

(No Model.)

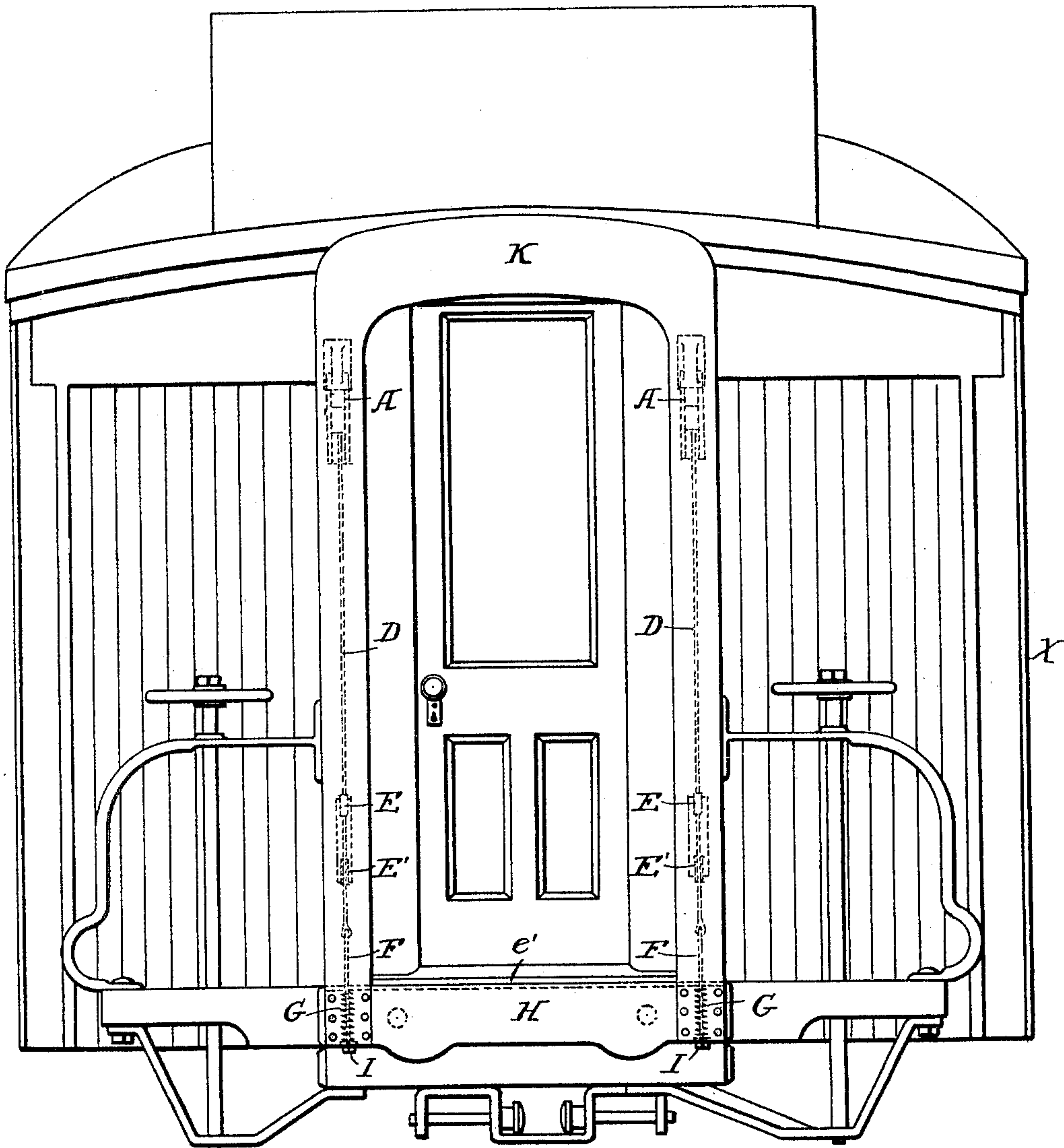
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T. L. McKEEN.
VESTIBULE FOR RAILWAY CARS.

No. 595,279.

Patented Dec. 7, 1897.

Fig. 1.



Witnesses
J. G. Hinkel
James W. Stearns

Inventor
Thomas L. McKeen
by Foster Freeman
Attorneys

(No Model.)

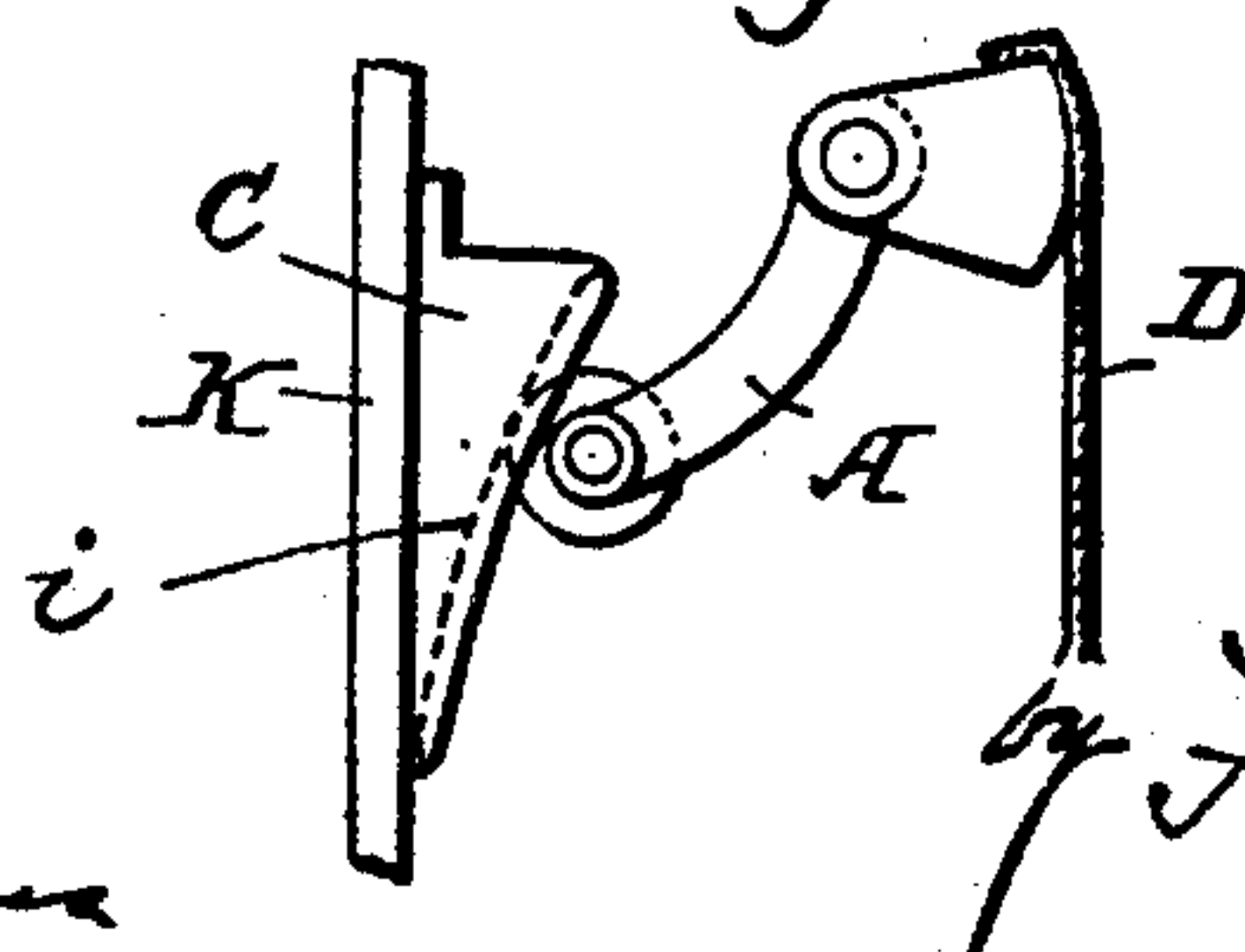
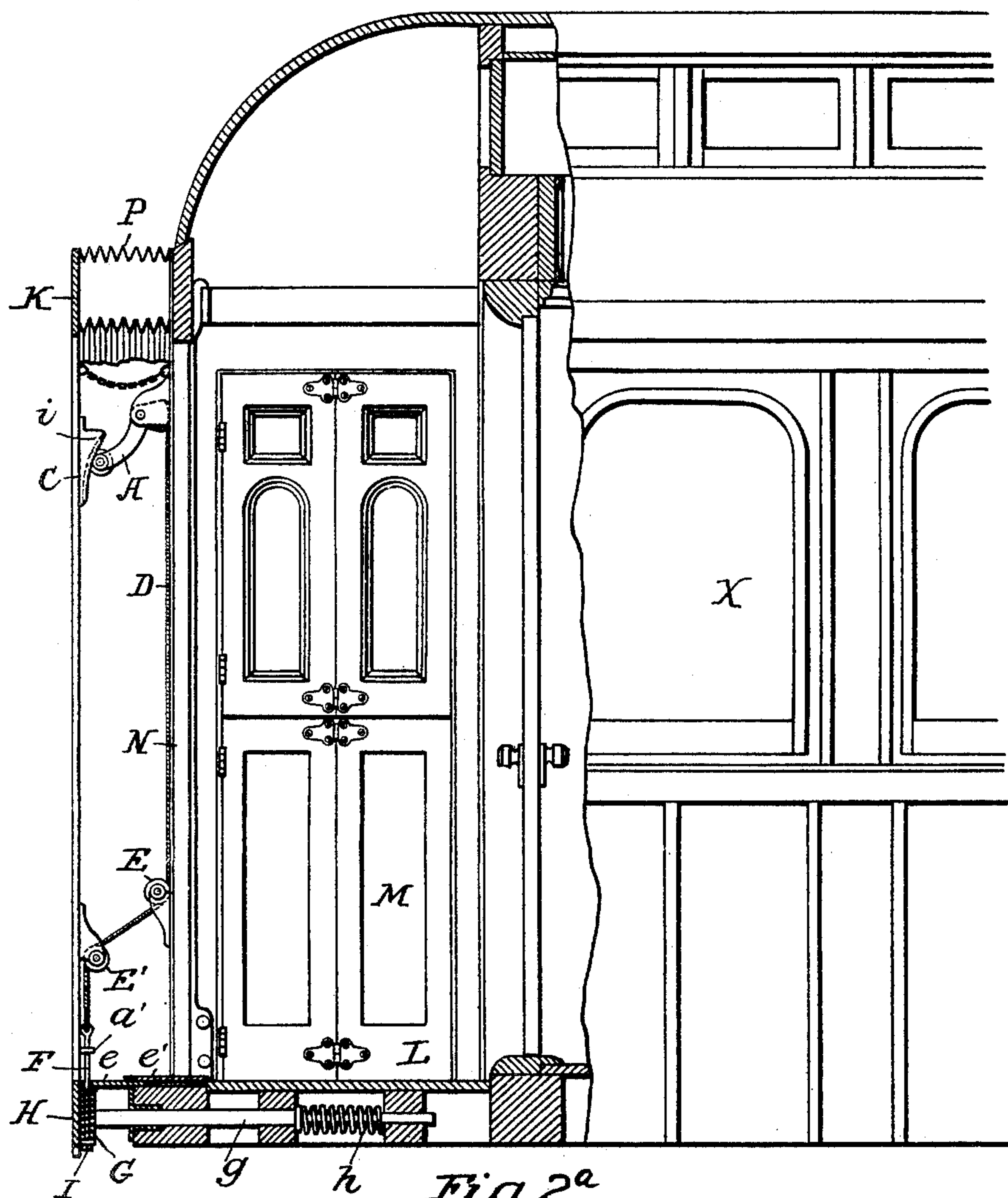
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Fig. 2.



Witnesses

J. G. Finkel

Pancostrom

Inventor

Thomas L. McLean

by Foster Freeman
Attorneys

Attorneys

3 Sheets—Sheet 3.

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Fig. 3.

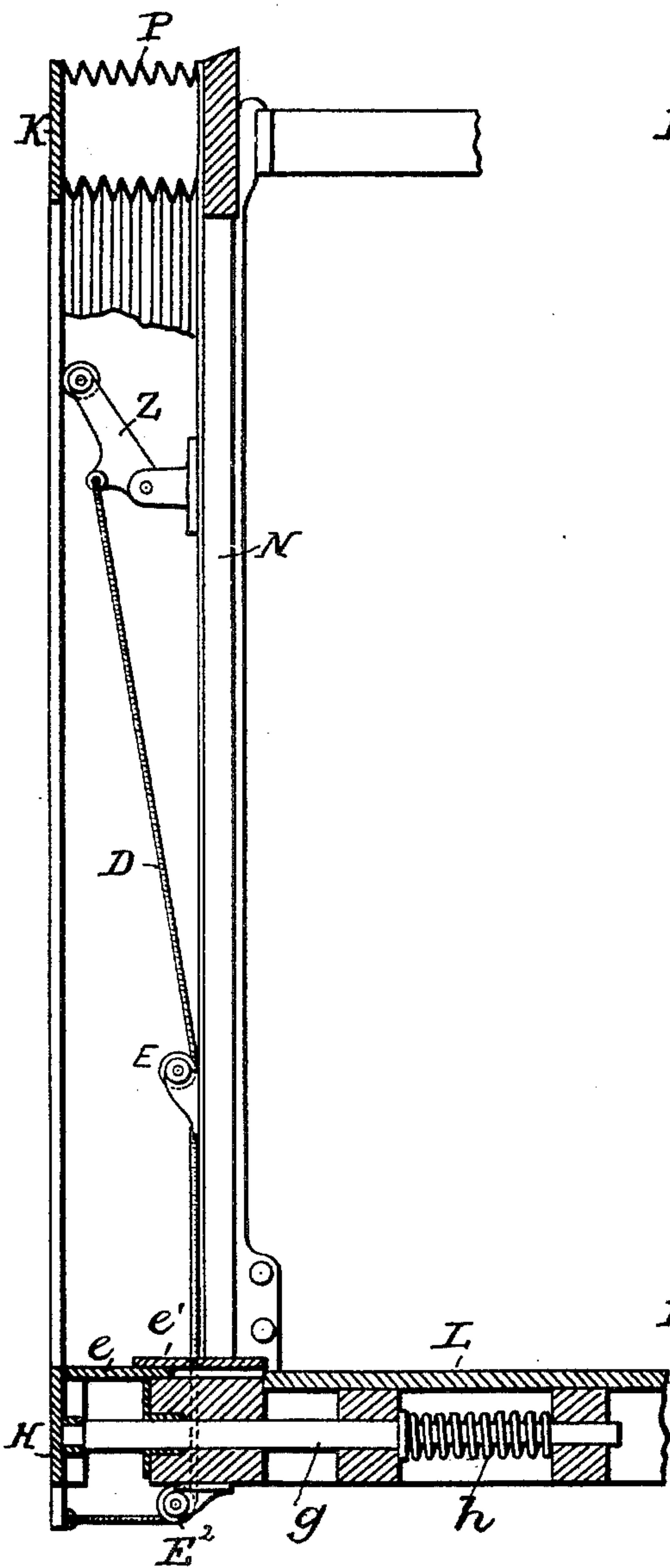
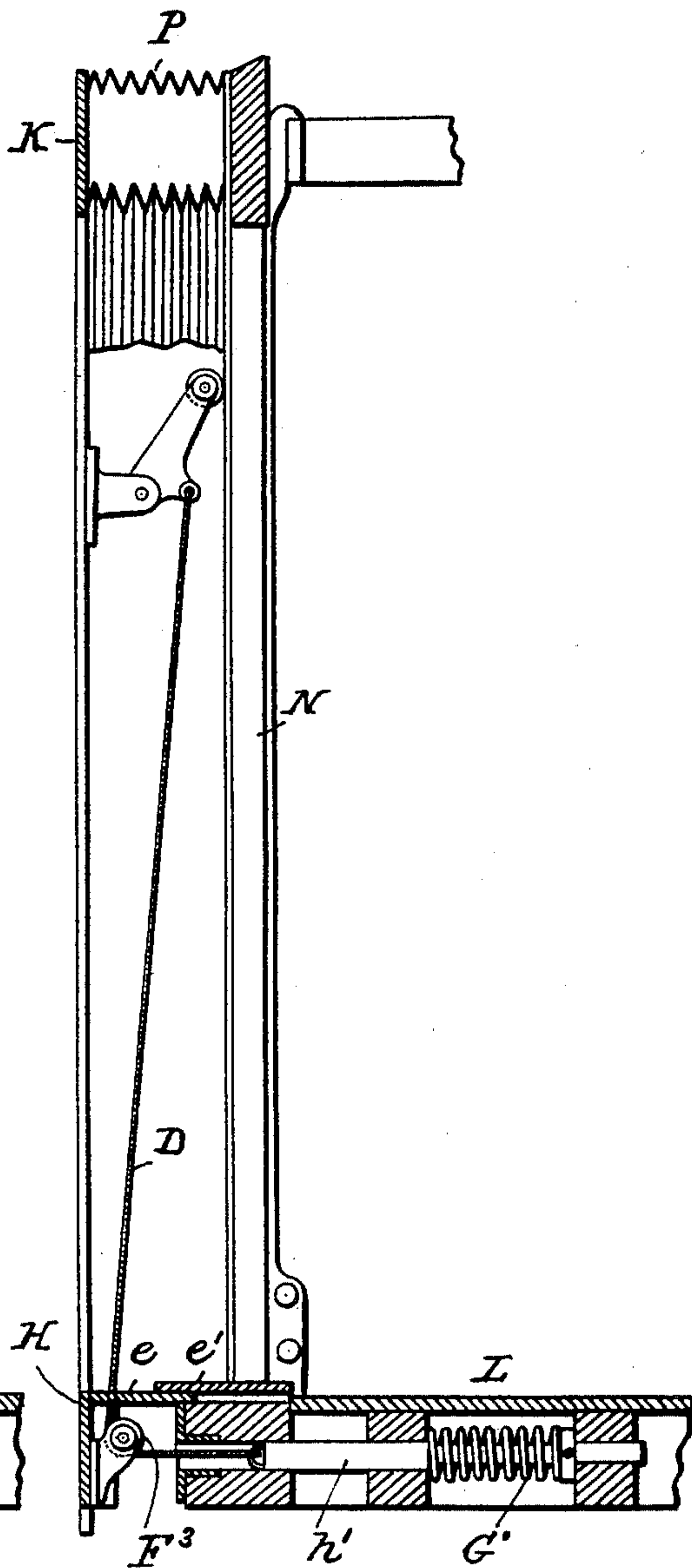


Fig. 4.



Witnesses

John
Stevens

Inventor

Inventor
Thomas L. McLean

by Foster Freeman

Attorneys

UNITED STATES PATENT OFFICE.

THOMAS L. McKEEN, OF EASTON, PENNSYLVANIA, ASSIGNOR TO THE
TROJAN CAR COUPLER COMPANY, OF TROY, NEW YORK.

VESTIBULE FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 595,279, dated December 7, 1897.

Application filed March 11, 1897. Serial No. 627,045. (No model.)

To all whom it may concern:

Be it known that I, THOMAS L. McKEEN, a citizen of the United States, residing at Easton, Northampton county, State of Pennsylvania, have invented certain new and useful Improvements in Vestibules for Railway-Cars, of which the following is a specification.

My invention relates to that class of vestibule-cars in which there is a face-plate at the end of the platform of each car, with springs for forcing the lower portion of the face-plate outward; and my invention consists of a certain arrangement of parts, hereinafter fully set forth, whereby the outward movement of the lower part of the face-plate is made the means of forcing out the upper portion to a like extent.

In the accompanying drawings, Figure 1 is an end view of a vestibule-car embodying my improvements. Fig. 2 is a longitudinal sectional elevation. Fig. 2^a is an enlarged sectional view of part of the device shown in Fig. 2. Fig. 3 is a sectional elevation showing a modification, and Fig. 4 is a sectional elevation showing another modification.

The car-body X is of any suitable construction, with the usual platforms L, to which access is had by side doors M, with an end passage-way through each end frame N. At each end there is the usual vestibule face-plate K, with the buffer-head H connected at the lower end thereof and secured to horizontal rods g, with shoulders bearing upon springs h, properly arranged to normally throw out the rods and the face-plate. The foot-plate e upon the buffer-head H extends under a foot-plate e' of the platform. Between the face-plate and the end frame N intervenes the flexible side and top portion P of suitable construction. Normally when the cars are separated the springs h will throw out the buffer-heads and face-plates at the lower ends, but yield when two cars are brought together, so as to maintain the opposing face-plates in contact.

In order to throw out the upper ends of the face-plates, I make use of levers A A at opposite sides of the frame N, the outer ends of the levers being in contact with bearings C upon the inner faces of the face-plates K, and a flexible strap, chain, or cable D is secured

to the inner end of each lever A, passes down beneath a guide-pulley E upon the frame N and over a guide-pulley E' at the inner side of the face-plate K, and is connected directly or indirectly either to the face-plate or the buffer-head or to a point upon the platform. As shown in Figs. 1 and 2, the end of the cable D is connected with a rod F, passing through the foot-plate e and through a spring G below the latter and provided with a threaded end having a nut I, bearing against the under end of the spring. From this construction and arrangement it will be seen that any slack occurring in the cables may be readily taken up by the nut I without in any manner disturbing or removing any part of the general structure. When the face-plate is thrust outward by the action of the springs h, the distance between the pulleys E E' increases. There is a draft exerted upon the cable D, which pulls upon the short arm of the lever A, raises the long arm, and thrusts outward the upper end of the face-plate. By properly proportioning the lever in respect to the extent to which the cable is taken up the outward movement of the lower end of the face-plate may thus be made the means of correspondingly forcing out the upper end thereof, so that in effect the same springs h which force out one end constitute the means of forcing out the other to an equal extent. The lever A may bear directly against the inner side of the face-plate K as a bearing; but I prefer to provide a bearing C, as shown, having a wedge-like projection i, widest at the top, which gives an increased leverage and cam action and secures a greater horizontal movement of the face-plate from the swinging of the lever.

It will be seen that the result above described will ensue if the end of the cable D is secured directly—as, for instance, at the point a'—to the face-plate; but I prefer to make use of a spring connected with the end of the cable, which will take up any slack and maintain the cable taut.

The lever A may be arranged in different ways, and the cable D may be passed around pulleys and connected in any manner so that it will be drawn upon to swing the lever outward when the lower end of the face-plate is

moved outward. Thus, as shown in Fig. 3, the
 cable passes downward from the pulley E,
 around the guide-pulley E², and then outward
 to a point upon the buffer-head with the same
 5 effect as in the arrangement shown in Figs. 1
 and 2, and the lever instead of being ar-
 ranged as before described may be arranged
 as shown at z, Fig. 3, with the cable D con-
 10 nected thereto between the fulcrum and the
 bearing. In the arrangement shown in Fig.
 4 the cable D passes around a pulley F³ at the
 lower end of the face-plate and is connected
 to a rod h', having a nut which bears against
 the rear end of a spring G', bearing against
 15 one of the cross-bars of the platform.

It will be seen that in all of the arrange-
 ments specified the cables extending from the
 levers A are so connected at their lower ends
 with either the face-plate or the platform that
 20 they will be drawn upon by the movement of
 the face-plate from the platform, and that
 when the face-plate moves inward and swings
 the levers in an opposite direction the levers
 draw upon and take up the cables.

25 In the construction shown in Fig. 4 the le-
 vers are pivoted to the face-plate and the
 bearings are upon the frame N.

When the levers are pivoted between their
 ends, I prefer to make the short arm of each
 30 lever in the form of a sector with a rear curved
 face, over which extends the cable D or a strap
 connected to the cable and constituting, prac-
 tically, a part thereof, and attached at the
 upper end to the upper face of the short arm
 35 of the lever. Preferably the lever is pro-

vided with a pulley at the end of the long arm,
 which enters a groove in the bearings and
 thereby prevents lateral movement.

Without limiting myself to the precise con-
 struction and arrangement of parts shown 40
 and described, I claim as my invention—

1. The combination with a car-platform, its
 frame N, face-plate K, and springs, and con-
 nections for forcing out the lower end of the
 face-plate, of levers between the face-plate 45
 and frame N, guide-pulleys, and cables con-
 nected with the levers passing around said
 guide-pulleys, and springs arranged to take
 up slack in said cables, substantially as and
 for the purpose set forth. 50

2. The combination of the platform, face-
 plate, and bearings C having inclined faces,
 of levers bearing on said faces and cables con-
 nected with the said levers, substantially as
 set forth. 55

3. The combination of the platform, frame
 N, face-plate, and levers pivoted between the
 frame and the face-plate, the short ends of
 the levers having curved faces, and cables
 extending over said curved faces, and secured 60
 at their lower ends to a part of the structure,
 substantially as set forth.

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

THOMAS L. McKEEN.

Witnesses:

H. E. HAY,

W. CLARENCE DUVALL.