

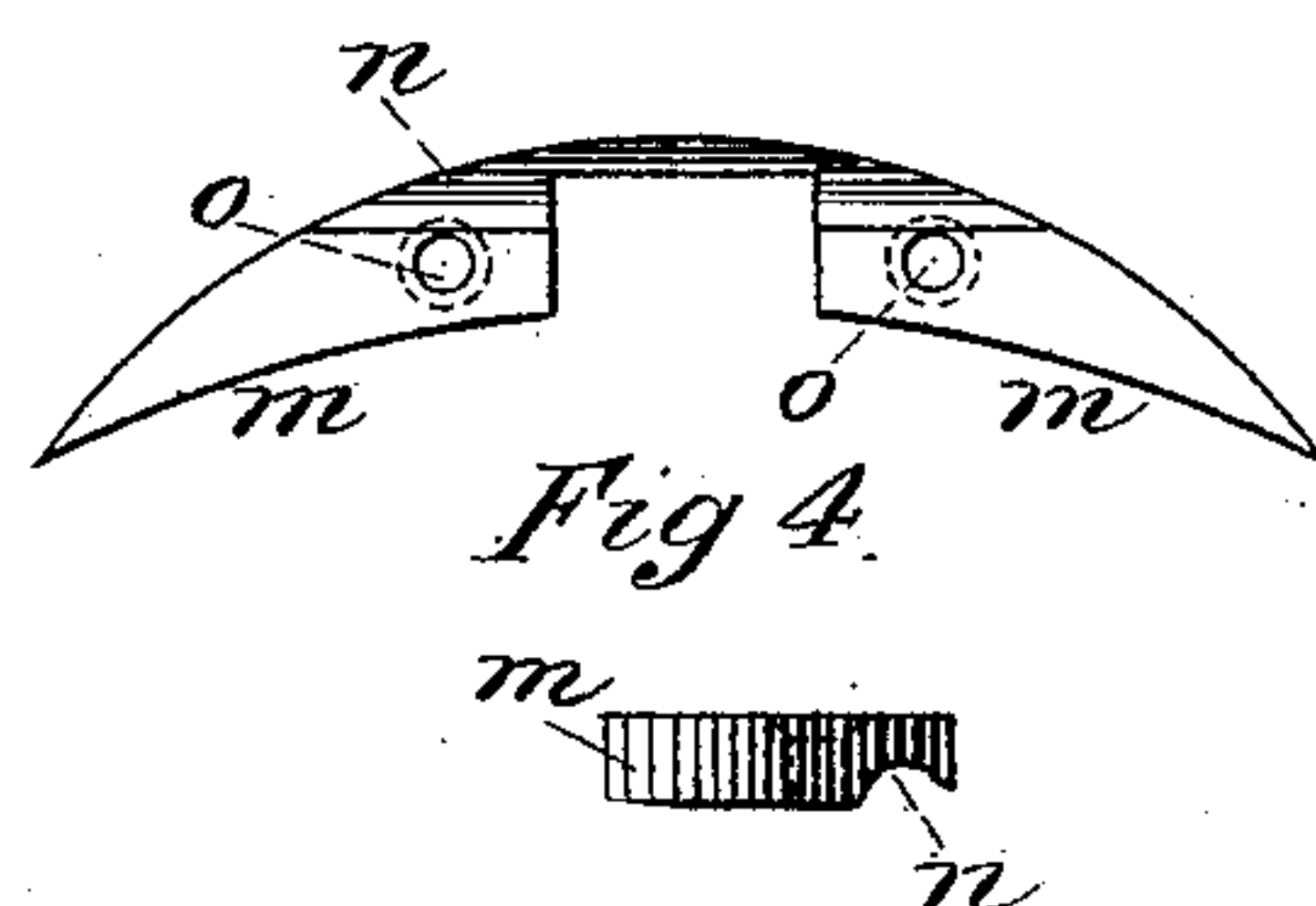
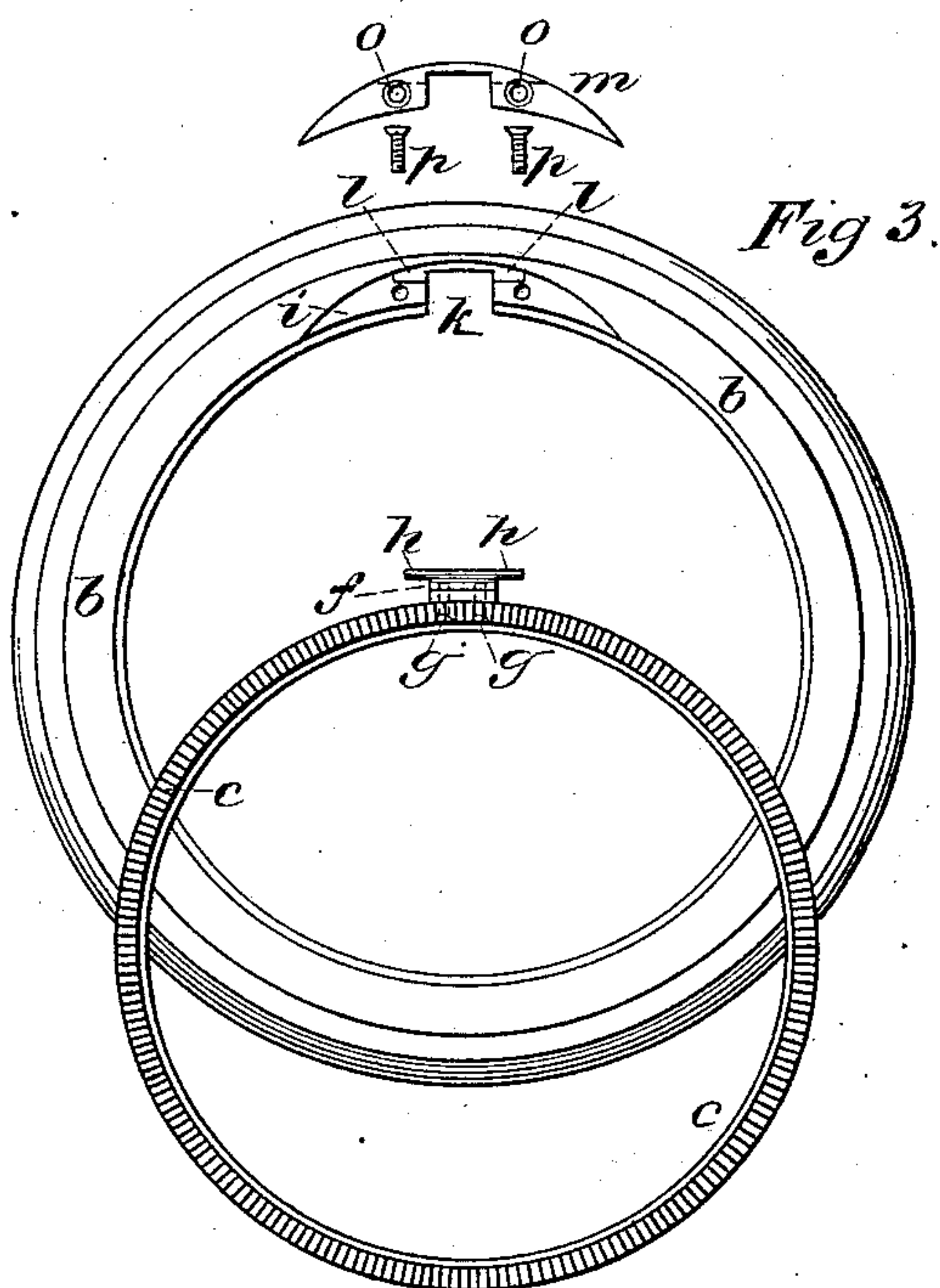
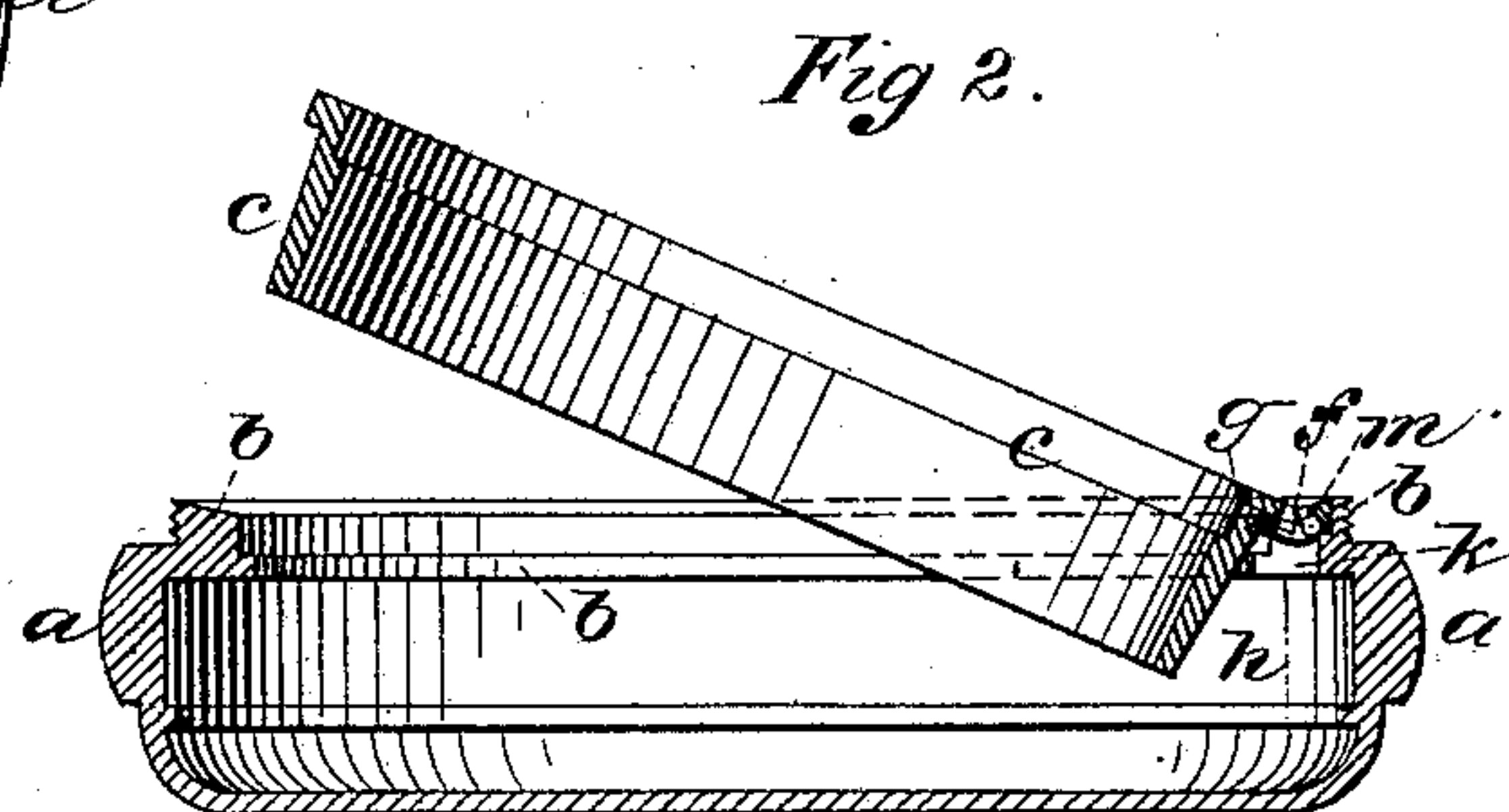
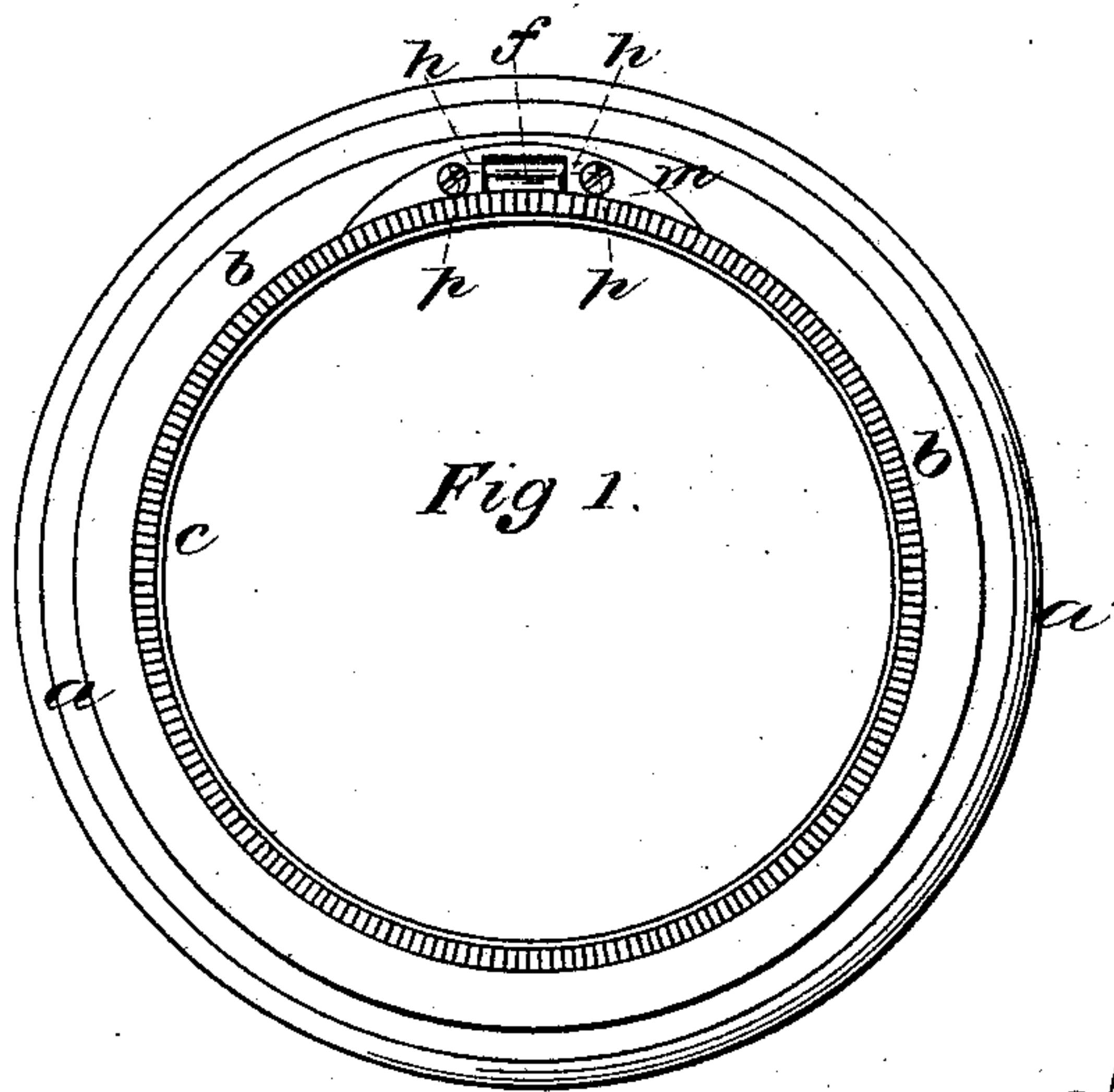
(No Model.)

J. E. SEARING.

WATCH CASE.

No. 278,609.

Patented May 29, 1883.



Witnesses.

Jno. E. Cravin
Henry P. Parker.

Inventor.

James E. Searing
by Chas. M. Higgins
Atty.

UNITED STATES PATENT OFFICE.

JAMES E. SEARING, OF NEW YORK, N. Y., ASSIGNOR TO ROBBINS & APPLETON, OF SAME PLACE.

WATCH-CASE.

SPECIFICATION forming part of Letters Patent No. 278,609, dated May 29, 1883.

Application filed December 18, 1882. (No model.)

To all whom it may concern:

Be it known that I, JAMES E. SEARING, of New York city, New York, (assignor to ROBBINS & APPLETON, of the same place,) have invented certain new and useful Improvements in Watch and Locket Cases, of which the following is a specification.

My improvement applies to the inner hinged parts of watch or locket cases, more particularly to watch-cases, and to that class such as patented to E. O. Fitch, April 22, 1878, No. 214,642, and February 17, 1880, No. 224,670, in which the movement is held in an outswinging ring which is hinged internally to the margin of the inclosing-case, and is thus capable of being swung into or out of the case on said hinge.

My invention lies, essentially, in an improved form of hinge for such purpose, and may be briefly stated to consist in a pintle-lug affixed to the periphery of the swinging ring or other hinged part, and adapted to lie in pivotal sockets formed on the margin of the case, with a retaining-plate screwed or fastened to the margin of the case, over said pintles and their sockets, whereby a very strong and simple hinge is produced, which is more easily applied to the case, and is less costly than the present form of soldered hinge, as hereinafter fully set forth.

The annexed drawings represent fragmentary views of an open-face-watch case, such as shown in the first-named patent of Fitch, provided with my improved hinge.

Figure 1 is a plan view of the top of the case, the bezel and crown being removed. Fig. 2 is a cross-section with the hinged movement-ring shown partly swung out of the case. Fig. 3 is a plan view with the several parts separated to show the construction of the hinge. Fig. 4 shows an inverted plan view and a side elevation of the retaining-plate of the hinge on an enlarged scale.

In Figs. 1, 2, and 3, *a* indicates the inclosing-case, which, according to the aforesaid patent, is made in one continuous shell, open in front to receive the movement, and without joints or perforations on the back. The top of the case is formed with an inwardly-projecting or overhanging rim, *b*, into which the ring *c* fits. This ring receives the movement in the usual way, and it is hinged at its outer periphery to the inner periphery of the rim *b*, as

will be understood from Figs. 1 and 2, by means of my improved hinge, as will hereinafter appear. The outer periphery of the rim *b* is screw-threaded, as shown well in Fig. 2, so as to receive a correspondingly screw-threaded bezel, which may be screwed thereon when the movement-ring is swung into the case, forming an open-face watch with an airtight cover over the dial, as shown in the aforesaid patent. This screw-bezel is not of course essential to my feature of construction, and any other form of bezel, lid, or cover, whether forming either an open-face or hunting-case watch, may be employed. My improved form of hinge has, however, special advantages where the screw-threaded rim is used to receive a screw-bezel, and I have hence illustrated and referred to it particularly in this case. Now, by referring to Fig. 1, it will be understood that the axis of the hinge must lie in the position of the chord of a circle across the screw-threaded rim *b*; hence when the ordinary form of barrel-hinge is used, which consists of three intermeshing tubular sections with a pin passing through them, the two outer tubular sections must be soldered across the rim, with a gap between them to receive the central section, which is soldered to the outswinging ring, and the bores of the tubes must extend clear through the threaded rim to admit the pintle or axial pin. This construction therefore weakens the rim and partly mutilates the screw-threads on its outer periphery, while the soldering of the outer tubes of the hinge in their position across the rim is a troublesome and comparatively expensive operation, and one which can seldom be performed with entire neatness and finish, its appearance being generally objectionable.

Now, according to my invention, I dispense entirely with the tubular and soldered form of hinge, and instead of the middle tubular section heretofore soldered to the outswinging ring *c*, I employ a solid steel pintle, lug, or block, *f*, which is affixed to the outer periphery of the ring, near its upper edge, and is terminated with little pintles or trunnions *h h*, which project laterally therefrom and from the axial pin of the hinge, as shown best in Figs. 2 and 3. This pintle-block is preferably secured to the ring *c* by two fine screws, *g g*, which are inserted from the inside of the ring and screw into tapped holes in the block, as

indicated in Figs. 2 and 3. Now, on the top of the rim *b* is formed a crescent-shaped recess, *i*, whose inner or concave outline is coincident with the inner periphery of the rim, but whose outer or convex outline does not extend far enough out on the rim to intersect its screw-threaded periphery, and hence it does not mutilate its screw-thread, as will be understood. This recess *i* is of shallow depth, and extends but a short distance down into the rim, as will be understood from Figs. 3 and 2, while at the center of the recess is a gap, *k*, which extends completely through the rim, as shown, so as to admit the pintle-block *f*, as seen in Figs. 1 and 2. The gap *k* does not extend out quite to the outer line of the crescent-recess *i*, and on the floor of the recess *i*, on each side of said gap and near the outer line of the recess, are formed the little semicircular pintle sockets or grooves *l l* to receive the little trunnions or pintles *h h* on the pintle-block *f*, as seen in Fig. 3, also in Figs. 1 and 2.

In Fig. 3, *m* indicates a steel plate of crescent shape, which is adapted to fit into the recess *i*, flush with the top of the rim. This plate is gapped at the center to correspond with the gap *k* to admit the pintle-block, and on its under side is formed a semicircular groove, *n*, (see Fig. 4,) to correspond with the pintle-sockets *l l* in the rim and to overlie the pintles *h h* when placed therein. Through this plate, on each side of the gap *k* and on one side of the groove *n*, are formed countersunk holes *o o*, to receive countersunk head-screws *p p*, by which the plate may be fastened into the crescent-recess and over the pintle-lugs, as seen in Figs. 1 and 2, the said screws screwing into tapped holes in the rim on each side of the gap, as seen in Figs. 1 and 3; hence when the ring *c* has been placed within the case *a*, and the trunnions of its pintle-lug *f* are placed in the sockets *l*, by screwing the plate *m* over the same, as seen in Figs. 1 and 2, the ring *c* becomes hinged to the rim of the case in a very strong and simple manner, which allows a free hinging or swinging movement of the ring, yet holds the parts in perfect connection and does not mutilate the screw-threaded periphery of the rim *b*, while it gives a finished appearance to the face of the case. In addition to these advantages the construction is much cheaper than the soldered barrel-hinge, and all the parts of the improved hinge can be made by machinery, which insures perfect fits and enables the parts to be replaced or interchanged in case of breakage, thus rendering repairs simple and perfect whenever necessary.

The described parts of the hinge might be made of other metal than steel; but steel is much preferable for sake of strength, and for its appearance, when oxidized to the blue-temper color, to contrast with the precious metal of the case. Instead of fastening the parts by the screws described, any other suitable fastening may be employed; but the screws are preferable.

I have described the improved hinge as

specially adapted to watch-cases of the kind specified; but it of course may be applied to the corresponding part of any watch or locket case for which it is found adapted. I have also described the pintle-lug as fixed on the outswinging ring or lid, with the socket and retaining-plate on the case; but the positions of these parts might be reversed, in some instances, without departing from the invention, although such reversal would, in most instances, be objectionable, and it is therefore not recommended.

In some cases the movement might be hinged directly to the rim *b* of the case, instead of being held in a movement-holding ring, *c*; but a hinged movement or a hinged bezel would obviously be an equivalent for the ring *c*, as the improved hinge would be applied to each of said parts in substantially the same way and with precisely the same effect.

What I claim is—

1. In a watch or similar case formed with an inwardly-projecting rim, *b*, having a gap, *k*, on its inner periphery, and a pintle socket or sockets, *l*, on its upper face, the combination, with the internal outswinging part or ring, *c*, provided with a lug, *f*, projecting from its outer periphery, adapted to enter the gap *k*, and formed with a projecting pintle or pintles, *h*, to seat in said sockets, of a retaining-plate, *m*, fastened onto the upper face of said rim, over said sockets, substantially as and for the purpose set forth.

2. A watch or similar case formed with a rim, *b*, having a recess, *i*, and pintle-socket *l*, in combination with an outswinging part, *c*, provided with a projecting pintle, *h*, to fit in said socket, and the overlying plate *m*, adapted to fit into said recess and fasten to said rim, substantially as herein shown and described.

3. A watch or similar case formed with a raised rim, *b*, having the recess *i* within its outer periphery and intersecting its inner periphery, with a swinging part, *c*, fitting into said rim, and provided with a projecting trunnion, *h*, adapted to seat or socket in the base of said recess, with an overlying retaining-plate fastened to said rim in said recess, substantially as herein shown and described.

4. A watch or similar case formed with the rim *b*, having a crescent-shaped recess, *i*, in combination with the outswinging part *c*, provided with a projecting pivot, *h*, to seat on the base of said recess, near its outer edge, with the overlying crescent-shaped plate *m*, fastened to said rim within said crescent-recess *i*, substantially as herein shown and described.

5. The combination, with the appropriate parts of a watch or similar case formed substantially as set forth, of the pintle-lug *f h* and its fastening-screws *g g* with the retaining-plate *m* and its screws *p p*, substantially as herein set forth.

Witnesses: JAMES E. SEARING.
HENRY K. THOMAS,
W. R. FULLER.