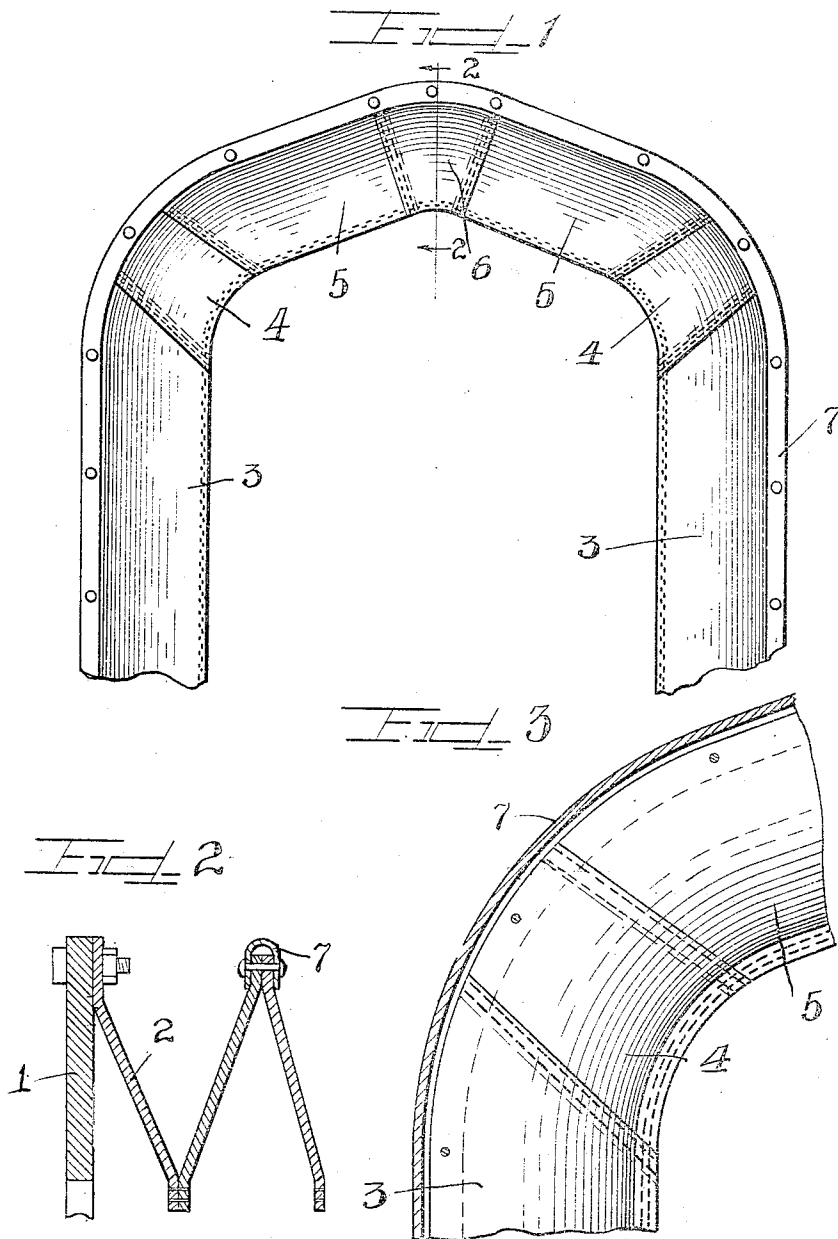


H. H. SCHROYER.
 VESTIBULE DIAPHRAGM.
 APPLICATION FILED SEPT. 1, 1911.

1,056,127.

Patented Mar. 18, 1913.



WITNESSES

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VESTIBULE-DIAPHRAGM.

1,056,127.

Specification of Letters Patent.

Patented Mar. 18, 1913.

Application filed September 1, 1911. Serial No. 647,206.

To all whom it may concern:

Be it known that I, HARRY H. SCHROYER, a citizen of the United States, and a resident of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in 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 numbers of reference marked thereon, which form a part of this specification.

This invention relates to improvements in vestibule diaphragms of that class heretofore constructed of strips of fabric united together to afford curtain folds. As such diaphragms have been constructed heretofore, it frequently occurred that the top of the diaphragm sags at the middle, due to the weight of the structure and the constant vibration to which the motion of the car subjects the same, so that after a period of use, water, cinders and dirt may accumulate to some extent on the top of the diaphragm, gradually seeping therethrough and in any event, rotting out the diaphragm.

The object of this invention is to afford a self-contained and braced construction, in which the top of the diaphragm is so constructed as to insure that any water, cinders or dirt falling on the diaphragm, will be shed therefrom at the sides, thereby keeping the top of the diaphragm at all times clean and preventing the rotting thereof.

It is also an object of the invention to afford an exceedingly strong construction by bracing the diaphragm at the corners or bends by the insertion of reinforcing, wedge shaped or key-stone shaped sections, arranged in overlapping relation to facilitate the shedding of water and refuse from the diaphragm, and also serving to greatly stiffen the connection between the leg and top of the diaphragm.

A preferred form of the invention is hereinafter more fully described.

In the drawings: Figure 1 is a fragmentary, central, transverse section taken through a diaphragm embodying my invention. Fig. 2 is a fragmentary section taken on line 2-2 of Fig. 1. Fig. 3 is an enlarged fragmentary transverse section taken at the juncture of the top and leg of the diaphragm.

As shown in the drawings: 1, indicates the

diaphragm face plate, in which the outer edge of fold 2, of the diaphragm is secured, either by means of bolts or by any suitable fastening means. Said diaphragm comprises an accordion folded structure, constructed of a plurality of strips of suitable fabric such as three ply cotton belting, (either coated with rubber or not, as preferred) and which are sewed, stitched, stapled, riveted, or in any suitable manner attached edge to edge, as shown in Fig. 2, to afford the folded structure.

As shown, each of the legs 3, of the diaphragm, is of a length to extend from the platform to the upper or first bend in the diaphragm face plate. Rigidly secured to the upper end of said diaphragm leg section, and overlapping the same, is a wedge shaped key or shoulder piece 4. The top sections 5, of the diaphragm are secured to and overlap the upper edge of the shoulder piece 4, the inner or upper edges of said top sections incline upwardly to near the middle of the diaphragm, and there are rigidly united together by means of a key-stone shaped or wedge shaped piece of fabric 6, which overlaps the same, as shown in Fig. 1, and is permanently attached thereto.

Extending around each outwardly directed fold or bend of the diaphragm, and rigidly secured thereto by riveting, stitching or otherwise to cover the raw edges of the fabric, is a reinforcing brace strip 7 (preferably metallic), and bent or rolled to afford a channel to receive said outwardly directed fold of the diaphragm therein at its edge, and extending over the top and down on each leg, and, if preferred, to or near the platform. As shown, the top of the diaphragm inclines from each shoulder upwardly to its middle, affording a more or less pronounced pitch on each side thereof to shed the water, dust or dirt falling thereon, and the overlapped relation of the shoulder pieces 4, top sections 5, and key section 6, in the top of the diaphragm, permit no lodgment of any material in the inner folds or bends of the diaphragm, and renders the top of the diaphragm self-clearing at all times.

Owing to the braced construction afforded by the key and wedge pieces, and by the upwardly inclined top of the channel member 7, sagging never occurs, for the top structure is rendered sufficiently strong to carry

as it must, the entire weight of the structure, permitting neither spreading nor sagging.

Of course, I am aware that details of the invention may be varied, but I have illustrated and described only one (and that a preferred) construction embodying the invention, and I therefore do not purpose limiting the patent to be granted on this application otherwise than necessitated by the prior art.

I claim as my invention:

1. A diaphragm comprising accordion folded legs and a plurality of top sections, one of the latter being substantially straight and affording a laterally directed pitch on each side of the diaphragm.

2. In a diaphragm of the class described the accordion plaited leg sections, upwardly inclining accordion plaited top sections, a key section uniting said top sections at the center and overlapping each, and key-shaped shoulder pieces uniting the bottom of each top section with the bottom of each leg section, and underlapping one and overlapping the other to afford free drainage from the top of the diaphragm.

3. A diaphragm of the class described embracing leg sections and top sections united therewith and inclining upwardly to a common center, and a key section overlapping the adjacent ends of the top section and rigidly secured thereto.

4. A vestibule diaphragm, accordion plaited leg sections extending to the inner shoulders of the diaphragm, upwardly inclining accordion plaited top sections extending from above the shoulders to near the middle of the diaphragm top and affording an outward pitch on each side the diaphragm, a key section rigidly secured to the adjacent ends of the top sections and overlapping the same, a similar key section underlapping the lower end of the top section and overlapping the upper end of the leg section at each shoulder and rigidly secured to each, and a reinforcing and bracing channel inclosing each outwardly directed fold of the diaphragm and extending around the top of the diaphragm and downwardly on each leg.

5. In a vestibule diaphragm the combination with the accordion plaited leg section and the accordion plaited upwardly inclining top section, of a wedge or key shaped shoulder section underlapping the top section and overlapping the leg section and rigidly secured thereto, and a reinforcing metallic channel rigidly secured to each out-

ward bend or fold of the diaphragm and extending around the shoulders and top of the diaphragm.

6. In a diaphragm of the class described a laterally pitched and shedding top portion embracing upwardly and inwardly inclined accordion plaited top sections, means rigidly connecting the same with the leg sections to overlap the same, a section uniting the adjacent ends of the top sections and overlapping each, and a metallic reinforcing or bracing member extending across the top of the diaphragm and conforming with, and acting to support the top thereof.

7. A diaphragm of the class described embracing leg sections and top sections united therewith one of the latter having straight edges and inclining upwardly to an apex.

8. A vestibule diaphragm of the class described embracing leg sections, a plurality of top sections united therewith, one of the latter having straight edges extending obliquely upwardly therefrom to approximately the middle of the diaphragm top and affording an outward pitch on each side of the diaphragm.

9. In a vestibule diaphragm the combination with the accordion plaited leg section and the accordion plaited upwardly inclining top section, of a wedge or key shaped shoulder section underlapping the top section and overlapping the leg section and rigidly secured thereto.

10. In a diaphragm of the class described a laterally pitched and shedding top portion embracing upwardly and inwardly inclined accordion plaited top sections, means rigidly connecting the same with the leg sections, and a section uniting the adjacent ends of the top sections to afford an apex.

11. In a vestibule diaphragm of the class described, upright leg sections and top sections attached thereto and converging upwardly from each of said leg sections to a rounded apex.

12. In a vestibule diaphragm of the class described leg sections and a top section secured thereto sloping upwardly to an apex.

13. In a vestibule diaphragm upright legs and an upwardly converging top joining the same.

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

HARRY H. SCHROYER.

Witnesses:

CHARLES W. HILLS, Jr.,
GEORGE R. MOORE.