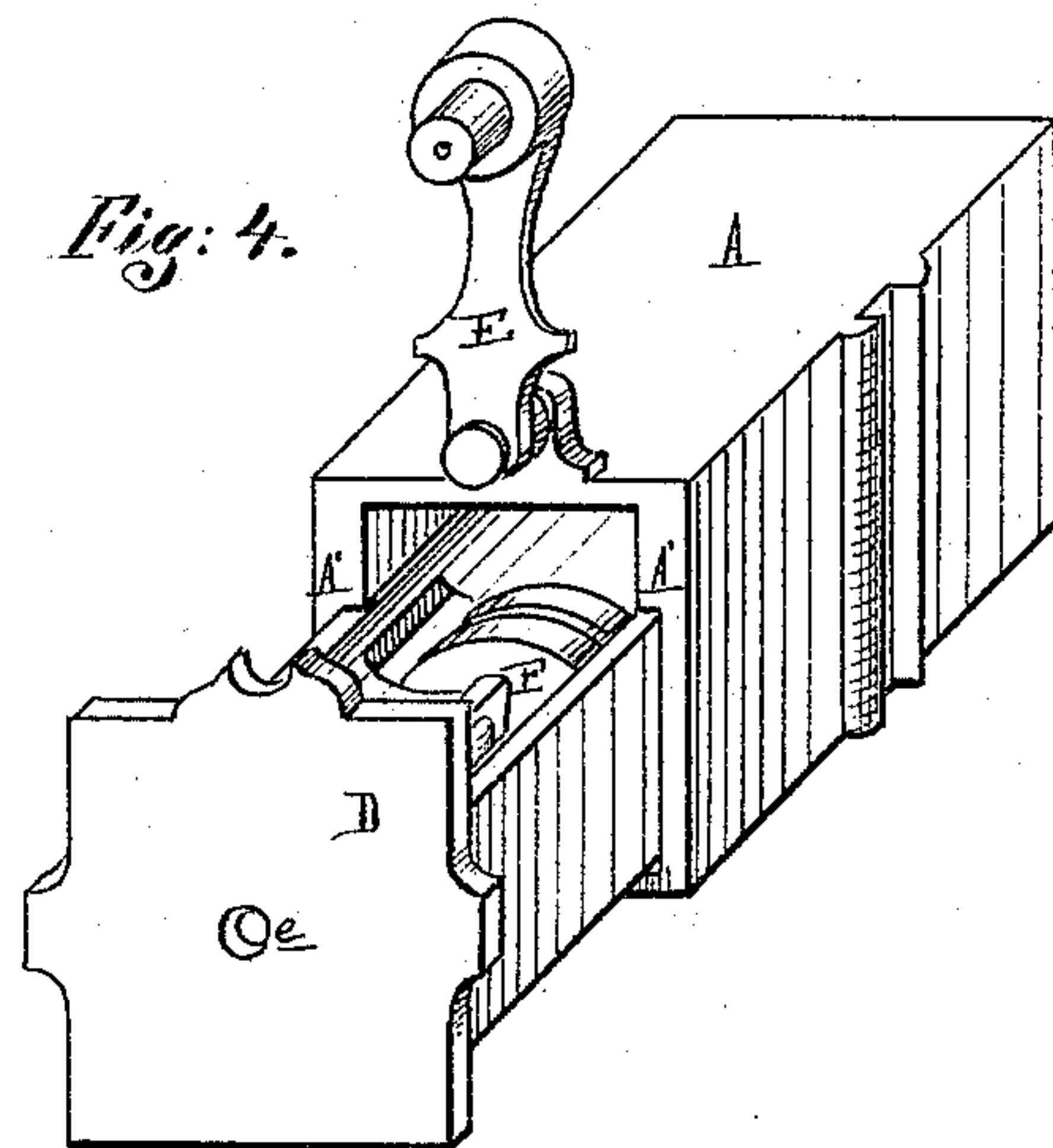
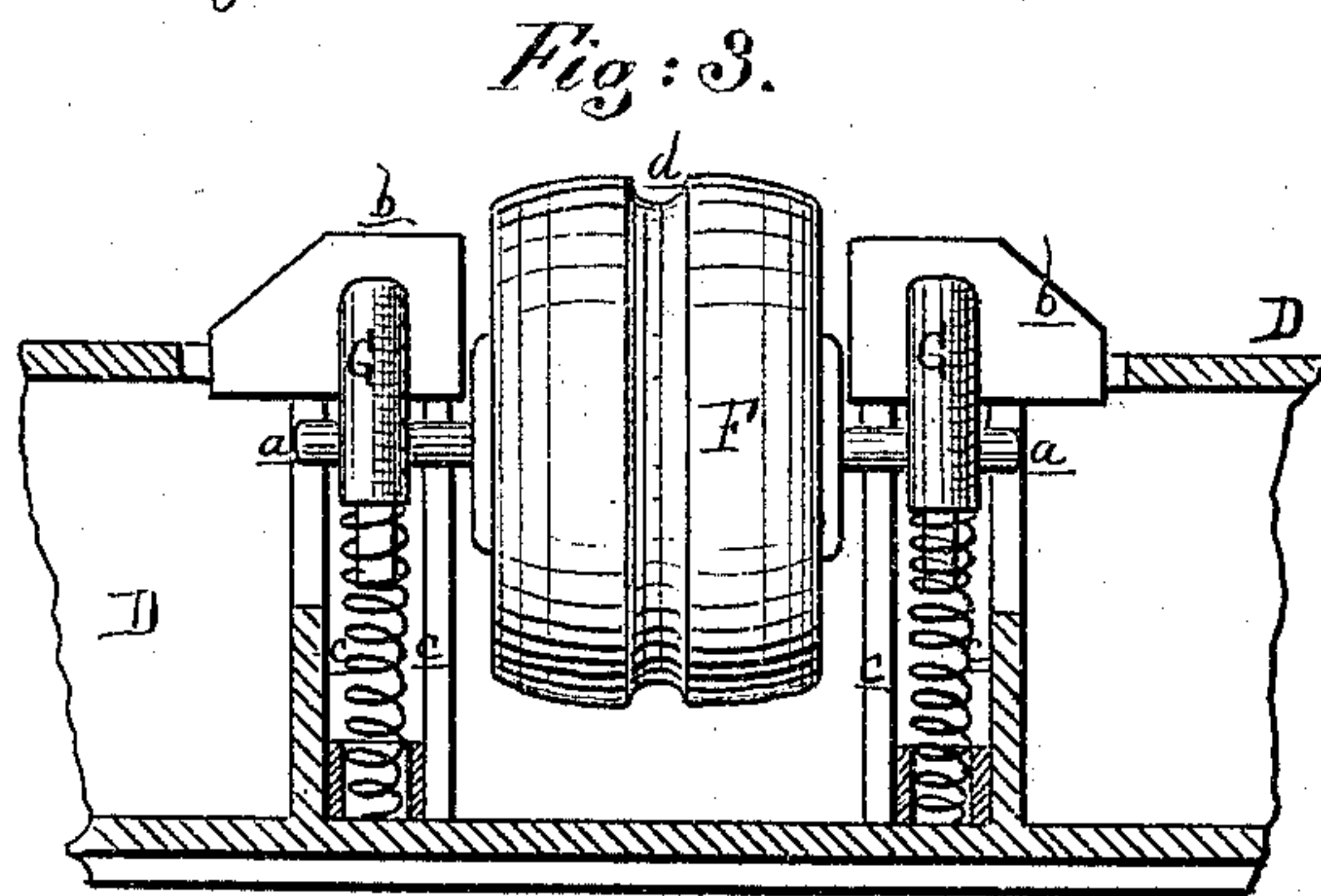
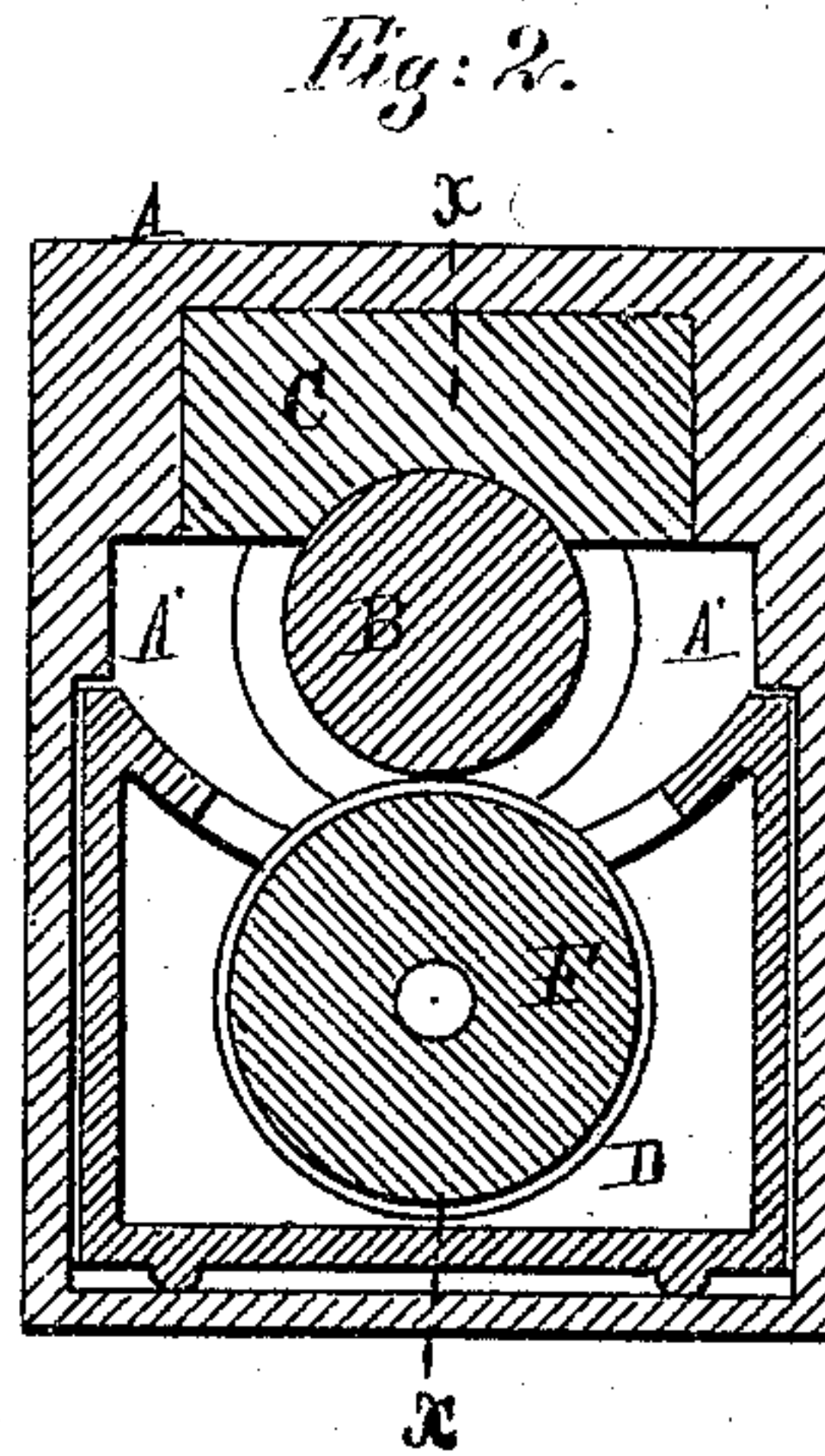
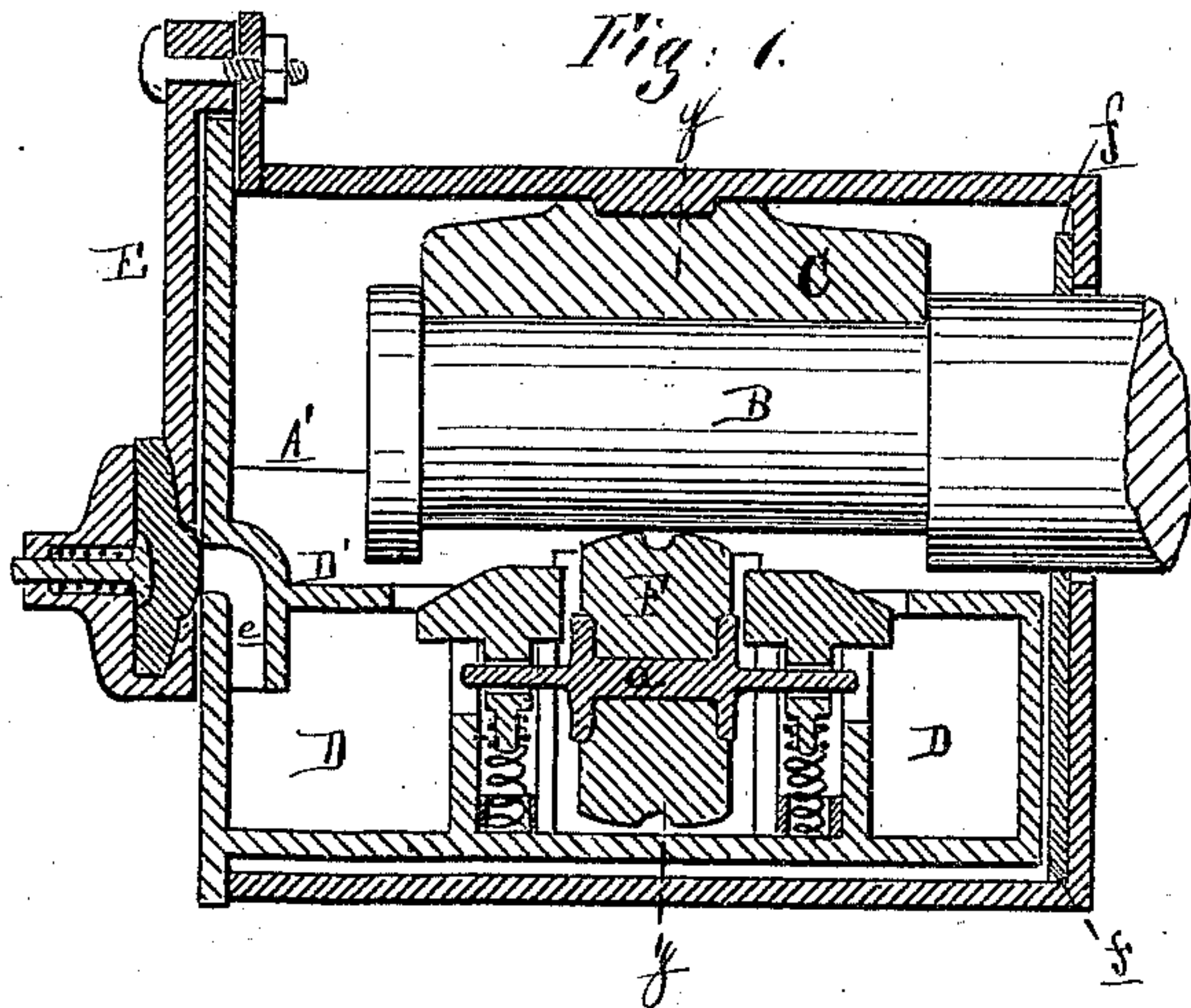


L. SCHULZE.  
Car-Axle Boxes.

No. 151,247.

Patented May 26, 1874.



Attest:  
Chas. J. Hunt  
J. V. Anderson

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L. Schulze  
per Attorney  
Thos. S. Sprague



# UNITED STATES PATENT OFFICE.

LOUIS SCHULZE, OF CHICAGO, ILLINOIS.

## IMPROVEMENT IN CAR-AXLE BOXES.

Specification forming part of Letters Patent No. 151,247, dated May 26, 1874; application filed April 16, 1874.

*To all whom it may concern:*

Be it known that I, LOUIS SCHULZE, of Chicago, in the county of Cook and State of Illinois, have invented an Improvement in Axle-Boxes for Railway-Cars, of which the following is a specification:

The nature of this invention relates to an improvement in that class of axle-box which has a drawer for containing oil for lubricating the journal, and device for distributing the oil to the journal while it is in motion, in lieu of the cotton-waste or other fibrous material heretofore used for that purpose; and it is more especially designed as an improvement upon the axle-box described and shown in Letters Patent No. 143,592, issued to me on October 14, 1873. Its object is to compel the contact of the lubricating-roller with the journal of the axle by means of a spiral spring under each bearing for the roller-spindle, and to so arrange said bearings as to permit the drawer to be pulled out without letting the roller catch against the collar of the axle; also, to insure a more perfect distribution of the oil by grooving the face of the roller; also, to provide strips on the side walls of the box, which will prevent the drawer from dropping when drawn forward, and will also return any oil splashed on the walls of the box into the drawer, instead of allowing it to pass down outside the drawer; also, to provide the box with a leather washer on the axle to exclude the dust.

Figure 1 is a longitudinal vertical section at *x x* in Fig. 2, which is a cross-section at *y y* in Fig. 1. Fig. 3 is a partial longitudinal section of the drawer, and a side elevation of the distributing-roller. Fig. 4 is a perspective view of the box with the oil-drawer partially open.

In the drawing, A represents an axle-box open at the front end. B is the journal of the axle, and C its brass or bearing, on which the top of the box rests. D is a drawer of cast metal, adapted to slide into the box and close its outer end, where it is secured by a pendulum-lever, E, pivoted to a lug at the top of the box, which swings down in front of the drawer. The inner side walls of the box are

made thicker, as at A', above the sides of the drawer, which slide under these strips or shoulders, thereby preventing the drawer from falling when drawn out. The drawer has a concave top, D', which is transversely slotted to admit a wheel, F, of wood, metal, or other material, mounted on a spindle, *a*, each end of which is journaled in a pillar, G, having at its top an angular plate, *b*, which plays in a longitudinal guide-slot in the drawer. At the lower end of each pillar a spiral spring, *c*, is interposed between a shoulder thereon and the bottom of the drawer, thus pressing the periphery of the roller against the bottom of the journal, carrying a film of oil from the drawer to the journal in the rotation imparted to it by the journal, which is thus kept lubricated. Inasmuch, however, as a plain cylindrical roller will only deliver oil at its end edges to the journal, the oil on the surface of the cylinder being squeezed back as it is met by the journal, I turn one or more grooves, *d*, Fig. 3, in the periphery of the roller, which, if made of rubber or other elastic material, may be bilged or convex, as shown in Figs. 1 and 3, the groove taking up the oil which lubricates the journal by capillary attraction. *e* is an oil-duct, cast in the front of the drawer, through which the latter may be filled with oil. When the drawer is pulled out, the angular plates *b*, passing under the axle-collar, depress the roller below the plane of the collar, and prevent the former from catching under it; in returning the drawer they serve a like purpose. *f* is a square leather washer, cut to fill the entire back end of the box, with a round hole in it, cut just large enough to slip over the journal. This washer may be removed without removing the axle from the box by jacking up the box, taking out the brass, drawer, and old washer, and slipping a new washer on the journal, which will effectually exclude the dust which would otherwise enter the back end of the box.

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

1. The grooved lubricating-roller F and spindle *a*, journaled in the pillars G G, the angular plate *b* and spring *c*, all combined

substantially as and for the purpose set forth.

2. In a car-axle box, the lubricating roller F, provided with the groove or grooves *d*, as and for the purpose set forth.

3. The box A, oil-drawer D, washer *f*, grooved roller F, spindle *a*, pillars G G, angu-

lar plate *b*, and spring *e*, all constructed and combined to operate substantially as described and shown.

LOUIS SCHULZE.

Witnesses:

WM. H. LOTZ,

HERMAN BISCHOFF.