No. 760,748. PATENTED MAY 24, 1904.

J. L. MOHUN.

JOURNAL BOX LID.

APPLICATION FILED MAR. 5, 1904.

NO MODEL. 2 SHEETS—SHEET 1.

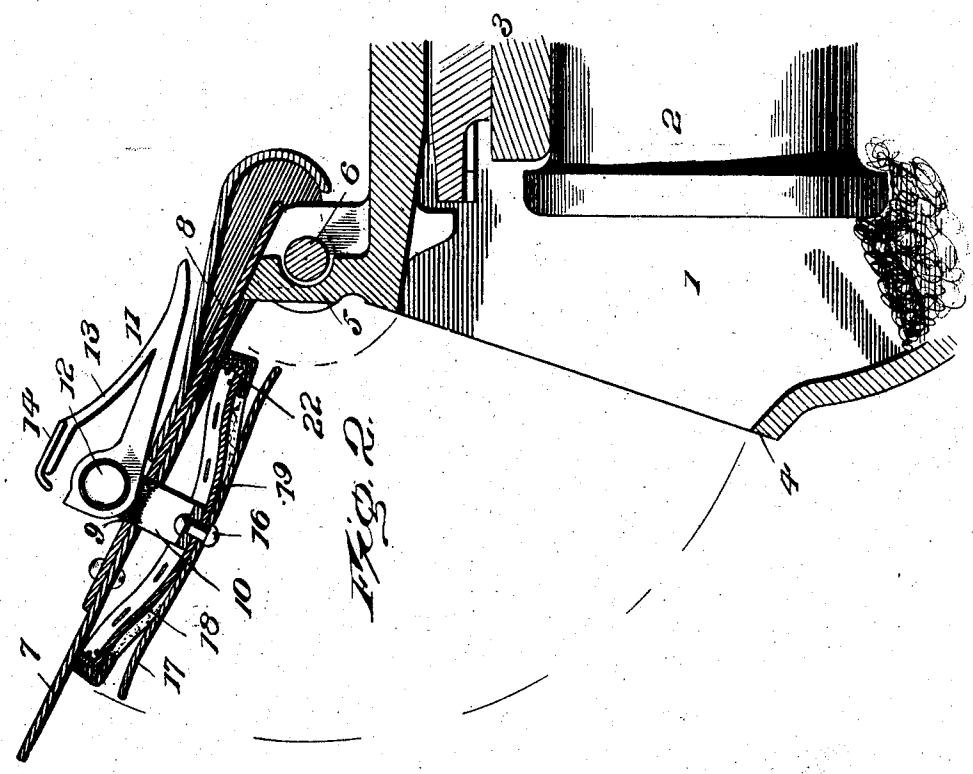

Fig. 2.

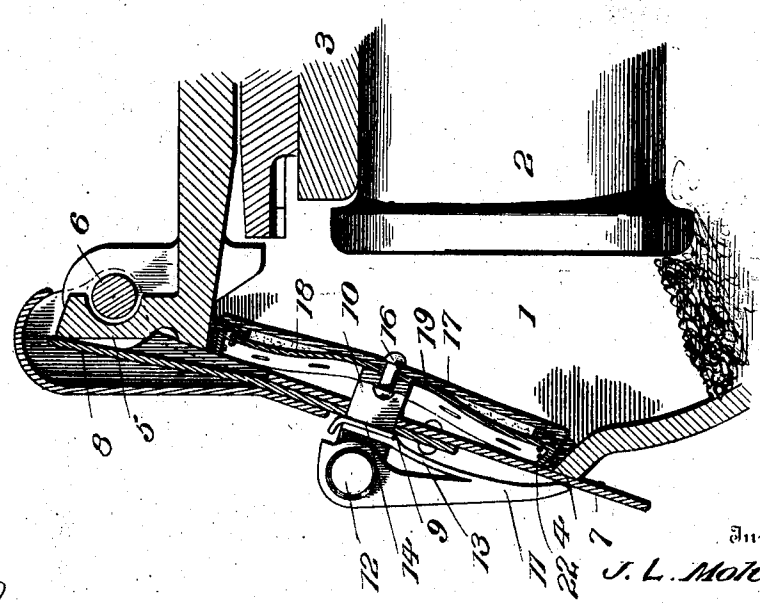

Fig. 1.

Witnesses

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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 4.

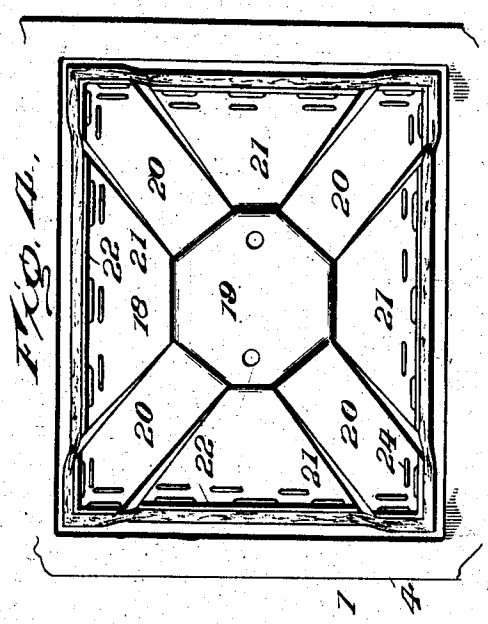


Fig. 5.

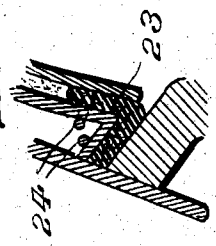
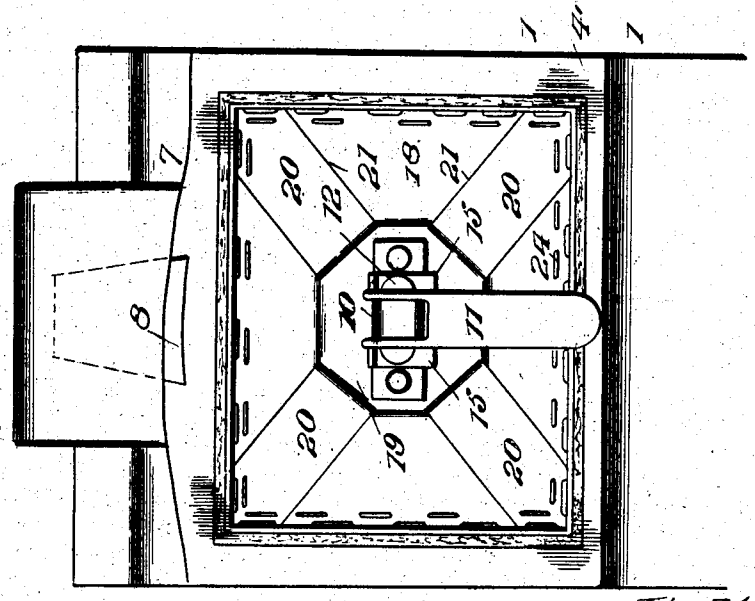


Fig. 3.



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No. 760,748. Patented May 24, 1904.

UNITED STATES PATENT OFFICE.

JOHN L. MOHUN, OF TRENTON, NEW JERSEY.

JOURNAL-BOX LID.

SPECIFICATION forming part of Letters Patent No. 760,748, dated May 24, 1904.

Application filed March 5, 1904. Serial No. 196,736. (No model.)

To all whom it may concern:

Be it known that I, JOHN L. MOHUN, a citizen of the United States of America, and a resident of Trenton, county of Mercer, State of New Jersey, have invented certain new and useful Improvements in Journal-Box Lids, of which the following is a specification.

My invention relates to certain new and useful improvements in journal-box lids; and the object of my invention is to provide a lid of the ordinary construction now in common use with means which will render the joint between the lid and its seat on the journal-box dust-tight. In journal-boxes and lids of the type known as the "Master Car-Builders'" type the lid is hinged above the seat and closes down thereupon. The spring for holding the lid closed is carried by the lid and rests upon a projection from the box substantially in line with the hinge of the lid. This causes the spring to tend to force the side of the lid nearest the hinge away from its seat, and consequently leaves an opening between the lid and the seat through which dust enters, and as the hinge becomes worn the opening between the lid and its seat increases. The seat on which the lid rests is rough, not being machined at all. Consequently the lid, even when the boxes are new, does not rest on the seat all the way around, and usually there is a considerable opening between the lid and the seat. By my invention this opening is entirely closed. Furthermore, my device operates to draw the lid more firmly down upon its seat than has heretofore been possible.

By my invention I add to any ordinary journal-box lid—such, for instance, as the Master Car-Builders' lid—a device whereby the joint between the lid and its seat is packed, and thus rendered dust-tight, it being immaterial as far as the operation of my device is concerned whether the lid and seat make a tight joint or not, as my device will pack the joint and render it tight in any event.

Furthermore, my device is adapted to be added to lids which are in use, it being entirely unnecessary to reconstruct the lid, as my invention is in the nature of an addition thereto and can be readily applied.

While I can apply my invention to ordinary Master Car-Builders' lids without change, I prefer when constructing lids which are to have my invention applied to make the spring somewhat wider, and consequently the opening in the lid through which the spring passes will have to be made somewhat wider to accommodate the spring. The particular construction of the lid, however, is entirely immaterial to the scope of my invention.

Furthermore, my invention is adapted to assist in keeping the lid closed and prevent the jar from moving the lid on its seat, and consequently keeps the hinge of the lid from wearing, as it does at present. By the use of my invention the only wear on the hinge is due to the opening and closing of the box.

In the drawings forming a part of this application I have shown my invention as applied to a box and lid of the Master Car-Builders' type.

I desire to have it understood that while my invention is particularly adapted for use in connection with this type of box and lid it may be used with equal advantage on any other form of box and lid that may be found desirable.

Referring to the drawings, wherein the same part is designated by the same reference-numeral wherever it occurs, Figure 1 is a sectional view of the outer end of a journal-box and lid of the Master Car-Builders' type with my invention applied thereto, showing the lid closed. Fig. 2 is a view similar to Fig. 1, showing the lid open. Fig. 3 is a front view of a journal-box closed with the lid broken away to more clearly show the operation of my invention. Fig. 4 is a plan view of the spring-plate which carries the packing, showing the relation which it bears to the seat on the box when the plate is not under tension. Fig. 5 is a detail sectional view, on an enlarged scale, showing how the packing is forced into the corner.

1 designates a journal-box; 2, the journal; 3, the brass; 4, the seat around the opening in the journal-box; 5, the projecting lug from the top of the journal to which the lid is hinged; 6, the pin running through the projecting lug and forming the hinge for the lid 7. The projecting lug 5 has the usual cam-

surface on it, and the lid 7 carries a spring 8, adapted to coact with the cam-surface of the lug 5 to hold the lid open or closed. The box and lid are of any usual or desired construction and for the sake of illustration merely are shown as of the Master Car-Builders' type. They, however, form no part of my invention and will not be further described.

In about the center of the lid 7 I cut a slot 9, through which passes the part 10, having a T-head. 11 is a cam-lever which is pivoted to the part 10 by the pivot 12. The lever is shown straddling the part 10 and having a cam-surface on each side thereof. Preferably I cause the cam to have a spring action. When the portion of the cam having the maximum throw is in its operative position against the lid, I cut away the cam-lever, beginning with a part of the cam-face intermediate the maximum and minimum throw portions, back into the cam-lever, so that I form a spring-arm 13, which carries on its end the portion 14, which gives the maximum throw. The spring-arm which carries the cam portion 14 is provided for the purpose of firmly holding the packing in position and also to accommodate any irregularities in the casting of the box at the portion where the packing comes in contact with the same or any differences due to wear. It will thus be seen that when the cam-lever is turned so the portion 14 rests against the outside face of the lid the portion 10 will be drawn through the lids and will be held in position yieldingly, due to the spring of the arm 13. In order to provide a broad bearing-face for the cam portion 14, I construct the side extensions 15 thereon.

Secured to the under side of the T-head of the portion 10 by the rivets 16 are the plates 17 and 18, the plate 17 being of a rectangular shape similar to and slightly smaller than the opening of the journal-box. The plate 17 is buckled or dished, so that it has the general form when in its normal position that is best shown in Fig. 2. The plate 18 is cut and stamped into the dished or buckled form, (best shown in Fig. 4,) whereby a central depressed portion 19 is formed, with the arms 20 extending to the corners of the rectangle and the triangular portions 21 between the arms 20. Around the edge the portions 20 and 21 are turned up to form a flange 22, and to this flange is secured a strip of rawhide or similar material 23, which forms a packing-ring, the packing material being secured in position by the wires 21 or other securing means. Preferably and as shown this packing extends around the corner formed by the turning up of the flange 22.

In applying my invention to a box-lid the opening 9 is first cut in the center of the lid. The portion 10 is then passed through the opening, with the plates 17 and 18 secured to the T-head thereof in the manner described, and the cam-lever is then fastened to the portion 10 by means of the pivot 12. When now the lid is open and the low portion of the cam of the cam-lever is against the face of the lid, the packing-ring on the flanged edge of the plate 18 will rest against the inner surface of the lid, due to the form of the plate. The flanged edges of the portions 20 will extend slightly beyond the flanged portions of the parts 21, due to the fact that the portions 20 are longer than the portions 21, and both are bent down with the edges of the flange in the same plane, the plate being dished to produce this contour. The plate 17 is less dished than the plate 18, so that its outer edge stands some distance away from the packing-ring. Because of the fact that the plate 18 is dished its dimensions, when in an open position measured to the outside of the packing, are less than the dimensions of the seat. The dishing of the plate causes the packing when the cam-lever is thrown up to draw away from the sides of the box, whereby the lid is free to be opened. When now the box is closed, the lever 11 is swung over until the spring portion 14 of the cam rests against the lid. This causes the portion 10 to move through the box and pull the center portions of the plates 17 and 18 toward the lid. This causes the plate 18 to first flatten out, because the flange edge is normally in contact with the under side of the lid until the packing-ring makes contact with the inner face of the seat. The spring-arm 13, carrying the cam portion 14, will hold the packing-ring into the corner between the lid and the inner edge of the seat, thus tightly closing the crack between the lid and the seat. The plate 17 has such a dish that it will make contact with the packing-ring before the outer edge of the packing-ring comes into contact with the edge of the seat, and consequently will add its strength to aid in holding the packing-ring in position. Preferably the plate 17 is solid—that is, has no slots cut in it—as is the case with the plate 18, so as to prevent any dirt which might work in through the opening in the lid from getting into the box. It is of course to be understood that the spring of the arm 13 should preferably be slightly greater than the spring of the plates 17 and 18 combined. It will be noticed that the packing when the parts are in their normal position is forced against the sides of the opening in the box just below the seat and by the tensions of the springs are held firmly in position. The cam portion 14, bearing on the face of the lid, will consequently hold the lid firmly to its seat and prevent wear of the parts due to the jarring when the box is in service.

The construction above described is the preferred form of my invention. My invention, however, embraces, broadly, the idea of forcing a packing into the angle formed between the sides and lid of a box, no matter what the particular mechanical construction may be

for effecting this result. My invention also includes all forms of construction wherein the packing is forced against the inner sides of the box adjacent to the seat.

The above construction has very few and simple parts, all of which may be made of pressed steel, with the exception of the packing-ring, which may be made of rawhide or any other material desired. By being able to stamp out the parts I am enabled to make a very cheap construction which is very efficient and durable.

My invention may be added to any of the standard types of journal-boxes now in use and in no way changes the construction of these lids. Consequently should the lid of a journal-box which was equipped with my invention become lost or broken a new Master Car-Builders' lid or one of other design could be put on even though the new lid was not equipped with my invention, and afterward by merely cutting a hole in the center of the new lid it could be provided with my device.

While I have described what I believe to be the preferred form of my invention and the best manner of applying the same, I desire to have it understood that I am not to be limited to the particular means or the particular combination of parts which I have shown and described merely for the purpose of illustrating my invention.

Many changes may be made in the construction, form, arrangement, and combination of parts which carry out my invention without departing therefrom, and I desire to have it understood that my invention covers all such changes and substitutions.

What I claim as new is—

1. A journal-box provided with an opening and a seat around the opening, a lid, means for holding the lid on the seat to close the opening, a packing, means for forcing the packing into the angle formed by the meeting of the lid and sides of the box and holding the same in position.

2. A journal-box provided with an opening and a seat around the opening, a lid, means for holding the lid on the seat to close the opening, a packing, means for forcing the packing against the inner sides of the box, adjacent to the seat and holding the same in position.

3. A journal-box provided with an opening and a seat around the opening, a lid hinged to the box and adapted to close the opening by being held onto the seat, a packing, and means for forcing the packing into the angle formed by the meeting of the lid and sides of the box and holding the same in position.

4. A journal-box provided with an opening and a seat around the opening, a lid, means for holding the lid on the seat to close the opening, a plate provided with a packing-ring, means for operating the plate to force the packing against the interior of the sides of the box adjacent to the seat.

5. A journal-box provided with an opening and a seat around the opening, a lid, means for holding the lid on the seat to close the opening, a plate provided with a packing-ring carried by the lid, means for drawing the plate toward the lid to force the packing into the angle formed by the lid and sides of the box.

6. A journal-box provided with an opening and a seat around the opening, a lid, means for holding the lid on the seat to close the opening, a spring-plate dished in cross-section and carrying a packing-ring on its periphery, a portion secured to the dished plate and passing through the lid, means to draw the portion carrying the plate through the lid whereby when the lid is closed the packing will be forced against the sides of the box adjacent to the seat.

7. A journal-box provided with an opening and a seat around the opening, a lid, means for holding the lid on the seat to close the opening, a packing, spring means for supporting the packing and adapted to force the packing against the interior of the sides of the box adjacent to the seat when the lid is in its closed position.

8. A journal-box provided with an opening and a seat around the opening, a lid, means for holding the lid on the seat to close the opening, a packing, means for supporting the packing, a portion of said supporting means passing through the lid, a cam-lever having the high portion of the cam-spring supported, the cam-lever being adapted through the packing supporting means to force the packing against the sides of the box adjacent to the seat, the spring portion of the cam operating to yieldingly hold the packing in its position.

9. A journal-box provided with an opening and a seat around the opening, a lid, means for holding the lid on the seat to close the opening, a packing carried by the lid, means for expanding the packing after the lid is closed whereby the packing will be forced against the interior of the sides of the journal-box adjacent to the seat.

10. A journal-box provided with an opening and a seat around the opening, a lid, means for holding the lid on the seat to close the opening, a dished spring-plate provided around its edge with a turned-up portion, a packing secured to the turned-up portion, the plate being cut so as to form arms, a portion carrying the plate passing through the lid and means on the outside of the lid to draw the portion through the lid and force the packing against the sides of the journal-box adjacent to the seat.

11. A journal-box provided with an opening and a seat around the opening, a lid, means for holding the lid on the seat for closing the opening, a dished spring-plate, a packing carried on the periphery of the plate, a portion passing through the lid carrying the plate, a second plate between which and the lid the

packing-carrying plate is secured, a lever having a cam portion carried by the plate-supporting portion outside of the lid, adapted to draw the packing-supporting plate into contact with the inner face of the lid and then the second plate into contact with the packing-carrying plate and force the packing into the joint between the lid and seat on the box.

12. A journal-box provided with an opening and a seat around the opening, a lid, means for holding the lid on the seat to close the opening, a dished spring-plate, a packing carried on the periphery of the plate, the plate being cut to allow it to flatten out means for flattening the plate out and forcing the packing against the sides of the box adjacent to the seat.

Signed at Trenton this 26th day of February, 1904.

JOHN L. MOHUN.

Witnesses:
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P. B. RICHARDSON.