

(No Model.)

A. D. WOODMANSEE.
CAM.

No. 401,320.

Patented Apr. 9, 1889.

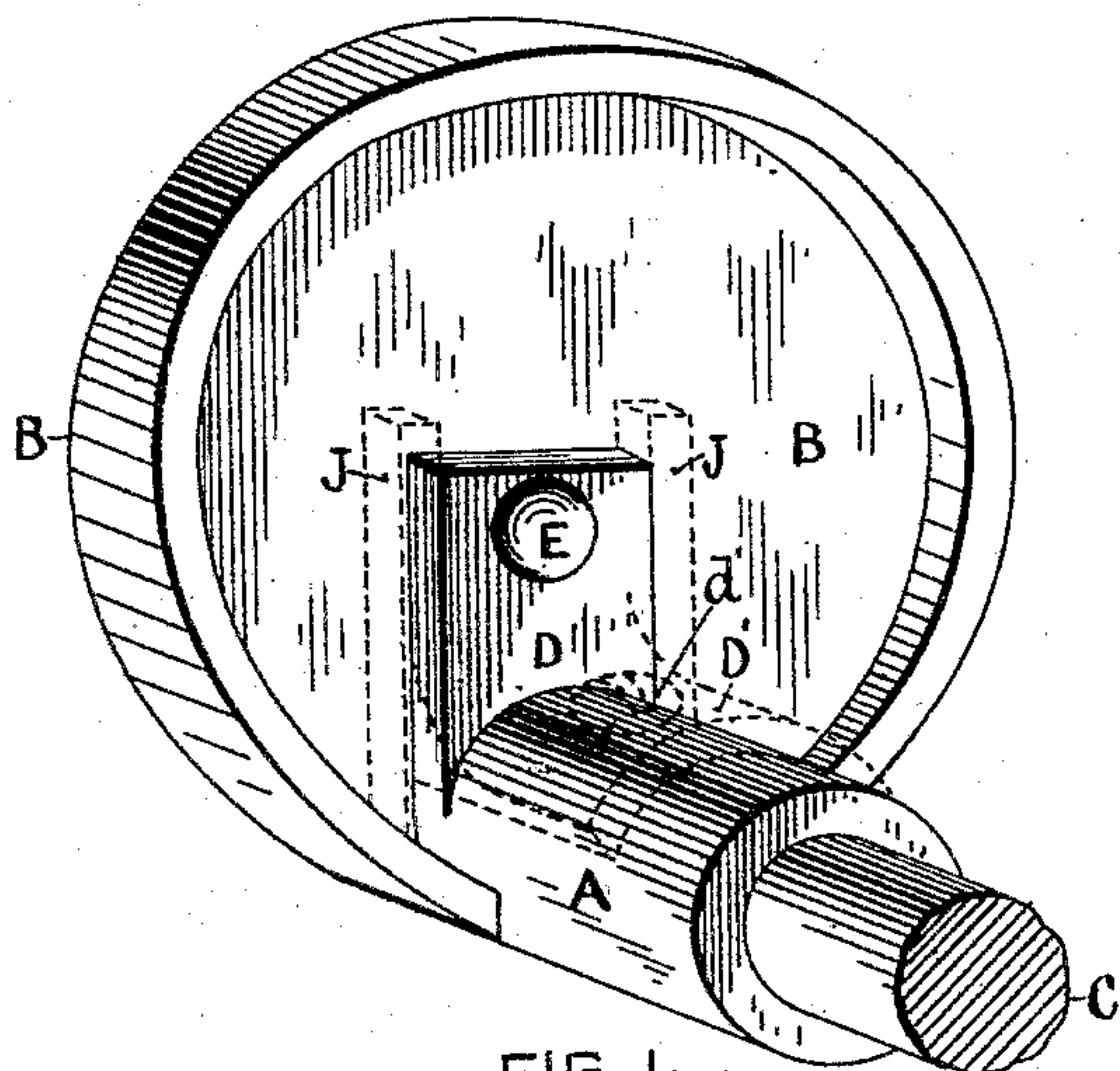


FIG. 1.

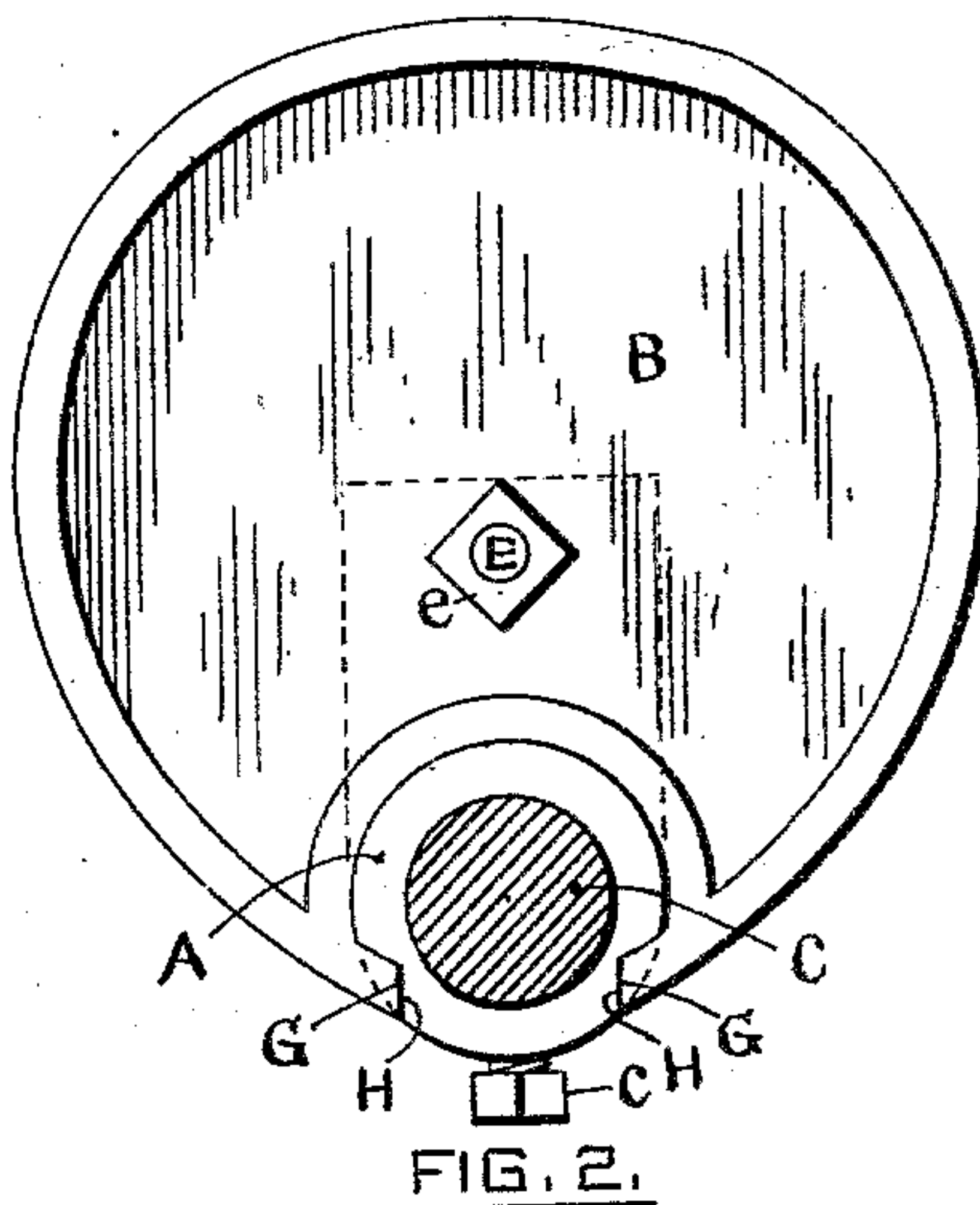


FIG. 2.

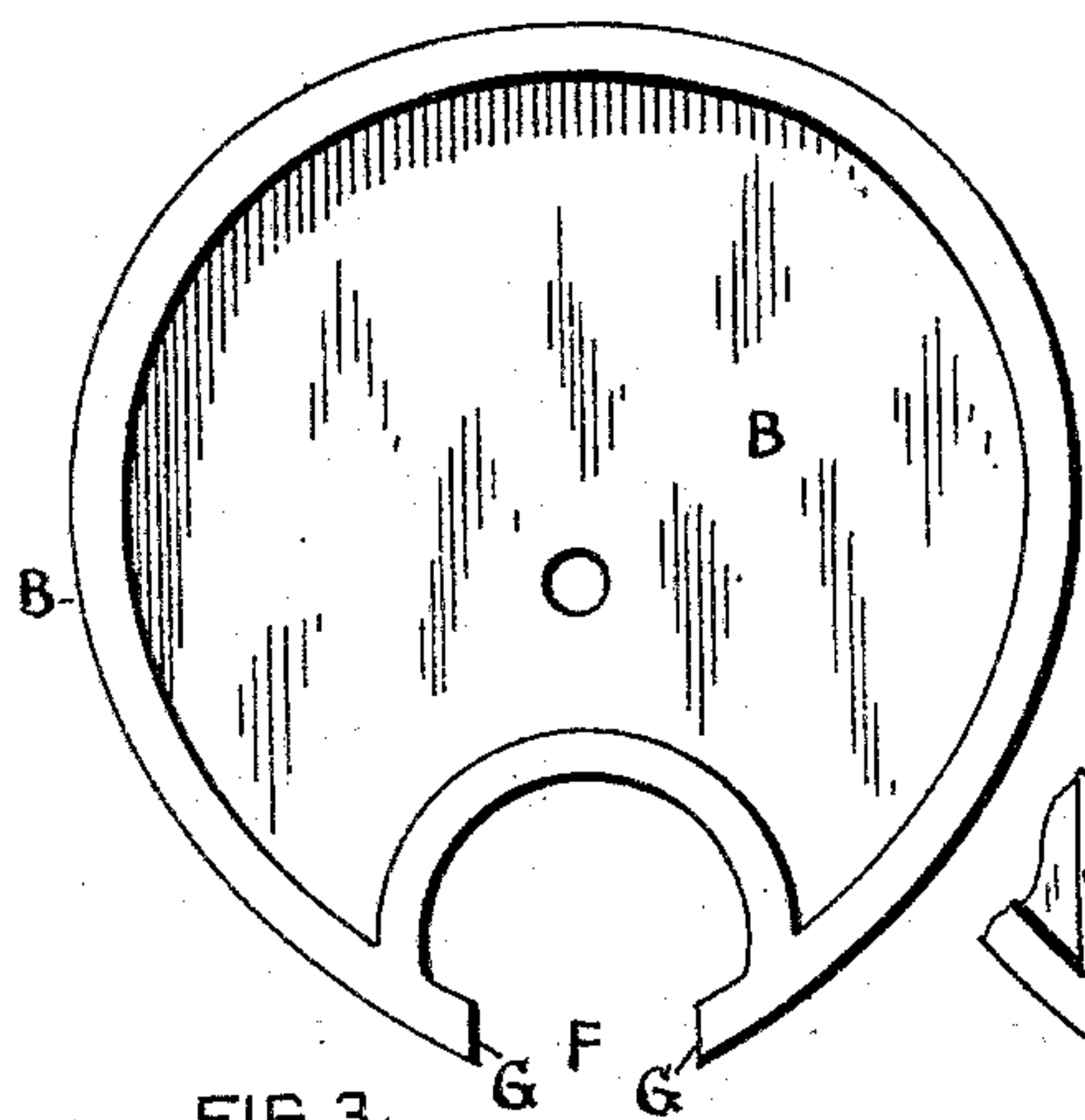


FIG. 3.

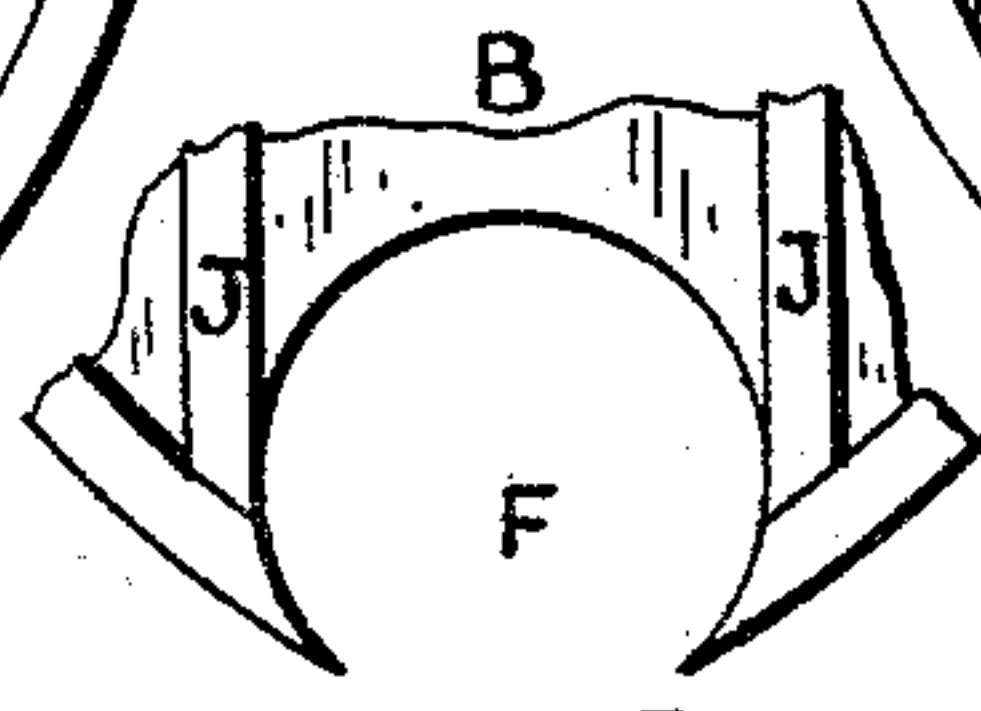


FIG. 4.

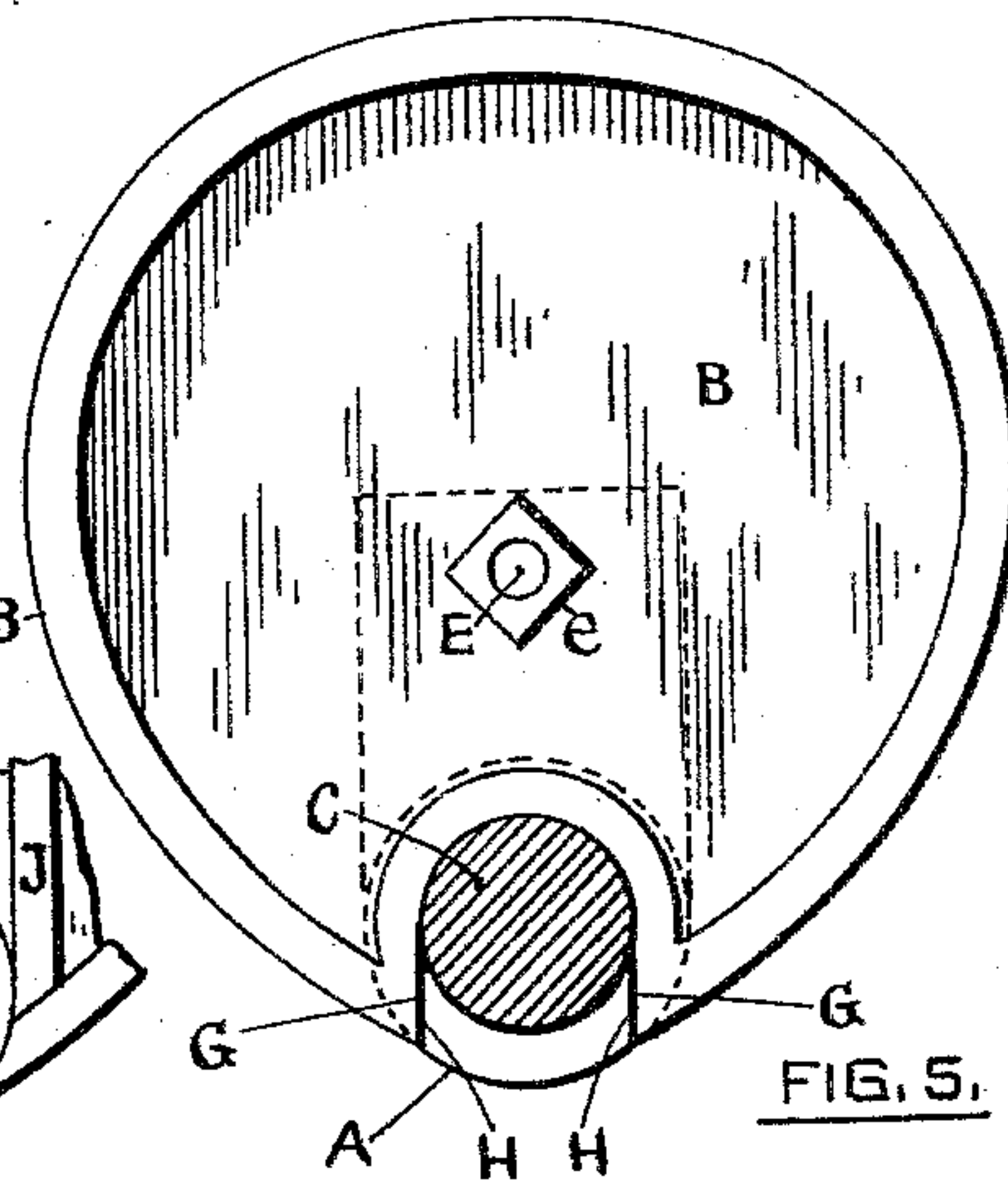


FIG. 5.

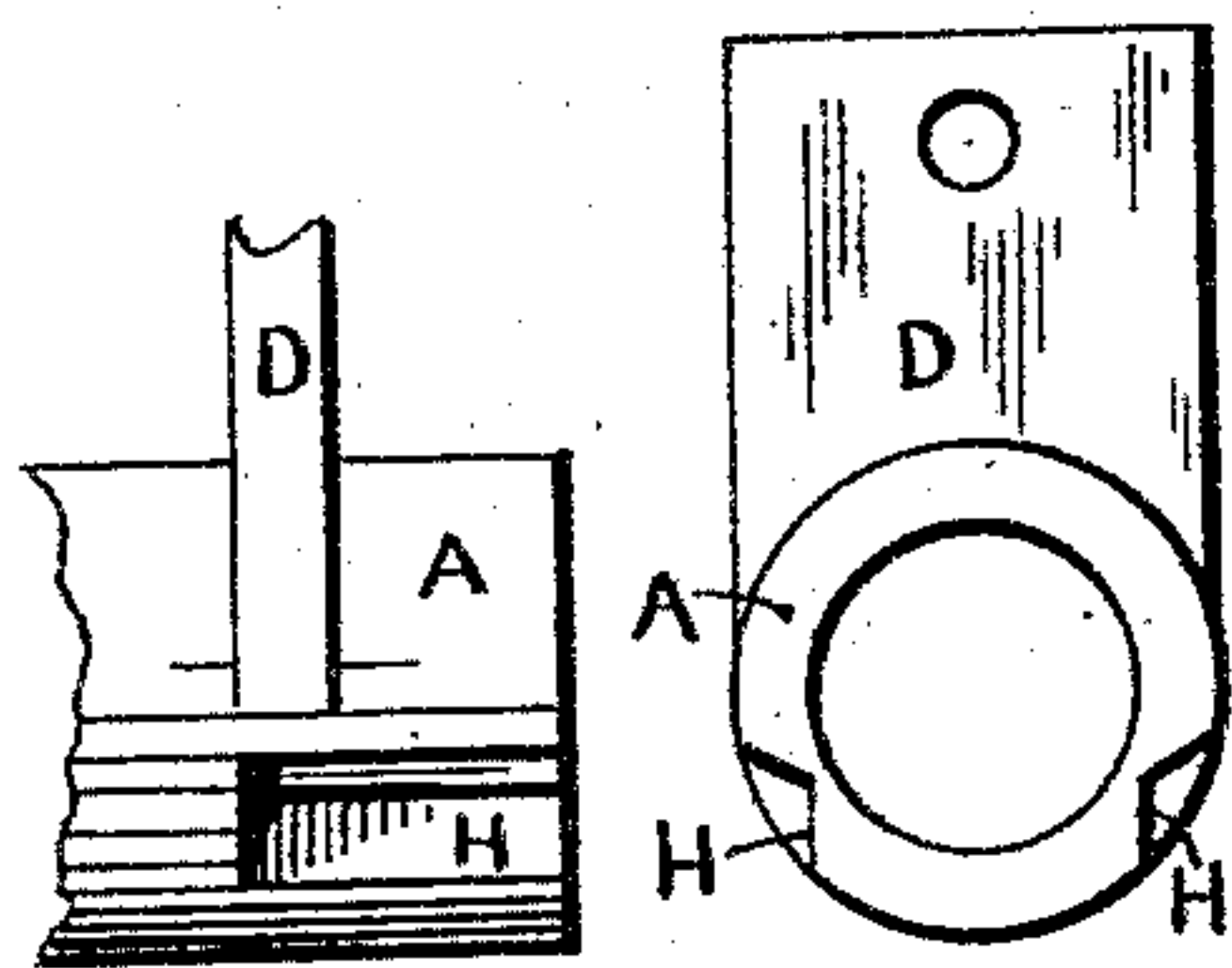


FIG. 6.

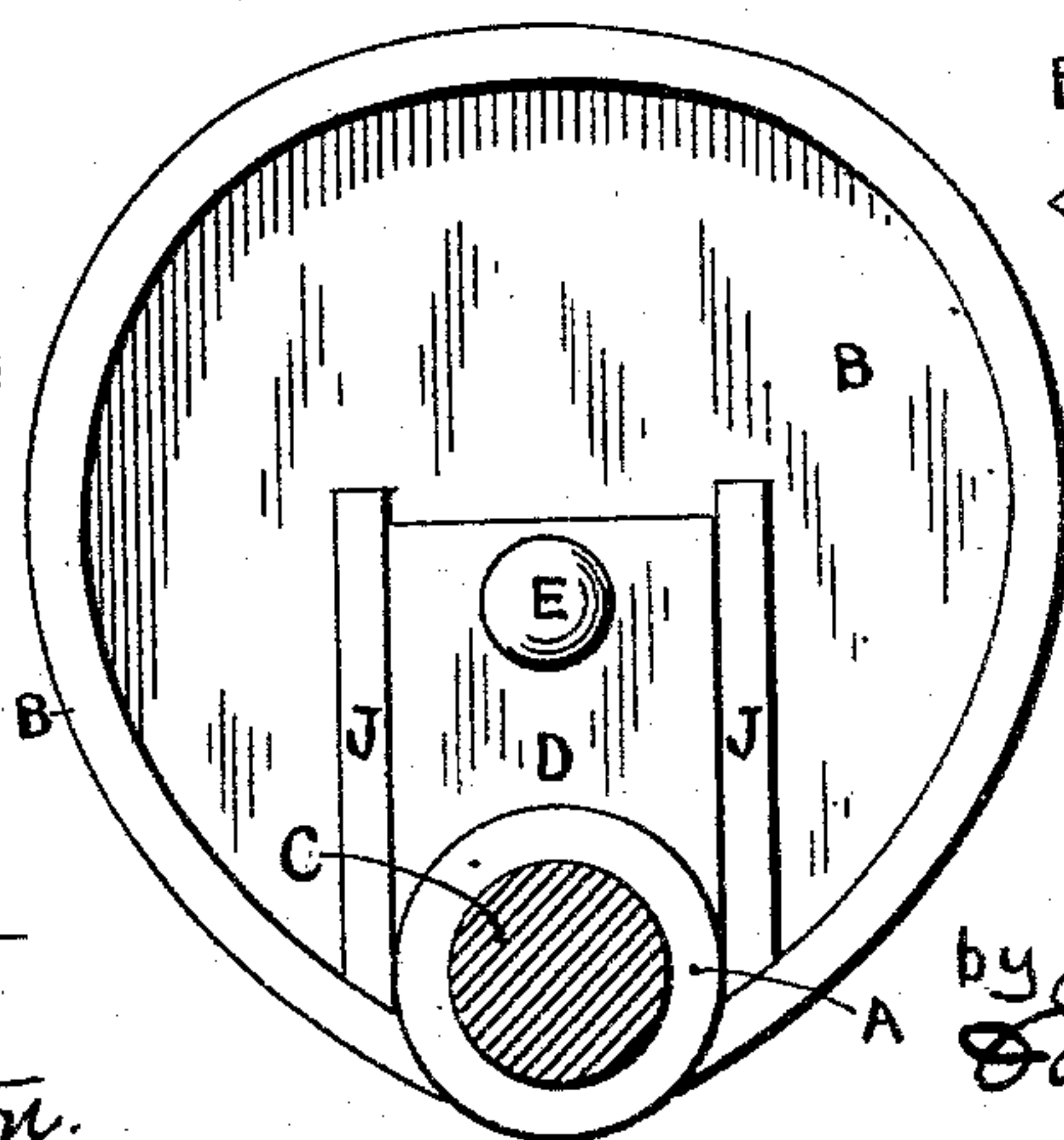


FIG. 7.

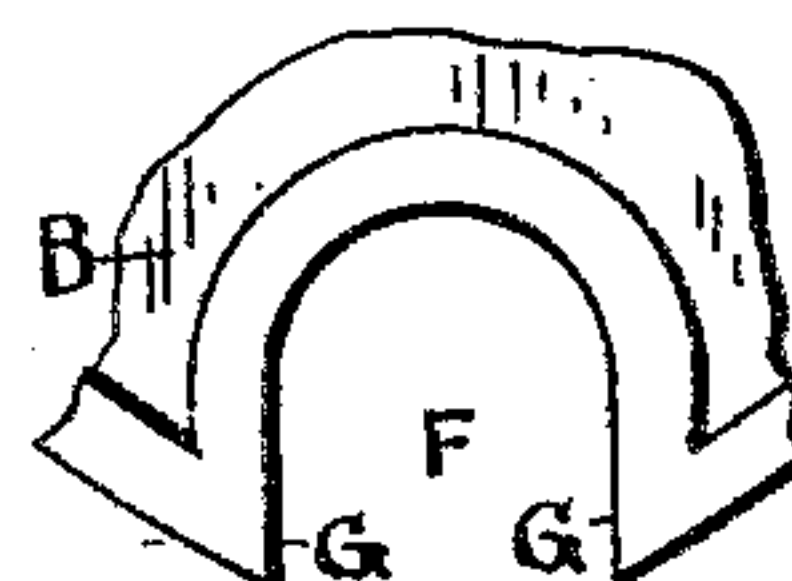


FIG. 8.

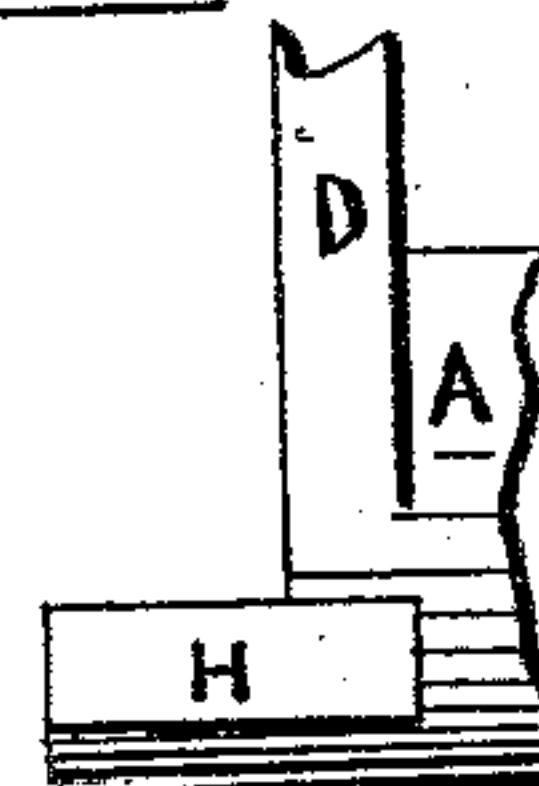


FIG. 9.

WITNESSES.

Geo. M. Gacy
Henry J. Stapleton

INVENTOR.

Alvin D. Woodmansee
by *Edson Salisbury Jones*
Attorney.

UNITED STATES PATENT OFFICE.

ALVIN D. WOODMANSEE, OF NATICK, RHODE ISLAND.

CAM.

SPECIFICATION forming part of Letters Patent No. 401,320, dated April 9, 1889.

Application filed February 18, 1889. Serial No. 300,347. (No model.)

To all whom it may concern:

Be it known that I, ALVIN D. WOODMANSEE, of Natick, in the county of Kent and State of Rhode Island, have invented a new and useful Improvement in Cams; and I do hereby declare the following specification, taken in connection with the accompanying drawings, forming a part of the same, to be a description thereof.

This invention relates to a cam the plate or lever portion of which can be readily and conveniently detached from the hub portion when the cam-plate becomes worn or damaged, in order that another may be attached to the hub; and the improvement consists in certain features of construction and arrangement, hereinafter described and claimed.

In the use of cams that part which becomes worn or damaged is the plate or lever portion, and when an ordinary cam is located on a shaft at a point between two shaft bearings or journals the journal-caps (if any are used) must be removed and the shaft be dislodged in order that the cam may be taken off the shaft.

The objects of the invention are to effect a saving when a worn cam-plate is to be replaced, and to enable the cam-plate to be detached from its hub and be taken off the shaft and another cam-plate to be attached to the hub without the necessity of disturbing the hub, the shaft, or its bearings.

In the drawings, Figure 1 represents in perspective a cam embodying the invention. Fig. 2 shows a view of the opposite side of the cam. Fig. 3 represents a side view of the cam and its hub detached from each other. Fig. 4 represents a view of a portion of the hub at right angles to that shown in Fig. 3. Fig. 5 shows a side view of the cam-plate attached on the end of the hub. Fig. 6 shows the lower portion of such cam-plate. Fig. 7 represents a portion of the hub at right angles to the view shown in Fig. 5. Fig. 8 shows a side view of another cam embodying the invention. Fig. 9 represents the lower portion of the cam-plate shown in Fig. 8.

A is the hollow hub portion or sleeve of the cam. B is the cam-plate or lever portion, and C is the shaft to which the hub is secured in any preferred manner—as by a key, or by a set-screw, *c*, Fig. 2. The cam-plate B is de-

tachably secured to the hub in any suitable manner—as by furnishing the hub with an outwardly-projecting arm or plate, D, and fastening the cam-plate to said arm by a screw or by a bolt and nut, E *e*, or by providing the cam-plate with an outwardly-projecting arm or plate, D', (shown by dotted lines in Fig. 1,) and securing said arm to the hub by a screw, *d'*.

The cam-plate B is furnished with an opening, F, which extends inwardly from the periphery of the plate, and preferably fits the hub A. The width of this opening at the periphery of the cam-plate is sufficient to allow the passage of the shaft therethrough when the cam-plate is to be removed, by being slid off the end of the hub and withdrawn transversely from the shaft. I prefer that the portions G G of the cam-plate shall form shoulders or stops, and that the hub A be provided with shoulders or stops H H, for engagement therewith, for the purpose of additional security against the cam-plate turning on the hub.

In Figs. 2, 3, and 4 the shoulders H H are secured by making notches or indentations in the periphery of the hub; but when the cam-plate is attached at the end of the hub, as in Fig. 5, the shoulders H H may be secured by extending a portion of the hub end, as shown in Fig. 7, so said portion shall extend into the opening F and engage the shoulders G G.

For the purpose of affording still greater security against the cam-plate turning on the hub, the plate B may be furnished, if desired, with ribs J J, (shown by dotted lines in Fig. 1 and by full lines in Fig. 8,) to engage the lateral sides of the hub-arm D, thereby securing greater rigidity.

When the cam-plate is to be removed, the screw or bolt which fastens it to the hub is taken out and the cam-plate is slid off the end of the hub and withdrawn from the shaft transversely of the latter, the peripheral opening F allowing the passage of the shaft, and when the cam-plate is to be attached to the hub it can be passed transversely over the shaft and be slid endwise upon the hub, as will be readily understood. When, therefore, the cam-plate is to be detached from the hub and removed from the shaft, or to be attached to the hub, the position of the hub upon the

shaft and its attachment to the shaft need not be disturbed or the shaft be dislodged from its bearings. In replacing a worn or damaged cam-plate the cost of a new hub is saved, as
5 only the cam-plate need be new. A cam-plate of a certain throw or shape can also be replaced by a plate of a different throw or shape by simply attaching the new cam-plate to the old hub.

10 What I claim, and desire to secure by Letters Patent, is—

1. The combination, with the hollow hub or sleeve of a cam, of a detachable cam-plate provided with a peripheral opening, F, of
15 sufficient width to allow the cam-plate to pass transversely over a shaft to which the hub is to be attached, substantially as and for the purposes specified.

2. The combination, with the hollow hub or
20 sleeve of a cam, of a detachable cam-plate provided with a peripheral opening, F, of sufficient width to allow the cam-plate to pass

transversely over a shaft to which the hub is to be attached, the said cam-plate having shoulders or stops G G, and the hub having
25 shoulders or stops H H, substantially as set forth.

3. The combination, with the hollow hub or sleeve of a cam having an arm, D, and shoulders H H, of a cam-plate detachably secured
30 to said arm and having a peripheral opening, F, and shoulders G G to engage the shoulders H H, substantially as and for the purposes specified.

4. The combination, with the hub A, having
35 the arm D and shoulders H H, of the cam-plate B, having the peripheral opening F, shoulders G G, and ribs J J, substantially as and for the purposes specified.

ALVIN D. WOODMANSEE.

Witnesses:

EDSON SALISBURY JONES,
ALLEN P. YOUNG.