W. E. WILLIAMS.

LID FOR JOURNAL BOXES FOR RAILWAY CARS.

APPLICATION FILED JULY 9, 1915.

1,222,570. Patented Apr. 10, 1917.

Fig. 1

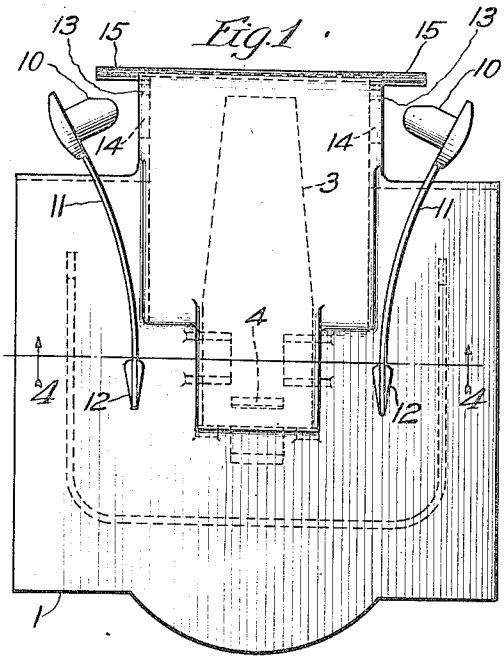


Fig. 2

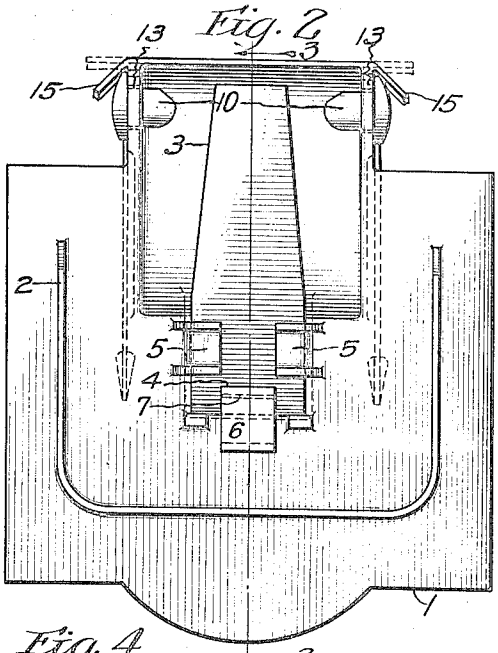


Fig. 3

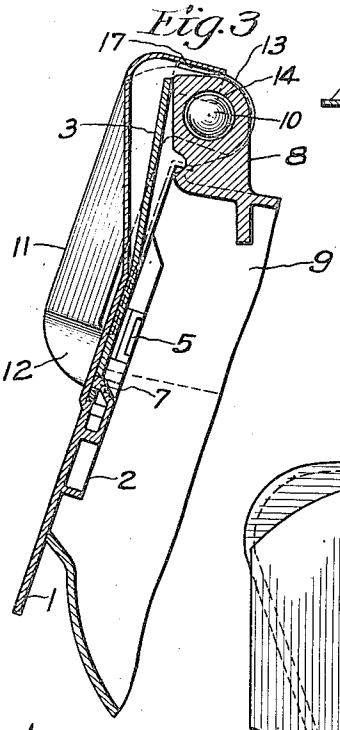


Fig. 4

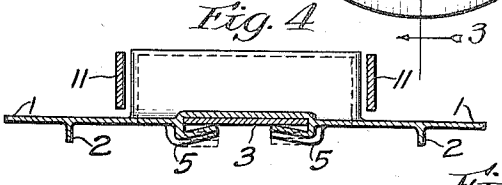


Fig. 5

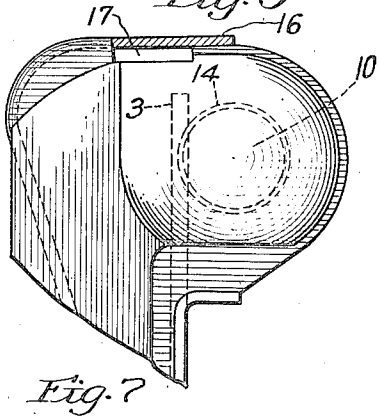


Fig. 6

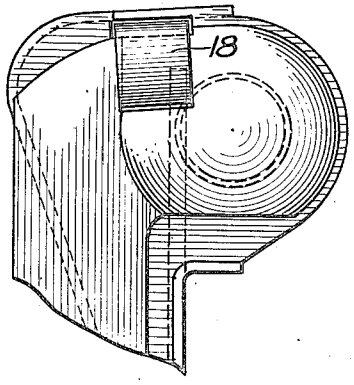


Fig. 7



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UNITED STATES PATENT OFFICE.

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LID FOR JOURNAL-BOXES FOR RAILWAY-CARS.

1,222,570. Specification of Letters Patent. Patented Apr. 10, 1917.

Application filed July 9, 1915. Serial No. 38,914.

To all whom it may concern:

Be it known that I, WILLIAM ERASTUS WILLIAMS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Lids for Journal-Boxes for Railway-Cars, of which the following is a specification.

My invention relates to the means of fastening the lid to the lug of the journal box and to the means of fastening the spring, which closes the lid, into the body of the lid.

The invention is set forth in the claims.

Reference will be had to the accompanying drawings in which:

Figure 1 is a front elevation of my lid.

Fig. 2 is a rear elevation.

Fig. 3 is a transverse sectional elevation through the central portion of the lid.

Fig. 4 is a cross section on line 4—4 of Fig. 1.

Fig. 5 is an edge view of the upper end or pin connection of the lid.

Fig. 6 is a view similar to that of Fig. 5 showing a modified form.

Fig. 7 is a plan of a metal strip used only in the modified form as shown by Fig. 6.

In the drawing, 1 indicates the journal box lid which is adapted to fit the Master Car Builders' journal box. 2 indicates a stiffening flange on the inside of the lid. 3 indicates the ordinary spring used with the Master Car Builder lid.

In the spring 3 I punch a hole 4 shown in dotted lines in Fig. 1. On the inside of the lid I cast three lugs, two of which are indicated by 5 and the other by 6. All these lugs are cast with clearance to permit the spring 3 to slide into the embrace of the lugs.

On lug 6 there is cast a projection 7 which is adapted to fit into the hole when bent inward. When the spring 3 is in position the lugs 5 and 6 are crushed down from the dotted line positions to the full line positions shown in the drawings to clamp the spring 3 and positively secure it by the entrance of the projection 7 into the hole 4.

It has been more or less customary to rivet the spring in place and it has also been clamped in place by lugs similar to mine. Rivet holes are objectionable for the reason that the rivet does not always fill the hole and the oil escapes out around the rivet. The fastening of the spring by clamping lugs is not always successful since the jar of the box sometimes jars the spring out of place, but the positive lock secured by my projection 7 when hammered into the hole 4 of the spring, makes a permanent fastening.

It has been customary heretofore to fasten lids to the lugs of journal boxes by pins or bolts and then secure the pins or bolts from displacement, by cotter pins and other devices and in some instances by riveting the heads of the pins or the bolts. The jar that these lids get jars out or wears off the cotter pins and also abrades the rivet heads and the pins come out and the lids get lost.

Lids of this kind are usually made of cast malleable iron or rolled iron or steel and I may make mine in either way but the drawing here shown contemplates the use of cast malleable iron. The lug of the journal box is indicated by 8 and is here shown as the ordinary M. C. B. lug. 9 indicates the nose of an ordinary journal box. In place of the ordinary pintle pin which is inserted through the hole in the lug to hold the lid in place, I cast two short pintle studs 10 upon some thin arms 11 which are free from the main portion of the lid at all points save at the posts or studs 12. I provide the lid with the ordinary ear or pin hole projection 13 perforated with the regular holes 14. In fastening the lid to the lug I bend the arms 11, driving the studs 10 into the holes 14 and into the regular pin hole in the lug 8 changing the position of the studs 10 from that of Fig. 1 to that of Fig. 2, thus fastening the lid to the journal box lug.

Regardless of the length of any pin that passes through the hole in a journal box lug, the pin bears chiefly at each end of the lug or hole and the middle portion of the pin performs little or no service wear in use. This fact causes many makers of journal boxes to provide bearing surface in the pin hole only at each end of the lug, so that my studs 10 furnish all the bearing that is required or ordinarily obtained in the usual journal box design.

Malleable cast iron has almost no springing action or elasticity, so that when my pins 10 are moved from the position shown in Fig. 1 to that of Fig. 2, they will ordinarily remain there. But to insure an absolute positive lock of the studs in engagement in the pin hole I cast on some upper projections 15 which are simply little extensions of metal out over the sides of the holes 14. After the studs are swung to the

position shown in Fig. 2, the pliable, non-resilient lugs 15 are bent down, as indicated, locking the studs permanently.

A lid usually remains on a box during the normal life of the box but at rare intervals the lid is taken off and placed on another box. To do this with my lid might break off the lugs 15. 16 in Fig. 5 indicates by shaded lines a projection 15 broken off. Underneath this projection I regularly provide holes 17 through the lugs 13 and when desired a strip of metal 18, Figs. 6 and 7, is put through and its ends bent over as is shown in Fig. 6 taking the place of the projections 15.

When the lid is made of a stamping the strip of metal 18 may be used or the projections 15 may be made by forming them up from the upper margin of the lid. The arms 11 and studs 10 will then be made of separate pieces and properly fastened to the lid. These arms may then be made of spring steel holding the studs 10 normally in position of Fig. 2 and sprung open to Fig. 1 during the moment of applying the lid to the box.

Journal boxes receive many jars in service and it is desirable to lessen the parts where jarring may abrade the metal and wear loose. When a separate pin is used there is opportunity for vibration to take place between the pin and the journal box lug and between the pin and the lid itself, and thus wear may simultaneously take place on all of these parts. With the construction here set forth, however, the studs being integral with the lid, vibration or relative movement of the parts is practically eliminated.

My lid is applicable to the regular Master Car Builders' design and is interchangeable with any standard lid heretofore used, which is a great desideratum.

If from any cause the studs 10 become broken off from their arms 11, the lid may still be used by using an ordinary hinge pin.

What I claim is:

1. A lid of the class described having ears provided with hinge pintle holes and also having pliable arms each bearing a stud to serve as a pintle when the arms are properly bent to bring the stud into place.

2. A lid having ears provided with alining pintle perforations and further having arms rigidly connected at one end with the lid and at their other free ends provided with studs in position to project through said perforations, respectively, when the arms are properly bent.

3. A lid of the class described having pintle studs carried on pliable arms integrally connected to the lid, primarily out of proper pintle position and arranged to move into such position when the arms are suitably bent.

4. A lid of the class described having pintle studs carried on pliable arms integrally connected to the lid, primarily out of proper pintle position and arranged to move into such position when the arms are properly bent, and means for securing said studs in proper pintle position.

5. A lid of the class described provided with pintle studs arranged upon integral pliable arms to swing to proper pintle positions when the arms are properly bent, and with pliable lugs in position to be bent into place for holding said pintle studs in such proper position.

6. A lid of the class described having ears perforated for the passage of pintle members and further having studs, to serve as such members, mounted on the lid in movable relation thereto.

7. A lid of the class described having ears perforated to allow the passage of pintle members, having pintle members in movable relation to the body of the lid, and further having means for locking said members when in position for performing their pintle functions.

8. The combination with a lid provided with a projection secured to its body by a pliable inelastic metal connection, of a flat spring lying on said body and provided with a perforation for the reception of said projection, when said connection is properly bent, for holding the spring in place.

9. The combination with a lid provided with inwardly bent, pliable, inelastic projections, of a flat spring fitting against the lid alongside said projections, provided with a perforation, and rigidly held in place by said projections, one of which extends into said perforation, substantially as set forth.

Signed at Chicago, in the county of Cook and State of Illinois, this 28th day of June, 1915.

WILLIAM ERASTUS WILLIAMS.

Witnesses:
H. A. FORSBERG,
A. D. SHANKLIN.