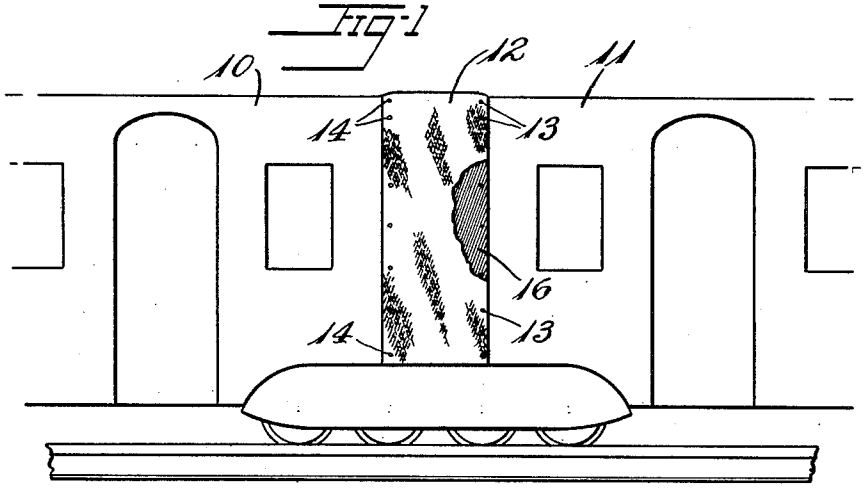
Aug. 16, 1938. G. H. STEWART ET AL 2,126,837

ELASTIC WALL MEMBER

Filed Aug. 25, 1936

Fig. 1



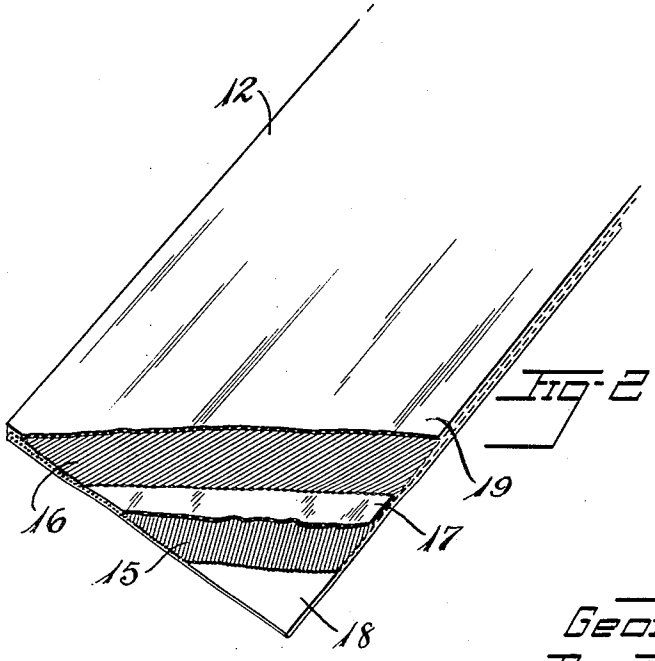


Fig. 2

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ELASTIC WALL MEMBER

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5 Claims. (Cl. 105—8)

This invention relates to elastic wall members and is especially useful for enclosing the space between articulated members of stream lined trains or in similar situations where flexible elastic connecting wall members are used.

The principal objects of the invention are to provide flexibility and elasticity with safety against tearing.

Other objects will appear from the following description and the accompanying drawing.

Of the drawing:

Fig. 1 is a side elevation of part of an articulated train showing the wall member in its preferred form as used between two articulated sections of the train.

Fig. 2 is a perspective view of the partition material, parts being broken away in steps to show the structure.

Referring to the drawing, the numerals **10**, **11** designate contiguous sections of an articulated train. The wall member **12**, which is the subject of this application, extends over the top and sides of train sections to enclose the space therebetween and is attached thereto by suitable fastening means such as bolts **13**, **14**.

The wall member **12** comprises a plurality of layers of rubberized parallel cords, preferably two, designated by the numerals **15**, **16**. These layers of cord are held in spaced relation by a layer of rubber composition **17** and their outer faces are protected from the weather by facings **18**, **19** of similar composition. Although cord is preferred for most uses, other flexible strip reinforcing elements, such, for example, as wire, cable or tape may in some cases be used.

A high degree of extensibility is desired in the sheet wall member **12** in the longitudinal direction of the train, in which occurs the greatest extent of the articulated movement, and considerably less extensibility is required in the direction of the sheet transversely thereto. At the same time it is desired to provide reinforcement of the sheet in all its surface directions against ripping or tearing forces, such as would be likely to be disastrous to an unreinforced rubber sheet, especially when the sheet has been cut or abraded, even slightly, in places.

To these ends the layers of cords **15**, **16** are disposed crosswise preferably at an angle other than a right angle with relation to each other so that great extensibility is provided in one direction of the sheet and little or no extensibility in the direction of the sheet transverse thereto. The acuteness of the smaller of the two angles between the cords of the layers may be varied considerably according to the degree of extensibility desired. For example, a 40° angle is regarded as satisfactory for some cases, and the range of 20° to 50° covers many other useful applications.

In the embodiment of Fig. 1 the sheet wall member is disposed with its crossed layers of cords extending more nearly in the vertical direction than in the horizontal direction, so that the wall has its greatest extensibility in the longitudinal direction of the train.

The rubber composition used should have a high degree of elasticity and high resistance to oxidation and the composition between the cords should be of sufficient thickness to provide the desired extensibility without separation from the cords.

In the preparation of the wall member two layers of weftless cord fabric having coatings of rubber composition on their opposite faces are assembled with their cords disposed at the desired angle to each other. The partition member is then vulcanized between press platens.

Where such material is used as a connecting wall between articulated train members it forms an unbroken continuation of the car surfaces and accommodates itself to bending of the train around curves, while at the same time the cords provide the necessary strength to resist ripping of the rubber following any accidental puncturing thereof and to provide the desired safety to passengers.

We claim:

1. An articulated vehicle having an elastic side wall extending between and connected to articulated parts thereof, said wall comprising a sheet member having a tear-resisting reinforcement comprising crossed elements embedded in rubber-like material and so diagonally disposed with relation to the longitudinal direction of the vehicle as to provide extensibility in both directions of the sheet with a substantially greater extensibility in the longitudinal direction of the vehicle than in the direction of the sheet transverse to said longitudinal direction.

2. An articulated vehicle as defined in claim 1 in which the reinforcement comprises crossed layers of flexible strip material embedded in the rubber-like material, the strip layers being crossed at an acute angle facing transversely to the longitudinal direction of the vehicle.

3. An elastic wall comprising a sheet member having a plurality of layers of flexible strip reinforcing elements comprising weftless cords embedded in rubber and disposed in crossed relation at an acute angle of between 20 and 50 de-

grees to each other providing substantial stretchability of the sheet in one of its directions and reinforcement in all directions of the sheet against tearing forces.

4. An articulated vehicle having an elastic wall extending between and connected to articulated parts thereof, the wall comprising a sheet member having a plurality of layers of flexible strip reinforcing elements comprising cords embedded in rubber and disposed in crossed relation at an acute angle of between 20 and 50 degrees to each other providing greater stretchability of the sheet in one of its directions than in the direction of the sheet transverse thereto and resistance in all directions of the sheet against tearing forces, said sheet being disposed in relation to the articulated parts so that its direction of greatest stretchability corresponds with the direction of movement of the vehicle.

5. An elastic wall comprising a sheet member having a plurality of layers of flexible strip reinforcing elements embedded in rubber and disposed in crossed relation at an acute angle of between 20 and 50 degrees to each other providing substantial stretchability of the sheet in one of its directions and reinforcement in all directions of the sheet against tearing forces.

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