

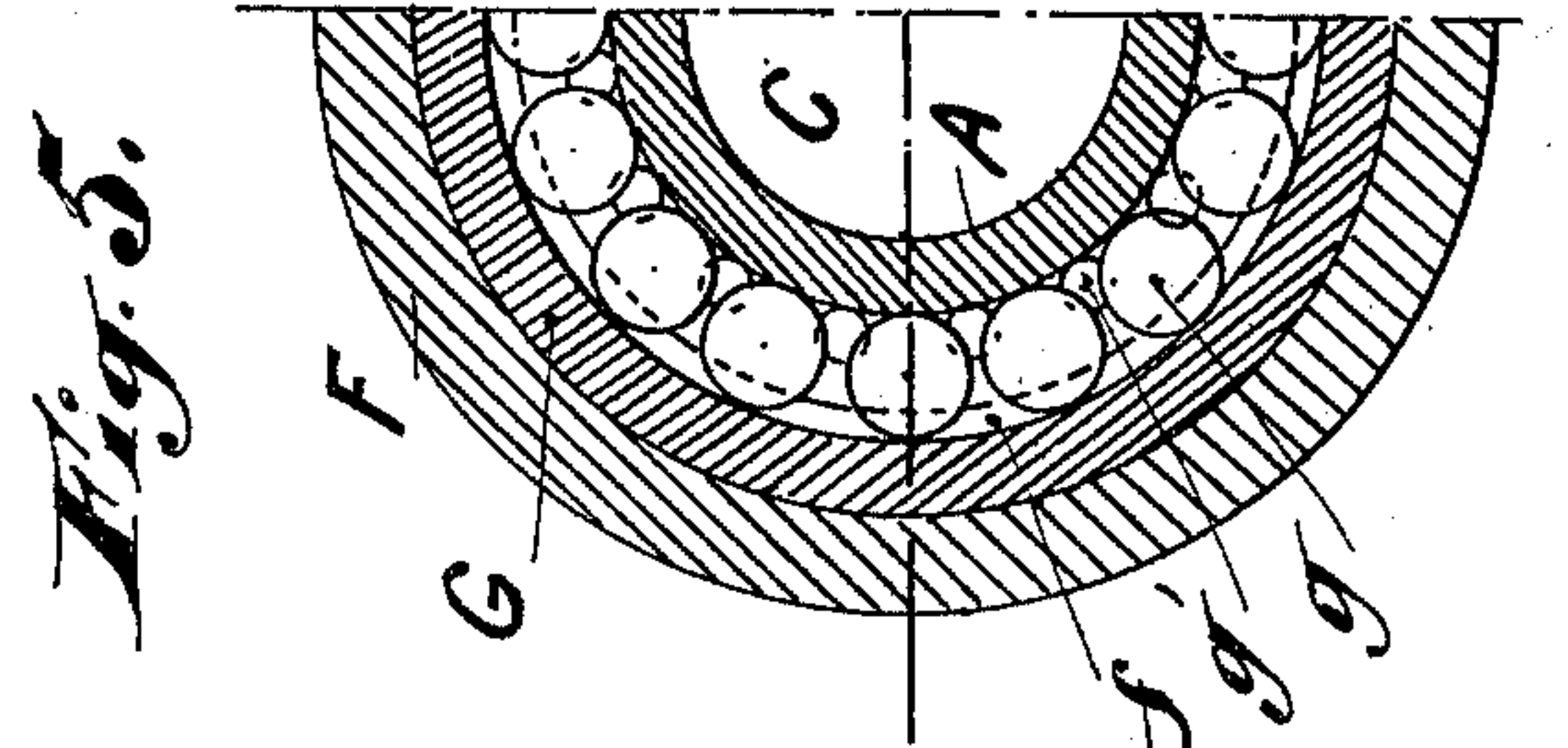
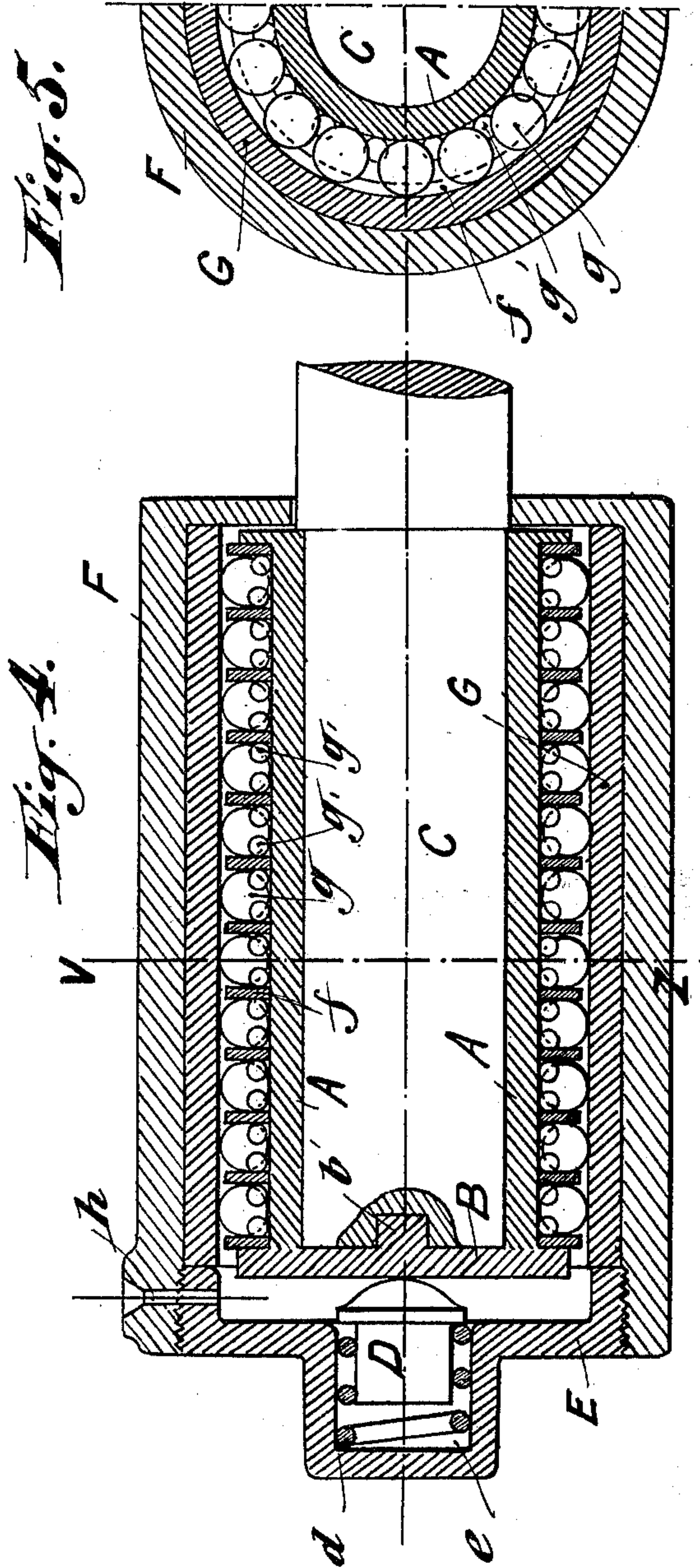
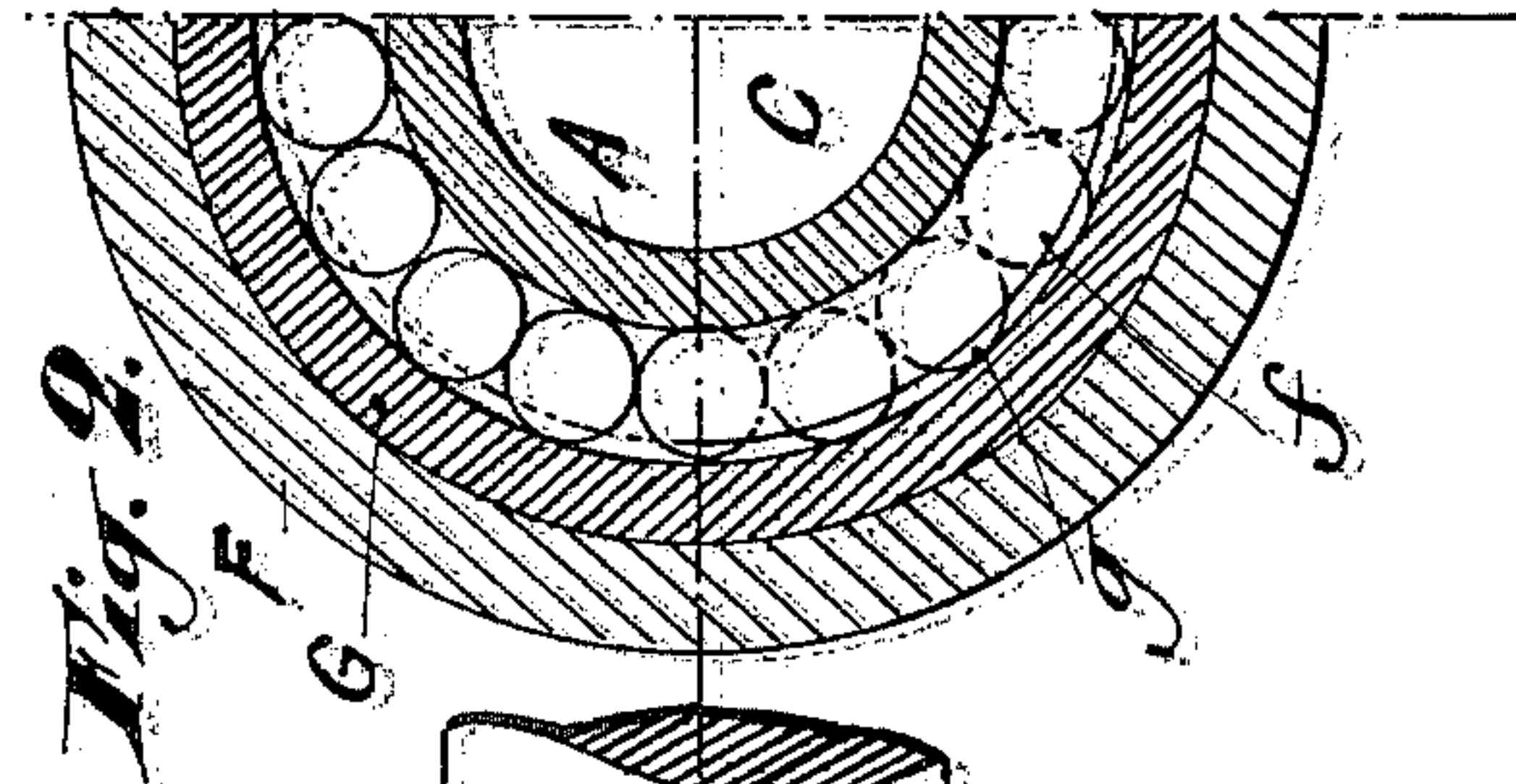
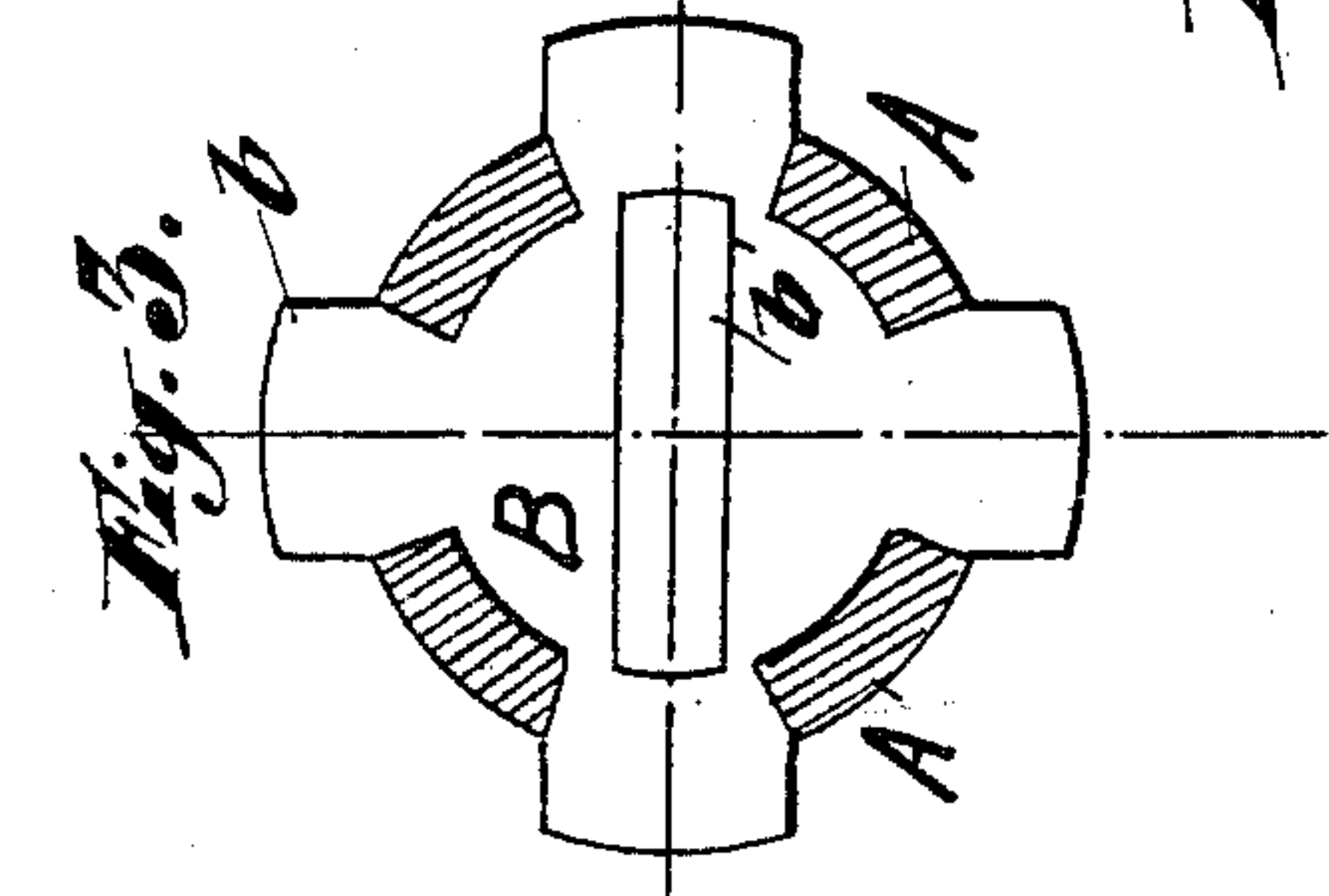
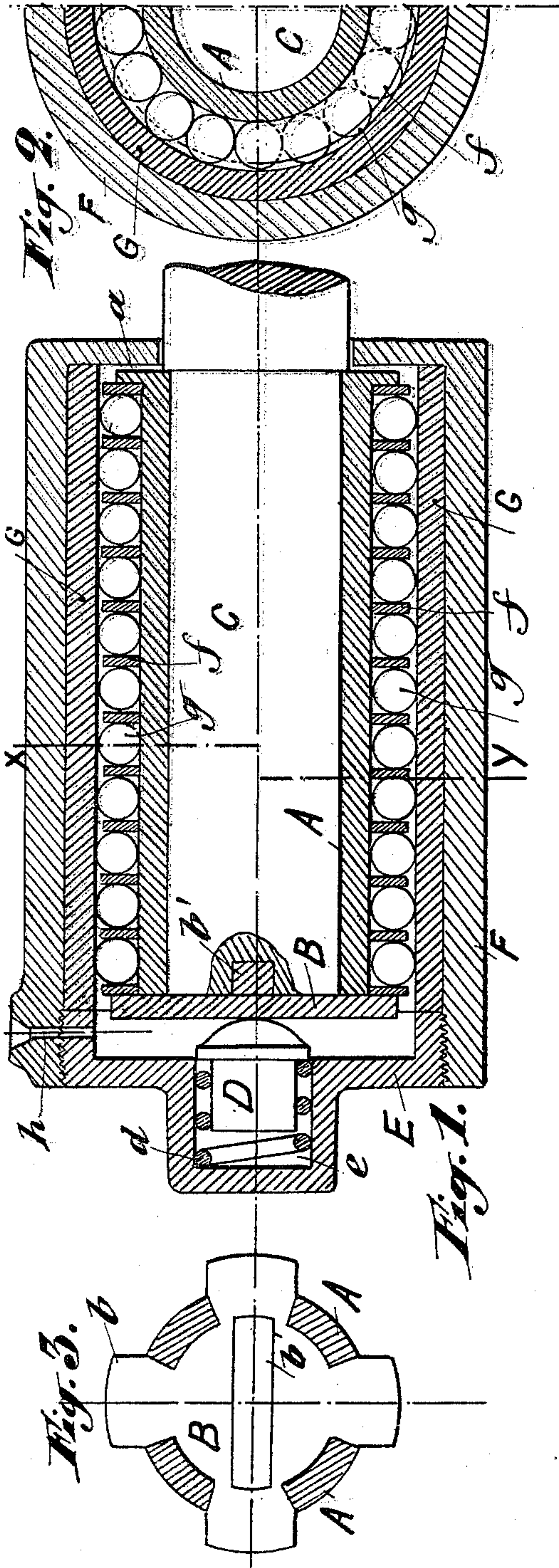
No. 626,274.

Patented June 6, 1899.

M. FOIDART.
BALL BEARING.

(Application filed Dec. 17, 1898.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

MATHIEU FOIDART, OF BRUSSELS, BELGIUM.

BALL-BEARING.

SPECIFICATION forming part of Letters Patent No. 626,274, dated June 6, 1899.

Application filed December 17, 1898. Serial No. 699,597. (No model.)

To all whom it may concern:

Be it known that I, MATHIEU FOIDART, a citizen of the Kingdom of Belgium, residing at Brussels, Belgium, have invented certain
5 new and useful Improvements in Ball-Bearings, of which the following is a specification.

My invention relates to ball-bearings for shafts, axles, and the like and especially for heavy-vehicle bearings.

10 The object of the invention is to provide a ball-bearing in which any number of rows of balls may be used, and each row of balls will be held from lateral movement without it being necessary to provide the usual circular or
15 otherwise-shaped ball-races.

The invention consists in certain details of construction hereinafter set forth, and particularly pointed out in the claims.

20 In order that the invention may be the more properly and readily understood and carried into practical effect, I have illustrated the same in the accompanying explanatory drawings, in which—

Figure 1 is a vertical longitudinal sectional view of a ball-bearing constructed in accordance with my invention. Fig. 2 is a cross-section on X Y of Fig. 1. Fig. 3 shows the end
25 tightening-plate. Fig. 4 is a vertical longitudinal sectional view of a ball-bearing having intermediary balls, and Fig. 5 is a cross-section on V Z of Fig. 4.

In the drawings like letters refer to like parts throughout all the figures.

35 The improvements principally consist of a smooth sleeve A, loosely mounted on the axle-journal C and provided at one end with a suitable flange *a*, the other end of said sleeve being cut away at determinate points to receive radial lugs *b*, provided on plate B, Fig.

40 3. Said plate is applied against the end of journal C and fastened thereon with a tongue-and-grooved connection by a suitable extension *b'*, projecting from said plate and extending into a corresponding recess in journal C.
45 A head-bolt D under the action of a coiled spring *d* serves to hold said plate B in place on the end of journal C. The shank of said bolt and said coiled spring are lodged in a suitable recess *e*, provided in the center of
50 an externally-threaded cap E, screwed in the internally-threaded end of journal-box F and abutting against the outer end of a second

sleeve G, the periphery of which bears against the inner surface of journal-box F. Said sleeves G and A are held out of contact by
55 a plurality of ball-rows, as hereinafter described.

The object of the arrangement of plate B and spring-bolt D (the ball-bearing being applied to axle-journals of vehicle) is to dis-
60 pense with the usual longitudinal key on the axle-journal and any rigid screw or like connection between said journal and the housing-box, said connections being liable to be broken away or loosened by the vibrations
65 or lateral movements of a car or other vehicle. With the foregoing construction and arrangement the thrust is taken up by the coiled spring of bolt D and does not at all affect plate B.

70 The slight tendency of cap E to be inscrewed may be efficiently overcome by means of a screw extending through oil-channel *h*.

On sleeve A are loosely mounted suitable rings *f*, and between the successive rings are
75 arranged series of balls *g*. The innermost ring *f* rests against the aforesaid flange *a*, and the outermost ring *f*, as well as the intermediary rings, are maintained by the end of
80 lugs *b* on plate B.

In Figs. 4 and 5 of the accompanying drawings I have illustrated a similar ball-bearing, except that the main balls *g* are held out of contact with one another by smaller inter-
85 mediary balls *g'*.

The fore part of the journal-box has an oil passage or conduit *h* extending through the wall of said box and the cap E and through which oil or any suitable lubricant may be introduced into said box, where it occupies
90 the bottom part, to maintain the balls in a lubricated state during the movement of the vehicle.

I have found that the insertion of rings, such as *f*, is much more advantageous than
95 the usual grooves or circular ball-races, said rings preventing the balls very efficiently from deviating from their circumferential way. Furthermore, the intermediary balls inserted between the main balls serve to re-
100 move any friction between the latter, and therefore reduce the friction of the system to a minimum.

The various parts of my invention being

liable to be modified as to the construction and arrangement thereof without departing from the spirit and scope of the invention, I wish it to be understood that I do not confine
5 myself to the precise construction and arrangement of the parts as shown in the accompanying drawings so long as the peculiar features of my invention be retained.

Having fully described my invention, what
10 I claim, and desire to secure by Letters Patent, is—

1. In a ball-bearing, the combination with a journal and a sleeve which is mounted thereon and adapted to receive the antifriction-
15 balls externally, of a series of antifriction-balls, an inclosing box or casing, a disk plate fitting against one end of the said sleeve and

journal, and independent spring-actuated means for holding the said plate in said position by pressure, substantially as set forth. 20

2. In combination with the journal C recessed at its end, the plate B having a part *b'* which fits into the said recess, a spring-bolt D bearing against the outer face of the said plate, a sleeve fitting on the said journal, a
25 box inclosing the said parts and a series of antifriction-balls interposed between the said sleeve and box, substantially as set forth.

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

MATHIEU FOIDART.

Witnesses:

AD. HURM,

GREGORY PHELAN.