Jan. 27, 1959 E. P. WRIGHT 2,871,068

RAILWAY JOURNAL BOX LID SEAL

Filed Sept. 10, 1956

FIG. 1

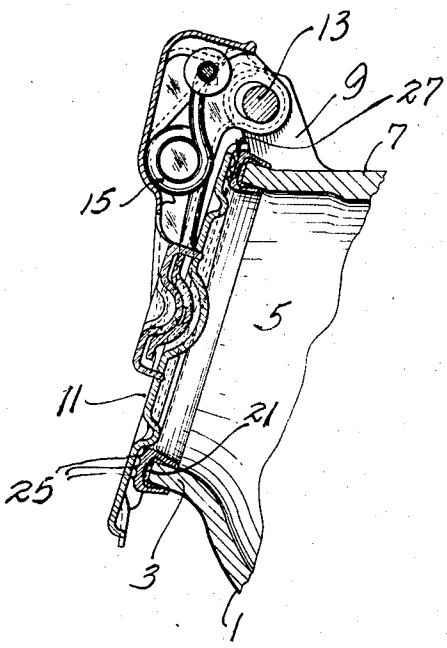


FIG. 2

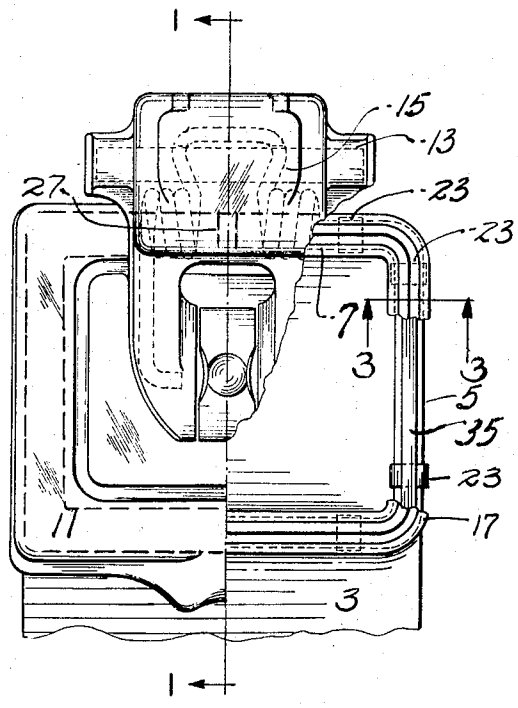


FIG. 3

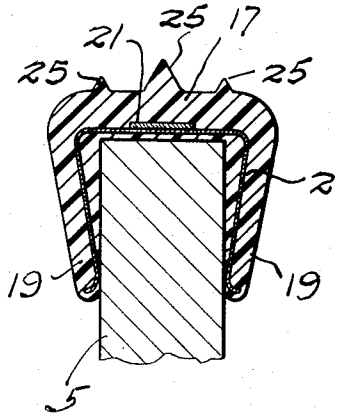


FIG. 4

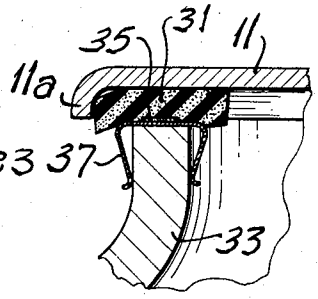
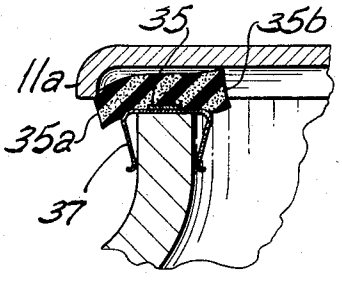


FIG. 5



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RAILWAY JOURNAL BOX LID SEAL

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3 Claims. (Cl. 308—44)

The invention relates to railway rolling stock axle journal boxes and comprises structure for sealing the joint between the usual journal box lid and the edges of the opening beneath the lid leading to the interior of the box.

The main object of the invention is to form an effective sealing device which may be applied to the usual American Association of Railroads (A. A. R.) journal box at the lid opening but independently of the lid and without machining or other work on the box itself. Such a seal is desirable to keep dirt, dust and water from entering the box and rendering the lubricant ineffective or scoring the journal bearing and contributing to the glazing of the waste, all of which results tend to cause a hot box which may result in train delays or wrecks.

In the accompanying drawings illustrating the invention:

Figure 1 is a vertical section through the front end of an A. A. R. journal box and a lid mounted thereon and taken in a plane extending lengthwise of the box on line 1—1 of Figure 2.

Figure 2 is a front elevation of the box and lid with a portion of the lid broken away to show the seal, a portion of the seal being broken away to show different features of its construction.

Figure 3 is a detail section on line 3—3 of Figure 2.

Figure 4 corresponds to Figure 3, but illustrates another form of the invention.

Figure 5 is a similar section showing the edge of the box wall, the seal, and the lid before the lid is fully closed.

The box shown in Figures 1, 2, and 3 includes a bottom wall 1, terminating in an outturned portion 3, side walls 5 and a top wall 7. The marginal portions of these walls form the front or lid opening to the interior of the box. Upstanding ears 9 form hinged butts on which the lid 11 is pivoted by a bolt or pin 13. The lid includes a strong torsion spring 15 tending to thrust the lid in an anti-clockwise direction against the edges of the box opening.

The seal comprises an elongated flat band member of compressible material formed into a rectangle to surround the box opening and preferably U-shaped in cross section to slip over the marginal portions of the box walls with its cross bar 17 overlying the edges of the box walls and its legs 19 gripping the inner and outer faces of the marginal portions of the box walls. Preferably the member is reinforced by a strip of metal 21 embedded in the cross bar and holding the flexible member to a predetermined contour. At intervals metallic clips 23 are secured to strip 21 and extend downwardly through the member legs 19 to provide a more secure gripping of the box wall straddled by the clips. Upwardly tapering ribs 25 on the outer face of the band are readily distortable by the pressure of the lid against them and provide air pockets increasing the effectiveness of the seal.

A groove 27 extends transversely of the outer surface of the upper portion of the gasket to provide for escape of oil vapors created by warm journal operation, and also to admit air to the box. This "breather" is under the lid cap C which will prevent entrance of dirt and moisture.

Figures 4 and 5 illustrate another form of the invention in which the flat band member 31 does not have the legs projecting therefrom as in the form previously described, but projects inwardly and outwardly of the associated box wall 33 so as to engage and yield to the inturned lip 11*a* on the margin of the lid. The band is provided with a reinforcing metal strip 35, similar to strip 21, and the strip has spring clips 37 similar to clips 23 for frictionally engaging the box wall.

As the lid is closed, its lip 11*a* first contacts the outer edge 35*a* of the band and tilts the same downwardly, at the same time tilting the inner edge 35*b* of the band upwardly as shown in Figure 5. Further closing movement of the lid will flatten the upturned inner edge of the band and further compress the outer edge of the band until the position shown in Figure 4 is assumed.

The main member of the strip may be formed of rubber or other plastic material having compressible characteristics similar to rubber and ribs 25 may be included or omitted on either form of the seal and other variations in the details of the structure may be made 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. A railway journal box lid seal comprising a flat thin relatively wide band of compressible rubber-like material forming a rectangular frame surrounding an opening corresponding to the lid-fitted opening of a journal box to which it is to be applied, a relatively thin elongated flat strip of metal forming a stiff rectangular frame secured to one face of said band, and a plurality of U-shaped clips of spring material at intervals along the frame, each having a cross bar, secured to said band, and legs extending from the band and frame transversely of the general plane of the band and frame and arranged to receive between them and frictionally engage the opposite sides of the marginal portion of a journal box wall.

2. A railway journal box lid seal according to claim 1 in which the flat wide band of compressible material projects outwardly of the rectangular metal frame and is deformable bodily transversely of the general plane of the band.

3. In combination with a railway journal box having walls with marginal portions forming a rectangular opening, a lid for closing said opening hinged to one of said walls, and a seal between said lid and said wall marginal portions comprising a wide relatively thin band of compressible material forming a rectangular frame overlying the marginal edges of the box walls, a flat relatively thin metal rectangular frame secured to the underside of said band, and opposing spring legs extending from said metal band at intervals along the latter and frictionally engaging opposite sides of the box walls.

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