No. 719,089. PATENTED JAN. 27, 1903.

F. W. CONANT.

SCREW PLATE AND DIE.

APPLICATION FILED JULY 18, 1902.

NO MODEL.

Fig. 4.

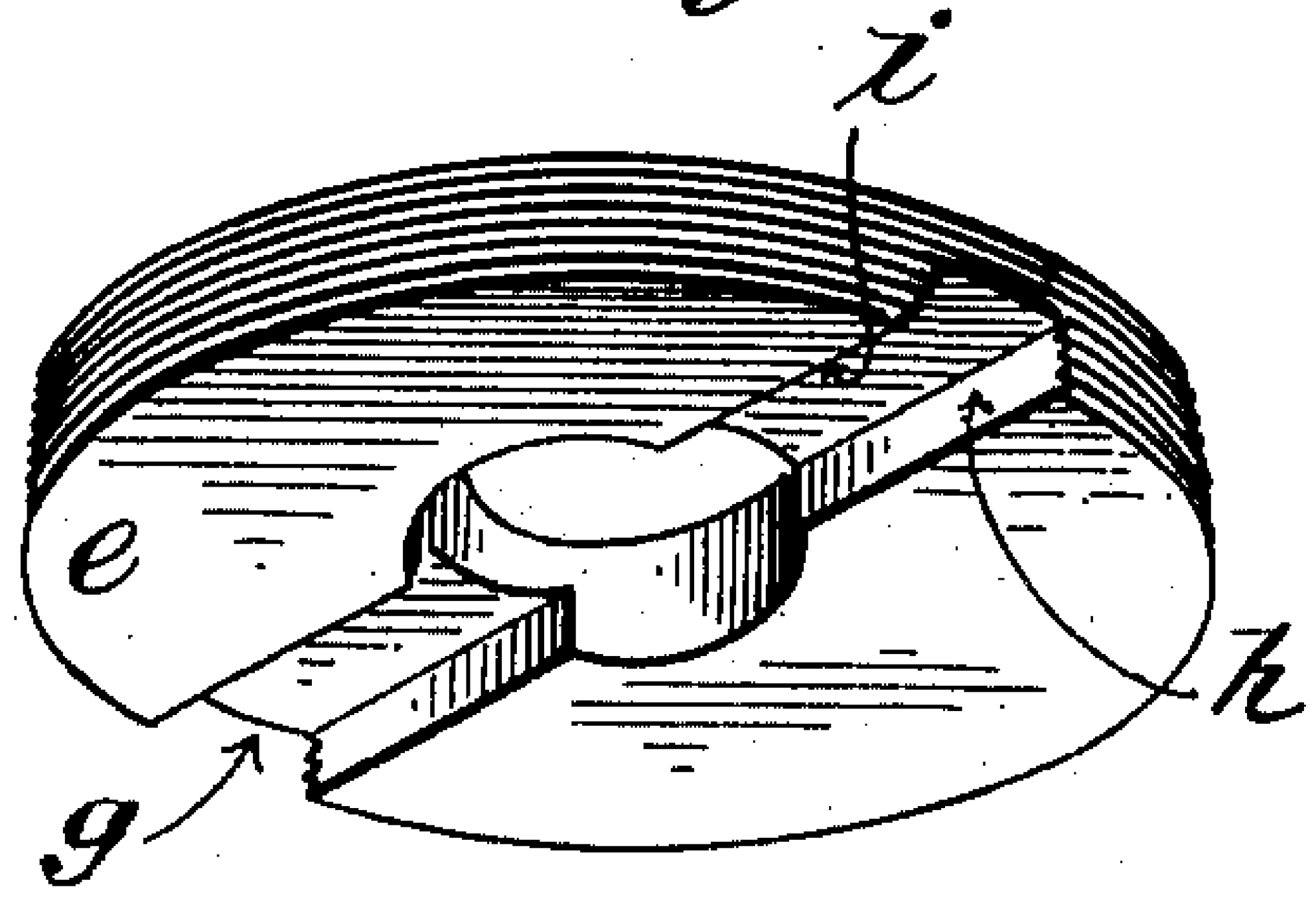


Fig. 1.

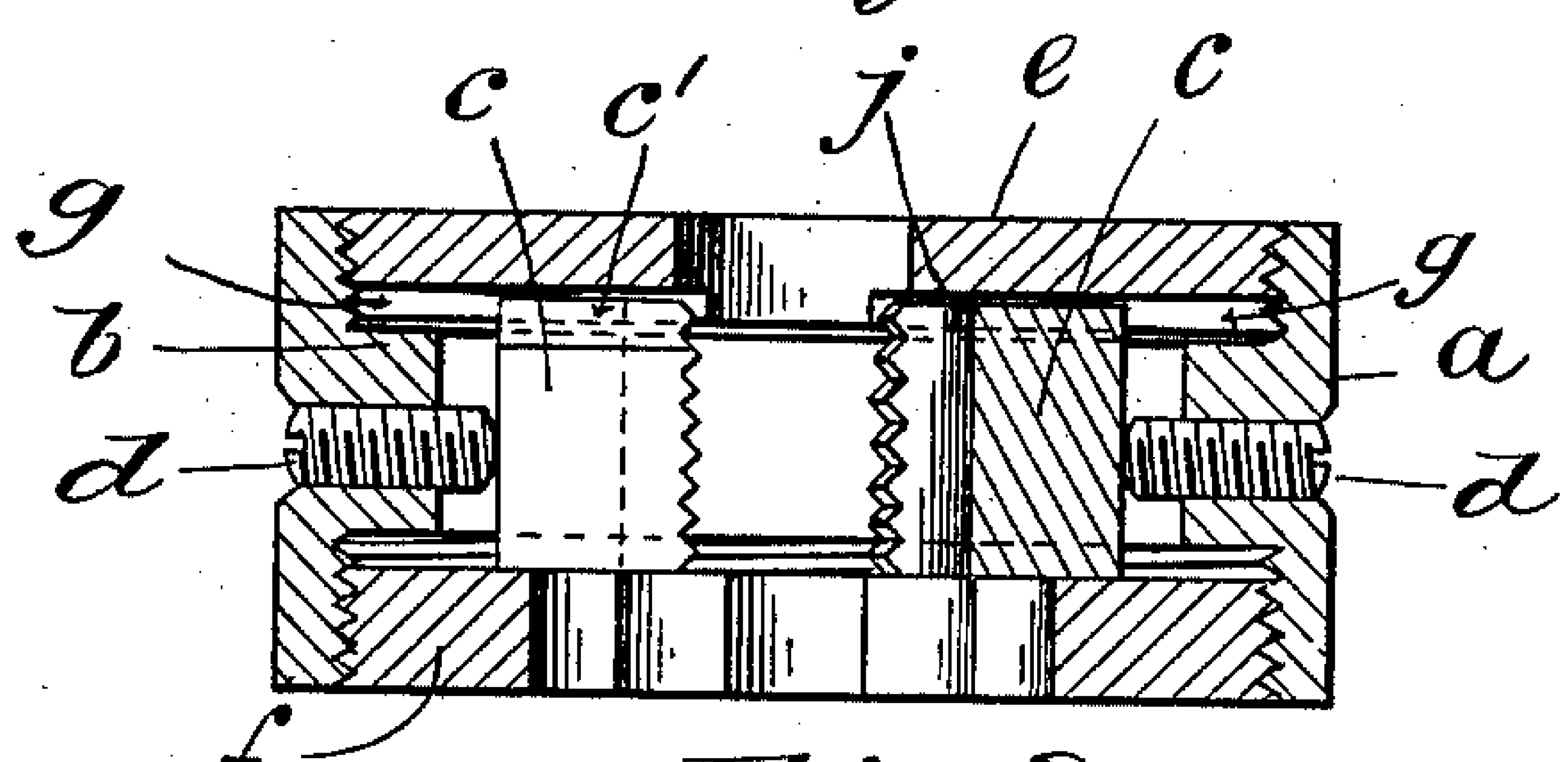


Fig. 2.

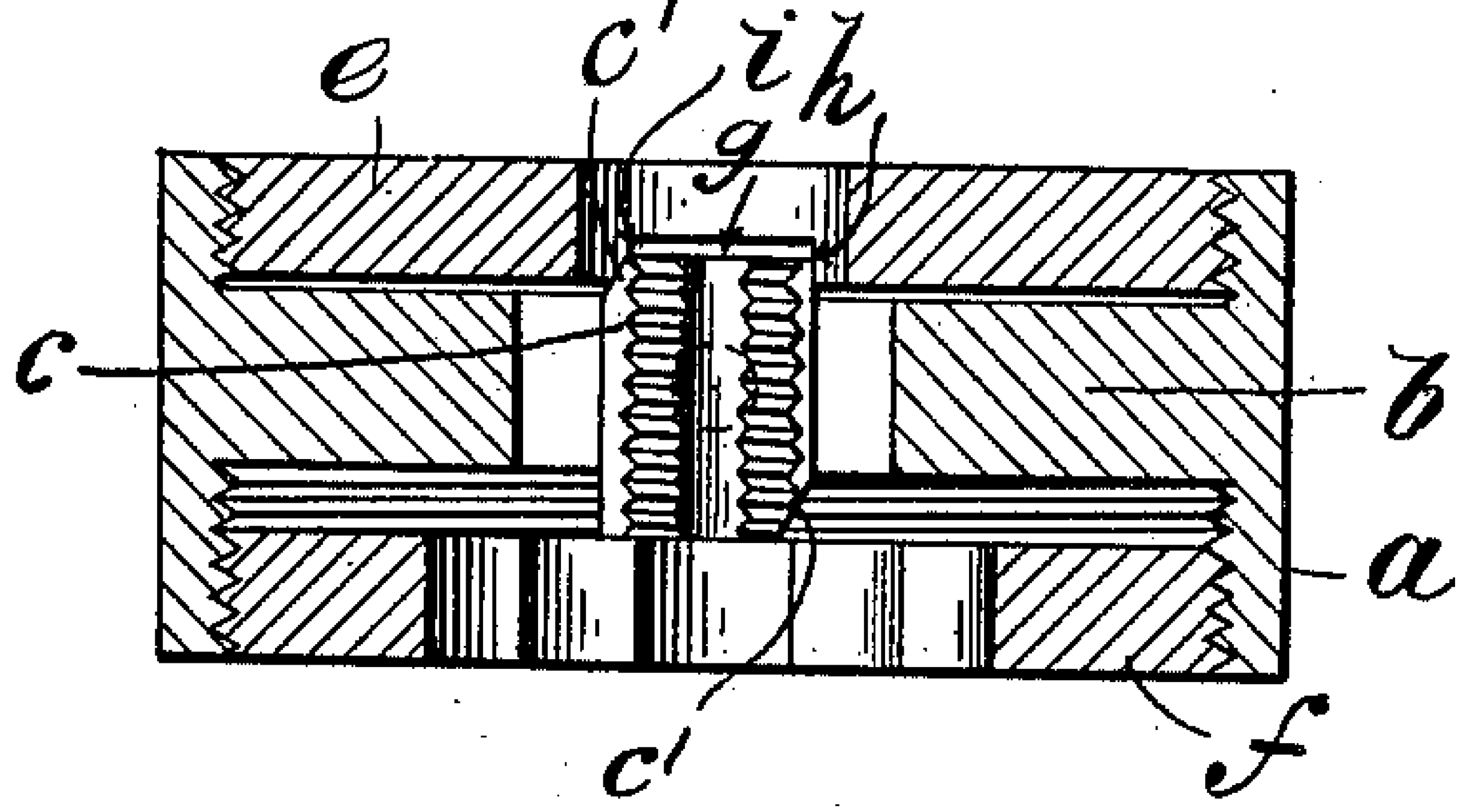
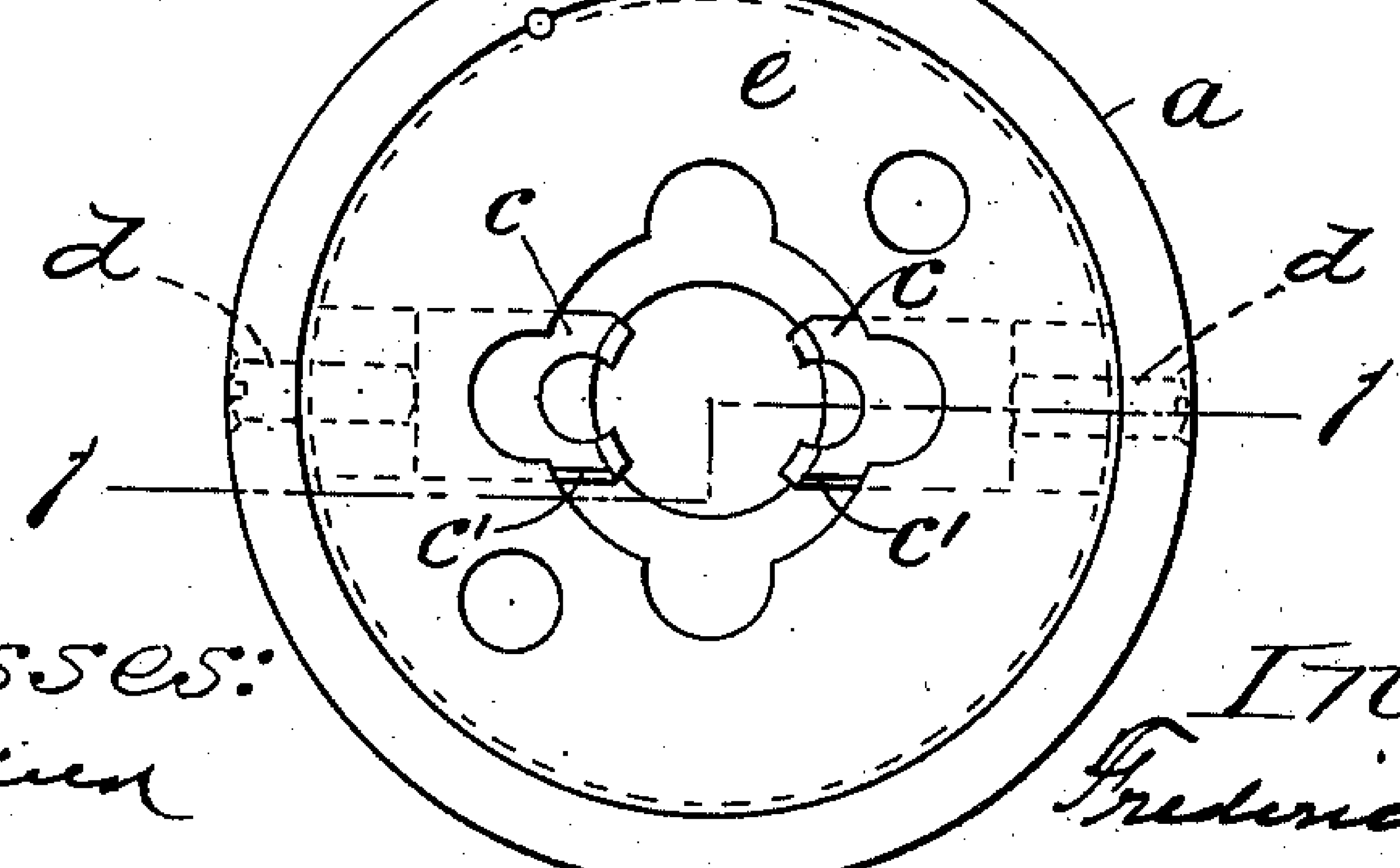


Fig. 3.



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UNITED STATES PATENT OFFICE.

FREDERICK W. CONANT, OF GREENFIELD, MASSACHUSETTS.

SCREW-PLATE AND DIE.

SPECIFICATION forming part of Letters Patent No. 719,089, dated January 27, 1903.

Application filed July 18, 1902. Serial No. 116,090. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK W. CONANT, a citizen of the United States of America, residing at Greenfield, in the county of Franklin and State of Massachusetts, have invented new and useful Improvements in Screw-Plates and Dies, of which the following is a specification.

This invention relates to screw-plate and die construction, the object of the invention being to provide a screw-plate and dies so constructed that the act of securing the dies in the screw-plate will effect the axial adjustment of the dies whereby a true thread may be cut thereby; and with these ends in view the invention consists in the construction of the die and screw-plate, all as hereinafter described and claimed.

In the drawings forming part of this application, and in which my invention is clearly illustrated, Figure 1 is a sectional elevation of a screw-plate to which my invention is applied, said section being on line 1 1, Fig. 3. Fig. 2 is a sectional elevation of the screw-plate, centrally thereof, in a plane at right angles to line 1 1, Fig. 3. Fig. 3 is a plan view of the screw-plate shown in Figs. 1 and 2, and Fig. 4 is a perspective view of one of the parts of the screw-plate with which the dies coöperate.

While the drawings in this application show a screw-plate construction similar to that described in my application for a screw-plate filed on October 31, 1901, under Serial No. 80,689, the invention is not necessarily restricted to this particular plate; but it was selected as a type which was well adapted to illustrate the invention. It is equally possible, however, to apply the invention to other forms of screw-plate—as, for example, that shown in the patent to Reece, No. 320,693, dated June 23, 1885—which is cited as one among a number of constructions which might be substituted for the construction shown in these drawings.

Referring to the drawings, the screw-plate shown therein consists of a cylindrical body *a*, having a partition *b* therein between its ends, which is diametrically slotted to receive the dies *c*, adjusting-screws *d* serving to adjust the dies radially and hold them up to their work in the usual manner. One end of said dies bears against a plate *e*, which is permanently fitted into one end of the body *a*, and into the opposite end of said body there is screwed a head or follower *f*, which being turned up against the under side of the dies *c* crowds the latter against the head *e* of the body, thereby clamping the dies in the screw-plate.

It has been found in practice that the dies *c*, however carefully the screw-plate may be constructed, will not always assume a position in true alinement with the axis of the screw-plate, and the result is an imperfect thread is cut by these dies.

To provide for the more perfect alinement of the dies relative to the axis of the screw-plate whereby this above-described defect may be remedied, I construct a die one edge of which (preferably on each end) is beveled off, these bevels being on the same angle, but located on diagonally opposite edges of the die, thus permitting the reversal of the latter at will. The edge thus beveled off is one of those on the end of the die which extends from the cutting-face back to the rear side thereof, said beveled portion being indicated in the drawings by *c'*. In the plate *e* and located directly over the slot in the partition *b*, which receives the die, there is cut a groove *g*, (clearly shown in Fig. 4,) whose outline in cross-section corresponds to the outline of the upper end of one of the dies *c*, viewed from the cutting edge thereof, as in Fig. 2, said groove *g* having one vertical side *h*, opposite to which is located the beveled side *i*, and the depth of the groove is such that when the upper end of a die enters therein said die will not come to a bearing against the bottom of the groove, but a space, as indicated by *j*, Fig. 1, will remain between the top of the die and the bottom of the groove *g*. When these dies are placed in a die-plate thus constructed, the beveled corner thereon comes to a bearing against the beveled side *i* of the groove *g*, and when the follower or head *f* is then screwed up against the other end of the die the beveled side of the groove *g* will force said die laterally against the squared side *h* of said groove, whereby the dies will be brought into perfect alinement with the axis of the screw-plate, and as both dies are adjusted against the squared side *h* of said groove they must inevitably, if they be iden-

tical in shape, be similarly adjusted relative to the axis.

By means of this construction it is possible to always maintain the dies in such adjustment relative to the axis as to cut a thread which will be approximately true and far superior to the thread cut by any screw-plate with whose construction I am now familiar.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a screw-plate, a rigid abutment for one end of a die, a head movable against the opposite end, there being a groove in said abutment for the reception of one end of the dies, one wall of which groove is beveled, and the opposite wall of which is parallel with the axis of the screw-plate.

2. A screw-plate provided with a rigid abutment for one end of the dies, said abutment having a groove therein, one wall of which is beveled, and the opposite wall of which is parallel with the axis of the screw-plate, in combination with a die one upper edge of one side of which is beveled, and the opposite side of which is parallel with the axis of the screw-plate, together with a suitable head movable toward said abutment.

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