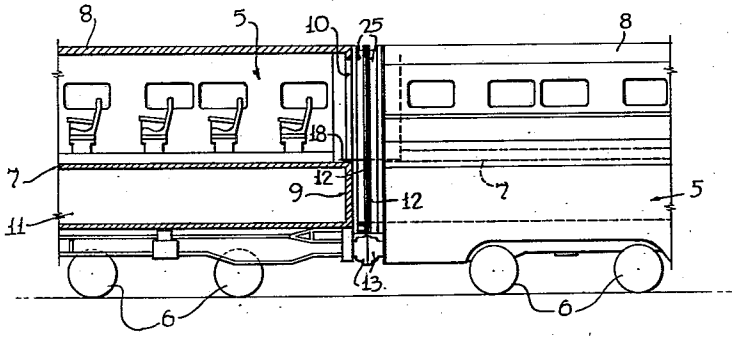
June 4, 1957 A. G. DEAN 2,794,401

FACE PLATE MOUNTING, ESPECIALLY FOR RAILWAY CARS

Filed June 30, 1955 2 Sheets-Sheet 1

FIG. 1



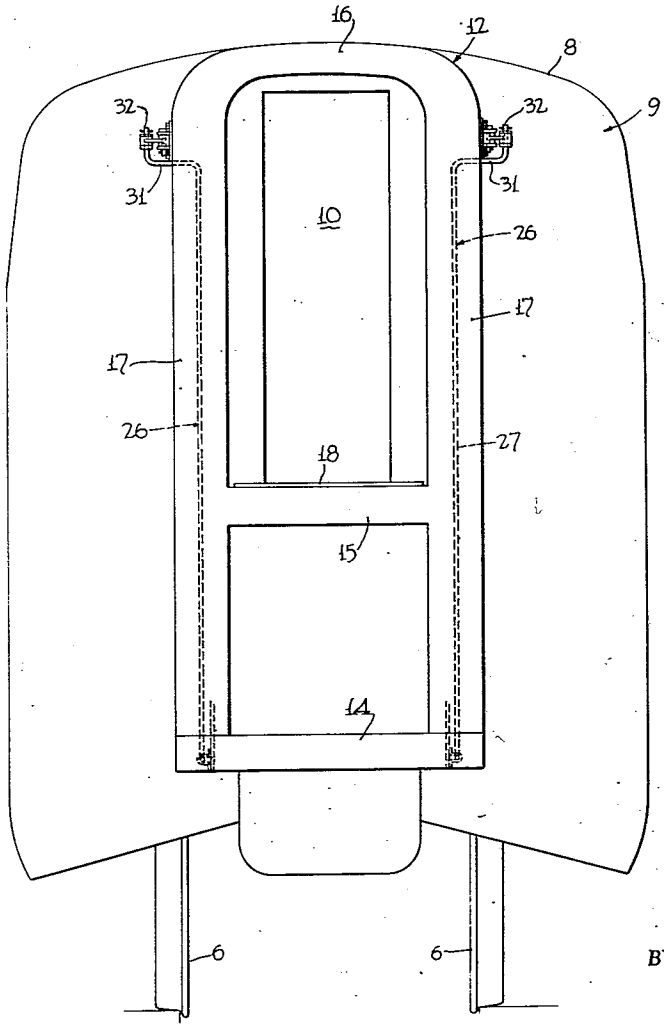


FIG. 2

INVENTOR
Albert G. Dean
BY Karl R. Schiff
AGENT

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FIG.4

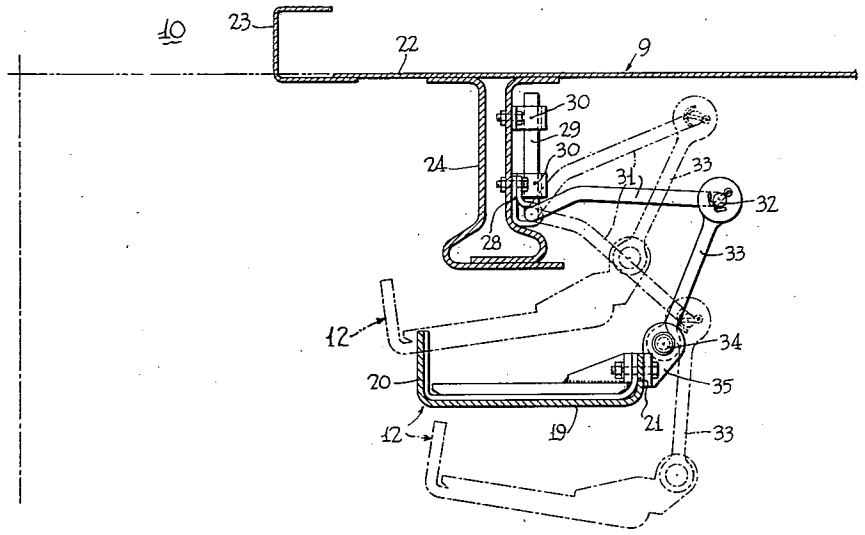
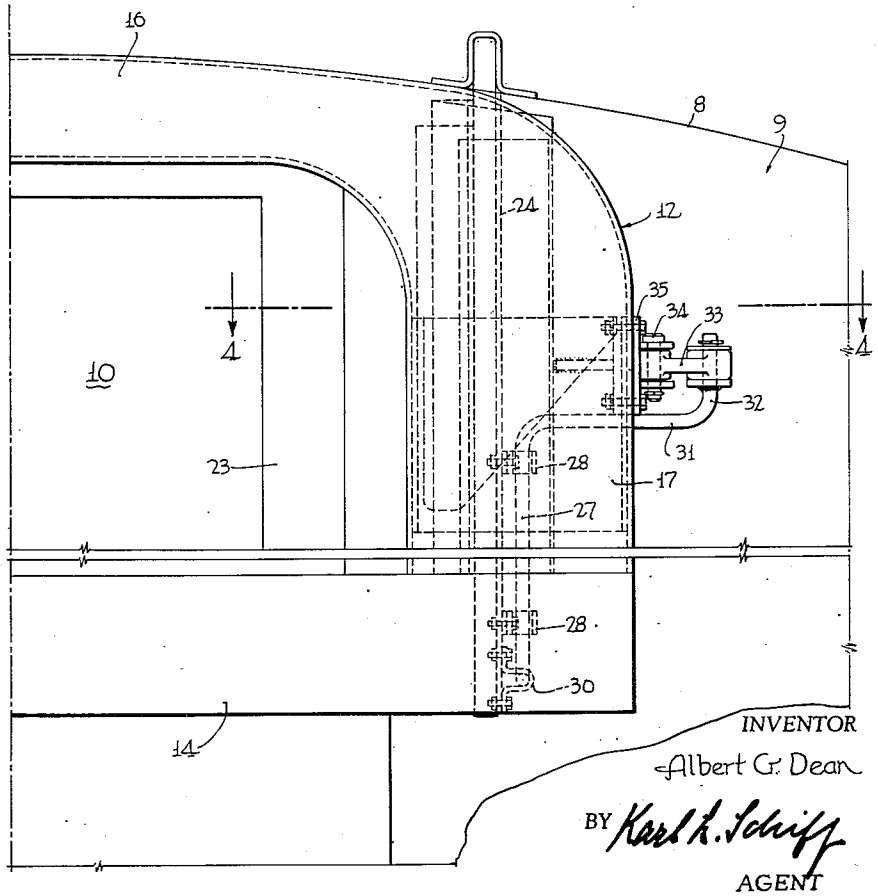


FIG.3



INVENTOR
Albert G. Dean
BY Karl K. Schiff
AGENT

United States Patent Office

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FACE PLATE MOUNTING, ESPECIALLY FOR RAILWAY CARS

Albert G. Dean, Narberth, Pa., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania

Application June 30, 1955, Serial No. 519,024

4 Claims. (Cl. 105—10)

The invention relates to spring-biased mounting of a face plate, particularly a face plate arranged at the end of a railway car and connected with a diaphragm enclosing a passage.

Among the objects of the invention is a face plate mounting adapted for conditions under which there is not enough room above the passage opening for one of the customary arrangements of a spring serving to bias the face plate and hold it in contact with a mating face plate of an adjoining car or structure.

A more specific object of the invention is a face plate mounting and spring-biasing adapted for double-deck railway cars with a passage opening on the level of the upper deck which latter extends to the respective end wall of the car and in which the aforesaid space limitations are particularly severe in view of the clearance lines and the full standing height required for the decks of the car as well as for the passageways between cars. Indeed, in cars of the indicated type there is mostly no noteworthy room at all on top of the opening, except the thickness of the roof, which would permit the usual arrangement of a biasing spring for the face plate.

The aforesaid and other objects and advantages are achieved by biasing the upper end of a face plate by means of torsional springs which are preferably arranged along the sides of the passage opening.

The invention and its details, objects and advantages are more fully disclosed in the following description of an embodiment and its illustration in the attached drawing.

In the drawing:

Fig. 1 is a fragmentary diagrammatic side elevation, partly in section, of two adjoining double-deck railway cars;

Fig. 2 is a diagrammatic end elevation on a larger scale of one of the cars;

Fig. 3 is a fragmentary end elevation, on a still larger scale, of one side of the face plate and its suspension, and of adjoining part of the end wall of the car; and

Fig. 4 is a fragmentary sectional view along line 4—4 of Fig. 3.

The ends of car bodies **5** are supported by trucks **6**, diagrammatically indicated by their wheels. Each car has an upper floor **7** spaced full standing height from roof **8** and extending to end wall **9**, the latter surrounding a passage opening **10**. Opening **10** also is of full standing height and has its lower margin at the level of the floor **7**. The car has a lower deck **11** above the trucks **6** and another, not shown, deck of full standing height between the trucks.

A face plate **12**, associated with each end wall **9**, comprises above car couplers **13** a lower transverse member **14**, an intermediate transverse member **15** below the lower margin of opening **10**, an upper transverse member **16** above opening **10**, and vertical members **17** along the sides of the opening **10**. Each end wall is furthermore provided with the usual threshold plate **18**. The members constituting the face plate **12**, particularly top

and side members **16** and **17** may have channel section and comprise a web **19**, an inner leg **20** and an outer leg **21**.

End wall **9** comprises an end plate **22**, a frame **23** for passage opening **10**, and a collision post **24** on each side of opening **10** and substantially lined up with face plate **12**. The usual diaphragm **25**, secured to the inside of face plate **12** and to the collision post **24** in customary manner, is only diagrammatically illustrated in Fig. 1 but not in other figures so as not to hide parts which constitute essential features of the invention.

Face plate may be spring biased and supported along its bottom member **14** in any customary manner by means of (not shown) stems longitudinally guided in and spring biased against the lower part of the end wall.

The invention concerns the spring bias of the upper part of face plate **12** against end wall **9** because, as indicated hereinbefore, the illustrated type of car offers not sufficient space between passage door **10** and roof **8** for one of the known biasing springs as disclosed for instance in applicant's U. S. Patent 2,309,073, isssued January 19, 1943, for "Diaphragm Face Plate."

The upper end of the face plate is spring biased by a pair of torsion springs **26**, one on each side. Each spring **26** has a long straight portion **27** rotatably mounted to the outside of the respective collision post **24** by means of brackets **28**. The lower end of spring portion **27** has a rectangularly bent off arm **29** which is firmly secured by means of further brackets **30** to the collision post **24** at about the height of the lower member **14** of the face plate. The upper end of spring **26** has a laterally extending arm **31** journaled by its upwardly directed outer end **32** to one end of a link **33**. The other end of link **33** is journaled at **34** to a bracket **35** and the latter is secured to the outer leg **21** of face plate **12**.

Fig. 4 illustrates in full lines, dot-and-dash lines and double-dot-and-dash lines different positions of face plate **12**, link **33** and spring arms **31**, **32** relative to end wall **9**. Assuming that there is no tension in this spring when the face plate **12** is farthest away from end wall **9** as shown in dot-and-dash lines in Fig. 4, then it is evident that any movement of face plate **12** is closer to end wall **9**, as shown respectively in full lines and double-dot-and-dash lines, means a corresponding movement of the outer end **32** of arm **31**, which can only be achieved by twisting or torsioning straight part **27** of spring **26**, the lower end of which is prevented from rotating by its stationary securement of its angled-off lower arm **29**.

The new arrangement requires no space whatever above passage opening **10** and practically no space at the sides of collision posts **24** and face plate **12**. Consequently, the new mounting solves the object of the invention and does not interfere either with any equipment, devices, etc. which customarily are arranged on the outside of the end wall of a railway car, while it assures an effective spring biasing of the upper end of face plate **12** and is of extremely simple, inexpensive, rugged and durable construction.

The invention is not restricted to the details of the illustrated embodiment. Particularly the invention is susceptible to modifications and to adaptations to different conditions, particularly different constructions and forms of end wall and face plate.

What is claimed is:

1. In a railway car or the like: an end wall and a face plate surrounding registering passage openings; a pair of torsion springs, one on each side of said openings; each spring having a vertical part, a lower end and a lever at the upper end; said vertical part being rotatably arranged and said lower end being held against rotation on one of said end walls and face plate; said lever having its end remote from said upper spring end jour-

naled to the other one of said face plate and end wall; the arrangement being such that said spring urges the said face plate away from said end wall while resiliently resisting their approach toward each other.

2. In a railway car or the like according to claim 1, having said vertical spring part and its said lower end respectively arranged and held on said end wall, and having said lever journaled to said face plate.

3. A railway car or the like according to claim 2, said

end wall having a collision post and said vertical spring part being rotatably supported on the lateral outer side of said collision post.

4. A railway car or the like according to claim 1, a link having its end journaled respectively to the outer end of said lever and one of said face plate and end wall.

No references cited.