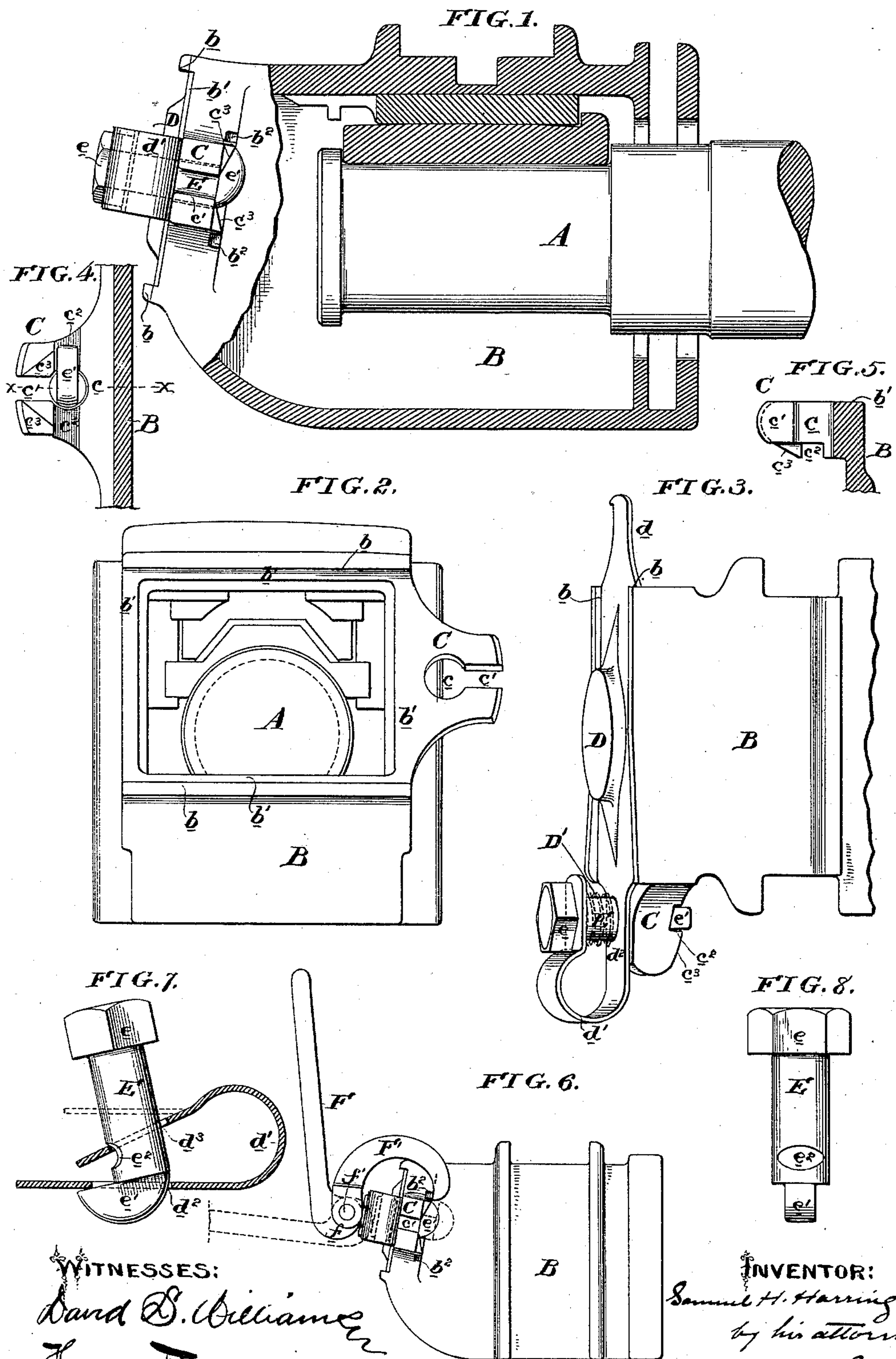


(No Model.)

S. H. HARRINGTON.
AXLE BOX LID.

No. 417,243.

Patented Dec. 17, 1889.



WITNESSES:

David S. Williams
Henry D. Dwyer

INVENTOR:

Samuel H. Harrington
by his attorney
Francis T. Chambers

UNITED STATES PATENT OFFICE.

SAMUEL H. HARRINGTON, OF BINGHAMTON, NEW YORK.

AXLE-BOX LID.

SPECIFICATION forming part of Letters Patent No. 417,243, dated December 17, 1889.

Application filed October 24, 1889. Serial No. 327,981. (No model.)

To all whom it may concern:

Be it known that SAMUEL H. HARRINGTON, of Binghamton, county of Broome, State of New York, have invented a new and useful
5 Improved Device for Securing Lids on Car Journal-Boxes, of which the following is a true and exact description, reference being had to the accompanying drawings, which form a part of this specification.

10 My invention relates to car journal-boxes, and has for its object to improve, cheapen, and simplify the device by which lids of the kind hereinafter described are secured to the boxes.

15 The leading feature of my invention is a bolt of peculiar character, in connection with which I have devised certain new features in the parts immediately combined with it in use.

20 My invention will be best understood as described in connection with the drawings in which it is illustrated, and in which—

Figure 1 is a side view, partly in section, of a car journal-box, showing the back of the
25 pivoted lid and its mode of attachment to the box. Fig. 2 is a front view of the journal-box with its lid removed. Fig. 3 is a top view of the box with the lid in place. Fig. 4 is a view of the under side of the lug to
30 which the lid is pivoted, showing the pivot-bolt in place. Fig. 5 is a section through the lug in the line xx of Fig. 4. Fig. 6 is a side view of the box, showing the tool and method used in removing the lid. Fig. 7 is a view
35 showing how the pivot-bolt is inserted in the lid before being secured to the box; and Fig. 8 is a front view of the hooked pivot-bolt, which constitutes an important feature of my invention.

40 A is the axle-journal; B, the journal-box having the usual opening, with seat b' for the lid, and ribs b b , beneath which the lid rests when in place, and which serve to prevent it from turning by jar or ordinary accidents
45 of use. At one end of the seat b' a lug C is formed on box B, having a perforation c , to receive the bolt which holds the lid in place, a groove c' extending down along one side of the perforation c , to permit the passage of
50 the hooked end of the bolt, and a recess c^2 on the under side of the lug, arranged at an angle with groove c' , to receive the end of the

hook when inserted. Two such recesses c^2 are shown, one on each side of the groove c' , and preferably I make the bottom of the re- 55 cess or recesses c^2 on a level with or slightly higher than the bottom of groove c' , and connect the bottom of the groove with the top of the wall of the recesses by a gradually-inclined slope c^3 . b^2 b^2 are lugs formed on box 60 B, to enable the tool used to unfasten the lid to obtain its grip on them.

D is the lid, which is provided with an upwardly and backwardly bent spring d' at one end and a lid d at the other, the whole lid being 65 preferably formed of a sheet of steel. Perforations d^2 and d^3 are formed in the plate and the spring d' above it to receive the bolt on which the lid turns, and which secures it to the box. E is the bolt referred to. It has 70 a head e at one end, and a hook e' , of less breadth than the diameter of the bolt, at the other end, and should, for reasons I will explain, be recessed at e^2 above the hook.

F is a lever having a rounded knuckle f at 75 the end and a curved jaw F' hinged to one edge of said knuckle, as shown. This tool is used in removing the lid, as hereinafter described.

In putting the parts together, the bolt E 80 should first be inserted in the perforations d^2 d^3 of the lid and its spring, as is shown in Fig. 7, the spring being compressed so as to permit the hooked end of the bolt to pass through the perforations. It is in this opera- 85 tion that the utility of the recess is found, it permitting the bolt to be inserted at an angle, as shown, without an undue and dangerous compression of the spring, such as would be required were the bolt unprovided 90 with the recess e^2 . The bolt having been inserted in the lid, the lid is placed in position and the bolt thrust down through the perforation c of lug C, its hooked end being turned, so that it will pass down in the groove c' . 95 The bolt is then pressed down, its head e compressing the spring d' and turned so that its hooked end e' will ride upon the incline c^3 , and finally snap up into the recess c^2 , which holds it securely, owing to the compression of 100 spring d' tending to draw it upward. The compression of the spring also serves to keep the lid upon its seat, and to open the box it is necessary to pull it out above ribs b , thus fur-

ther compressing the spring d , and then turn it on the pivot-bolt E. When it is desired to remove the lid, the tool F F' is used, as shown in Fig. 6. The knuckle f is rested on the head e of the bolt and the point of the hinged hook or jaw F' engaged with one of the lugs b^3 on the box. The lever F is then turned, as shown in the dotted lines, thus pressing the bolt in and disengaging its hook from the recess c^2 , in which it rests. The bolt is then turned so that its hook will register with the groove c' , and the bolt can then be easily removed, together with the lid. The tool F F' can also be used in putting the bolt in; but it is not required if the parts are properly proportioned, so that the hook e' will ride up easily on incline c^3 .

The lid D is not my invention, and such lids have heretofore been used upon journal-boxes and held in place by bolts. The bolts heretofore used, however, were more expensive than mine, and trouble has ensued owing to their working loose and dropping off, together with the lid. By my construction no machine-work is required and a secure and good lid provided for. The construction of the lug C, by which it is adapted for use with my new bolt, is also novel, as are the lugs b^3 , used in removing the bolt.

Instead of having a spring d' , formed with or attached to the lid D, as shown, a spiral spring such as is shown by dotted lines at D', Fig. 3, may be used, for, as is obvious, this spring D' will be compressed by the bolt E and act to press the lid down, just as does spring d' in my preferred construction.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. As a device for securing journal-box lids to their boxes, the bolt E, having a head e at one end and a hooked projection e' at the other end of less thickness than the diameter of the bolt.

2. As a device for securing journal-box lids to their boxes, the bolt E, having a head e at one end, a hooked projection e' at the other end of less thickness than the diameter of the bolt, and a recess e^2 , formed in it above and in line with the hooked end.

3. The journal-box B, having a lug C at one end, formed with perforation c to receive bolt

E, slot c' , extending downward from the top, and a recess c^2 at its bottom, arranged at an angle with slot c' , in combination with a lid D, a spring d' , or its equivalent, and a bolt E, having a head e and hooked end e' , all substantially as and for the purpose specified.

4. The journal-box B, having a lug C at one end, formed with perforation c to receive a bolt E, slot c' , extending downward from the top, and a recess c^2 at its bottom, arranged at an angle with slot c' , in combination with a lid D, having a spring-extension d' , and perforations $d^2 d^3$, to receive bolt E, and a bolt E, having a head e and hooked end e' , all substantially as and for the purpose specified.

5. The journal-box B, having a lug C at one end, formed with perforation c , to receive a bolt E, slot c' , extending downward from the top, and a recess c^2 at its bottom, arranged at an angle with slot c' , in combination with a lid D, having a spring-extension d' , and perforations $d^2 d^3$, to receive bolt E, and a bolt E, having a head e , cavity e^2 , and hooked end e' , all substantially as and for the purpose specified.

6. The journal-box B, having a lug C at one end, formed with perforation c , to receive a bolt E, slot c' , extending downward from the top, a recess c^2 , arranged at its bottom at an angle with slot c' , and an incline c^3 , extending from bottom of slot c' to the edge of recess c^2 , in combination with a lid D, having a spring-extension d' , and perforations $d^2 d^3$, to receive bolt E, and a bolt E, having a head e and hooked end e' , all substantially as and for the purpose specified.

7. The journal-box B, having a lug C at one end, formed with perforation c , to receive a bolt E, slot c' , extending downward from the top, and a recess c^2 at its bottom, arranged at an angle with slot c' , and having also one or more lugs b^3 adjacent to lug C, in combination with a lid D, having a spring-extension d' , and perforations $d^2 d^3$, to receive bolt E, and a bolt E, having a head e and hooked end e' , all substantially as and for the purpose specified.

SAMUEL H. HARRINGTON.

Witnesses:

A. W. CUMMING,
T. F. KEOGH.