T. C. WINFIELD.

MEANS FOR PREVENTING SHOCKS BY THE AXLES OF TRAMWAY AND RAILWAY VEHICLES.

APPLICATION FILED JULY 24, 1917.

1,269,238.

Patented June 11, 1918.

2 SHEETS—SHEET 1.

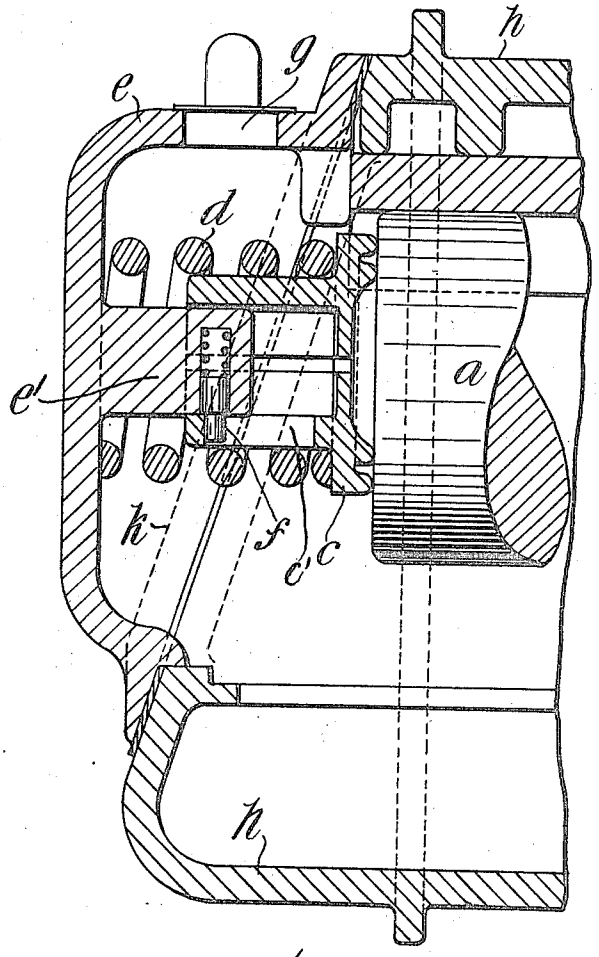


Fig. 1.

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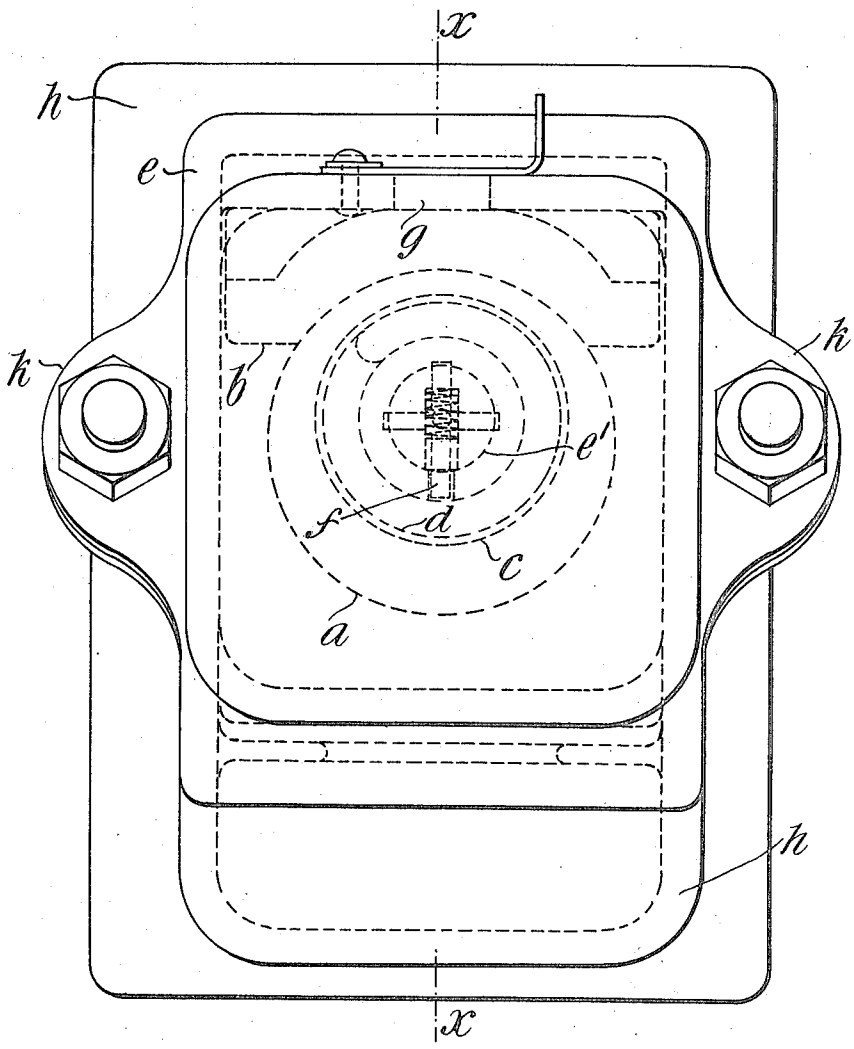


Fig. 2.

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UNITED STATES PATENT OFFICE.

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MEANS FOR PREVENTING SHOCKS BY THE AXLES OF TRAMWAY AND RAILWAY VEHICLES.

1,269,238. Specification of Letters Patent. Patented June 11, 1918.

Application filed July 24, 1917. Serial No. 182,454.

To all whom it may concern:

Be it known that I, THOMAS CHARLES WINFIELD, a subject of the King of Great Britain and Ireland, and a resident of Wanstead, county of Essex, England, have invented a certain new and useful Improvement in Means for Preventing Shocks by the Axles of Tramway and Railway Vehicles, of which the following is a specification.

This invention relates to end thrust shock absorbers for the axles of tramway and railway vehicles, and to the type of absorber characterized by a spring interposed between the end of the axle which is free to move laterally and the inside of the lid of the axle box, which lid is detachably mounted on the axle box in a dust-tight manner. In the above connection the spring has been positioned by means of a boss on the inside of the lid and a hollow bush, said spring fitting around said boss, and in said bush which is slidably but non-rotatably mounted in the axle box and through the intermediary of a bearing plate pressing against the end of the axle.

According to the present invention, the bush which is provided with a flanged inner end is slidably but non-rotatably mounted on a machined, elongated and parallel boss on the inside of the lid and the spring arranged outside the bush and around the boss so as to bear against the inside of the lid and flanged end of the bush, which flanged end bears directly against the end of the axle.

Further, to enable the absorber, as a whole, to be readily removed, the boss on the lid is provided with a projecting and spring-controlled pin which normally takes in a slot in the wall of the bush and bears against the outer end thereof, said pin when the absorber is removed being easily pushed out of said slot, allowing the spring and bush to be detached and vice versa.

Further, the lubricating means are so arranged that the lubricant must pass over the parts constituting the improved absorber and also in the ordinary running of the axle be carried around by the axle rotating in the lubricant or by the provision of feeders for that purpose, all of which are of common knowledge.

The invention is illustrated by the accompanying sheets of drawings, in which:—

Figure 1 is a vertical longitudinal section taken on line x, x of Fig. 2, which is a front elevation of the axle box.

By referring to the accompanying drawing, it will be observed that the axle a, journaled in the bearing b, projects into the axle box h, whereby the end thereof is located adjacent the usual journal box opening which has detachably fitted thereto a suitable lid or cover e that may be secured to the box h by bolting the ears k thereto in the well known manner. The top of the said lid or cover e is preferably provided with a lubricant receiving opening g clearly shown in Figs. 1 and 2.

Referring now more particularly to the shock absorbing unit constituting the present invention, it will be observed that the same essentially consists of a flanged bushing member c adapted to engage the end of the axle a while its cylindrical portion is adapted to receive a rigid boss e' preferably formed integral with the cover or lid e as shown in Fig. 1. For the purpose of preventing the spinning of the bushing c on the boss e', when the axle is rotating, the cylindrical portion of the said bushing is formed with a longitudinal slot c' which is adapted to receive the latch end of a spring pressed latching bolt f mounted in the end of the boss e' and arranged diametrically thereof. Thus, it will be apparent that while the bushing element c and boss e' are separate members, they may be readily interlocked when in use to obtain the desired results. Furthermore, this type of interlock makes it possible to readily renew the bushing c when desired.

In order to maintain the said bushing element c in its operative position there is interposed between the flanged portion thereof, and the inner face of the lid e, a relatively stout coil spring d which also surrounds both the cylindrical portion of the bushing and the rigid boss e'. This spring forces the bushing c into yielding engagement with the end of the axle.

Having now described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:—

1. A shock absorber for journal boxes, including the combination with the box and axle therein, of a detachable lid for said box having a lubricating hole in the top thereof and a boss on the inner side thereof, a bushing element having a slot and slidably mounted on said boss, and also having a flanged end adapted to bear against the end of said axle, a spring surrounding said bushing and boss and confined between said lid and the flanged end of the bushing, and a spring controlled locking pin carried by the boss and engaging said slot of the bushing to prevent rotation of the latter and also enable the entire absorber to be removed as a whole.

2. A shock absorber for journal boxes including the combination with the box and a detachable lid therefor, of a shock absorber unit carried by said lid and including a rigid boss element on the inner face of said lid, a removable bushing element detachably interlocked with said boss, and a spring confined between a portion of the bushing and said lid.

In testimony whereof I have affixed my signature in presence of two witnesses.

THOMAS CHARLES WINFIELD.

Witnesses:
ROBT. HUNTER,
P. M. GOODWIN.