² and 13³, which are pivoted together at 13⁴, so that when the fender is not in use, or when it is at the rear end of the car, the part 21' can be turned into a substantially vertical position about its pivot 21³ and subsequently the part 13² of the horizontal frame can be rotated into a substantially vertical position about its pivot 13⁴, as illustrated in dotted lines (Fig. 3). Thus the parts 21' and 13² are folded into a substantially vertical position and take up less room when the car is in the house or car barn.

When the parts 21' and 13² are in the substantially horizontal position, as illustrated in Figs. 1 and 3 in full lines, they are locked in that position against rocking by means of fingers 40, which are pivoted at 41 to the cross-bar of the frame 13'.

The general operation of the device hereinafore specifically described is as follows: Assuming the parts to be in the position illustrated in Fig. 3 and any obstruction such as that of a human body is caught between the tracks, it will be struck by the forward end of the tripper frame 21, which will push said tripper frame backwardly upon the frame 13 and trip the lever 23, thus "breaking" the toggle joint and moving the same from the position illustrated in Fig. 3 to that illustrated in Fig. 4, while at the same time the fender will be allowed to drop from the position illustrated in Fig. 3 to that illustrated in Fig. 4, so that the body which has been struck will be lifted or will fall upon the horizontal portion of the fender while the vertical parts 9 and 10 of the fender will prevent the person thus thrown onto the fender from being injured. If the motorman sees the person on the track in time to operate the fender, he can do so by pushing the tripper rod 30 forwardly with his knee, which will cause the forward end of said rod to abut against the part 23 of the toggle joint and push said toggle joint forwardly to "break" the same, while simultaneously the fender will drop from the position illustrated in Fig. 3 to that illustrated in Fig. 4.

To return the device from the position illustrated in Fig. 4 to that illustrated in Fig. 3, the motorman pulls upon the cord 37, thus swinging the toggle toward the

left from the position illustrated in Fig. 4 to that illustrated in Fig. 3, the toggle finally stopping when it abuts against the stop 36.

The word "break" as used referring to the toggle in the specification and in the claims defines that position of the toggle links substantially shown in Fig. 4—that is, when the pivot 25 is so far out of alignment with the pivots 26 and 27 that said toggle has no tendency to hold the fender in its elevated position.

Having thus described my invention, what I claim and desire by Letters Patent to secure is:

1. In combination, a fender and a car body upon which said fender is mounted to slide vertically, a vertically disposed toggle joint comprising an upper and a lower member pivotally connected together, a pivot on said car body, said lower member being mounted to rock on said pivot and having an arm extending below said pivot, said upper member being pivotally connected to said fender and adapted to hold the same in its elevated position, said fender having a frame extending forwardly from the lower side thereof, a tripper slide movable longitudinally of said car body on said fender frame and projecting forwardly when in its normal position beyond the front end of said frame and adapted to engage said arm, whereby, upon movement of said tripper slide rearwardly on said frame, said lower member may be rocked to "break" said toggle and allow said fender to drop.

2. In combination a fender and a car body upon which said fender is mounted to slide vertically, a vertically disposed toggle joint comprising an upper and a lower member pivotally connected together, a pivot on said car body, said lower member being mounted to rock on said pivot and having an arm extending below said pivot, said upper member being pivotally connected to said fender and adapted to hold the same in its elevated position, said fender having a frame extending forwardly from the lower side thereof, a tripper slide movable longitudinally of said car body on said fender frame and projecting forwardly when in its normal position beyond the front end of said frame and adapted to engage said arm, whereby, upon movement of said tripper slide rearwardly on said frame, said lower member may be rocked to "break" said toggle and allow said fender to drop and a stop on said car body to limit the distance to which said fender may be dropped.

3. In combination, a fender and a car body upon which said fender is mounted to slide vertically, a vertically disposed toggle joint comprising an upper and a lower member pivotally connected together, a pivot on

said car body, said lower member being mounted to rock on said pivot and having an arm extending below said pivot, said upper member being pivotally connected to said fender and adapted to hold the same in its elevated position, said fender having a frame extending forwardly from the lower side thereof, a tripper slide movable longitudinally of said car body on said fender frame and projecting forwardly when in its normal position beyond the front end of said frame and adapted to engage said arm, whereby, upon movement of said tripper slide rearwardly on said frame, said lower member may be rocked to "break" said toggle and allow said fender to drop, a stop on said car body to limit the distance to which said fender may be dropped and means to manually operate said toggle from said car body to allow said fender to drop.

4. In combination, a fender and a car body upon which said fender is mounted to slide vertically, a vertically disposed toggle joint comprising an upper and a lower member pivotally connected together, a pivot on said car body, said lower member being mounted to rock on said pivot and having an arm extending below said pivot, said upper member being pivotally connected to said fender and adapted to hold the same in its elevated position, said fender having a frame extending forwardly from the lower side thereof, a tripper slide movable longitudinally of said car body on said fender frame and projecting forwardly when in its normal position beyond the front end of said frame and adapted to engage said arm, whereby, upon movement of said tripper slide rearwardly on said frame, said lower member may be rocked to "break" said toggle and allow said fender to drop, a stop on said car body to limit the distance to which said fender may be dropped and means to manually operate said toggle from said car body to raise said fender.

5. In combination, a fender and a car body upon which said fender is mounted to slide vertically, a vertically disposed toggle joint comprising an upper and a lower member pivotally connected together, a pivot on said car body, said lower member being mounted to rock on said pivot and having an arm extending below said pivot, said upper member being pivotally connected to said fender and adapted to hold the same in its elevated position, said fender having a frame extending forwardly from the lower side thereof, a tripper slide movable longitudinally of said car body on said fender frame and projecting forwardly when in its normal position beyond the front end of said frame and adapted to engage said arm, whereby, upon movement of said tripper slide rearwardly on said frame, said lower member may be rocked to "break" said

toggle and allow said fender to drop and a spring-actuated tripper adapted to be manually operated supported on said car body and engaging said toggle joint, whereby
5 said toggle may be operated to lower said fender.

6. In combination, a fender and a car body upon which said fender is mounted to slide vertically, a vertically disposed toggle
10 joint comprising an upper and a lower member pivotally connected together, a pivot on said car body, said lower member being mounted to rock on said pivot and having an arm extending below said pivot, said
15 upper member being pivotally connected to said fender and adapted to hold the same in its elevated position, said fender having a frame extending forwardly from the lower side thereof, a tripper slide movable longitudinally of said car body on said fender
20 frame and projecting forwardly when in its normal position beyond the front end of said frame and adapted to engage said arm, whereby, upon movement of said tripper slide rearwardly on said frame, said lower
25 member may be rocked to "break" said toggle and allow said fender to drop and means connected to one of the members of said toggle, whereby said toggle may be operated to
30 raise said fender.

7. In combination, a fender and a car body upon which said fender is mounted to slide vertically, a vertically disposed toggle
35 joint comprising an upper and a lower member pivotally connected together, a pivot on said car body, said lower member being mounted to rock on said pivot and having an arm extending below said pivot, said upper member being pivotally connect-
40 ed to said fender and adapted to hold the same in its elevated position, said fender having a frame extending forwardly from the lower side thereof, a tripper slide movable longitudinally of said car body on said
45 fender frame and projecting forwardly when in its normal position beyond the front end of said frame and adapted to engage said arm, whereby, upon movement of said tripper slide rearwardly on said frame, said lower member may be rocked to
50 "break" said toggle and allow said fender to drop, a spring-actuated tripper adapted to be manually operated, supported on said car body and engaging said toggle joint, whereby said toggle may be operated to
55 lower said fender and a stop adjustably mounted on said car body adapted to engage one of said members of said toggle to limit the distance to which said toggle mem-
60 bers can be moved in one direction.

8. In combination, a fender and a car body upon which said fender is mounted to slide vertically, a vertically disposed toggle
65 joint comprising an upper and a lower member pivotally connected together, a

pivot on said car body, said lower member being mounted to rock on said pivot and having an arm extending below said pivot, said upper member being pivotally and detachably connected at its upper end to said
70 fender and adapted to hold the same in its elevated position, said fender having a frame extending forwardly from the lower side thereof, and a tripper slide movable longitudinally of said car body on said fender
75 frame and projecting forwardly when in its normal position beyond the front end of said frame and adapted to engage said arm, whereby, upon movement of said tripper slide rearwardly on said frame, said
80 lower member may be rocked to "break" said toggle and allow said fender to drop.

9. In combination, a fender and a car body upon which said fender is mounted to slide vertically, a vertically disposed toggle
85 joint comprising an upper and a lower member pivotally connected together, a pivot on said car body, said lower member being mounted to rock on said pivot and having an arm extending below said pivot, said
90 upper member being pivotally connected to said fender and adapted to hold the same in its elevated position, said fender having a frame extending forwardly from the lower side thereof, a tripper slide movable longitudinally of said car body on said
95 fender frame and projecting forwardly when in its normal position beyond the front end of said frame and adapted to engage said arm, whereby, upon movement of said tripper slide rearwardly on said frame, said lower member may be rocked to
100 "break" said toggle and allow said fender to drop, said tripper slide being made in two parts, pivoted one upon the other, and
105 said fender frame being made in two parts, pivoted one upon the other, the pivots of said tripper slide and fender frame being eccentric to each other and means to lock said tripper slide to said fender frame, to
110 prevent said parts from rocking on their pivots.

10. In combination, a fender, a car body, a plurality of vertical rods supported at their lower ends on said car body, upon
115 which said fender is detachably and slidably mounted, a vertically disposed toggle joint, comprising an upper and a lower member, pivotally connected together, a pivot on said car body, said lower member being mounted
120 to rock on said pivot and having an arm extending below said pivot, said upper member being pivotally and detachably connected at its upper end to said fender and adapted to hold the same in its elevated po-
125 sition, said fender having a frame extending forwardly from the lower side thereof, and a tripper slide movable longitudinally of said car body on said fender frame and projecting forwardly when in its normal po-
130

sition beyond the front end of said frame
and adapted to engage said arm, whereby,
upon movement of said tripper slide rear-
wardly on said frame, said lower member
5 may be rocked to "break" said toggle and
allow said fender to drop.

In testimony whereof I have hereunto set

my hand in presence of two subscribing wit-
nesses.

GEORGE H. CLAPP.

Witnesses:

CHARLES S. GOODING,
SYDNEY E. TAFT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."