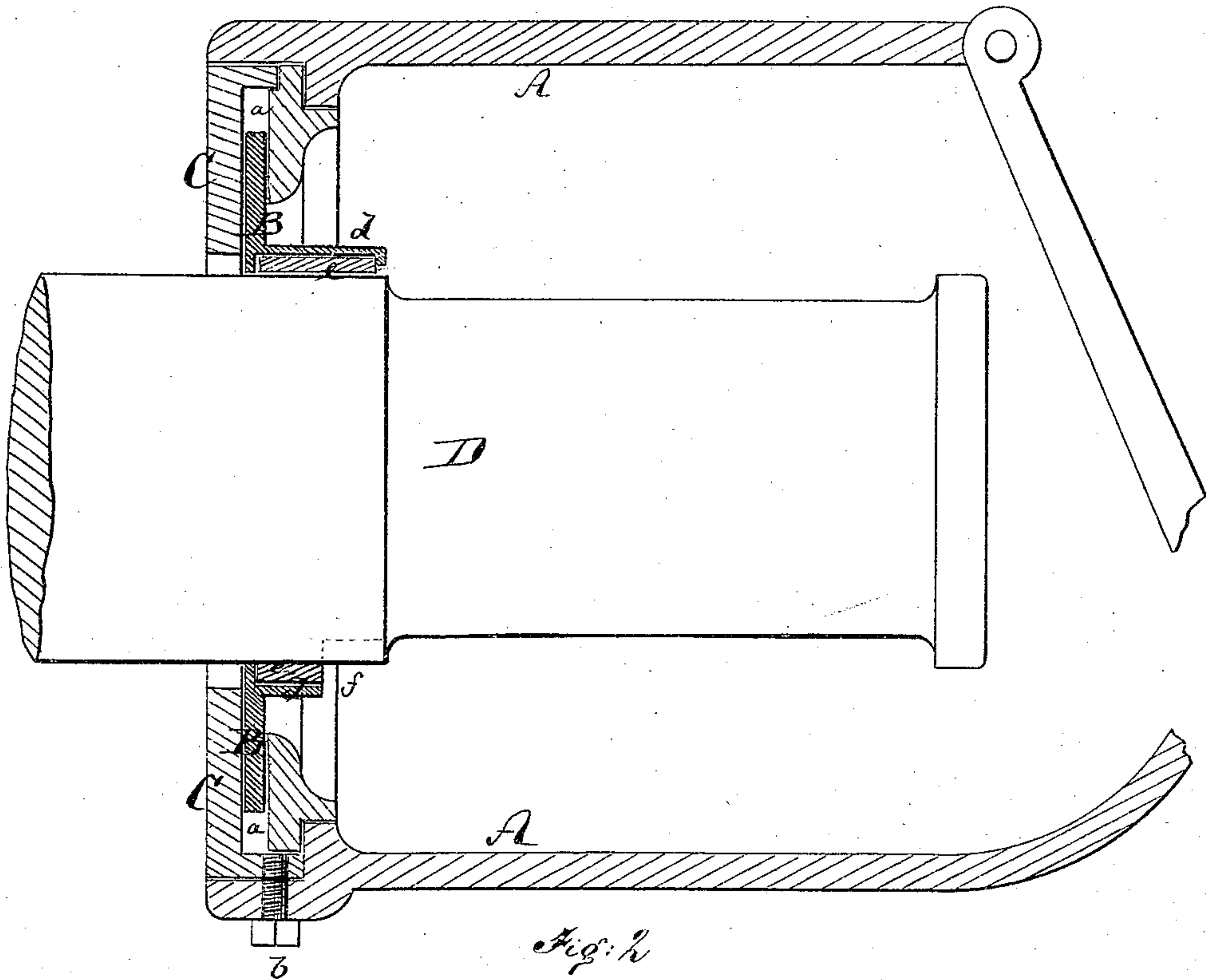


**D. A. HOPKINS.**  
**Car-Axle Boxes.**

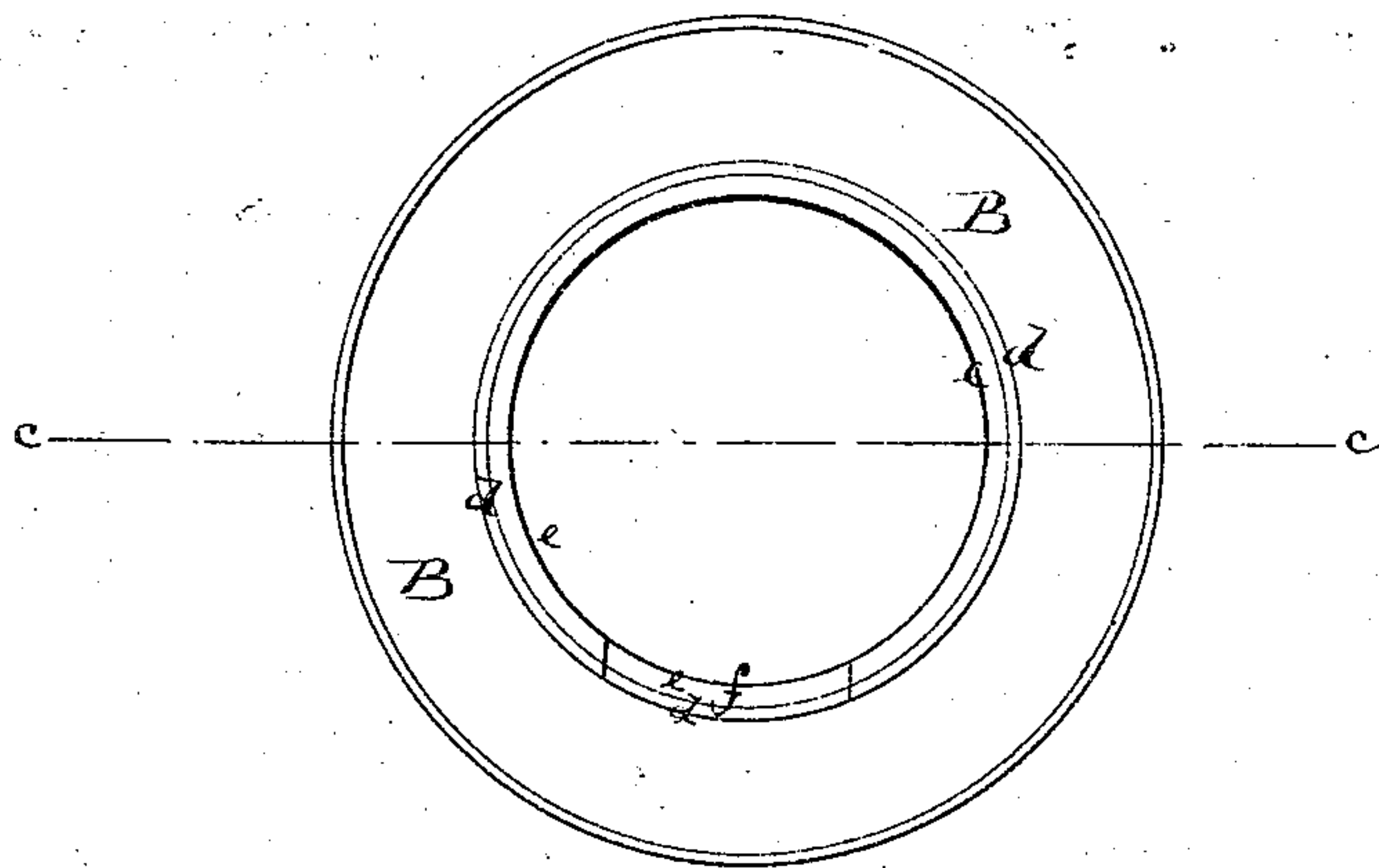
No. 153,255.

Patented July 21, 1874.

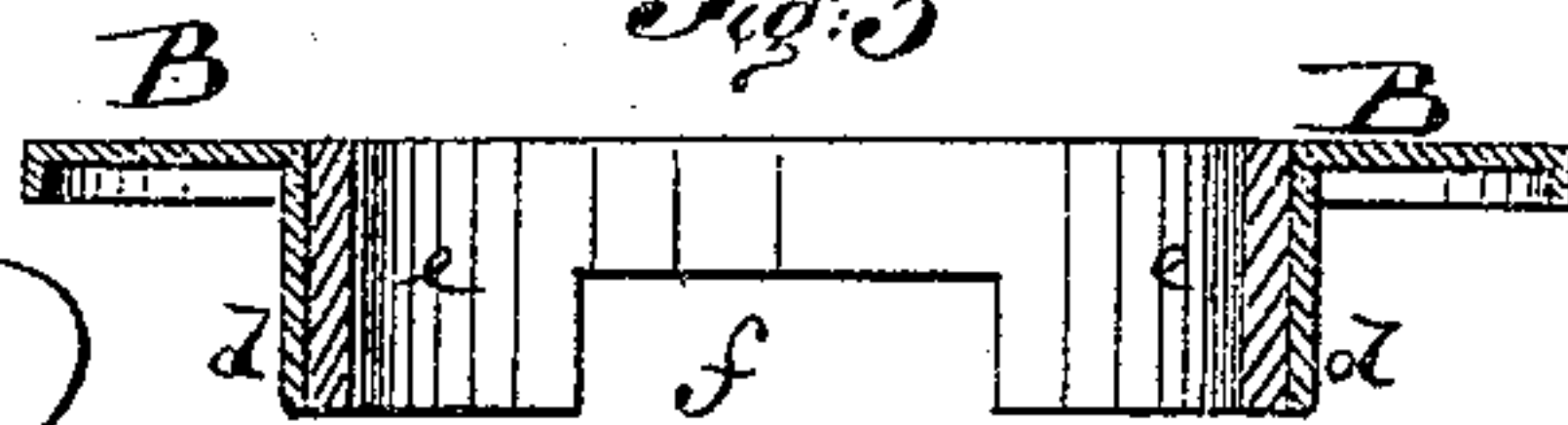
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



**Witnesses:**

*Chas. Nida*  
*W. A. Graham*

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**PER** *Wm. L.*  
**Attorneys.**

# UNITED STATES PATENT OFFICE.

DAVID A. HOPKINS, OF JERSEY CITY, NEW JERSEY.

## IMPROVEMENT IN CAR-AXLE BOXES.

Specification forming part of Letters Patent No. **153,255**, dated July 21, 1874; application filed May 11, 1872.

*To all whom it may concern:*

Be it known that I, DAVID A. HOPKINS, of Jersey City, in the county of Hudson and State of New Jersey, have invented a new and Improved Axle-Box for Cars, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a vertical longitudinal section of my improved axle-box. Fig. 2 is a detail face view of the combined diaphragm and sleeve. Fig. 3 is a horizontal section of the same on the line *c c*, Fig. 2.

Similar letters of reference indicate corresponding parts.

This invention relates to a new manner of forming the inner part of an axle-box for railroad-cars, trucks, or engines; and consists in combining the up-and-down adjustable diaphragm or inner plate with a projecting flange or sleeve, which, embracing the axle tightly, prevents the entrance of dust and sand into, and the escape of lubricating material from, the box, and, owing to its enlarged contact-surface, will last longer than the ordinary narrow-edged contact-plates now in use. The invention consists also in cutting a recess into the inner part of said flange or sleeve to admit cotton-waste, or other equivalent matter, to contact with the axle, for removing from the same any impurities that may have found their way in.

A in the drawing represents the body of an axle-box of suitable form and size. B is the back diaphragm of the same, made of suitable

metal, and placed into a narrow chamber, *a*, which is formed at the inner end of the box A. This chamber *a* is closed on the outer side by a plate, *c*, which is fastened in place by screws *b*, bolts, or other equivalent devices. *d* is a flange or sleeve projecting from the plate B, inwardly or outwardly, so as to embrace the axle D, a packing-ring, *e*, of leather or equivalent material, being held in the flange or sleeve in contact with the axle. The width of this flange or sleeve can be increased at will, so that it will cover a suitable length of the axle. When the flange projects inwardly, as shown, I prefer to cut a portion of it out, as shown at *f*, in Figs. 2 and 3, so that wadding can be placed into this recess and brought in contact with the part of the axle revolving in the flange, cleaning it of all impurities that may have entered. When the flange projects outwardly the recess cannot be provided in it. The packing-ring *e* may, if desired, be omitted.

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

1. The adjustable diaphragm B, provided with the sleeve *d*, in combination with the front plate C, packing *e*, and axle D, substantially as and for the purpose set forth.

2. The sleeve *d* on the adjustable diaphragm B, provided with a recess, *f*, as specified.

DAVID A. HOPKINS.

Witnesses:

T. B. MOSHER,

W. A. GRAHAM.