

(Model.)

G. C. SMITH.

WATCH CASE.

No. 316,072.

Patented Apr. 21, 1885.

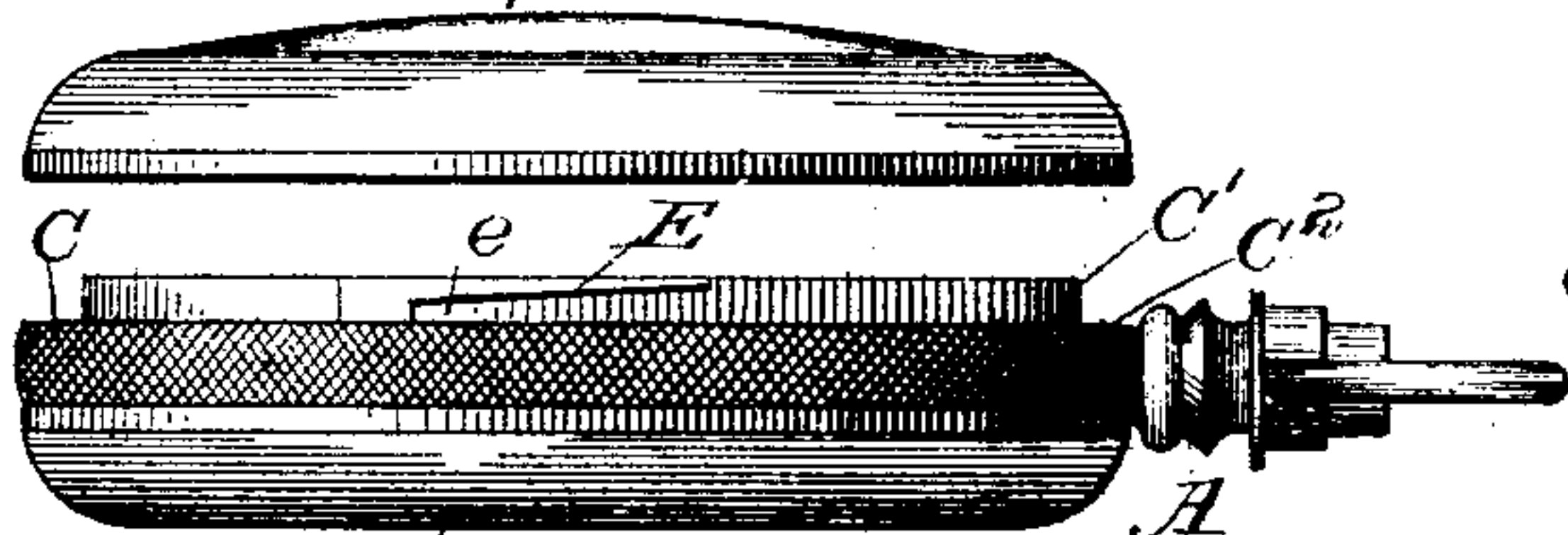


Fig. 1.

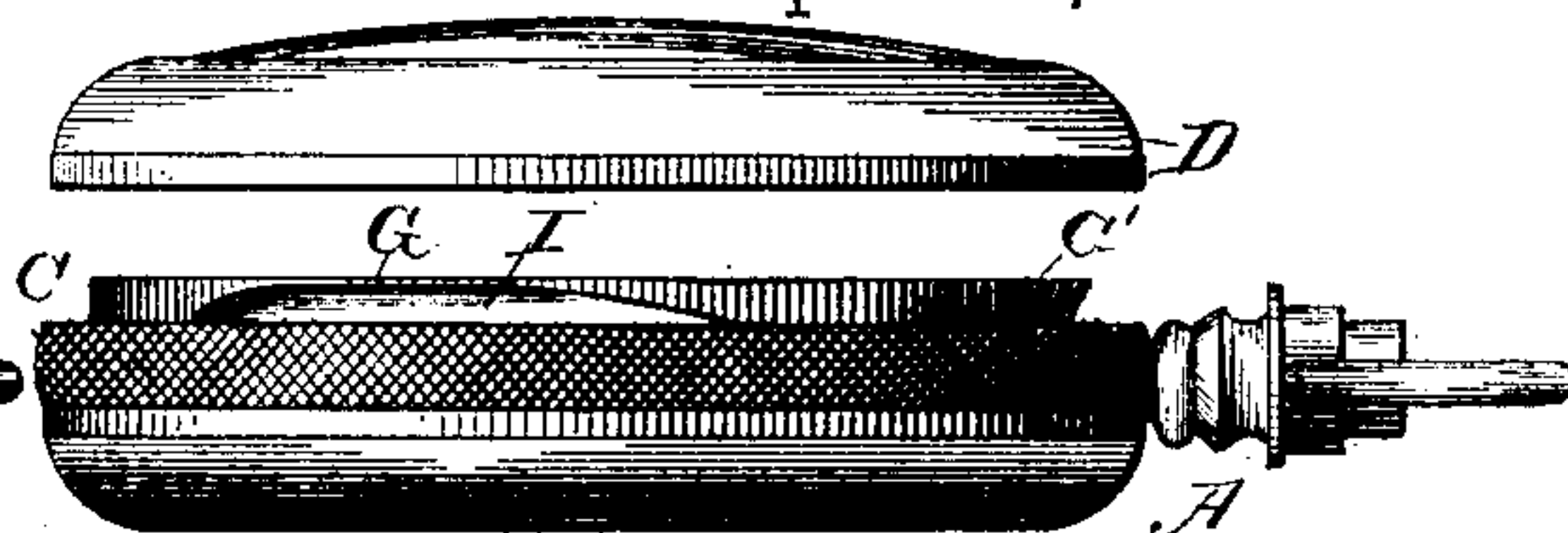


Fig. 4.

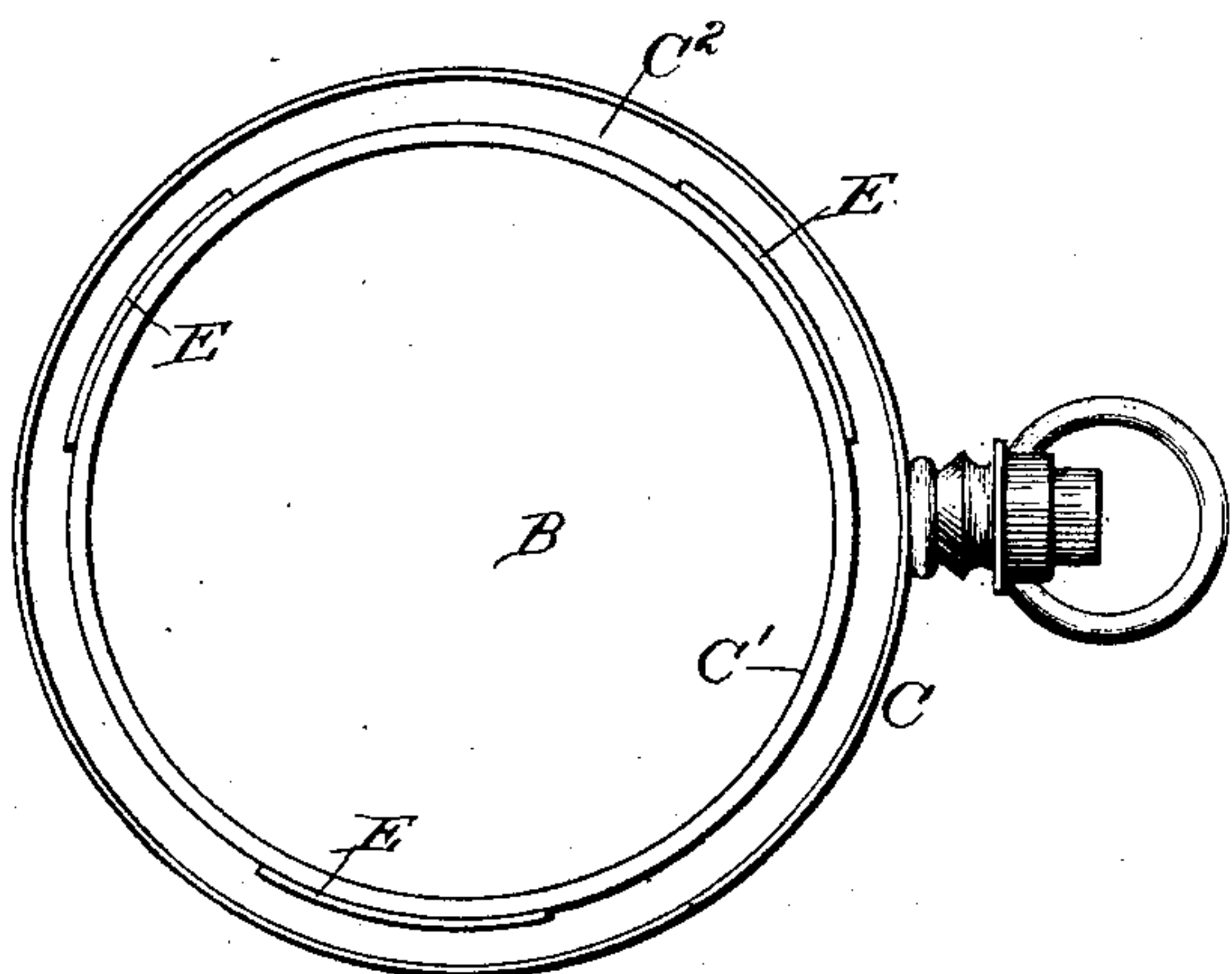


Fig. 2.

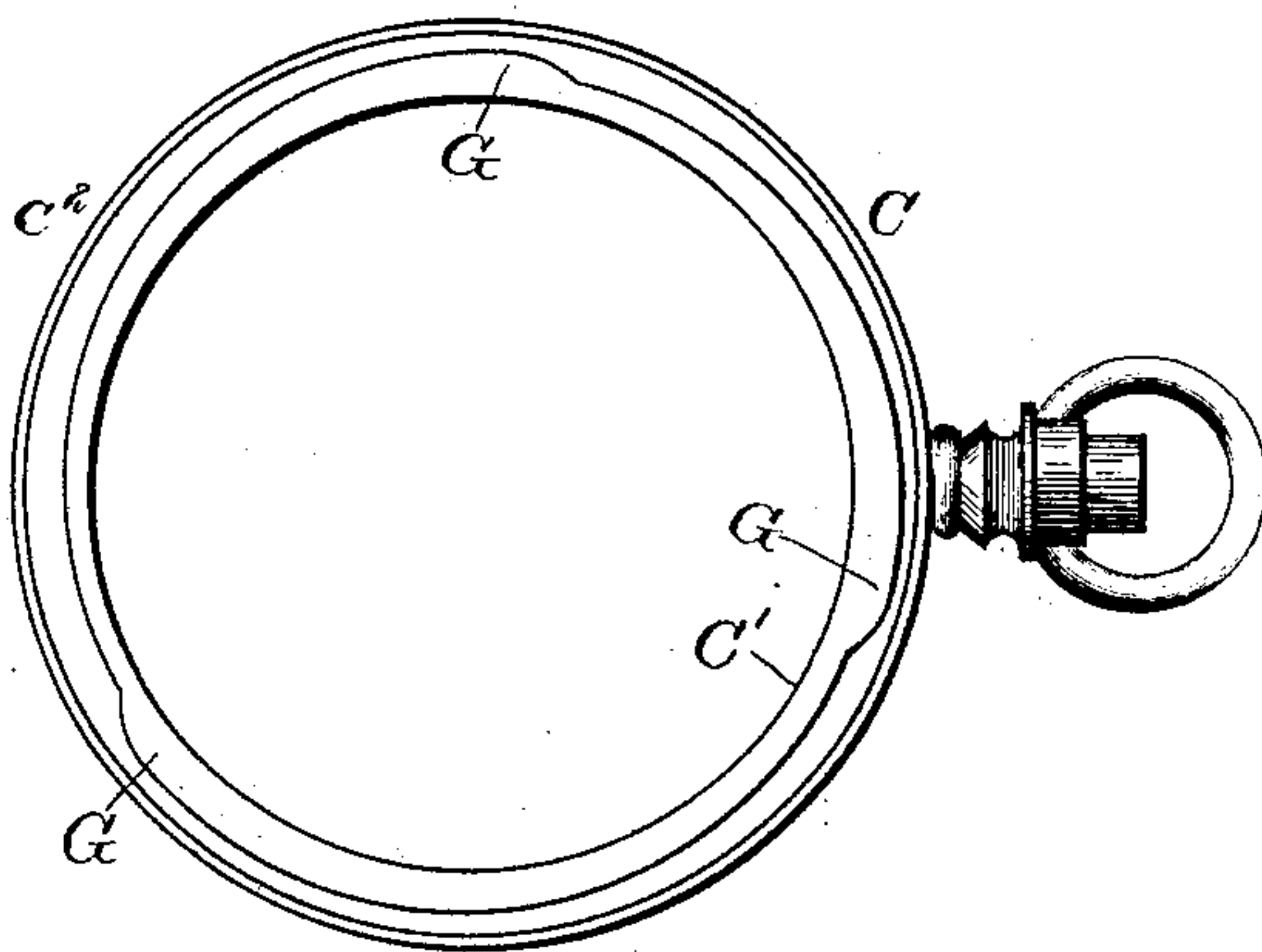


Fig. 5.

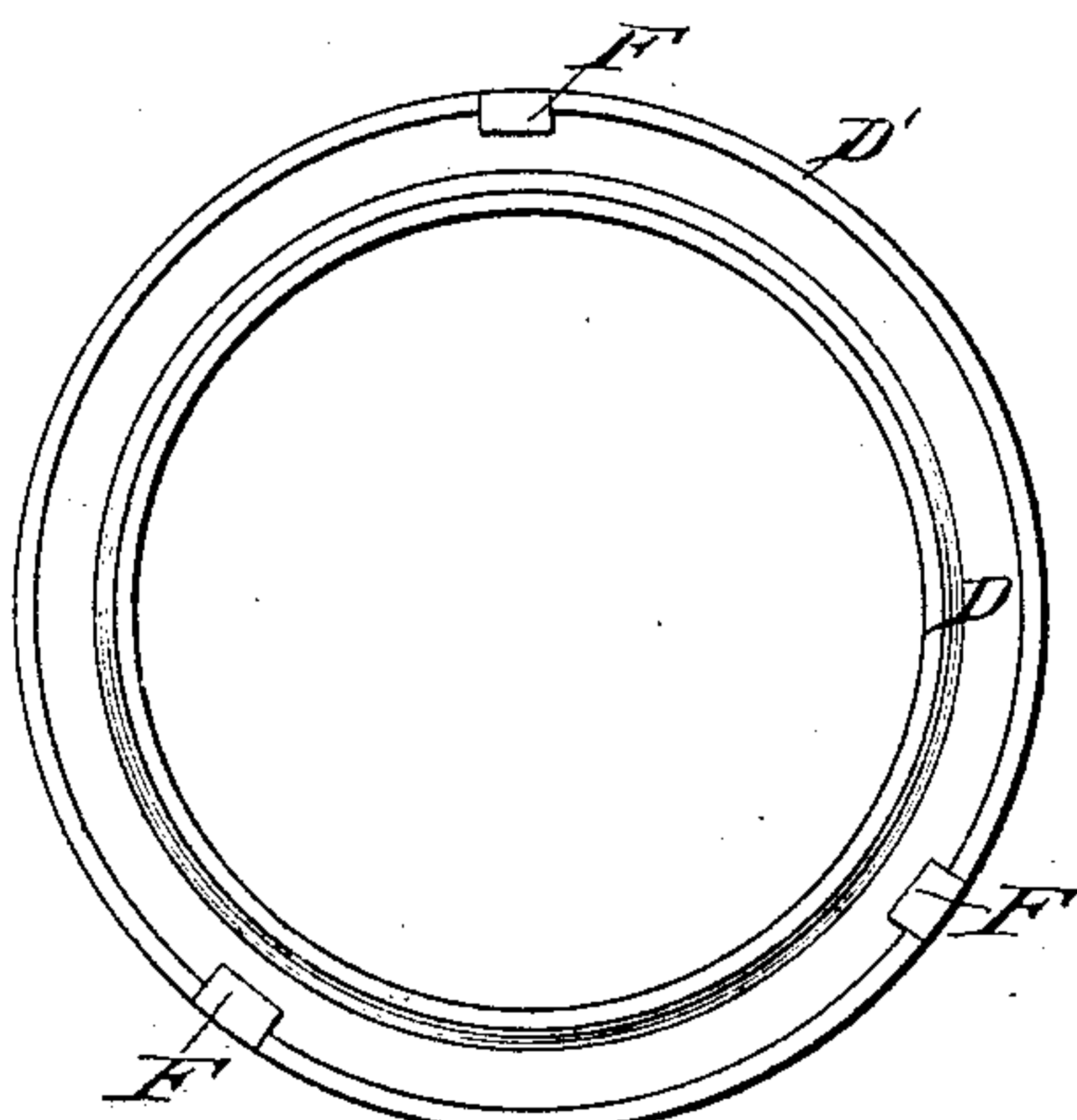


Fig. 3.

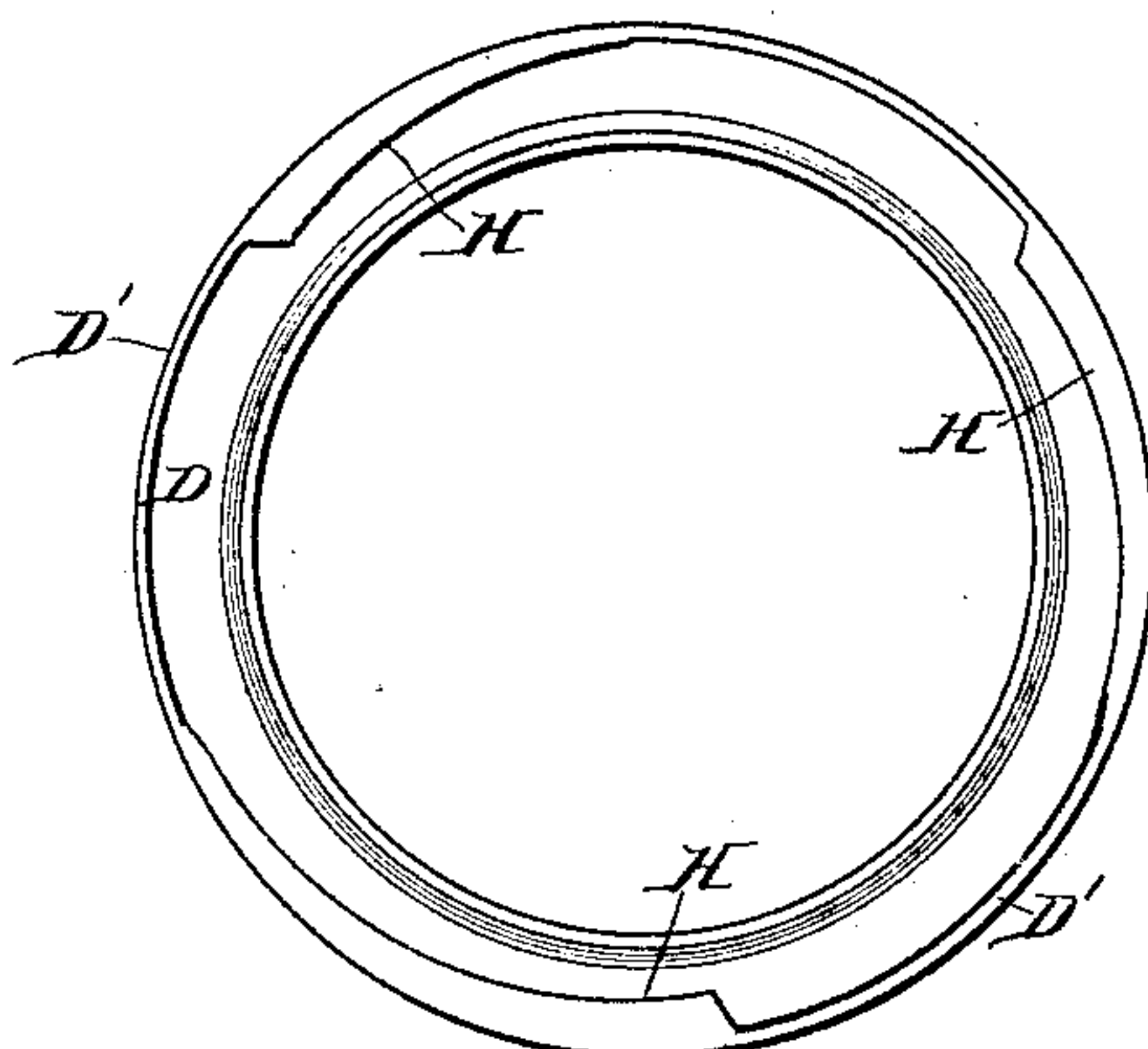


Fig. 6.

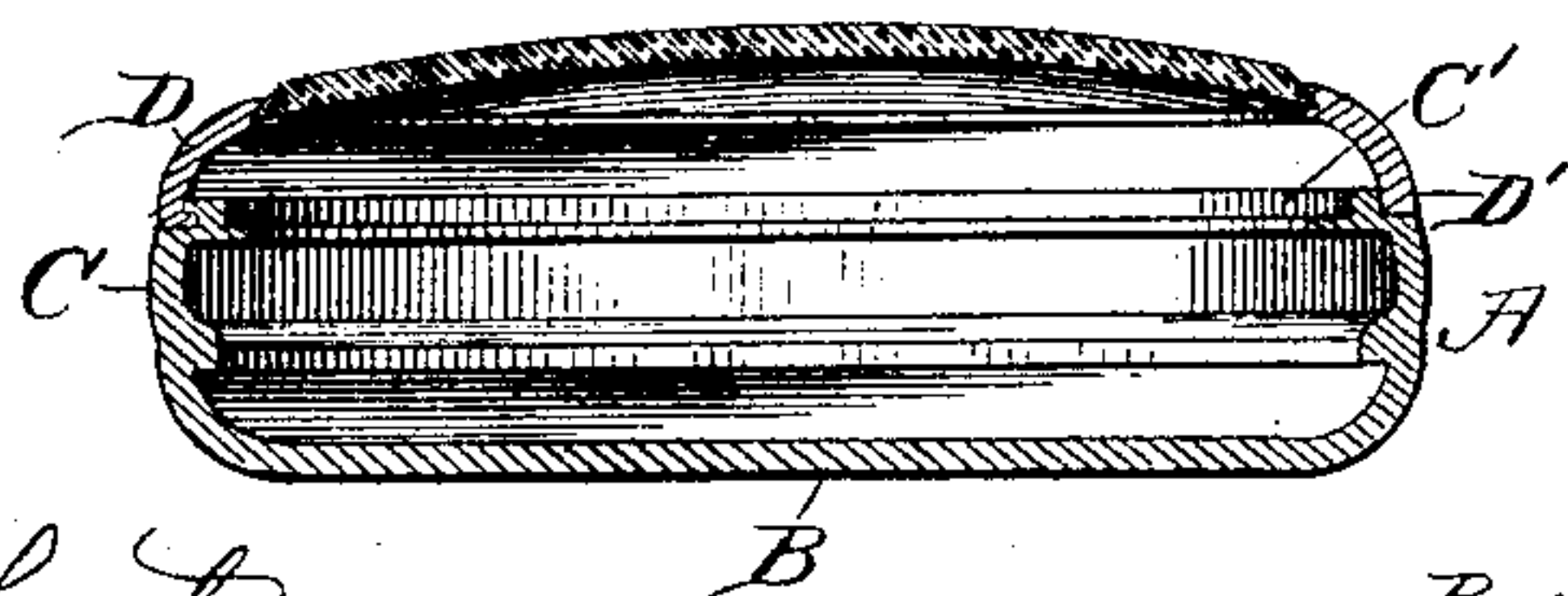


Fig. 7.

Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE CALVERT SMITH, OF CHICAGO, ILLINOIS.

WATCH-CASE.

SPECIFICATION forming part of Letters Patent No. 316,072, dated April 21, 1885.

Application filed December 10, 1883. (Model.)

To all whom it may concern:

Be it known that I, GEORGE C. SMITH, a citizen of the United States, residing in Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Watch-Cases, of which the following is a specification.

The object of this invention is to provide simple, ready, and efficient means for securing the bezel or back, or both, to a watch-case, and to construct the case and the bezel or back, or both, whereby, when either the bezel or the back is fitted upon the center or body of the case and turned thereon, a cam action shall take place between the opposing surfaces of the said members, and a binding force be thereby exerted which shall increase in proportion to the extent to which the one member is turned upon the other, and thereby securely lock the two parts together. These objects I attain by providing said detachable parts of a watch-case with certain curved or inclined surfaces adapted to act as cams when the parts thus constructed are fitted together and turned the one upon the other, in the manner hereinafter fully described and claimed, and illustrated in the annexed drawings, in which—

Figure 1 represents an edge view of a watch-case and bezel detached therefrom with my improvement applied. Fig. 2 is a top or front face view of the watch-case without the bezel. Fig. 3 is a view of the under or inner side of the bezel. Fig. 4 is an edge view of a watch-case and bezel detached therefrom, with a slight change in the form of cam employed on the center. Fig. 5 is a top or front face view of the watch-case shown in Fig. 4 without the bezel. Fig. 6 is a view of the under or inner side of the bezel adapted for the center shown in the two preceding figures, and Fig. 7 is a transverse section through Fig. 4 with the bezel fitted upon the center.

Referring by letter to the annexed drawings, in the several figures of which like letters denote like parts, A indicates a watch-case, which can be of any ordinary or suitable construction, the one herein shown having the back B and the center C stamped or otherwise formed in one piece, although, if preferred, the back could be made separate from the center and secured to the latter by means similar to those which

I employ for securing the bezel D upon the said center of the watch-case. The front side of the center is provided with an annular rim or flange, C', upon which the marginal rim or flange D' of the bezel fits when the bezel is in place upon the center, this said rim or flanged portion of the center being formed perpendicular, or substantially so, to a plane coincident with the face of the watch-case. These rims or flanges of both the bezel and the center have at two or more points on the opposing sides of their rims certain portions of their respective surfaces adapted to act as cams when the bezel is fitted upon the center and turned thereon, so that by reason of the cam action which occurs when one of said members is turned on the other the two shall be locked together with a degree of rigidity dependent upon the extent to which the bezel is turned. One way in which I propose forming the rim of the bezel and center or body of the watch-case in order to attain such result is to provide the rim C' of the center at two or more points upon its outer side with cams E, Figs. 1 and 2, each consisting of a flange, ledge, or other analogous projection or enlargement having the incline *e* formed upon its under side, and arranged obliquely to a plane coincident with the face of the watch-case. This inclined face of the cam commences at a point at or near the top edge of the rim, and extends downwardly and around the perimeter of the rim C' a suitable distance, and can be made either straight or with a slight curve, as may be preferred. For this construction of cam-rim upon the center the rim D' of the bezel is provided with enlargements, projections, or lugs F, extending inwardly from the perimeter or rim of the bezel and corresponding in number to the number of cams upon the center, whereby, when the bezel is fitted upon the center with its projections F in the spaces between the cams on the center, and the bezel then turned upon the latter, the said projecting portions of the bezel will strike the inclined faces of the cams E, which will in turn serve to draw the bezel down upon the center and lock the two parts together.

It will be seen that the projections on the rims of the center and the bezel act as cams when the bezel is fitted and turned upon the

center, and that the joint or connection between the said two members is tightened up to an extent proportionate to the extent to which the bezel is turned.

5 The upper sides of the projections on the bezel which engage the cam-faces or inclines on the center can be arranged in a plane parallel with the face of the bezel; or they can be formed obliquely thereto, so as to correspond
10 with the inclination of the cam-faces on the center, and thereby afford greater bearing-surface when the two parts are brought into contact with each other. The preferred form, however, of cam-rims for the bezel and
15 the center is illustrated in Figs. 4, 5, and 6, in which the rim C' of the center is provided upon its outer side with the cams G, and the perimeter or rim D' of the bezel provided with the inner set of cams, H, corresponding in number and contour to the cams of the center.

The cam-rim for the center is formed by a series of curved faces, such arrangement of curved faces being attained by means of depressions or notches formed in an annular
25 flange formed on the outer side of the rim constituting the bezel-face of the center, the walls of such notches being somewhat abrupt at one end, and gradually running out from such abrupt end toward the next notch, in which way
30 a series of enlargements or cam projections are formed, each of which gradually swells outwardly in one direction from the deepest portion of the depression, and thereby forms a curved or cam face having a curvature eccentric to the periphery of the case. The
35 cams H on the rim of the bezel are formed in a similar way—that is to say, by providing two or more notches in an annular flange on the inner side of the face of the bezel—and are
40 preferably equal in number to the cams on the center.

When the bezel is fitted on the center with its projections fitting in the corresponding depressions in the rim of the latter, and the bezel
45 then turned, the two members will bind together with a force proportionate to the extent to which the bezel is turned, and thereby lock and hold the bezel upon the center.

It will be seen that the incline of the cam-face in Figs. 1 and 2 runs down from the top edge of the flange or rim C' toward the annular seat C² on the latter, and hence that when the bezel is fitted and turned on the center it will be drawn down upon said seat; but under
50 the arrangement of cam-faces shown in Figs. 4 and 5 the curve which answers to said incline in the preceding figures runs horizontally with relation to the annular seat C² of the center or with the face of the case, and hence
60 the binding action is exerted in a direction parallel with the face of the case. In order, however, to add to the security of the connection between the bezel and the case, and to also draw the bezel down upon the center
65 when it is turned thereon, each cam portion of the rim of the center is preferably provided

with a groove, I, formed below the top edge of the rim, and the cam portions of the bezel are adapted to enter said grooves when the bezel is fitted on the center, so that when the
70 bezel is fitted and turned on the latter it will be drawn down, in addition to the binding force exerted, at right angles to the direction of the force thus drawing it down.

From the foregoing it will be seen that either
75 or both of the faces of the center can be provided with a cam-rim consisting of a notched flange, and that the bezel or back, or both, can also be provided with a similar arrangement of notched flange, so that when the parts
80 are fitted together they shall be locked together firmly in position, with the clamping-flanges entirely covered by the lid or back and by the bezel; also, that the bezel can be detachably secured to the center, leaving the
85 outer surface entirely free from obstructions or flanges.

In an application, Serial No. 131,956, I have shown a center provided with inclined grooves in its rim and running out the rim—that is to
90 say, grooves gradually decreasing in depth and at the same time inclined—and also pins on a bezel engaging said grooves, and I therefore make no claim to such construction in this application.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A watch-case body or center provided on its face or faces with cam projections, in combination with a bezel or back, or both, having
100 projections adapted to engage said cam projections on the center, substantially as described.

2. A watch-case center provided upon its face with cam projections, in combination with
105 a bezel having corresponding cam projections, substantially as and for the purpose described.

3. A watch-case center having on its face an annular flange or rim provided with cam
110 projections, in combination with a bezel having a rim similarly provided with cam projections, substantially as described.

4. A watch-case center having on its face a rim provided with the curved cam projections
115 G, in combination with a bezel provided with the curved cam projections H, substantially as described.

5. The watch-case having one or both of its faces provided with a flange notched substantially as described, in combination with a
120 back or bezel, or both, provided with a flange notched substantially as shown, for the purpose set forth.

6. A watch-case center provided on one or
125 both of its faces with an annular flange notched in two or more places, as shown, in combination with the back or bezel, or both, having their internal flange notched in a manner to fit upon the flanges on the center, and be secured there-
130 to by a partial revolution, the said clamping-flanges being entirely covered by said back or

bezel, or both, substantially as and for the purpose specified.

7. As a new article of manufacture, a watch-case center adapted to inclose and support the movement, having its bezel-face provided with cam projections, in combination with a bezel carrying the crystal, and having its center face provided with corresponding cam projections,

whereby the said bezel may be detachably secured to said center and leave the outer surface entirely free from obstructions or flanges, substantially as and for the purpose specified.

GEORGE CALVERT SMITH.

Witnesses:

ANDREW HERO, Jr.,
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