

(No Model.)

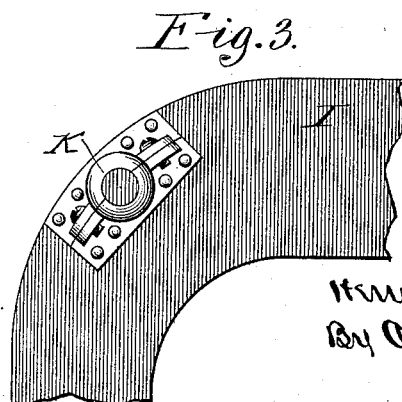
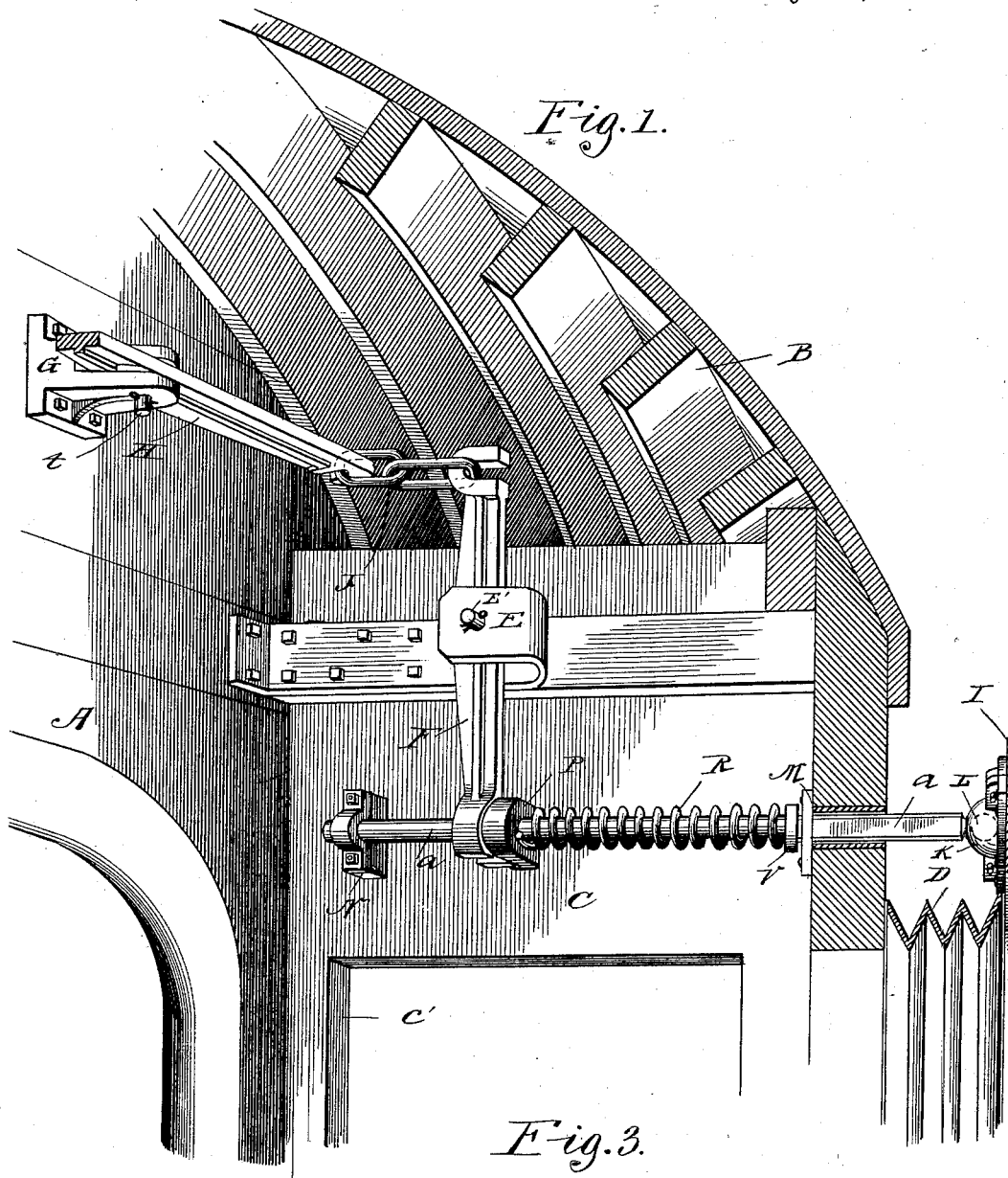
2 Sheets—Sheet 1.

H. H. SESSIONS.

EQUALIZER FOR CAR VESTIBULES.

No. 383,019.

Patented May 15, 1888.



Witnesses,
L. F. Mann,
Frederick Goodwin

Inventor,
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Att'y.

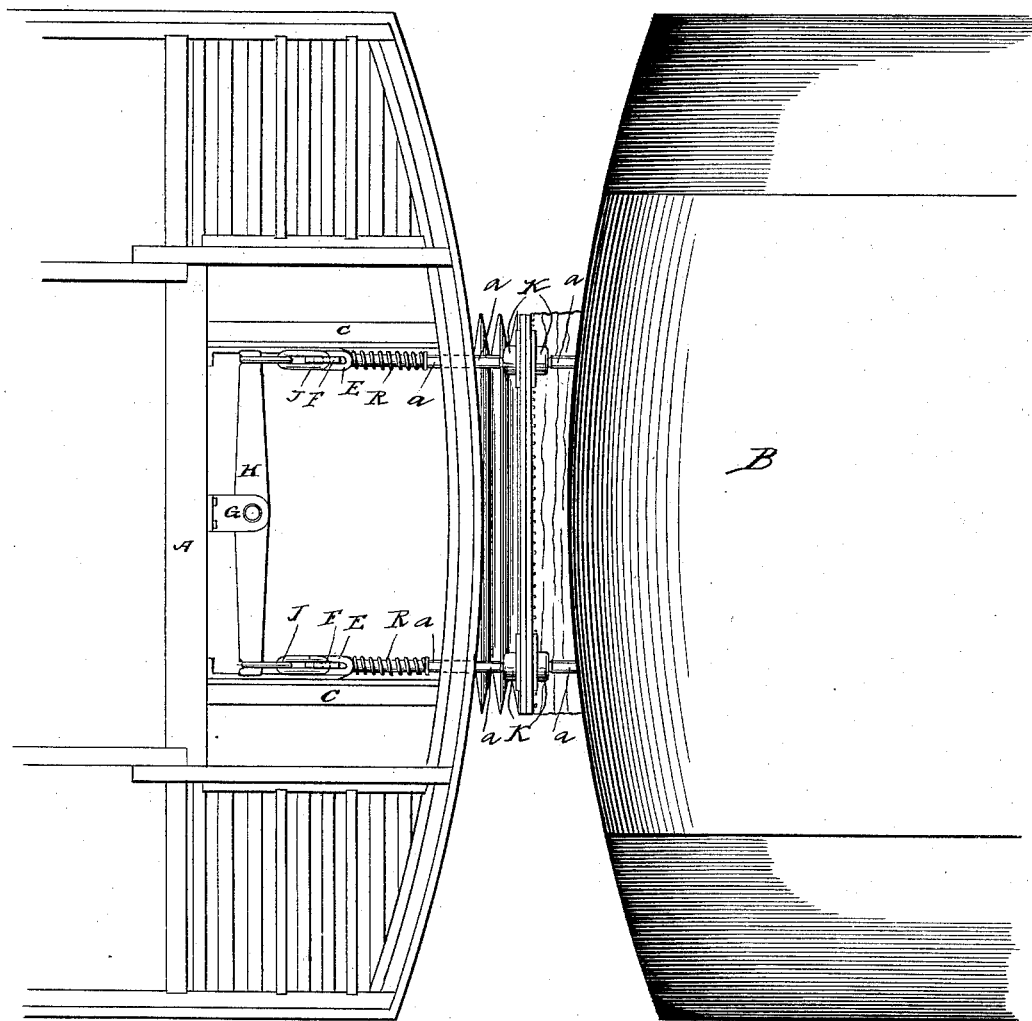
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Fig. 2.



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UNITED STATES PATENT OFFICE.

HENRY HOWARD SESSIONS, OF PULLMAN, ASSIGNOR TO THE PULLMAN'S
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EQUALIZER FOR CAR-VESTIBULES.

SPECIFICATION forming part of Letters Patent No. 383,019, dated May 15, 1888.

Application filed December 10, 1887. Serial No. 257,534. (No model.)

To all whom it may concern:

Be it known that I, HENRY HOWARD SESSIONS, a citizen of the United States, residing at the village of Pullman, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Equalizers for Car-Vestibules, which I desire to protect by Letters Patent of the United States, and of which the following is a specification.

The purpose of my invention is to supply the necessary flexible or yielding backing, and to equalize the pressure—or, in other words, to distribute the force of compression that takes place with the flexible or collapsible portion of a car-vestibule—that in the most improved of modern passenger-car structures is interposed between the platforms of adjacent cars.

This application is designed for the upper portion of the vestibule. The general construction of vestibules is now well known, and the provision for furnishing the elastic backing or buffers for the lower portion, or at the platforms, to co-operate with the appliances of this invention, is the same as shown with prior improvements.

The present improvement becomes important in view of the fact that an unequal distribution of force will occur when compression of the vestibule takes place with the cars out of alignment unless provided against.

In connection with my equalizing appliances I have introduced a ball-and-socket joint that would be an important feature in the construction even without the equalizing parts.

In the accompanying drawings, making a part of this specification, Figure 1 shows a portion of a car end and vestibule, including a division of my appliances in perspective. Fig. 2 is a plan embracing adjacent car ends and a vestibule with one car-roof removed to expose the equalizer. Fig. 3 is a detail.

The end of the car is represented by A. The roof portion, extending, as usual, over the platform, is designated B. The permanent vestibule-side, equal to the platform length, is designated C, the latter being provided with a doorway, C', to be closed by a suitable door, through which doorway entrance and exit is had to and from the vestibule and car. The flexible portion is designated D. On the side of the permanent vestibule is secured a bracket,

E, in which, by bolt E', is pivotally supported a vertical lever, F. Centrally on the front of the car is provided a bracket, G, in which is secured, by a bolt, *t*, a horizontal lever, H. Levers F and H have their adjacent ends united by links J. A horizontal shaft, *a*, is partly supported by a bracket, N, on the side of the solid vestibule, and receives other support by a bearing in front of said solid vestibule, through which it extends at M, a suitable metal bushing being provided. To prevent shaft *a* from moving on its longitudinal axis, that portion extending through the front at M is angular in cross section, its bearing being adapted thereto.

The abutting-plate of the vestibule—that is, the front plate that abuts a like plate of the adjacent car—is designated I, and in this improvement is made to extend above the flexible inclosure. This, as shown best in Fig. 3, is provided with a socket, K, made, as apparent, in two parts and adapted to receive the spherical end L of shaft *a*, thus forming a ball-and-socket joint. The lower end of lever F is bifurcated, through which bifurcations shaft *a* extends. A movable collar, P, on shaft *a* bears against the end of lever F, and the spiral spring R, that surrounds the shaft, is interposed between said collar and a fixed collar, V, on said shaft. Lever H is continued, and the parts described are duplicated on the opposite side of the vestibule to complete the construction. The power of springs R is designed to equal the requirements for upper buffers.

It is obvious that undue force brought against the spring of one shaft *a* is transmitted through the lever system to the opposite spring, and thus effects that much of the purpose for which the improvement is designed. The ball-and-socket joint permits unequal flexion of the vestibule without impairing the easy action of the equalizing mechanism, or in the absence of such mechanism permits a direct bearing against buffer-bars, for which purpose the shaft *a* might then serve.

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

1. In a car-vestibule, shafts located at the sides and at the upper portion of the vestibule,

adapted to longitudinal movement, their front or outer ends bearing against the abutting-plates of the flexible vestibule portion, and their rear or inner ends being connected by a lever or system of levers with buffer-springs interposed between said levers and shaft as a resistance to the inward movement of the latter.

2. In a car-vestibule, shafts located at the sides of the vestibule, adapted for longitudinal movement, having at their inner or rear ends lever attachments connecting one shaft with the other, and being provided with spherical outer ends, a spring interposed between the shaft and lever as a resisting medium for said shaft, in combination with the abutting-plate of a flexible vestibule, said plate being provided with sockets adapted in conjunction with the spherical shaft ends to form ball-and-socket joints.

3. In a car-vestibule, shafts at each side of the upper portion of the vestibule bearing against the abutting-plate of a flexible connection, and

having connected therewith springs affording yielding resistance to inward movement thereof, in combination with a system of equalizing-levers, consisting of vertical bars at the sides and a horizontal equalizing-bar attached to the end of the car, to which said vertical bars are pivotally or flexibly attached.

4. In a car-vestibule, the shafts *a* and abutting-plate *I*, provided with ball-and-socket joints *K L* at their bearing, one with the other, in combination with springs *R*, vertical levers *F*, and horizontal lever *H*, substantially as and for the purpose set forth.

5. In a car-vestibule, the combination of the flexible vestibule portion *D*, shafts *a*, springs *R*, vertical levers *F*, and horizontal lever *H*, substantially as and for the purpose set forth.

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Witnesses:-

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