

D. H. DOTTERER.

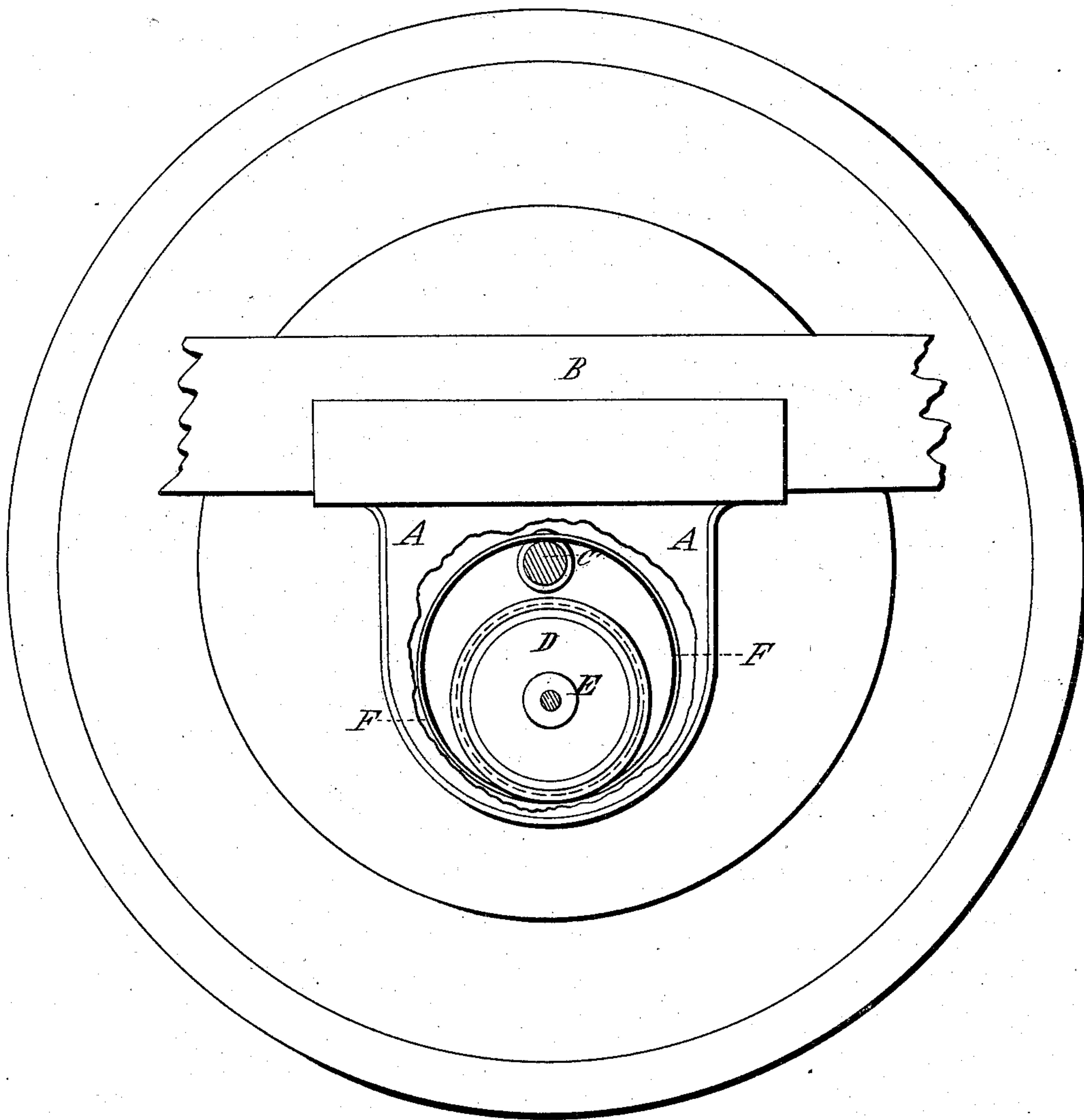
2 Sheets—Sheet 1.

Car-Axle Box.

No. { 1,239, {
32,243. }

Patented May 7, 1861.

Fig. 1.



Witnesses:

Goodwin V. Lee
Gustavus Dietrich

Inventor:

D. H. Dotterer

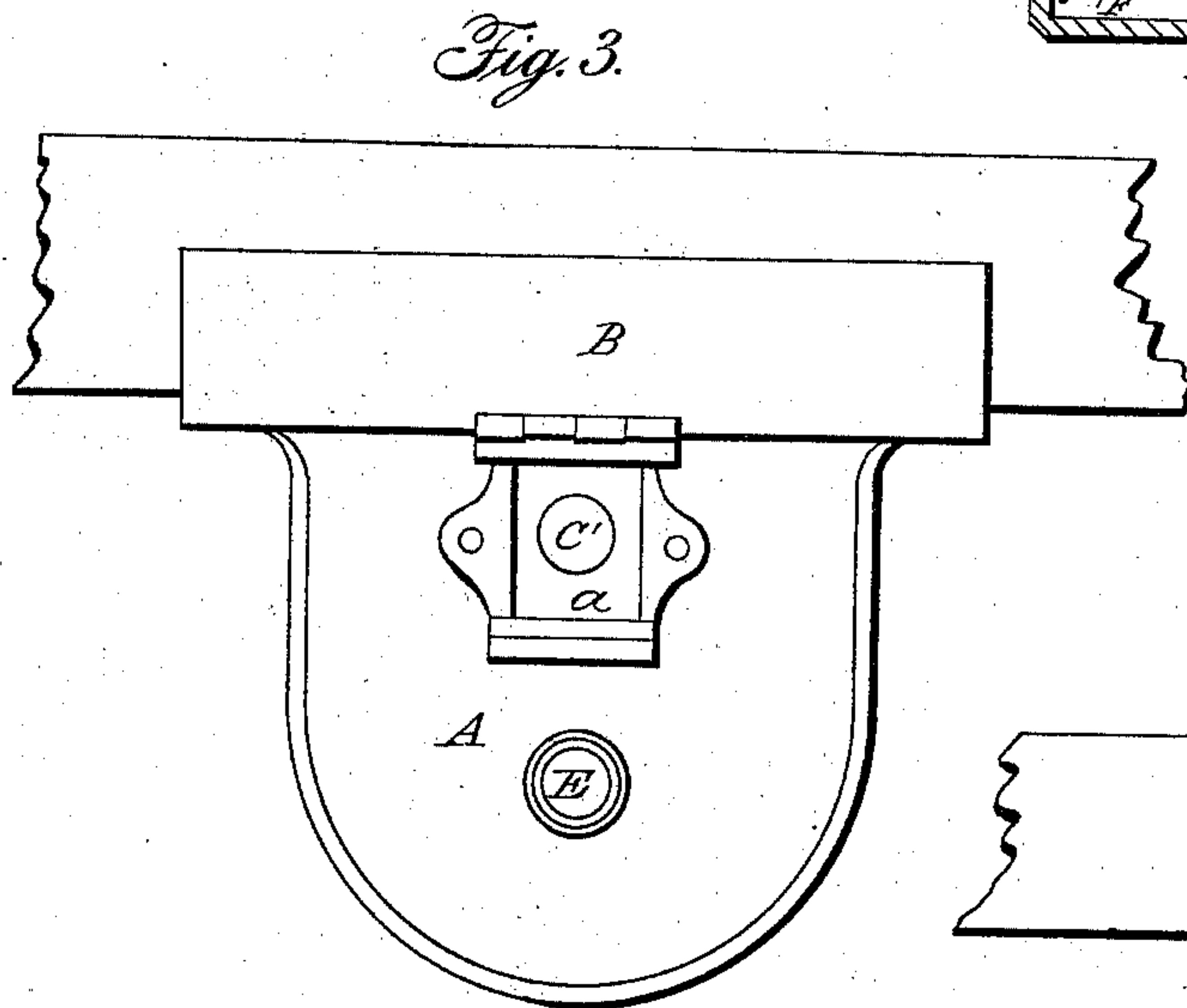
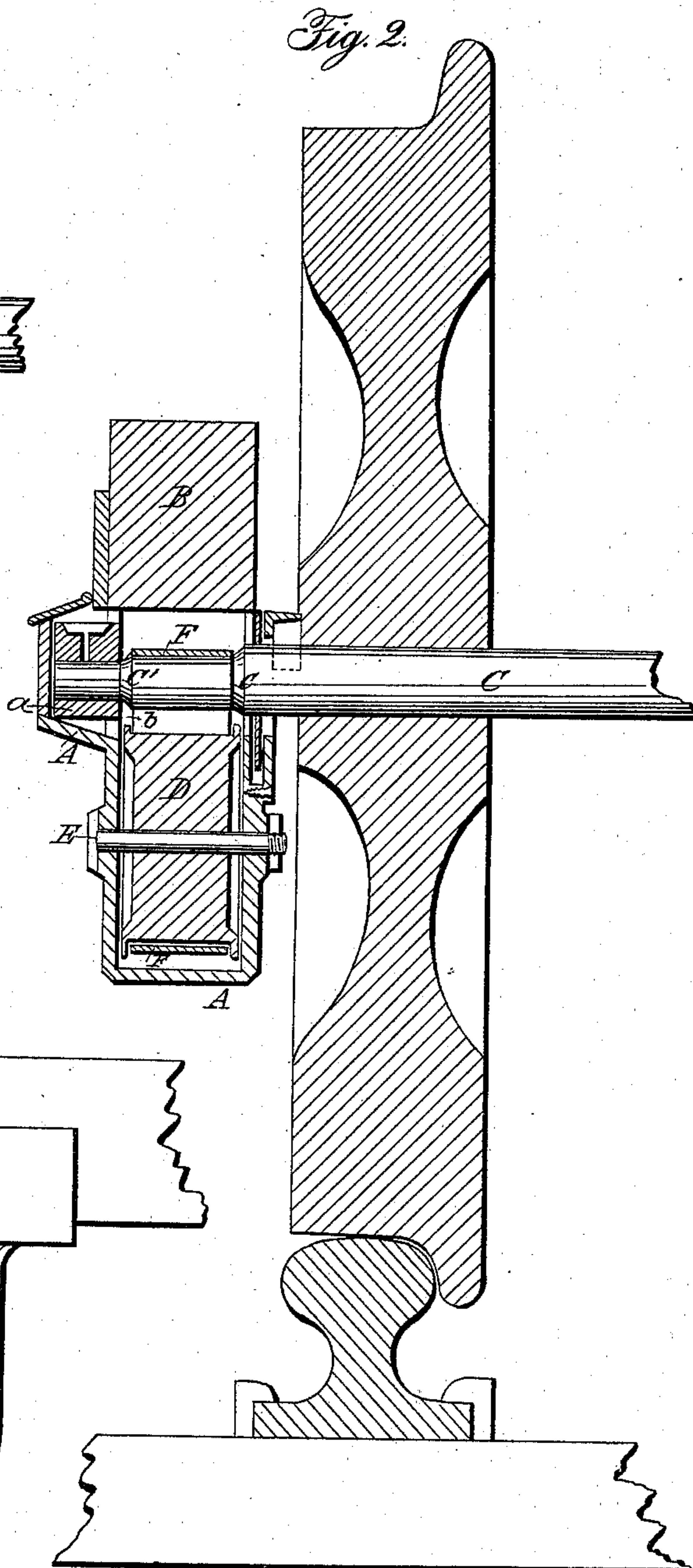
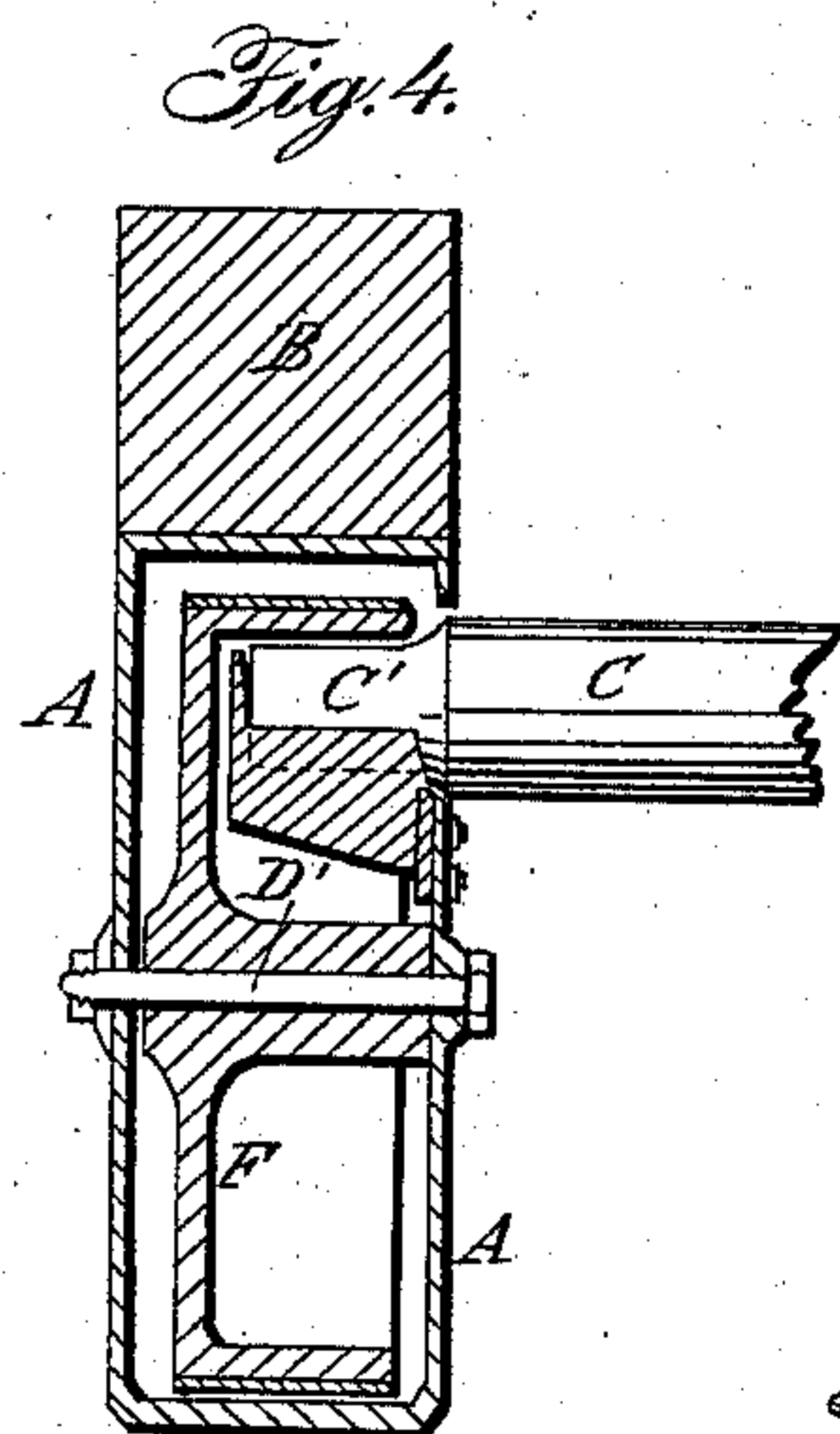
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2 Sheets—Sheet 2.

Car-Axle Box.

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Witnesses:

Goodwin W. Mee
Gustavus Dietrich

Inventor:

D. H. Dotterer

UNITED STATES PATENT OFFICE.

DAVIS H. DOTTERER, OF MEMPHIS, TENNESSEE.

JOURNAL-BOX.

Specification forming part of Letters Patent No. 32,243, dated May 7, 1861; Reissued November 4, 1862, No. 1,352.

To all whom it may concern:

Be it known that I, DAVIS H. DOTTERER, of Memphis, in the county of Shelby and State of Tennessee, have invented a new and useful Improvement in Rail-Car Journal-Boxes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1, is a sectional end view of my improved journal box. Fig. 2, is a longitudinal section of the same, and Fig. 3, an end elevation, and Fig. 4, is a modification of my invention.

Similar letters of reference, in each of the several figures indicate corresponding parts.

The nature of my invention consists 1st, in the employment of an endless metallic band, in combination with a revolving sheave and the journal of the axle and with the fluid chamber of a journal box, in the manner hereinafter described. It consists 2nd, in the combination with the above, of an end block for steadying the end of the axle and preventing lateral vibration of the same while a free up and down movement is permitted.

By employing an endless band in the manner shown, the advantage of an antifriction surface for the journal of the axle to roll against is obtained and beside this two other advantages are secured, viz: the band serves as a spring cushion for the journal to bear up against, and also for carrying up the cooling or lubricating fluid from the chamber of the journal box to the point of wear between the journal of the axle and the band itself.

To enable others to make and use my invention, I will proceed to describe its construction and operation.

A, represents the rail car journal box; B, a portion of the truck frame and C, the car axle, with its journal C', passing through the box and into a sliding block or bearing a.

In the lower part or reservoir of the journal box, a grooved sheave or pulley D, is arranged, being supported upon a shaft E, which extends from side to side of the journal box, as represented. This shaft requires to be made very strong as its office, with simi-

lar shafts in the other boxes, is to sustain the whole weight of the car &c.

F, is a ring or cylinder arranged within the journal box so as to rest down upon the circumference of the axle and lean up against the circumference of the pulley in such a manner as to be kept in position without the aid of a central axis, or other means.

This ring or cylinder is made of light, flexible metal, in order that it shall act as a spring and being of smaller diameter than the journal box, is free to revolve within the reservoir of the same; it revolving over the car axle and under the sheave or pulley, and in its revolution carrying up a sufficient quantity of oil or other liquid substance, to keep the journal of the axle properly lubricated or cool.

By examining the drawing, it will be seen that the outer end of the axle journal C', is formed with a shoulder b, and that said outer end has its support or bearing in a vertically sliding block a. By thus forming the shoulder b, on the journal, the necessity of having a collar at the point c, is obviated, and thus much of the friction and wear usually experienced at point c, is prevented.

The operation is as follows: When the axle is in motion, its journal impinges upon the inner circumference of the ring or cylinder, in consequence of the car with the journal box attached to it descending by its own gravity, and also the weight resting upon it. The friction thus produced between the ring and the axle insures a revolution of the ring or cylinder, and therefore the axle turns against a rolling or anti-friction surface, and while this advantage is the case, the ring or cylinder serves the office of supplying the axle with the cooling or lubricating liquid contained in the reservoir of the journal box and also the office of an elastic cushion to the axle, in its vibrations.

The revolving ring or cylinder F, might be constructed with one end "headed up" and with a hollow hub at its center, as shown in Fig. 4. In this construction, a central axial shaft D', instead of the pulley or sheave D, must be provided for it to revolve upon.

What I claim as my invention and desire to secure by Letters Patent, is—

1. The employment in combination with
a journal box A, axle C, and revolving
sheave or pulley D, of an endless metallic
band F, which serves as an anti-friction
5 bearing for the journal of a car axle, also as
a spring cushion for the same, and likewise
as a means for elevating the lubricating or
cooling material to the wearing surface, sub-
stantially as herein described.

2. In combination with the band F, pul- 10
ley D, journal box A, and journal C', the
end sliding block α , in the manner and for
the purpose described.

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Witnesses:

GOODWIN Y. AT LEE,
GUSTAVUS DIETERICH.