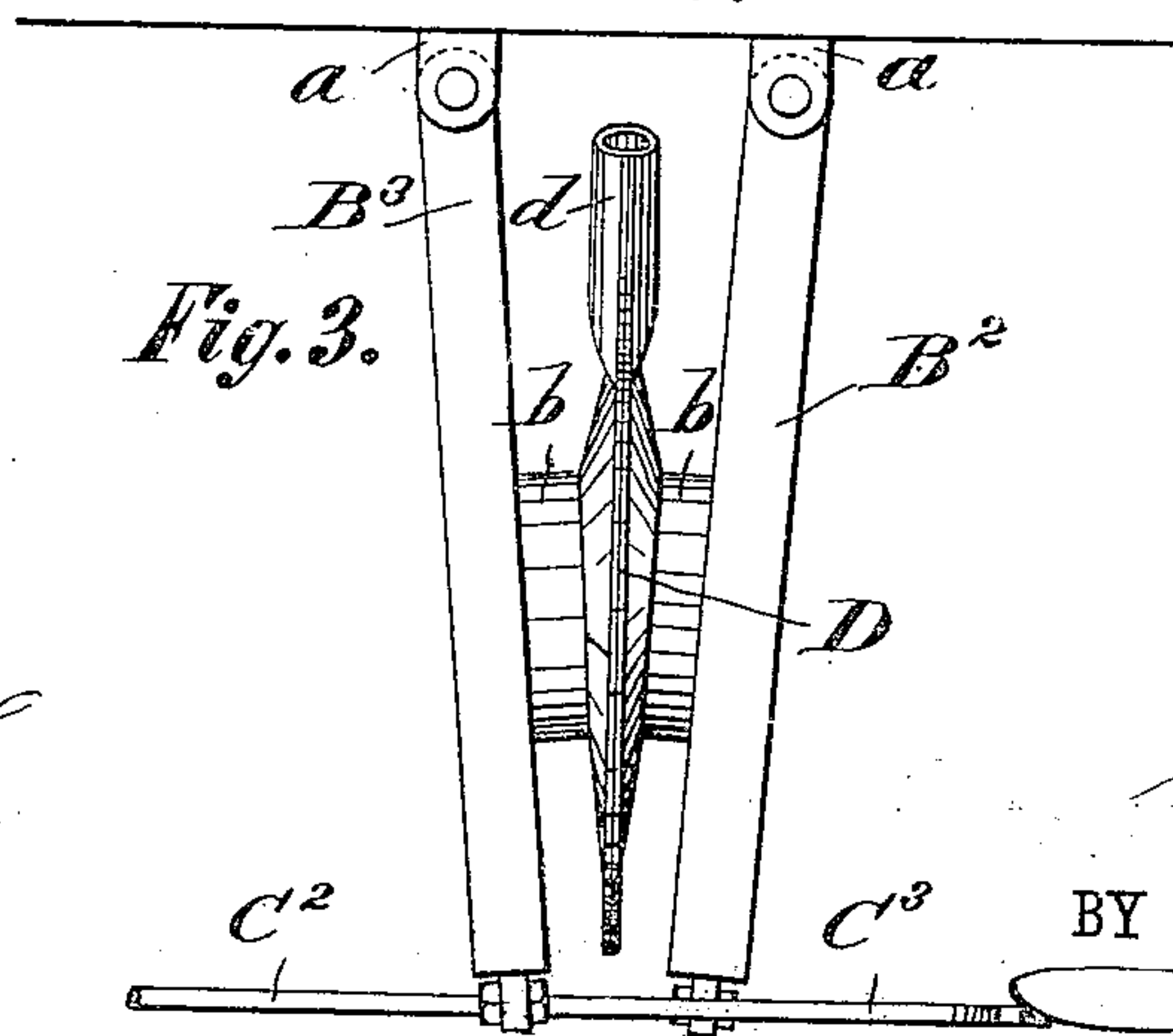
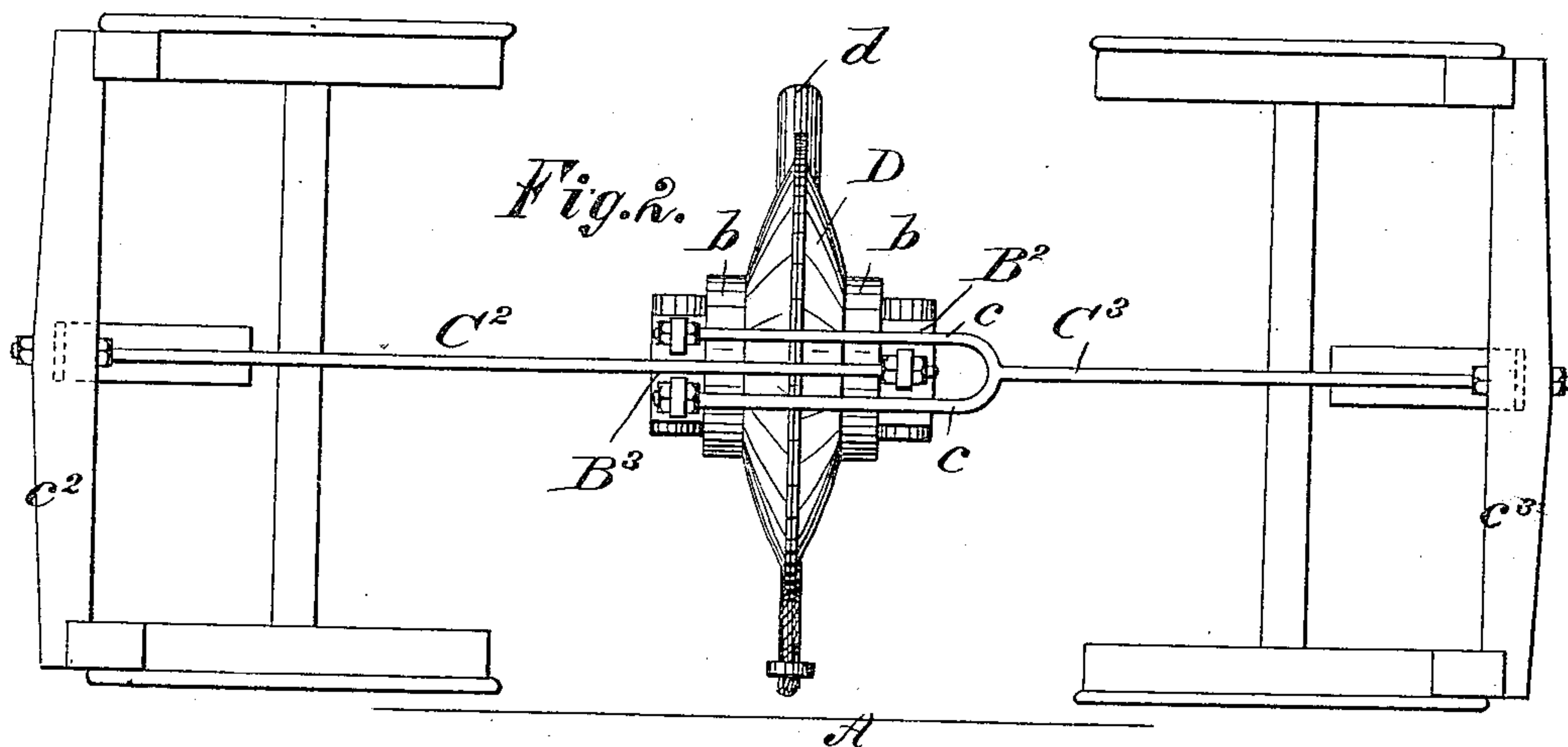
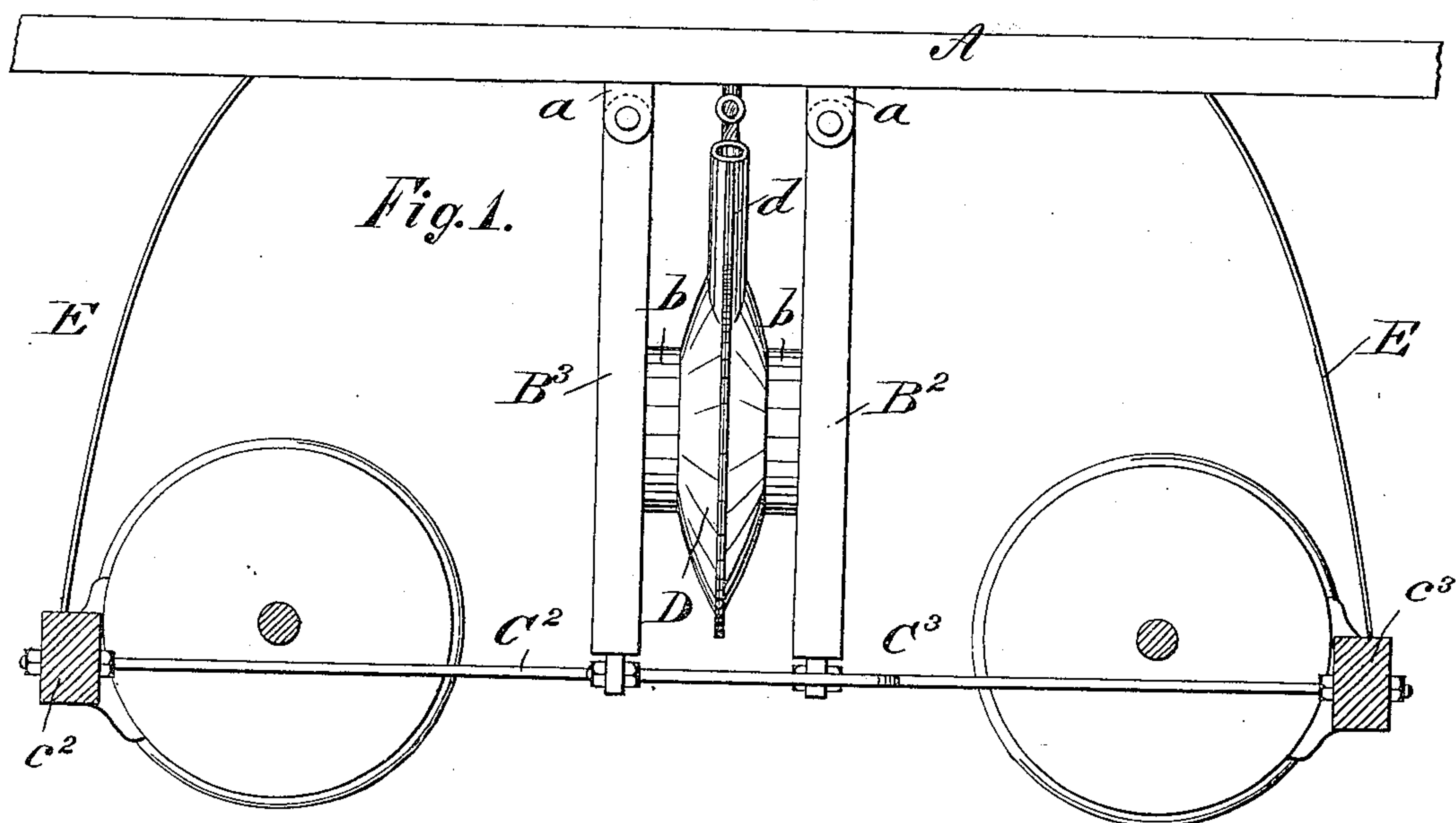


(Model.)

C. L. LORRAINE.
RAILWAY AIR BRAKE.

No. 246,166.

Patented Aug. 23, 1881.



WITNESSES:

Thos. Hooker
C. Sedgwick

INVENTOR:

C. L. Lorraine

BY *Munn & Co*

ATTORNEYS.

UNITED STATES PATENT OFFICE.

CLARENCE L. LORRAINE, OF ORONOCO, MINNESOTA, ASSIGNOR TO HIMSELF
AND MARK W. CLAY, OF SAME PLACE.

RAILWAY AIR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 246,166, dated August 23, 1881.

Application filed May 20, 1881. (Model.)

To all whom it may concern:

Be it known that I, CLARENCE L. LORRAINE, of Oronoco, in the county of Olmsted and State of Minnesota, have invented certain
5 useful Improvements in Railway Air-Brakes, of which the following is a specification.

This invention relates to a means for operating car-brakes by means of compressed air.

The invention consists in a novel construction, arrangement, and combination of hanging bars, connecting-rods attached to brake-beams, and an expansible and contractible air-chamber, as hereinafter more particularly described.

15 In the accompanying drawings, Figure 1 is a side view, partly in section, of a car-truck provided with my invention, showing the brakes applied. Fig. 2 is a bottom view of the same. Fig. 3 is a side view, showing the position of
20 the hanging bars and air-chamber when the brakes are off.

Similar letters of reference indicate corresponding parts.

25 A is the frame of the truck, provided with short bars *a a*, to which are attached, by means of pivots or hinges, the hanging bars *B² B³*. These hanging bars are provided with plates *b b* on their inner sides.

30 To the lower ends of the hanging bars are attached rods *C² C³*, which connect said bars with the brake-beams *c³ c²*. The rod *C²*, from the brake-beam *c²*, is attached to the hanging bar *B²*; and the rod *C³*, from the brake-beam *c³*, is attached to the hanging bar *B³*, and may
35 be forked or divided into two branches, *c c*, with the hanging bar *B²* working between them.

Suspended in any suitable manner from the bottom of the car or the truck-frame A, and hanging between the plates *b b*, is a bag-like
40 chamber, D, made of any suitable flexible material, provided with a tube or neck, *d*, which connects with a pipe for conveying compressed air to it from an apparatus of any suitable description.

45 When it is desired to apply the brakes the compressed air is admitted into the chamber D through the tube *d*, causing the chamber to expand and to separate the hanging bars *B² B³*, which, by means of their respective rods
50 *c² c³*, will apply the shoes of the brakes to the wheels and hold them there until the air-pressure is removed.

When the brakes are to be taken off, the air-pressure is withdrawn from the chamber D,
55 when the springs *E E* force the brake-shoes away from the wheels and draw the hanging bars toward each other.

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

60 In a car-brake, the combination of the expansible and contractible air-chamber D, the hanging bars *B² B³*, provided with plates *b b*, the connecting-rods *C² C³*, the springs *E*, the
65 brake-beams, and the shoes, all arranged and operating as described.

CLARENCE LEICESTER LORRAINE.

Witnesses:

W. P. HOLTON,
J. A. FULTON.