

J. A. P. VAUCLAIN.
Car Axle Box.

No. 201,469.

Patented March 19, 1878.

Fig. 1.

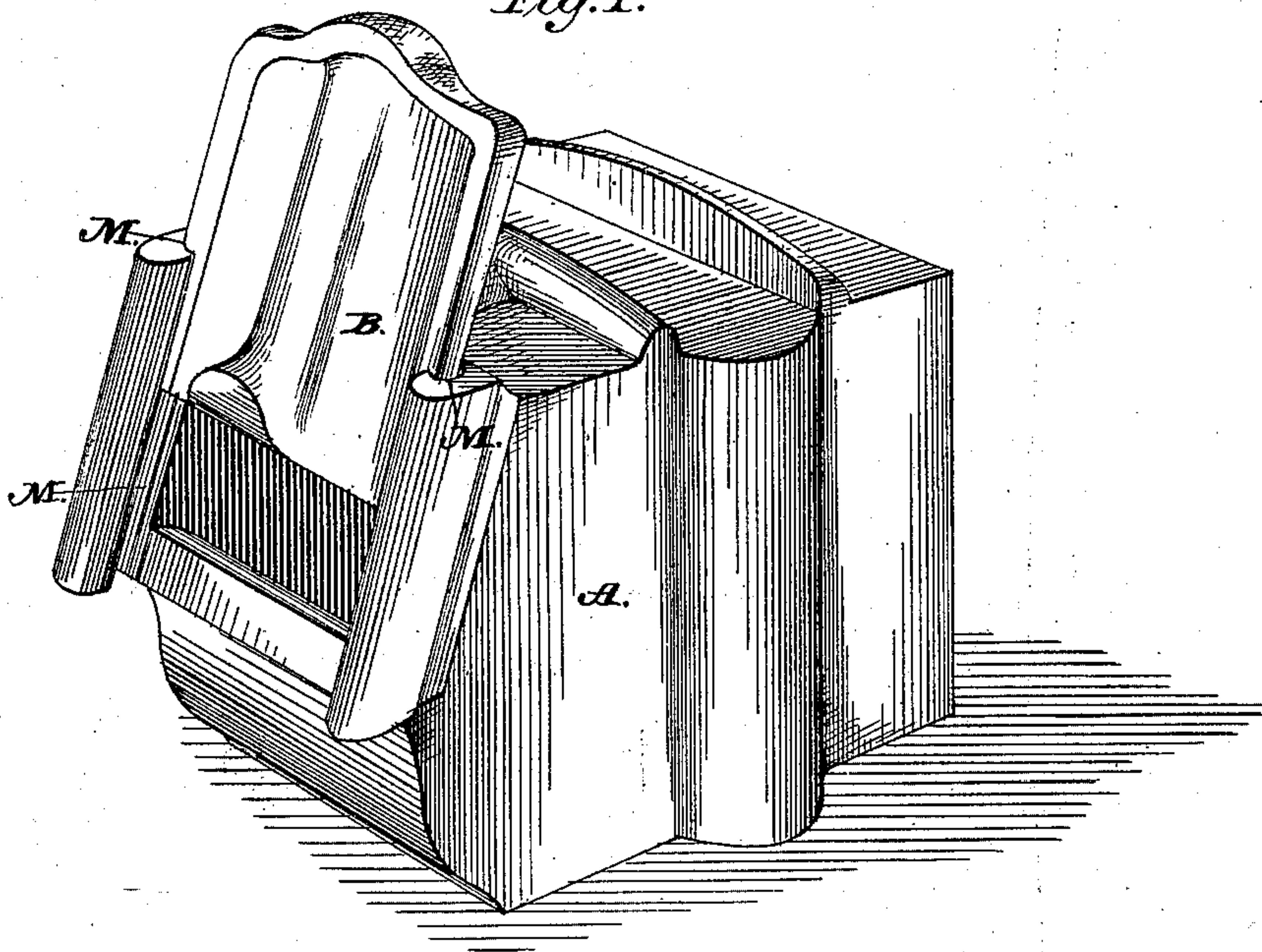
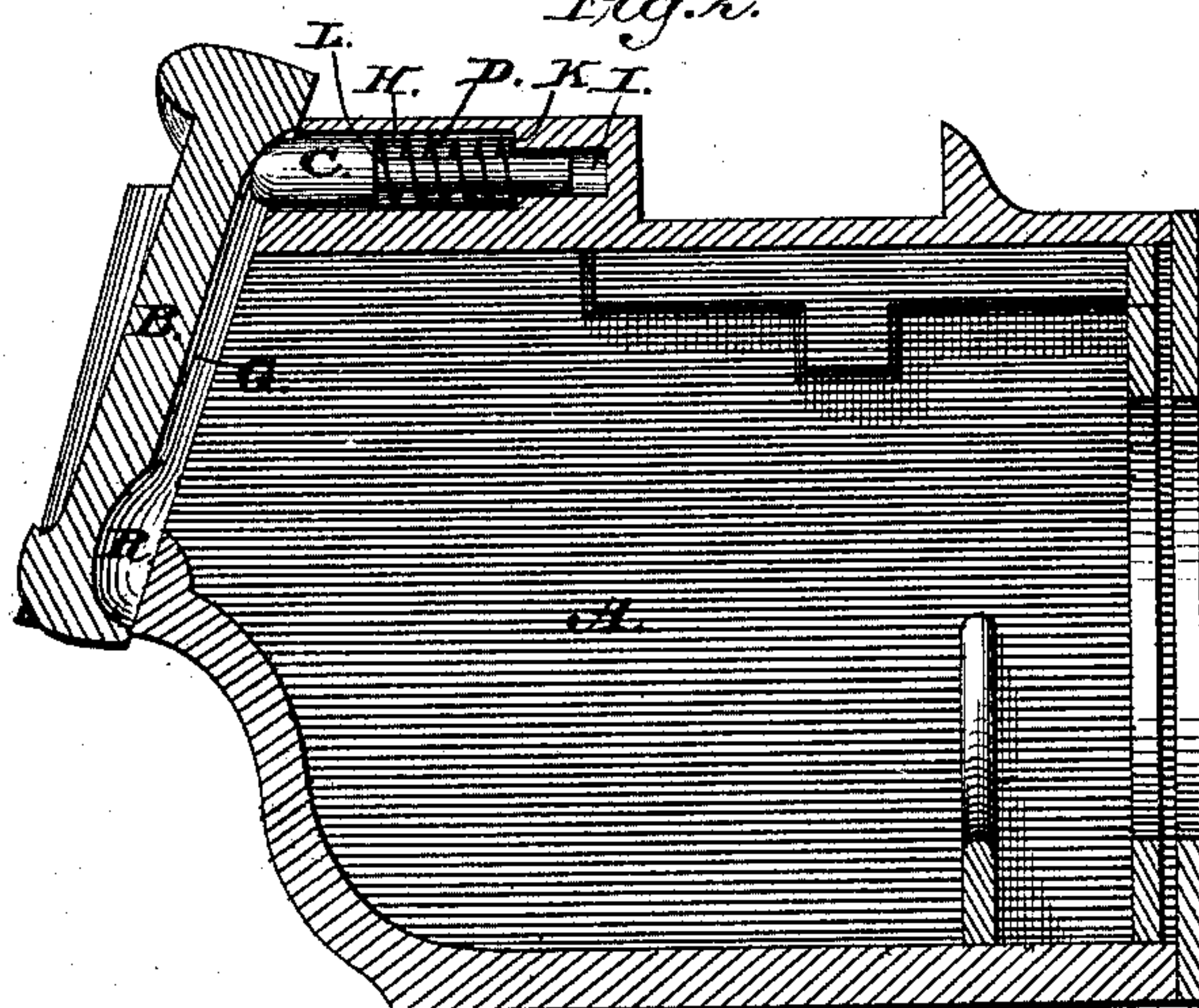


Fig. 2.



Attest:

*Harvey Bradford
Sand. Carstairs*

Inventor:

J. A. P. VaucLain.

UNITED STATES PATENT OFFICE.

JOHN A. P. VAUCLAIN, OF LA FAYETTE, INDIANA, ASSIGNOR OF ONE-HALF HIS RIGHT TO HARRY HARRISON, OF NASHVILLE, TENNESSEE.

IMPROVEMENT IN CAR-AXLE BOXES.

Specification forming part of Letters Patent No. **201,469**, dated March 19, 1878; application filed September 10, 1877.

To all whom it may concern:

Be it known that I, JOHN A. P. VAUCLAIN, of La Fayette, county of Tippecanoe, and State of Indiana, have invented a new and useful Improvement in Railway - Car Axle - Boxes, which improvement is fully set forth in the following specification and accompanying drawing, in which—

Figure 1 is a perspective view of my axle-box with the door raised. Fig. 2 is a sectional view, showing the inside of the box, the catch-pin C, catch-chamber H I, the spiral spring D, the groove G, and recess R.

The object of my invention is the construction of railway-car axle-boxes in such a manner that their caps or covers cannot be removed from them while being opened for filling, and so that they cannot be lost by the moving of the cars or the jarring of the trucks; and a further object being that, in the construction and use of said boxes, nuts, bolts, and screws are entirely dispensed with.

My invention consists in providing the face of the box with grooves or flanges on each side of the opening, wedging or tapering toward the lower end, a cap or cover inserted in the grooves wedging to correspond with the grooves, the cap or cover having in its rear face a groove, with a recess in the lower end of the groove; also, in providing a catch-pin, spiral spring, and catch-chamber at the top of the box, all constructed in such a manner that the cap cannot be removed or lost by use or wear, and dispensing entirely with bolts, nuts, and screws.

In the drawing, A represents a cast-iron axle-box, cast with flanges or grooves at either side of the opening, the grooves tapering or wedging from top to bottom. B is the cover or cap, with its side edges wedge-shaped, to correspond with the grooves M. The door is cast with a groove, G, in its rear face, with a recess, R, at the lower end of the groove.

C is the catch-pin, of cast-iron, being at one end a cylinder, with a rounded and beveled head, and at the other end a smaller cylinder, (both cast in one piece,) the larger one so as to leave a shoulder, against which the spring D presses, and forces the rounded head into the groove G in the cap B, the head of the

catch-pin so shaped that it keeps the groove G and the recess R clear and free from being clogged by oil and waste. D is a spiral spring, made of any suitable metal. H is a cylindrical chamber in the axle-box casting, into which the larger end of the catch-pin fits loosely. At the bottom of this chamber is a smaller cylindrical chamber, I, into which the smaller end of the catch-pin fits loosely. The combination of chambers H I is called the "catch-chamber." The spring D acts between the shoulder or offset K in the catch-chamber and the shoulder L on the catch-pin.

When the door is raised, as in Fig. 1, the spring presses the catch-pin into the recess R at the end of the groove G in the door B, and thus prevents the cap or door from falling or shaking out. The groove G and recess R are connected by curved surfaces, so that when sufficient downward force is applied to the cap the catch-pin is forced back, and allows the cap or door to descend. When the cap ascends or descends, the head of the catch-pin is so shaped, and the action is such, that the groove G and recess R are kept clear and free from being clogged by oil and waste. If the cap is left raised, wholly or partially, it is so constructed that the motion or movement of the car will cause the cap or door to descend, so as to close it completely.

My improvement is such, and the box is so constructed, that, should it ever become necessary to remove the cap or cover entirely, the same can be done by simply pressing the catch-pin back into the catch-chamber sufficiently to allow the cap to be pulled out.

I am aware of the patents granted to J. B. Sutherland of May 16, 1871, and the one to Ellis & Nelson of February 20, 1877; but they are open to objection. In both, bolts, nuts, and screws are used and required, which often work loose, causing the loss of the cap or cover, and entailing a continual expense in replacing them. In the patent of Ellis & Nelson the bolt C is liable to become clogged by the waste or packing in the box, and if it is desired to remove the cap, time is consumed in unscrewing the bolt.

In my improvement all of these objections are met and removed by the absence of bolts,

nuts, and screws, and by placing the catch pin and chamber above and beyond all contact with the contents of the box.

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

1. A car-axle box provided with the catch-pin C, spiral spring D, catch-chamber H I, and recess R in cap B, substantially as shown and described.

2. The box A, catch-pin C, spiral spring D, and catch-chamber H I, in combination with cap B, provided with recess R and groove G, all constructed, arranged, and operating substantially as described and shown.

J. A. P. VAUCLAIN.

Witnesses:

HARVEY BRADFORD,
DAVID CARSTAIRS.