

(No Model.)

A. C. McCORD.
CAR AXLE BOX LID.

No. 506,330.

Patented Oct. 10, 1893.

Fig. 1.

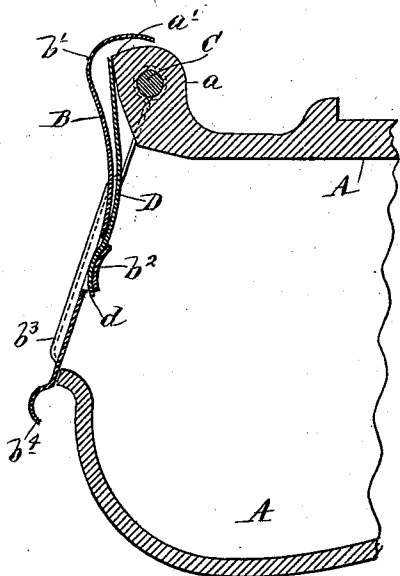
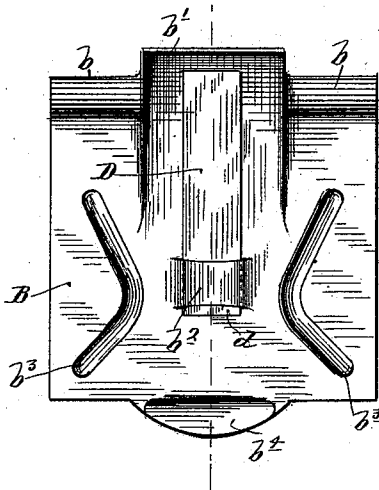


Fig. 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

ALVIN CARR McCORD, OF CHICAGO, ILLINOIS.

CAR-AXLE-BOX LID.

SPECIFICATION forming part of Letters Patent No. 506,330, dated October 10, 1893.

Application filed January 31, 1893. Serial No. 460,415. (No model.)

To all whom it may concern:

Be it known that I, ALVIN CARR 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 is in the nature of an improvement in car-axle box-lids, and is especially directed to the variety known as top hinge lids.

As is well-known, the cost of steel has become greatly reduced, within the last few years, owing to the improved processes of producing the same. Naturally, in virtue of this reduction, in cost, various articles, especially those of shell-like form, which were previously made of cast-iron, are now made by stamping the same from sheet steel and bending the same into the desired form by methods which have long been well known to metal workers. Car axle box-lids afford a good illustration of this class of articles in which steel has been substituted for cast iron.

Before the reduction in the price of steel, car-axle box-lids were made of cast-iron, the top hinge variety being cast of shell-like form with hinge eyes and with a central bulge adapted to overreach the pintle or hinge bolt-lug on the box and to receive and inclose a spring for holding the lid in its closed position. Now, however, lids of this form, in imitation of the old cast-iron lid, are struck up from sheet steel, by methods which are public property; and, because of the greater durability of the steel lid under rough usage, have gone into extensive use. I employ such a steel lid; and my invention has for its object to provide an improvement in the construction of the lid and in the manner of constructing and attaching the spring device to the lid for normally holding said lid in its closed position.

My invention is illustrated in the accompanying drawings, wherein like letters refer to like parts throughout the several views.

Figure 1 is a transverse vertical central sectional view, showing a portion of the axle-box with a lid embodying my invention, in work-

ing position thereon; and Fig. 2 is an inside elevation of the lid and spring, detached from the box.

A represents the axle-box, which is provided with a pintle lug or hinge-lug *a* having on its upper forward edge, an extended bearing surface *a'* adapted to form a base of resistance for the free end of the spring.

B is the lid having the pair of pintle eyes or hinge-bolt bearings *b*, adapted to straddle or embrace the hinge-lug *a* of the box A, and to be secured thereto by means of a pintle or hinge-bolt C passing through the said eyes *b* and the perforation in the lug *a*. The lid B has a bulge or swell *b'*, located at its upper central portion, overreaching the hinge-lug *a* and the bearing surface *a'*. Near the central portion of the lid, is a curvilinear keeper-bridge *b²*, for holding the spring, formed by cutting and depressing inward, a band-like portion of the lid, as clearly shown in the drawings.

D is the steel spring, shown in the form of a flat leaf or oblong bar, and is provided with a curvilinear portion *d*, at its lower end for engagement with the curvilinear keeper bridge *b²*, on the inside of the lid. The upper end of the spring works against the extended bearing surface *a'* projecting from the hinge lug *a* of the box. The bridge *b²*, on the lid, and the portion *d* of the spring are formed on a like curve longitudinally of the spring; or, in other words, the engaging portion of the bridge *b²* is convex and the engaging portion *d* of the spring is concave. In virtue of this construction, the spring must be applied to the lid and removed therefrom when the lid is detached; and this application is made by a rocking endwise movement of the spring. The endwise movement of the spring on the lid, or through the keeper bridge *b²*, is limited by the extent of the curve on the engaging portion *d* of the spring. When the lid, with the spring applied thereto, is secured to the box, the upper or free end of the same engages and works against the projecting surface *a'* of the hinge lug *a*, and is thereby held from the endwise rocking movement at its lower end. In other words, when the lid is in position on the box, the spring is held from longitudinal movement through the lid; and cannot become displaced. This special con-

struction for holding the spring is an important improvement in this class of lids. The spring can neither be jarred out nor be forcibly displaced or taken out, without detaching the lid. On the other hand, in case of breakage, a new spring can quickly be substituted by the removal of the lid. The bearing surface a' projecting from the hinge-lug a of the box, is located above a line drawn from the center of the hinge bolt at right angles to the lid, when in its closed or normal position. Hence, when the lid is below that line, the spring will tend to throw the lid into or hold it in its closed position; and, when raised above that line, the spring will tend to throw the lid into or hold it in its extreme uppermost or open position.

To give strength and rigidity to the lid, I form the same with corrugations b^3 , curved or otherwise arranged so as to stiffen the lid in all directions but especially longitudinally

of the lid. This better adapts the lid to stand the rough usage to which it is subjected in the service.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

The combination with the axle-box, having an extended surface as a base of resistance for the lid spring, of the lid having a depressed curved keeper bridge b^3 , as described, and the spring D having the correspondingly curved portion d , engaging said keeper bridge and working, when the lid is secured to the box, with its free end against said extended resistance surface of the box, substantially as and for the purpose set forth.

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

ALVIN CARR McCORD.

Witnesses:

JAS. F. WILLIAMSON,
EMMA F. ELMORE.