

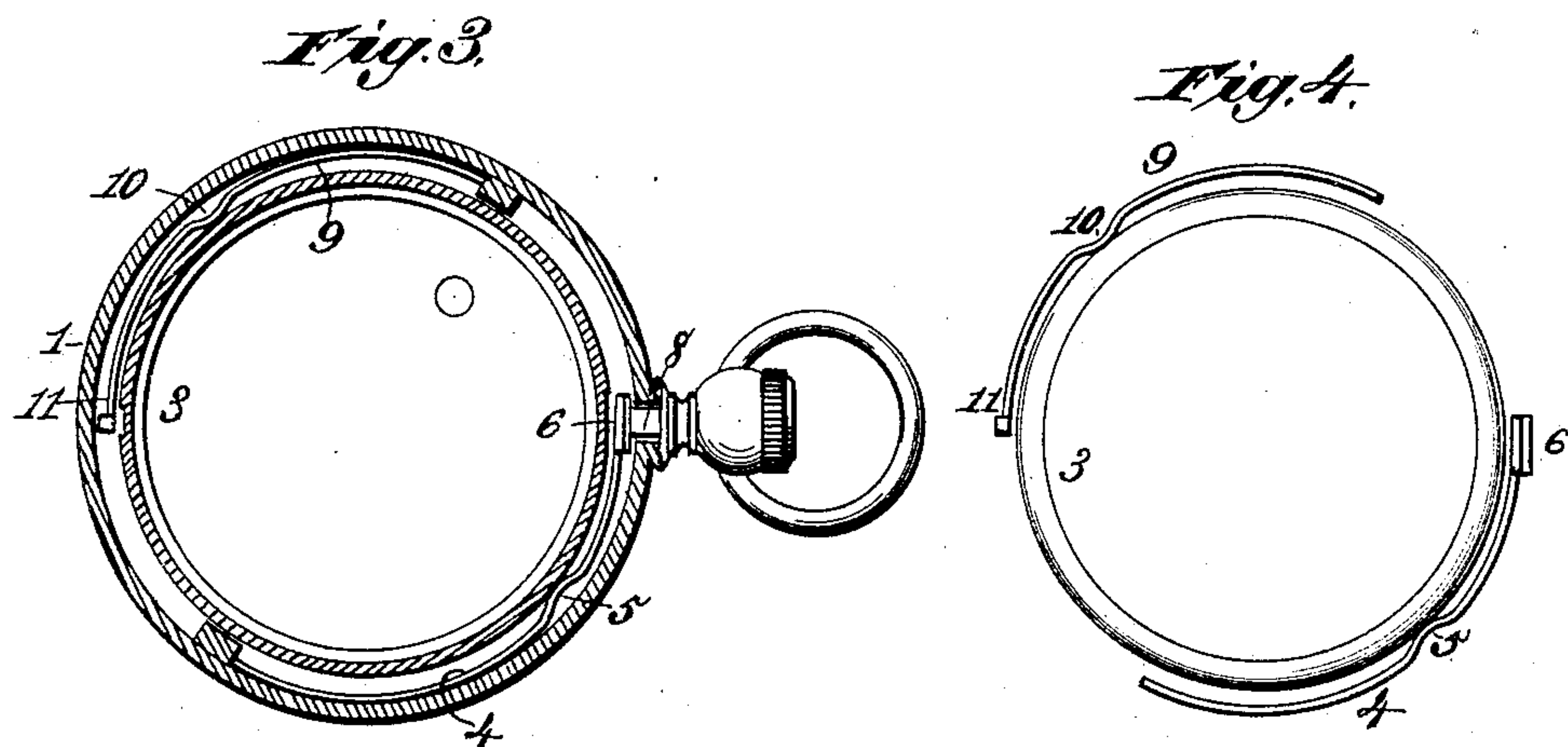
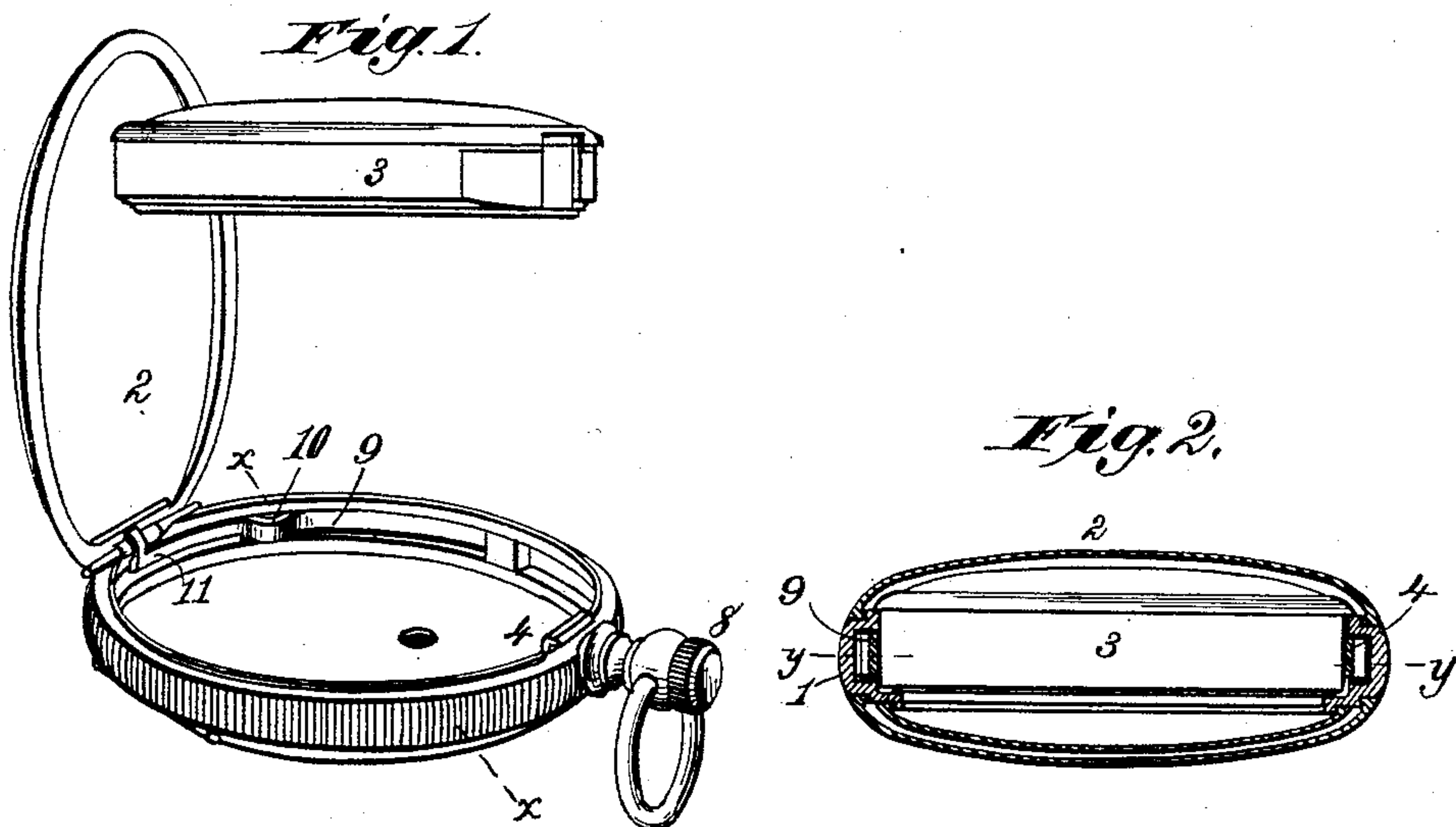
(No Model.)

C. DOERFLINGER.

WATCH CASE SPRING.

No. 333,840.

Patented Jan. 5, 1886.



Witnesses.

Robert Everett.

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UNITED STATES PATENT OFFICE.

CHRIS DOERFLINGER, OF SAG HARBOR, NEW YORK, ASSIGNOR TO THE
FAHYS WATCH CASE COMPANY, OF SAME PLACE.

WATCH-CASE SPRING.

SPECIFICATION forming part of Letters Patent No. 333,840, dated January 5, 1886.

Application filed September 28, 1885. Serial No. 178,424. (No model.)

To all whom it may concern:

Be it known that I, CHRIS DOERFLINGER, a citizen of the United States, residing at Sag Harbor, in the county of Suffolk and State of New York, have invented new and useful Improvements in Watch-Case Springs, of which the following is a specification.

In ordinary hunting-case watches, where springs are used for the purpose of locking the cap or cover in its closed position and to throw said cap or cover to its open position when released by the locking-spring, it is customary to construct said springs of a piece of steel thinner at its free end where it engages the cap or cover than at its end where it is secured within the case-center. Such construction of springs is objectionable in that the thin part soon breaks or gradually loses the requisite tension for properly performing its function. In one instance of which I am aware the case-spring has been composed of a piece of brass, either round or square, but of equal thickness throughout its entire length, except at that end where it comes in contact with the cap or cover, at which end it is somewhat thinner than the other portion; but in such construction the spring is confined in the case-center by means of a screw, which is objectionable in that it greatly weakens the spring and impairs its durability.

The object of my invention is to avoid the objections above mentioned, and to provide an economical, durable, and efficient watch-case spring of approximately uniform thickness throughout its length, which is not liable to break or lose its requisite elasticity or tension, and which is so held within the case-center by a movement-holding ring that a part of the case-spring will bear against said ring and act or serve as a fulcrum to provide the requisite elasticity or tension at the free end of the spring where it engages or comes in contact with the cap or cover of the watch.

The object of my invention I accomplish in the manner and by the means hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a perspective view of a watch-case with the cap or cover in its open position and the movement-holding ring detached,

showing the case-springs in proper relative position; Fig. 2, a sectional view through the watch-case with the movement-holding ring in place, taken on the line *xx* of Fig. 1; Fig. 3, a horizontal sectional view taken on the line *yy* of Fig. 2; Fig. 4, a detail view of the movement-holding ring and the case-springs with their fulcrum-bearings in contact with the ring, and showing these parts in the position they occupy when within the case-center; and Fig. 5, a view on an enlarged scale of the case-springs.

In order to enable those skilled in the art to make and use my invention, I do not consider it essential to specifically describe the construction of watch-case further than to say that the numeral 1 indicates the case-center, which is hollow, as usual, to receive the case-springs; 2, the cap or cover, and 3 the movement-holding ring. The locking-spring 4 for the cap or cover is preferably formed by stamping it from a sheet of spring-steel of uniform thickness, which is then formed in any suitable manner with an abrupt short bend, 5, intermediate its locking end 6 and its end which is stationary in the case-center. The spring is curved lengthwise to conform to the interior circular form of the case-center, and, as here shown, the stationary end of the spring rests against a lug or abutment fixed within the case-center to prevent longitudinal displacement of said spring. The short bend 5 in the spring bears against the outside periphery of the movement-holding ring, and acts as a fulcrum to hold the locking end of the spring away from the movement-holding ring, and thereby obtain the requisite range of movement for such locking end of the spring. Thus it will be seen that the abrupt bend in the body of the spring, while acting as a fulcrum against the movement-holding ring, provides the requisite tension or elasticity to the locking end of the spring. This locking end of the spring engages the back cap or cover in the ordinary manner for the purpose of securing it in its closed position, and in order to release the cap or cover the stem 8 is pushed inward, as ordinarily, thereby disengaging the locking end of the spring from the cap or cover, when the latter will be thrown to its

open position by the case-spring 9. The spring 9, which serves to throw the cap or cover to its open position, is also preferably formed by stamping or cutting it from a sheet of spring-steel of uniform thickness, and is constructed with an abrupt bend, 10, intermediate its ends, which bend rests against the outer periphery of the movement-holding ring in the same manner as before described with reference to the locking-spring. The spring 9 is also curved lengthwise to accurately fit within the case-center, and its inner stationary end bears against a lug or abutment, the same as the locking-spring. The acting end 11 of the spring 9 is of reduced width from a point commencing at the abrupt bend, in order to provide the necessary elasticity in a downward direction, so that when the cap or cover is closed it places the acting end of the said spring under tension, so that when the cap or cover is released by the locking-spring it will be thrown to its open position in the usual manner.

I have found that case-springs constructed and arranged in the manner described and shown are more durable, economical, and efficient than any of which I am aware, and by the presence of the inwardly-projecting abrupt bends the movement-holding ring subserves the function of confining the said case-springs in proper position in the case-center without the necessity of extraneous attaching and securing devices, such as screws or pins.

I have illustrated my invention as applied to a hunting-case watch; but it will be obvious that the invention can be used in an open-faced watch.

Having thus described my invention, what I claim is—

1. A watch-case spring of substantially uniform thickness throughout its length curved

lengthwise to fit the case-center of a watch and formed between its ends with an abrupt inwardly-projecting bend to rest against the movement-holding ring and serve as a fulcrum for producing the requisite elasticity or tension to the acting end of the spring, which engages the cap or cover of a watch, substantially as described.

2. The combination, with the case-center of a watch-case and a movement-holding ring contained in said case-center, of a case spring curved lengthwise to fit the case-center and formed between its ends with the abrupt inwardly-projecting bend, which rests against the periphery of the movement-holding ring and serves as a fulcrum to retain the acting or engaging end of the spring away from the movement-holding ring for the purpose of providing the requisite tension or elasticity at such acting end, substantially as described.

3. The combination, with the case-center and movement-holding ring of a watch-case, of case-springs for locking the cap or cover and for throwing the cap or cover to its open position, said springs being each composed of a flat strip of spring metal curved lengthwise to fit the case-center, and each constructed between its ends with the abrupt inwardly-projecting end, which bears against the movement-holding ring as a fulcrum, whereby the ring subserves to confine the case-springs in proper position without the use of extraneous fastening devices, and provides the requisite tension or elasticity at the acting ends of the springs, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CHRIS DOERFLINGER.

Witnesses:

PETER DEPPEL, Jr.,
HENRY F. COOK.