

(No Model.)

W. E. HEFFNER.

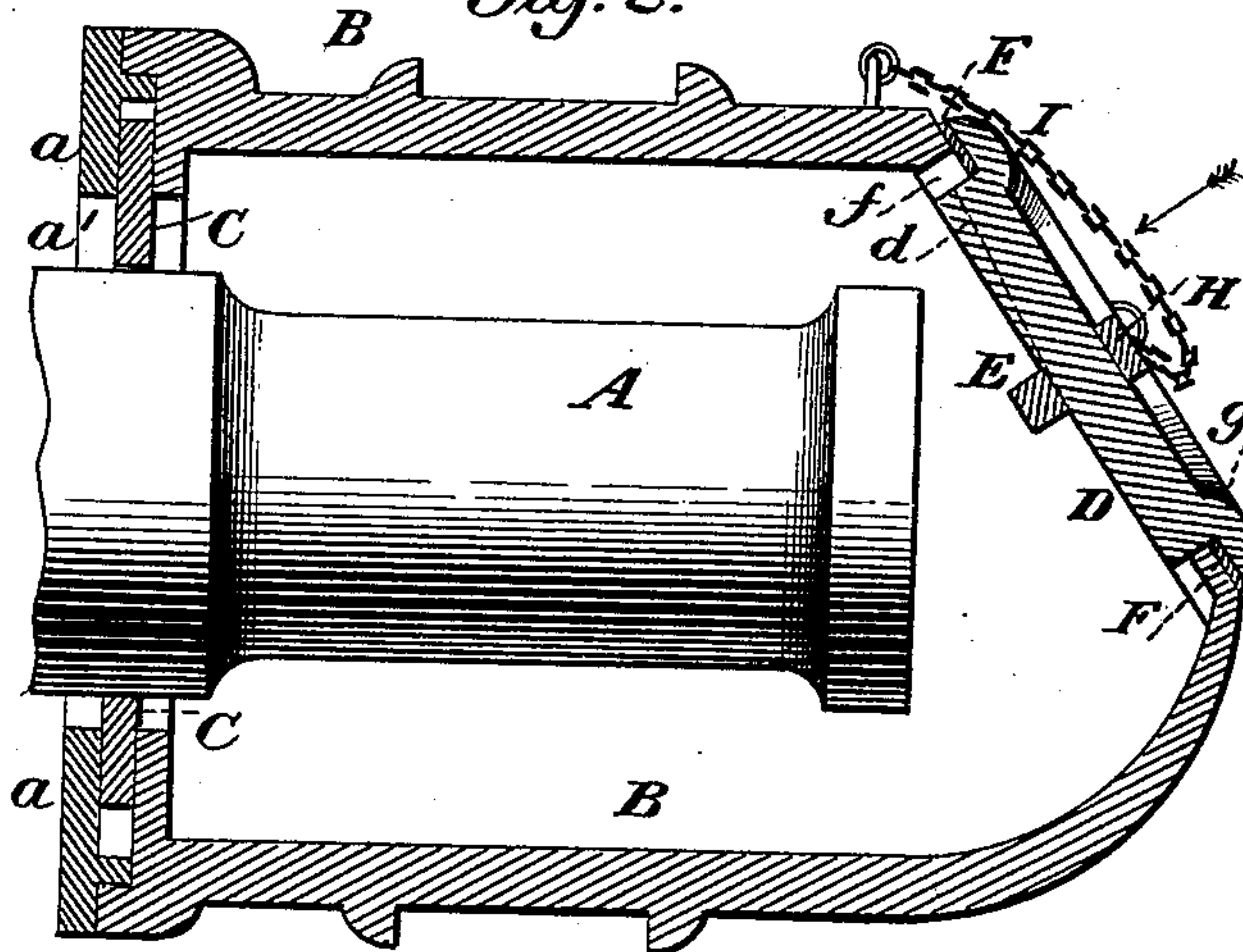
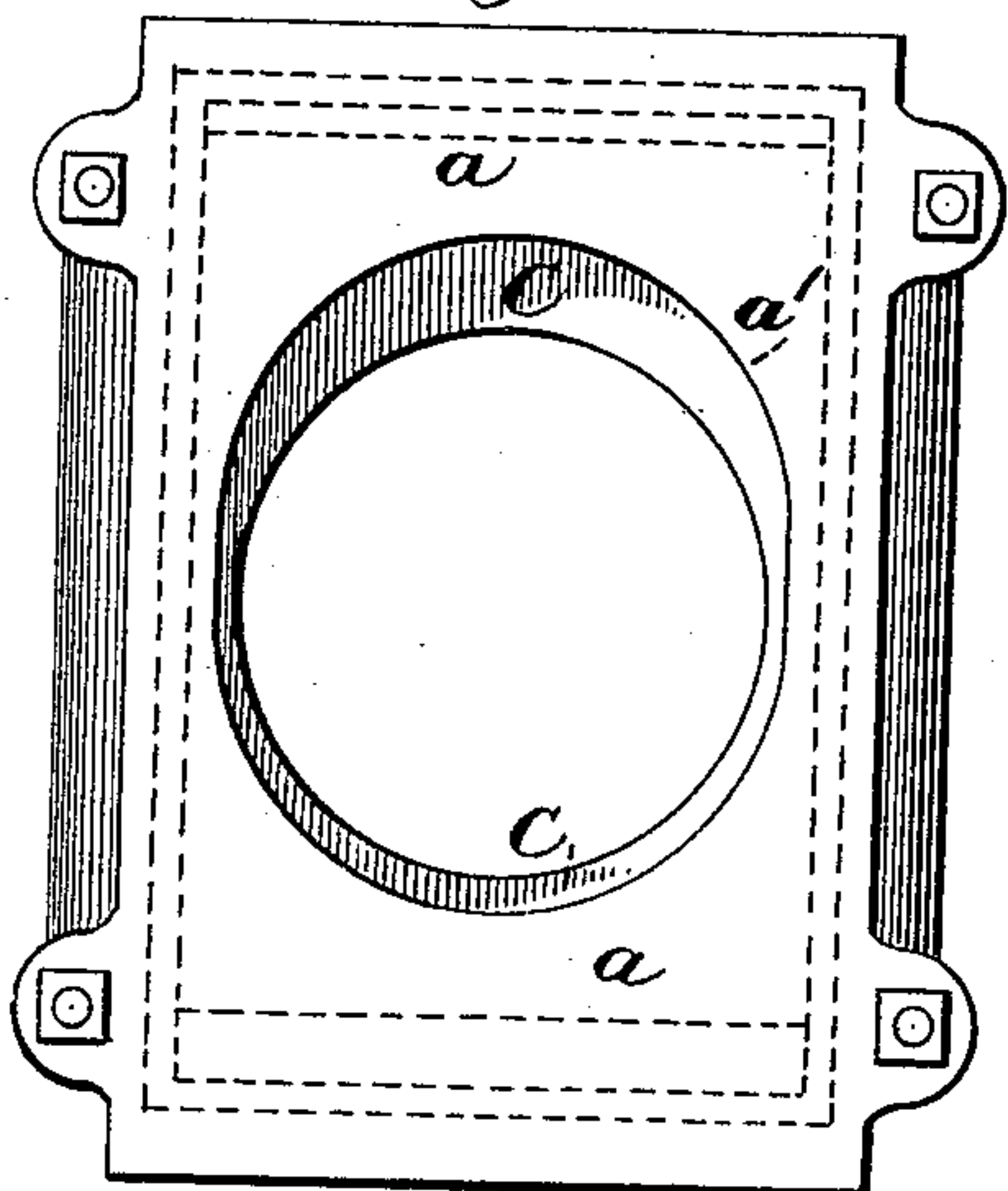
CAR AXLE BOX.

No. 397,233.

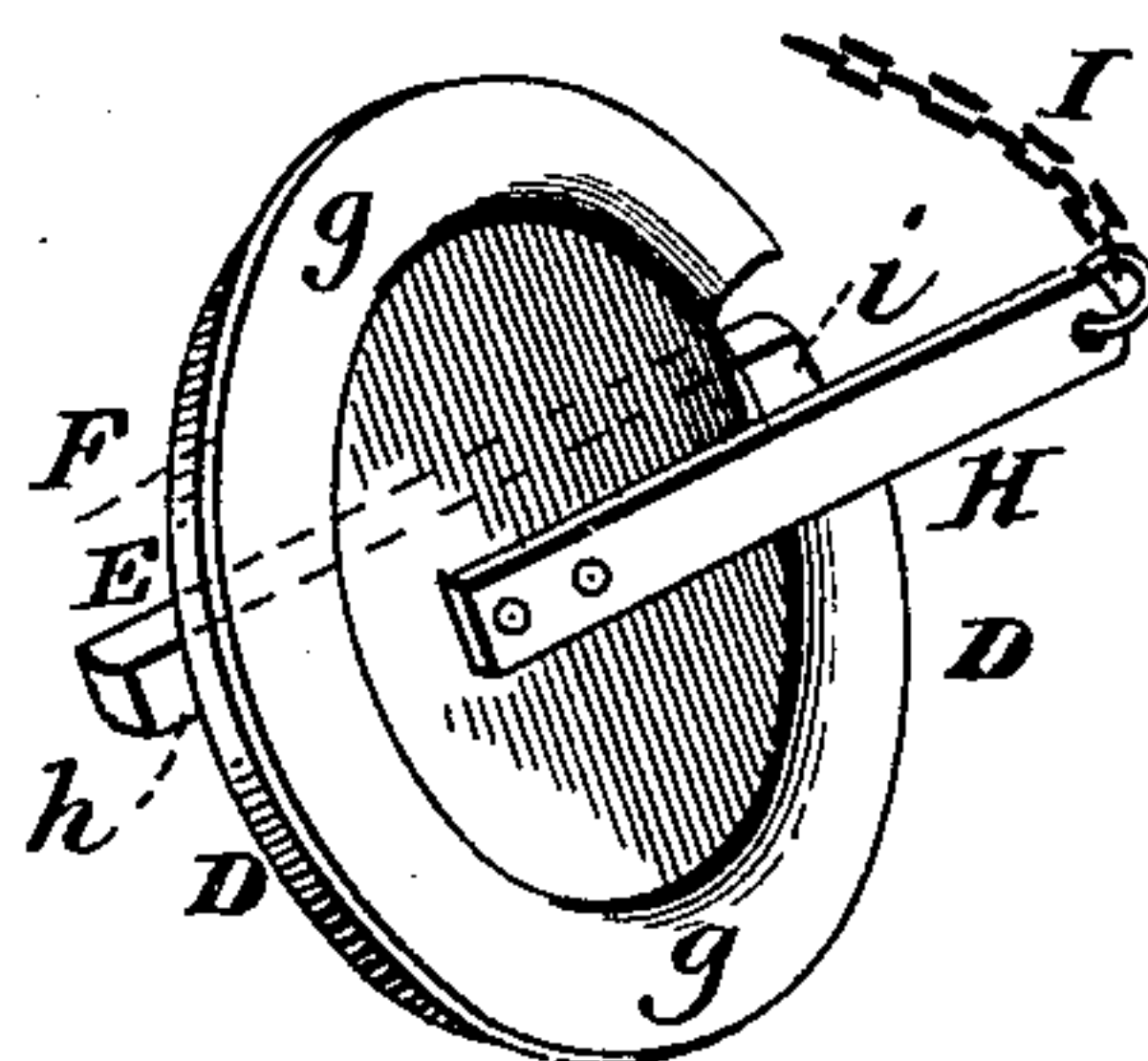
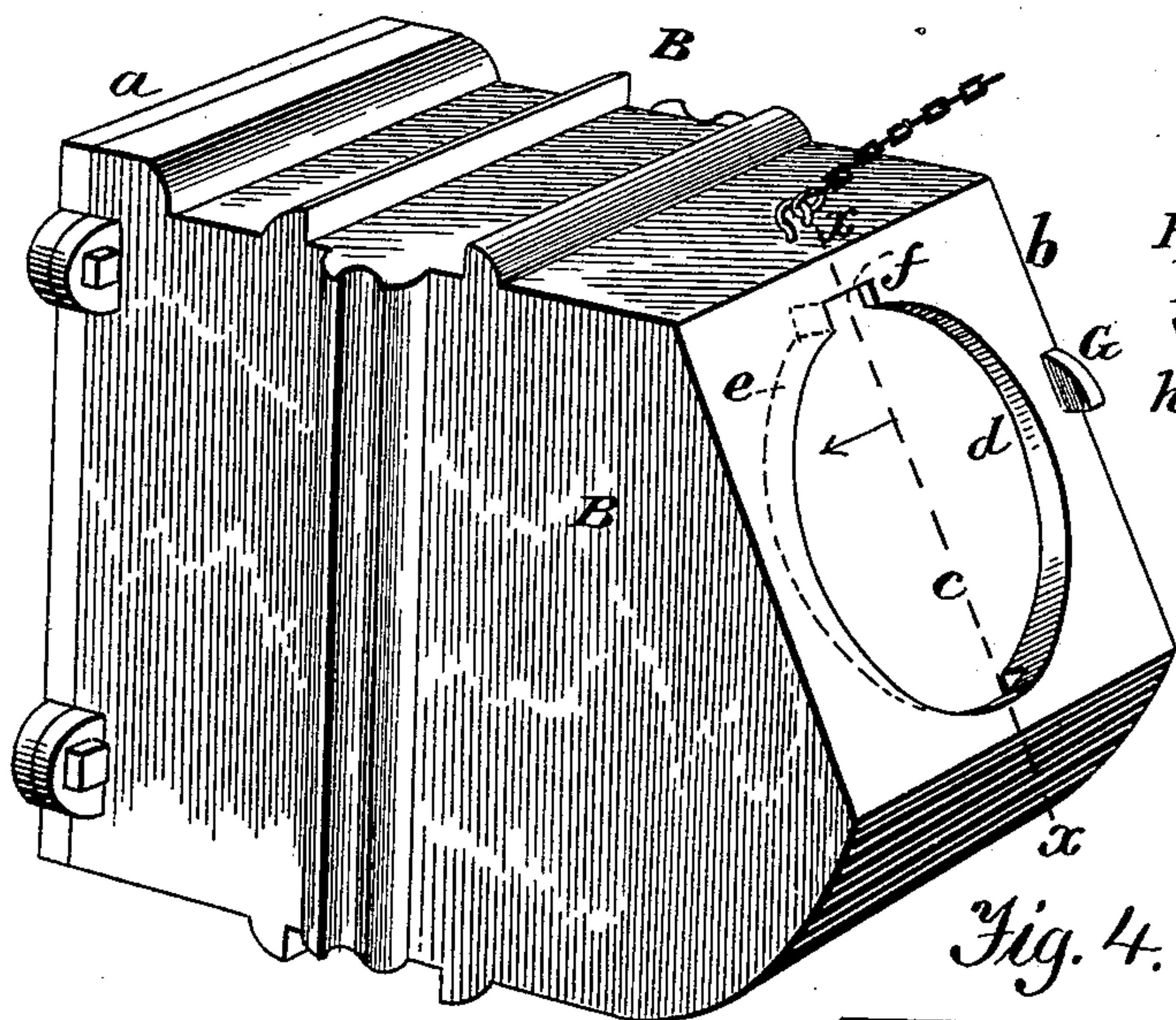
Patented Feb. 5, 1889.

Fig. 1.

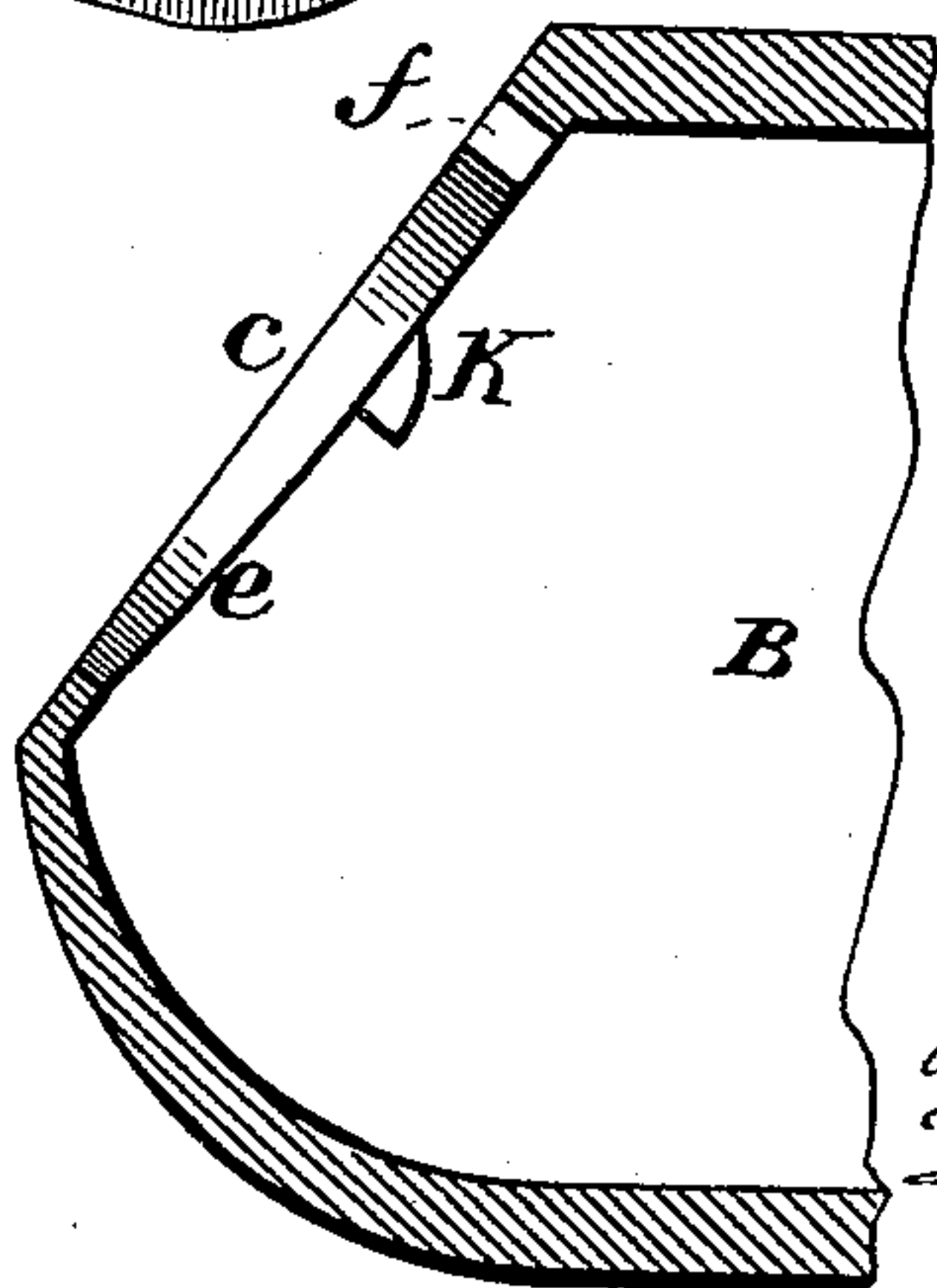
*Fig. 2.*



*Fig 3.*



*Fig. 4.*



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# UNITED STATES PATENT OFFICE.

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## CAR-AXLE BOX.

SPECIFICATION forming part of Letters Patent No. 397,233, dated February 5, 1889.

Application filed October 31, 1888. Serial No. 289,613. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM E. HEFFNER, a citizen of the United States, residing at Huntingdon, in the county of Huntingdon and State of Pennsylvania, have invented certain new and useful Improvements in Car-Axle Boxes; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in car-axle boxes; and it has for its object to improve upon previous devices of this character to prevent the ingress of dust to the bearing and to provide for ready access to the bearing, when necessary.

The novelty in the present instance resides in the peculiarities of construction and in the combination, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the drawings, and then particularly defined in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is an end elevation of an axle-box embodying my improvements. Fig. 2 is a longitudinal section. Fig. 3 is a perspective view of the outer side of the box, looking in the direction of the arrow in Fig. 2, with the cover removed and shown to one side. Fig. 4 is a section on line *x x* of Fig. 3.

Reference now being had to the details of the drawings by letter, A designates the axle, and B the car-axle box. The inner end of the box is provided with a removable cover, *a*, held thereto by suitable bolts and nuts, as shown, and provided with an aperture, *a'*, to receive the axle. In suitable guides in this cover or the inner end of the box, or partly in both, works the dust-guard C, which is movable vertically to automatically accommodate itself to the movements of the axle. The outer end of the box is preferably inclined, as shown at *b*, and is provided with an opening, *c*, which

is closed by the cover D. The inner face of this inclined portion of the outer end of the box is formed with two inversely-arranged cam-surfaces, *d* and *e*, which begin at the upper and the lower sides of the opening diametrically opposite each other and extend in opposite directions, as shown. At the commencement of one of these cam-surfaces, preferably the bottom one, there is formed a notch, *f*, to receive one of the lugs on the inner face of the cover hereinafter described. The cover D is formed with a flange, *g*, extending over the opening in the end of the box, and on its inner face is provided with a cross-bar, E, extended beyond the body of the cover to form lugs *h* and *i*, as shown.

F is a ring, of asbestos or other similar material, surrounding the body of the cover beneath the flange thereof, and retained in place by the lugs of the cross-bar E.

G is a lug on the outer end of the box, and beveled from its lower side toward the top, forming a square shoulder at its upper end. Secured to the outer face of the cover is a spring-bar, H, to the free end of which is preferably attached one end of a chain, I, the other end of which is secured to the box to prevent loss of the cover when removed.

K is a lug or stop on the inner face of the end of the box half-way between the starting-point of the two cam-surfaces and at the termination of one of them, and is designed to engage and stop one of the lugs on the cover, as will hereinafter appear.

The operation is as follows: Supposing the cover to be removed and it is desired to secure the same in place, one of the lugs is inserted under the end of the box at the upper side thereof and the other lug dropped into the notch *f*. The cover is then turned toward the left, using the spring-bar H as a handle, as desired, until the extended end thereof rides over the inclined surface of the lug G, when the spring-bar drops into position back of and is retained securely in place by the square shoulder of said lug. The lugs *h* and *i* on the inner face of the cover, riding on the cam-surfaces *d* and *e*, draw the flange of the cover firmly down into the end of the box, thus forming a perfectly tight joint. The



stop K is placed in such position as to engage one of the lugs on the cover just at the time the spring-bar passes over the lug G.

Having thus described my invention, what I claim is—

1. The combination, with the car-axle box having an opening in its outer end, of the cover formed with a flange, and an asbestos ring around the body of said cover beneath said flange, substantially as described.

2. The combination, with the car-axle box having an opening in its outer face, of the cover formed with lugs on its inner face, and an asbestos ring around the body of said cover and retained in place by said lugs, substantially as described.

3. The combination, with the car-axle box having an opening in its front or outer end, of a cover for said opening formed with a flange, a cross-bar on the inner face of said cover and extended beyond the periphery thereof to form lugs, as shown, and an asbestos ring around the body of the cover between

said flange and lugs, substantially as shown and described.

4. The combination, with the car-axle box formed on its inner face with the cam-surfaces, of the cover provided on its inner face with lugs, as described, and the spring-bar on the outer face of said cover and engaging the lug G, substantially as described.

5. The combination, with the car-axle box formed on its inner face with the cam-surfaces, and with the stop K between said cam-surfaces, and having a notch, *f*, of the cover, the cross-bar on the inner face thereof, and forming the lugs *h* and *i*, the inclined lug G on the outer face of the box, and the spring-bar on the outer face of the cover engaging the lug G, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM E. HEFFNER.

Witnesses:

J. F. SCHOCK,

JOHN BREWSTER.