I. N. HOPKINS.

Watch-Case Spring and Catch.

No. 164,918. Patented June 29, 1875.

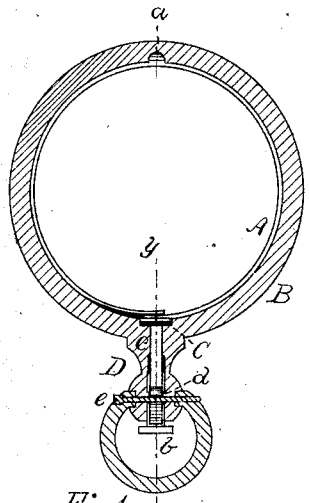

Fig 1.

Fig 2.

Fig 3.

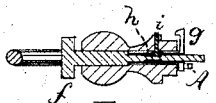

Fig 5.

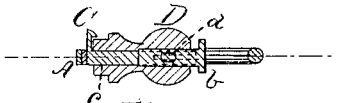

Fig 4.

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UNITED STATES PATENT OFFICE.

ISAAC NEWTON HOPKINS, OF LOCKPORT, ASSIGNOR OF ONE-HALF HIS RIGHT TO GEORGE H. SHATTUCK, OF MEDINA, NEW YORK.

IMPROVEMENT IN WATCH-CASE SPRINGS AND CATCHES.

Specification forming part of Letters Patent No. **164,918**, dated June 29, 1875; application filed April 17, 1875.

To all whom it may concern:

Be it known that I, ISAAC NEWTON HOPKINS, of the city of Lockport, in the county of Niagara and State of New York, have invented certain Improvements in Watch-Case Springs and Catches, of which the following is a specification:

The first part of my invention consists in the peculiar construction of a spring for raising the cover and retaining the catch in place, and also in the construction of a catch for holding the cover closed, the spring consisting of a straight flat piece of steel with a nib on one edge in the center of its length for raising the cover.

The spring is applied to the watch by springing it into the center of the case, when it takes the circular form of the inside of the case-center.

The catch is attached to the end of a pin which runs through the stem of the watch, and is provided with a thumb-piece at its outer end. The ends of the spring overlap each other on the inner end of the catch.

The second part of my invention consists in a modification of the spring and catch, which admits of its being applied to stem-winding watches.

In the drawing, Figure 1 is a central horizontal section, on line *x x*, Fig. 4, of a watch containing my improved spring and catch. Figs. 2 and 3 are views of the spring. Fig. 4 is a section on line *y y* in Fig. 1. Fig. 5 is a sectional view of a stem and portion of a case, containing the spring and catch as applied to stem-winding watches.

A is the spring placed in the case B, having the nib *a* for raising the cover, and the free overlapping ends resting on the catch C. The catch C is attached to the pin *c*, which extends through the stem D.

A cap or thumb piece, *b*, is placed over the end of the pin *c*, and is slotted at *d*, to allow it to move in or out upon the screw *e*. The pin *c* is slotted from the screw *e* to its outer end, to admit of its easy removal when the spring A is taken from the case.

In Fig. 5 the push-pin and winding-stem *f* are one, as is usual in stem-winding watches; but the catch and spring are applied in a manner considered novel.

The catch *g* is fixed to a sleeve, *h*, which surrounds the push-pin or winding-stem, and extends up to a shoulder on the same, and is slotted to allow it to move longitudinally on the screw *i*. The pin *f* is reduced in size at the screw *i*, so that it may have a shoulder, which may strike against the screw and prevent it from dropping out.

The spring A is notched at either end, as shown in Fig. 3, to make room for the winding-stem.

The operation of my invention is as follows: On pressing the thumb-piece *b*, the catch C, being attached to and moving with it, releases the case-cover, and at the same time compresses the free ends of the spring A. On releasing the cover, the nib *a*, pressing on the cover at a point near the hinge, raises it with a compound upward and backward motion.

On closing the cover, the spring A is compressed, and as the rim of the cover passes over the catch C, the free ends of the spring A cause the catch to regain its normal position, thus holding the cover closed.

The advantages claimed for my invention are the durability and effectiveness of the spring A for raising the cover and operating the catch, and the reliability and strength of the catch, and the facility with which the case may be opened by pressing on the end of the pin *c* should the thumb-piece *b* be lost.

I claim as my invention—

1. A plain spring, A, having the nib *a* for raising the cover near its center, in combination with the catch C, attached to and moving with the thumb-piece *b*, as and for the purpose shown and described.

2. The pin *f*, sleeve *h*, catch *g*, screw *e*, and spring A, combined and arranged substantially as described.

3. The combination, with a push-pin, of a catch for the lid attached thereto, and a lifting-spring, substantially as set forth.

The above specification of my invention signed by me this 29th day of March, 1875.

ISAAC NEWTON HOPKINS.

Witnesses:
JOHN A. STRAIGHT,
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