A. C. McCORD.

CAR AXLE BOX LID.

APPLICATION FILED MAY 7, 1908.

1,036,670.

Patented Aug. 27, 1912.

Fig. 1.

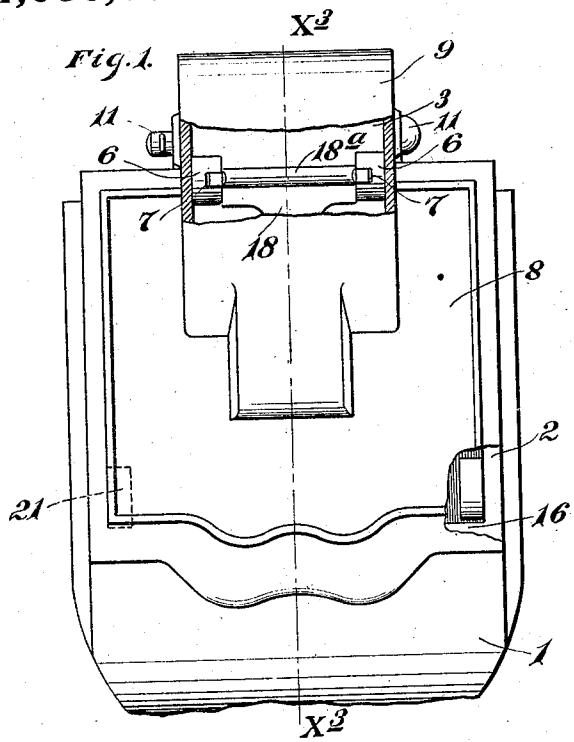


Fig. 2.

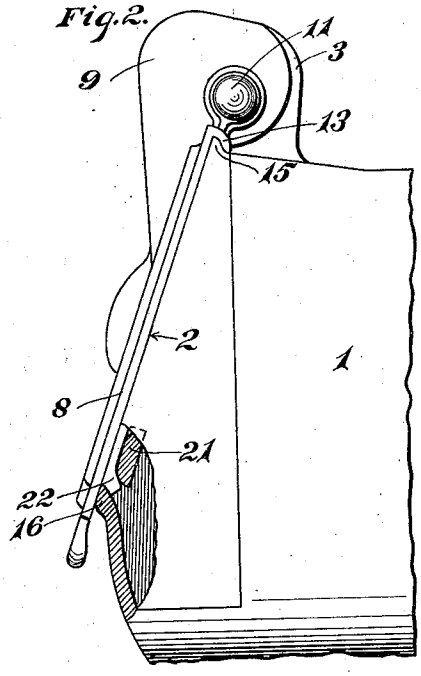
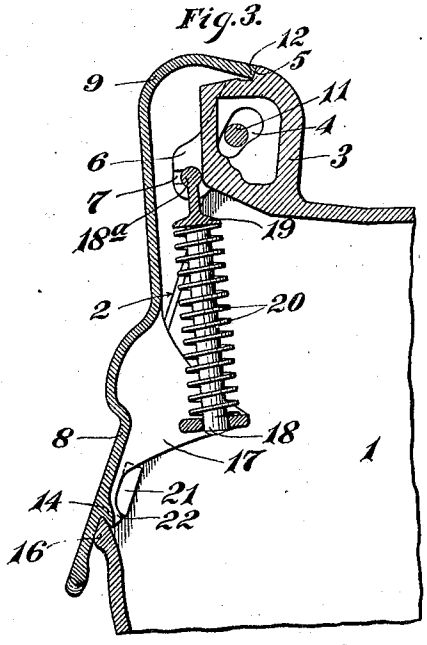


Fig. 3.



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UNITED STATES PATENT OFFICE.

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CAR-AXLE-BOX LID.

1,036,670. Specification of Letters Patent. Patented Aug. 27, 1912.

Application filed May 7, 1908. Serial No. 431,299.

To all whom it may concern:

Be it known that I, ALVIN C. McCORD, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Car-Axle-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.

My invention has for its particular object to improve the construction and operation of car axle box lids that are arranged to open and close by a combined or resultant swinging and sliding movement; and to the above ends the invention consists of the novel devices and combinations of devices hereinafter described and defined in the claim.

One type of lid, mounted as above indicated, is disclosed and claimed in my prior Patent #839,871, issued of date January 1st, 1907, and another type thereof is disclosed and claimed in the prior patent to William G. Dunham #803,155, issued of date October 31, 1905, and both entitled "Car axle box lids." In the accompanying drawings I have illustrated my invention as applied to a lid of the character disclosed and claimed in the said Dunham patent. In these drawings, like characters indicate like parts throughout the several views.

Figure 1 is a view in outside face elevation, with some parts broken away, showing the improved car axle box lid applied to a journal box. Fig. 2 is a side elevation of the said box and lid, some parts being broken away; and Fig. 3 is a vertical section taken on the line x^3 x^3 of Fig. 1, some parts being broken away.

Except as hereinafter pointed out, the construction of the lid illustrated in the drawings of the present application is substantially like that disclosed in the said prior Dunham patent above identified; and this construction described is as follows: The numeral 1 indicates an axle box of standard construction and which, at its upper portion, adjacent to its mouth 2, is formed with a heavy hinge lug 3 having an elongated guide bolt passage 4 and a lock shoulder 5. Laterally spaced bearing lugs 6 project outward from the hinge lug 3 and are shown as formed with seats 7, for a purpose which will presently appear. The lid 8, which is preferably constructed of malleable iron, is formed with a central pocket 9 that bulges outward and upward to clear the lugs 3 and 6. At its upper portion the lid 8 is pivotally connected to the hinge lug 3 by a hinge bolt 11 that is passed through the elongated bolt passage 4. The upper edge 12 of the pocket 9 normally engages the lock shoulder 5 of the lug 3. On opposite sides of the pocket 9 the upper edge of the lid 8 is shown as provided with downwardly turned lock flanges 13, and the lower portion of said lid is formed on its inner face with a depending lock flange 14. The said lock flanges 13 and 14 are so disposed that when the lid is closed they are engaged, respectively, with lock flanges or ribs 15 and 16, respectively, formed on the upper and lower portions of the mouth of the box. The lid 8, on its inner face below the pocket 9, has an integrally cast or otherwise rigidly secured perforated bearing lug 17. The stem of a T-bolt 18 works loosely through the perforated lug 17 with its transversely extended head 18^a pivotally mounted in the seat 7 of the bearing lug 6. This bolt 18 is preferably formed near its upper end with a fixed collar 19. A coiled spring 20 surrounds the stem 18 and is compressed between the collar 19 thereof and the bearing lug 17 on the lid, and exerts a pressure tending to hold the lid in a closed position, as shown in Figs. 2 and 3, and against upward sliding movements on the face or mouth of the box. Nevertheless, in practice it has been found that, under the severe and constant jarring due to unevenness in the track, the lid will be caused to vibrate even against the tension of the spring 20. This vibration seems to be against the direct line of strain of the spring but at all times along the face of the box. Otherwise stated, the spring seems to hold the lid pressed against the face of the box but to yield sufficiently under the said jars to permit a sliding vibration of the lid on the face of the box. Substantially the same statement is true in respect to the lid disclosed in my said prior patent above identified. A sliding movement of the lid on the face of the box is not necessary either in opening or closing the lid, but on the contrary, combined or resultant outward swinging and upward sliding movements in opening the

lid and combined or resultant downward swinging and sliding movements in closing the lid are desirable.

My invention consists in the provision of coöperating stop lugs or surfaces on the box and on the lid, which, when the lid is closed, positively prevent sliding movements of the lid on the face or mouth of the box. These coöperating stop lugs or surfaces may be located either interior or exterior of the box but preferably they are located within the box. The stop lugs on the box are indicated by the numeral 21 and they are shown as cast integral with the sides of the box adjacent to the face or mouth thereof and are located slightly above the lock flange 16 of the said box. The coöperating lock lugs or surfaces on the lid are indicated by the numeral 22 and they are shown as cast integral with said lid and are located but slightly above the lock flange 14, and are so spaced laterally that they aline one with each of the stop lugs 21. As clearly shown in Figs. 2 and 3, these coöperating stop lugs 21 and 22 positively prevent sliding movements of the lid on the face of the box, but, nevertheless, permit the lid to be opened by an upward swinging and sliding movement and permit the lid to be closed by a downward swinging and sliding movement. These coöperating stop lugs or surfaces add nothing to the cost of the box and at the same time efficiently accomplish the purpose of this invention as above set forth.

From what has above been said it will, of course, be understood that the coöperating stop lugs or surfaces on the box and lid for preventing sliding movement of the lid on the face of the box may be applied generally to lids that are mounted to open and close by a combined or resultant swinging and sliding movement, from which statement it of course follows that the said lugs will be serviceable when applied to the construction disclosed in my said prior patent above identified.

In the introductory part of the specification it has been stated that this invention relates particularly to car axle box lids that are arranged to open and close by a combined or resultant swinging and sliding movement. In the lids specifically referred to, this combined sliding and swinging movement is provided for by a hinge joint particularly designed to allow such movement. This same resultant or combined sliding and swinging movement will frequently take place in a lid connected by an ordinary pivot or hinge connection, due to play between the bolt and lugs or similar parts of such hinge. Hence, it will be understood that the coöperating stop shoulders or surfaces on the box and lid for preventing sliding movement of the lid when the lid is closed may be used to advantage in connection with any lid which would otherwise be capable of more or less sliding movement on the face of the box when the lid is closed.

What I claim is:

The combination with an axle box and a lid hinged thereto for a resultant swinging and sliding movement, said lid having interlocking engagement with the box under said resultant sliding and swinging movement, of a yielding thrust device arranged to react against said lid and against a fixed base of resistance on the box and arranged to exert a force tending to hold the lid closed, a pair of stop lugs located on the inner surfaces of each side of the box adjacent to the face and near the lower portion thereof, and stop lugs on said lid engageable with the stop lugs on said box to hold said lid against sliding movements on the face of the box when said lid is closed, substantially as described.

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

ALVIN C. McCORD.

Witnesses:
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