

(No Model.)

2 Sheets—Sheet 1.

P. SWEENEY.

CAR AXLE BOX.

No. 291,006.

Patented Dec. 25, 1883.

Fig. 2.

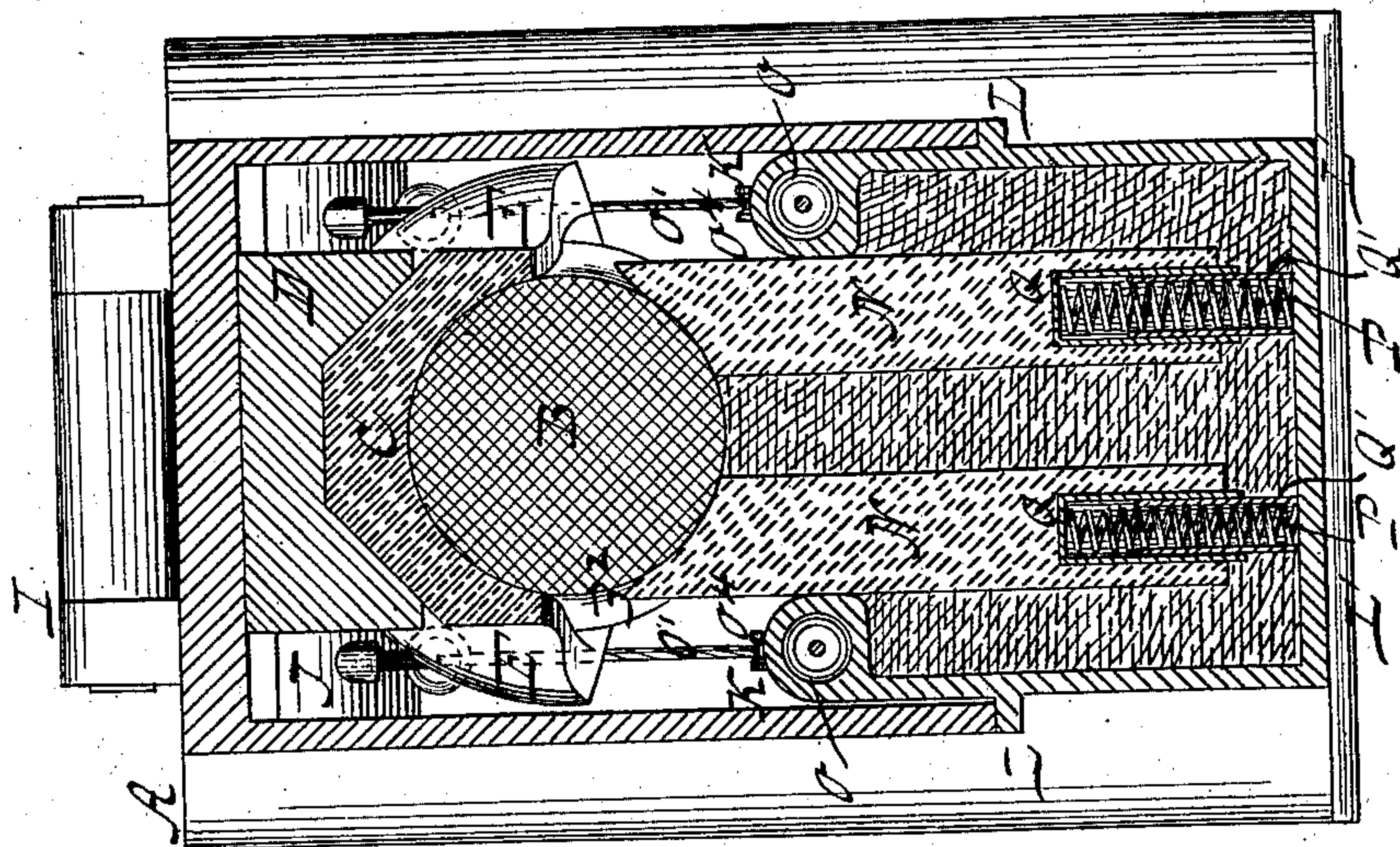
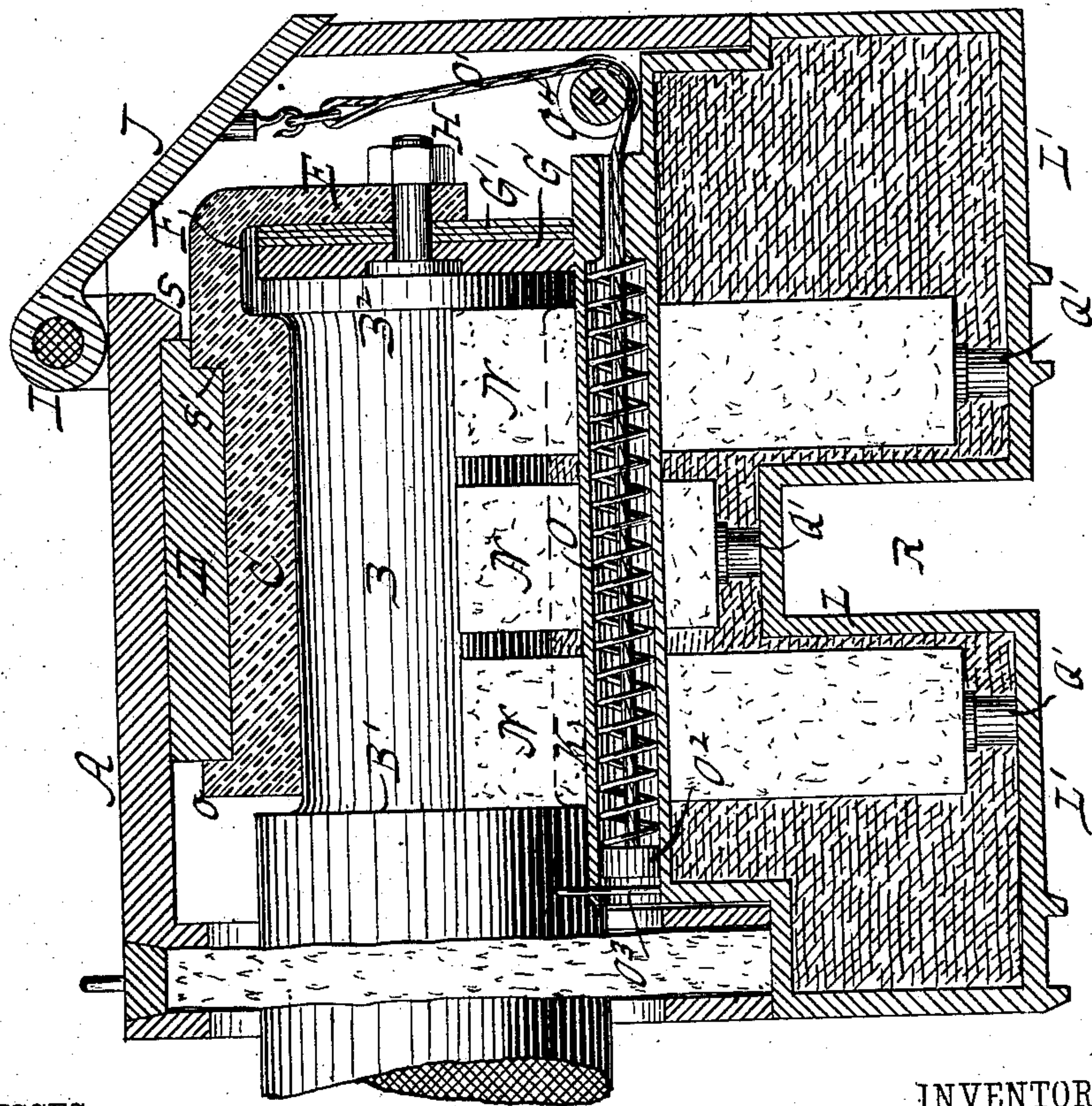


Fig. 1.



WITNESSES:

William Miller
Otto Hufeland

INVENTOR

Peter Sweeney

BY Van Santwood & Hauff

ATTORNEYS

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Fig. 3.

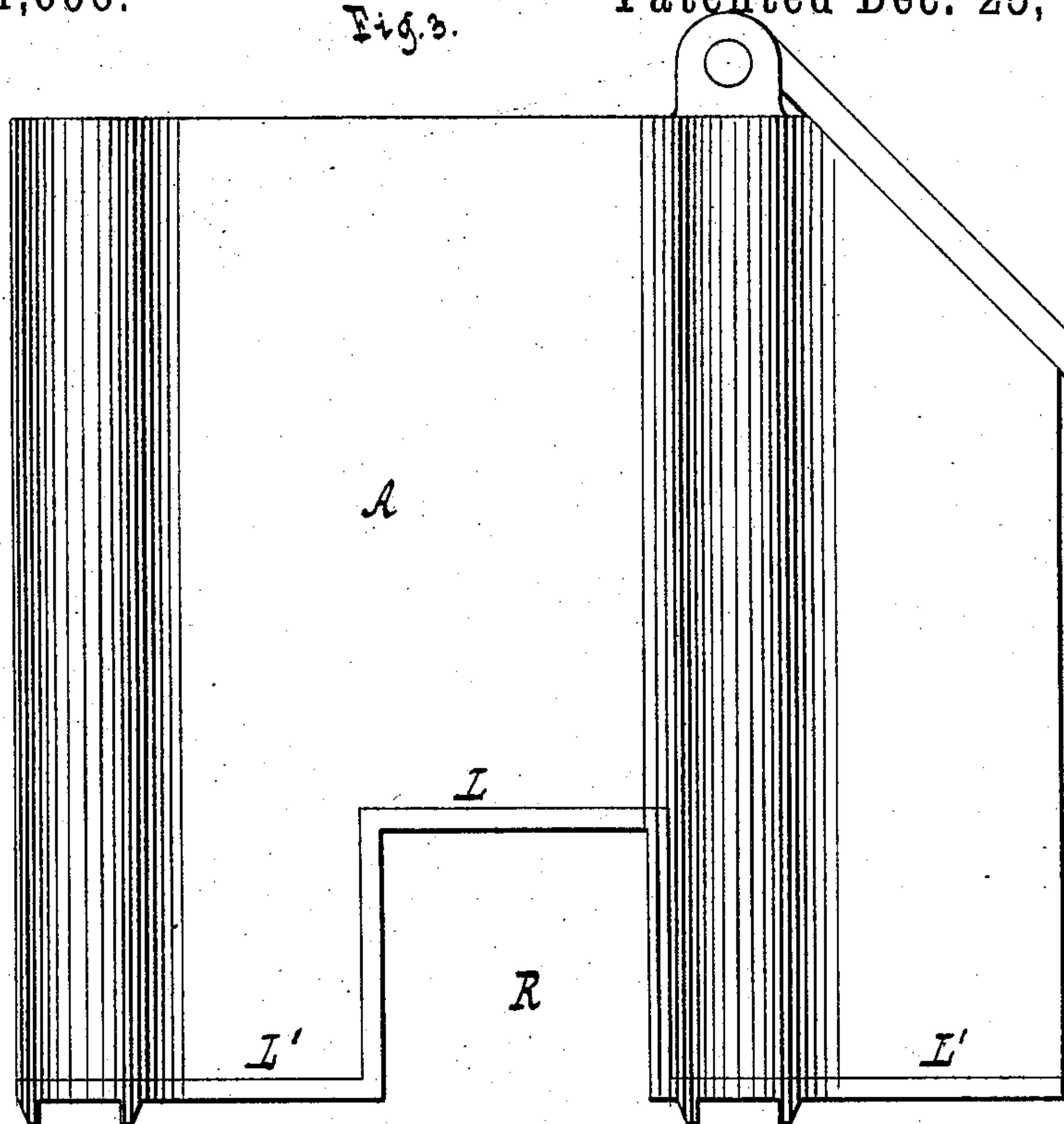
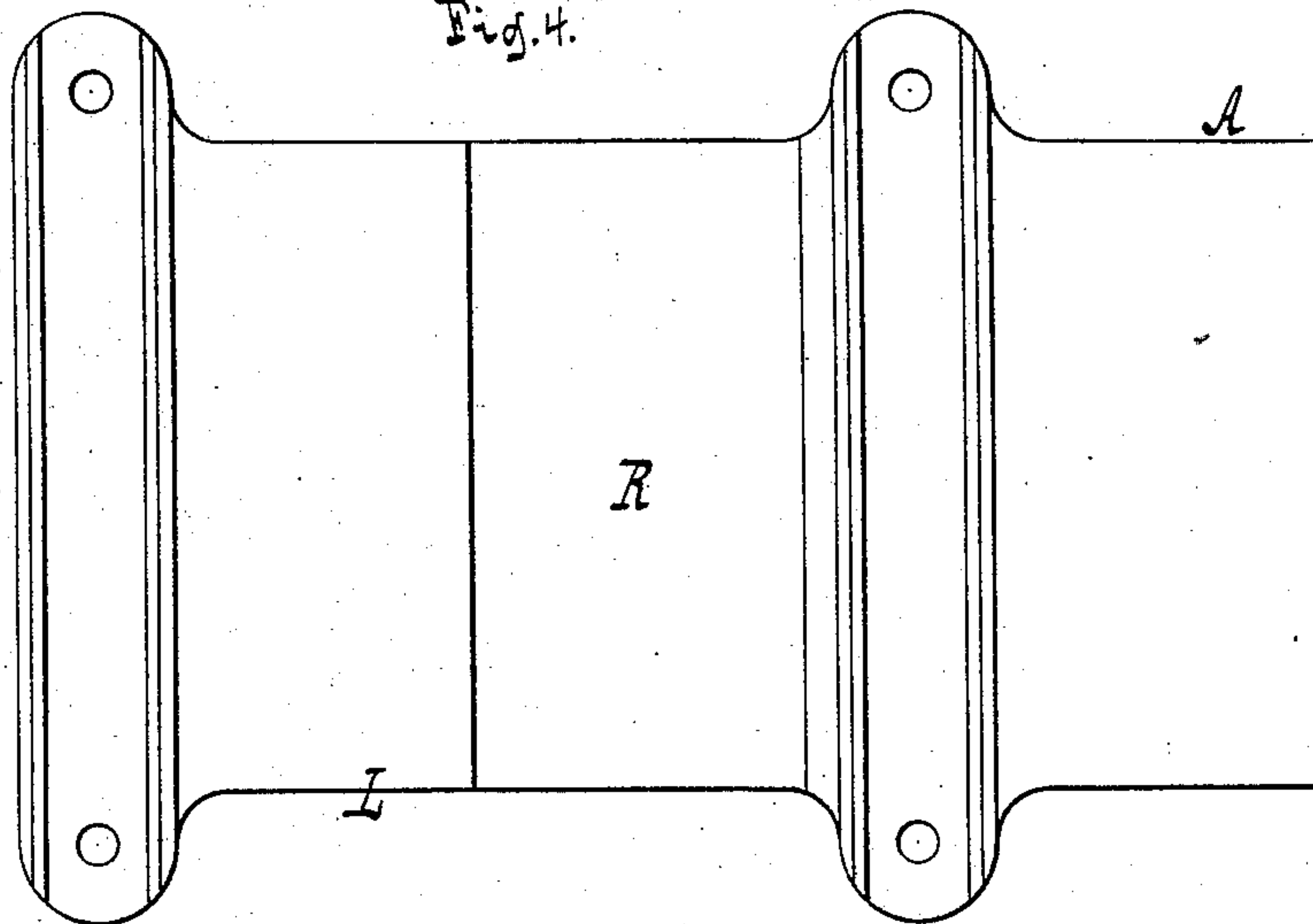


Fig. 4.



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UNITED STATES PATENT OFFICE.

PETER SWEENEY, OF NEW YORK, N. Y., ASSIGNOR TO JAMES AUGUSTUS HAMILTON, OF SAME PLACE, INDIVIDUALLY AND AS TRUSTEE.

CAR-AXLE BOX.

SPECIFICATION forming part of Letters Patent No. 291,006, dated December 25, 1883.

Application filed July 5, 1883. (No model.)

To all whom it may concern:

Be it known that I, PETER SWEENEY, a citizen of the United States, residing at New York, in the county and State of New York, have invented new and useful Improvements in Car-Axle Boxes, of which the following is a specification.

This invention relates to the construction and arrangement of the journal-bearings, the lid-closing devices, and the lubricating devices of car-axle boxes, and also to the form of the bottom of such boxes, the whole being hereinafter fully described, and illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal section. Fig. 2 is a cross-section. Fig. 3 is a side elevation. Fig. 4 is an inverted plan view.

The letter A designates the body of an axle-box having the usual opening in the rear end for the entrance of the journal B of a car-axle, and having arranged therein upon the journal a brass, C, to form the journal-bearing, this brass being surmounted by a gib or key, D.

On the outer end of the brass C is cast or otherwise formed a pendent projection, E, which, in practice, abuts against the outer or free end of the journal, and, being rigid, thus prevents the brass from moving in an inward direction on the journal in the motions of the axle-box endwise to the axle, whereby the inner end of the brass, together with the shoulder B' at the inner end of the journal, is relieved from the wear occasioned by the contact of the brass with such shoulder in the boxes now generally used.

To prevent the brass C from moving in an outward direction on the journal independently of the axle-box, it is provided at the inner end with a stop-flange or shoulder, o, projecting upwardly in rear of the gib D, while the axle-box is provided on the top with a similar flange, s, projecting downwardly in front of the gib, so that the gib is intermediate of the flanges named, and by the tendency of the flange s to oppose an outward motion of the gib the latter in turn opposes the outward motion of the brass through its flange o. By this method of holding the brass in position it is left detached from the gib D and the gib from the box, so that the parts can be readily taken out of the box and separated from

each other. In the example shown additional shoulders are formed on the brass and gib near the forward end, as at s', to relieve the shoulders of the box from undue strain. When the brass C, with its pendent projection E, is applied to a box in which the journal is provided with an annular end flange, as at B², said brass is provided with a recess, F, adapted to receive the flange, as clearly shown. At the inner side of the projection E is arranged a rigid washer, G, as of metal, to bear against the journal, while between such rigid washer and the projection is interposed an elastic washer, G', as of leather, so that the acting-surface of the abutment yields slightly to the endwise pressure of the journal. Both washers G and G' are held in place by a central bolt, H, the head of which is sunken into the face of the rigid washer.

To the front of the axle-box is connected, by a hinge-joint, I, the usual lid or cap, J, which is held in a closed position by the action of springs O. These springs O are inclosed in tubes K, and are connected to the lid J by cords or chains O', one end of the cords being provided with end piece, O², to bear against the springs, respectively, and the other end thereof being secured to the lid, by preference, detachably. A stop, O³, serves to regulate the movements of the cord ends O² under the impulse of the springs. The spring-tubes K lie in horizontal planes, and are supported by the bottom L of the box, which bottom is detachable, so that the springs and their concomitants can be readily got at for repairing or other purposes, and to adapt the cords or chains O' to such position of the spring-tubes they are passed over guide-pulleys O⁴. By the use of the springs O for closing the box-lid the latter is kept closed sufficiently tight to prevent the entrance of dust or other impurities into the box through the lid-opening, while by arranging the springs in the tubes K they are protected against being clogged by the cotton waste when such is used in the box, and are steadied or guided. The lubricating material supplied to the box is conveyed to the journal by pads N, of felt or other absorbent material, which are supported by spiral springs P, inclosed in the telescopic tubes Q Q, one fixed to the bottom L of the box and the other

to the pads, respectively. These tubes Q Q' thus allow the free expansion or contraction of the springs P, while protecting the same against clogging. The bottom L of the box is
 5 sunken at the front and rear ends, as at L', leaving an intermediate recess, R, which extends transversely to the box, and serves to receive the strap whereby the box is supported on a car-truck, so that by these sunken portions of the box it may be sustained in a lateral direction while its oil-holding capacity is at the same time considerably increased. Opposite to the sunken portions L' of the box the pads N are increased in height, so as to
 10 dip into the lubricating material at those points.

I am aware that in a car-axle box a gib or key surmounting a bearing-plate has been provided with a pendent projection, against
 20 which the end of the journal abuts, the gib and plate being united by an interposed lead filling; also, that an upper and a lower brass bearing have been provided at one end with pendent projections to serve as an abutment
 25 for the end of a journal, the rear end of the lower brass having a lip projecting up behind the rear end of the upper brass, which latter is provided with side grooves, into which set projections on the inner side walls of the box; also, that the wall of an axle-box has been re-
 30 cessed, and a packing placed therein and surmounting a bearing of anti-friction metal, which has a recess on its under side to receive a circular collar on the end of the journal; also, that spiral springs have been arranged in stationary tubes in the oil-chamber to elevate wicks against the journal, the wicks passing vertically through the tubes and springs, and also that the bottom wall of an axle-box has
 35 been provided with lugs to form a recess for receiving the strap which supports the box on the car-truck. I do not, therefore, wish to be understood as claiming, broadly, such features, inasmuch as my invention is confined to the
 40 novel construction and combination of devices hereinbefore described, and specifically set forth in the appended claims.

Having thus described my invention, what I claim is—

50 1. The combination, with a car-axle box having on its top the downwardly-projecting stop-flange s of the brass having on its outer end the rigid pendent projection E and on its inner end the upwardly-projecting stop-flange
 55 o, and the gib surmounting the brass interme-

diate of stop-flanges named, substantially as described.

2. The combination, with the car-axle box having on its top the downwardly-projecting stop-flange s, of the brass having on its outer
 60 end the rigid pendent projection E, and the recess F, next within such projection, and on its inner end the upwardly-projecting stop-flange o, and the gib surmounting the brass intermediate of the stop-flanges named, sub-
 65 stantially as described.

3. The combination, with a car-axle box, of the brass having on its outer end the rigid pendent projection E, the rigid washer arranged at the inner side of such projection,
 70 and the elastic washer interposed between the rigid washer and projection, substantially as described.

4. The combination, with a car-axle box and its lid, of closing-springs connected to the lid,
 75 and tubes arranged in the box to inclose such springs.

5. The combination, with a car-axle box and its lid, of closing-springs connected to the lid, tubes containing such springs, and a detach-
 80 able bottom to the box carrying the tubes.

6. The combination, with a car-axle box and its lid, of lid-closing springs, horizontal tubes, containing such springs, cords, or chains, connecting the springs to the lid, guide-pulleys
 85 for the cords or chains, and a detachable bottom to the box carrying the tubes.

7. The combination, with a car-axle box and journal, of lubricating-pads arranged in contact with the journal, spiral springs support-
 90 ing such pads, and telescopic tubes inclosing the springs, one of the tubes being fixed to the bottom of the box and the other secured to and moving with the pads, respectively.

8. A car-axle box having its bottom wall
 95 sunken at the front and rear portions to form two pendent oil-chambers, L', and an intermediate transverse recess, R, for receiving the strap which connects the box with the car-truck, and at the same time enlarging the ca-
 100 pacity of the oil-chamber, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

PETER SWEENEY.

Witnesses:

W. HAUFF,
 CHAS. WAHLERS.