(No Model.) 2 Sheets—Sheet 1

F. KÖHLI.

WATCHCASE.

No. 546,543. Patented Sept. 17, 1895.

Fig. 3.

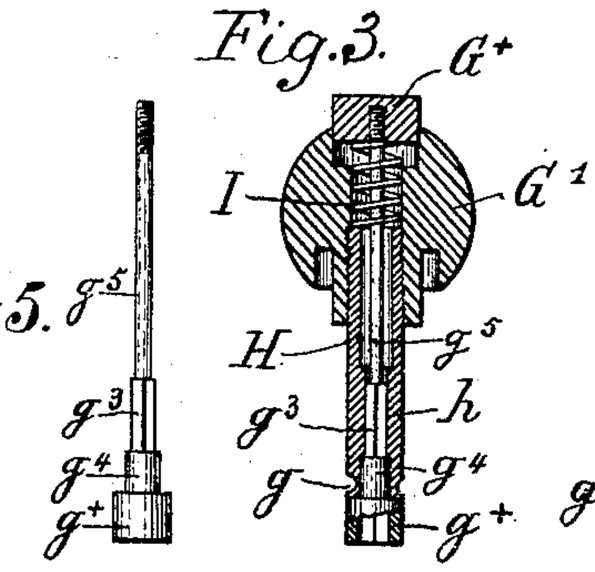


Fig. 5.

Fig. 4

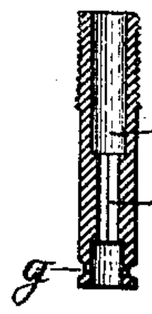
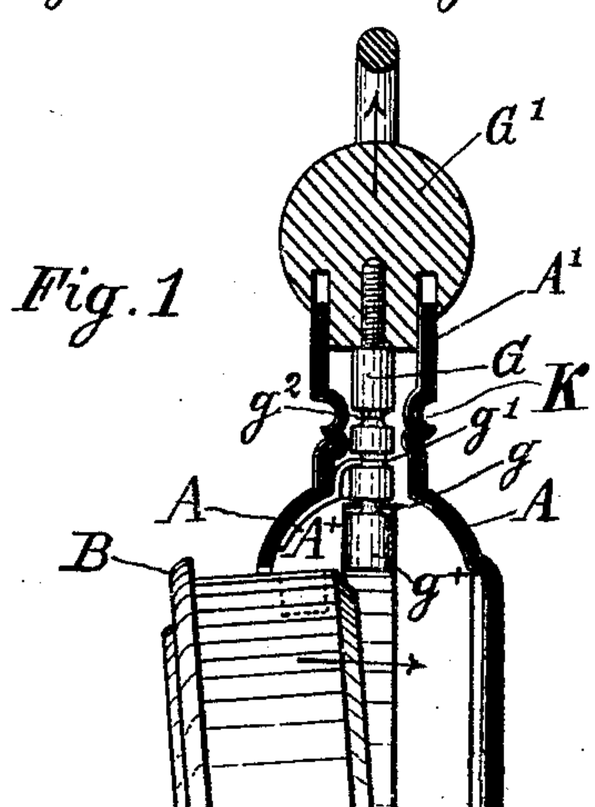


Fig. 1



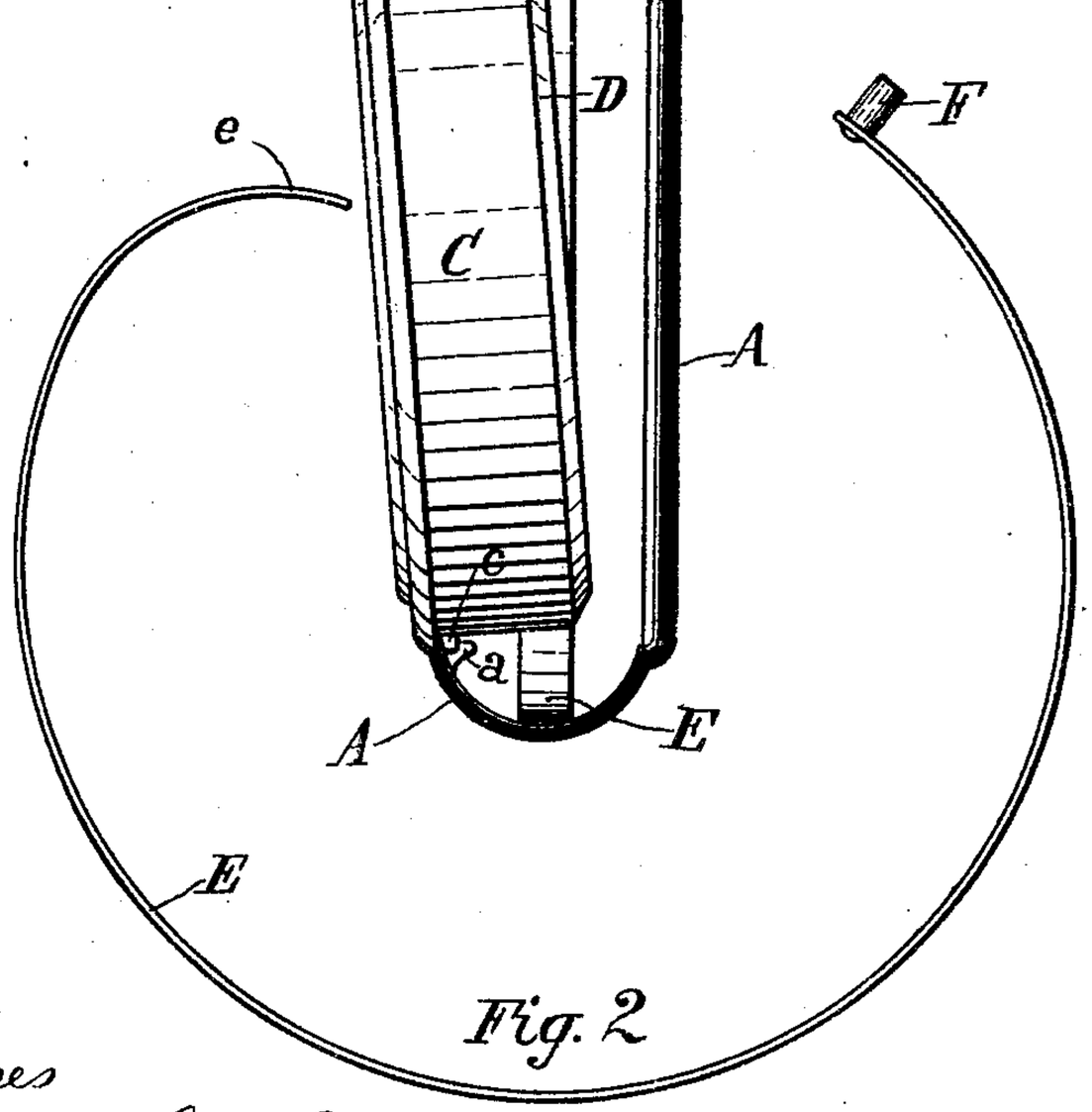


Fig. 2

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(No Model.) 2 Sheets—Sheet 2.

F. KÖHLI.

WATCHCASE.

No. 546,543. Patented Sept. 17, 1895.

Fig. 6.

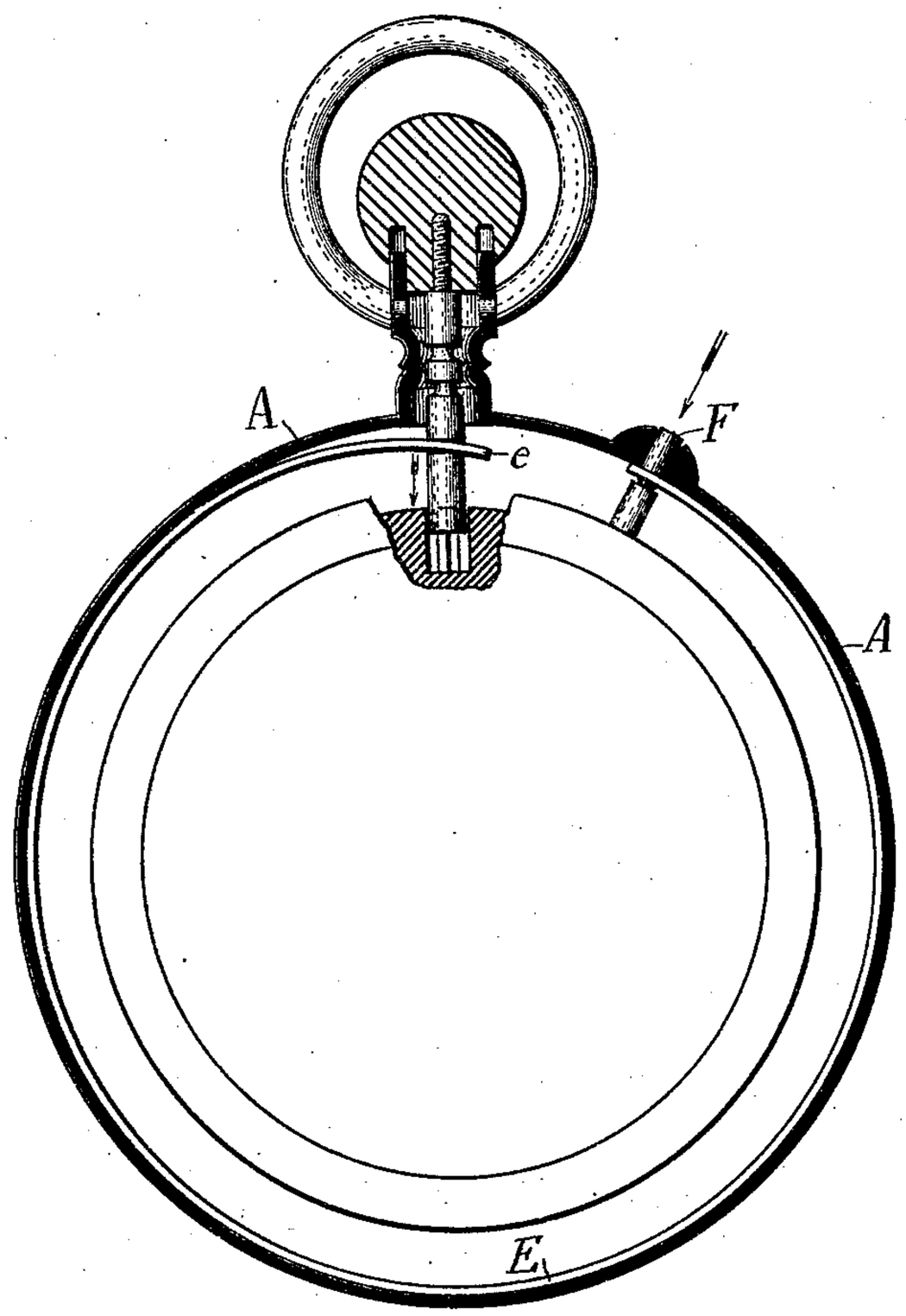
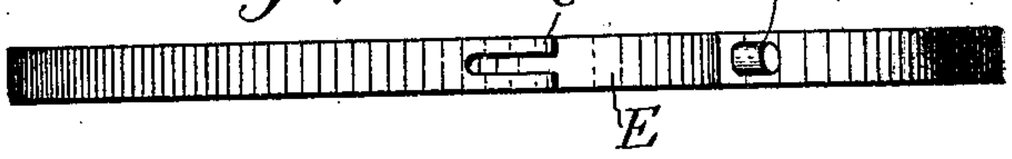


Fig. 7.



Witnesses
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UNITED STATES PATENT OFFICE.

FRITZ KÖHLI, OF BIENNE, ASSIGNOR TO EMILE FLOTRON, OF MADRETSCH, SWITZERLAND.

WATCHCASE.

SPECIFICATION forming part of Letters Patent No. 546,543, dated September 17, 1895.

Application filed May 15, 1895. Serial No. 549,409. (No model.)

To all whom it may concern:

Be it known that I, FRITZ KÖHLI, watchmaker, residing at Bienne, Switzerland, have invented certain new and useful Improvements in Watchcases, of which the following is a specification.

This invention relates to an improvement in the watchcase for rendering the same entirely water and dust tight, and at the same time allowing for the works to be easily removed for cleaning or repairing the same or for introducing different works into the same case.

I make use of an exterior case, to which the stem or pendant is connected, and in the side of this case is an opening for receiving the inner case that holds the works, and the winding-stem that passes through the pendant is provided with a square socket for receiving the square shaft or key of the winding mechanism, and there is a spring within the external case that acts to draw the winding-stem inwardly and hold the same in proper engagement with the winding mechanism of the watch, and by drawing back the winding-stem the parts can be separated, so as to remove the inner case containing the watchworks.

In the drawings, Figure 1 is a section of the exterior case and of the crown. Fig. 2 is an elevation of the spring that holds the winding-stem. Fig. 3 is a section of the winding-stem adapted to watches in which the hand-setting mechanism is also operated by the winding-stem. Fig. 4 is a detached section of the tube connected to the crown, and Fig. 5 is an elevation of the winding and hand-setting stem or the stem that may be used in actuating the stop mechanism. Fig. 6 is a section of the case and elevation of the spring and winding-stem, and Fig. 7 is a plan view of the spring detached.

The external case A is of any suitable size and shape, and it is made with an opening at one side adapted to receive through it the internal case C, containing the watch mechanism, and it is advantageous to provide a bezel and inner glass at D to inclose the back of the works, and the bezel B receives a glass that covers the face of the watch, and the edge of the bezel B projects, so as to set tightly against the side of the case A around the opening through which the works and inner case C are inserted.

The locking projections *a* and *c* are applied, respectively, upon the inner case C and the outer case A at the lower part of the respective cases where they come together or at the side opposite to the pendant K, and these locking projections are in the form of forked lugs or hinged knuckles that set together and prevent the separation of the case C from the external case A at this side of the watch, and these interlocking projections are placed together when the inner case C is inserted into the outer case A, as represented in Fig. 1, and the parts are held together at the other side by the winding-stem, as hereinafter described.

The pendant K is of any suitable size and shape, and it receives the winding-crown G′, as usual, and to this winding-crown the stem G is attached, as shown in Fig. 1, and this stem G has at its inner end a square recess $g^{\times}$ to receive and engage the winding-stem within the inner case C, such inner case being recessed around the winding-stem to receive the end of the winding-stem G.

One feature of my improvement relates to the coiled spring E, one end of which is forked at *e*, so as to engage the neck or annular groove *g* around the winding-stem G, and there is a projection or push-piece F at the other end of the spring E, which push-piece passes through a hole in the case A, and the shape of this spring E is such, as represented in Fig. 2, that when the stem is inserted into the case A it is kept from endwise movement by the push-piece F passing through the hole in the case A, and the forked end *e* of the spring E engages the neck *g* and tends to draw the stem G inwardly, so as to constantly press its inner end firmly upon and in engagement with the square or winding stem within the inner case C, that holds the works, and this stem G, under the action of the spring E, forms a latch to hold the inner case C and works firmly within the case A, in consequence of the end of the stem G passing into the recess in the inner case C.

If desired, a spring $A^{\times}$ is provided within the case A and extending up into the pendant

and terminating with an end that may enter into the neck or annular groove g' or g^2, and when the end of the spring $A^\times$ enters the groove g' as the stem G is drawn upwardly, such stem G is held, as indicated in Fig. 1, with its end in such a position that the watch-works and the inner case C can be inserted within the outer case A, and after this is done and the stem G is pushed inwardly the end of the spring $A^\times$ is pressed out of the groove g' and enters the groove g^2, so as to aid in holding the parts when they have been placed together.

The stem shown in Figs. 3, 4, and 5 acts in the same manner as the stem G, Fig. 1, except that there is an additional provision to adapt the stem to an end movement usually employed in setting the hands. In this instance the tube H is permanently fastened to the winding-crown G', and this tube H has a neck or annular groove g for receiving the forked end e of the spring E and by which the winding-stem is drawn inwardly, as before mentioned; but the square socket or recess $g^\times$, that engages the square winding-stem of the watch mechanism, is separate and provided with a smaller tubular extension g^4, that passes into the lower end of the tube H, and the stem g^5 is connected at its upper end with the push-piece $G^\times$, and such stem g^5 is squared at g^3, where it passes into and through the socket g^4, and there is a spring at I that presses the push-piece $G^\times$ outwardly. This winding mechanism can be employed, as usual, for winding the watch by the rotation of the crown G', and when the hands are to be set the push-piece $G^\times$ is acted upon to slide the stem g^5 endwise and give motion to the parts within the inner case C for connecting the crown G' with the hand-setting mechanism at the same time that a disconnection is made with the winding mechanism, and these parts, being of any usual or desired character, do not require further description herein.

If the construction of the watch mechanism is such that a push mechanism is employed for bringing the hand-setting devices into action, then the push-piece F may be made to act upon such hand-setting mechanism. If the construction of the watch is such that a stop mechanism is brought into action by an end movement at the winding-stem, then the push-piece $G^\times$ may be made use of to give motion to the stem g^5 and to the stop-watch mechanism of any desired character.

I claim as my invention—

1. The combination with an inner case C holding the watch mechanism and provided with a bezel and glass, of the external case A having an opening at one side for the reception of the inner case, interlocking projections a c at one side of the inner case, a winding stem adapted to engage the winding mechanism within the inner case, and a coiled spring around within the outer case acting upon the winding stem to draw the same inwardly and hold the inner end in engagement with the inner watch case for holding such inner watch case in its proper position, substantially as set forth.

2. The combination with an external watch case having a shank and an opening at one side, of an inner case adapted to receive the watch mechanism, a glass and bezel for the same, a winding stem within the shank and a crown connected with the winding stem, a coiled spring around within the external case having a projection passing through a hole in the case and by which the spring is held in position, and a fork at the other end, there being a neck or annular groove around the winding stem for receiving the fork of the spring and by which such winding stem is drawn inwardly to engage the inner case, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRITZ KÖHLI.

Witnesses:

ADOLF KÜMMERLI,

JOHN WÄBER.