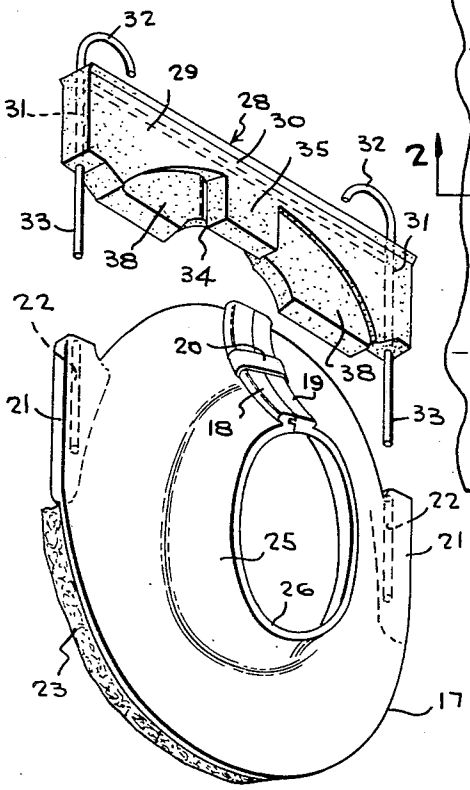
May 22, 1962 L. L. BOLLINGER, SR 3,035,844

TWO-PIECE JOURNAL BOX SEAL MEANS

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FIG-5



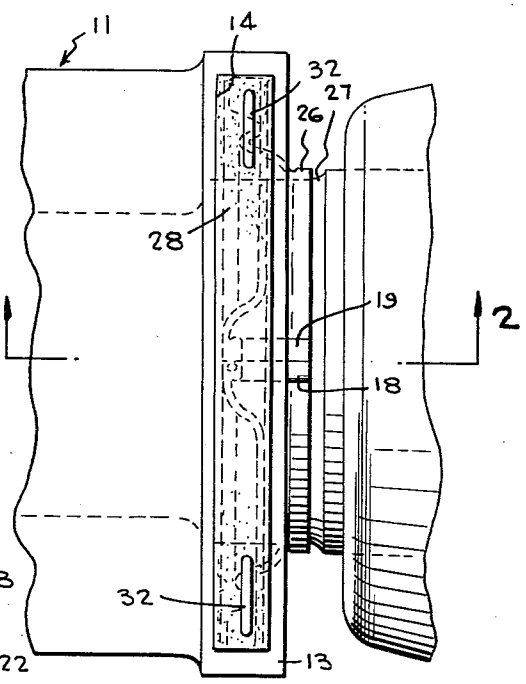
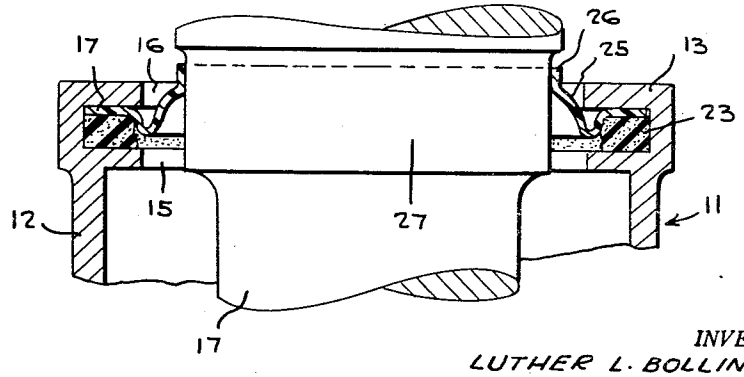


FIG-1

FIG-4



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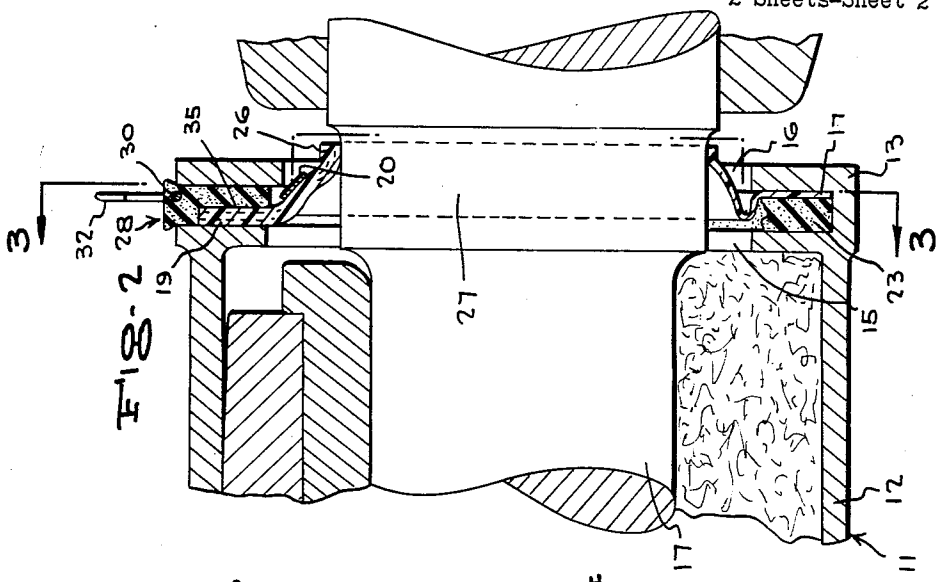


FIG. 2

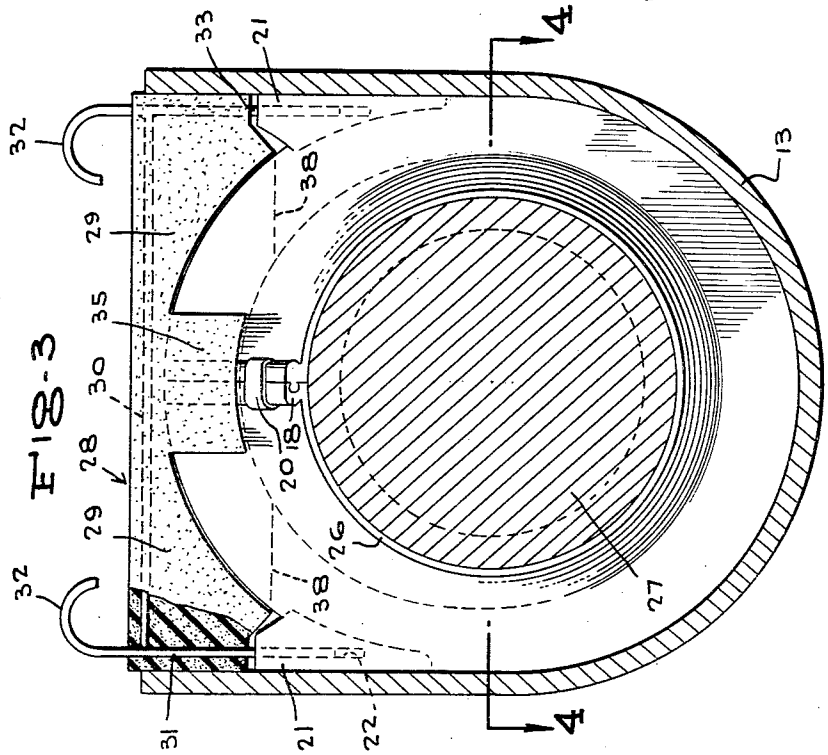


FIG. 3

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TWO-PIECE JOURNAL BOX SEAL MEANS

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Filed Feb. 7, 1961, Ser. No. 87,622
5 Claims. (Cl. 277—132)

This invention relates to dust guard devices for journal box housings, and more particularly to an improved dust guard assembly adapted to be installed in the dust guard well of a railroad vehicle journal box.

A main object of the invention is to provide a novel and improved dust guard assembly for use in the dust guard well of a railway vehicle journal box, said assembly being adapted to be installed in the dust guard well or removed therefrom while the associated journal is in place, whereby the dust guard assembly may be installed without requiring the associated car truck to be disassembled.

A further object of the invention is to provide a novel and improved seal assembly for use in the dust guard well of a railway vehicle journal box, the assembly involving simple components, being easy to install, and effectively preventing dust, grit, or other foreign material from entering the associated journal box.

A still further object of the invention is to provide an improved dust guard assembly for use in the dust guard well of a conventional railway vehicle journal box, said assembly being inexpensive to fabricate, being durable in construction, and being highly effective in keeping the lubricant in the journal box and preventing dirt or other foreign material from entering the journal box.

Further objects and advantages of the invention will become apparent from the following description and claims, and from the accompanying drawings, wherein:

FIGURE 1 is a fragmentary top plan view of the portion of a railway journal box including the dust guard well thereof and showing a portion of the adjacent journal and wheel.

FIGURE 2 is a vertical cross sectional view taken substantially on the line 2—2 of FIGURE 1.

FIGURE 3 is a transverse vertical cross sectional view taken substantially on the line 3—3 of FIGURE 2.

FIGURE 4 is a horizonal cross sectional view taken substantially on the line 4—4 of FIGURE 3.

FIGURE 5 is a perspective view showing the components of the improved sealing device of the present invention in separated positions.

Referring to the drawings, **11** generally designates a conventional journal box used on the trucks of a railway vehicle, said journal box comprising the main housing **12** which is provided at the end portion thereof adjacent the associated wheel **13** with a dust guard housing **13**. The dust guard housing **13** is open at top end, as shown at **14**, and is provided with the respective relatively large apertures **15** and **16** through which the associated axle **17** can pass, said openings being sufficiently large to provide a substantial amount of clearance.

Designated at **17** is the main portion of a dust guard assembly adapted to be installed in the conventional dust guard well **13**. The main sealing member **17** comprises a body of relatively flexible and yieldable sheet plastic material, for example, of Adiprene. The body **17** is generally annular in shape but is provided with the interlocking separable mating thickened top portions **18** and **19** so that the body may be handled substantially as a strip member during the installation thereof in the dust guard well, as will be presently described. As shown in FIGURE 5, when the interlocking thickened marginal rib elements **18** and **19** are brought together in interlocking relationship, they define a substantially radial rib element which has convex side edges, said side edges being somewhat undercut, the mating interlocking rib

elements **18** and **19** being locked together by means of a spring clip **20** having opposing hook-like curved ends adapted to lockingly engage around the convex side edges of the aforesaid composite rib defined by the interlocking elements **18** and **19** in the manner illustrated in FIGURE 5, whereby to secure the mating members **18** and **19** in interlocking relationship and to prevent separation of the top end portions of the member **17**.

The member **17** is integrally formed at its opposite sides with thickened lugs **21**, **21** which are vertically disposed when the sealing assembly is installed, and which are formed with the respective vertical bores **22**, **22** opening at the top ends of the lugs.

Cemented or otherwise suitably secured to the lower portion of the flexible plastic main body member **17** at its rear surface, as viewed in FIGURE 5, is a generally semi-circular body of sponge rubber material **23** adapted to be sealingly received in the lower portion of the dust guard well **13** and adapted to substantially completely fill said lower portion and to sealingly press the adjacent portion of the flexible main body member **17** against the inside surface of the front wall of the dust guard well, as is clearly shown in FIGURES 2 and 4.

As shown in FIGURE 5, the main body **17** is formed to define a relatively flexible axially extending central portion **25** having a circular sealing rim **26** adapted to sealingly engage on the axle journal portion **27**, as shown in FIGURE 2, so as to seal said journal portion against the entry of dust, grit or other foreign material. As will be readily understood, the rim **26** sealingly engages the journal portion **27**, but allows free rotation of said journal portion.

Designated generally at **28** is a top cover member or plug element adapted to be sealingly engaged in the top portion of the dust guard well **13**, the member **28** comprising a body of sponge rubber material, shown at **29**, similar to the material of the member **23**. Molded in the body **29** is a rigid reinforcing frame comprising a transversely extending rod **30**, to the ends of which are rigidly secured a pair of vertical rod members **31**, **31** said rod members being provided with the exposed hook-like curved top portions **32** and with the exposed depending straight vertical lower portions **33**. The elements **33**, **33** are spaced to be received in the vertical bores **22**, **22** of the lugs **21**, **21** when the cover member **28** is installed in the top portion of the dust guard **12**, as will be presently described, the elements **33**, **33** being engageable in said bores **22**, **22** in tight frictional relationship therewith so as to act as a locking means to retain the cover member **28** in place.

As shown in FIGURE 5, the body **29** is suitably contoured to engage over the top portion of the main sealing member **17** in overlapping relationship therewith, and is recessed, as shown at **34**, to receive the composite, generally radial rib member defined by the interlocking elements **18** and **19**, the body **29** being formed with a lug element **35** adapted to overlap the top portions of the members **18** and **19** in the manner illustrated in FIGURE 2 so as to exert compressive force on the members **18** and **19** and to inhibit their separation.

As shown in FIGURE 5, the portions of body **29** on opposite sides of the lug **35**, designated respectively at **38**, **38**, are somewhat reduced in thickness, relative to the thickness of the main portion of body **29**, so as to receive the top portions of body **17** on opposite sides of the composite rib defined by the interlocking elements **18** and **19**.

In installing the sealing assembly, the main body **17** is first engaged in the dust guard housing through the clearance space **16**, with the body **17** in strip form, namely, with the elements **18** and **19** separated, one end of the body being engaged into the dust guard housing through the opening **16** and the body being then pushed around

the interior of the housing, the strip being continuously fed into the housing 13 from the side at which it was originally inserted, until finally the entire strip is positioned in the housing with the thickened end portions 18 and 19 in engagement with each other and interlocked. During this process, suitable shield plates may be employed in the dust guard housing positioned against its inner wall to prevent the strip from being forced through the opening 15. The shield plate elements may be in the form of a pair of generally semi-circular plates insertable through the top opening of the dust guard housing 13 on opposite sides of the axle journal 27, and being similarly removable after the main body 17 has been installed in the dust guard housing in the manner above described.

When the rib elements 18 and 19 are interlocked, as above described, the spring clip 20 may be engaged thereon through the top portion of the opening 16, to lock the elements 18 and 19 in their cooperating mated relationship. Thereafter, the cover member 28 may be inserted, the cover member being supported by means of the arcuately curved handle elements 32, 32, and being lowered into the top of the dust guard housing 13 with the rod elements 33, 33 received in the bores 22, 22, the cover being then forced downwardly into the dust guard housing until its top surface is substantially flush with the top of said housing. In being thus forced downwardly, the flexible wing elements 38, 38 engage behind the respective portions of member 17 disposed on opposite sides of the composite rib defined by the interlocking marginal rib elements 18 and 19, and the lug 35 engages over the top portions of the interlocking rib elements 18 and 19, in the manner above described, to clamp said rib elements in interlocked relationship. The rod elements 33, 33 are forced into the bores 22, 22 and frictionally lock therewith, serving to thereby retain the cover or plug element 28 in the top of the dust guard housing.

As will be readily apparent, the sealing assembly may be easily removed from the dust guard housing by following a reverse procedure, whenever replacement thereof is necessary.

While a specific embodiment of an improved dust guard assembly for a railway vehicle journal box has been disclosed in the foregoing description, it will be understood that various modifications within the spirit of the invention may occur to those skilled in the art. Therefore, it is intended that no limitations be placed on the invention except as defined by the scope of the appended claims.

What is claimed is:

1. In combination with the dust guard well of a railroad journal box, a sealing device adapted to be received in said dust guard well comprising a generally annular main guard member of yieldable material adapted to surround a railroad axle in the journal box and having a relatively flexible, axially extending central portion formed to sealingly engage the axle, said main guard member having separable mating top portions so that the guard member may be handled substantially as a strip member during the installation thereof in the guard well, and a cover member sealingly engageable in the top portion of the dust guard well in overlapping relation with said mating top portions of said main guard member.

2. In combination with the dust guard well of a railroad journal box, a sealing device adapted to be received in said dust guard well comprising a generally annular main guard member of yieldable material adapted to surround a railroad axle in the journal box and having a relatively flexible, axially extending central portion formed to sealingly engage the axle, said main guard member having separable mating top portions so that the guard member may be handled substantially as a strip member during installation thereof in the guard well, respective vertically extending lugs integrally formed on opposite sides of said guard member, a cover member sealingly engageable in the top portion of the dust guard well in overlapping relation with said mating top portions of said main guard member, and respective depending rigidly connected, rigid retaining elements on the opposite end portions of said cover member engageable in said lugs.

3. In combination with the dust guard well of a railroad journal box, a sealing device adapted to be received in said dust guard well comprising a generally annular main guard member of yieldable material adapted to surround a railroad axle in the journal box and having a relatively flexible, axially extending central portion formed to sealingly engage the axle, said main guard member having separable mating top portions so that the guard member may be handled substantially as a strip member during the installation thereof in the guard well, respective vertically extending lugs integrally formed on opposite sides of said guard member, said lugs being formed with vertical bores, a cover member of resilient material sealingly engageable in the top portion of the dust guard well in overlapping relation with said mating top portions of said main guard member, and respective depending, rigidly connected rigid retaining elements molded in the opposite end portions of said cover member and being engageable in said vertical bores.

4. In combination with the dust guard well of a railroad journal box, a sealing device adapted to be received in said dust guard well comprising a generally annular main guard member of yieldable material adapted to surround a railroad axle in the journal box and having a relatively flexible axially extending central portion formed to sealingly engage the axle, said guard member being provided with separable mating interlocking thickened top portions, whereby the guard member may be handled substantially as a strip member during the installation thereof in the dust guard well, and a cover member of resilient material sealingly engageable in the top portion of the dust guard well in overlapping relation with said mating interlocking thickened top portions.

5. In combination with the dust guard well of a rail road journal box, a sealing device adapted to be received in said dust guard well comprising a generally annular main guard member of yieldable material adapted to surround a railroad axle in the journal box and having a relatively flexible, axially extending central portion formed to sealingly engage the axle, said guard member being provided with separable mating interlocking thickened top portions, whereby the guard member may be handled substantially as a strip member during the installation thereof in the dust guard well, respective vertically extending lugs integrally formed on opposite sides of said guard member, said lugs being formed with vertical bores, a cover member of resilient material sealingly engageable in the top portion of the dust guard well in overlapping relation with said mating interlocking thickened top portions, and respective depending, rigidly connected rigid retaining rod elements molded in and located at the opposite end portions of said cover member lockingly engageable in said vertical bores.

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