F. G. FOWLER.

SPRING FOR CAR VESTIBULE DIAPHRAGMS.

APPLICATION FILED DEC. 21, 1909.

966,818.

Patented Aug. 9, 1910.

2 SHEETS—SHEET 1.

Fig 2

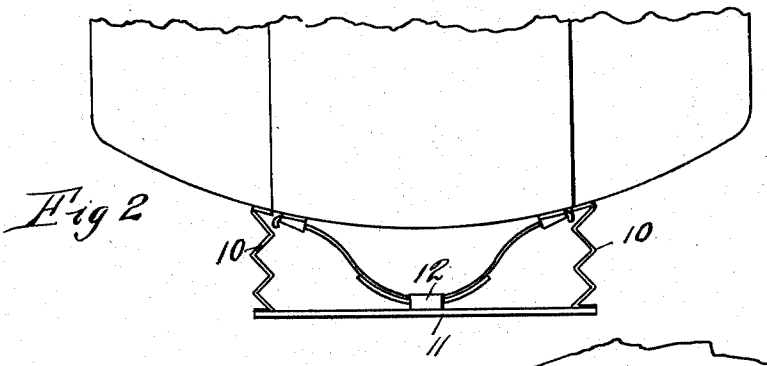
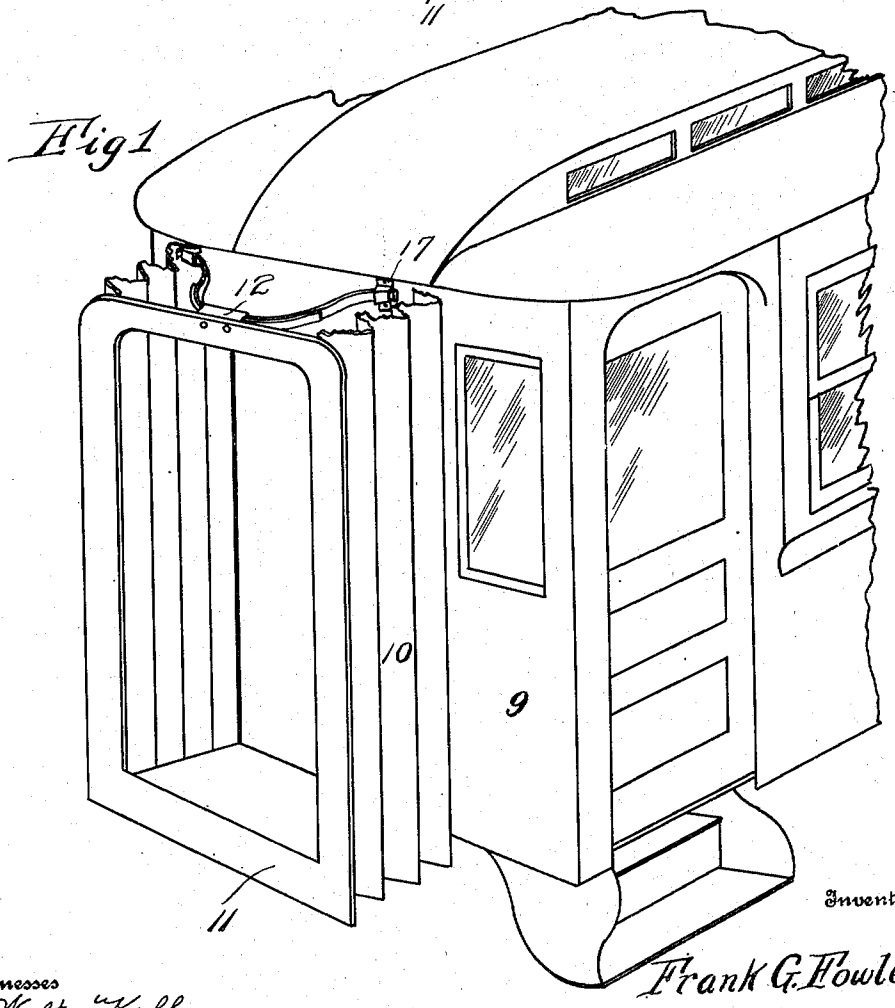


Fig 1



Witnesses

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Fig 3

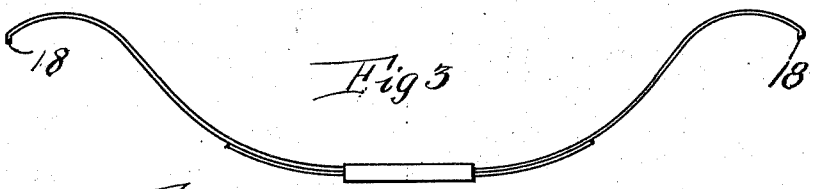


Fig 4

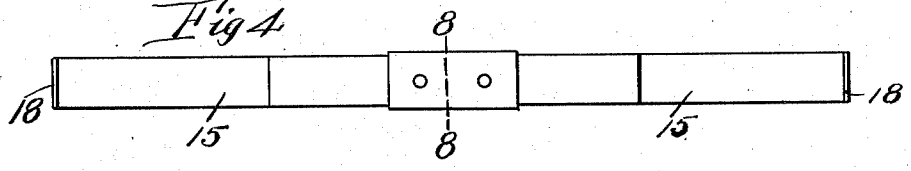


Fig 5

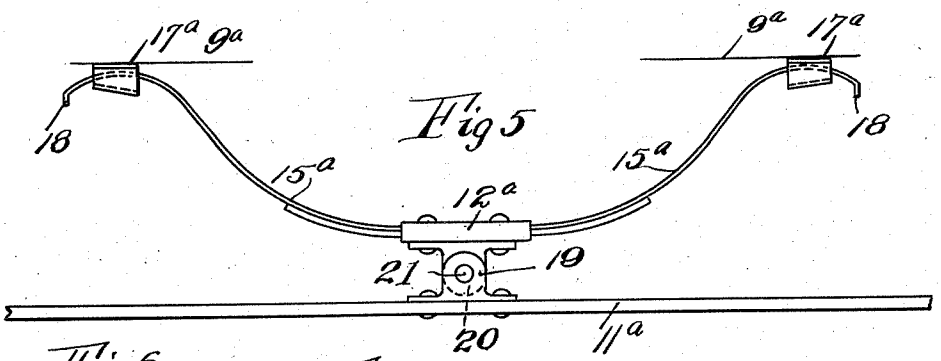


Fig 6

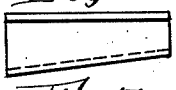


Fig 7

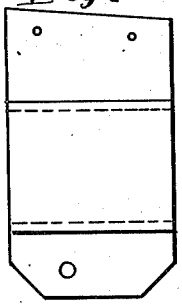
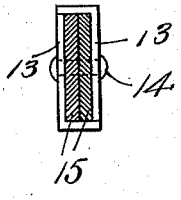


Fig 8



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Witnesses

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UNITED STATES PATENT OFFICE.

FRANK G. FOWLER, OF ALTOONA, PENNSYLVANIA.

SPRING FOR CAR-VESTIBULE DIAPHRAGMS.

966,818. Specification of Letters Patent. Patented Aug. 9, 1910.

Application filed December 21, 1909. Serial No. 534,374.

To all whom it may concern:

Be it known that I, FRANK G. FOWLER, a citizen of the United States, residing at Altoona, in the county of Blair and State of Pennsylvania, have invented certain new and useful Improvements in Springs for Car-Vestibule Diaphragms, of which the following is a specification.

The present invention relates to means for maintaining the diaphragms of car vestibules in properly extended condition, and the object is to provide a structure that is exceedingly simple and effective, and will to a very great extent, eliminate the noise now incident to steel cars equipped with such diaphragms, the structure moreover being such that the diaphragms will conform to curves and cross-overs without creating disagreeable noise.

The preferred form of construction is illustrated in the accompanying drawings, wherein:—

Figure 1 is a perspective view of a car vestibule equipped with the novel mechanism, a portion of the diaphragm being broken away to illustrate the same. Fig. 2 is a top plan view thereof. Fig. 3 is an edge view of the spring. Fig. 4 is a view in elevation of said spring. Fig. 5 is a top plan view of a slightly modified form of construction. Fig. 6 is a plan view of one of the keeper boxes. Fig. 7 is a front elevation thereof. Fig. 8 is a cross sectional view on the line 8—8 of Fig. 4.

Similar reference numerals designate corresponding parts in all the figures of the drawings.

In the embodiment disclosed, the vestibule of the car is designated 9, and projecting therefrom is the usual bellows diaphragm 10 having a terminal metallic frame 11. Secured centrally to the top of this frame is a keeper box 12, which, as shown in Fig. 8, comprises two oppositely arranged L-shaped sections 13 secured together by a central rivet 14 that also passes through the central portion of a bowed spring 15 that is thus clamped by said box. The terminal portions of the spring slidably pass through keeper boxes 16 that are fastened, as shown at 17, to the end wall of the vestibule, and in order to prevent the detachment of the spring from said boxes, the terminals are offset, as shown at 18.

It will be evident that with this construction, the bellows will be maintained in properly extended position, and yet will yield to the necessary sway and relative movement between the cars. By providing the means for preventing the disengagement of the spring from the guide boxes, the diaphragm face plate or frame will be maintained in proper position when the cars are uncoupled, this being a very important feature. The particular construction of the box 12 is also valuable. By producing the same of L-shaped sections, a band is formed for the springs that can be applied without the necessity of heating said band, and consequently the danger of drawing the temper from the spring is eliminated.

In Fig. 5, a slightly modified form of construction is disclosed. The diaphragm frame is illustrated at 11^a and the end wall of the vestibule is designated 9^a. The frame 11^a has secured centrally to the inner side of its top an ear 19, and the keeper box 12^a carries an ear 20 pivoted to the ear 19, as shown at 21. Keeper boxes 17^a are fixed to the vestibule wall 9^a, and receive the ends of the bowed spring 15^a.

From the foregoing, it is thought that the construction, operation and many advantages of the herein described invention will be apparent to those skilled in the art, without further description, and it will be understood that various changes in the size, shape, proportion and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is:—

1. In a vestibule mounting for railway cars, the combination with a movable terminal frame member, of an ear secured to said frame member, a bracket pivoted to said ear, a bowed spring having its central portion secured to said bracket, and stationary oppositely located spaced keeper boxes secured to a fixed point of support, the terminals of the spring slidably engaging within the boxes and having offset ends to prevent disengagement of said terminals from the boxes.

2. In a railway car, the combination with a vestibule, of a bellows diaphragm having a terminal frame, an ear secured centrally to the top of the frame, a bracket pivoted to the ear and including a keeper box comprising reversely arranged L-shaped sec-

tions, a bowed spring having its central portion clamped in said box, and spaced keeper boxes secured to the vestibule, the terminals of the spring being slidably engaged in the boxes and having offset ends constituting means for preventing the disengagement of said terminals from the boxes.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

FRANK G. FOWLER.

Witnesses:
N. E. GEE,
D. LLOYD CLAYCOMB.