

No. 667,991.

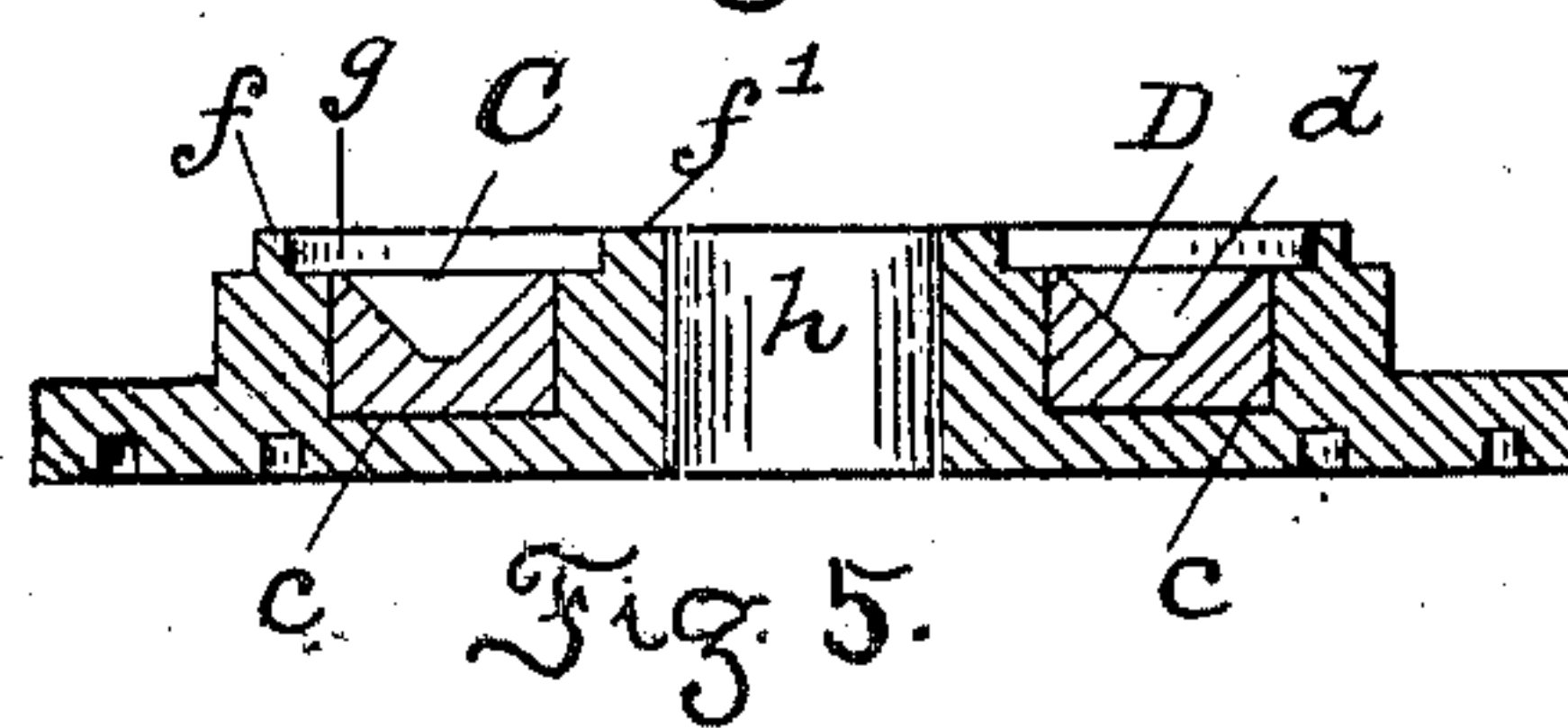
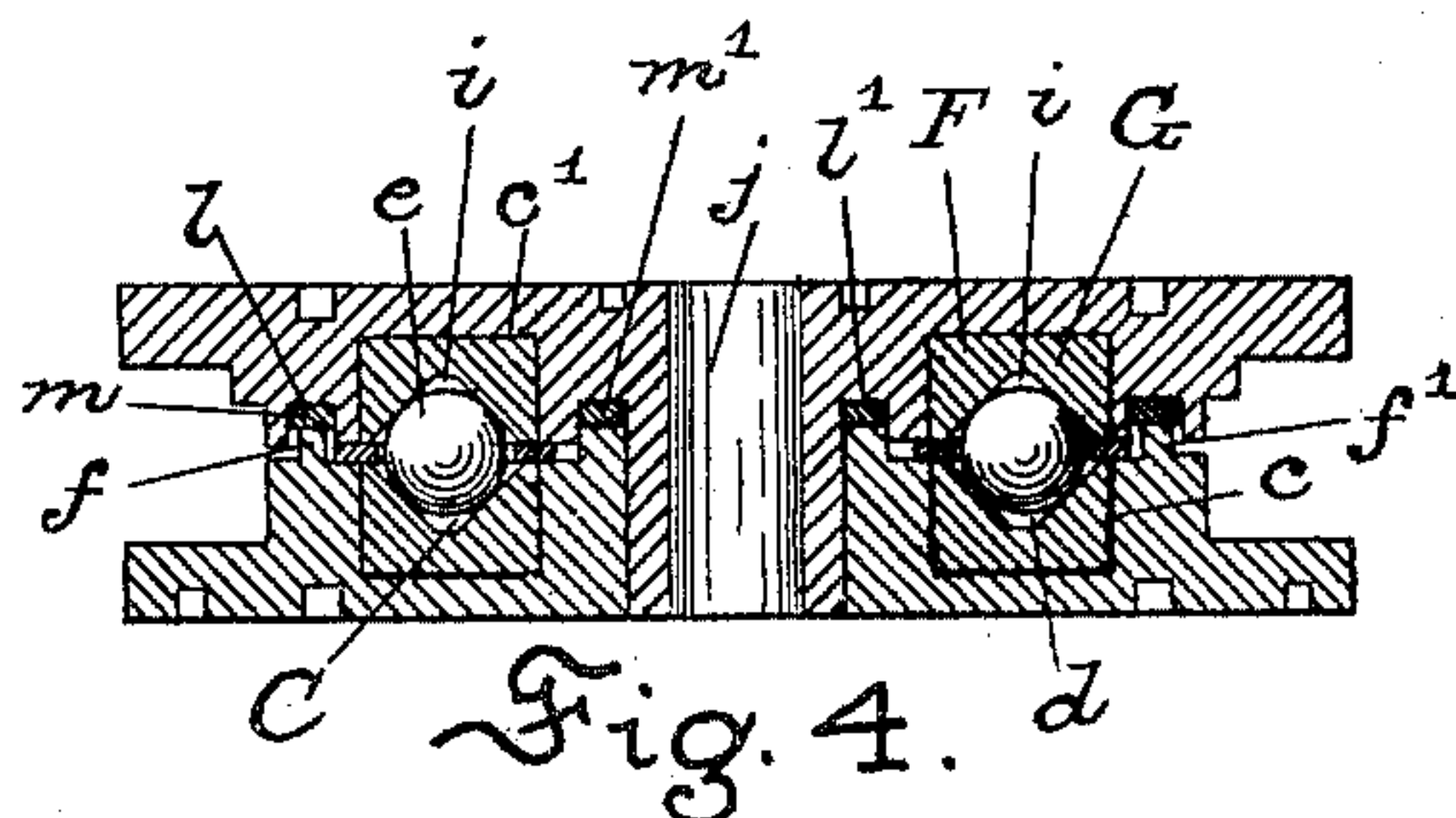
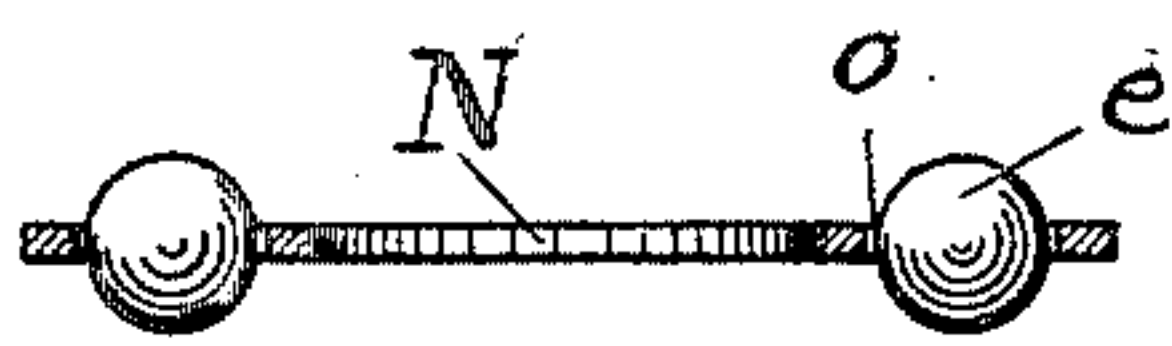
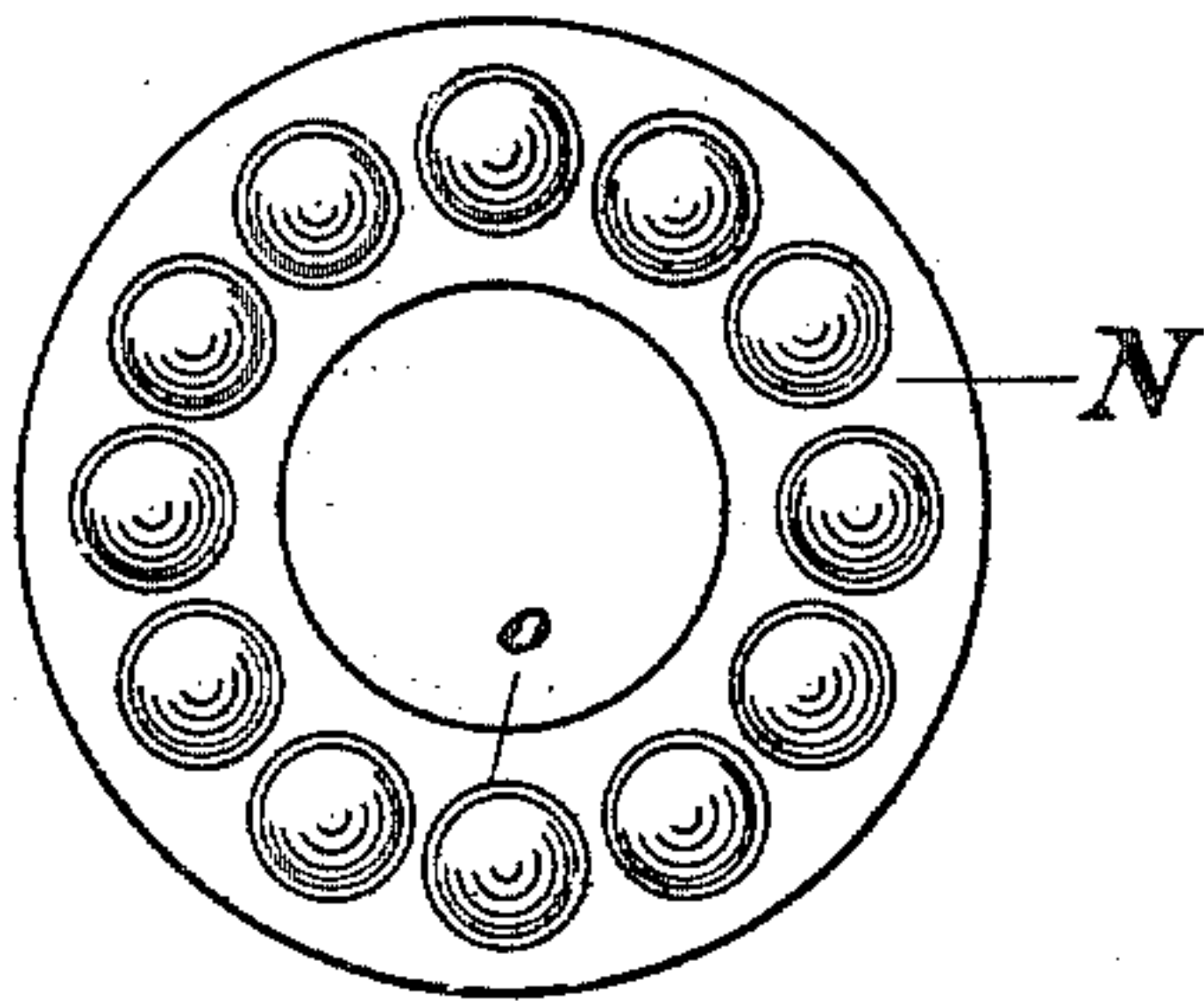
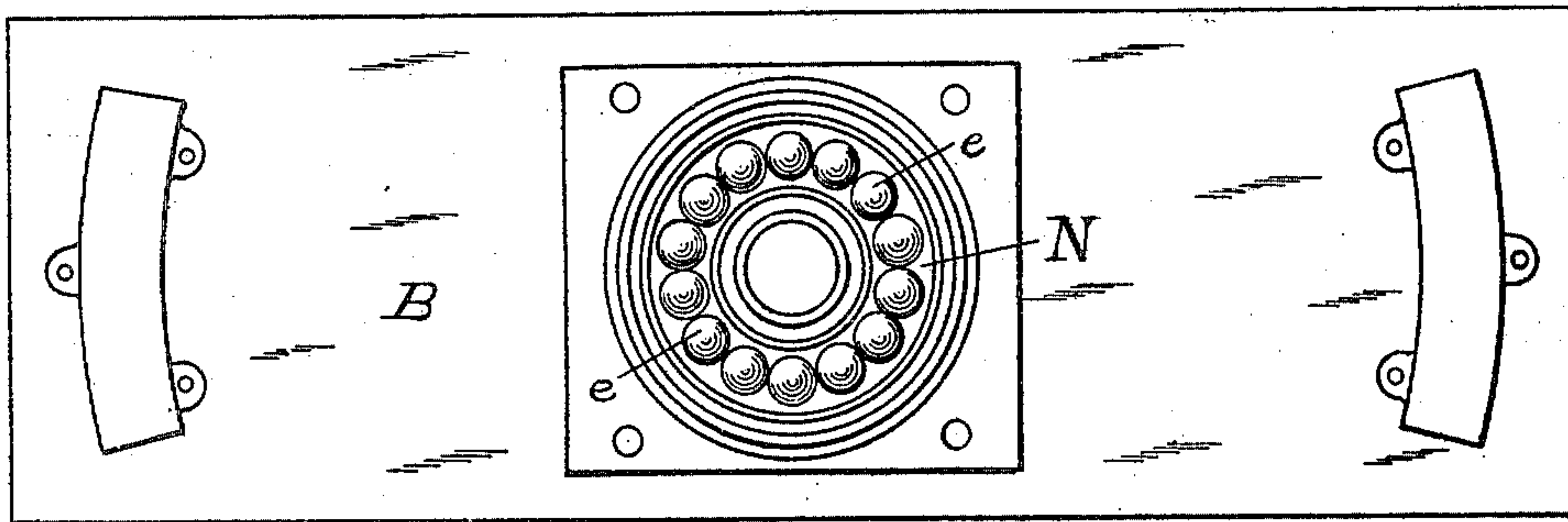
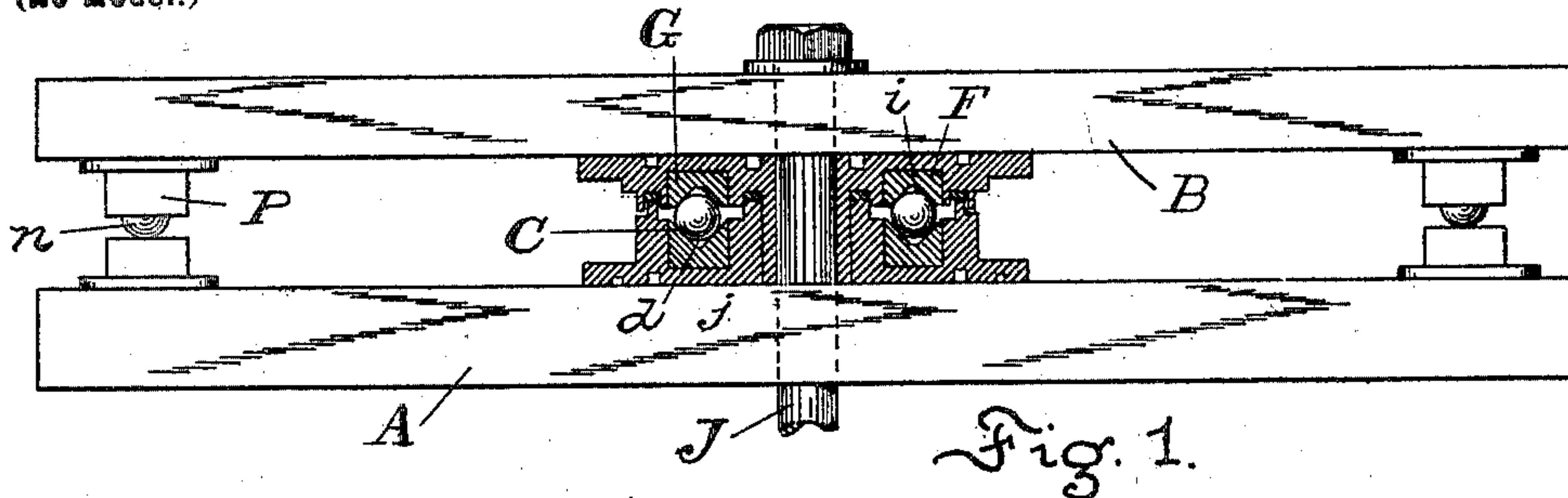
Patented Feb. 12, 1901.

J. E. NORWOOD.

ANTIFRICTION CENTER BEARING FOR RAILWAY CARS.

(Application filed June 8, 1900.)

(No Model.)



Witnesses
H. F. Meyer, Jr.
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UNITED STATES PATENT OFFICE.

JOHN E. NORWOOD, OF BALTIMORE, MARYLAND.

ANTIFRICTION CENTER-BEARING FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 667,991, dated February 12, 1901.

Application filed June 8, 1900. Serial No. 19,495. (No model.)

To all whom it may concern:

Be it known that I, JOHN E. NORWOOD, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Antifriction Center-Bearings for Railway-Cars, of which the following is a specification.

My invention relates to antifriction center-bearings for railway-cars; and its objects are to provide a center antifriction ball-bearing which will be practically dust-proof, so as to exclude sand and cinders and also prevent lateral or side motion of the car-body with respect to the truck.

With these ends in view the invention consists of constructions, arrangements, and combinations of the parts hereinafter described and claimed.

Reference is to be had to the accompanying drawings, in which—

Figure 1 is an elevation of the truck and body bolsters of a railway-car with my improved bearing shown in section. Fig. 2 is a plan view of the truck-bolster with my improved bearing attached, the upper ball-box being removed. Fig. 3 is a plan view of an annular ball-separator frame and the antifriction-balls held therein. Fig. 4 is an enlarged diametrical section of the complete center-bearing detached from the bolsters and with the ball-separator frame in place. Fig. 5 is a diametrical section of the lower ball-box. Fig. 6 is a diametrical section of the ball-separator frame.

Referring to the drawings, A designates the truck-bolster, and B the body-bolster, of a railway-car provided with bearings embodying the features of my invention.

The center-bearing comprises a lower ball-box C, secured to the upper face of the truck-bolster A at the middle thereof and formed with an annular socket *c*, in which an annular wear-plate D, made of hardened steel, is seated, said plate being formed with a circular channel *d*, angular in cross-section, as shown, in which the antifriction-balls *e* roll, the balls having two points of contact, one point being on each side of the angle. The lower ball-box C has two upwardly-extending annular flanges *f f'* concentric with the circular channel in the wear-plate D. These two flanges form a circular recess *g* in the

lower ball-box C, which also has a central opening *h*.

F designates an upper ball-box secured to the lower face of the body-bolster B directly above the ball-box C and formed with an annular socket *c'*, in which a hardened-steel annular wear-plate G is fitted, said wear-plate being formed with an inverted circular channel *i*, which is angular in cross-section, as shown, and which fits down over the balls *e*. The lower and upper angular channeled wear-plates thereby form four diametrically opposed points of contact for the balls, which prevent any lateral or side slipping motion. The upper ball-box F also has a central tubular depending boss *j*, which receives the connecting-bolt J, in case one is used, and which itself is inserted downwardly through the central opening *h* in the lower ball-box C. Two concentric annular recesses *ll'* are formed on the lower face of the upper ball-box, and the wear-plate G is between the said two recesses. A packing-ring *m* is in one recess and another packing-ring *m'* is in the other recess. These packing-rings may be made of any suitable material, such as felt or the like, and each packing-ring abuts against one of the upwardly-extending annular flanges *f f'* on the lower ball-box C. These packing-rings serve to exclude dirt and dust from the angular channels *d i* and balls *e*.

I may, as shown in Fig. 4, interpose between the two wear-plates D and G an annular separator-frame N, formed with a plurality of cage-holes *o*, in which the balls are received and by which the balls are kept separate from each other and always retained in the same relative position.

P designates side bearings located near the ends of the bolsters and provided with antifriction-balls *n*. These may be either used or omitted.

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

1. The combination with the truck and body bolsters of a railway-car, of a lower ball-box secured to the truck-bolster and formed with an annular socket; an annular wear-plate seated in said socket and having a circular channel angular in cross-section; antifriction-balls in said channel; an upper ball-box se-

cured to the body-bolster and formed with an annular socket; and an annular wear-plate in said last-named socket having a circular channel angular in cross-section and fitting
5 down over the said antifriction-balls, substantially as set forth.

2. In a center-bearing for railway-cars, the combination of a lower ball-box having an annular wear-plate provided with a circular
10 channel whose sides are angularly disposed and having two upwardly-extending annular flanges f, f' , concentric with said circular channel; an upper ball-box having two concentric annular recesses, l, l' , in which said annular

flanges fit, and an inverted circular channel 15 between said two recesses; a packing-ring in each of said recesses in the upper ball-box—said rings abutting against the upper surfaces of the two upwardly-extending annular flanges on the lower ball-box, and antifriction- 20 balls in said circular channels.

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

JOHN E. NORWOOD.

Witnesses:

THOS. C. BAILEY,
F. S. STITT.