

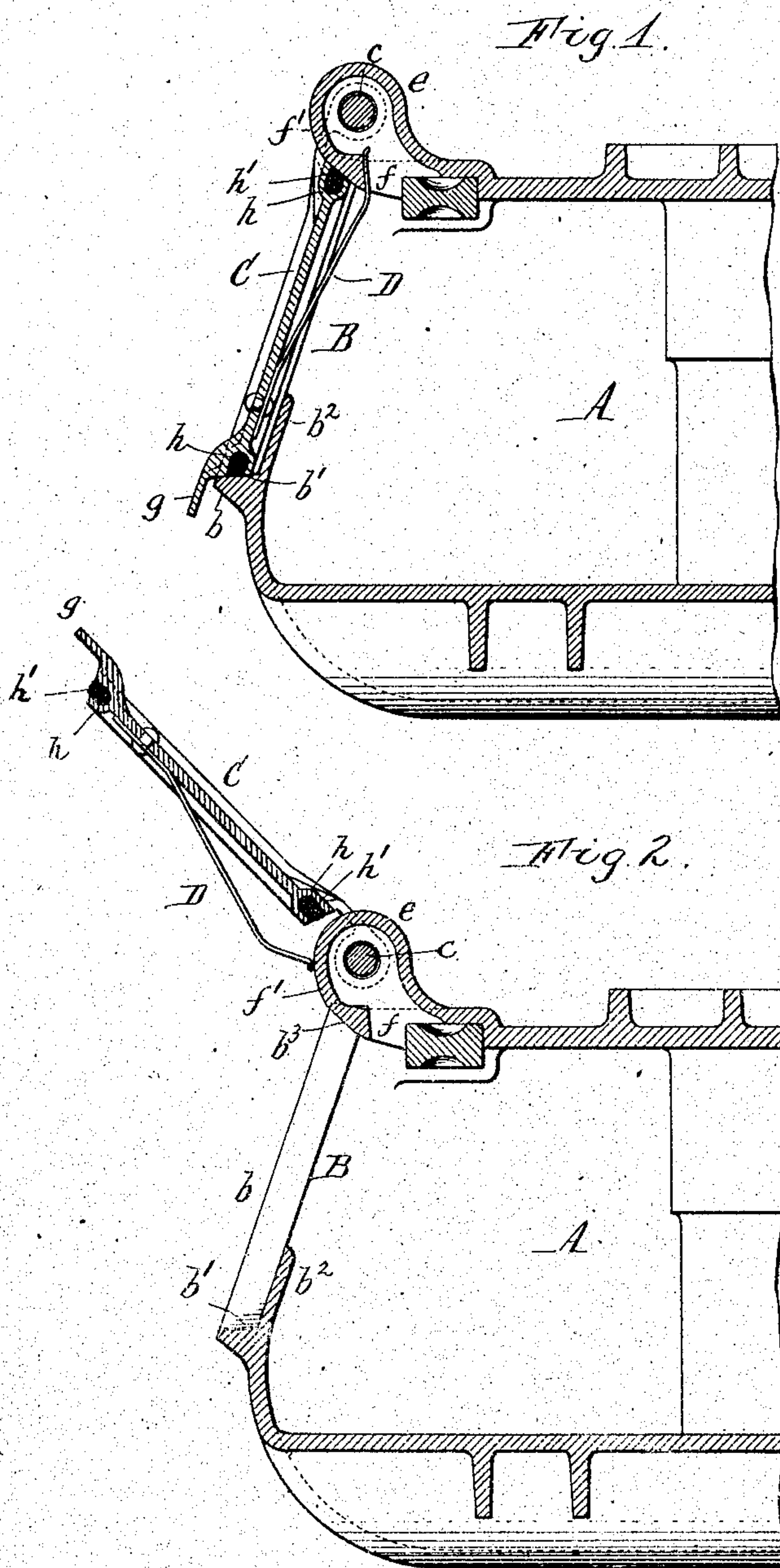
No. 786,994.

PATENTED APR. 11, 1905.

W. F. RICHARDS.
CAR AXLE BOX.

APPLICATION FILED AUG. 24, 1901.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 3.

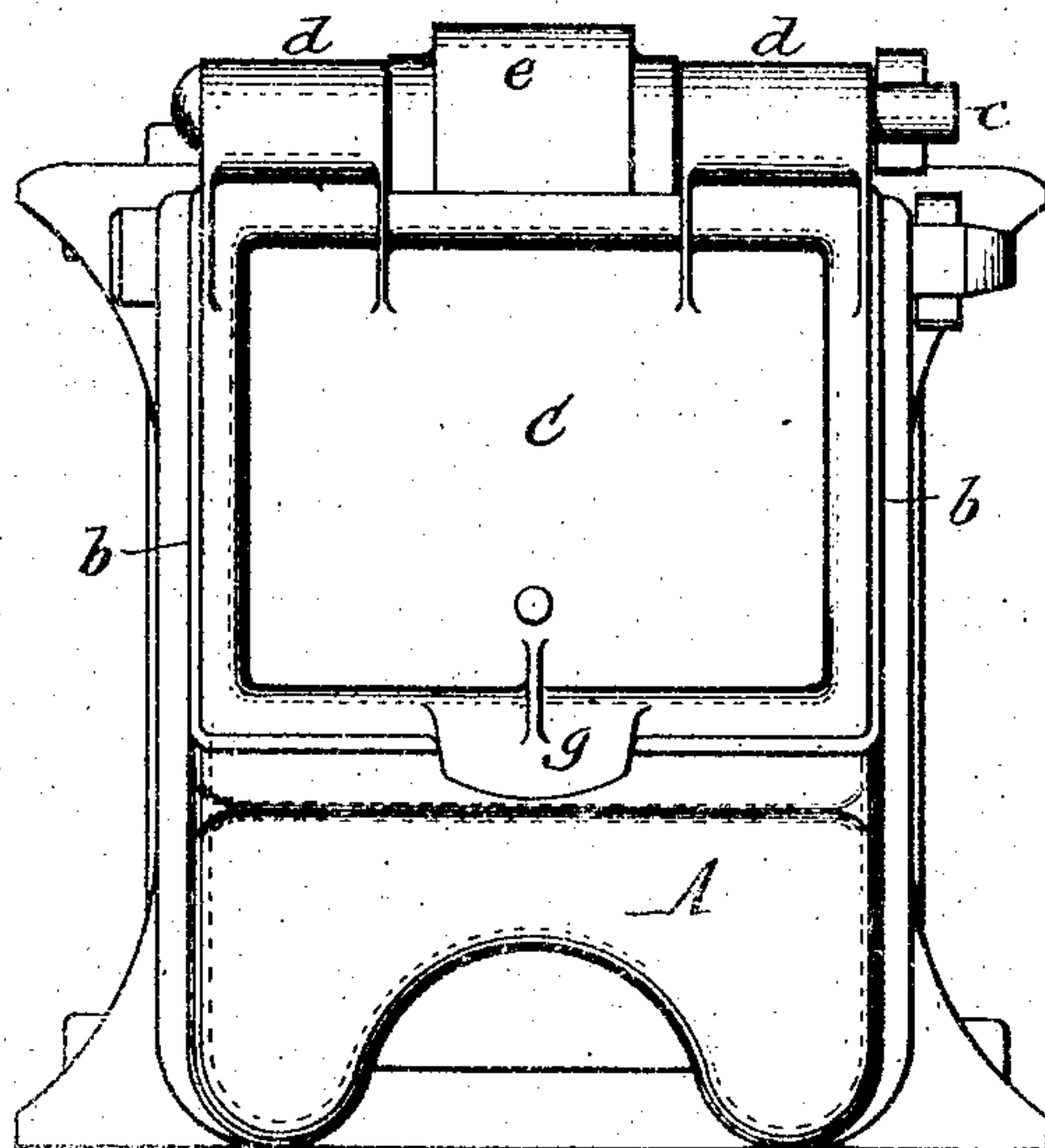


Fig. 4.

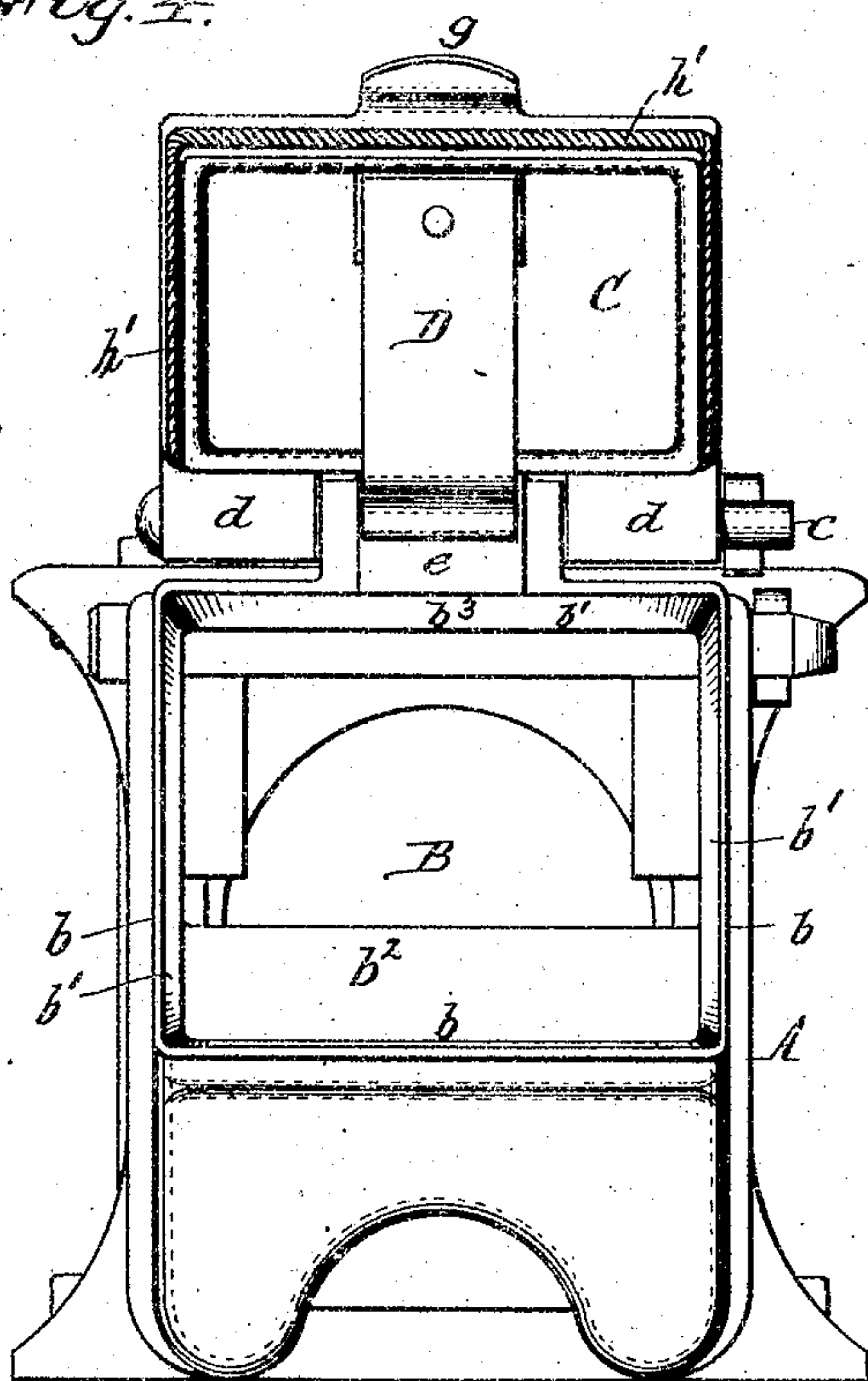
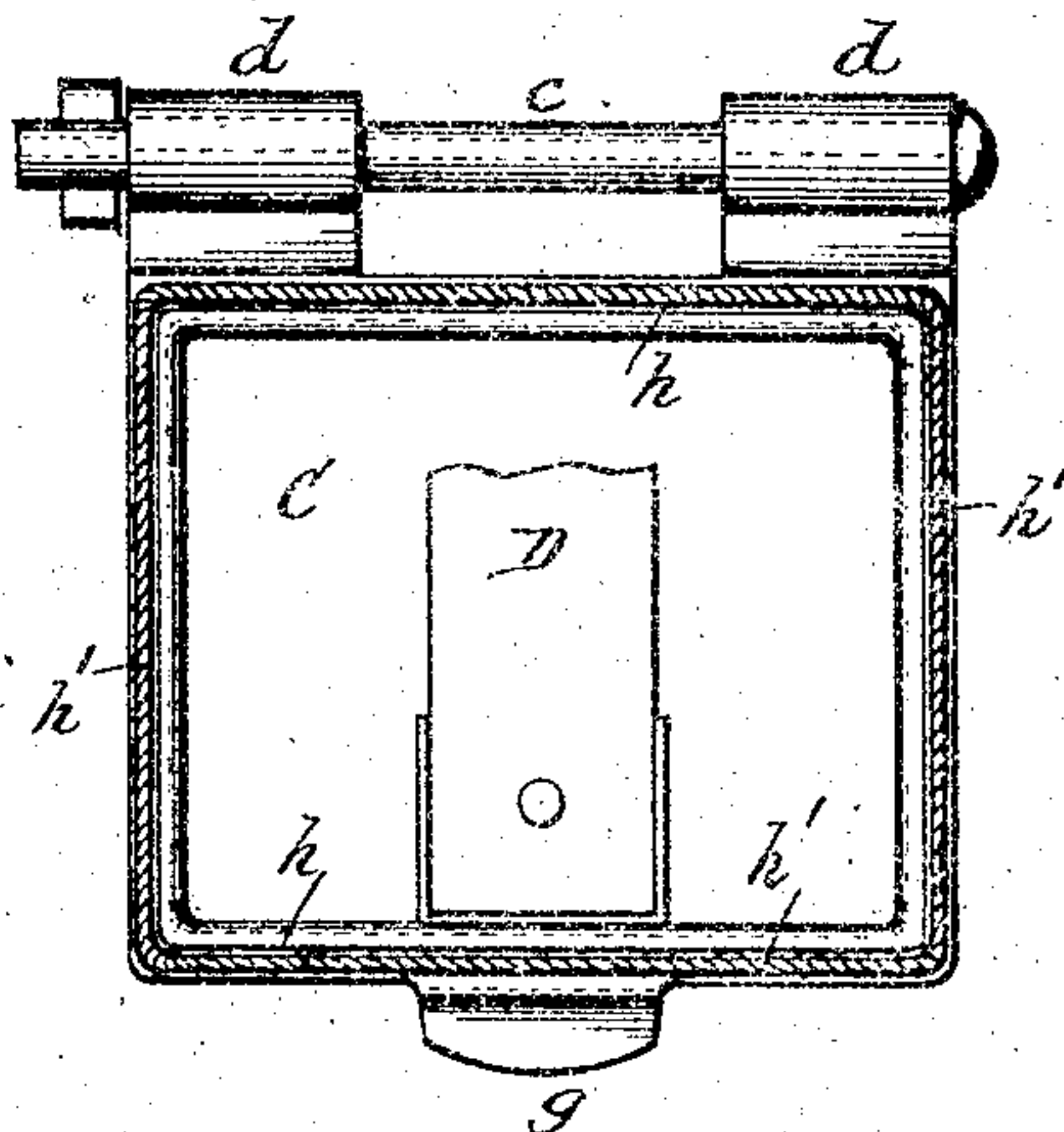


Fig. 5.



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UNITED STATES PATENT OFFICE.

WILLARD F. RICHARDS, OF BUFFALO, NEW YORK, ASSIGNOR TO GOULD COUPLER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF WEST VIRGINIA.

CAR-AXLE BOX.

SPECIFICATION forming part of Letters Patent No. 786,994, dated April 11, 1905.

Application filed August 24, 1901. Serial No. 73,170.

To all whom it may concern:

Be it known that I, WILLARD F. RICHARDS, a citizen of the United States, residing at Buffalo, in the county of Erie 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 car-axle boxes, and has for its object to so construct the box and lid that an absolutely dust-proof joint is obtained between the parts without appreciably increasing the cost and labor of its production and without requiring the parts of the box to be machine finished.

In the accompanying drawings, Figure 1 is a longitudinal sectional view through a box and lid, disclosing the invention and showing the lid closed. Fig. 2 is a similar view showing the lid open. Fig. 3 is an end elevation showing the lid closed. Fig. 4 is an end elevation showing the lid open. Fig. 5 is an inside elevation of the lid detached.

Like letters of reference refer to like parts in the several figures.

Referring to the drawings, A indicates a car-axle box provided with the usual end filling-opening B, and C the lid hinged to the box by a pintle-pin *c*, which passes through the usual eyes *d* on the end of the lid and the perforated upright hinge-lug *e*, arranged centrally at the top of the box.

D indicates the lid-spring arranged on the inner side of the lid and secured at its lower end to the same. In the construction shown in the drawings the pintle-lug *e* is provided in its under side with an opening *f*, in which the free upper end of the lid-spring engages when the lid is closed, and the front side of the hinge-lug is formed with an eccentric or cam face *f'*, against which the free end of the spring bears when the lid is opened, so as to hold the lid in any desired position.

g indicates the lifting tongue or lip arranged at the lower end of the lid and extending out and below the lower side of the filling-opening to enable it to be grasped to lift the lid.

The filling-opening B is provided with a raised marginal rim *b*, which, as will be seen

from Fig. 4, is continuous or unbroken around the four sides of the opening. The inner face *b'* of this rim is beveled and forms a seat for the lid C, in which the lid is seated or countersunk and fits comparatively closely when closed, the peripheral edge of the lid for this purpose being correspondingly beveled. As will be observed, when the lid is closed the outer face thereof at the edges forms a flush joint with the outside edge of the rim *b*, so that no projecting ledges are formed which could catch and retain dust and from which dust could work its way into the box.

*b*² indicates an abutment or flange across the lower side of the filling-opening and inside of the beveled lid-seat.

The lower face portion *b*³ of the hinge-lug *e* is beveled correspondingly with the inner face of the rim portions at each side thereof at the upper side of the filling-opening and lying in the same plane constitutes a portion of the beveled seat, which at the upper side, as elsewhere, is continuous or unbroken.

Extending completely around the beveled peripheral edge of the lid is a circumferential groove or channel *h*, which may be formed in casting the lid and which is preferably, as will be seen, dovetailed or narrower at the mouth than at the base, and in this groove or channel is placed a packing material *h'*, which protrudes slightly beyond the beveled surface of the lid edge, so as to engage and form a tight and dust-proof joint with the lid-seat when the lid is closed. Any suitable packing may be employed; but an efficient and cheap one is ordinary hemp rope. It will be observed that the packing-groove is not in the inner or under face of the lid, but in the marginal edge between the inner and outer faces of the lid. There is therefore no liability of the packing becoming loose and falling out when the lid is opened, as is apt to be the case when the groove is located in the inner or under face of the lid. The dovetail form of the groove also aids in retaining the packing therein. Furthermore, the packing is wedged or packed into its groove when it is brought into contact with the beveled lid-seat by closing the

lid, and it adapts itself readily to any unevenness or roughness in the seat, thus always insuring a tight dust-proof joint. It will also be noticed that there is no stop-flange at the 5 inside of the beveled lid-seat at the sides and top of the filling-opening, which in case the lid or box is warped is apt to hold the lid away from its seat and prevent a tight joint at all points, but that the bevel of the seat extends 10 throughout its cross-diameter, thus always permitting the lid to wedge into the seat to the necessary extent to secure a tight joint.

I make no claim in this application to the construction of the hinge-lug and the arrangement and coöperation therewith of the lid-spring, the same having been made the subject of an application for a patent heretofore 15 filed by one Samuel M. Lewis.

I claim as my invention—

20 1. The combination with a car-axle box provided with a filling-opening surrounded by a rim having a beveled inner face which extends completely and uninterruptedly around the filling-opening, of a lid hinged to said axle- 25 box and having a beveled edge completely surrounding it and adapted to enter said beveled rim of the axle-box, said beveled edge of

the lid having a continuous circumferential groove, and a packing material in said groove which extends continuously around said edge 30 and projects therefrom so as to wedge into said beveled rim of the axle-box, substantially as set forth.

2. The combination with a car-axle box provided with a filling-opening surrounded by a 35 rim having a beveled inner face which extends completely and uninterruptedly around the filling-opening, of a lid hinged to said axle-box and having a beveled edge completely surrounding it and adapted to enter said beveled rim of the axle-box, said beveled edge of 40 the lid having a continuous circumferential undercut groove, and a packing which extends continuously around said lid and is confined in said groove and projects beyond the beveled edge of the lid so as to wedge into said 45 beveled rim of the axle-box, substantially as set forth.

Witness my hand this 8th day of July, 1901

WILLARD F. RICHARDS.

Witnesses:

JNO. J. BONNER,

CLAUDIA M. BENTLEY.