

E. F. HEFFERNAN.
WATCH CASE.

No. 446,737.

Patented Feb. 17, 1891.

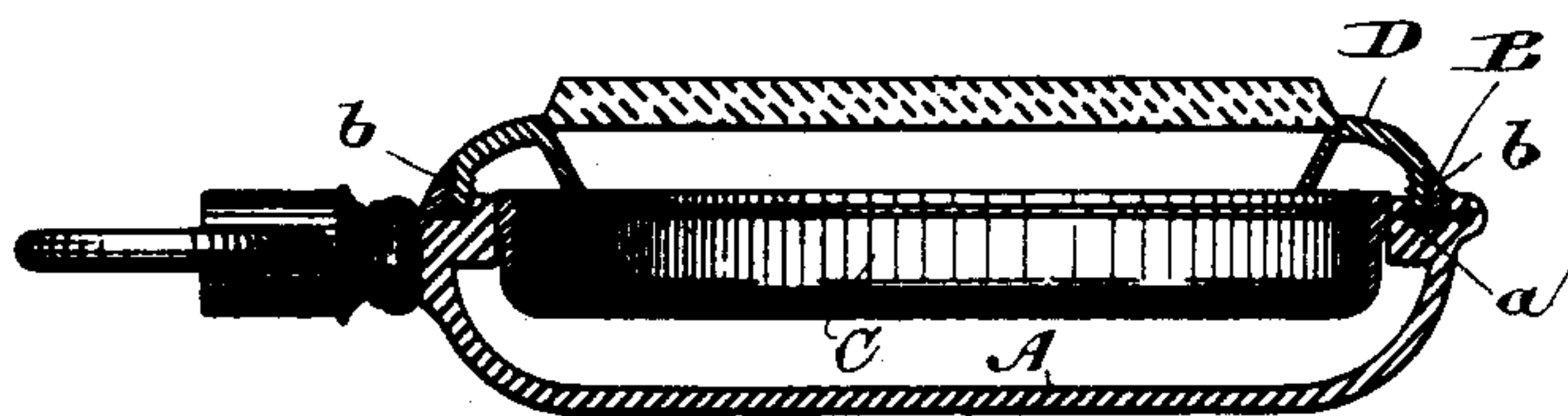


Fig. 4.

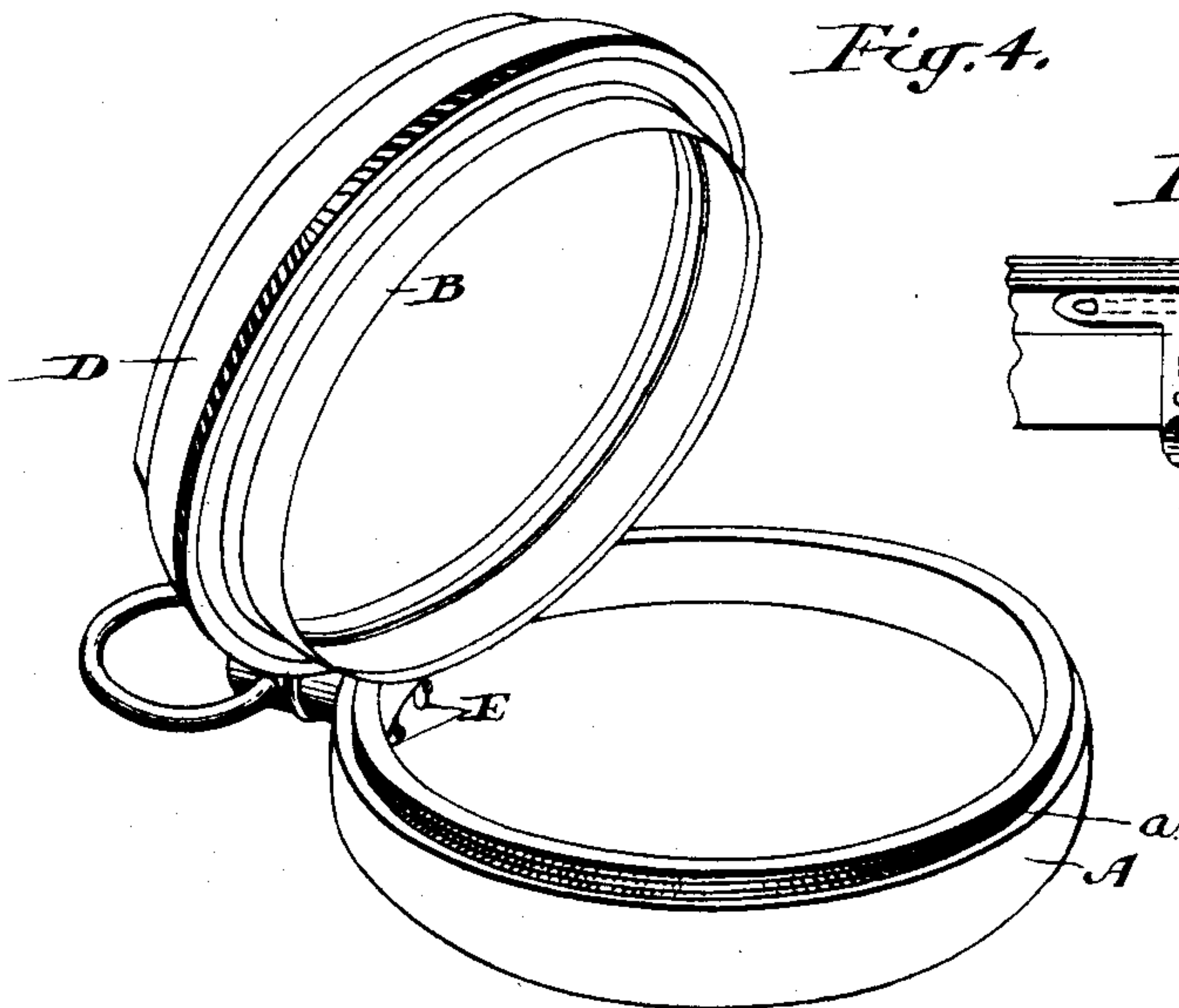


Fig. 1.

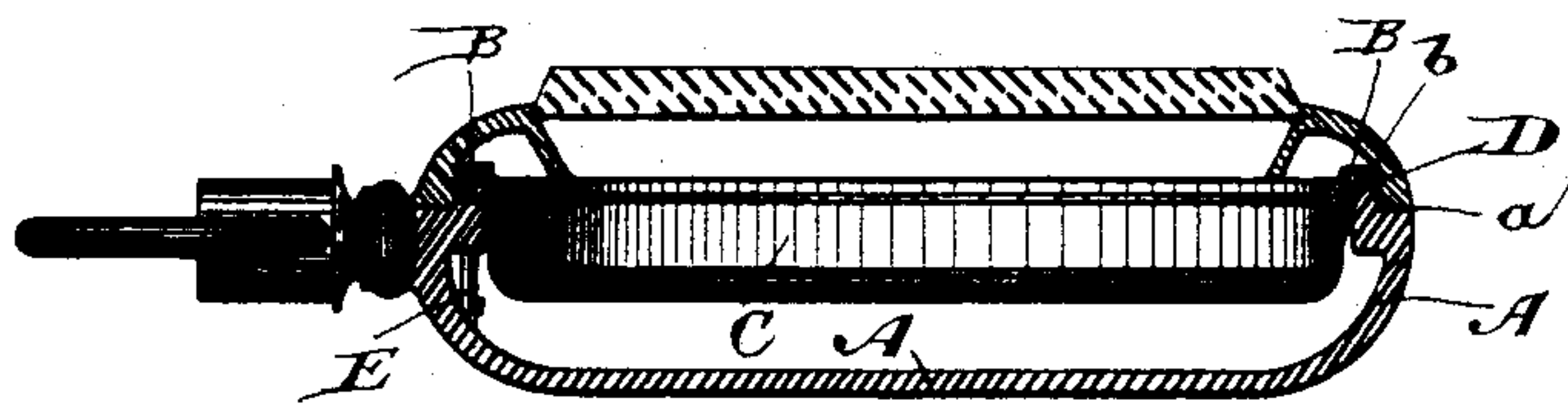


Fig. 2.

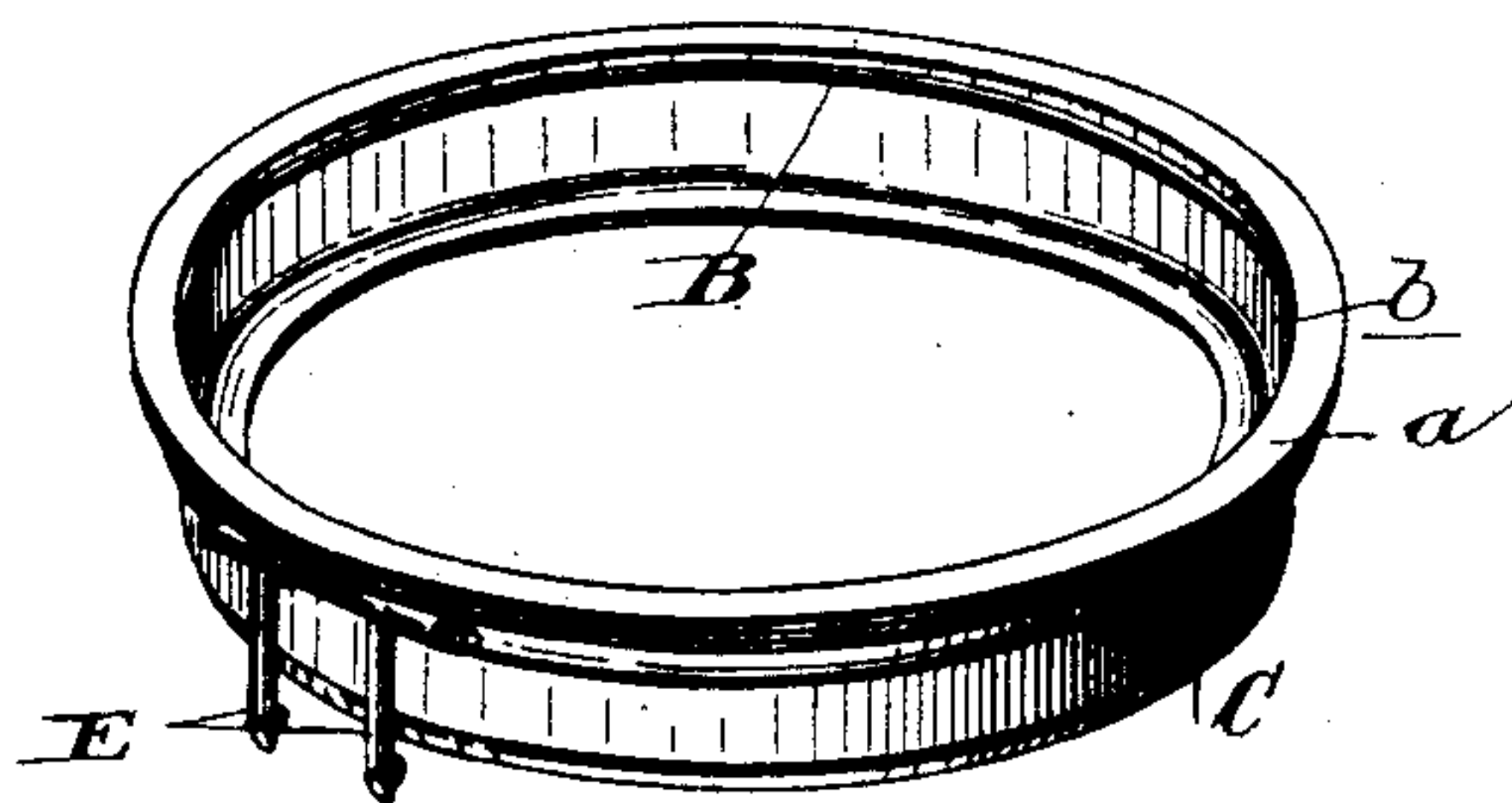


Fig. 3.

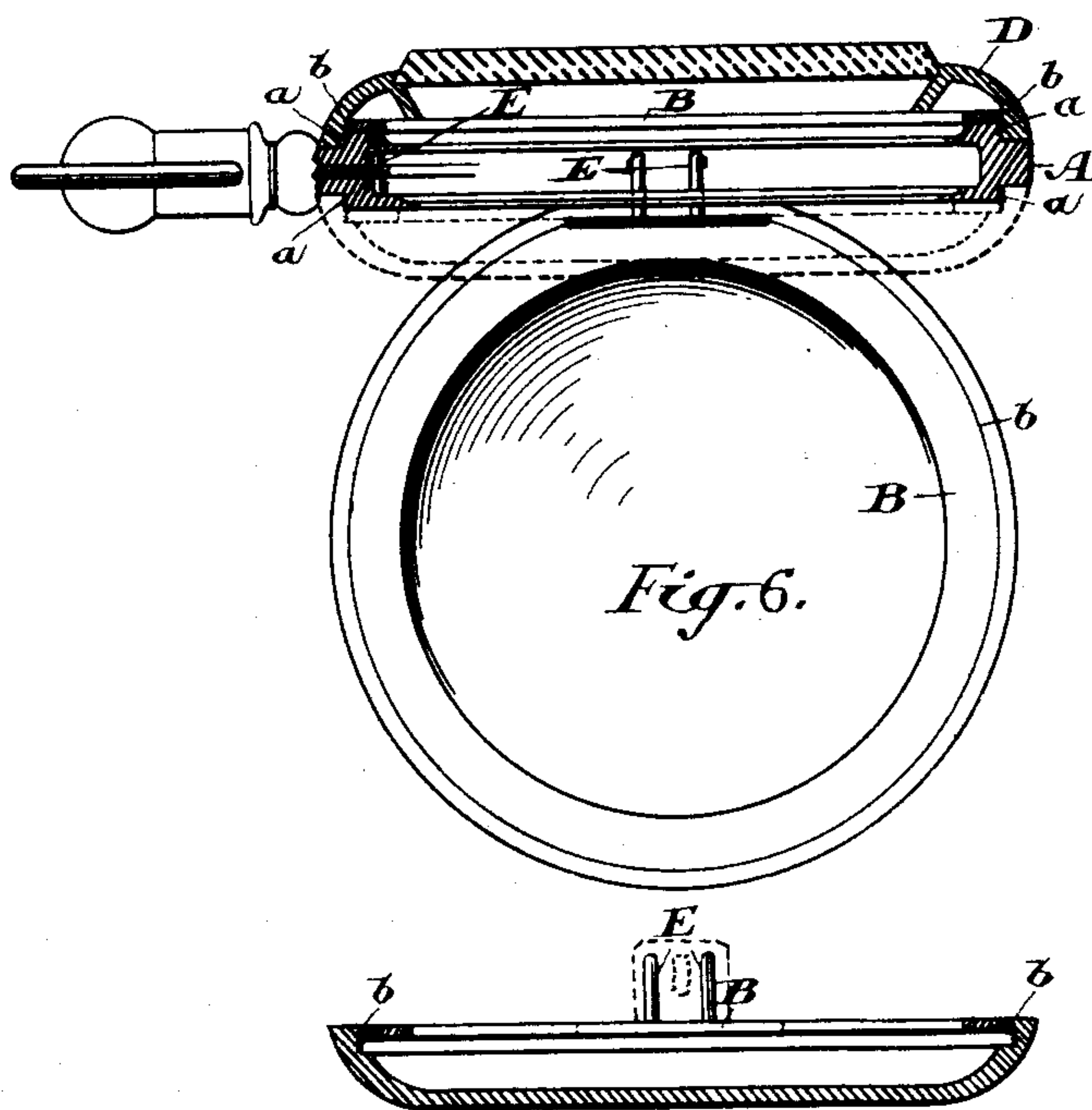
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UNITED STATES PATENT OFFICE.

EDWARD F. HEFFERNAN, OF TORONTO, ONTARIO, CANADA.

WATCH-CASE.

SPECIFICATION forming part of Letters Patent No. 446,737, dated February 17, 1891.

Application filed April 19, 1889. Serial No. 307,794. (No model.)

To all whom it may concern:

Be it known that I, EDWARD FRANCIS HEFFERNAN, of the city of Toronto, in the county of York, in the Province of Ontario, Canada, watch-case maker, have invented a certain new and useful Improvement in Watch-Cases, of which the following is a specification.

The invention relates more particularly to that class of watch-cases in which the bezel or back, or both, is or are secured to the center by means of a screw-joint.

The object of the invention is, first, to so connect the said back or bezel that it may be opened without being detached from the center, and, secondly, to form an invisible hinge.

It consists, first, of a ring hinged to the center and connected to the back or bezel, so that the said back or bezel may be revolved thereon, and, secondly, of a hinge formed by one or more pins pivoted on the back, bezel, or ring and longitudinally adjustably fitted into holes made in the center.

Figure 1 is a perspective view of a watch-case provided with my improved screwed hinged joint, showing the bezel and dust-band thrown open. Fig. 2 is a section detail showing the application of my invention to a dust-band. Fig. 3 is a perspective detail of the movement-ring. Fig. 4 is an alternative form of my improvement in watch-cases. Fig. 5 is a detail view of the hinge enlarged. Fig. 6 is a section of a watch-case closed with the back open, also showing the back closed in dotted lines. Fig. 7 is a detached view in section of the back, showing the rim and hinge connected thereto.

In watch-cases to which my invention is more particularly applicable the back or bezel when screwed off is entirely detached from the center, thus making it awkward to set the watch without first laying down the back or bezel.

By the adoption of my invention the dust-proof nature of a screwed joint is secured, while the advantage of a hinged joint is retained.

For the purpose of illustrating my invention I have shown it applied to the dust-band and bezel of a watch-case; but it will be seen as I proceed with the description of my invention

that it is equally applicable to the back and that it is not absolutely necessary that the dust-band should be connected to the ring, which forms the basis of my invention.

In the drawings, A represents the center, on which a thread *a* is cut.

B is a rim, which has preferably a thread *b* cut on it to correspond with and form a continuation of the thread *a*. This rim in the drawing is shown as part of the dust-band C.

In Fig. 2 the bezel D has a thread cut on its interior periphery to fit over and screw upon the threads *a* and *b*. The pins E have their upper ends formed at right angles and are hinged, as shown, to the rim B by a pin passing through said pins and a lug on the rim. These pins fit into holes made in the center A and are longitudinally movable therein, forming a hinged connection between the said center and the rim B, which hinge is invisible when the back or bezel is closed. When the bezel D is screwed home, as shown in Fig. 2, an ordinary dust-proof screwed joint is formed. Should it be necessary to open the watch-case, the bezel D is unscrewed until its connection with the thread *a* is broken, when the only connection which remains between the rim B and the center A is the hinge formed by the pins E, whereas the connection between the bezel D and the rim B is unbroken, and consequently the bezel D, rim B, and dust-band C may be thrown open on the hinge, as indicated in Fig. 1, without being detached from each other, because the bezel D is still attached to the screw *b* of the rim B. In cases where the back of a screw-jointed watch-case is to be connected in accordance with my invention the dust-band C will of course not be connected to the rim B; but otherwise the construction will be the same. It will also be observed that as the glass is not detached from the dial of the watch when the bezel and movement are thrown open on their hinge the hands of the watch are protected when the movement is opened.

I prefer to make my hinge with two pins E, far enough apart to allow the winding-stem to pass freely between them, or it might be made with a single piece of metal, as shown in dotted lines in Fig. 7, wide enough to have

a hole in it through which the winding-stem might pass, which hole should be of such shape as to allow of the longitudinal movement of the hinge-pin.

5 In Fig. 4 I show an alternative form of joint made in accordance with my invention. In this figure it will be noticed that I hinge the rim B (shown in Figs. 2 and 3 as attached to the dust-rim) on the outside of the center
10 and cut the thread *b* on the inside of the rim B, and of course cut a thread on the outside of the bezel to engage with the thread *b* on the inside of the ring, while the thread *a* on the center A engages with the thread cut on
15 the inside of the bezel. The operation is essentially the same—that is to say, the bezel D is revolved until it is screwed off the thread *a*; but it still remains connected to the rim B by the thread *b* and may be opened with-
20 out being detached from the said hinged rim.

What I claim as my invention is—

1. The combination, with the center of a watch-case, of a rim hinged to the said center and having the back or bezel connected to
25 said rim by screw-threads formed on said back or bezel and rim, substantially as described.

2. The combination, with the center of a watch-case having a screw cut on it, of a screwed rim hinged to the center and a back

or bezel screwed to engage with the screws on the ring and center, substantially as and for the purpose specified. 30

3. A watch-case hinge formed by one or more pins pivoted on the back, bezel, or rim and constructed to move longitudinally in
35 holes made in the center, substantially as and for the purpose specified.

4. In a watch-case having its back or bezel screwed to the center by means of a screwed joint, a rim connected to the back or bezel
40 and having a thread cut on it to correspond with and form a continuation of the thread which forms a screw-joint, in combination with a hinge designed to connect the screwed ring with the center, substantially as and for
45 the purpose specified.

5. A rim B, having a thread *b* cut on it to correspond with and form a continuation of the thread *a* on the center A, and a hinge to
50 connect it with the said center A, in combination with a bezel or back D, having a thread cut on it to engage with the threads *a* and *b*, substantially as and for the purpose specified.

Toronto, April 10, 1889.

EDWARD F. HEFFERNAN.

In presence of—

CHARLES C. BALDWIN,

W. G. McMILLAN.