



No. 666,399.

Patented Jan. 22, 1901.

R. THOMPSON.  
STREET CAR FENDER.

(Application filed Apr. 19, 1900.)

(No Model.)

2 Sheets—Sheet 2.

Fig. 3.

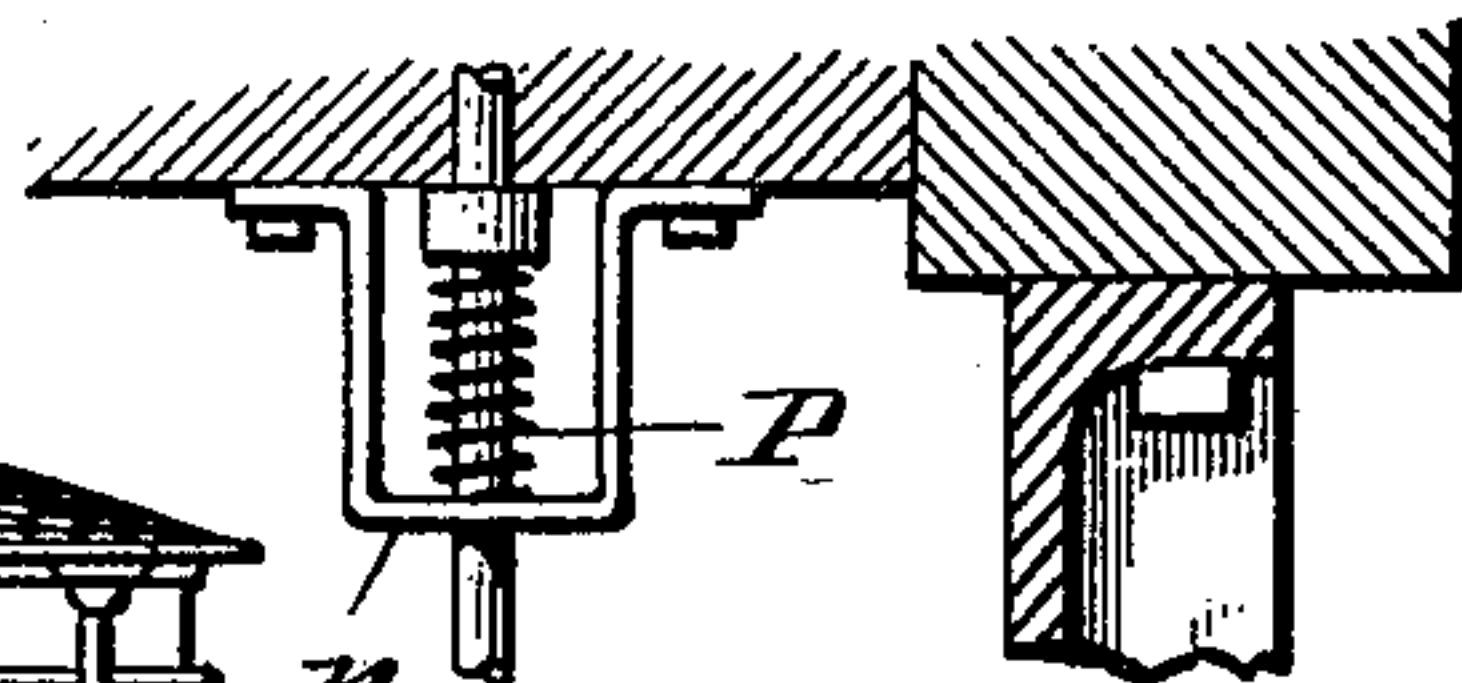
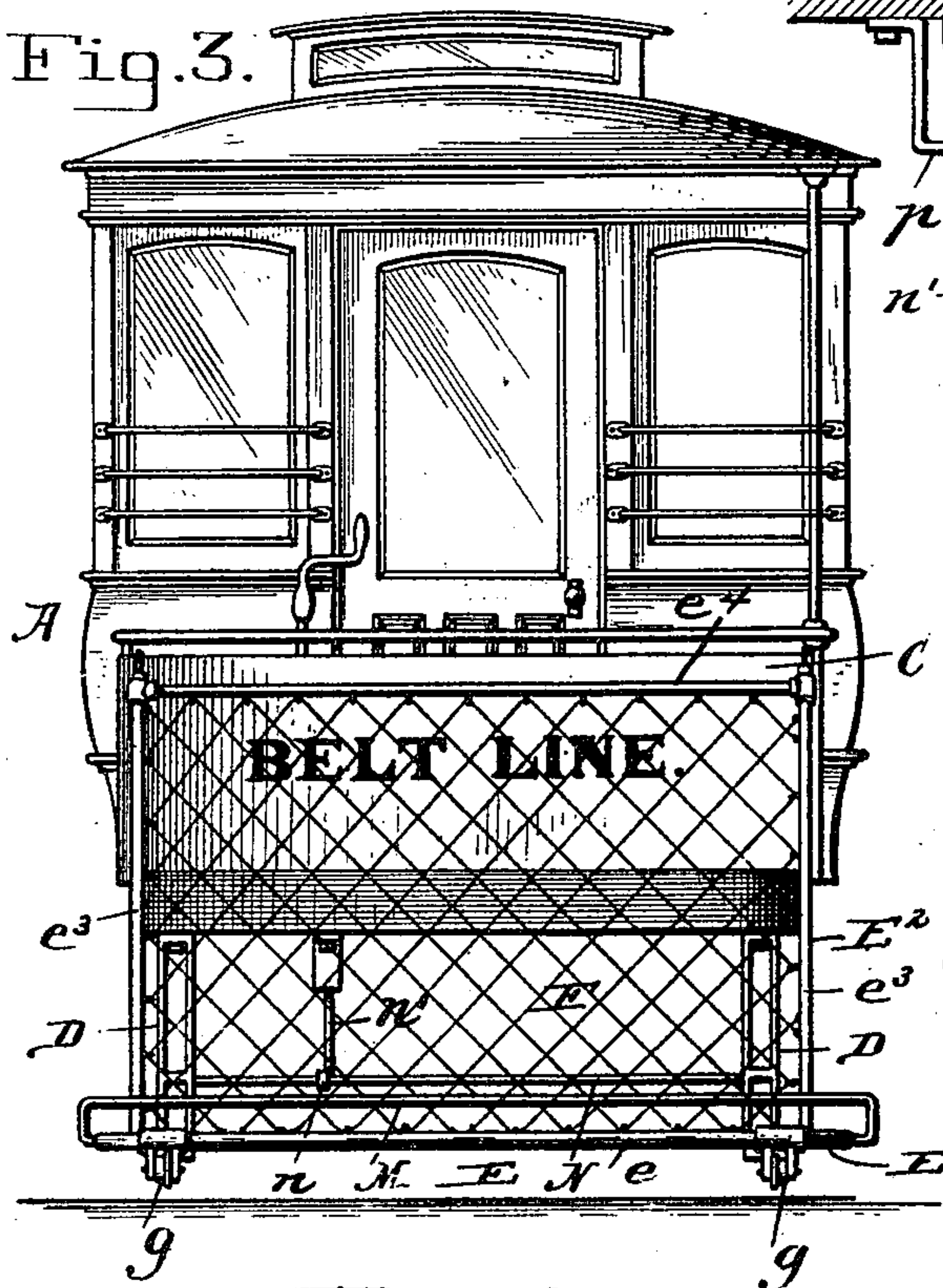


Fig. 4.

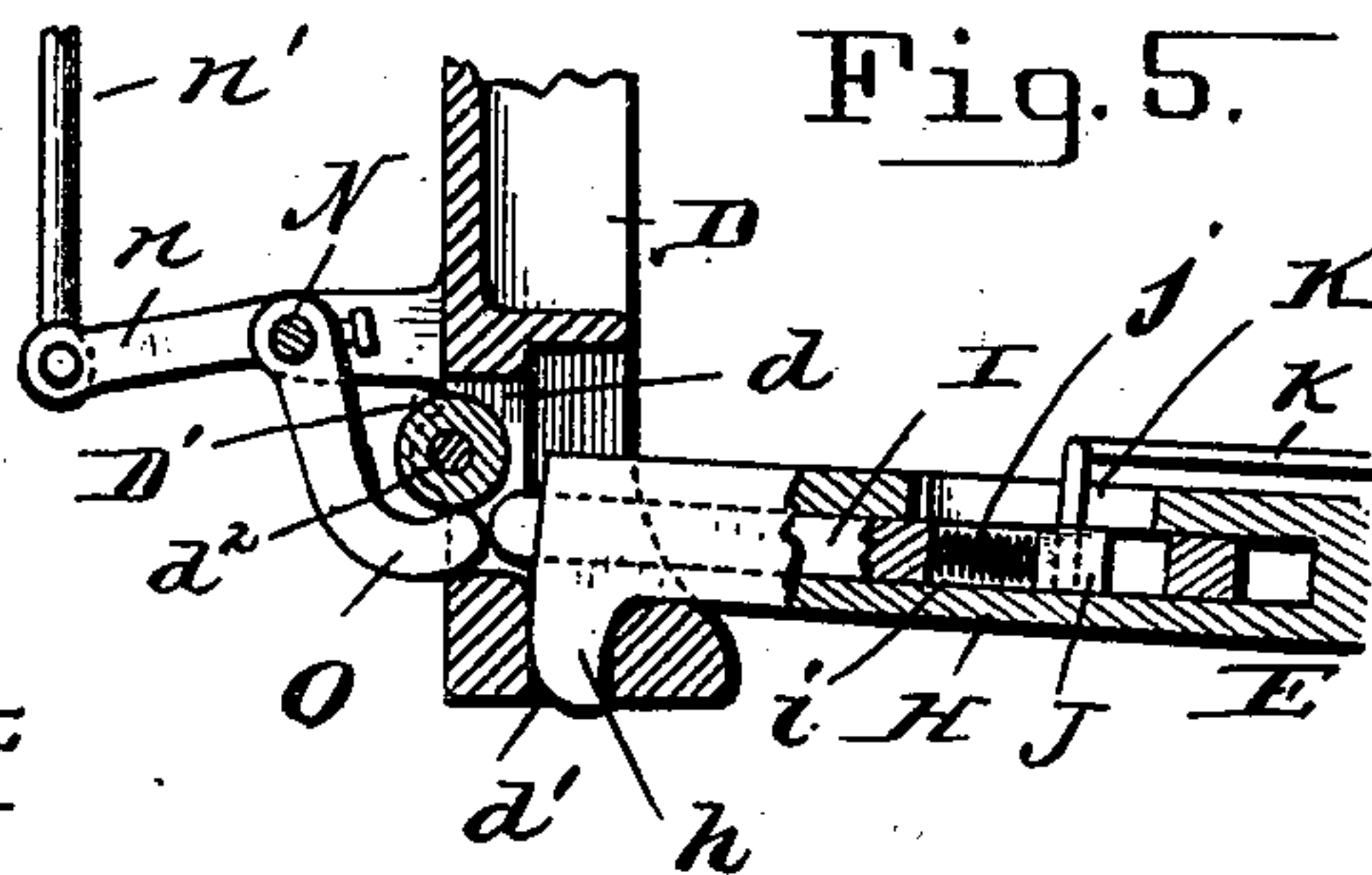


Fig. 5.

Fig. 6.

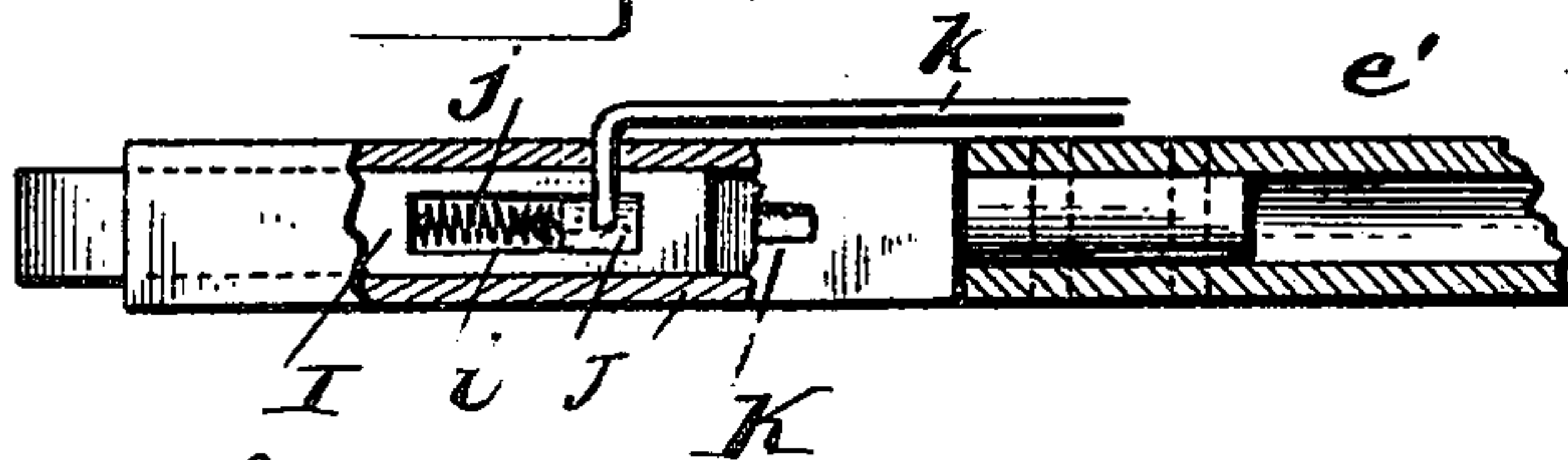
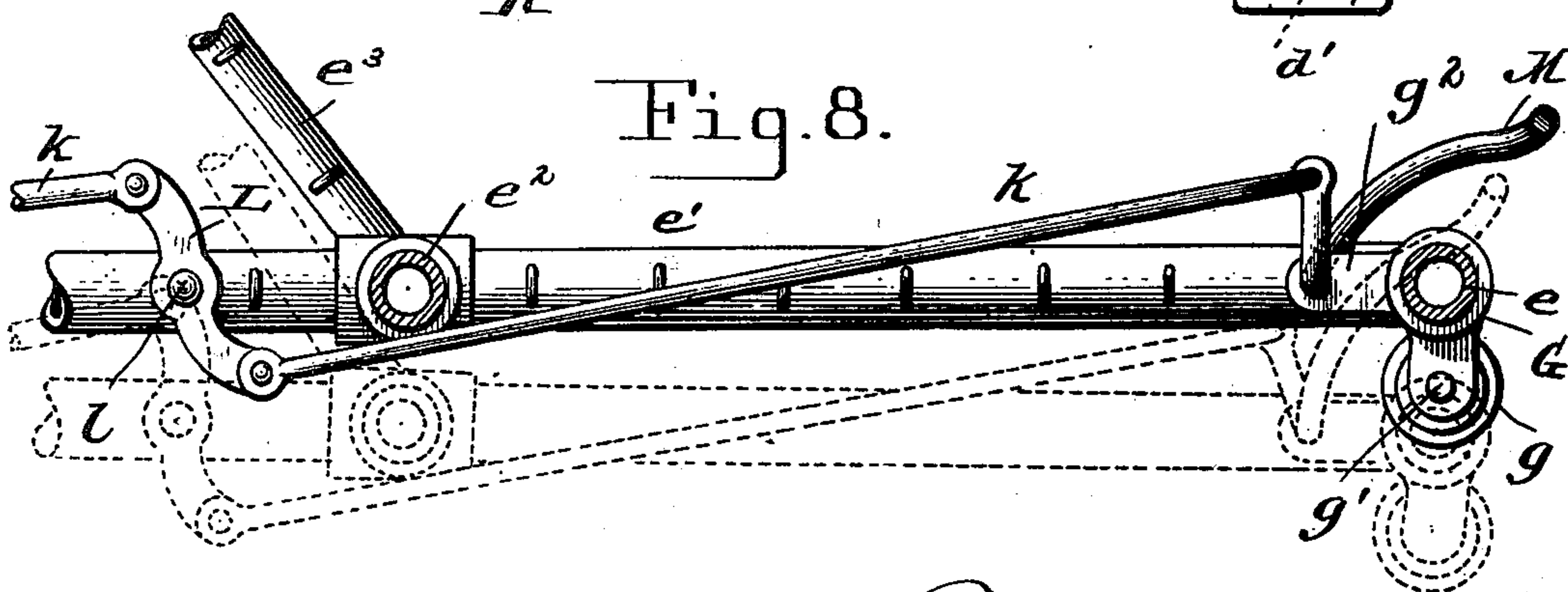


Fig. 7.



Fig. 8.



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# UNITED STATES PATENT OFFICE.

RICHARD THOMPSON, OF BUFFALO, NEW YORK, ASSIGNOR OF ONE-HALF  
TO GEORGE E. TROUP, OF SAME PLACE.

## STREET-CAR FENDER.

SPECIFICATION forming part of Letters Patent No. 666,399, dated January 22, 1901.

Application filed April 19, 1900. Serial No. 13,467. (No model.)

*To all whom it may concern:*

Be it known that I, RICHARD THOMPSON, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Street-Car Fenders, of which the following is a specification.

This invention relates to car-fenders especially constructed for street-cars propelled by electricity, compressed air, the cable system, or any other suitable motive power. It relates more especially to that class of fenders wherein mechanism is provided for automatically lowering the front end of the fender to the track when coming in collision with a person and wherein further mechanism is provided whereby the motorman may lower the fender when a person or object is seen before coming in contact with the fender.

The invention has for one object to provide a simply-constructed, durable, and efficient device of this character which is positive in action and which when coming in contact with a person stationed in or crossing the path of the car will automatically lower itself to the track.

A further object is to provide simple and ready means within easy reach of the motorman or brakeman, whereby he can lower the fender to the track when the person or object in the path of the car comes to his view before coming in contact with the fender.

My invention consists of several parts constructed, arranged, and used in combination substantially in the manner hereinafter described, illustrated, and claimed.

Referring to the drawings, Figure 1 is a side elevation of my device, showing the manner in which it is attached to the car. Fig. 2 is a plan view thereof. Fig. 3 is an end view of the same. Fig. 4 is an enlarged sectional elevation of one of the supports or hangers depending from the car-platform and the rear end of the fender-frame in which the locking mechanism is situated, the same being shown in a locked position, so as to hold the fender in its elevated position. Fig. 5 is a similar view, the locking mechanism being forced from engagement with the hanger by the releasing-lever, which is operated by the motorman, the fender being shown in the posi-

tion it attains when lowered to the track. Fig. 6 is a plan view of the casting containing the locking mechanism, a portion of the casting being broken away to show the sliding bolt. Fig. 7 is a front elevation of the lower portion of one of the hangers or supports. Fig. 8 is a longitudinal section, on an enlarged scale, taken on line 8 8, Fig. 2, showing the position of the connecting-rods, the centrally-pivoted lever, and the advance guard when the fender is elevated, the lowered position being shown in dotted lines.

Like letters of reference refer to like parts in the several figures.

A represents the car-body, B the platform, and C the dashboard. To the under side of the platform hangers or supports D are secured by means of bolts or in any other suitable manner. These hangers are each provided with an opening  $d$  in their rear side and a pocket  $d'$  in their bottom, each for a purpose, as will hereinafter appear. A friction-roller  $D'$  is situated in the opening  $d$  and is journaled on a pin or stud  $d^2$ , passing through the hanger.

E represents the car-fender, which consists of the horizontal portion  $E'$  and the inclined portion  $E^2$ . The frame of the fender is formed of the transverse end bar  $e$ , side bars  $e'$ , a central transverse bar  $e^2$ , and the inclined side bars  $e^3$ . A connecting-bar  $e^4$  connects the upper ends of the inclined side bars, which, with the transverse bar  $e^2$ , hold the side bars rigidly together and form a most substantial framework, while they also serve as means for fastening the netting F. The framework, as shown, is preferably constructed of pipe; but angle-irons, channel-irons, or any other suitable form and material may be used.

With the device constructed of pipe I provide castings G, located in the transverse end bar  $e$ , which are spaced so as to be situated directly over the track, and in these castings, which are bifurcated, pilot-wheels  $g$  are positioned and journaled on pins  $g'$ , passing through the bifurcated portion of the casting. When the fender is lowered, these wheels ride on the track and prevent lateral movement of the fender, thereby preventing twisting strains on the frame and lengthening the



life thereof. The castings G are also provided with rearward extensions  $g^2$ , in which the advance guard is pivotally held, as will appear farther on.

5 The rear end pieces H of the side pieces  $e'$  are cast or otherwise formed to receive the locking mechanism wherewith the fender is held in its normal or elevated position. These castings are so formed as to enter the pipe  
10 portion of the frame or they may be secured thereto in any other practical manner. They are each provided with downwardly-projecting ears or lugs  $h$ , which enter the pockets  $d'$ , formed in the lower end of the supports  
15 or hangers D, which position the fender on the car and prevent lengthwise displacement. They also act as pivots on which the fender is lowered or elevated.

Sliding pieces or bolts I are located in the  
20 end pieces H, which project through the end of the same, so as to enter the opening  $d$ , formed in the hangers, the upper sides or faces thereof bearing against friction-rollers  $d^2$ , journaled in the upper end of said opening.  
25 By this construction the fender swings on the lower end of the hangers and is held in its elevated position by the sliding pieces I.

Each sliding piece or bolt I has a vertical slot  $i$  formed lengthwise therein and a sliding block J located in said slot. A compression-spring  $j$ , bearing with one end against the rear face of the slot and with its other end against the rear face of the sliding block J, holds the same against the front end of said  
30 slot. A longitudinal slot K is formed in the end pieces H, through which a rod  $k$  is made to pass, the rear end thereof being connected to the sliding block J, while the front end is connected to one end of a lever L, pivotally  
40 connected to the side bars  $e'$  of the frame.

M represents the advance guard, which is positioned at the front end of the fender-frame and slightly above and in advance of the end bar  $e$ . This bar passes transversely  
45 across the fender-frame, thence rearwardly on either side, and thence inwardly through the castings G, the inner ends thereof extending upwardly for connection with the rods  $k'$ , which pass back to the levers L, to which they  
50 are secured. These levers are pivoted midway between their ends, as at  $l$ , which give the rods  $k$  a forward movement, while the rods  $k'$  are moved backwardly. Thus a person or object in the path of the car comes in contact  
55 with the advance guard, which, being pivotally secured to the fender-frame, will swing back and cause its inner ends to swing back also. This forces the rods  $k'$  backwardly, while the rods  $k$ , through the agency of the  
60 levers L, are moved forwardly. The rear ends of the rods  $k$  being secured to the sliding bolts impart a forward movement to the same and cause them to be disengaged from the hangers, thereby permitting the fender to  
65 swing to the track.

In order that the motorman may operate the fender if he so desires, mechanism is pro-

vided which consists of a rock-shaft N, journaled in ears or lugs formed on the rear side of the hangers. A lever  $n$  is secured thereto  
70 which is pivotally connected at its rear end to a rod  $n'$ , which passes up through the platform within easy reach of the motorman. O represents the releasing-levers, secured to the rock-shaft N and positioned directly in rear  
75 of the sliding bolts I. The outer or free ends of these releasing-levers are curved, so as to readily pass under the friction-rollers when operated by the rod  $n'$  and force the sliding bolts forward away from the friction-rollers.  
80 To keep the rod  $n'$  in its elevated position, a spring P is provided, which surrounds the rod and bears with one end against an enlargement formed on the same and with its other end on a bracket  $p$ , through which the rod  
85 passes. When the motorman sees that a collision with a person or object is unavoidable, he simply steps on the rod  $n'$ , which swings the releasing-levers against the sliding bolts I and forces them from under the friction-  
90 rollers into the end pieces H. When the sliding bolts are free of the friction-rollers, the fender swings to the track. At the time the fender is being operated by the motorman the advance guard M, rods  $k$   $k'$ , levers L, and slid-  
95 ing blocks J remain unchanged in position and unmoved, the sliding bolts I simply riding forward on the blocks J without moving any part of the automatic mechanism.

When the car has reached its destination  
100 and it is desired to attach the fender to the opposite end of the car for the return trip, it is simply necessary to unhook the inclined portion of the fender from the dashboard, pull the sliding bolts from their seats, and lift the  
105 fender so as to disengage the ears  $h$  from their pockets, when the fender can be carried to the other end and be as readily attached.

If desired, and without departing from the essence of my invention, the rear ends of the  
110 advance guard after passing through the castings G may be turned downwardly and a rod directly connected to the locking mechanism. In such case the rearward movement of the advance guard would swing the ends  
115 thereof forward, and the sliding bolts of the locking mechanism would also be drawn forward, so as to become disengaged from the hangers. This would make an extremely simple device.  
120

Another change without the change of my combination or parts and still maintaining all the features of the invention would be by fitting the advance guard so as to slide on the fender instead of swing thereon, all other  
125 parts remaining as shown in the drawings. This would also make a simple and practical device, all the features of my invention being retained.

Having thus described my invention, what  
I claim as new is—

1. A device of the class described, comprising supports or hangers depending from the car-body, a fender-frame secured to said sup-



ports in a manner to permit the front end thereof to swing to the track, locking mechanism secured to the rear end of the fender-frame to hold it in its normal or elevated position above the track, an advance guard pivotally connected to the fender-frame, a lever pivoted between its ends to said frame, a rod connecting one end of said lever with the advance guard, and a second rod connecting the locking mechanism with the opposite end of said lever, for the purpose described.

2. The combination with the car-body and its depending supports or hangers provided with an opening or recess, of a fender-frame connected to said supports in a manner to permit of lowering its front end, sliding pieces or bolts secured in or to the rear ends of the fender-frame and adapted to enter the openings or recesses in said supports, levers pivoted between their ends to said fender-frame, rods connected at one end to the sliding bolts and at their other end to one end of the levers, a movable guard extending out in advance of the fender-frame, and rods connecting the ends of the same with the opposite ends of the levers, substantially as set forth.

3. A device of the class described, comprising hangers or supports secured to the car-body, each having a pocket formed in its lower end and an opening through its rear side fitted with a friction-roller, a fender-frame having lugs or ears which are adapted to be seated in said pockets, sliding bolts projecting from the fender-frame into the hangers and bearing with their upper faces against said friction-rollers, a spring for keeping said bolts in their projected position, and mechanism for disengaging the sliding bolts from the hang-

ers automatically or when desired, as and for the purpose described.

4. The combination with the car having depending hangers or supports provided with pockets in their lower ends, of a fender-frame having lugs or ears formed on its rear ends adapted to enter said pockets, locking mechanism fitted in or to said fender-frame and adapted for engagement with said hangers or supports so as to hold the fender in its elevated position, and releasing mechanism whereby the locking mechanism can be disengaged from the hangers and permit the fender to be lowered to the track, for the purpose described.

5. The combination with the car supports or hangers secured to the car-body, each having a pocket formed in its lower end and an opening through its rear side fitted with a friction-roller, a fender-frame having lugs or ears which are adapted to be seated in said pockets, sliding bolts projecting from the fender-frame into the openings in the hangers and bearing with their upper faces against said friction-rollers, springs for keeping said bolts in their projected position, levers pivoted between their ends to the fender-frame, rods connecting one end of said levers with the sliding bolts, an advance guard pivotally connected to the front end of the fender-frame, and rods connecting said guard with the opposite ends of said levers, substantially as set forth.

In testimony whereof I have hereunto subscribed my name this 29th day of March, 1900.

RICHARD THOMPSON.

Witnesses:

ROSWELL J. HANNA,  
EDWARD G. KELLNER.