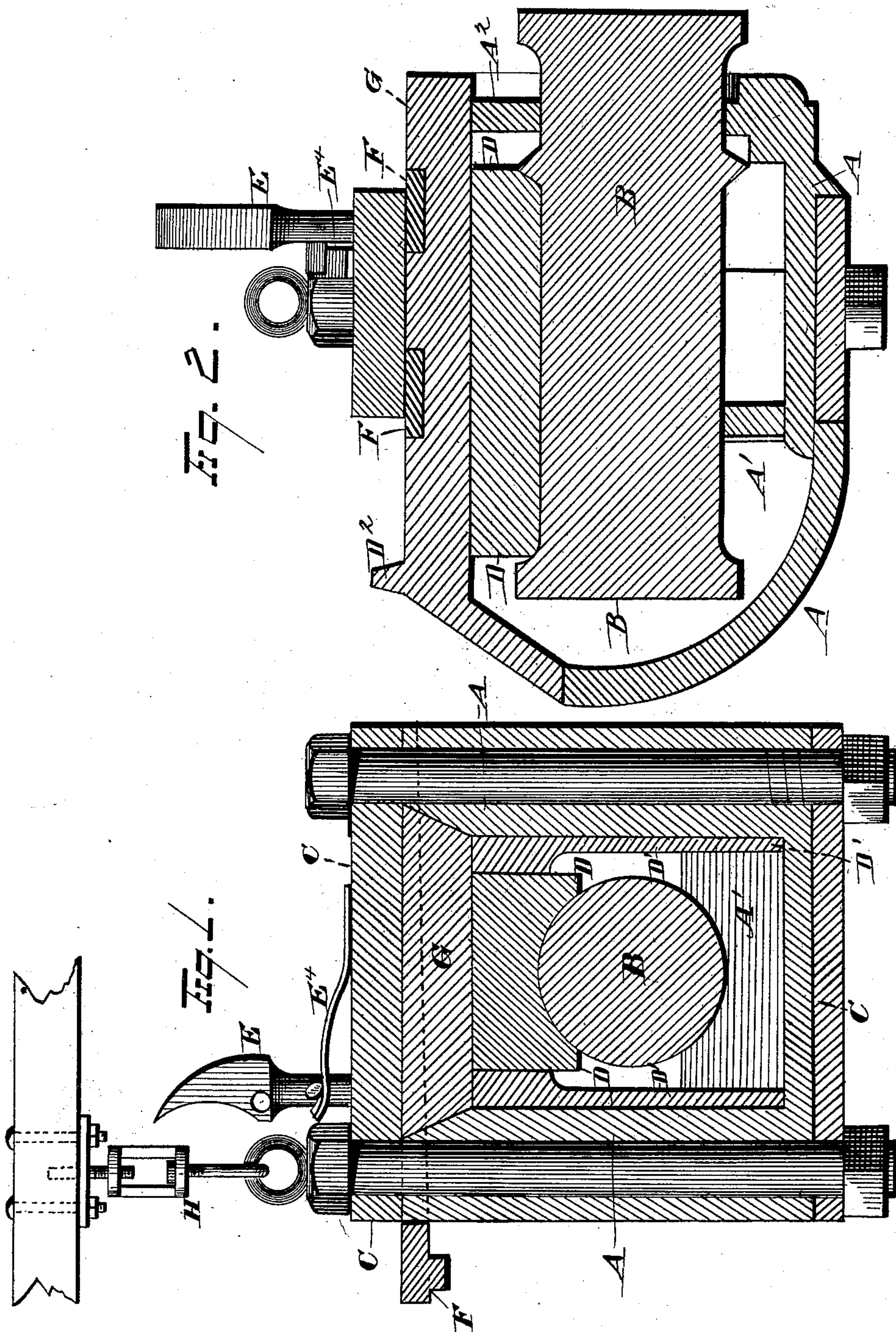


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## Car-Axle Box.

**No. 220,990.**

**Patented Oct. 28, 1879.**



WITNESSES

E. D. Nottingham  
A. M. Bright.

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INVENTORS

**E. Robinson** INVENTORS

*J. W. Ruck*  
ATTORNEY

ATTORNEYS

By Leggett & Leggett.

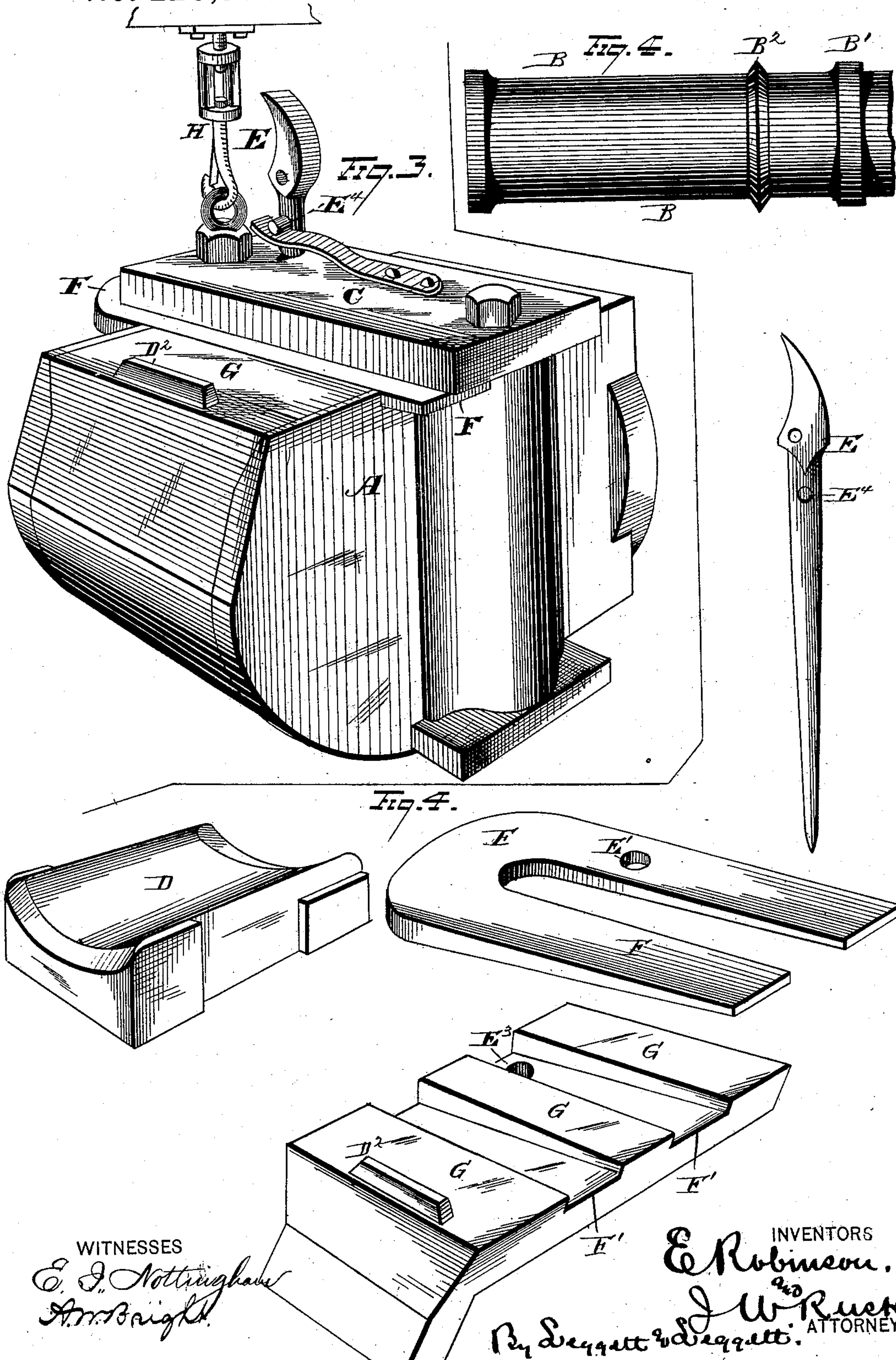


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# UNITED STATES PATENT OFFICE.

EDGAR ROBINSON AND JOHN W. RUSK, OF DENNISON, OHIO.

## IMPROVEMENT IN CAR-AXLE BOXES.

Specification forming part of Letters Patent No. **220,990**, dated October 28, 1879; application filed December 12, 1878.

*To all whom it may concern:*

Be it known that we, EDGAR ROBINSON and JOHN W. RUSK, of Dennison, in the county of Tuscarawas and State of Ohio, have invented certain new and useful Improvements in Car-Axle Boxes; and we 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

Our invention relates to car-axle boxes; and it consists in certain details of construction and combinations of parts, as will hereinafter be described, and pointed out in the claims.

In the drawings, Figure 1 represents our device in longitudinal vertical section; Fig. 2, a transverse vertical section of the same; Fig. 3, an isometric view of the device complete; Fig. 4, a detached view of the parts of our device.

A is the case or body proper of our journal-box; B, the car-wheel axle. C is the ordinary frame in which is contained or suspended the case or body A.

It will be observed at the outstart that the body A is so formed that, while it affords all sufficient accommodation for the axle B, it also provides beneath and partially around said axle a close, tight chamber, A', adapted, if necessary, to hold oil in such a manner that the lower portion of the axle B shall run in oil. This chamber is intended to be filled with cotton-waste in the usual manner, if desired; but to insure the best results it is recommended that sufficient oil be introduced to insure a partial immersion therein of the axle B, thus preventing, to a great extent, the liability to heating and wear.

It is of course known that the weight of the car, in devices of this nature, is received upon the upper surface of the axle B and the corresponding surface of its box or journal. If, therefore, the box or journal can be lifted, it will be freed from its axle B. Instead of jacking up to accomplish this result, it is only necessary in our device to employ a stay-chain in connection with a swivel forming a part of said chain. By screwing up this swivel H, and thereby shortening the chain, the box A

is suspended so as to relieve the bearing-pressure between not only the box and the brass or journal, but likewise between the brass bearing D and its axle B.

When in this suspended condition the entire box and its parts may be readily dissected, and this is accomplished as follows: First, by withdrawing the locking-pin E, which will permit of a withdrawal of the locking-wedge F. After this is done, it will be seen that the remaining parts of the device are very loosely connected. The top or roof plate G can now be drawn out longitudinally from the front, thus exposing the entire box, and permitting of the ready removal of the brass bearing D by lifting it up from its axle and removing it longitudinally, as in the case of the roof-plate G.

Heretofore it has been customary to secure the bearing D in position by grooves or ribs formed transversely across its top and engaging with corresponding grooves or ribs in the roof-plate above it. In our construction, however, we accomplish an improved result by making the top of the bearing D smooth and flat, and by forming in its sides ribs or grooves D', adapted to engage with corresponding ribs or grooves D<sup>2</sup> in the sides of the box A. These lateral ribs or grooves not only strengthen the box A, but afford a firm support to the bearing D, preventing any displacement of it, at the same time permitting of its ready removal, as above specified.

Upon the removal of the bearing D it will be seen that the axle and its surrounding chamber A are completely exposed, permitting of a ready inspection and facility of approach and handling never before attained in any device of which we are aware.

By our construction it will be readily seen how easy, in case of any accident or faulty action of any parts of our device, it would be to make an inspection for such correction or repair as might be necessary.

It will be noticed that upon the axle B are formed flanges B' B<sup>2</sup>, which are provided for the purpose of a better security against the escape of the lubricant from the chamber A'. In order to prevent the introduction of dust and dirt into the inner end of the box, the sliding plate A<sup>2</sup> moves in grooves suitably formed in the case A. This plate fits down



accurately over the axle, and forms such a joint with adjacent parts as to secure the space or chamber of the box against the introduction of dirt. It likewise, to a degree, acts to prevent the escape of the lubricant from the box.

The locking-wedge F is composed, essentially, of two parallel bars united at one end, said bars sliding in corresponding grooves F', made upon the upper surface of the roof-plate G. When in position, the hole E', made through the locking-wedge F, and the hole E<sup>3</sup>, made through the roof-plate G, and the hole made through the frame C all register in such a manner as to permit the introduction of the locking-pin E. This locking-pin is preferably formed to serve the function not only of a locking-pin, but also of a lever and general tool to use in opening and examining the box. By any suitable locking mechanism, E<sup>4</sup>, it is retained in position when driven through the holes E', E<sup>3</sup>, and hole through the frame C.

What we claim as our invention is—

1. A car-axle box having a removable top or roof plate, G, substantially as and for the purposes described.

2. A car-axle box having its top or roof plate secured in position by a removable wedge or locking-piece, substantially as and for the purposes described.

3. A car-axle box provided with a swivel attached to the upper portion thereof, whereby the box may be suspended from the frame by a chain in such a manner as to permit of its dissection, substantially as set forth.

4. In combination with a car-axle box, a stay-chain and swivel or its equivalent, whereby said box may be suspended from said chain in such a manner as to permit of its dissection, substantially as and for the purposes described.

5. The combination of the locking-wedge F, roof-plate G, and case A, substantially as and for the purposes described.

6. The combination of the locking-wedge F, roof-plate G, and journal-bearing D, substantially as and for the purposes described.

7. The combination of the frame C, locking-wedge F, roof-plate G, and locking-pin E, substantially as and for the purposes described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

EDGAR ROBINSON.  
JOHN W. RUSK.

Witnesses:

THOMAS HORHLER,  
E. C. LINGAN.