Aug. 9, 1949. G. F. COUCH 2,478,746

LOCK FOR JOURNAL BOX LIDS

Filed Feb. 18, 1948

FIG. 1

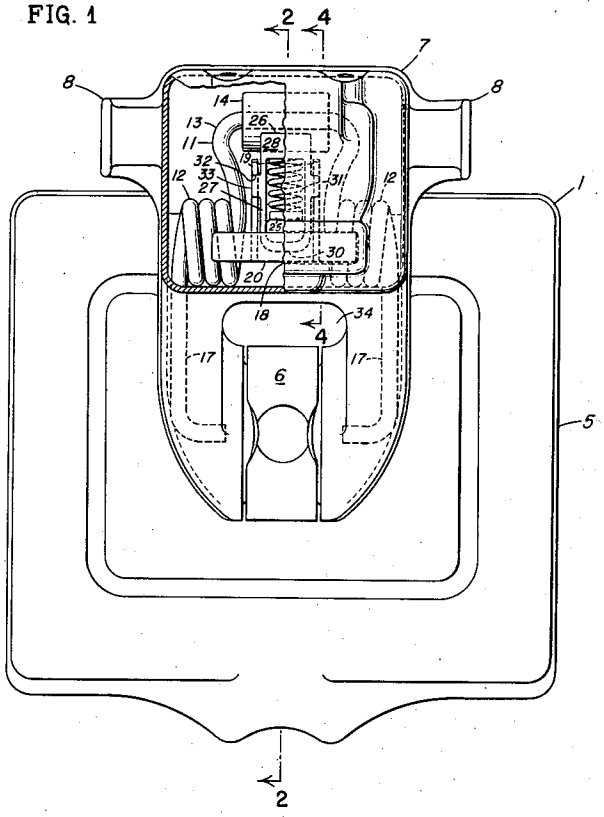
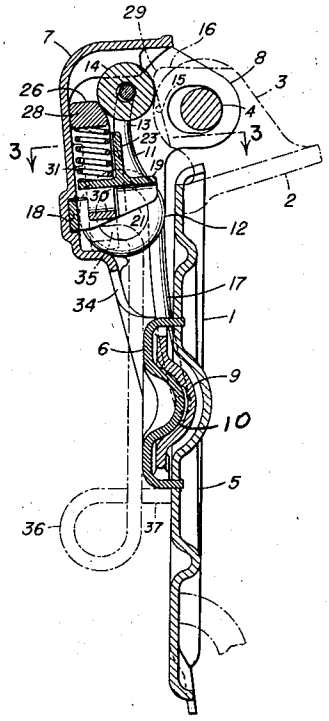


FIG. 2



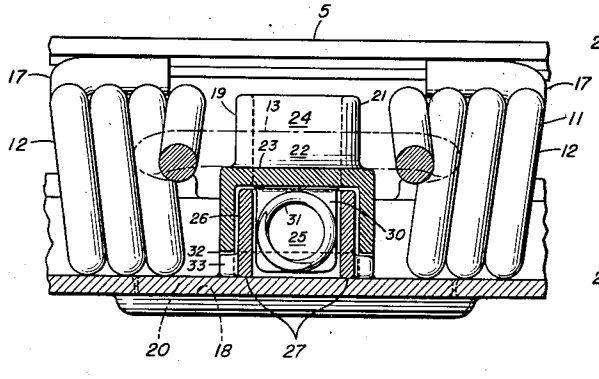


FIG. 3

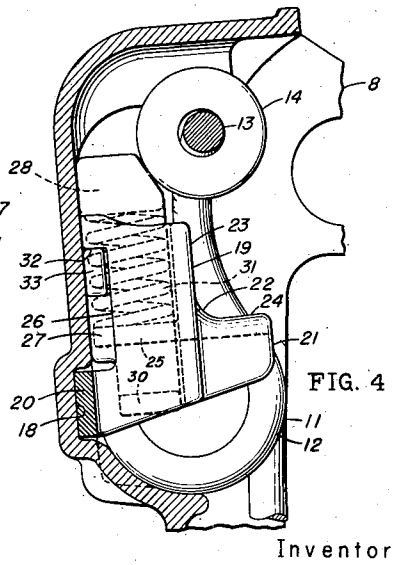


FIG. 4

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LOCK FOR JOURNAL BOX LIDS

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7 Claims. (Cl. 308—47)

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This invention relates to a lid lock and more particularly to a lock arranged to prevent an unwarranted opening movement of a journal box lid for railway cars.

An object of the invention is the provision, in a journal box lid, of a positive lock for preventing an unwarranted opening movement of the lid about its pivotal connection to the box to safeguard the interior of the box against tampering.

Another object of the invention is the provision, in a journal box lid, of a displaceable element retained entirely within the confines of the lid and arranged to lock the lid against movement about a lug of a journal box.

A further object of the invention is the provision of a member within a journal box lid arranged to lock the lid against movement about a lug of a journal box and being displaceable only by the use of a specially constructed tool.

The above and numerous other objects will become apparent from the succeeding description considered together with the disclosure made by the accompanying drawing, wherein:

Figure 1 is a front elevational view of a journal box lid embodying the present invention with part of the structure removed to more clearly illustrate the association of parts.

Figure 2 is a sectional view taken along the lines 2—2 of Figure 1, looking in the direction of the arrows.

Figure 3 is an enlarged sectional view taken along the lines 3—3 of Figure 2, looking in the direction of the arrows.

Figure 4 is an enlarged sectional view taken along the lines 4—4 of Figure 1, looking in the direction of the arrows.

Referring now in detail to the drawing wherein like reference characters indicate like parts, the numeral 1 is employed to designate, in a somewhat general manner, a journal box lid exemplary of the present invention. It is important in journal box lid design that the lid be held in close contact with a journal box, indicated diagrammatically in Figure 2 only of the drawing and designated by the reference character 2. The lid is moved about a hinge lug 3 (also indicated diagrammatically in Figure 2 only of the drawing) and is anchored to the journal box through a conventional pin 4. The journal box lid is held in closed position to exclude dirt, water or any impurities from the interior of the journal box as well as prevent the escape of the lubricating medium from its interior. At periodic intervals it becomes necessary to swing the lid about the lug and pin to what is termed an open position

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so that the interior of the journal box may be inspected, lubricant added and many such reasons well known and recognized in the art.

The journal box lid comprises a cover 5 arranged to bear in full against the journal box for the purpose above set forth. Mounted upon the cover outwardly thereof is a bridge member 6 firmly secured to the cover by any desired means. Also positioned outwardly of the cover proper is a hood 7 which is provided with upper apertured ears 8 that overlie the hinge lug and accommodate the pin to form the pivotal connection between the lid and journal box. A lower part of the hood is formed with a ball or semi-spherical portion 9 which lies between the bridge and cover and nests with a correspondingly formed part 10 of the bridge and thus a ball and socket arrangement is provided at the hood-cover juncture to present a universal joint allowing, within a permissible degree, a certain adjusting movement of the cover to insure a full surface bearing relationship between the cover and journal box.

A resilient element is incorporated in the lid structure to hold the lid in either open or closed position. Any type of resilient element may be employed and as characteristic of a type which may be employed advantageously there is disclosed a spring 11 having a pair of transversely spaced coils 12 seated securely against the hood and joined by a central upstanding loop 13; the latter carrying a roller 14 arranged at times to bear against a vertically disposed surface 15 on the hinge lug to hold the lid in closed position or to bear against a horizontally disposed surface 16 on the hinge lug to hold the lid in opened position. Depending from each spring coil is a downwardly extending angularly constructed leg 17 arranged to bear against the cover on each side of the ball and socket arrangement to urge the cover bridge, at all times, against the hood and the cover, when closed, into tight engagement with the journal box. Thus this characteristic lid is arranged to be effective as a removable component to seal an aecess opening of a journal box.

In the majority of journal boxes of the type employing a lid hereinabove described, there is contained wool waste or an absorbent pad to function as a holding means or carrier for the lubricating medium used to maintain the journal properly lubricated. The oil-soaked wool waste or pad is at times stolen from the journal box for fuel purposes and this pilfering or absence of wool waste in the journal box results in the car axle running dry and possibly great property

damage if terminating in derailment of the car. In order to safeguard against an unwarranted opening of the journal box lid provision is made to positively lock the lid in its closed position. As exemplary of such provisions the journal box lid is provided with an inwardly facing elongated recess 18 disposed in alignment with or the vertical limits of the coils 12 of the spring 11. Disposed entirely within the confines of the hood against unwarranted outside tampering is a latch-keeper or jamb-keeper 19 formed in part by a crossbar 20 arranged to be positioned within the hood recess 18 and retained firmly therein by the coils of the spring 11. Disposed, preferably at right angles or perpendicular to the crossbar intermediate its ends, is a pair of horizontally spaced, upwardlly and inwardly extending arms 21. An inner edge of the arms is joined by an angle-shaped stiffening wall 22 having an upper vertical leg 23 and a lower horizontal leg 24. Forming a continuation of the lower horizontal leg is a platform or anchor ledge 25 extending toward the hood but in horizontal spaced relation to each of the arms.

Interlocked with the keeper 19 is a latch or jamb 26 having horizontally spaced, vertical side flanges 27 arranged between and in close proximity to the keeper arms so as to retain the latch in a position relative to the keeper. The upper ends of the side flanges are joined by a head member or jamb block 28 which, in normal position, is disposed in tight fitting engagement with the hood and roller. Since, during an opening movement of the lid, the roller must pass over the apex 29, the roller therefore must also move in a direction toward the hood and with the jamb head in operative position as illustrated the lid is positively locked against any movement in an open direction.

Now, as previously stated, it becomes, at times, necessary to open the lid for the purpose of inspection etc. and in order to open the lid the jamb head must be displaced. Toward the accomplishment of this function the lower ends of the side flanges are joined, in a plane below the platform 25 since the flanges pass between the platform and keeper arms, by a shelf or bottom flange 30 which places the platform between the head and bottom flange. Positioned between the head and platform is a resilient element characterized by a coil spring 31 which, normally, maintains the head in elevated position wedged between the roller and hood. The coil spring 31 is encased in a housing formed by the defining side flanges in one direction and the hood and keeper vertical leg in another or normal direction. The keeper vertical arms are undercut as at 32 to accommodate outstanding lips 33 formed on the latch side flanges and thus the expansive movement of the coil spring 31 is restricted in order to not only effectively push the keeper head up into locking position but also to maintain the latch bottom flange 30 spaced a predetermined distance below the keeper platform.

The hood at a location below the recess 18 and the spring coils 12 is formed with an opening or window 34. An unlocking key or tool indicated diagrammatically in Figure 2 only of the drawing is insertable through the hood window and its upper or hook end 35 may be positioned upon the latch bottom flange to pull the jamb head downwardly away from the roller to negative its locking effect. As the lid is moved from closed to open position and then back to closed position it may be well to keep the lid in unlocked position and toward this end the key has its lower extremity formed with a loop 36 the free extremity 37 of which is arranged to underlie the cover bridge.

From the above it will be noted that various changes and alterations may be made to the structure of the accompanying drawing and the hereinabove description thereof without departing from the spirit of this invention or scope of the appended claims.

I claim:

1. In a journal box lid of the character having a hood movably mounted on a hinge lug and a spring means reacting between the lug and hood to retain the lid in open or closed position, the combination of, a jamb carried by and within said hood and arranged to be positioned in abutting relation with said spring means and hood for preventing an unwarranted opening of said lid.

2. In a journal box lid of the character having a hood movably mounted on a hinge lug and a spring means reacting between the lug and hood to retain the lid in open or closed position, the combination of, a jamb entirely within the confines of said hood, resilient means within said jamb for urging a part thereof into engagement with and between said hood and spring means for preventing an unwarranted movement of said lid about said lug.

3. In a journal box lid of the character having a hood movably mounted on a hinge lug and a spring means reacting between the lug and hood to retain the lid in open or closed position, the combination of, a jamb entirely within the confines of said hood having one part thereof carried by said hood and another part thereof movable relative to said hood, said relatively movable part being normally positioned in abutting relation with said hood and spring means for preventing an unwarranted movement of said lid about said lug.

4. In a journal box lid of the character having a hood movably mounted on a hinge lug and a spring means reacting between the lug and hood to retain the lid in open or closed position, the combination of, a jamb entirely within the confines of said hood having one part thereof carried by said hood and another part thereof movable relative to said hood, resilient means between said jamb parts, said relatively movable part being normally positioned in abutting relation with said hood and spring means for preventing an unwarranted movement of said lid about said lug.

5. In a journal box lid of the character having a hood movably mounted on a hinge lug and a spring means reacting between the lug and hood to retain the lid in open or closed position, the combination of, a jamb entirely within the confines of said hood having one part thereof carried by said hood and another part thereof movable relative to said hood, said relatively movable part being normally positioned in abutting relation with said hood and spring means for preventing an unwarranted movement of said lid about said lug, and an opening in said hood below said jamb for the accommodation of a tool for displacing said relatively movable part.

6. In a journal box lid of the character having a hood movably mounted on a hinge lug and a spring means reacting between the lug and hood to retain the lid in open or closed position, the

combination of, a multi-part interlocked jamb entirely within the confines of said hood, one part of said jamb being retained in position by said spring means, and another part of said jamb being movable relative to said hood and first named part, said movable jamb part being arranged to occupy space between said spring means and hood for preventing an unwarranted movement of said lid about said lug.

7. In a journal box lid of the character having a hood movably mounted on a hinge lug and a spring means reacting between the lug and hood to retain the lid in open or closed position, the combination of, a multi-part interlocked jamb entirely within the confines of said hood, one part

of said jamb being retained in position by said spring means, another part of said jamb being movable relative to said hood and first named part, a coil spring between said jamb parts, said movable jamb part being arranged to occupy space between said spring means and hood for preventing an unwarranted movement of said lid about said lug; and an opening in said lid below said jamb for the insertion of a tool for displacing said movable part against the action of said coil spring to facilitate movement of said lid about said lug.

GLENN F. COUCH.

No references cited.