

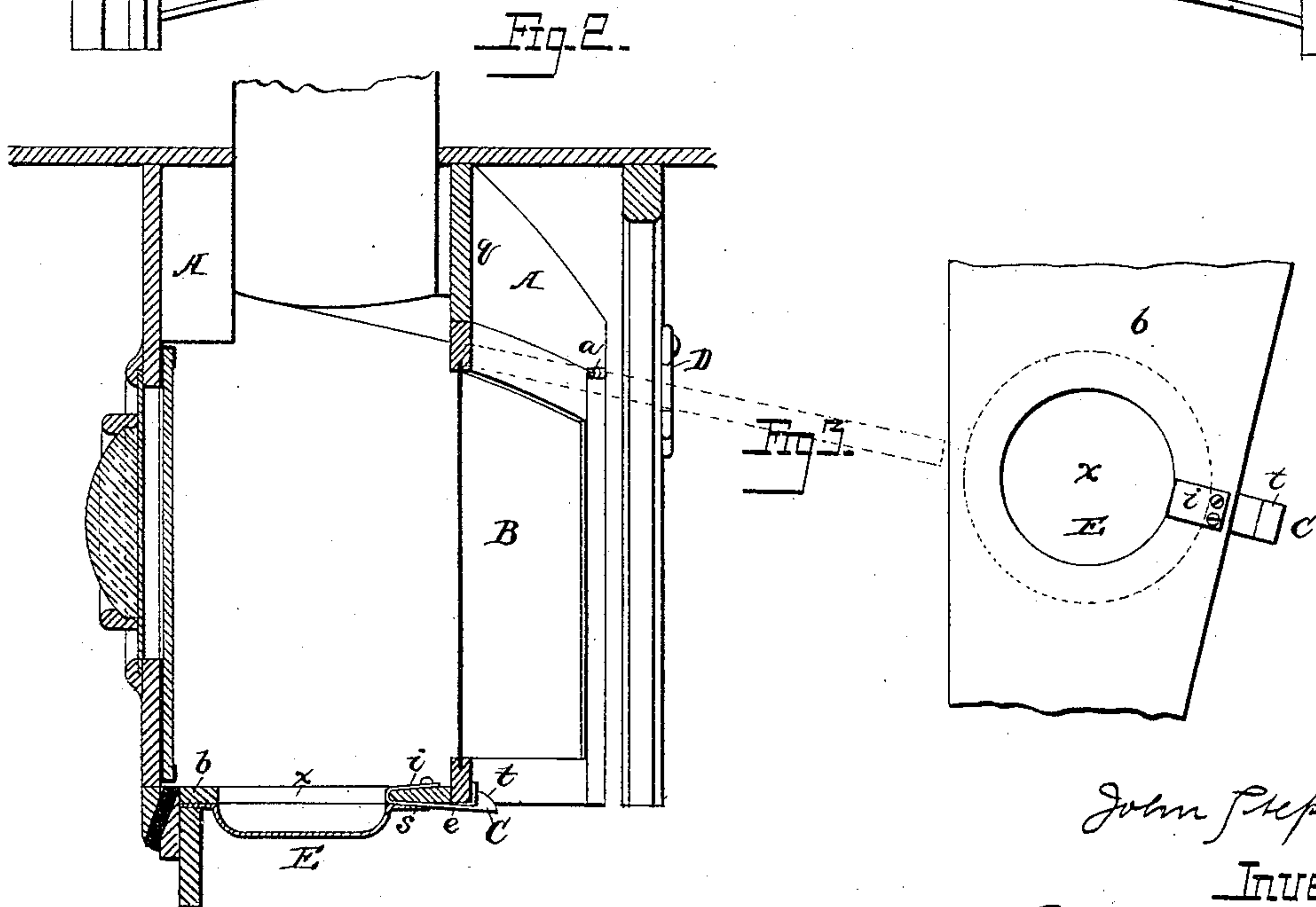
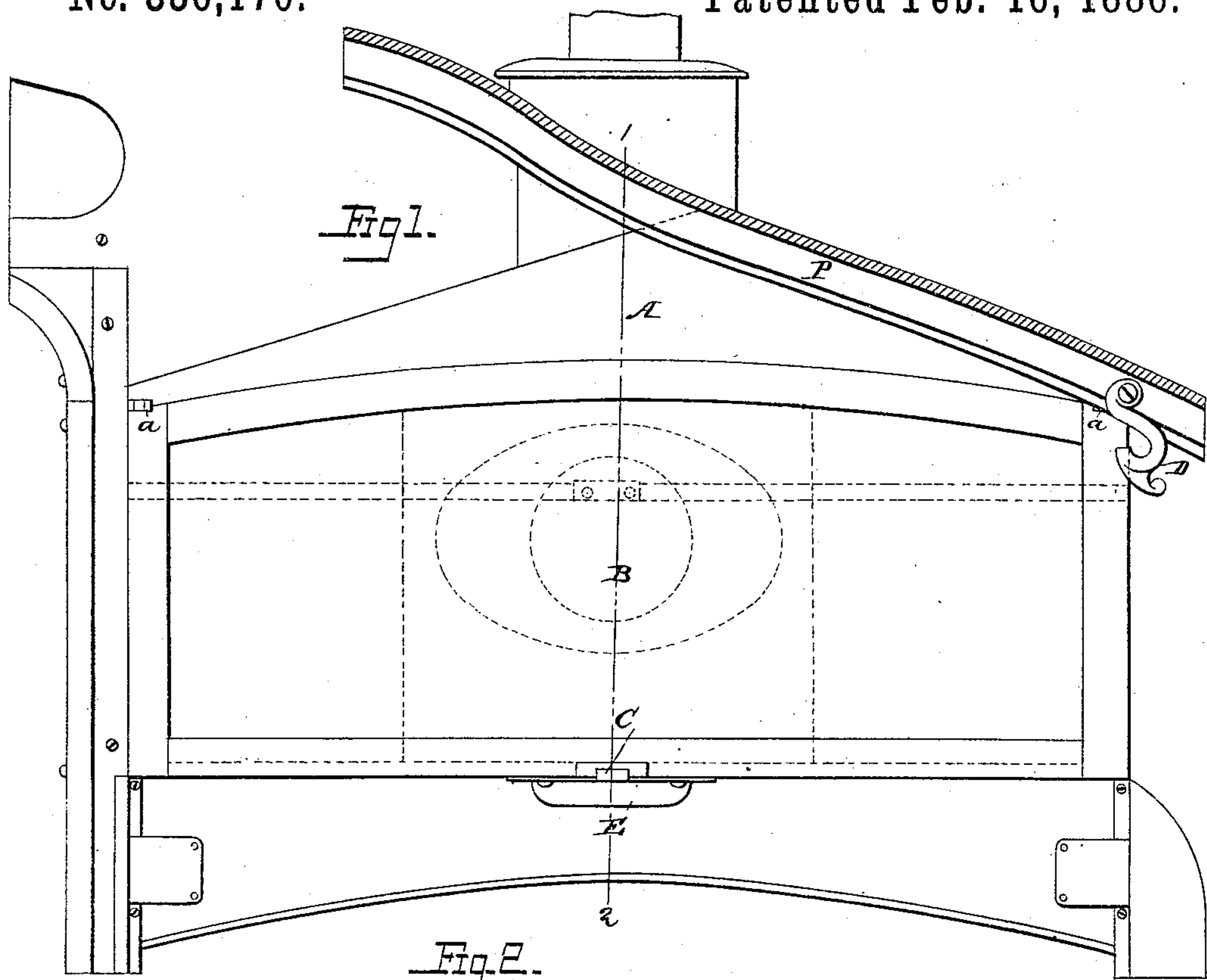
(No Model.)

J. STEPHENSON.

LAMP DOOR LATCH FOR CARS.

No. 336,170.

Patented Feb. 16, 1886.



Attest:
John G. Hinkel, Jr.
A. E. J. Farnsman.

John Stephenson,
Inventor:
By Walter L. Leman
Attys.

UNITED STATES PATENT OFFICE.

JOHN STEPHENSON, OF NEW YORK, N. Y.

LAMP-DOOR LATCH FOR CARS.

SPECIFICATION forming part of Letters Patent No. 336,170, dated February 16, 1886.

Application filed December 23, 1885. Serial No. 186,582. (No model.)

To all whom it may concern:

Be it known that I, JOHN STEPHENSON, a citizen of the United States, and a resident of the city, county, and State of New York, have
5 invented certain new and useful Improvements in Car-Lamp-Door Latches, of which the following is a specification.

Each end lamp of a street-car is placed in a box or "lamp-house" at the upper angle of
10 the car ends, above the corner seats, more often occupied. It is the custom for the lamp-trimmer to remove and replace the lamps while the car is in service and frequently crowded. The lamp-house door is hinged at
15 the top, and usually, if fastened, is with a small hook. The trimmer, while holding the two lamps of the car in one hand, must with the other hand unfasten and hold up the door, remove the chimney and exhausted lamp, and place in
20 position the newly-trimmed lamp. This operation is rendered more difficult when the car is started before the lamp act is finished, and in the hurry the lamp-house door is often left unhooked, as the operation sometimes requires
25 the use of both hands. When the door is left unfastened, it swings to and fro, causing or permitting the air to be sucked down the smoke-chimney, so that the lamp burns sluggishly or the flame is extinguished.

30 My invention remedies the difficulties cited, with others not named, by fastening the door with a spring-latch located partly beneath and partly above the house-floor, so that when the door is dropped the latch will catch and hold
35 the door closed. One hand can unlatch and lift the door open, where it is held by an S-hook adapted to the purpose, suspended to a rafter of the car-roof, so that its own gravity brings it to the perpendicular and holds it
40 there. Thus, when the door is lifted open, the lower end of the S-hook is pushed sidewise until the edge of the door passes above that member, which immediately recovers from its displacement and catches and holds open the
45 door, leaving the hands of the lamp-trimmer free to manipulate his lamps. When this is done, a touch to the S-hook releases the door, and its lower edge falls and passes the head of the spring-latch, which instantly recoils and
50 holds the door shut.

Lamp-houses are usually made with a central hole in the floor, of size sufficient to re-

ceive the wick-well of the lamp, and the front edge of the floor-hole is so near to the lamp-house door as not to allow space for fastening
55 the spring-latch beneath. The floor-hole is better closed, so that no atmospheric connection may exist between the lamp-house and the interior of the car, because such connection permits the outside atmosphere to be
60 sucked down the chimney and extinguish the light or cause it to burn sluggishly, heating the lamp-house, melting the quicksilver from the glass reflectors, cracking the glass, and exploding the lamp, and at times offending
65 the passengers with the fumes of the oil. The hole in the floor also permits drippings of oil to fall on passengers. All of these I remedy by placing a drip-cup beneath the lamp-house floor, and covering the hole in the floor, so
70 that there is no passage for air or oil. I also utilize the broad rim of the drip-cup to limit the action of the spring-latch, so that it cannot be readily bent to inefficiency. The spring-latch is made of spring metal, formed as shown
75 in the drawings, the lower member elongated and made with a latch-head, the upper member being fastened to the upper side of the lamp-house floor, and the spring continuing
80 via the niche or hole to and along the under side of the floor, between the latter and the broad rim of the drip-cup, with its head beyond but contacting with the door-face.

The construction of the features above described is specifically illustrated in the accompanying drawings, in which Figure 1 is
85 an inside end elevation of sufficient of a tram-car to illustrate my improvement. Fig. 2 is a cross-section on the line 1 2, Fig. 1; and Fig. 3 is a partial plan of the bottom of the
90 lamp-house.

A represents the lamp-house, and B the lamp-house door, which is hinged by hinges *a* to the inner side, *q*, of the lamp-house.

D is the catch, shown in the form of an S-
95 hook, but capable of being otherwise constructed so that when the door B is turned upward to the position shown in dotted lines, Fig. 2, the hook will be first forced back, and will then fall inward with its shoulder below
100 the end stile of the door.

b is the floor of the lamp-house, and in this floor is the central hole, *x*, and *c* is the spring-catch, having a head, *p*, with an inclined face

and abrupt shoulder, and a spring-shank bent to a U shape, the lower member, *e*, extending beneath the floor *b*, and folding round the edge of the opening *x*, and the upper member, *i*, lying upon the face of the floor, to which it is suitably secured. When the door is brought toward a closed position, it strikes the inclined face of the head of the catch, which is forced downward, and then springs upward as the edge of the door passes the abrupt shoulder, and secures the door firmly in position.

E is the drip-cup having a sunken portion surrounded by a broad flat rim, *s*, and the sunken portion occupies a position below the hole *x*, while the rim fits against the under side of the bottom *b*, and also crosses the latch-spring, so as to limit the motion of the latter, impart increased stiffness to the spring action, and prevent the spring from being carelessly bent out of position.

Without limiting myself to the precise construction and arrangement of parts shown, I claim—

1. A tram-car with its lamp-house door hinged at the top, and its lower edge held by the head of a spring-latch, the spring passing inward and under the floor of the lamp-house, and then rising up through the floor and there-to secured near the tail end of the spring, as and for the purposes set forth.

2. A tram-car with its lamp-house door hinged at the top, the door held shut by the head of a latch located beneath the house-floor, while the fastened end of the latch-spring is above the house-floor, the lower edge of the door when unlatched swinging upward, and the end stile of the door contacting a hook, which automatically catches and holds up the door until it is released, and then in falling is automatically secured by the latch, as and for the purpose described.

3. A tram-car with its lamp-house door held shut by a spring-latch, with its head or operating end below the house-floor, while its tail end, contributing to the elasticity of the spring, is secured to the upper side of the floor, and is in combination with a drip-cup under the floor, having a broad rim crossing the latch-spring, which limits the motion of the spring and prevents it from being carelessly bent, as and for the purposes set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN STEPHENSON.

Witnesses:

JOS. B. STEPHENSON,

STUART A. STEPHENSON.