(No Model.)

K. S. AUSTIN.

CAR AXLE BOX.

No. 336,831. Patented Feb. 23, 1886.

Fig: 1.

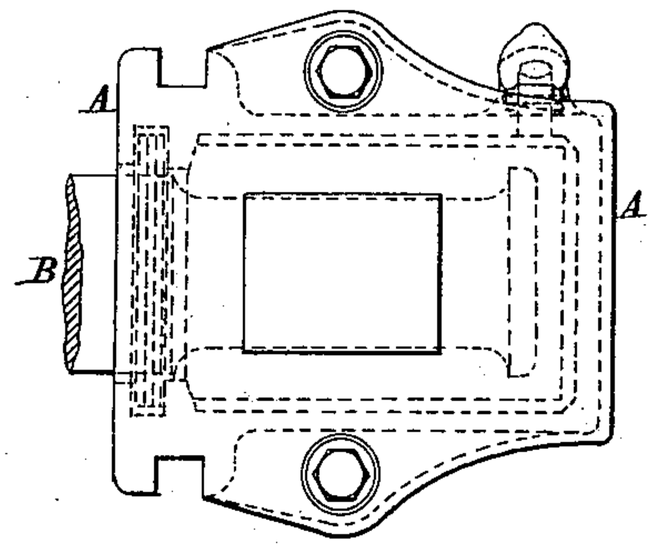


Fig: 1a.

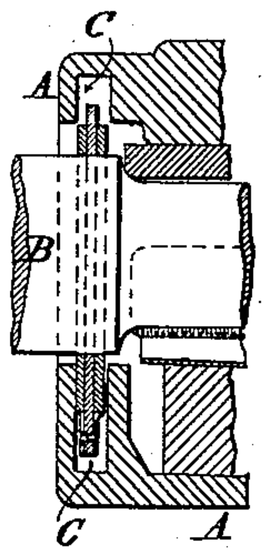


Fig: 2.

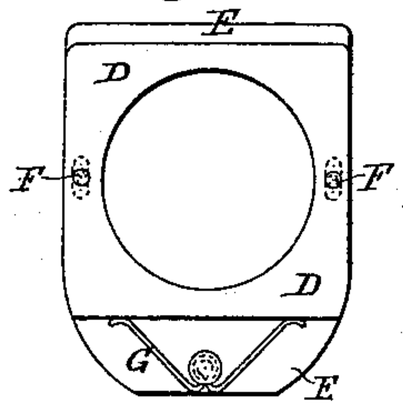


Fig: 3.

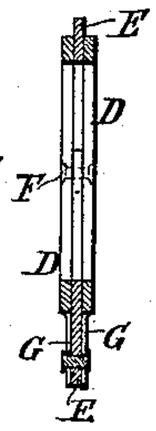


Fig: 4.

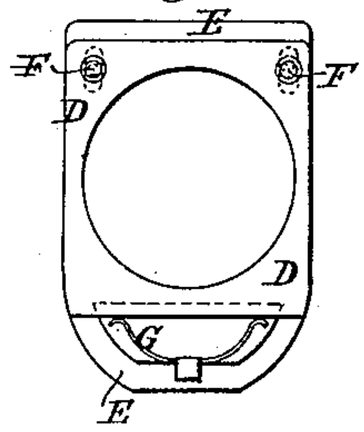


Fig: 5.

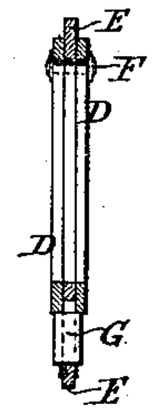


Fig: 6.

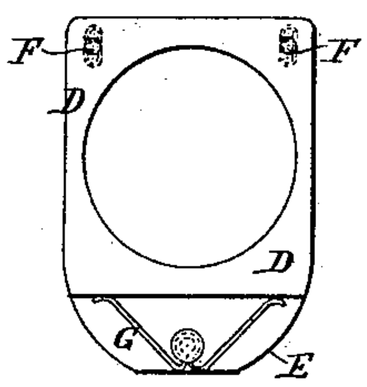


Fig: 7.

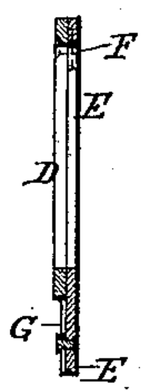


Fig: 8.

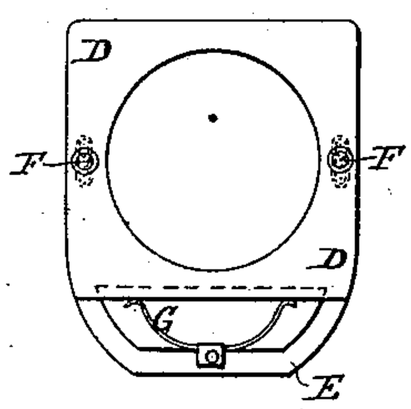
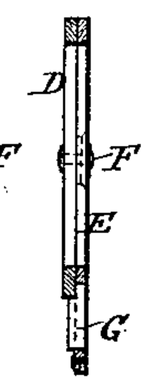


Fig: 9.



Witnesses.

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UNITED STATES PATENT OFFICE.

KENNETH STUART AUSTIN, OF HAVELOCK COTTAGE, WASHWOOD HEATH ROAD, COUNTY OF WARWICK, ENGLAND.

CAR-AXLE BOX.

SPECIFICATION forming part of Letters Patent No. 336,831, dated February 23, 1886.

Application filed October 5, 1885. Serial No. 179,055. (No model.) Patented in England June 10, 1879, No. 2,299.

To all whom it may concern:

Be it known that I, KENNETH STUART AUSTIN, a subject of the Queen of Great Britain, residing at Havelock Cottage, Washwood Heath Road, Saltley, in the county of Warwick, England, have invented certain new and useful Improvements in Railway Axle-Boxes, (for which I have received Letters Patent in Great Britain, No. 2,299, dated June 10, 1879,) of which the following is a specification.

In order to close the axle-box on the inner side to exclude dust and to prevent the escape of oil, I employ an improved shield.

It consists of thin plates, preferably three in number, of carbonized fiber, ebonite, hard wood, or other suitable material. They lie the one against the other, and headed studs or rivets passing through connect the plates together. The rivets are fast in the outer plates, but traverse slots in the intermediate plate, which is thus free to slide for a short distance between the two outer plates. Each plate has a hole through it for the axle to pass, and the axle is caused to be gently nipped at the top and bottom between the center plate and the outer plates, a spring or springs of steel wire attached to the center plate near its lower end pressing upon the lower edges of the outer plates, and so giving to the center plate a tendency to descend and to the outer plates a tendency to rise. Thus the shield is made to close upon the axle, and so it adapts itself in case of wear. The shield is itself held in grooves at the end of the box, in which it is free to play and adjust itself in position without interfering with the self-adjustment of the plates by means of their guideway-connection with each other and the action of the spring or springs. Shields may in like manner be formed with two plates, the one sliding on the other; but three-plate shields are to be preferred.

Having thus stated the nature of my invention, I will proceed to describe more fully the manner of performing the same.

Figure 1 of the drawings hereunto annexed shows a plan, and Fig. 1ª a longitudinal section, of a railway axle-box. The portion shown in Fig. 1ª is at the inner end of the box, where the shield is applied in a groove or recess provided for the purpose. Fig. 2 is an elevation, and Fig. 3 is a transverse vertical section, of a three-plate dust-shield. Figs. 4 and 5 are similar views of another three-plate shield. Figs. 6 and 7 show a two-plate shield, and Figs. 8 and 9 also show a two-plate shield differing slightly from the preceding.

In Figs. 1 and 1ª, A A is the axle-box. B is the axle, and C is the recess to receive the dust-shield. The width of the recess corresponds to the thickness of the shield, which fits the recess, but not so tightly as to interfere with its moving freely therein, following the play of the axle.

In Figs. 2 and 3, D D are the outer plates of the shield, and E is the third plate between them. In each plate there is a hole for the passage of the axle B. F F are studs or rivets connecting the plates D D, and passing also through elongated slots in the plate E. G G are two metal springs. They are attached at the center by a rivet to the central plate, E, of the shield, and at their ends they press upon the under side of the plates D D. Thus they cause the central plate, E, to bear upon the upper side of the axle, and the outer plates, D D, to bear on its under side, the stud-and-slot guideway-connection between the plates allowing of all requisite sliding movement.

The shield shown by the Figs. 4 and 5 differs from the preceding only in that the rivets F F are differently placed, and that a single spring, G, replaces the pair of springs. The spring is arranged in an aperture provided for it in the lower part of the plate E, and lugs on the spring clip the plate on the under side of the aperture.

Figs. 6 and 7 show a two-plate dust-shield. This shield resembles that shown by the Figs. 2 and 3, but is without one of the side plates, D, and there is but one spring, G. The studs F F also are in a different position.

Figs. 8 and 9 show a two-plate dust-shield, similar to Figs. 4 and 5, but without one of the side plates, and with the studs F differently placed.

What I claim is—

1. The combination of the connected outer plates, perforated to embrace the axle, the

central plate perforated to embrace the axle and having guideway-connection with the outer plates, and the spring or springs acting upon the plates to press them to the axle, substantially as and for the purpose set forth.

2. A dust-shield for railway axle-boxes, consisting of the combination of the plates perforated to embrace the axle, the stud-and-slot guide-connection between the plates, and the spring or springs acting upon the plates to and pressing them to the axle, substantially as and for the purpose set forth.

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