

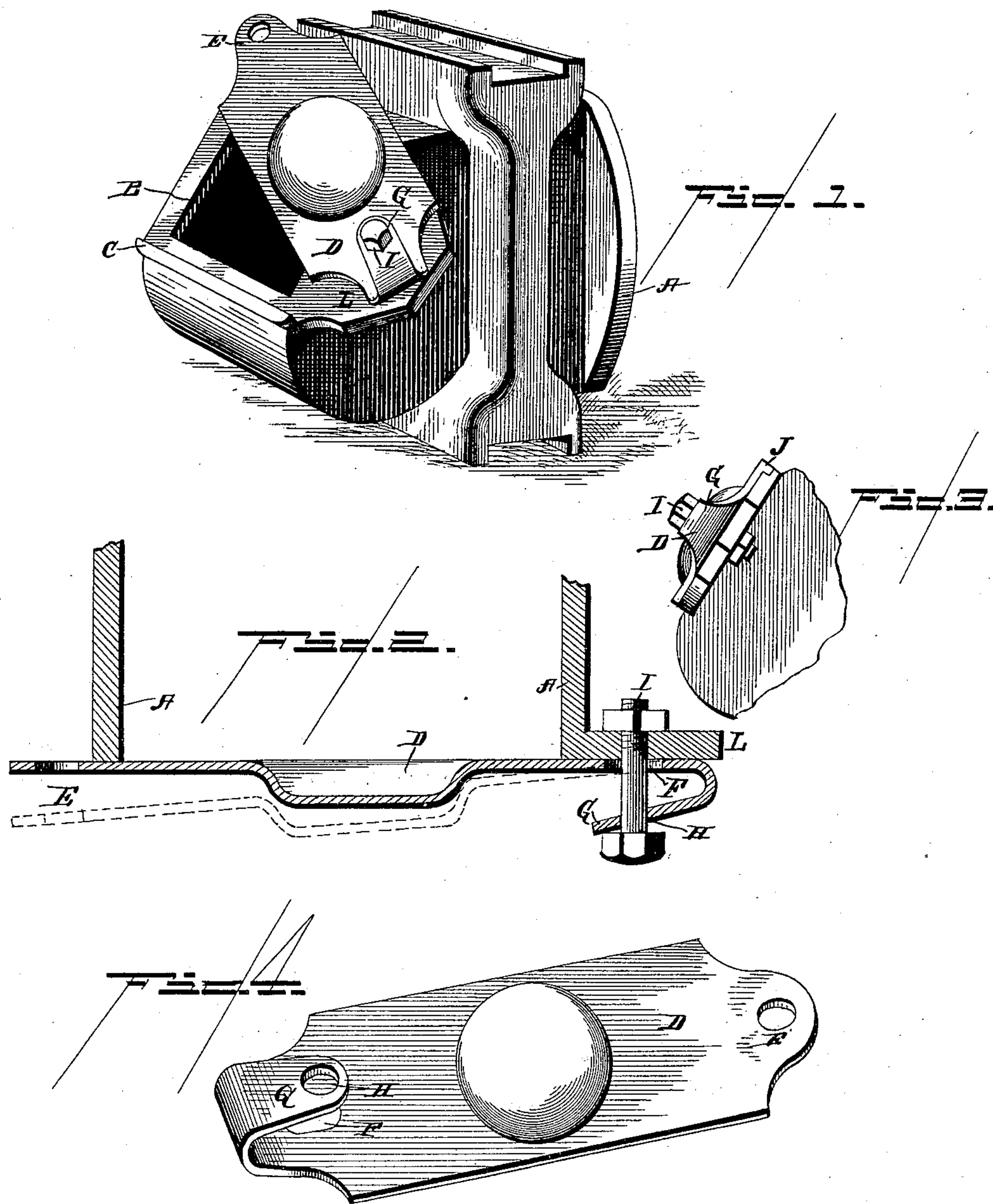
(No Model.)

G. W. MORRIS & W. H. LAWRENCE.

CAR AXLE BOX LID.

No. 390,981.

Patented Oct. 9, 1888.



WITNESSES

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CAR-AXLE-BOX LID.

SPECIFICATION forming part of Letters Patent No. 390,981, dated October 9, 1888.

Application filed June 27, 1888. Serial No. 278,324. (No model.)

To all whom it may concern:

Be it known that we, GEORGE W. MORRIS and WILLIAM H. LAWRENCE, citizens of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented new and useful Improvements in Car-Axle-Box Lids, of which the following is a specification.

Our invention relates to improvements in car-axle-box lids in which the lid is pivoted at one end, so that it may be swung or turned edgewise thereon to uncover the box, and in which a coil spring upon the pivot-bolt is caused to exert a constant pressure upon the lid to hold the latter firmly upon the box in its closed and in its open position; and the objects of our improvements are to dispense with the separate coil-spring, to afford a constant spring-retaining force within the body of the lid itself, and to this end to provide the lid with a spring-extension doubled part for receiving the confining-pivot, whereby the lid itself has a bearing part for the head of the pivot-bolt, whereon it exerts a constant force to maintain the lid upon its bearings, whether in open or in closed position upon the box. In attaining these objects the lid may be formed or provided with such spring-exerting part in such manner that it will have a lapping relation to the face or body of the lid and registering openings for the pivoting-bolt, and forming by such construction a double spring that will admit the lid being raised against a force exerted by itself upon the head of the pivot-bolt.

In the accompanying drawings, forming part of this specification, and in which the same reference-letters indicate the same parts, Figure 1 represents a perspective view of a car-axle box provided with our improved spring cover or lid, showing said lid tilted open; Fig. 2, a horizontal section of the box-bearing face and closed spring-lid, taken through the pivotal bolt and showing in dotted lines the lid tilted slightly out; Fig. 3, a side view of a modified form of box and spring-lid, and Fig. 4 a perspective view of the spring-lid detached.

In the drawings, the letter A indicates the axle-box, which may be of any desired or suitable construction, and which is formed with

the usual opening, B, in its front. The upper and lower edges of said opening B are formed with horizontal ribs or shoulders C, for confining the lid in position when closed.

The lid D is formed at one end with a bent or doubled lip or tongue, G, which has a perforation, H, registering with a slot, F, in the end of the lid. The lid and its doubled lip or tongue G are preferably made of a plate of spring metal suitably tempered to give said lip or tongue sufficient stiffness combined with elasticity. The bend of the lid-tongue is such as to cause it to overlap the lid proper a distance sufficient to cause it to form a spring-pivoted part. The pivotal bolt I is inserted through the perforation H of said doubled spring-tongue and through the slot F into and through an opening in an extension, L, of the face of the axle-box, and the lid will be confined to fit over the opening in said box by the horizontal ribs or shoulders. It will be observed that the elasticity of said doubled spring-tongue of the lid will admit of the lid being sufficiently raised out from its seat between said horizontal ribs or shoulders to be turned edgewise away from the opening, the slot F allowing the required play, and that the elasticity of said tongue will hold the lid when so opened, and also cause the lid to spring back into its seat when it is turned back and be held closed.

In Fig. 3 of the drawings is shown a modified form of box or lid in which the lid is formed with an inwardly-bent flange, J, at its upper edge, with which it may engage the upper edge of the front of the box; otherwise the lid is the same as hereinbefore described, and its operation is the same.

The lid and doubled spring tongue or lip are usually and preferably made in one piece; but it is obvious that the tongue or lip may be formed separate and riveted or otherwise fastened to a lid, which may be cast or stamped, as found most convenient, from suitable metal. As shown, this spring-tongue part of the lid is the end of the latter bent up over the outer face of the lid toward its free end, of less width than the lid and in central line with the length thereof, in such manner that the bolt-opening in the spring lapping tongue will register cen-

trally with the slot in the lid. The spring-tongue may project in parallel relation to the lid; but it is preferably set at an outward angle to the face of the lid to give it increased spring force.

The free end of the lid may be formed with a suitable handle part, E, by which it may be raised to open and to close it.

The spring of the lid, it will be seen, is formed by the bend of its tongue and the bearing of the latter against the head of the pivoting bolt, and in proportion to the pressure of the bolt exerted upon the lid-tongue will be the pressure of the lid upon the box. The lid may be raised in the middle or otherwise corrugated to stiffen it. The tongue part may be formed of a plate-spring separately attached in any suitable way to the end of the lid, so that when the latter is applied such tongue part will form the spring-power for the lid and keep it hard upon the box.

Having thus described the construction and arrangement or combination of parts of our improved car-axle-box lid, what we claim as new is—

1. A car-axle-box lid having a lapping bent or doubled spring tongue or lip at one end and formed with registering perforations in the end of the lid and in the end of said tongue or lip, substantially as described.

2. In combination with a car-axle box, a lid formed with a lapping bent or doubled spring tongue or lip at the pivoted end, and with a perforation in said end and a perforation in said spring tongue or lip which registers with said perforation, and a pivotal bolt inserted into said box through said perforations, substantially as described.

3. In combination with a car-axle box, a lid

formed with a lapping bent or doubled spring tongue or lip at its pivoted end, with a longitudinal slot in said end, and with a perforation in the end of said tongue or lip which registers with said slot, and a pivotal bolt inserted through said perforation and slot into said axle-box, substantially as described.

4. In combination with the car-axle box A, having the opening B, and provided with the horizontal ribs or shoulders C at the edges of said opening, the lid D, formed with the perforated lip E, and with the inwardly-bent or doubled spring tongue or lip G, and the slot F at the pivoted end and the perforation H in the end of said tongue or lip, and the pivotal bolt I, inserted through said perforation and slot, substantially as described.

5. A car-axle-box lid having a bent lapping spring end part set at an outward angle to the face of the lid and having an opening registering with an opening in the lid, for the purpose stated.

6. A car-axle-box lid bent up at its end to form a lapping spring-tongue and formed with registering perforations at said bent lapping parts, for the purpose stated.

7. A car-axle-box lid having a pivot-attaching end formed by a return overlapping end, so as to afford a constant spring-retaining force within the body of the lid itself, as herein set forth.

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

GEORGE W. MORRIS.

WILLIAM H. LAWRENCE.

Witnesses:

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