(No Model.)

R. H. FRANKLIN.

WATCH KEY.

No. 453,168. Patented May 26, 1891.

Fig. 1.

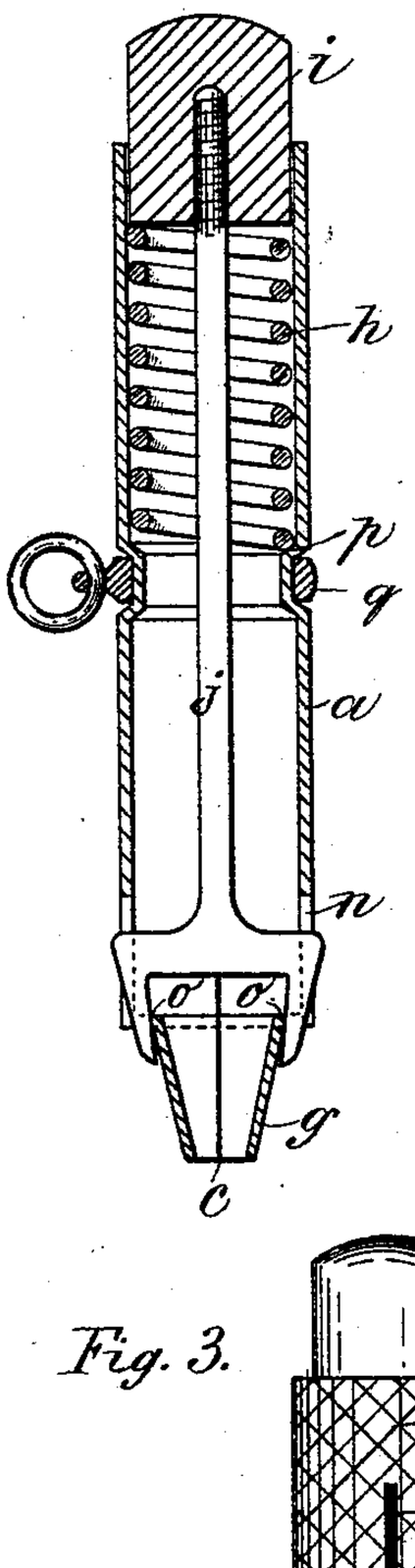


Fig. 2.

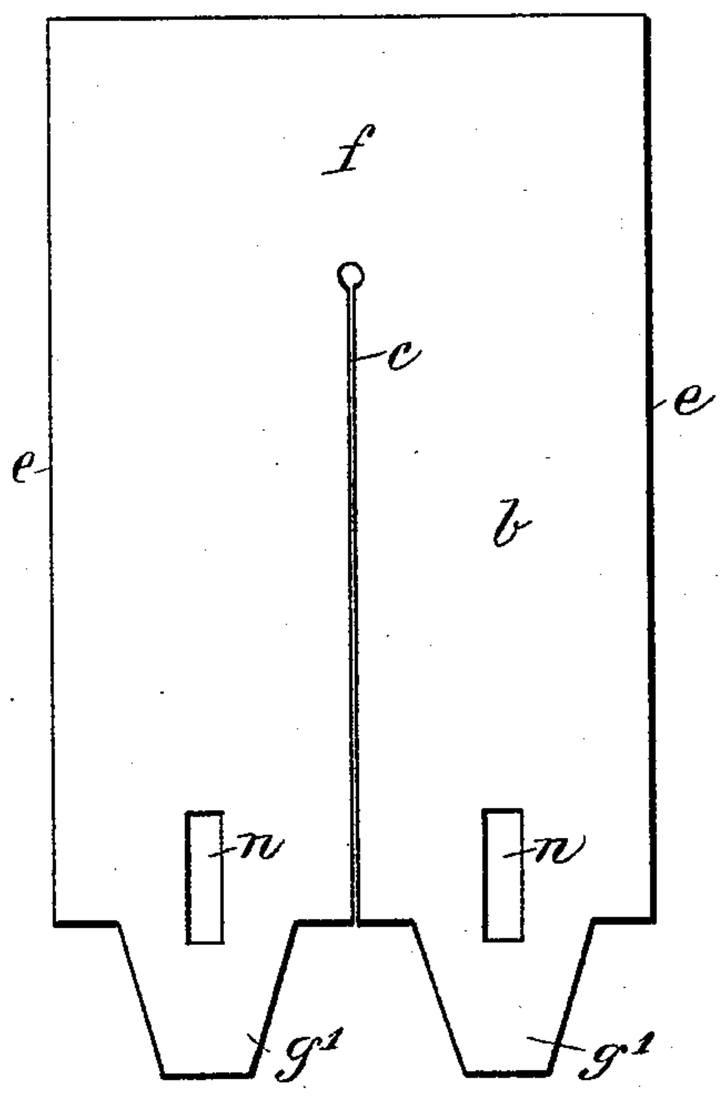


Fig. 3.

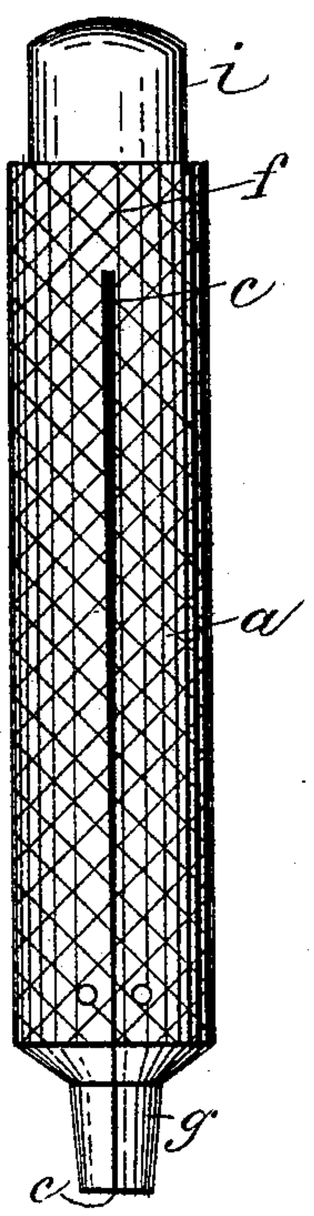
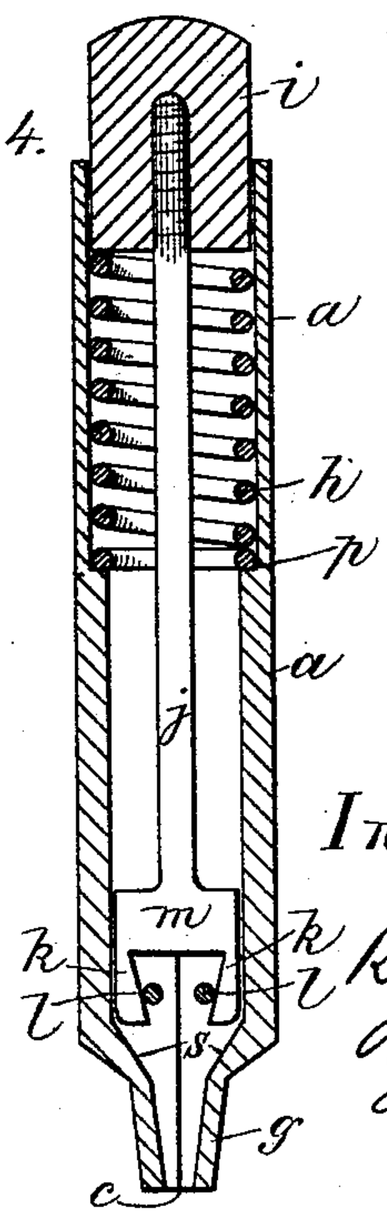


Fig. 4.



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UNITED STATES PATENT OFFICE.

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WATCH-KEY.

SPECIFICATION forming part of Letters Patent No. 453,168, dated May 26, 1891.

Application filed July 31, 1890. Serial No. 360,432. (No model.)

To all whom it may concern:

Be it known that I, RHODOLPH H. FRANKLIN, a citizen of the United States, and a resident of Brooklyn, county of Kings State of New York, have invented new and useful Improvements in Watch-Keys, of which the following is a specification.

My invention relates to adjustable watch-keys for winding watches having winding-posts of different sizes; and it consists in improved contrivances for the construction of such keys more simply and cheaply than as now made, as hereinafter fully described, reference being made to the accompanying drawings, in which—

Figure 1 is a sectional elevation of a key constructed in accordance with my invention. Fig. 2 is a diagram of a blank of sheet metal such as may be employed in the construction of the case, as in Fig. 1. Fig. 3 is a side elevation of the complete key in a modified form of construction, and Fig. 4 is a sectional elevation of the key as represented in Fig. 3.

My invention relates to the familiar form of key known as the "Birch universal key," in which there are opening and closing jaws projecting from one end of a tubular case, with a push-stud in the other end for thrusting out and opening or permitting the springing of the jaw open, and a spring within the case for thrusting the jaws backward and causing them to grip and hold the post for winding the watch. I propose to split the case a part of its length and to suitably shape the ends of the parts and make said case serve for the jaws also, said jaws having a set by which they spring open, or being so that they may be thrust open to be applied to the post of the watch, and within the case I provide a rod having inclines adapted to close the jaws for gripping the post by the effect of the spring, such as used in the ordinary universal watch-key. The case *a* is a small tube of about the same size and form as usually employed, and may consist of a piece of ordinary tubing or be produced from a blank, as *b*, of sheet metal rolled up into the form of a tube. If I employ a piece of ordinary tubing, as shown in Figs. 3 and 4, I slit it through both sides a suitable portion of its length, as at *c*, but leaving the connecting part *f* uncut to adapt the parts of the split portion to spring or be thrust open and to close together sufficiently to serve for the jaws.

If I produce the case from the sheet-metal blank *b*, I will also slit the blank at *c* along the middle, also leaving a portion *f* uncut, and will cause the edges *e* to abut together when the sheet is rolled up, the uncut portion joining the two parts at *f* being sufficient to keep the case in its tubular form and have the set for springing the jaws open, when so required.

Whatever form or mode of making the tube I adopt I produce the externally cone-shaped and internally-grooved post-gripping jaws *g* on the ends of the split part adapted to grip the post of the watch for turning it, this being done in any approved way, as by first cutting away any excess of metal from the end of the tube or by cutting the blank *b* with the taper projections *g'* and stamping the remaining portions in dies of the required form.

To cause the jaws to grip and hold the post and to release them for springing open or being opened, I employ the usual coiled spring *h* and push-piece *i* in the upper part of the case, and with these I provide the rod *j*, extended through the spring and connected with the push-piece also, as usual, but at the lower end having the downwardly-converging inclined arms *k*, which I cause to embrace the pins *l*, as in Figs. 3 and 4, or the shoulders of the cone-jaws, as in Fig. 1, so that the upward thrust on the rod by the spring, when released after being pressed down to allow the jaws to open, will cause the jaws to close and grip the post.

The arms *k* are produced on a cross-head *m* of the rod, which in Figs. 3 and 4 is wholly inclosed within the tube and embraces the pins *l*, extended through the respective parts of the case divided by the slits, so as to pass between said arms and so connect the parts of the case with said arms for being closed by them. It will be seen that these arms and the jaws are also adapted for opening the jaws by the thrusts of the ends of the arms on the inner inclines *s* of the jaws when the arms are forced down to permit the opening of said jaws. In such case it is not necessary to adjust the parts of the case for springing open.

In Fig. 1 I have made the cross-head longer

and provided slots *n* in the divided parts of the case to receive the outer extremities of the head and the arms and enable said arms to project outside and embrace the cone-jaws at the shoulders *o* at the outsides of the upper ends in such manner that the pins are not required. When the case is made from the blank *b*, these slots *n* may be punched in the blank at the same time that it is cut out of the sheet and its outlines are produced; but the arrangement of the inclined arms in such slots to so act on the outside of the cone-jaws is alike applicable to the case made from a tube. When made of a tube and the metal of the tube has sufficient thickness, the tube may be counterbored before being slitted to provide the shoulder *p* for the spring *h* to rest on at the inner end; but such shoulder may be made by creasing the metal so as to bulge it inward, as represented in Fig. 1, when the metal is too thin to be counterbored, and the ring *q* for hitching the key to the watch-chain may be applied in this crease. I do not limit myself to the cross-head and inclined arms for effecting the grip of the jaws, as it is obvious that various other contrivances may be provided for that purpose. The essential feature of my invention is the partly-divided case having the cone-jaws formed on the ends, whatever the means of closing the jaws may be.

I claim—

1. The combination, in a watch-key, of the partly-divided tubular case having the cone-jaws formed on the ends of the divided part, the push-piece and spring in the upper end, and the opening and closing rod controlled by the push-piece and spring, said rod adapted to close the jaws when thrust upward by the spring, substantially as described.

2. The combination, in a watch-key, of the partly-divided tubular case having the cone-jaws formed on the ends of the divided part, the push-piece and spring in the upper end, the opening and closing rod controlled by the spring and push-piece, the downwardly-converging inclined arms of said rod, and means, substantially as described, connecting said jaws and arms to close the jaws by the upward thrust of the spring on the rod, substantially as herein set forth.

3. The combination, in a watch-key, of the partly-divided tubular case having the cone-jaws formed on the ends of the divided parts, the push-piece and spring in the upper end, the opening and closing rod controlled by the spring and push-piece, the downwardly-converging inclined arms of said rod, and the pins connecting said arms and jaws to close said jaws by the upward thrust of the spring on the rod, substantially as described.

4. The blank for the construction of the partly-divided tubular case having cone-jaws formed on the ends of the divided parts, consisting of the plate *b*, having the slit *d*, partly separating said blank along the middle, and the taper cone-jaw blank extensions *g'*, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 15th day of July, 1890.

RHODOLPH H. FRANKLIN.

Witnesses:
W. J. MORGAN,
W. B. EARLL.