March 30, 1943. W. H. SALE 2,315,455

DUST-GUARD CAP FOR JOURNAL-BOXES

Filed May 5, 1941

Fig. 1

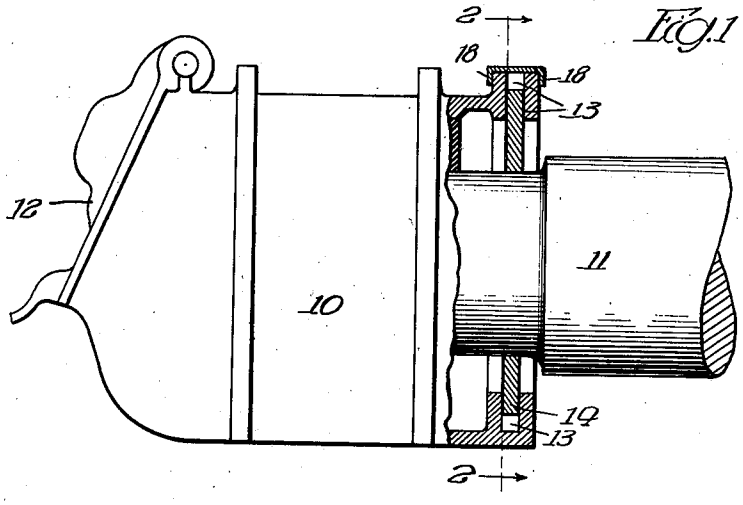


Fig. 2

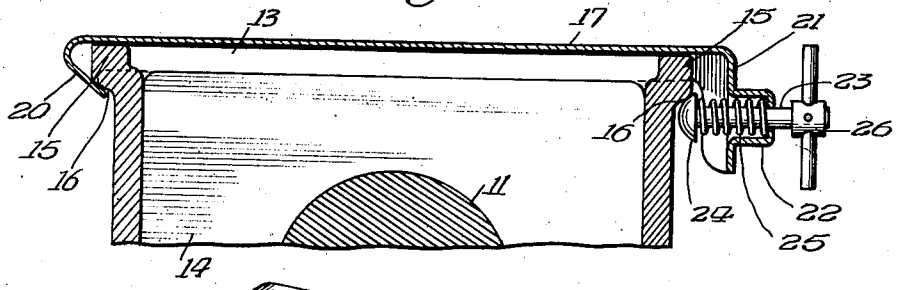


Fig. 3

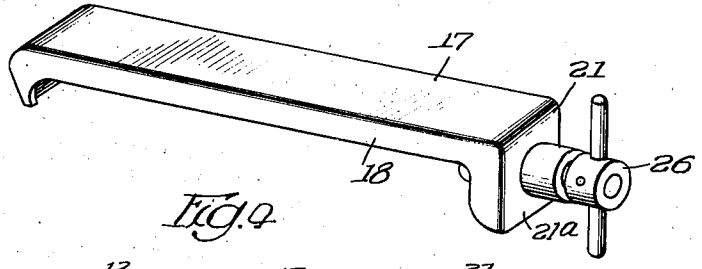


Fig. 4

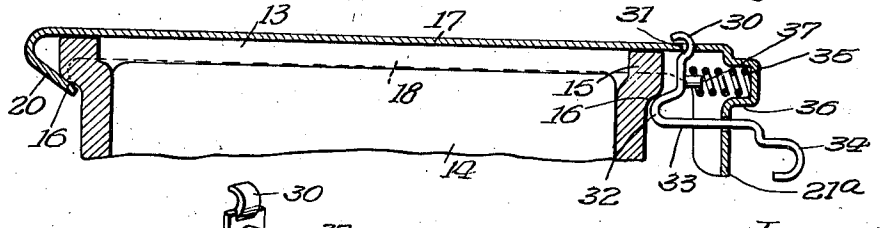
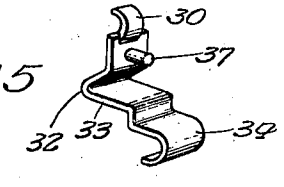


Fig. 5



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DUST-GUARD CAP FOR JOURNAL BOXES

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Application May 5, 1941, Serial No. 391,903

4 Claims. (Cl. 286—6)

The invention relates to dust-guard caps for journal-boxes.

One object of the invention is to provide an improved dust-guard cap for journal-boxes, which is readily removable from the journal-box and which, when placed thereon, will be effectively secured, so that the cap will not be loosened by vibration to which the boxes are subjected.

Other objects of the invention will appear from the detailed description.

The invention consists in the several novel features which are hereinafter set forth and are more particularly defined by claims at the conclusion hereof.

In the drawing: Fig. 1 is a side elevation, partly in section, of a railway journal-box to which a dust-guard cap embodying the invention is applied. Fig. 2 is a transverse section taken on line 2—2 of Fig. 1. Fig. 3 is a perspective of the cap. Fig. 4 is a transverse section of the journal-box with a modified form of the invention. Fig. 5 is a perspective of the spring-pressed gripping member shown in Fig. 4.

The invention is exemplified as applied to a railway journal-box 10 for an axle 11. The axle is journaled in the box 10, as well understood in the art. A lid 12 is pivoted to the box for access to the interior of the box so that lubricant can be supplied thereto. The box is also provided adjacent its inner end with a transverse chamber 13 in which is fitted the usual guard 14 around the axle for excluding dust and preventing the escape of lubricant through the inner end of the box. The sides of the box at the ends of chamber 13 are provided with integral ribs 15 with inclined shoulders 16 at their lower ends.

The improved dust-guard cap is preferably formed of sheet metal and comprises a top-wall 17 which overlies the open upper end of chamber 13 through which the dust-guard is insertable in the chamber 13; depending side-flanges 18, which are adapted to lap the outer faces of the walls around the upper end of chamber 13 and confine the cap on the box against movement longitudinally of the axle. At one of its ends the cap is provided with a downwardly and inwardly inclined flange 20, which is adapted to engage and hook under the shoulder 16 on the rib 15 at one side of the box. At its other end the cap is provided with a depending integral wall 21 which is spaced laterally from the adjacent side of the box and is provided with a socket 22. The flanges 18 are extended downwardly to the lower end of wall 21 to reinforce said wall and to form a housing. A stem 23 is slidable axially in the outer end of the socket 22 and is provided at its inner end with a convex head 24. The convex face of head 24 is adapted to engage the inclined shoulder 16 at one side of the box. A coil-spring 25 surrounds stem 23, fits in socket 22, is adapted to engage head 24, and is loaded to press the head 24 and stem against the box. A grip or handle 26 is fixedly secured to the outer end of stem 23. The inward spring-pressure on the head 24 forces its inner convex face against the adjacent contiguous inclined shoulder 16 and draws hook flange 20 against the shoulder 16 so that a downward wedging pressure by the flange 20 and head 24 will keep the top-wall 17 tightly pressed against the top of the journal-box.

The cap can be removed by pulling grip 26 outwardly a sufficient distance to permit the head 24 to clear the adjacent shoulder 16 and rib 15 so the cap can pivot at hook 20 on the adjacent shoulder 16 until the head 24 clears the upper top of the box. When the cap is removed from the journal-box the grip 26 serves as a stop to limit the inward movement of the head 24 by the spring 25.

A characteristic of this construction is that when the cap is applied to the journal-box, the spring 25 will cause the cap to be secured on the box by the wedging action of flange 20 at one end of the cap and the spring-pressed convex head 24 at the other end of the cap. This results in effectively securing the cap to the journal-box against displacement by vibration while the journal-box is in use.

In the modification illustrated in Figs. 4 and 5, the cap comprises a top-wall 17, a hook flange 20 and flanges 18 similar to those shown in Figs. 1 to 3. A member for gripping the shoulder 16 and rib 15 at one side of the box is formed of a strip of metal bent to form a hook 30 which extends through a slot 31 in the top-wall 17, a curved abutment 32 adapted to engage the adjacent inclined shoulder 16, a member 33 which extends through the depending wall 21a of the cap, and a grip 34 outside of the cap. A coil-spring 35 is seated in a socket 36, engages the gripping member, is loaded to force said gripping member inwardly, and extends around a tongue 37 outstruck from said member. When this modified form of cap is applied to the journal-box, the abutment 32 is forced inwardly by the spring 35 and causes the box to be wedged between the hook 20 and the gripping member so that the cap will be securely held on the box. When the cap is to be removed the grip 34 can be pulled or pried outward a sufficient distance to permit the abut-

ment 32 to clear the adjacent shoulder 16 and rib 15 so that the cap can pivot on hook 20 and be swung upwardly away from the journal-box.

The invention exemplifies a dust-guard cap for a journal-box, which is simple in construction, can be readily applied to, and removed from the journal-box and which, when placed thereon, will be securely held by spring-pressure and wedging action, so that it will be held thereon against likelihood of becoming loose or removed in operation. The cap also effectively excludes water, sand and other foreign matter from the journal-box.

The invention is not to be understood as restricted to the details set forth, since these may be modified within the scope of the appended claims, without departing from the spirit and scope of the invention.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent is:

1. A dust guard cap formed of sheet metal comprising a top-wall adapted to extend over the dust guard chamber of a journal box, integral parallel side flanges depending from the top-wall, a depending integral hook at one end of the top wall shaped for wedging engagement with an external shoulder on one side of the box, an integral flange depending from the other end of the top-wall spaced from the side of the box and provided with an integral outwardly projecting cylindrical socket, a gripping element provided with a member disposed inwardly of the depending flange and having an inner end shaped for wedging engagement with an external shoulder on the other side of the box and a handle disposed at the outer side of the flange for retracting the engaging member, a coil-spring held in said socket and engaging the gripping element for forcing it into wedging engagement with the shoulder on the adjacent side of the box.

2. A dust guard cap formed of sheet metal comprising a top-wall adapted to extend over the dust guard chamber of a journal box, integral parallel side-flanges depending from the top-wall, a depending integral hook at one end of the top-wall shaped for wedging engagement with an external shoulder on one side of the box, an integral flange depending from the other end of the top-wall spaced from the side of the box and provided with an integral outwardly projecting cylindrical socket, the side-flanges having downward extensions joined to and reenforcing the end-flange, a gripping element provided with a member disposed inwardly of the depending flange and having an inner end shape for wedging engagement with an external shoulder on the other side of the box and a handle disposed at the outer side of the flange for retracting the engaging member, and a coil-spring held in said socket and engaging the gripping element for forcing it into wedging engagement with the shoulder on the adjacent side of the box.

3. A dust guard cap formed of sheet metal comprising a top wall adapted to extend over the dust guard chamber of a journal box, integral parallel side-flanges depending from the top-wall, a depending integral hook at one end of the top-wall shaped for wedging engagement with an external shoulder on one side of the box, an integral flange depending from the other end of the top-wall spaced from the side of the box and provided with an integral outwardly projecting cylindrical socket, a gripping element provided with a convex head disposed inwardly of the depending flange and shaped for wedging engagement with an external shoulder on the other side of the box, a shank extending through the socket and a handle on the outer end of the shank and disposed at the outer side of the flange for retracting the engaging member, and a coil-spring held in said socket and engaging the gripping element for forcing it into wedging engagement with the shoulder on the adjacent side of the box.

4. A dust-guard cap comprising a top-wall adapted to extend over the dust-guard chamber of a journal box, a hook depending from one end of the top-wall for engaging the external shoulder of one side of the box, a rigid downward extension on the top-wall adjacent to and spaced from the other side of the box, a gripping lever having one of its ends extending through and pivoted in the top-wall, a portion between the extension and the adjacent side of the box for engaging the external shoulder on said other side of the box, said lever extending through said downward extension and provided with a handle at the outer side of said extension, and a spring between the extension and a portion of the lever between its pivoted end and its shoulder engaging portion for forcing the lever inwardly against said other shoulder and clamping the box between the hook and said member.

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