

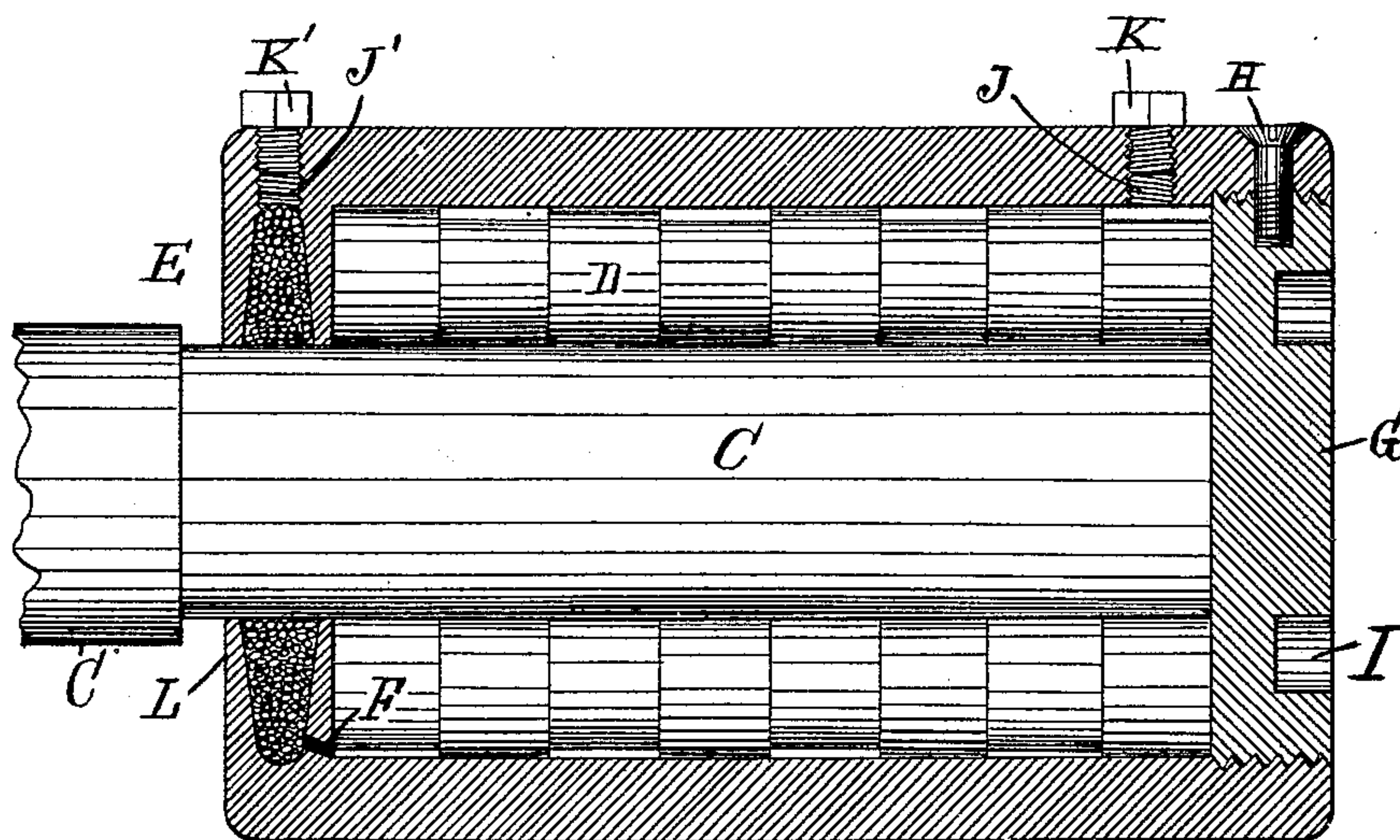
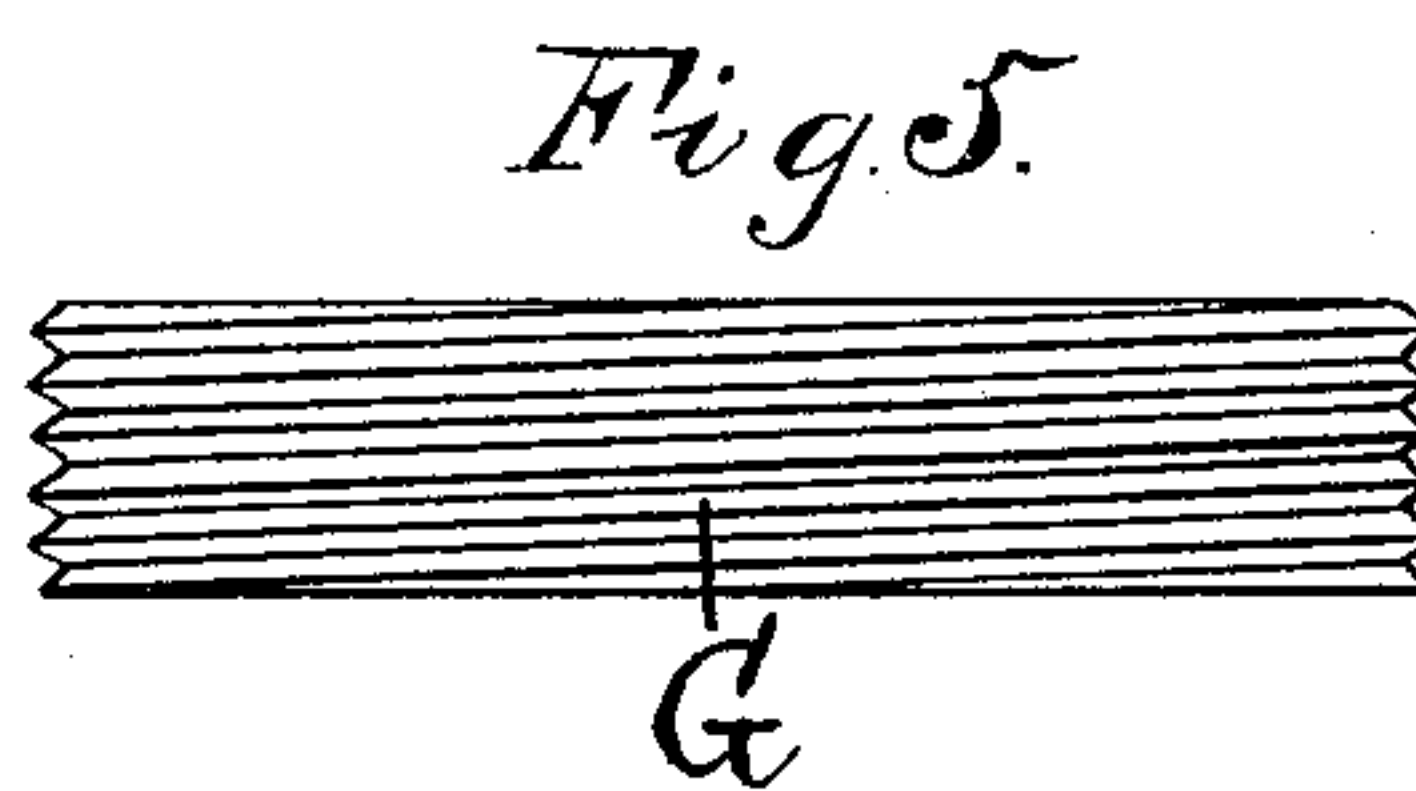
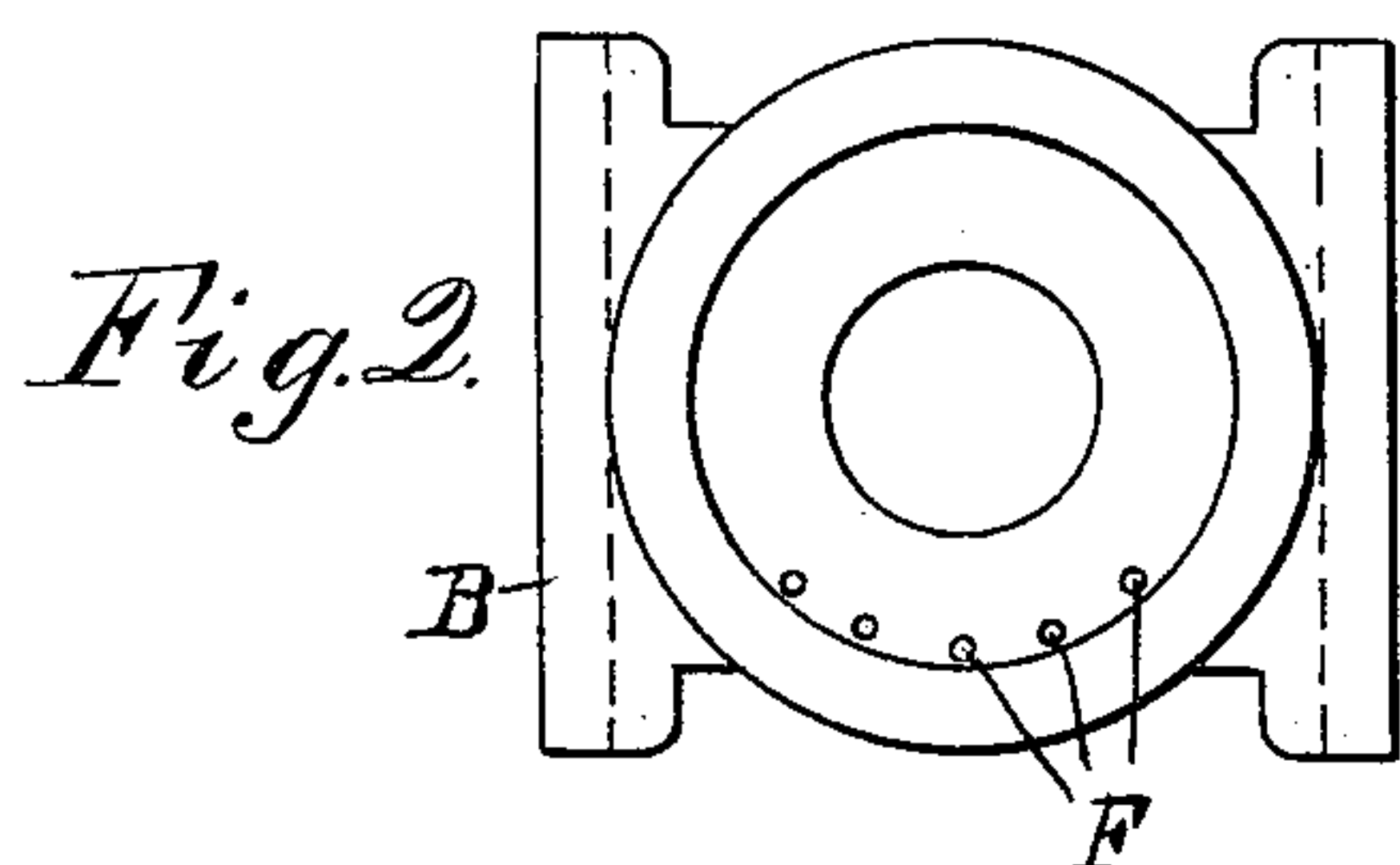
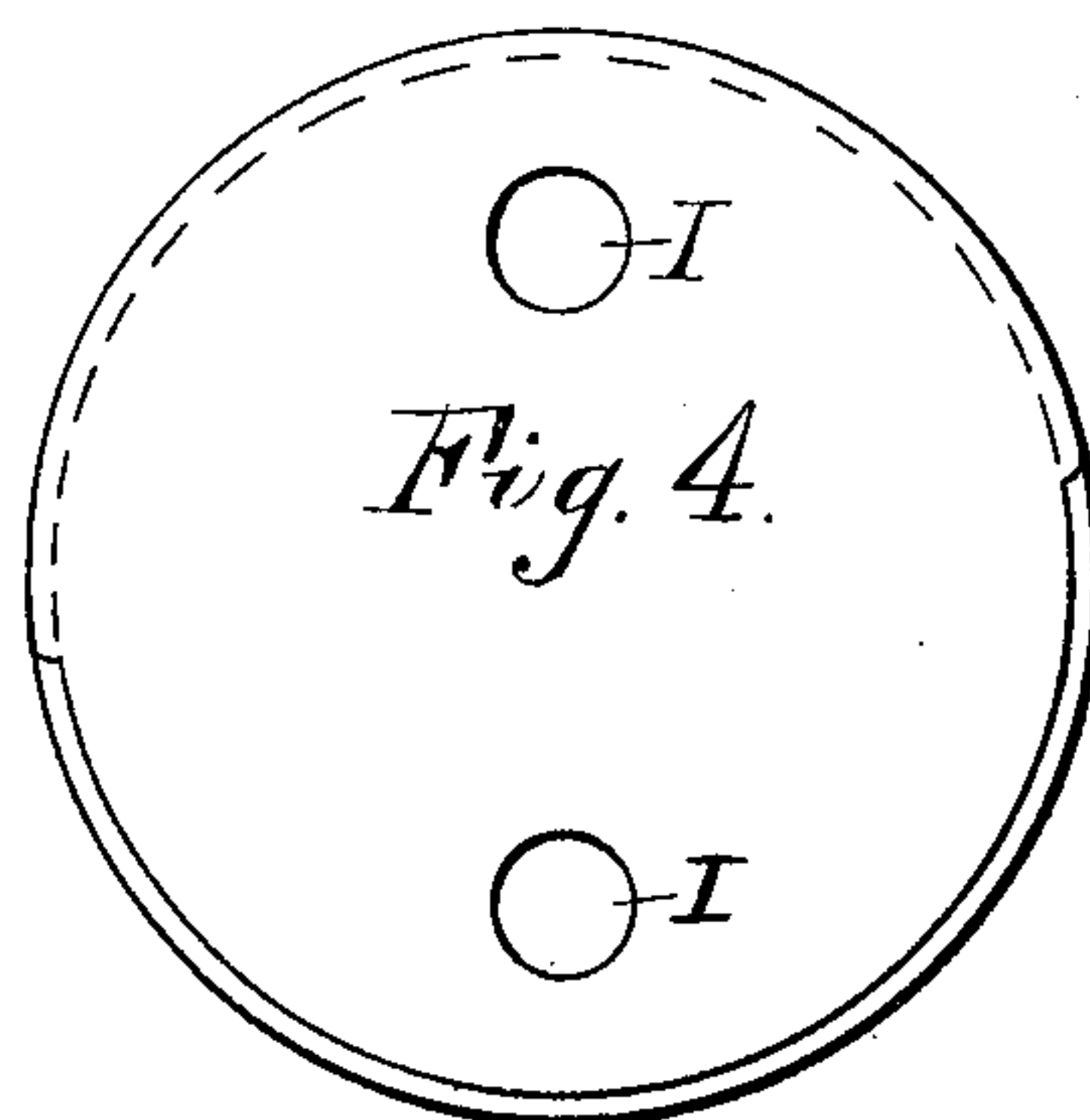
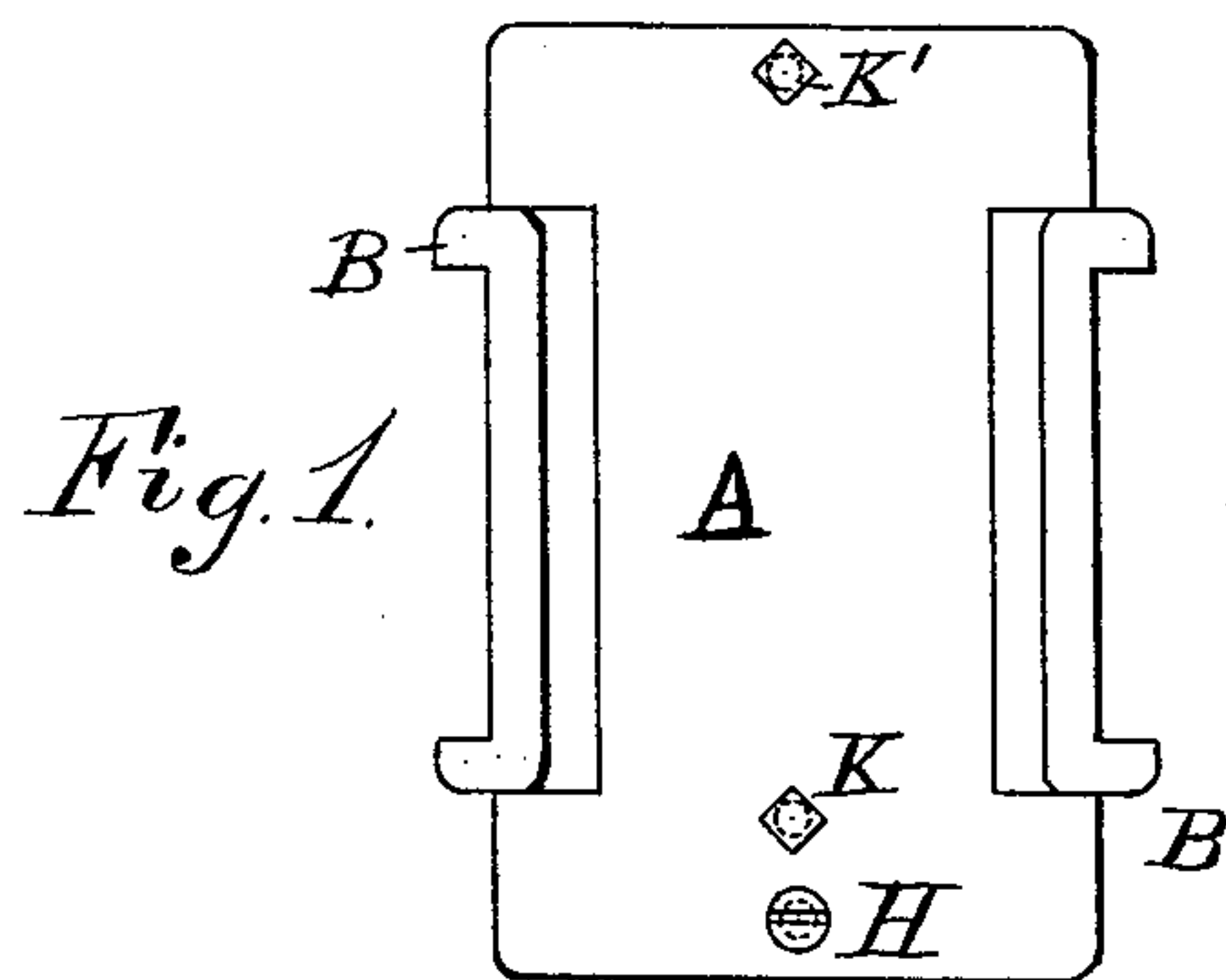
(No Model.)

J. W. HYATT.

DUST GUARD FOR AXLE BOXES.

No. 388,136.

Patented Aug. 21, 1888.



*Fig. 3.*

Attest:

L. Lee.  
F. C. Fisher.

Inventor.

John W. Hyatt, per  
Ernest Miller, Atty.



# UNITED STATES PATENT OFFICE.

JOHN W. HYATT, OF NEWARK, NEW JERSEY.

## DUST-GUARD FOR AXLE-BOXES.

SPECIFICATION forming part of Letters Patent No. 388,136, dated August 21, 1888.

Application filed April 27, 1888. Serial No. 272,041. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN W. HYATT, a citizen of the United States, residing at Newark, Essex county, New Jersey, have invented certain new and useful Improvements in Dust-Guards for Axle-Boxes, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

10 The object of this invention is to furnish an effective and durable means of excluding dust from axle-boxes.

The device is applicable to all classes of axles and journal-bearings, and is particularly 15 designed for application to railroad-car axle-boxes which are excessively exposed to dust and grit.

The improvement consists in an annular channel formed at the end of the journal-box 20 and filled with small lead shot or equivalent granules. Such granules move readily among themselves and are adapted to fit automatically against the revolving axle and to form a close joint therewith, while their freedom of 25 movement adapts them to compensate fully for wear by settling into new positions from time to time.

By using ordinary bird-shot the granules would present a great many points of contact 30 with the axle in a channel of very moderate width, and the material of such shot would be soft enough to wear into a close joint with the shaft, while the anti-friction character of the metal would prevent them from 35 posing any material resistance to the movement of the axle.

My invention is shown in the annexed drawings applied to an anti-friction roller-bearing for a car-axle box, Figure 1 showing the axle-box 40 in plan; Fig. 2 showing an end view of the same with the cap removed; Fig. 3, a longitudinal section on line *xx* in Fig. 1 upon twice the scale of such figure; and Figs. 4 and 5 are a side view and edge view, respectively, 45 of the screw-cap upon the same scale as Fig. 3.

A is the shell of the axle-box, formed as a cylindrical sleeve, with ribs B, adapted to hold it in the car-pedestal.

50 C is the car-axle, and D represents the anti-friction rollers fitted between the shell of the box and the axle.

L is a collar applied at one end of the shell and provided with an annular channel, E, filled with bird-shot, as shown in Fig. 3, to form the desired dust-guard. 55

F represents apertures leading from the interior of such channel within the shell A. G is the cap screwed in the front end of the box and prevented from unscrewing by a bolt, H, 60 tapped into one edge of the cap. The cap is provided with holes I to admit pins upon a spanner or wrench by which the cap would be screwed into the shell. Such cap is intended to screw tightly in the end of the box 65 to exclude dust and to retain oil therein and to form the thrust-bearing for the end of the axle C. The roller-bearing shown in Fig. 3 is the same as that patented by me as No. 385,266, on June 26, 1888, and is designed to have a quantity of oil supplied within the 70 casing, as by the threaded aperture J, having a screw-plug, K, fitted therein.

A similar aperture, J', with screw-plug K', may be provided over the channel E to supply the bird-shot or granules after the axle is 75 placed within the box.

In practice the bird-shot in the channel E accommodate themselves to all the movements of the axle and form a continuous tight joint in contact with its surface, while any oil that 80 may escape from the interior of the box into contact with the shot would drain from the channel E back within the shell A through the apertures F. The rolls D have no necessary relation to my present invention, and the 85 dust-guard may be applied to any bearing not containing rollers by forming the channel around one or both ends of the bearing, as may be desired, and supplying the bird-shot thereto after the axle is inserted in the bearing. 90

The channel E is shown as an annular groove in a collar formed integral with the inner end of the casing; but such channel may be formed in a separate collar or constructed around the axle in any convenient manner. 95

Although I have shown and described my invention as consisting, essentially, of an annular groove at each end of the bearing supplied with bird-shot, it is evident that any other suitable granular material might be used in 100 the place of the bird-shot without departing from my invention.

Having thus set forth my invention, what I claim herein is—

1. In an axle-bearing, the channel E, supplied with loose metallic shot to fit closely about the axle, as and for the purposes set forth.

2. The combination, with an axle-bearing, of a collar applied to the end of the bearing and provided with the channel E, supplied with loose metallic shot, substantially as herein set forth.

3. In an axle-bearing consisting in a shell containing anti-friction rollers, the combina-

tion, with such shell, of the channel E, provided with loose metallic shot, and the apertures F, extending from the channel within the shell to drain the oil thereto, substantially as set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOHN W. HYATT.

Witnesses:

THOS. S. CRANE,

HENRY J. MILLER.