

No. 768,775.

PATENTED AUG. 30, 1904.

H. H. SCHROYER.

MEANS FOR ATTACHING VESTIBULE DIAPHRAGMS.

APPLICATION FILED OCT. 24, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

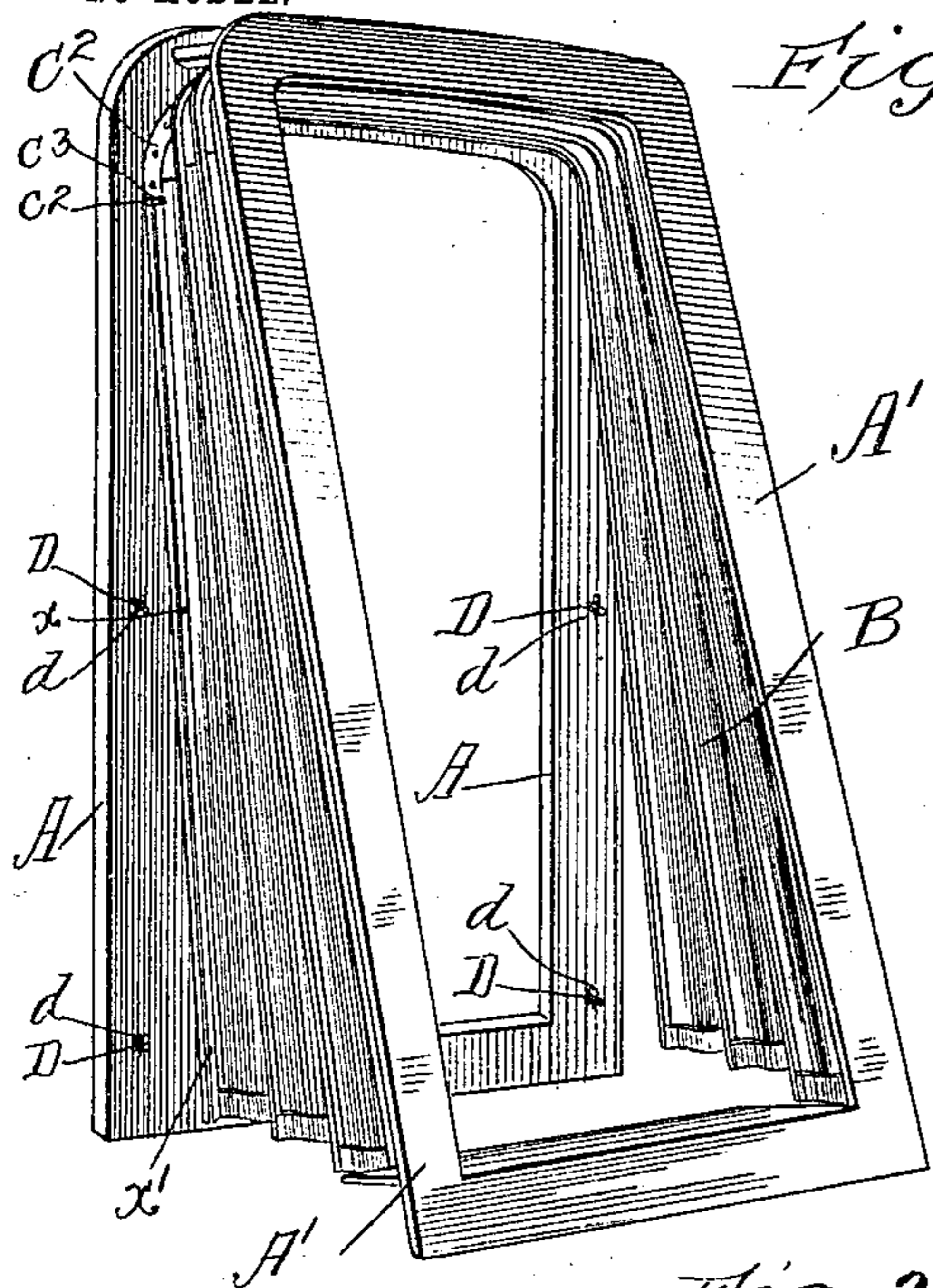


Fig. 1

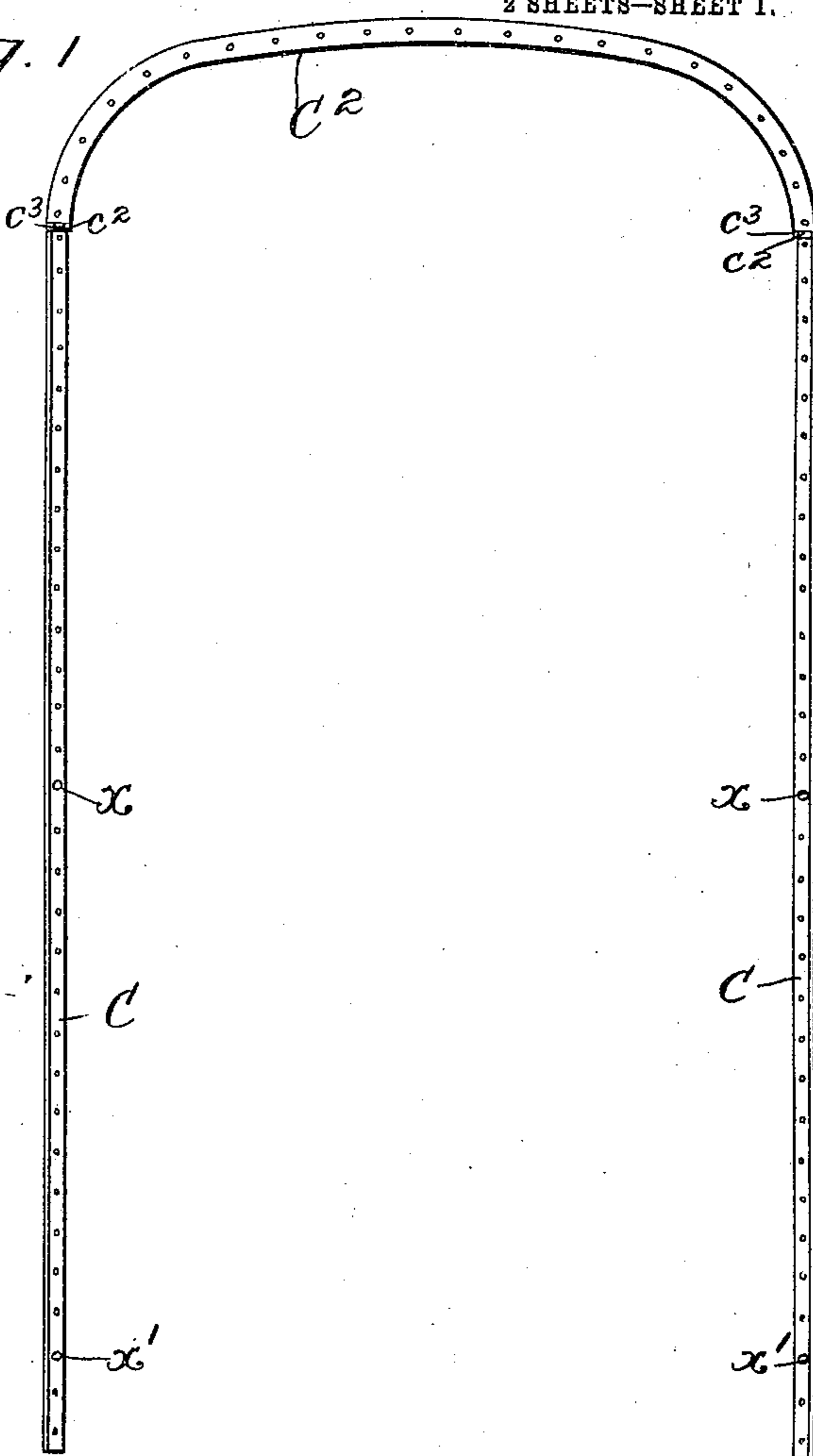


Fig. 2

Fig. 7

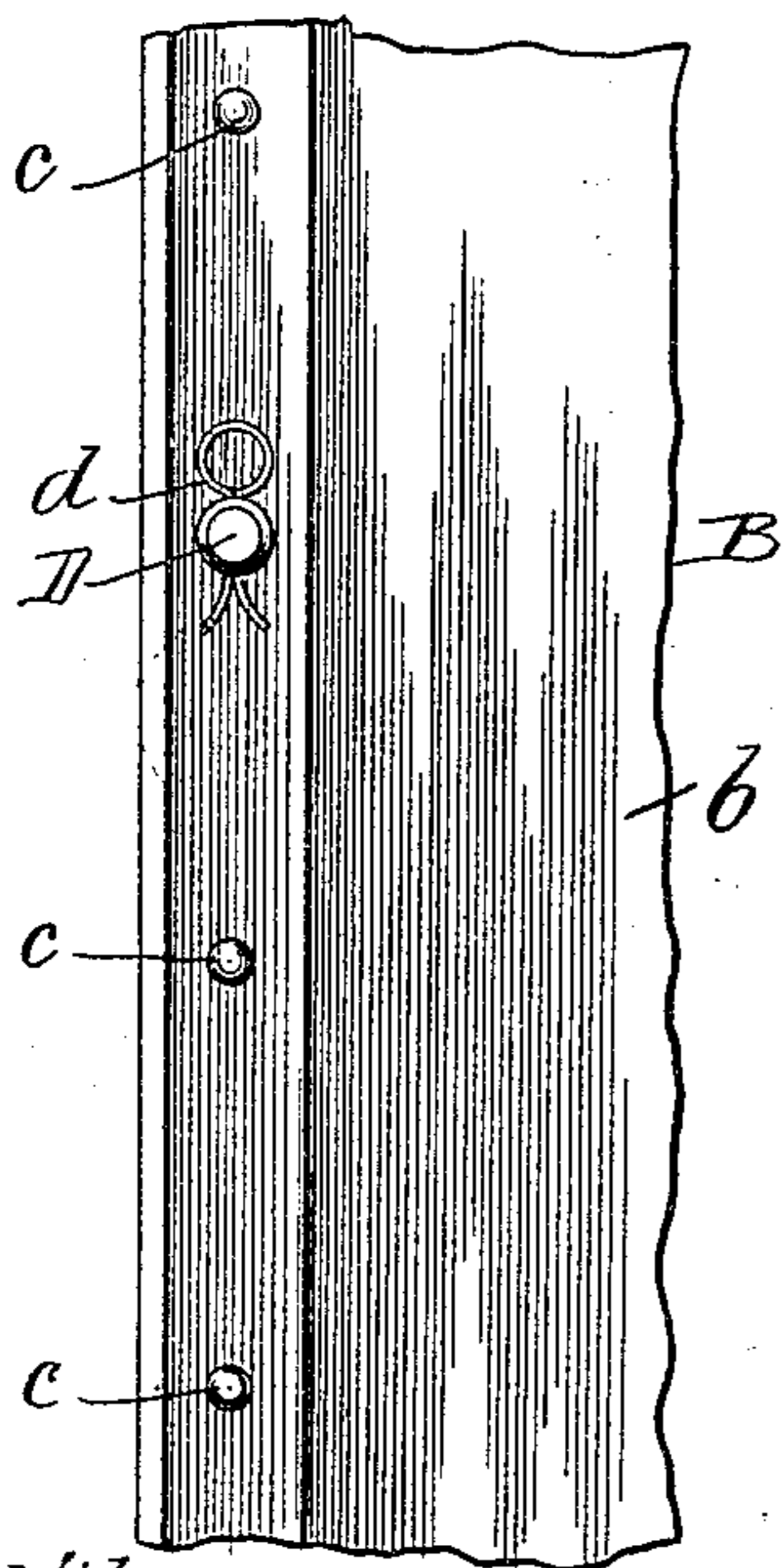
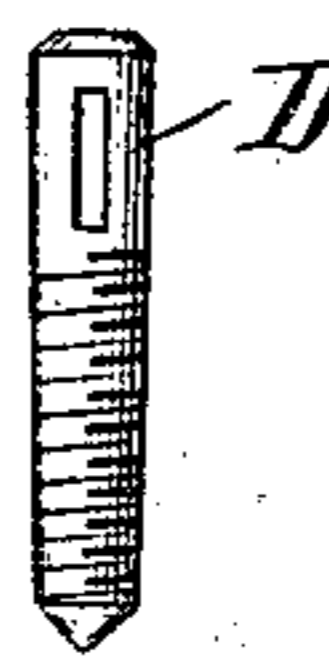
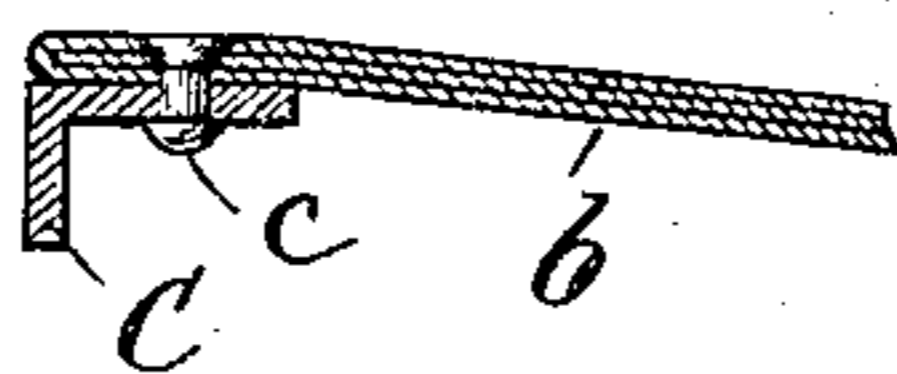


Fig. 8

Fig. 9



Witnesses:

Harry B. White
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Inventor:

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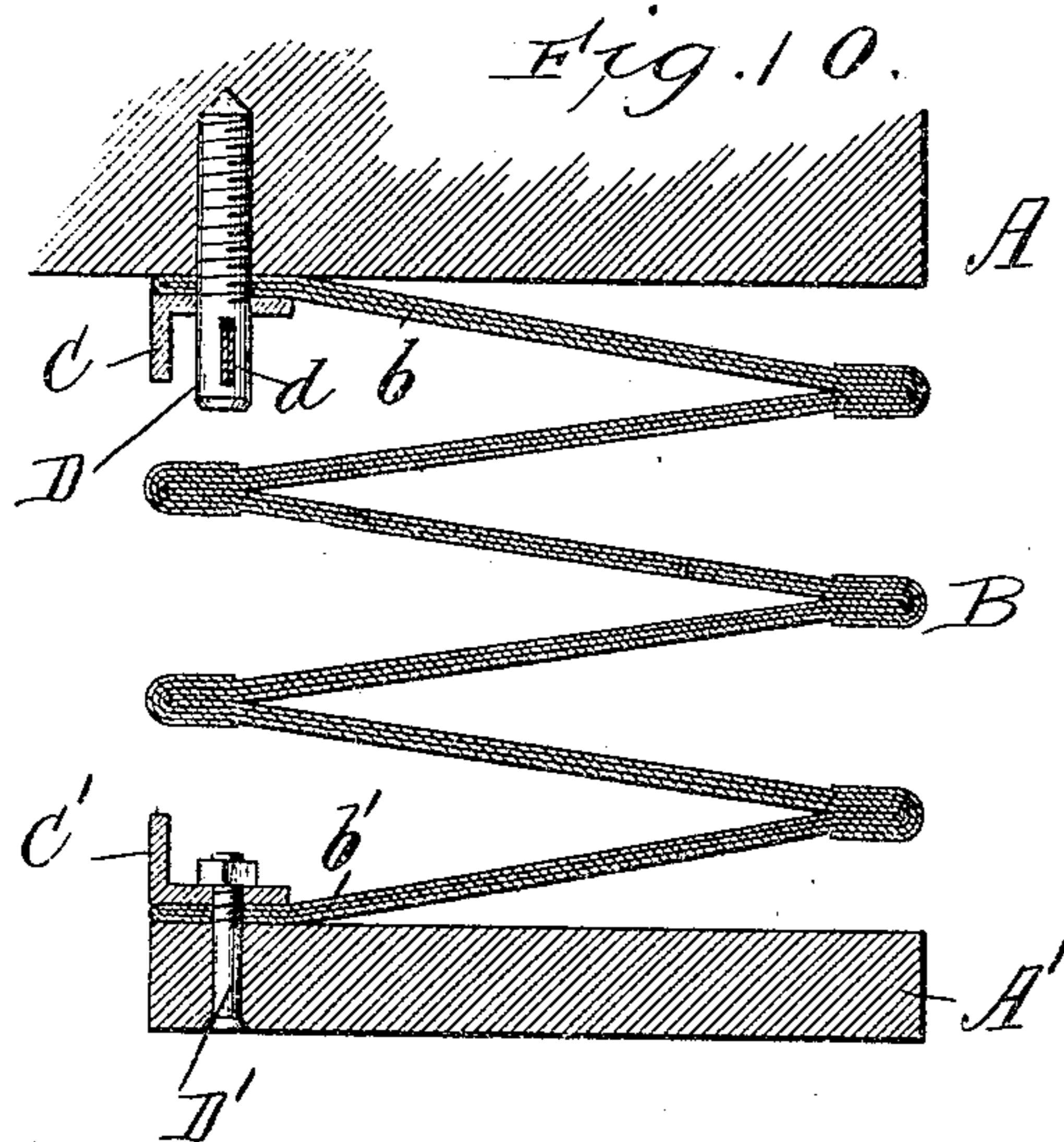


Fig. 3

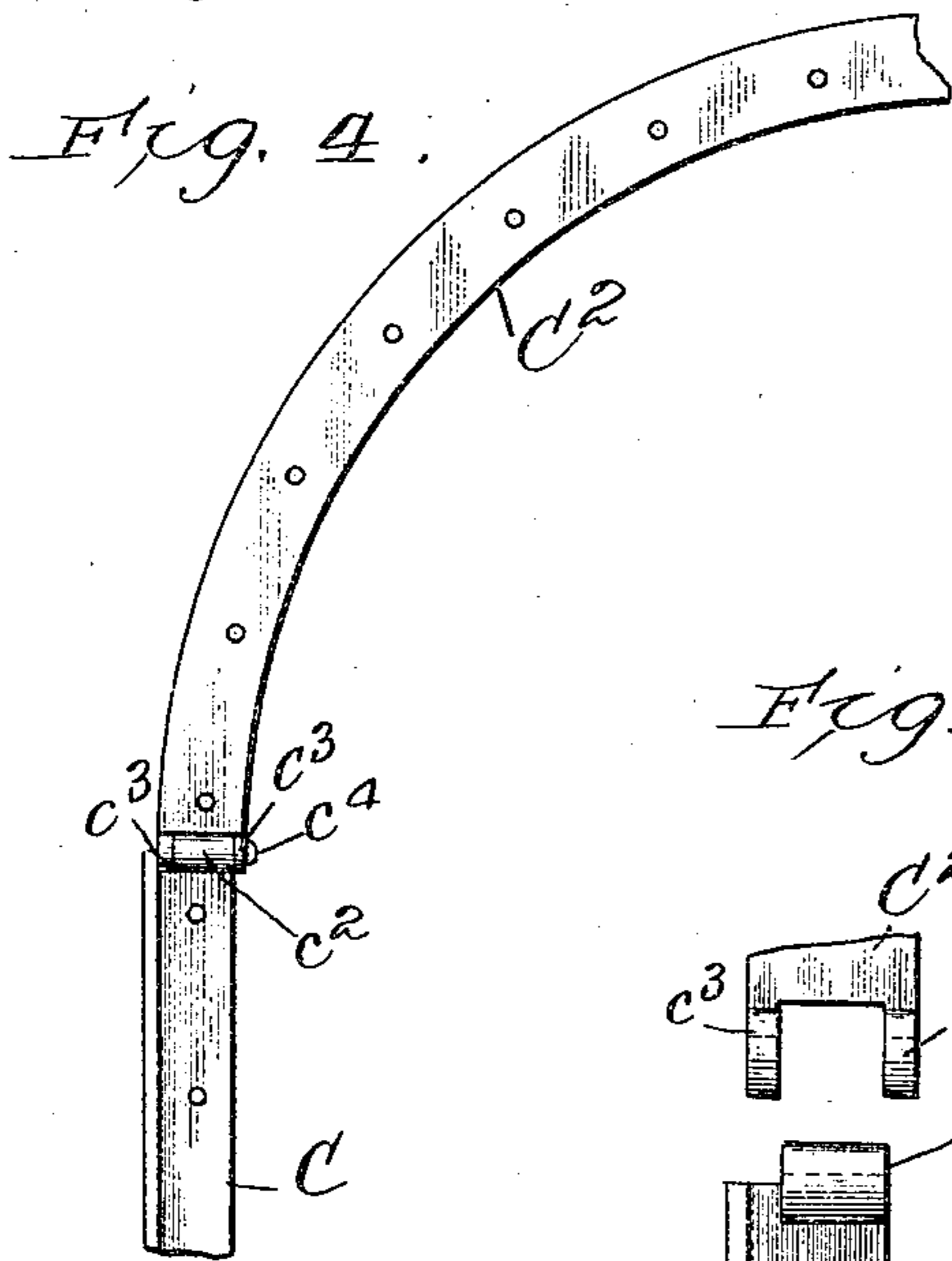


Fig. 5.

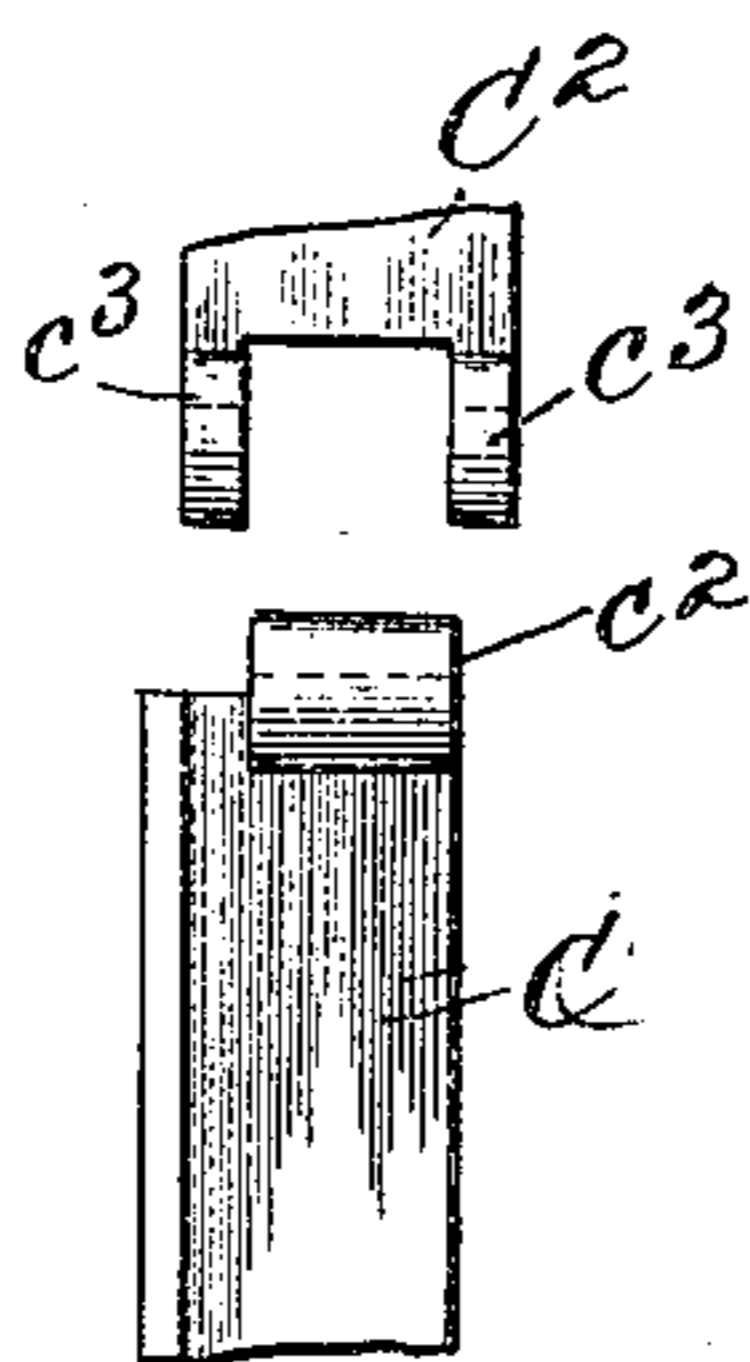
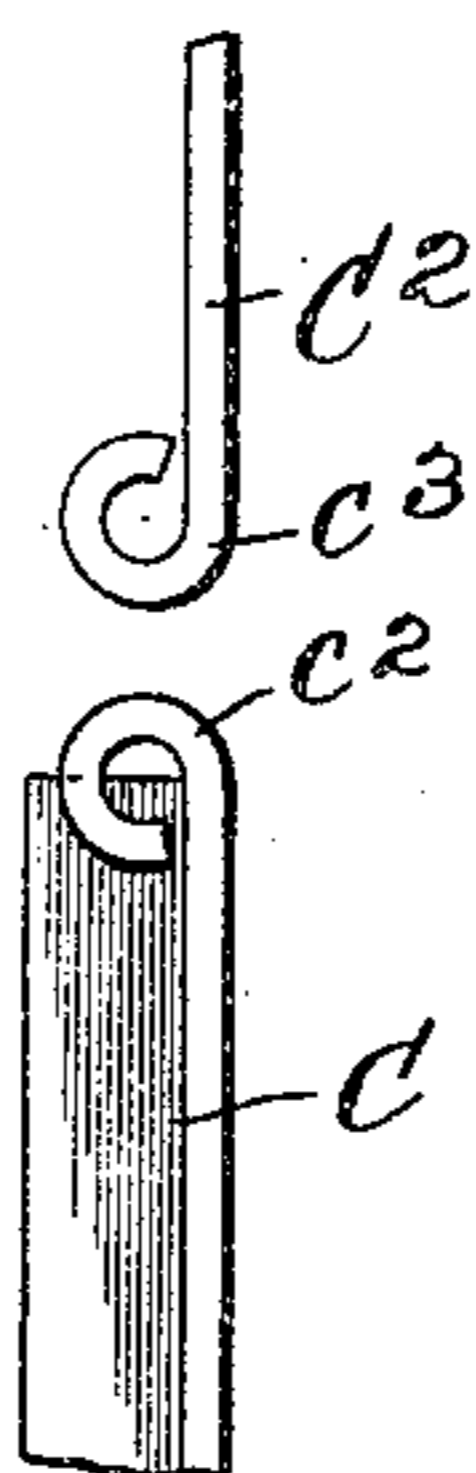


Fig. 6



Witnesses:

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UNITED STATES PATENT OFFICE.

HARRY H. SCHROYER, OF CHICAGO, ILLINOIS.

MEANS FOR ATTACHING VESTIBULE-DIAPHRAGMS.

SPECIFICATION forming part of Letters Patent No. 768,775, dated August 30, 1904.

Application filed October 24, 1903. Serial No. 178,335. (No model.)

To all whom it may concern:

Be it known that I, HARRY H. SCHROYER, a citizen of the United States, and a resident of Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Means for Attaching Vestibule-Diaphragms; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to attaching means for car-vestibule diaphragms, and more particularly to means adapted to detachably secure the diaphragm-legs to the face-plates.

Heretofore car-vestibule diaphragms have usually been attached to the vestibule face-plate and diaphragm face-plate by means of screws or bolts usually arranged two or three inches apart and extending through a thin metallic retaining-strip and the margin of the diaphragm into the said face-plates. This has sufficed to hold the diaphragm in position, but is very objectionable should it be desired to detach the legs of the diaphragm from either face-plate for any purpose—as, for instance, to insert a new buffer-spring in the platform. In such cases the numerous screws with which the legs of the diaphragm are secured to the face-plate should obviously be removed, requiring a large expense of time and labor and frequently injuring the diaphragm. Usually, however, the car-repairers do not remove such screws, but instead place a jack in position to elevate the buffer and lift the parts, thereby frequently ruining the diaphragm.

The object of this invention is to provide a strong, durable, and inexpensive construction adapted to be used to rigidly secure the diaphragm to either or to both the face-plates when in use and to permit the diaphragm-legs to be quickly released from the face plate or plates, permitting freedom of access to any adjacent part for purposes of repair or otherwise and permitting said diaphragm after the repair or inspection has been made to be quickly swung back to position and secured

as before, thereby preserving the diaphragm from injury and facilitating repair.

The invention consists in the matters hereinafter described, and more fully pointed out and defined in the appended claims.

In the drawings, Figure 1 is a perspective view of the face-plates with the diaphragm connected between the same and showing the same swung outwardly at the bottom from the vestibule face-plate. Fig. 2 is an enlarged front face elevation of the articulated retaining straps or strips. Fig. 3 is a side elevation of the same, showing the bow or curvature in the leg straps or strips. Fig. 4 is an enlarged detail illustrating the hinge connection between the transverse or top retaining strips or straps and the leg. Figs. 5 and 6 are enlarged details of the hinge and joint formed by said parts. Fig. 7 is an enlarged face view of the means whereby the diaphragm and the attaching-strips are secured to the vestibule face-plate. Fig. 8 is a transverse section taken through one of the leg-retaining strips and also illustrates the attachment of the diaphragm therewith. Fig. 9 is an elevation of one of the slotted lag-screws affording a part of the attaching means. Fig. 10 is a transverse section taken through one leg of the face-plates and diaphragm.

As shown in said drawings, A indicates the vestibule face-plate of the usual or ordinary car-vestibule and A' the diaphragm face-plate, constructed as is usual, and each of which is shaped to conform with the vestibule and between which is secured the diaphragm, (indicated as a whole by B,) which may be of the usual or any preferred construction, as shown comprising an extensible and usually accordion-plaited fabric affording the sides and top of the diaphragm of the vestibule and which in the type of diaphragm shown in Figs. 1 and 10 has the edges turned outwardly to afford attachment with the face-plates externally of the diaphragm and vestibule.

Rigidly secured on the inner side of each margin of the diaphragm and conforming with the edges thereof are the leg strips or straps C and C', which are permanently secured to said margins of the diaphragm by means of

rivets c , disposed short distances apart, as shown in Fig. 7, and which serve to hold said attaching-straps and diaphragm edges in close and permanent relation. Said leg-straps, as shown, are formed of angle iron or steel having the webs directed inwardly of the vestibule and the flanges outwardly from the adjacent face-plate. Each of said leg-straps extends upwardly to the bend of the diaphragm, at which point it articulates with a transverse metallic retaining strip or strap C^2 , which, as shown, is segment-shaped and is preferably riveted to the top edge of the diaphragm and secured to the face-plate by means of screws or bolts in the usual or in any desired manner to afford a secure and, if desired, a permanent connection. As shown, the upper ends of said leg-straps C and C' are cut away and bent to afford a knuckle c^2 , and the lower ends of the upper attaching or retaining strap are cut and shaped to afford downwardly-extending laterally-disposed apertured lugs c^3 , adapted to receive said knuckles between the same, and through which and said knuckles is secured a pintle c^4 , affording a hinge connection permitting the leg-straps to swing outwardly at the bottom and away from the face-plate. Each of said leg-straps is provided with a plurality of apertures therethrough and indicated, respectively, by X X' , and, as shown, two in number, located at the lower end of each strap and near the middle, respectively. Lag-screws D , having a longitudinally-extending aperture in the head adapted to receive a cotter-pin d , are secured in the vestibule face-plate in position to register with said apertures through the diaphragm-margin and the leg-straps, as shown in Fig. 1, and when the leg-strap is pushed inwardly and the cotter-pin secured, as shown in Figs. 7 and 10, hold the margin of the diaphragm-leg firmly against the vestibule face-plate. In a similar manner bolts D' are secured in and extend through the diaphragm face-plate and through apertures in the leg-straps C' and are provided on their inner end with nuts, which firmly clamp the diaphragm-margin to the diaphragm face-plate, as shown in Fig. 10.

Conveniently the leg-straps are slightly bowed toward the adjacent face-plate, to which the same is adapted to be attached, as shown in Fig. 3, so that when the same is secured on the lag-screw near its middle on the adjacent face-plate the attachment of the lower end of the leg-straps to the face-plate serves to jam the diaphragm very firmly against the face-plate for its entire length, said leg-straps in this event acting to an extent as a spring for its entire length and serving to afford a tighter connection with the face-plate.

The operation is as follows: Should it be desired for any purpose to detach the legs of the diaphragm from either face-plate, the same may be accomplished by removing the cotter-

pins or the nuts, usually two in number, and permitting the lower end of the diaphragm to spring outwardly, owing to the resiliency of the leg-straps, as shown in Fig. 3, and if it is desired to secure more space between the lower ends of the diaphragm-legs and the face-plate the legs may be swung outwardly, as shown in Fig. 1, by means of a hinge connection of the leg-straps with the top retaining-strap.

When the repairs are effected or the purpose for which the diaphragm was released has been accomplished, it is only necessary to let the leg-straps fall back into place, push the same inwardly and secure the cotter-pins, which can be accomplished in a moment, and the diaphragm is again in operative position. Of course, if preferred, cotter-bolts may be used in connecting the diaphragm with the diaphragm face-plate instead of stove-bolts, as shown in Fig. 10, and, if preferred, the leg-straps may be constructed of other material than angle iron or steel.

Obviously my invention is capable of use with diaphragms of any particular type or kind, and many details of construction may be varied without departing from the principles of my invention.

I claim as my invention—

1. Attaching means for car-diaphragms comprising leg-straps adapted to be rigidly secured at the edges of the diaphragm-legs, upper transverse attaching-straps adapted to be rigidly secured to the top edges of the diaphragm and to the car and yieldingly connected at the ends with said leg-straps.

2. Attaching means for car-vestibule diaphragms comprising diaphragm leg-straps, a transverse strap adapted to be secured on the top margin of the diaphragm and to afford permanent attachment between said leg-straps and the car and a flexible connection at the adjacent ends of the leg-straps and transverse attaching-straps.

3. The combination with a car-vestibule diaphragm, of a transverse strap secured along the top margin of the same and shaped to conform therewith and adapted to be rigidly secured to the face-plate, leg-straps rigidly attached to the leg-margins of the diaphragm and apertured to receive attaching means secured on the face-plate and a jointed connection between said leg-straps and transverse straps when the diaphragm-legs are detached from the face-plate.

4. Means for attaching car-vestibule diaphragms with the vestibule face-plate comprising a transverse strap of metal curved to conform with the curvature of the diaphragm-top and rigidly secured by riveting or the like on the margin of the diaphragm, leg-straps riveted to the leg-margins and having hinged connection with the ends of said transverse straps and provided with apertures near their lower ends and middle, adapted to re-

ceive the means whereby the diaphragm-legs are secured to the face-plate to permit quick detachment.

5 In a device of the class described the combination with the vestibule face-plate and the diaphragm, of attaching means affording the connection between the same comprising a metallic binding permanently secured on the margins of the diaphragm and affording
10 a joint at the top of each leg, said binding-strip having near the lower end and the middle apertures, and screws rigidly secured in the face-plate in position to register with said apertures and having longitudinally-slotted
15 heads adapted to protrude through said binding-strips and to receive a cotter-pin or the like thereby affording means for quickly detaching the diaphragm-legs from the face-plate.

20 6. The combination with a diaphragm, of metallic binding-straps riveted to the margins of the diaphragm, said binding-straps on the leg-margins having hinged connection with that of the top and apertured near the
25 bottom and middle to receive the means whereby said legs of the diaphragm are secured to the face-plate to permit quick release therefrom.

7. The combination with a car-vestibule diaphragm, of an attaching-strap of metal shaped to conform with the top margin of the diaphragm and riveted thereto, angle-bars affording binding-straps for the leg-margins and riveted thereto and articulating at their
35 upper ends with the top attaching or binding strap and apertured at a plurality of points at considerable distances apart to receive the means whereby said diaphragm-legs are releasably connected with the face-plate.

40 8. A car-vestibule diaphragm having rigidly secured thereon a metallic binding-strap affording a part of the means whereby the diaphragm is connected with the face-plate and having joints at the upper ends of the diaphragm-legs, the binding-straps for said legs being bowed centrally toward the face-plate and apertured at its bottom and middle portion to receive the means for attaching the diaphragm-legs with the face-plate whereby
45 securing the said binding-straps at the lower ends with the face-plate serves to press the margin of the diaphragm-legs firmly against the face-plate for the entire length thereof.

9. In a car-vestibule the combination with a face-plate, of a diaphragm connecting the same
55 and permanently secured at the top therewith and readily-detachable means securing the legs of said diaphragm to said face-plate and a flexible connection at the upper end of each diaphragm-leg whereby when the lower ends
60 of the legs are detached from the face-plate the bottom of the diaphragm may be swung outwardly therefrom.

10. The combination with a car-diaphragm, of a metallic binding-strap permanently secured on the margins thereof, said binding-strap along the legs of the diaphragm being bowed or curved and apertured to receive means for attaching the same with the face-plate said curvature acting as a spring to hold
70 the margin of the diaphragm tightly against the face-plate.

11. The combination with a car-vestibule diaphragm of an attaching-strap rigidly secured to and concentric with the top thereof,
75 resilient leg-straps rigidly engaged on the leg-margins of the diaphragm and hinged to said attaching-strap and means adapted to detachably engage said diaphragm to the face-plate of a car.
80

12. The combination with a car-vestibule diaphragm, of an attaching-strap rigidly engaged on the top margin thereof and on the car, resilient leg-straps pivotally engaged thereon and rigidly engaged on the margin of
85 the diaphragm and acting normally to hold the bottom of said diaphragm out of contact with the car and means for detachably securing said leg-straps in binding contact with the car.
90

13. The combination with a car-vestibule diaphragm, of a resilient apertured binding-strap rigidly engaged on the end margins thereof and adapted to normally hold the bottom of said diaphragm out of contact with the
95 car, a plurality of face-plates and bolts adapted to removably engage said straps to one of the face-plates.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.
100

HARRY H. SCHROYER.

Witnesses:

C. W. HILLS,
ALFRED C. ODELL.