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2,532,449

RAILWAY JOURNAL BOX DUST GUARD

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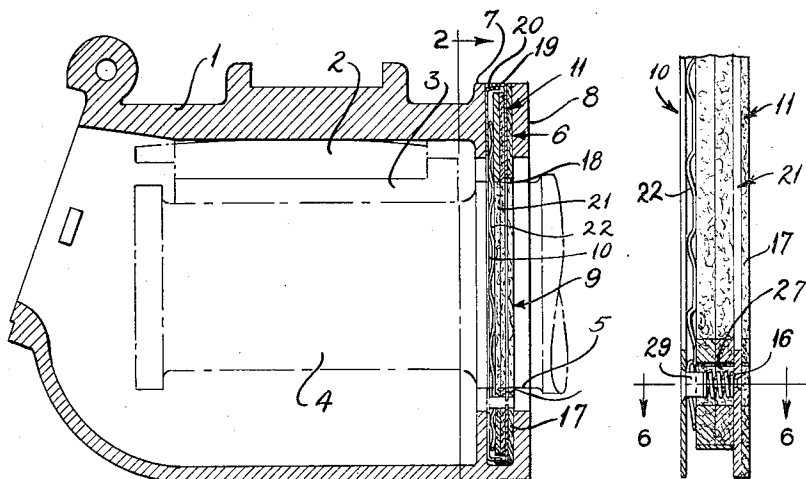


FIG. 1.

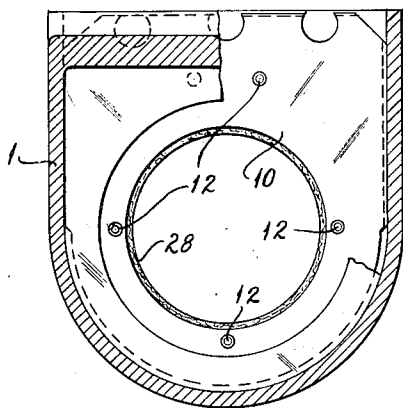


FIG. 2.

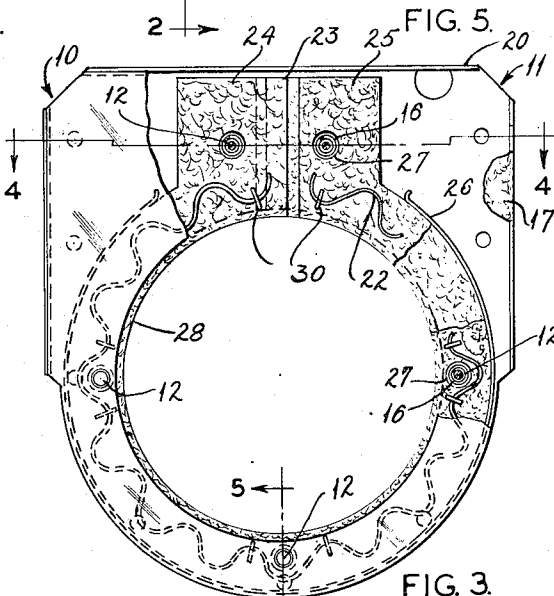


FIG. 3.

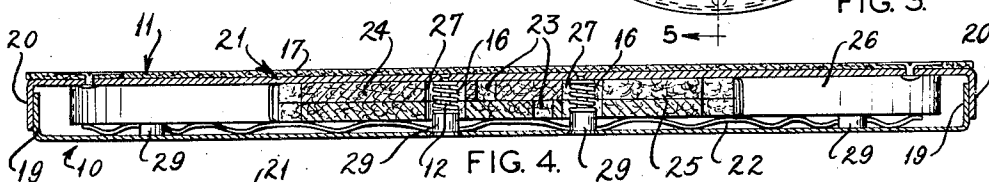


FIG. 4.

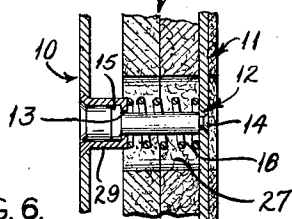


FIG. 6.

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## UNITED STATES PATENT OFFICE

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## RAILWAY JOURNAL BOX DUST GUARD

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2 Claims. (Cl. 286—6)

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This invention relates to dust guards particularly adapted to be positioned in a dust guard pocket of a railway car journal box to seal the opening between a car axle journaled therein and the journal box.

One object of the invention is to provide a tight seal between the car axle and the journal box.

Another object is to provide a dust guard which will adjust itself to the car axle and give long and efficient service.

Another object is to provide a dust guard which is easy to install and remove, without the use of special tools, and which remains assembled when removed from the dust guard pocket.

Another object is to facilitate relative shifting of the axle and box vertically and longitudinally without undue distortion of the sealing material.

Other objects of the invention will be apparent by referring to the description and accompanying drawing, in which:

Figure 1 is a central vertical longitudinal section of a railway car journal box showing a dust guard constructed according to the invention and positioned in the dust guard pocket of the journal box and around the hub seat of a car axle.

Figure 2 is a vertical transverse section taken approximately on line 2—2 of Figure 1, a portion of the journal box being cut away.

Figure 3 is an elevation view of a dust guard with a portion of one of the retaining plates cut away.

Figure 4 is a horizontal section taken approximately on line 4—4 of Figure 3.

Figure 5 is a vertical transverse section taken approximately on line 5—5 of Figure 3, and

Figure 6 is a partial horizontal section taken approximately on line 6—6 of Figure 5.

A journal box 1, which may be of conventional construction, has a wedge 2 and brass 3 forming a bearing for a journal 4 having a hub seat 5 positioned in vertical alignment with a dust guard pocket 6 in journal box 1. Dust guard pocket 6 has a front wall 7 and a rear wall 8 and receives a dust guard 9, the subject matter of this invention.

Dust guard 9 comprises a pair of rigid plates 10 and 11 of wood or metal, having overlapping ends 19 and 20, respectively, which telescope one within the other. Plate 11 has a piece of oil absorbent material 17, such as felt, attached to the outer side thereof and arranged for sealing engagement with rear wall 8 of dust guard pocket 6. Plates 10 and 11 and felt 17 have substantially central openings 18 larger than journal 4 to receive the journal without contacting it.

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Spaced pins 12 having heads 15 at one end are riveted at their opposite ends 14 to plate 11 and extend slidably through apertures 13 in cup-shaped members 29 attached to plate 10. Coil springs 16 encircle pins 12 and are compressed between cup-shaped members 29 and plate 11 to yieldingly urge plates 10 and 11 apart and towards front wall 7 and rear wall 8 of dust pocket 6. Heads 15 on pins 12 engage the bottom of cup-shaped members 29 to limit relative outward movement of plates 10 and 11 when the guard is removed from pocket 6.

Slidably positioned between plates 10 and 11 is a sealing assembly 21 composed of sealing material, such as felt, having a substantially central circular opening 28 approximately the same diameter as hub seat 5 on journal 4 to provide a close fit thereon but substantially smaller than openings 18 in plates 10 and 11 and felt 17. Sealing assembly 21 has spaced openings 27 to receive coil springs 16, pins 12, and cup-shaped members 29. Openings 27 are substantially larger than the overall diameter of coil springs 16 and members 29 to permit sealing assembly 21 to slide between plates 10 and 11.

Sealing assembly 21 preferably is split at 23 and has overlapping ends 24 and 25 so that the sealing assembly may be pressed radially into engagement with hub seat 5 by a spring 26 encircling sealing assembly 21 and free of engagement with plates 10 and 11. An annular spring 22 sinuous throughout its length and corrugated transversely of its plane is attached by staples 30 to sealing assembly 21 and is disposed between the sealing assembly and plate 10. Spring 22 yieldingly urges the sealing assembly laterally into engagement with plate 11.

The pressure exerted by spring 22 on sealing assembly 21 preferably permits the sealing assembly, even when soaked with oil, to slide freely between plates 10 and 11 and to expand and contract radially to snugly fit hub seats of varying diameters.

With this arrangement, sealing means 21 is pressed radially into sealing engagement with hub seat 5 of journal 4 and laterally into sealing engagement with plate 11, and plate 11 is pressed into sealing engagement with rear wall 8 of journal box 1 to effectively seal the journal box against oil leakage.

Dust guard 9 is installed in and removed from dust guard pocket 6 without the use of special tools by pressing plates 10 and 11 together. Upon removal of the dust guard from the pocket, plates 10 and 11 are limited in their outward relative

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movement by pins 12 and thus remain assembled as a unit.

The dust guard described herein provides a tight seal for the journal box and is easy to install and remove from the journal box. The dust guard gives long and efficient service because the sealing means adjusts itself to worn or turned down axles, and is not distorted with relative shifting of the axle and box vertically and longitudinally because the sealing assembly moves with the axle relative to plates 10 and 11.

The details of the structure may be varied substantially without departing from the spirit of the invention and the exclusive use of those modifications coming within the scope of the claims is contemplated.

What is claimed is:

1. In a dust guard for a journal box having a car axle journaled therein and having a dust guard pocket, a pair of plates apertured for the car axle, spring means for urging said plates apart, a felt-like pad on one of the plates for engaging the rear wall of the dust guard pocket to provide a seal between the wall and plate, a felt-like annular sheet between said plates and provided with an opening adapted to receive the car axle, a spring about the periphery of said sheet tending to contract said sheet into engagement with the car axle to provide a seal around the same, and a spring extending sinuously between one of said plates and said sheet and extending sinuously between the inner and outer edges of said sheet and about said opening and urging said sheet into sealing engagement with the other plate substantially throughout the annulus formed by said sheet.

2. In a dust guard for a journal box having a

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car axle journaled therein and having a dust guard pocket, a pair of plates apertured for the car axle, spring means for urging said plates apart, a felt-like pad on one of the plates for engaging the rear wall of the dust guard pocket to provide a seal between the wall and plate, a felt-like annular sheet between said plates and provided with an opening adapted to receive the car axle, a spring about the periphery of said sheet tending to contract said sheet into engagement with the car axle to provide a seal around the same, and a spring between said other plate and said sheet and extending sinuously between the inner and outer edges of said sheet and about said opening and distorted transversely of said plates and urging said sheet into sealing engagement with said first mentioned plate substantially throughout the annulus formed by said sheet.

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