

Jan. 10, 1939.

P. J. POOL

2,143,249

LUBRICANT SEALING MEANS FOR JOURNALS

Filed Nov. 2, 1937

3 Sheets-Sheet 1

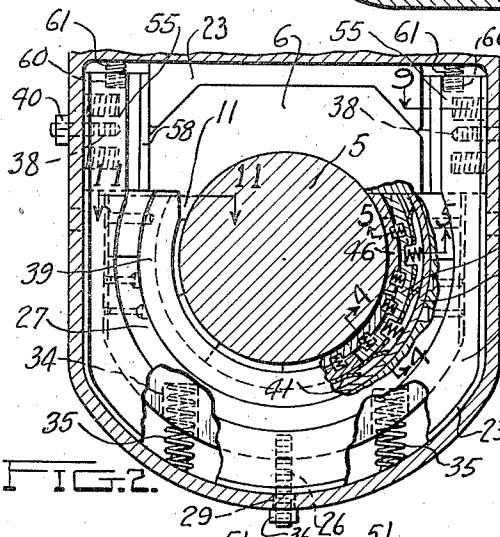
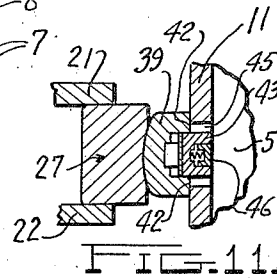
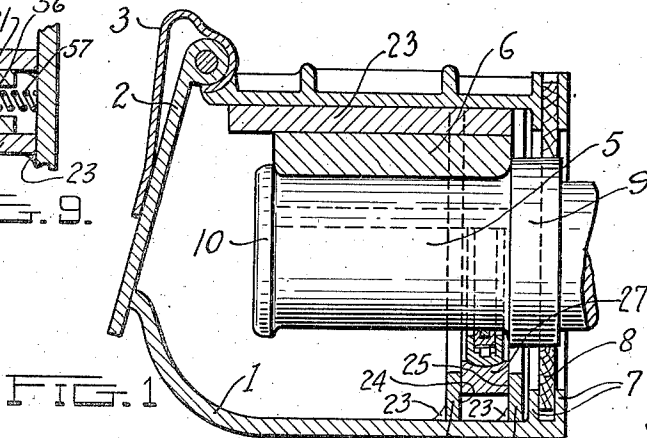
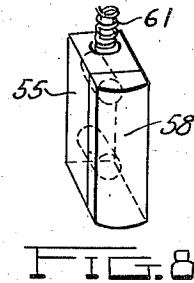
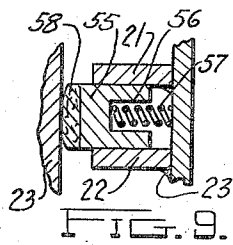


FIG. 7.

FIG. 11.

FIG. 10.

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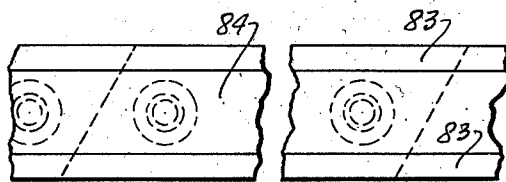
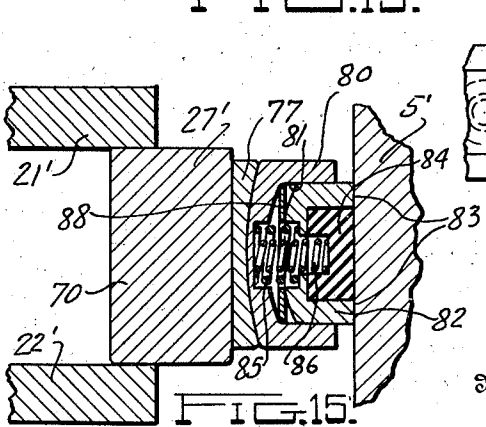
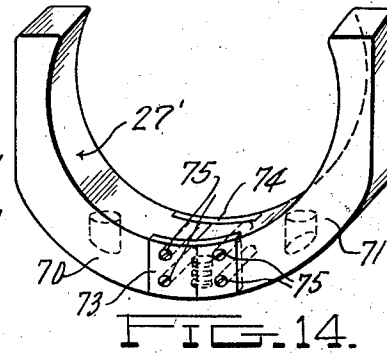
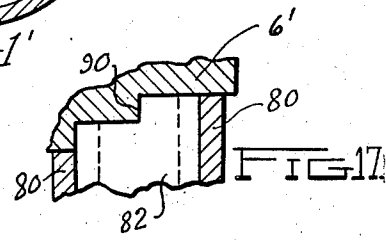
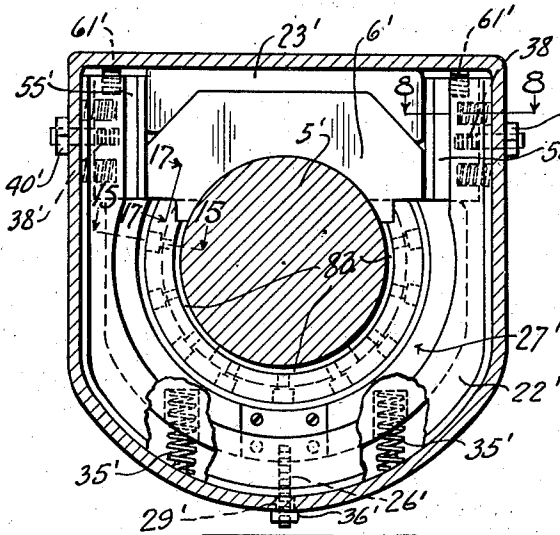
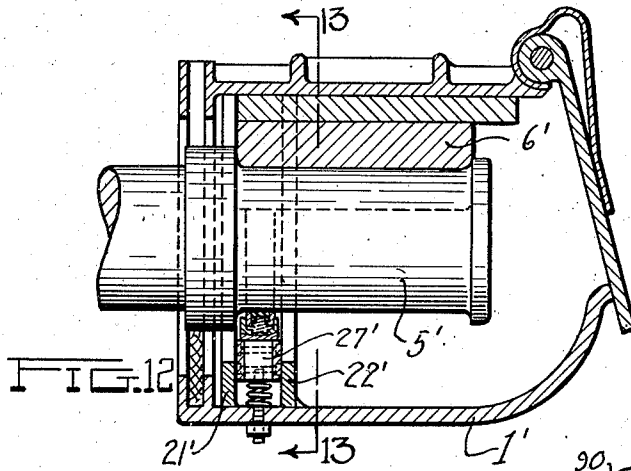
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LUBRICANT SEALING MEANS FOR JOURNALS

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3 Sheets-Sheet 2



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LUBRICANT SEALING MEANS FOR JOURNALS

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3 Sheets-Sheet 3

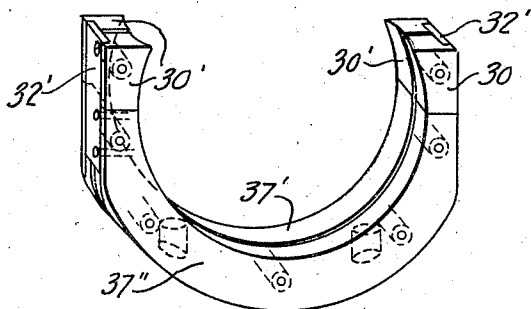


FIG. 19.

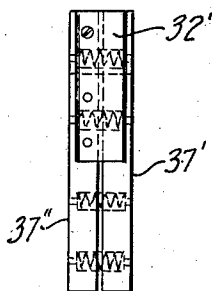


FIG. 20.

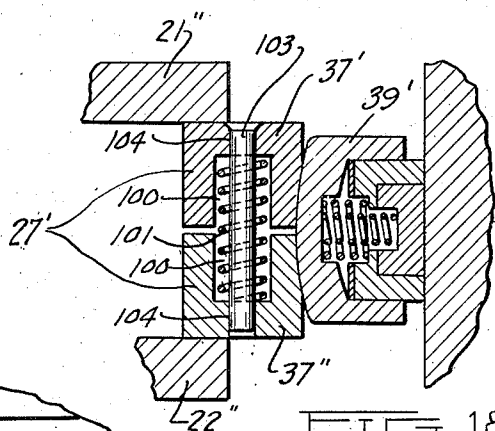


FIG. 18.

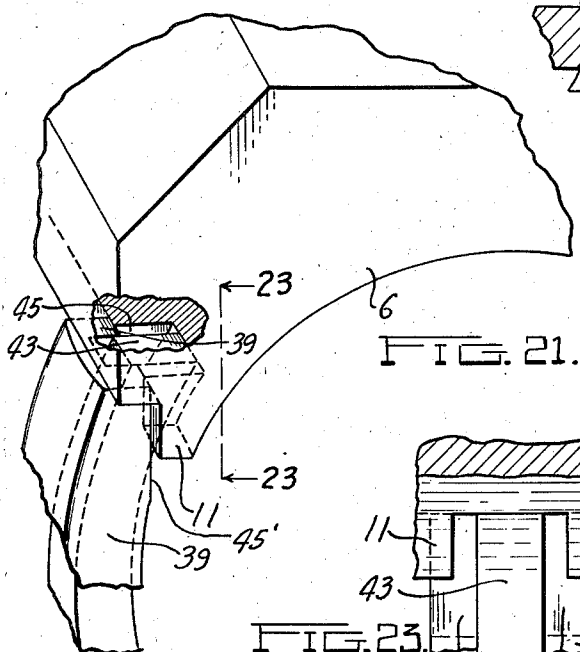


FIG. 21.

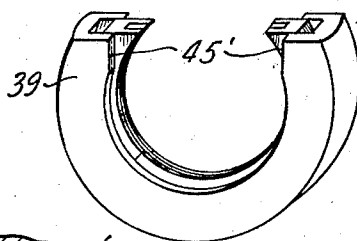


FIG. 22.

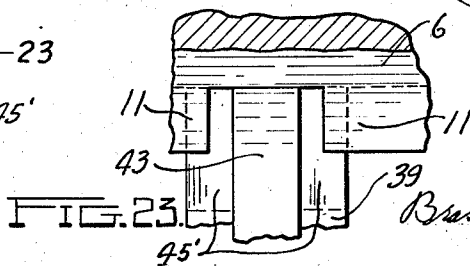


FIG. 23.

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LUBRICANT SEALING MEANS FOR JOURNALS

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Application November 2, 1937, Serial No. 172,414

12 Claims. (Cl. 308—80)

This invention relates to journal bearings and more particularly to a method and means for lubricating the same.

The invention comprehends the provision of a journal bearing particularly adaptable for railway car axles in which the lubricant is maintained within the journal and sealed against leakage.

An object of the invention is the provision of means whereby a liquid type lubricant may be maintained in efficient contact with the rotating parts and sealed against leakage by sealing elements which may be assembled after the car axle is in position in the journal box.

Another object of the invention is the provision of means whereby an effective and efficient contact is obtained between the rotating member and resiliently mounted elements for the purpose of retaining the liquid lubricant within the journal box.

Another object of the invention is to provide an efficient seal for preventing leakage of a liquid lubricant from the journal box embracing a simple and highly effective sealing means which may be readily assembled in its proper position within a journal box of the usual construction.

Further objects and advantages are within the scope of this invention such as relate to the arrangement, operation and function of the related elements of the structure, to various details of construction and to combinations of parts, elements per se, and to economies of manufacture and numerous other features as will be apparent from a consideration of the specification and drawings of a form of the invention, which may be preferred, in which:

Figure 1 is a longitudinal sectional view through a journal box and bearing incorporating the arrangement of my invention;

Figure 2 is a transverse sectional view through the journal box, certain parts being broken away for purposes of illustration;

Figure 3 is an isometric view of the sealing supporting means of my invention;

Figure 4 is an enlarged detail view taken substantially on the line 4—4 of Figure 2;

Figure 5 is an enlarged sectional view taken substantially on the line 5—5 of Figure 2;

Figure 6 is a plan view showing the assembly of the segments forming a part of the sealing means;

Figure 7 is a detail sectional view taken substantially on the line 7—7 of Figure 3;

Figure 8 is an isometric view showing an element of the invention;

Figure 9 is a fragmentary sectional view taken substantially on the line 9—9 of Figure 2;

Figure 10 is an isometric view showing an element of the invention;

Figure 11 is an enlarged sectional view taken substantially on the line 11—11 of Figure 2;

Figure 12 is a side sectional view showing a modified form of the invention;

Figure 13 is a sectional view of the device shown in Figure 12, the section being taken substantially on the line 13—13 of Figure 12;

Figure 14 is an isometric view of the seal supporting means of the invention;

Figure 15 is a sectional view taken substantially on the line 15—15 of Figure 13 looking in the direction of the arrows;

Figure 16 is a top plan view of a portion of the sealing means of the invention;

Figure 17 is a sectional view taken substantially on the line 17—17 of Figure 13;

Figure 18 is a view showing a modified form of the invention;

Figure 19 is an isometric view showing a modified form of sealing segment supporting means;

Figure 20 is an end view of the supporting means shown in Figure 19;

Figure 21 is an enlarged fragmentary isometric view showing the abutment of the sealing means with the bearing brass;

Figure 22 is an isometric view showing the assembly of the segment support and segments forming a part of my invention;

Figure 23 is a fragmentary sectional view showing the assembly of elements shown in Figure 21, taken on line 23—23 of Figure 21.

Referring to the drawings in detail, numeral 1 designates the journal box of a railway car which has a pivoted door 2 normally held closed by means of spring 3, the journal box which is adapted to be attached to or form a part of an associated truck side frame. Within the journal box is the car axle or journal 5, above which is positioned the bearing brass 6, against which the journal has its bearing, the bearing brass in turn contacting a backing plate 23 secured in the upper portion of the journal box.

The usual journal box construction incorporates a pair of spaced upwardly extending flanges or projections 7 between which is arranged a dust or dirt excluding means or guard 8 formed of wood or other suitable material having a central opening to accommodate the axle. This means may be slidably moved into position in the space between the flanges before the car axle is assembled in the journal box. It is to be noted that

the car axle is provided with shoulders 9 and 10 which are adapted to straddle the ends of the bearing brass 6 as particularly illustrated in Figure 1. By this means the brass is caused to follow longitudinal movements of the axle without disturbing the position of the journal box 1.

In the arrangement of my invention, the journal box is provided with spaced plates or abutment walls 21 and 22 which are welded as at 23 at their points of juncture with the inner wall of the journal box and extend to the top portion of the box. In incorporating the arrangement of my invention in journal boxes already fabricated, it is preferable to weld the plates 21 and 22 in position in the box. However, in the construction of an entirely new journal box, the plates 21 and 22 may be cast or otherwise integrally formed with the journal box and the interior walls 24 and 25 machined to present a smooth surface. Interposed between the inner walls 24 and 25 of these plates is a semi-annularly shaped collar or member 27 having its side walls in a snug yet slidable fit with the walls of the plates. It is to be noted that the upper extremities 28 of the collar 27 do not extend over the diameter of the interior surface of the collar 27 so as to facilitate the assembly of the collar 27 between the plates 21 and 22. Positioned immediately above the collar 27 are extensions or blocks 30 which have their lower surfaces resting upon the surfaces 28 of the collar. The lateral exterior walls of collar 27 are provided with slots 31 within which are positioned plates 32 held in place by means of screws 33 extending through openings in the walls of collar 27 and project into threaded openings in the plates 32 whereby the latter are fixedly secured to the collar 27. The blocks 30 are also provided with slots upon their rear faces to accommodate the connecting plates 32 whereby the latter hold the blocks 30 in predetermined relation to the collar 27.

The collar 27 is provided with Lores 34 which accommodate coil springs 35 positioned between the lower inner wall of the journal box and the collar which serve at all times to urge the collar to its uppermost position.

The interior surface 37 of the collar 27 is of arcuate or spherical configuration, the curvature being generated in the form of a segment of a sphere having its center at the interception of the axis of the car axle with a central plane passing transversely through the collar 27. Positioned within the collar 27 and having an exterior surface of coincident spherical curvature with that of the surface 37 is a partial annular member 39 forming a sealing means support and which is U-shaped in cross section as illustrated in Figure 4. The groove formed in member 39 is adapted to accommodate a spring plate 41 which is formed with a plurality of projecting ears 42 adapted to contact with the inner surface between the side walls of member 39 so as to hold the spring plate 41 in constant engagement with annularly shaped segments 43, there being three in number in the form of the invention as illustrated in Figure 2. It is to be noted that the series of segments 43 extend circumferentially a distance approximately equal to two thirds of the circumferential dimension of the axle journal 5 with the end segments contacting the bearing brass 6 as shown in Figure 2.

In order to provide or assure of a leak proof lubricant seal the segments 43 are preferably supplemented with longitudinal slots 44 in which 75 are slidably positioned relatively small segments

45 which are arranged to overlap the joints between the larger segments 43 and at the same time being of considerably shorter length tend to form an extremely close sealing contact with the exterior surface of the axle 5. Such an arrangement of small sealing segments is desirable in that during movement of a car particularly over the rail joints, the car axle journal is subjected to continued vertical oscillation or movement and the small segments having less inertia readily follow the journal to maintain an effective seal. The small segments 45 are urged into engagement with the axle under the influence of a plurality of coil springs 47 arranged in bores 48 in the segments 43 as shown in Figures 4 and 5. As particularly illustrated in Figures 2 and 5, the larger segments 43 are held in engagement with the axle 5 under the influence of coil springs 50.

The spring plate 41 is provided with a series of openings 51 to accommodate the springs 50, the latter being positioned in aligned shallow bores 52 and 53 whereby there is maintained not only a good frictional or sealing contact between segments 43 in the axle 5, but supplemented with the sealing engagement obtained between the segments 43 and the axle 5, I have provided an effective sealing arrangement which will substantially eliminate any leakage of lubricant from the journal box past the sealing segments.

Arranged at the sides of the bearing brass immediately above the extremities of the blocks 30 are members 55 which are provided with bores 56, the latter accommodating coil springs 57. The inner faces of the blocks or members 55 are provided with felt or other suitable material forming sealing surfaces 58 which are adapted for engagement with the sides of the bearing brass 6 and the backing shoe 23. The members 55 are also provided at their upper surfaces with bores 60 in which are positioned coil springs 61, the latter tending to urge the members 55 into contact with the upper surface of the blocks 30 positioned above the collar 27 while the horizontally disposed springs 57 urge the blocks laterally so that the felt surfaces 58 are in sealing contact with the sides of the bearing brass 6 and the backing shoe 23, thus preventing leakage of lubricant adjacent these elements.

In order to prevent seepage or leakage of lubricant adjacent the juncture of the end of one of the segments 39 and the projection 11 of the bearing brass 6, the member 39 has surfaces 42 in engagement with the side walls of projection 11 formed upon bearing brass 6, the projection 11 being slotted as at 45 to accommodate the segment 43 and the supplemental sealing segment 45 so that they may establish sealing contact with the car axle 5 as shown in Figure 11. It is to be noted that the slot 45 in the projection 11 is elongated so as to permit longitudinal movement of the bearing brass 6 independent of the sealing arrangement. By providing the member 39 of a lateral dimension sufficient to overlap the slot 45 in the projection 11 of the bearing brass, leakage will be prevented at this point because the slot 45 is at all times covered by portions of the member 39 during longitudinal movement of the bearing brass and car axle relative to the sealing arrangement.

In the assembly of the arrangement, the collar 27 is first placed in the journal box and positioned between the plates 21 and 22. A threaded member 26 is then inserted into a threaded opening in the lower surface of collar 27, the threaded member 26 projecting through an opening 29 in 75

the bottom wall of the journal box, the threaded member carrying a nut 36. As the collar 27 is slipped into place, the springs 35 are positioned beneath the collar and when the threaded member 26 projects through the opening in the bottom of the journal box, the nut 36 is applied and turned until the collar 27 is drawn to its lowermost position in the journal box against the expansive force of the springs 35. With the collar 27 in this position, the member 39 is then moved into proper position with its convex surface resting in the concave surface 37 of the collar 27. The spring backing or sealing plate 41 is then inserted. The larger segments 43 are then consecutively slipped into the slot in the member 39 and the coil springs 38 assembled back of the segments 43. Due to the fact that the segments when in assembled position extend more than one-half of the way around the axle, it is necessary that they be in sections less than a diameter in order to be assembled into position about the axle. At the same time, small segments 46 are positioned in the grooves in the larger segments and moved into proper position around the axle journal. The coil springs 40 at all times tend to urge the smaller segments into sealing relation with the journal. I have found it desirable to use the supplemental small segments 46 in order that during the movement of the axle when the railway car is in motion the road irregularities sometimes cause rapid vertical movements of the car axle and journal, and the segments 46 being of small dimension and therefore relatively light in weight and of less inertia tend to closely follow the movements of the axle so as to maintain an effective lubricant seal circumferentially of the journal.

After the segments have been positioned, the laterally movable members or blocks 55 are assembled in position as shown in Figure 2 and by means of the threaded members 58 and nuts 60 the members 55 are drawn laterally against the expansive force of the springs 57 away from the normal position of the edge of the bearing brass 8. This permits the insertion of the bearing brass longitudinally of the axle journal so that it may be positioned as shown in Figures 1 and 2. After the bearing brass 8 is in its proper position, the nuts 60 are moved in the opposite direction to permit the blocks 55 to move laterally under the influence of the springs 57 to bring the surfaces of felt or other suitable material 59 carried by members 55 into sealing relation with the side walls of the bearing brass 8 and the backing shoe 23.

Thus, it will be apparent that by the arrangement of my invention the journal box may contain a liquid lubricant which during motion of the railway car will not leak past the sealing means hereinbefore described and yet the arrangement provides a bath of oil for the journal and bearing brass without the use of oil soaked waste and the like which have been used prior to the present invention. The plate 41 serves the purpose of preventing the oil from passing through the joints of segments 43 so that should any oil pass downwardly through the space at the juncture of the segments, the oil would be prevented from flowing through the groove in member 39 by reason of the sealing plate 41.

Thus, it will be seen that the sealing means of my invention is positioned interiorly of the box and inside of the dust excluding means effectively prevents the ingress of dust, dirt, ballast or foreign matter from reaching the interior of the box

which would otherwise cause or subject the sealing means of my invention or the relatively soft axle journal to excessive wear or become "cut away".

It will also be seen that with the arrangement of my invention there is afforded considerable air space at all times around the axle journal which aids in dissipating the heat of friction, thus materially decreasing the temperature of the bearing and increasing the life of the bearing.

Figures 12 through 17 inclusive illustrate a modified form of the invention in which the journal box 1' is provided with spaced plates or guides 21' and 22' within which is slidably positioned a horse shoe shaped construction 27' which corresponds to the element or collar 27 in the form shown in Figures 1 and 2 hereinbefore described.

The collar construction 27' in this form of the invention is assembled from two similarly shaped elements 70 and 71 which are recessed at their juxtaposed portions to receive joining plates 73 and 74 which serve to hold the members 70 and 71 together by means of screws 75. The assembly of these elements may take place after the members 70 and 71 are in position in the slot formed by the plates 21' and 22'. The lower adjacent portions of members 70 and 71 are bored and threaded to receive a threaded member 25' which passes through an unthreaded opening 23' in the base of the journal box and is provided with a nut 36' which functions to draw the construction 27' downwardly against the expansive force of springs 35' to facilitate assembly of the sealing construction.

Positioned within the interior circular wall of the construction 27 is a partial annularly shaped plate 77 which has its outer surface coincident with the interior wall of the construction 27' and its inner surface of spherical configuration, the curvature of which is preferably generated about a point of interception of a transverse plane passing through the center of plate 77 and the axis of the journal 5'. Positioned within the concave arcuate surface of plate 77 is a sealing segment supporting member 80 which is provided with an inner circumferential slot 81 which is adapted to snugly yet slidably receive a plurality of sealing segments 82 which have surfaces 83 adapted to contact with the cylindrical exterior surface of the journal. In the embodiment illustrated, I have shown three individual sealing segments 82 and they are so formed as to permit their insertion into the slot 81 around the car axle after the latter is in position in the journal box as the segments may be inserted around the axle in the manner hereinbefore described with the form of the invention shown in Figures 1 and 2. The segments 82 are also centrally slotted to receive a plurality of supplemental segments 84 which overlap the junctures of the segments 82 and engage the exterior periphery of the journal 5'. The segments 82 are constantly urged into engagement with the journal by means of coil springs 85 and the smaller segments 84 are urged into engagement with the journal by means of coil springs 86 positioned within coil springs 85.

In order to prevent leakage at the abutting ends of the segments 82, I have provided a plate member 33 which is similar in construction to the plate 41 in the form of the invention illustrated in Figures 2 and 10 which serves to prevent leakage or seepage of lubricant past the ends of the sealing segments. The upper extremities of member 77, the ends of the outermost segments 82, and the ends of the outermost segments 84 fit in snug

engagement with the bearing brass 6'. The extremities of the outermost segments are preferably stepped and the flange portion of the bearing brass 6' is correspondingly stepped as shown at 90 so as to form an overlap or sealing surface at the juncture of the segments with the bearing brass. This stepped construction is shown in detail in Figure 17.

The extremities of the element 27 are adapted to be engaged by blocks 55' which are similar in construction to the blocks 55 illustrated in Figures 8 and 9 and which are adapted to engage the side walls of the bearing brass 6' and the backing shoe 23' in the same manner as in the construction of the arrangement illustrated in Figure 2.

The assembly of this form of the invention is accomplished similarly to that of the form of the invention illustrated in Figures 1 through 11 inclusive. The elements 70 and 71 are first inserted separately in the space between the abutment walls 21' and 22' and are joined together by means of retaining plates 73 and 74, the screws 75 being inserted to hold these parts in assembled position. This assembly forms the horse shoe shaped element or construction 27' which carries the sealing means. The springs 35' are inserted beneath the element 27' and the nut 36' manipulated on the threaded member 36' to draw the element 27' to its lowermost position against the expansive force of the springs 35'.

The annularly shaped plate 77 is then inserted which is shaped to fit the inner cylindrical surface of the element 27'. The sealing segment carrying element or member 80 is then inserted with the concave surface of plate 77 closely fitting the convex surface of member 80. All these elements are assembled with the car axle journal in position in the journal box 1'. The segments 82 and 84 and the spring plate 88 are then consecutively threaded or slipped into the position shown in Figure 13 around the car axle journal, the coil springs 85 and 86 having previously been fitted into the bores or recesses in the segments. The segments in assembled position snugly fit the exterior cylindrical surface of the journal 5' to effect a seal with the journal. The blocks 55' are inserted and retracted and the journal brass 6' and the backing plate or shoe inserted in position over the car axle journal. The blocks may then be released by manipulation of the nuts 40' cooperating with the threaded members 36' to permit the vertical surfaces of the blocks 55' to move under the influence of springs 57 and 61' into engagement with the lateral edge walls of the bearing brass 6' and the backing plate 23' to effect a lubricant seal at this point.

It will thus be apparent that in the forms of my invention herein illustrated and described, an effective sealing means is provided wherein the lubricant may be in liquid form and contained within the lower portion of the journal box 1' with the car axle journal extending downwardly into the bath of oil or lubricant. It is constantly lubricated and the sealing means of the invention prevents the loss of lubricant at the rear of the journal box. It is further to be noted that the arrangement of curved surfaces between the plate 77 and member 80 is such as to form virtually a ball joint so as to permit limited relative angular movement between the car axle journal and the journal box and yet retain the sealing means in effective sealing condition.

Figures 18 through 20 inclusive, which are similar to the form of the invention shown in Figures 1 through 11 inclusive, with the support-

ing means 27' separated about a vertical transverse plane into two similar portions 37' and 37''. Each of the sections 37' and 37'' are provided with several pairs of aligned counter bores 100 within which are positioned expansive coil springs 101 which tend to urge the outer walls of the sections 37' and 37'' into sealing contact with the inner walls of the abutment plates 21'' and 22''. The sections 37' and 37'' are held in assembled relationship and properly maintained in such relationship by means of dowels 103 snugly fitting into aligned bores 104 in the sections of the support. It is to be noted that the exterior surfaces of the portions 37' and 37'' are of arcuate configuration, the curvature being generated about a point on the normal center of the axle journal and the convex arcuate surfaces snugly fit within the member 39' in which construction the ring shaped element 77 shown in Figure 15 need not be used. In assembling this arrangement, the upper portions 30' are removed from the major sections 37' and 37'' which permits the insertion of the parts into the journal box, after which they may be secured together by plates 32'. The element 39' is prevented from becoming dislodged by reason of the convex curvature of the exterior of the portions 37' and 37'' and in this manner the advantages of a ball shaped bearing are secured. It will thus be apparent that a close sealing engagement is thus maintained between the support and the walls of the plates 21'' and 22'' in the journal box.

In Figures 21 and 23, as particularly illustrated, the close sealing engagement of the yoke or member 39 with the bearing brass 6 illustrates in detail the slot 45 in the projection 11 formed upon the bearing brass, the slot being for the purpose of permitting relative longitudinal movement of the brass with respect to the brass sealing segment so that movement of the brass in following the movements of the axle journal when the car is in motion will not disturb the seal between the segment 43 and the car axle journal. This figure also illustrates how the side portions of member 39 overlap the slot 45 to maintain the seal at all times, the upper extremity of the member 39 being in contact with the horizontal lower edge portion of the bearing brass 6.

Figure 22 shows the particular configuration of the member 39 and the assembly of the sealing segments, particularly illustrating the uniplanar walls 45' so as to permit the member 80 to be slidably moved over the axle during assembly and after the member 39 is in position upon the axle the segments 43 may be placed around the axle into the position shown in Figure 22.

It is apparent that within the scope of the invention, modifications and different arrangements may be made other than is herein disclosed, and the present disclosure is illustrative merely, the invention comprehending all variations thereof.

What I claim is:

1. In combination with a car axle journal, a journal box; a bearing brass for the journal, said journal box having a pair of spaced abutment walls; a member slidably positioned between said walls; said member having a concave inner surface; a second member having a convex exterior surface arranged to coincide with the convex surface on said member; said second member having an annular groove; a sealing plate positioned in the bottom of said groove; and a plurality of sealing segments having abutting ends positioned in said groove and arranged for sealing engage-

ment with the exterior surface of said car axle journal.

2. In combination with a car axle journal, a journal box; a bearing brass for the journal, said journal box having a pair of spaced abutment walls; a member slidably positioned between said walls; said member having a concave inner surface; a second member having a convex exterior surface arranged to coincide with the convex surface on said member; said second member having an annular groove; a plurality of sealing segments positioned in said groove and arranged for sealing engagement with the exterior surface of said car axle journal; and means for resiliently urging said segments into engagement with said journal.

3. In combination with a car axle journal, a journal box; a bearing brass for the journal, said journal box having a pair of spaced abutment walls; a U-shaped sealing means support slidably positioned between said walls; said support having a concave inner surface; a second member having a convex exterior surface arranged to coincide with the convex surface on said member; said second member having an annular groove; a plate positioned in the bottom of said groove; and sealing means positioned in said groove and arranged for sealing engagement with the exterior surface of said car axle journal.

4. In combination with a car axle journal, a journal box; a bearing brass for the journal; said journal box having a pair of spaced abutment walls; a support slidably positioned between said walls; a plurality of segments carried by said support, said segments being arranged for sealing engagement with said journal; means for urging said segments into engagement with the journal; and means overlapping the extremities of said segments for preventing leakage of lubricant through abutting joints of said segments.

5. In combination with a car axle journal, a journal box; a bearing brass for the journal; said journal box having a pair of spaced abutment walls; a member slidably positioned between said walls; a plurality of segments supported by said member, said segments being arranged for sealing engagement with said car axle journal; spring means for urging said segments into engagement with the car axle journal; and means overlapping the extremities of said segments for preventing leakage of lubricant through abutting points of said segments.

6. In combination with a car axle journal, a journal box; a bearing brass for said journal; said journal box having a lubricant retaining portion beneath the journal, said journal box having a pair of spaced abutment members; a support slidably contained between the abutment members; spring means interposed between said journal box and said support for urging the latter toward the car axle journal; an annular shaped element carried by said support, said element having a groove; a plurality of segments having abutting end portions snugly fitting said groove, said segments having their interior surfaces in sealing engagement with the car axle journal; means for urging said segments into sealing engagement with the car axle journal; a block positioned adjacent a side wall of the bearing brass; and spring means for urging said block into sealing engagement with said bearing brass.

7. In combination with a car axle journal, a journal box; a bearing brass for said journal; said journal box having a lubricant retaining portion beneath the journal; said journal box hav-

ing a pair of spaced abutment members; a U-shaped element slidably mounted between the abutment members; spring means interposed between said journal box and said element for urging the latter toward the car axle journal; a U-shaped member carried by said element, said member having a groove therein; a sealing plate in said groove; a plurality of segments having abutting end portions snugly fitting said groove; spring means for urging said segments into sealing engagement with the car axle journal; a pair of blocks positioned adjacent the side walls of the bearing brass; said blocks having sealing surfaces adapted for engagement with said bearing brass; and spring means for urging said blocks into sealing engagement with the bearing brass.

8. In combination with a car axle journal, a journal box; a bearing brass for said car axle journal; said journal box having a lubricant retaining portion beneath the journal; said journal box having a pair of spaced abutment members; an element slidably contained between the abutment members; spring means interposed between said journal box and said element for urging the latter toward the car axle journal; a plurality of segments having abutting end portions supported by said element, said segments having surfaces in sealing engagement with the car axle journal; a pair of blocks positioned adjacent the side walls of the bearing brass and adapted for engagement with said bearing brass; and means for urging said blocks into sealing engagement with said bearing brass.

9. In combination with a car axle journal, a journal box; a bearing brass for said car axle journal; said journal box having a lubricant retaining portion beneath the journal, said journal box having a pair of spaced abutment members; a U-shaped element slidably mounted between the abutment members; spring means interposed between said journal box and said element for urging the latter toward the car axle journal; a U-shaped member carried by said element, said member having a groove; a sealing plate in the bottom of said groove; a plurality of segments having abutting end portions snugly fitting said groove; spring means for urging said segments into sealing engagement with the car axle journal; a pair of blocks positioned adjacent the side walls of the bearing brass; lubricant sealing material carried by said blocks and adapted for engagement with said bearing brass; and spring means for urging said blocks into sealing engagement with the bearing brass.

10. In combination with a car axle journal, a journal box; a bearing brass for said car axle journal; said journal box having a lubricant retaining portion beneath the journal, said journal box having a pair of spaced abutment members; an element slidably contained between the abutment members; spring means interposed between said journal box and said member for urging the latter toward the car axle journal; an annular shaped member carried by said element, said annular shaped member having a groove; a sealing plate in said groove; a plurality of segments having abutting end portions snugly fitting said groove, said segments having surfaces in close engagement with the car axle journal; spring means for urging said segments into sealing engagement with the car axle journal; a pair of blocks positioned adjacent the side walls of the bearing brass; sealing felt carried by said blocks and adapted for engagement with said bearing brass; and spring means for urging the felt car-

ried by said blocks into sealing engagement with the bearing brass.

11. In combination with a car axle journal, a journal box; a bearing brass for said journal, 5 said journal box having a lubricant retaining portion beneath the journal, said journal box having a pair of spaced abutment members; a support slidably mounted between the abutment members; a member carried by said support and 10 having a groove therein; a plurality of segments having abutting end portions snugly fitting said groove; means for urging said segments into sealing engagement with the car axle journal, said bearing brass having a slot adjacent one of 15 said sealing segments to accommodate the extremity thereof, said slot being wider than said sealing segment providing limited longitudinal movement of said bearing brass independent of said sealing segment, said member being wider 20 than said slot whereby said member at all times overlaps the slot in said bearing brass.

12. In combination with a car axle journal, a

journal box; a bearing brass for said journal, said journal box having a lubricant retaining portion beneath the journal, said journal box having a pair of spaced abutment members; a U-shaped support slidably mounted between the abutment 5 members; spring means positioned between said support and said journal box for urging said support toward car axle journal; a member carried by said support and having a groove therein; a plurality of segments having abutting end por- 10 tions snugly fitting said groove; spring means for urging said segments into sealing engagement with the car axle journal, said bearing brass having a slot adjacent one of said sealing segments 15 to accommodate the extremity thereof, said slot being wider than said sealing segment providing limited longitudinal movement of said bearing brass independent of said sealing segment, said member being wider than said slot whereby said member at all times overlaps the slot in said 20 bearing brass.

PETER J. FOOL.