No. 805,990. PATENTED NOV. 28, 1905.

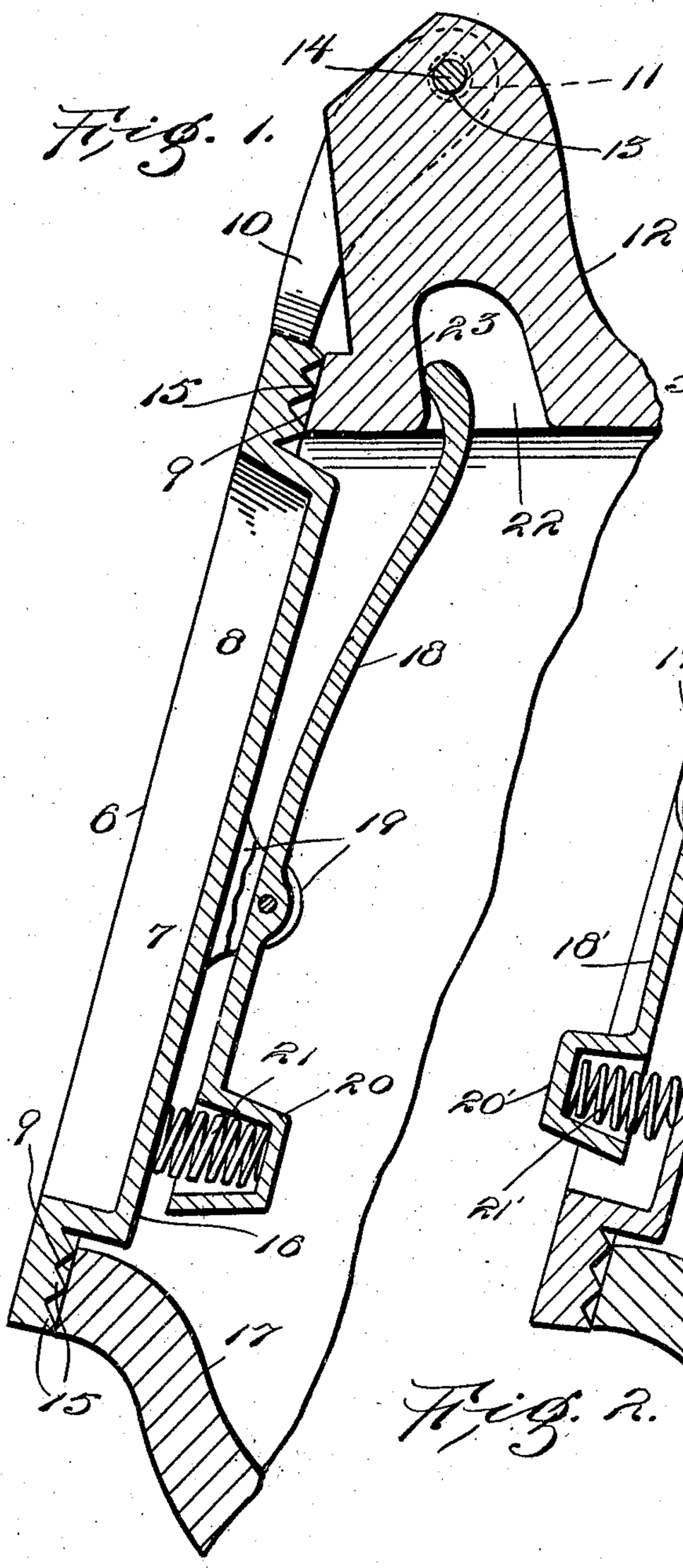
J. S. PATTEN.

JOURNAL BOX LID.

APPLICATION FILED AUG. 17, 1904.

2 SHEETS—SHEET 1.

Fig. 1.



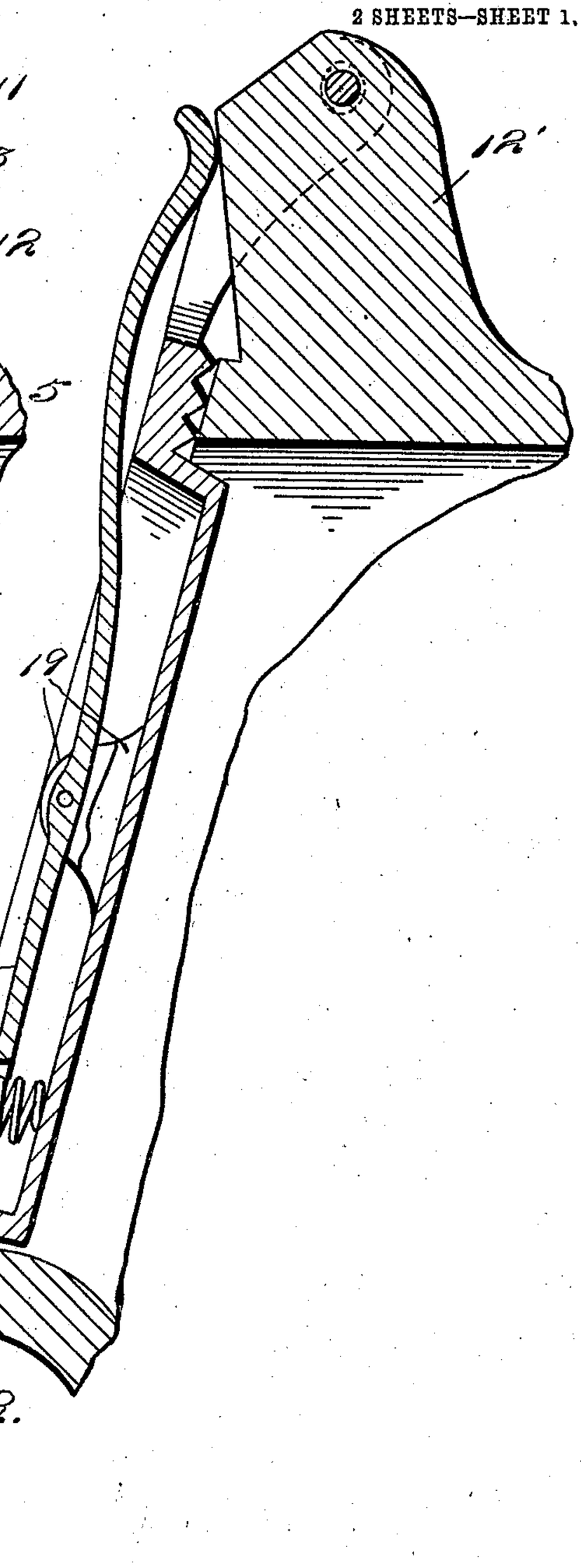


Fig. 2.

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2 SHEETS—SHEET 2.

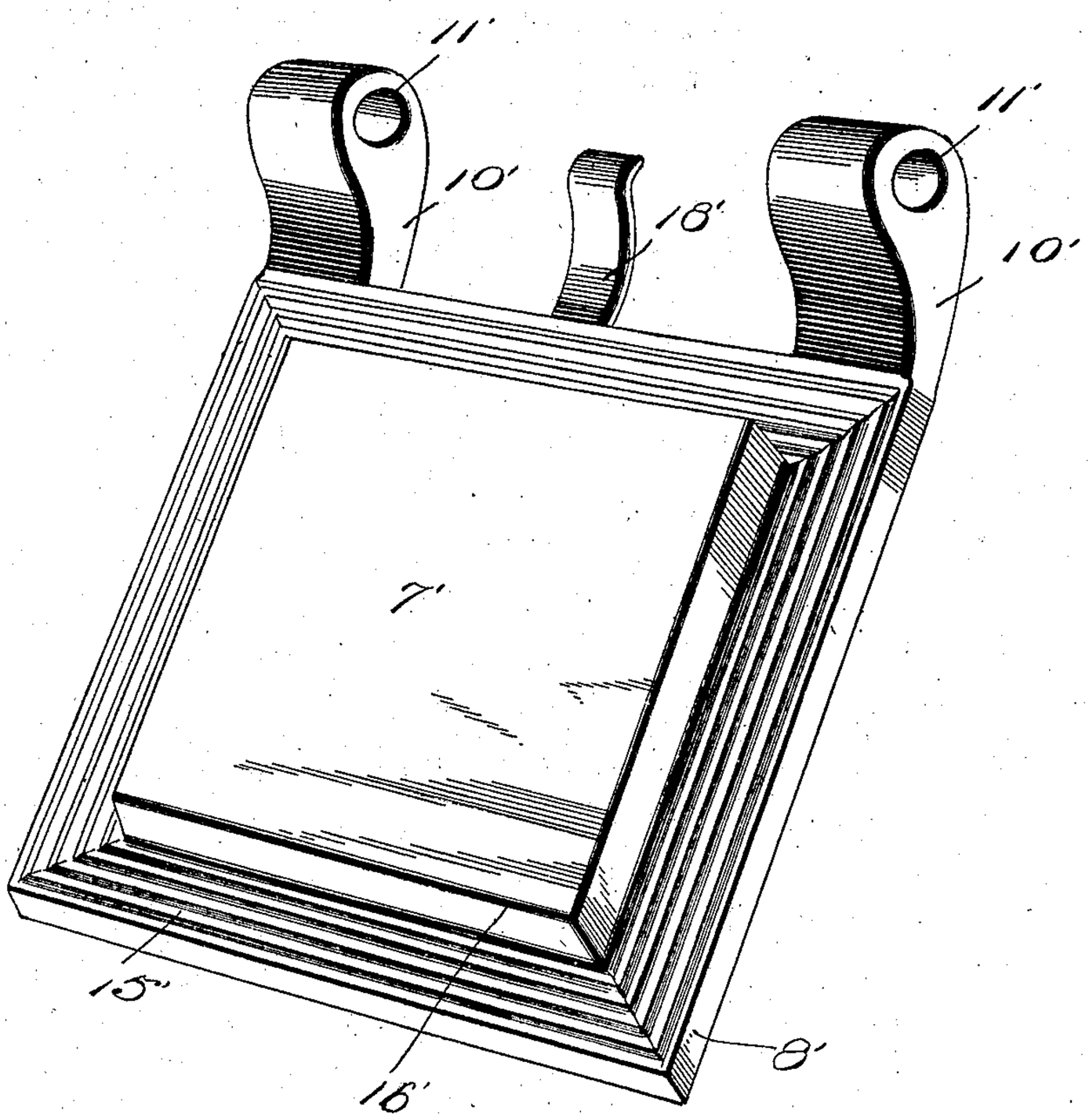

Fig. 3.

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UNITED STATES PATENT OFFICE.

JAMES S. PATTEN, OF BALTIMORE, MARYLAND, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO BALTIMORE JOURNAL BOX COMPANY, OF BALTIMORE CITY, A CORPORATION OF MARYLAND.

JOURNAL-BOX LID.

No. 805,990. Specification of Letters Patent. Patented Nov. 28, 1905.

Application filed August 17, 1904. Serial No. 221,039.

To all whom it may concern:

Be it known that I, JAMES S. PATTEN, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Journal-Box Lids; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to journal-box lids, the object of the invention being to provide a lid which may be made at a low price, which will be held securely in closed position, and in which a dust-proof joint between the lid and box will be insured.

A further object of the invention is to provide a construction which may be used in connection with the journal-box commonly employed and also to provide a construction which will prevent leakage from the box of such oil as may splash against the inner face of the lid.

Other objects and advantages of the invention will be understood from the following description.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a vertical section through the outer end portion of the journal-box having a lid embodying the present invention. Fig. 2 is a view similar to Fig. 1, showing the retaining-spring of the lid arranged for the use of the lid in connection with the common form of journal-box. Fig. 3 is a perspective view of the lid shown in Fig. 2 of the drawings.

Referring now to the drawings, and more particularly to Fig. 1 thereof, there is shown the front portion of a journal-box 5 commonly employed for car-axles and at the outer end of which is the usual opening 6 for introduction of oil and waste. The opening 6 is provided with a closure or lid comprising a central portion 7, the outer face of which is dished and at the outer edge of which is formed a continuous flange 8, which is adapted to rest against the end face 9 of the box adjacent to the opening 6. From the flange 8 of the upper side of the lid project the laterally-spaced ears 10, through which are formed perforations 11, which aline transversely of the lid. Upon the top of the box 5 is formed an ear 12, having a perforation 13 formed transversely therethrough, the perforations 11 and 13 being brought into alinement to receive a pintle 14, so that a hinge connection is formed between the lid and the box. The perforations 11 are of somewhat greater diameters vertically than the pintle 14 and are, in fact, elliptical, so that when the lid is in the closed position (shown in Fig. 1 of the drawings) it may have a slight vertical movement or slide up and down the face 9 of the journal-box. Upon the rear face of the flange 8 of the journal-box lid there are formed ribs 15, which run transversely of the lid at the upper and lower portions of the flange and run vertically of the lid at the side portions of the flange. These ribs are substantially triangular in cross-section as originally formed, and their sharp edges rest against the edge 9 of the journal-box. In the casting of journal-box lids it is found to be very difficult to prevent warping, so that the lids do not fit as snugly as they should against the box, and to grind or plane the lids smooth is too expensive an operation to be practicable. An object of the present invention is to permit of the use of lids that may be more or less warped, and in consequence the face of the lid that contacts with the box is ribbed, as above described. As the car having the journal-box thereon runs there is more or less vibration, and in consequence there is a movement between the lid and the box which results in wearing away the sharp edges of the ribs, so that a continuous bearing between the lid and the end of the box is finally secured, thus making a dust-tight joint. Were the face of the lid not ribbed, the surface exposed to rubbing contact with the box would be so great as to prevent wear with sufficient rapidity to be of utility. By forming the ribs triangular in cross-section they have initial rapid wear, so that a fit will be quickly accomplished, the greater cross-sections of the ribs at their bases gradually decreasing the rate of wear, so that a long life to the lid is insured.

In the use of the box oil in a greater or lesser quantity is splashed against the inner face of the journal-box lid, and as these lids are ordinarily constructed the oil runs down the inner face of the lid and out between the bottom of the lid and the face of the box. In the construction illustrated the dished portion of the lid projects into the box and the lower

face of this dished portion extends from the flange 8 downwardly into the box and over the downwardly-extending or slanted bottom of the box adjacent to the opening 6. The oil that runs down the inner face of the lid therefore drips from the edge 16 and striking the sloping wall 17 or bottom of the box runs down this wall and back to the oil receptacle or holder.

To hold the lid yieldably in closed position, a lever 18 is provided, which is pivoted between the ears 19, formed upon the inner face of the lid, said lever having a seat 20 at its lower end, in which is disposed a helical spring 21, that bears with its opposite end against the inner face of the lid to force this end of the lever away from the lid or inwardly of the box. In the top of the box, beneath the ear or lug 12, is formed a recess 22, in which is engaged the upper end of the lever 18. This upper end of the lever is curved slightly forwardly and is rounded and rests against the flat front face 23 of the recess 22, against which it is pressed by action of the spring 21. The upper end of the lever which bears against the wall 23 is the fulcrum of the lever, the portion pivoted between the ears 19 carries the work, which is the lid, while the helical spring is the power. The result is that the lid is held yieldably in closed position.

In Fig. 2 of the drawings there is shown a construction which is the same as that above described with the exception that ears 19′ are formed upon the outer face of the lid and the lever 18′ rests with its upper end or fulcrum against the front flat face of the lug or ear 12′, the helical spring 21′ in the recess or seat 20′ resting with its end against the outer face of the lid instead of against the inner face. This construction of lid may be applied to the journal-box in common use, said commonly-used journal-box having the ear or lug 12′ thereon.

While in Figs. 1 and 2 the ribs are illustrated as formed upon the lid, it will be understood that they may be formed upon the bearing-face of the box, against which the flange of the lid rests.

What is claimed is—

1. The combination with a journal-box for railway-cars having an end opening for the introduction of a lubricant and a bearing-face surrounding said opening, of a lid for the box having a bearing-face for contact with the bearing-face of the box, one of said bearing-faces being formed for initial rapid wear against the opposing face to produce a continuous contacting surface and the lid being so loosely connected with the box as to permit of rubbing movement of the contacting surfaces.

2. The combination with a journal-box for railway-cars having an end opening therein and a bearing-face surrounding the opening, of a lid for the box having a bearing-face for contact with the first-named bearing-face, one of said bearing-faces being ribbed and the lid being so loosely connected with the box as to permit of rubbing movement of the contacting surfaces.

3. The combination with a journal-box for railway-cars having an end opening therein and a bearing-face surrounding the opening, of a lid for the box having a bearing-face for contact with the first-named bearing-face, one of said faces having a rib formed thereon and disposed for contact with the other face, the contacting portion of said rib being of lesser width than the base of the rib and the lid being so loosely connected with the box as to permit of rubbing movement of the contacting surfaces.

4. The combination with a journal-box for railway-cars having an end opening for the introduction of a lubricant and a bearing-face surrounding said opening, of a lid for the box having a bearing-face for contact with the bearing-face of the box, one of said bearing-faces being formed for initial rapid wear against the opposing face to produce a continuous contacting surface, the lid being connected to the box and having slight movement in a plane transverse to the box.

5. The combination with a journal-box for railway-cars having an end opening therein and a bearing-face surrounding the opening, of a lid for the box having a bearing-face for contact with the first-named bearing-face, one of said bearing-faces being ribbed, the lid being connected to the box and having slight movement in a plane transverse to the box.

6. The combination with a journal-box for railway-cars having an end opening therein and a bearing-face surrounding the opening, of a lid for the box having a bearing-face for contact with the first-named bearing-face, one of said faces having a rib formed thereon and disposed for contact with the other face, the contacting portion of said rib being of lesser width than the base of the rib, the lid being connected to the box and having a slight movement in a plane transverse to the box.

7. The combination with a journal-box having a recess in the inner face of its top, of a lid for the box, a lever pivoted to the inner face of the lid and lying with one end in said recess, and a spring disposed between the opposite end of the lever and the lid.

8. A journal-box having an opening for introduction of a lubricant, a lid for such opening hinged to the box, a lever pivoted to the lid and bearing with one end against a portion of the box at one side of said pivot, and a spring disposed between the lid and the lever at the opposite side of the pivot of the latter.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES S. PATTEN.

Witnesses:

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CURBY S. HURLEY.