

(No Model.)

A. RUSSELL.
ANTIFRICTION JOURNAL BOX.

No. 283,421.

Patented Aug. 21, 1883.

Fig. 1.

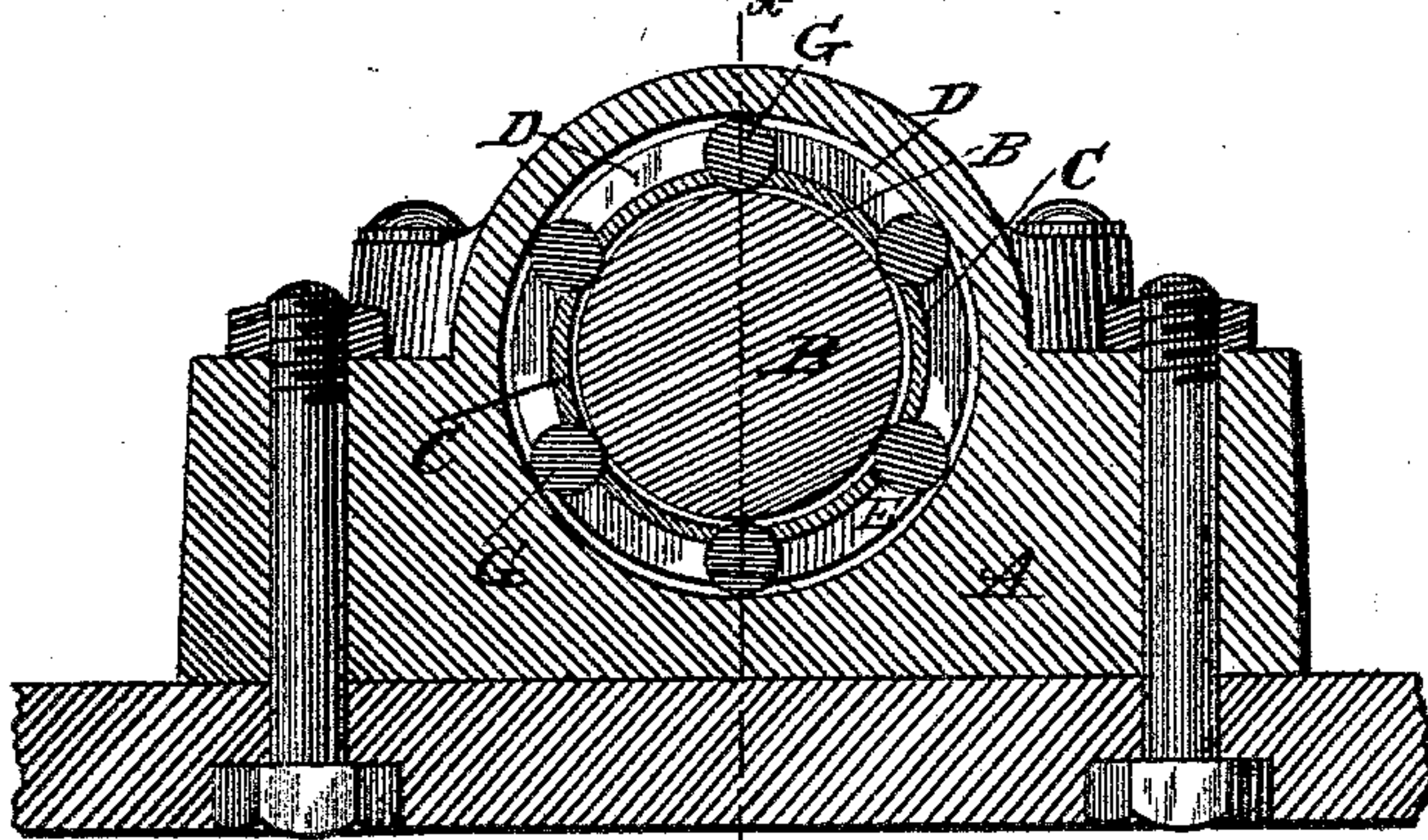


Fig. 2.

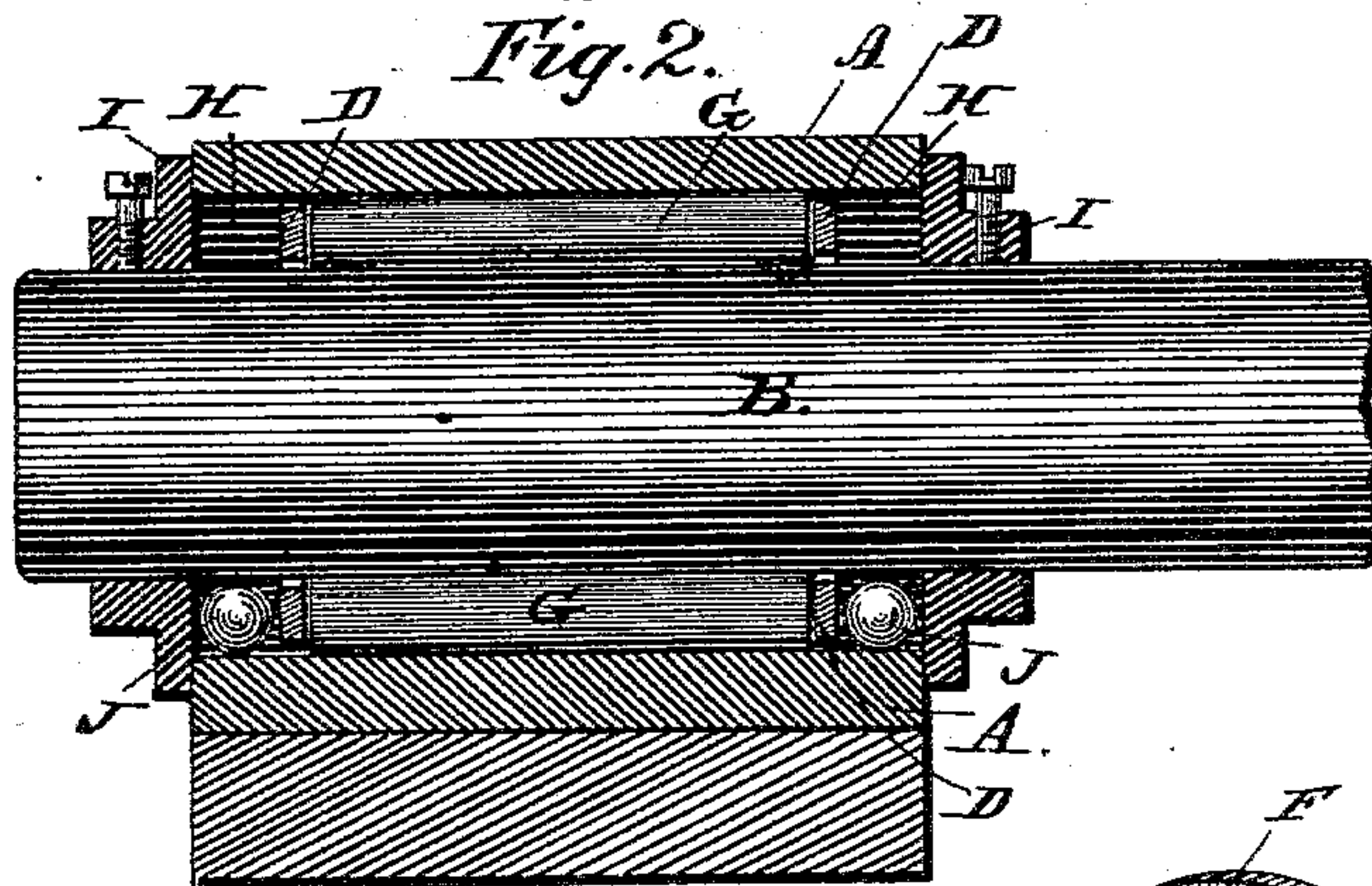


Fig. 3.

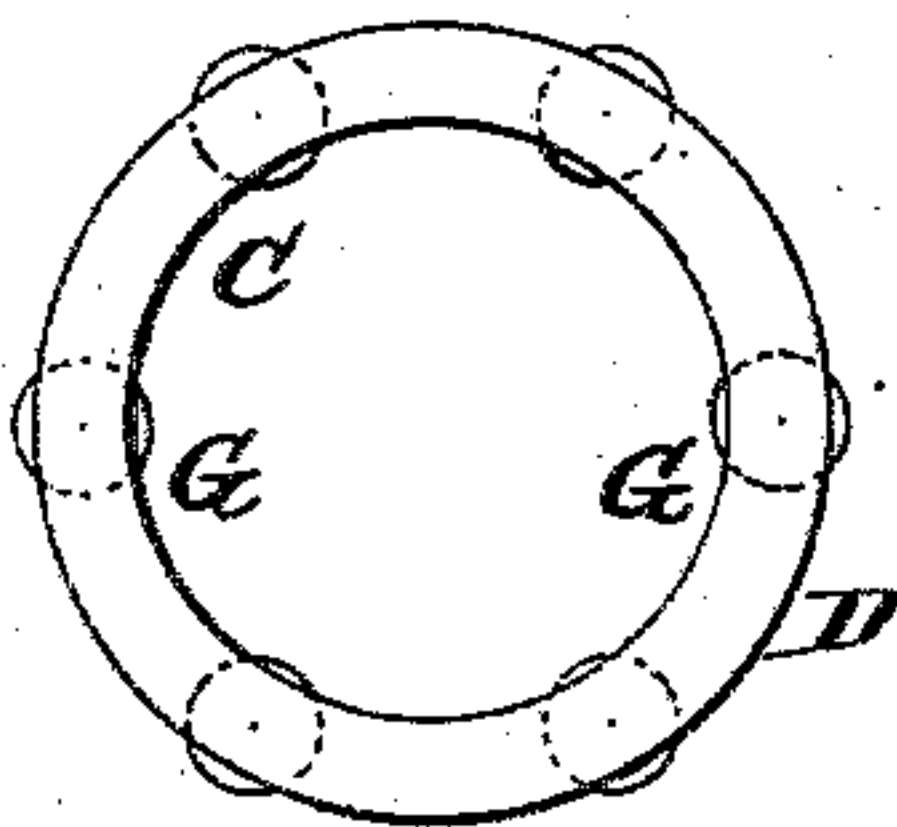


Fig. 4.

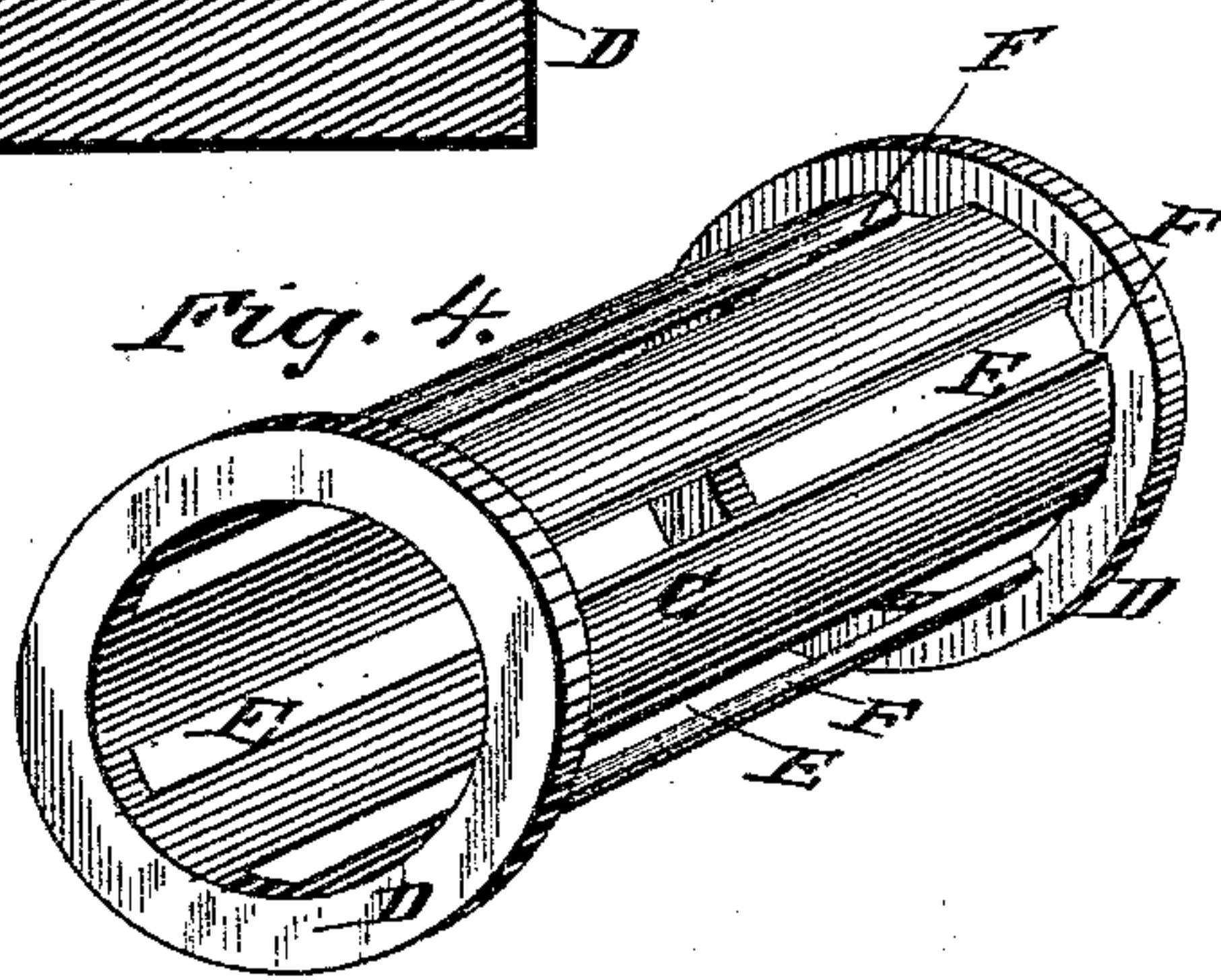
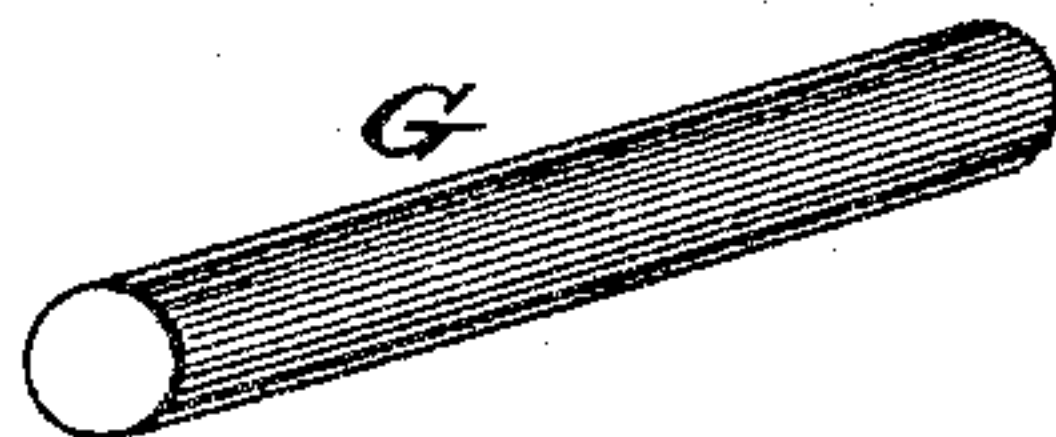


Fig. 5.



WITNESSES:

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ALVIN RUSSELL, OF BOMBAY, NEW YORK.

ANTI-FRICTION JOURNAL-BOX.

SPECIFICATION forming part of Letters Patent No. 283,421, dated August 21, 1883.

Application filed June 22, 1883. (No model.)

To all whom it may concern:

Be it known that I, ALVIN RUSSELL, a citizen of the United States, and a resident of Bombay, in the county of Franklin and State of New York, have invented certain new and useful Improvements in Anti-Friction Journal-Boxes; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a cross-section of my improved anti-friction journal-box. Fig. 2 is a longitudinal sectional view of the same through line *xx* in Fig. 1. Fig. 3 is an end view of the inside cylinder, with its anti-friction rollers. Fig. 4 is a perspective view of the same with the rollers removed, and Fig. 5 is a perspective view of one of the removable anti-friction rollers.

Similar letters of reference indicate corresponding parts in all the figures.

My invention has relation to anti-friction journal-boxes adapted for use on railway-cars, or in the axle-boxes of street-cars or vehicles and wagons of ordinary construction, as well as for use on the shafting of machinery; and my invention consists in the detailed construction and combination of parts, as hereinafter more fully described and claimed, of an anti-friction journal-box of that class in which a series of rollers are boxed in a cylindrical shell or casing encircling the journal inside of the box, so as to form bearings for the journal and prevent this from frictional contact with the box.

In the accompanying drawings, A denotes the journal-box proper, and B the journal.

C is a cylindrical box or casing, open at both ends, and provided with end flanges, D D, and with a series of longitudinal slots, E, beveled along both edges, as shown at F. This cylinder C forms a bearing for the removable cylindrical rollers G, which are of such a length that they will fit between the end flanges, D D, while the beveled slots E F form seats for the rollers, which project about equal

distances into the cylinder and above the rims or flanges of the same, as will appear more clearly by reference to Figs. 1 and 3 of the drawings. Thus it will be seen that the cylindrical roller box or casing C does not come in actual contact either with the journal B, which is inserted through it, or with the journal-box A, into which it is inserted.

By reference to Fig. 2 of the drawings, it will be seen that cylinder C is made somewhat shorter than the journal-box, so as to leave an annular space, H, between the end flanges, D D, of the cylinder and the collars I I, which are fixed upon the journal and bear against opposite ends of the journal-box. Into these annular chambers are placed friction-balls J, of such size as to fit between the flanges D and journal-collars I. These balls operate to reduce the friction between the inside roller-cylinder, C, and the fixed collars I I, so that the journal will run with a minimum of friction not only as regards the inside of the journal-box, but also with respect to the journal-collars I I. By this construction I also obviate the use of washers or leather packing, which soon wears out and requires constant renewal, especially where the journals, as in railway-cars, are run at great speed.

I am aware that friction-balls have been used before in anti-friction journal-boxes of this class by placing the same within the journal-box, so as to bear against the outer end of the journal; but I am not aware that they have, prior to my invention, been placed at opposite ends of the roller shell or casing, so as to take up the room between its end flanges and the ends of the journal-box proper, and thus prevent the shell from binding against or coming in frictional contact with either end of the box in tilting the cars when a train passes around curves.

What I claim as my improvement, and desire to secure by Letters Patent of the United States, is—

The combination of the journal box or bearing A, cylindrical casing or roller shell C, having end flanges, D D, and beveled roller-seats E F, removable cylindrical rollers G, friction-balls J, placed in the annular cham-

bers H between the end flanges, D D, and
collars I I, at opposite ends of the roll-shell,
and journal B, having fixed collars I I, bear-
ing against the ends of the journal-box, where-
5 by said chambers H H are formed, substan-
tially as and for the purpose shown and set
forth.

In testimony that I claim the foregoing as
my own I have hereunto affixed my signature
in presence of two witnesses.

ALVIN RUSSELL.

Witnesses:

LOUIS BAGGER,
BENNETT S. JONES.