

G. BRADFORD.
Self-Oiling Bearings.

No. 153,886.

Patented Aug. 11, 1874.

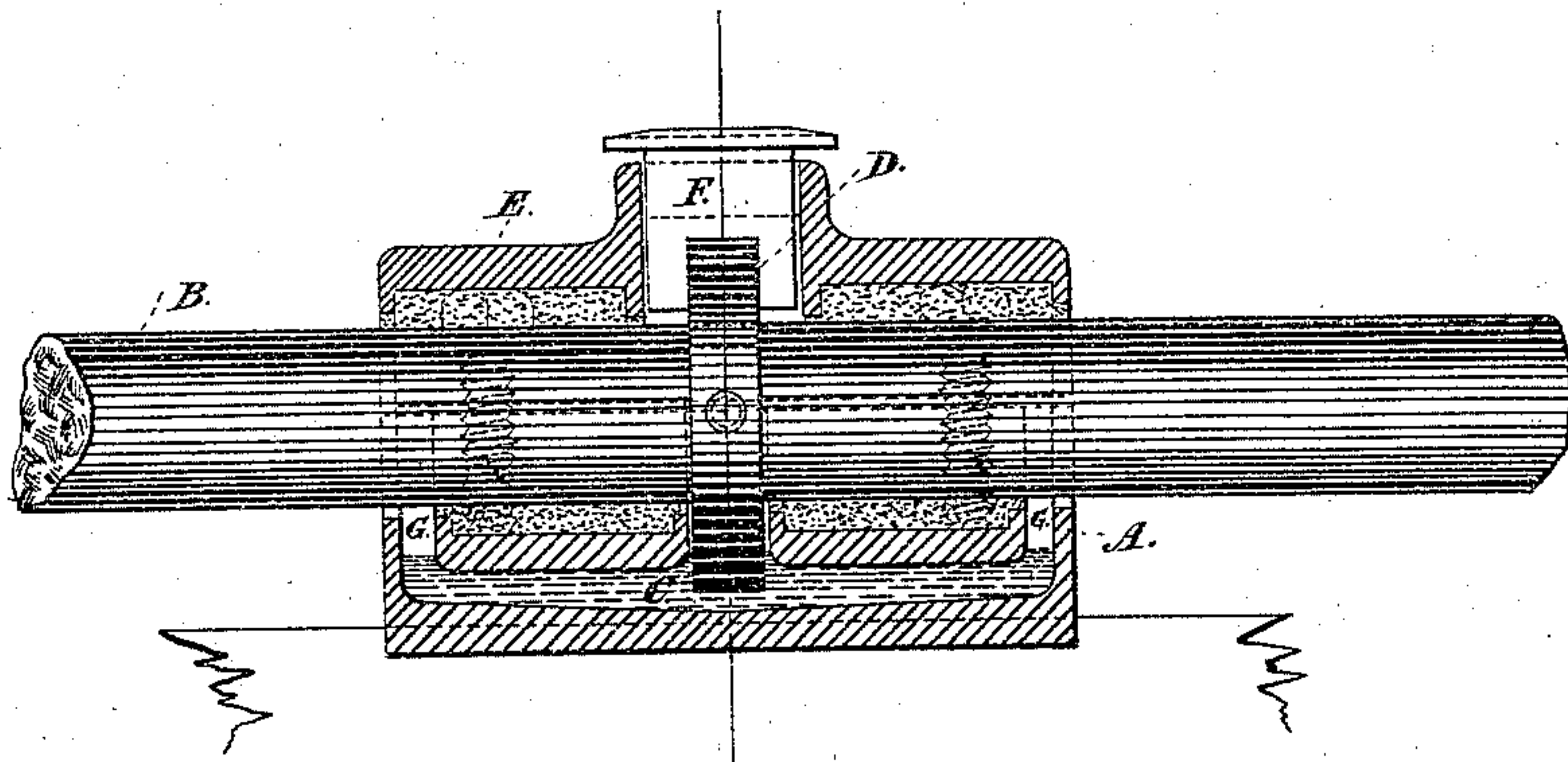


Fig. 1.

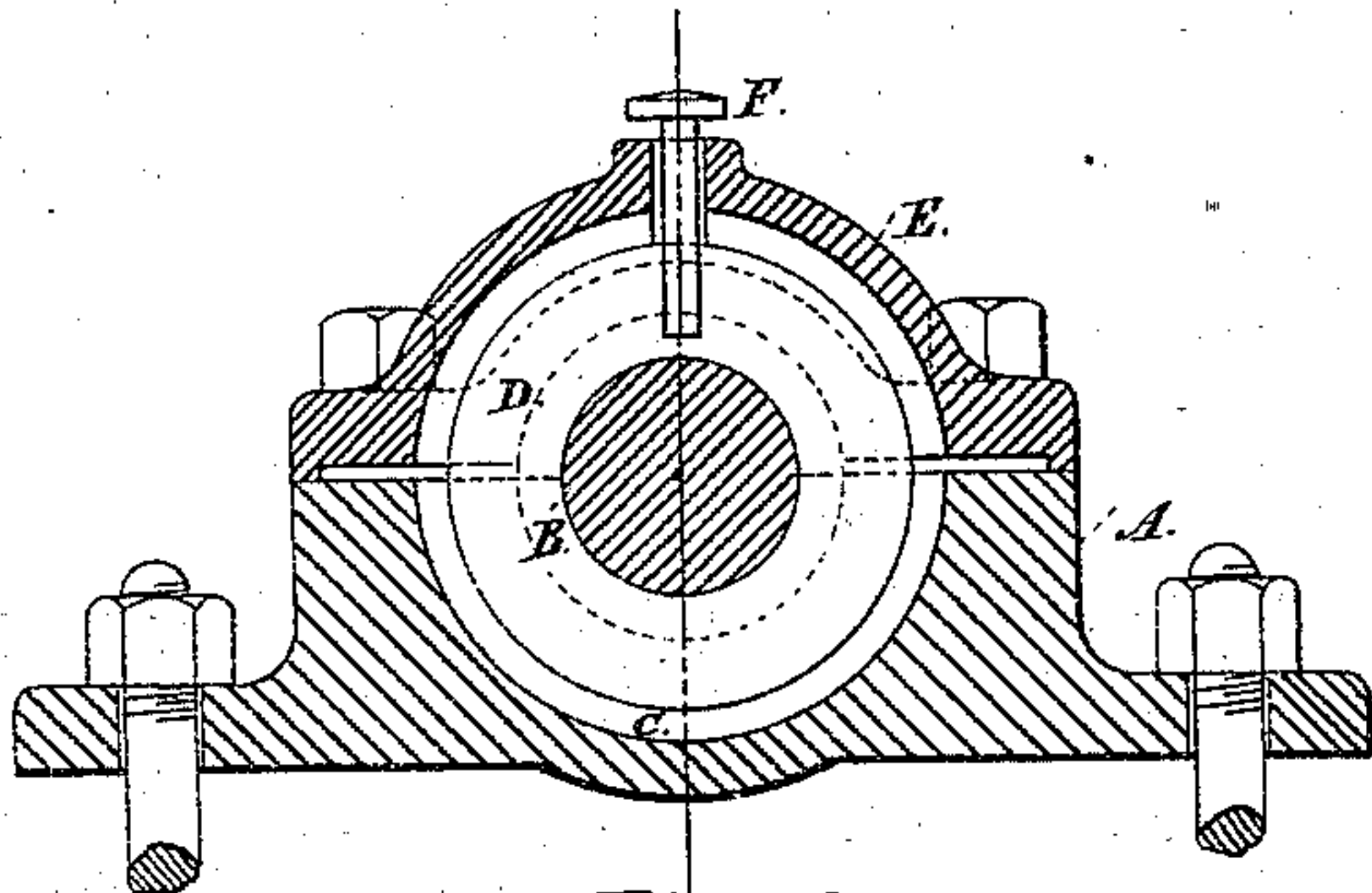


Fig. 2.

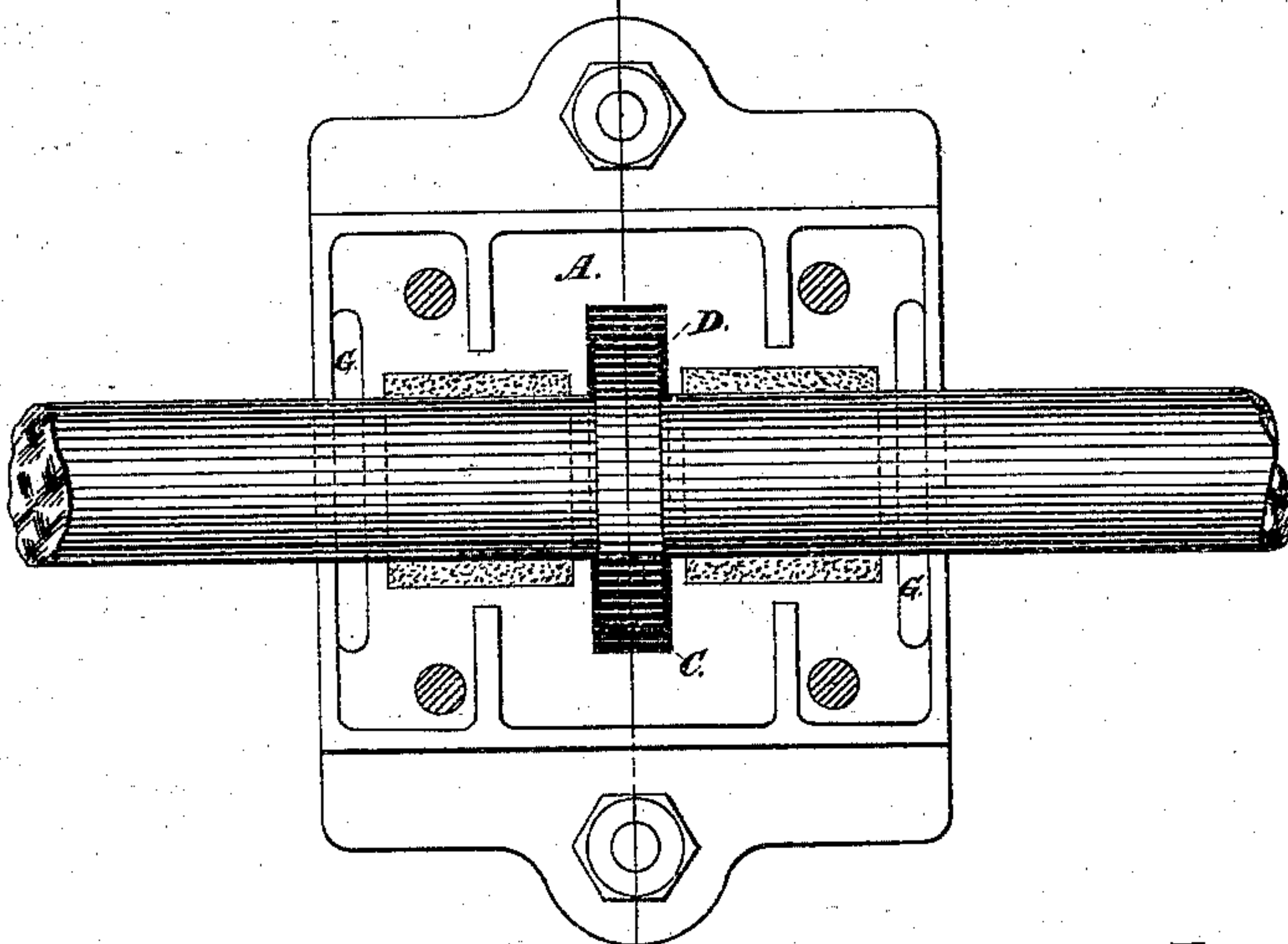


Fig. 3.

Witnesses;

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Inventor:

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UNITED STATES PATENT OFFICE.

GEORGE BRADFORD, OF TORONTO, CANADA.

IMPROVEMENT IN SELF-OILING BEARINGS.

Specification forming part of Letters Patent No. **153,886**, dated August 11, 1874; application filed April 18, 1874.

To all whom it may concern:

Be it known that I, GEORGE BRADFORD, of the city of Toronto, in the county of York, in the Province of Ontario, Canada, machinist, have invented an Improvement in Self-Oiling Bearings, of which the following is a specification:

My invention relates to an improved self-oiling shaft-bearing, as hereafter more fully specified.

Figure 1, longitudinal section through bearing; Fig. 2, cross-section through bearing; Fig. 3, plan.

A is the bearing-box; B, the shaft; C, the oil-reservoir, into which the collar D loosely fits. E is the cover or cap of the box; F, the saddle or oil-distributor; G G, the oil-channels leading from the bearing to the oil-reservoir C, and, in fact, forming a part of same. The bearing-box A may be made of any suitable material and in accordance with any design, but having cast, or otherwise made within it, a recess, forming a reservoir for holding oil. A corresponding recess must also be made in the cap E, large enough to admit the collar D, as shown. Channels G G, or their equivalents, leading from the bearing to the reservoir C, are essential. Otherwise the box may be constructed in the usual manner. The collar D may be made of any shape and attached to the shaft in any suitable manner, but it will be found preferable to secure the collar by means of a set-screw, as the bearing can then be more readily altered from one point on the shaft to another, as occasion requires. The saddle F passes through a hole made to receive it in the cap E, and fits loosely over the collar D. This saddle may be made of any suitable material and any shape, so long as it is capable of fitting over the collar D, as shown.

Saddles for this purpose have been applied to bearings, but are inclosed within the same, and are, therefore, not easy of access, which is very objectionable. My invention is designed to overcome this objection, and the saddle is, therefore, so situated as to be capable of removal without the raising of the cap E, by which arrangement the person in charge of the oiling can at any time, by raising the saddle, see whether or not the bearing is being properly lubricated. This removability of the saddle also greatly facilitates the clean-

ing of the bearing, and, by the bearing not being entirely closed, the action of the atmosphere tends to promote lubrication and lessen friction.

Having now described the component parts of the invention, the operation may be referred to, although any one skilled in mechanism would readily understand it without further explanation by a brief reference to the accompanying drawing. The bearing-box A having been placed in its proper position on the shaft B, the reservoir is filled with suitable oil, which is admitted through the saddle-hole in the cap E, the said saddle being removed temporarily to allow this. When the shaft commences to revolve, and so long as it continues to do so, the oil is carried up on the periphery of the collar till it reaches the saddle F, which acts as a sort of scraper, arresting the motion of the oil on the collar D and causing it to fall directly onto the bearing part of the shaft, over which it is distributed, spreading over and lubricating the whole bearing, and finally sinking to the bottom of the bearing escapes back through the channels G G into the oil-reservoir, where it is carried back through the same operation.

It will thus be seen that so long as the shaft revolves the bearing is thoroughly lubricated without wasting any oil, and the oil is always cool, as the quantity in the reservoir greatly exceeds that in use, thus allowing any of it which may have become at all heated in its passage to cool down before being again brought into use.

In some cases it is advisable to use more than one collar arrangement in combination with the other parts specified, as, for instance, in an unusually long bearing. It will, therefore, be understood that I do not confine myself to any specified number, or of any particular dimensions or design.

I am aware that there is nothing new in having an oil-reservoir within a bearing-box, nor in affixing a collar to a shaft.

I claim as my invention—

The exteriorly-adjustable saddle F, in combination with the slotted cap E, as specified, for the purpose set forth.

GEORGE BRADFORD.

Witnesses:

GEO. A. AIRD,
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