No. 724,604. PATENTED APR. 7, 1903.

C. NOBS, JR.

WATCHCASE SPRING.

APPLICATION FILED FEB. 14, 1902.

NO MODEL.

Fig. 1.

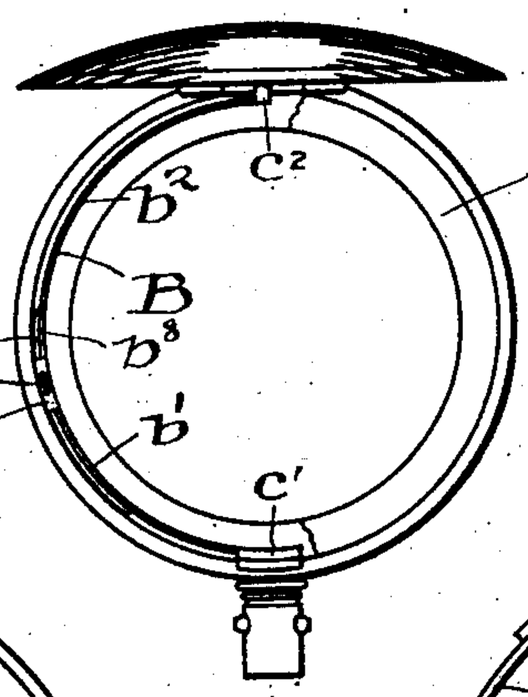


Fig. 2.

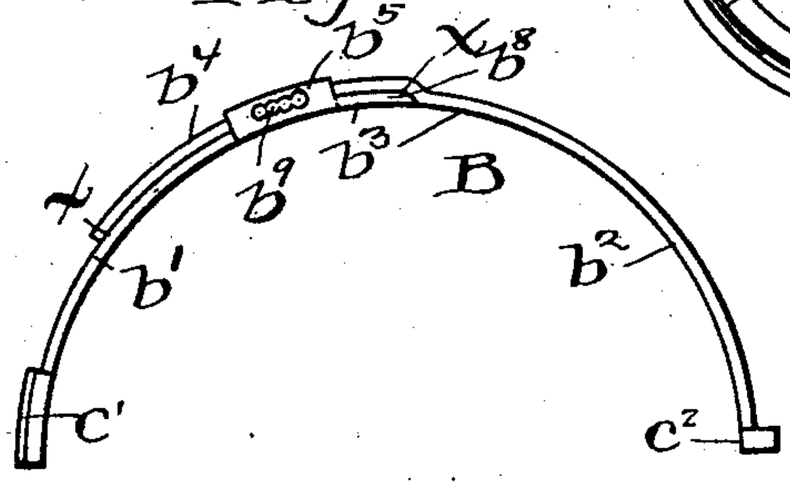


Fig. 3.

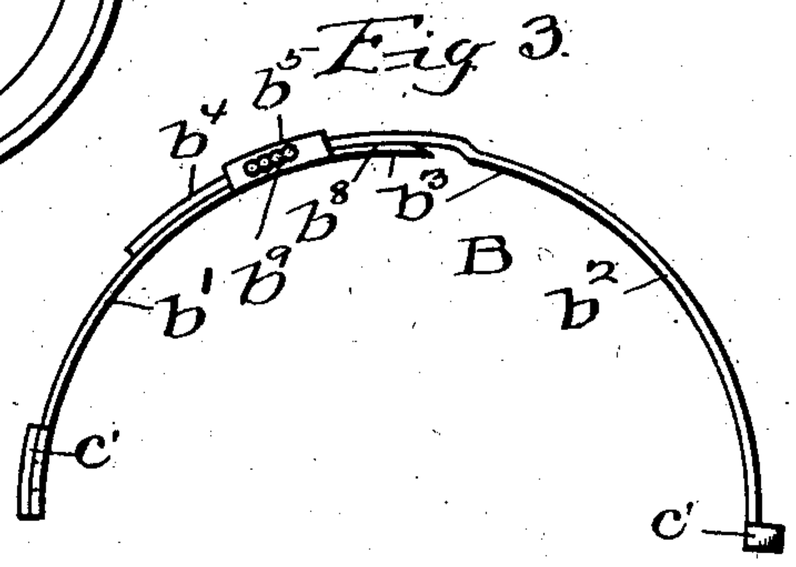


Fig. 4.

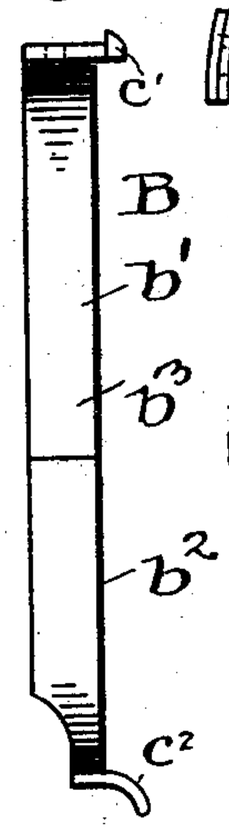


Fig. 5.

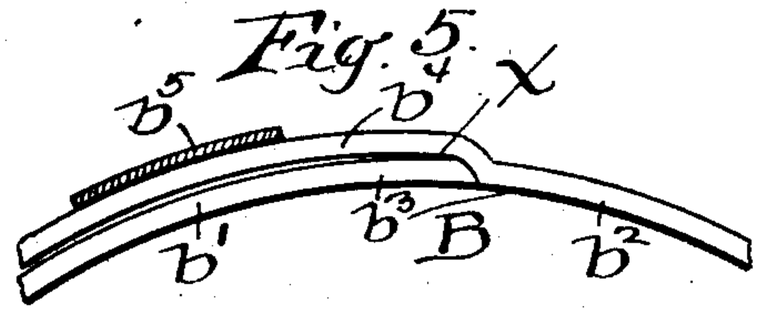


Fig. 6.

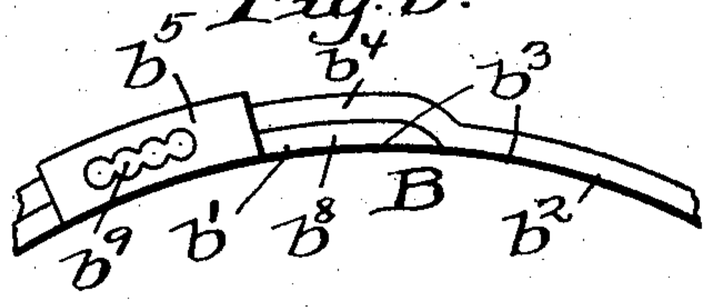


Fig. 7.

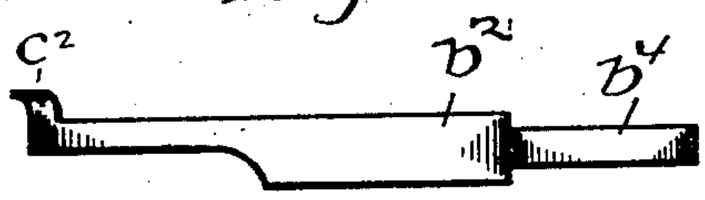


Fig. 8.

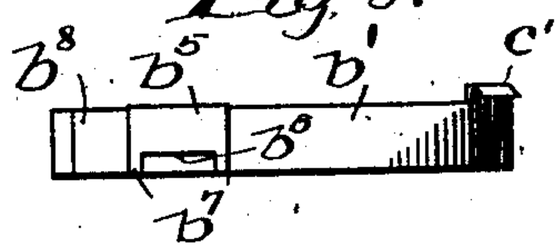
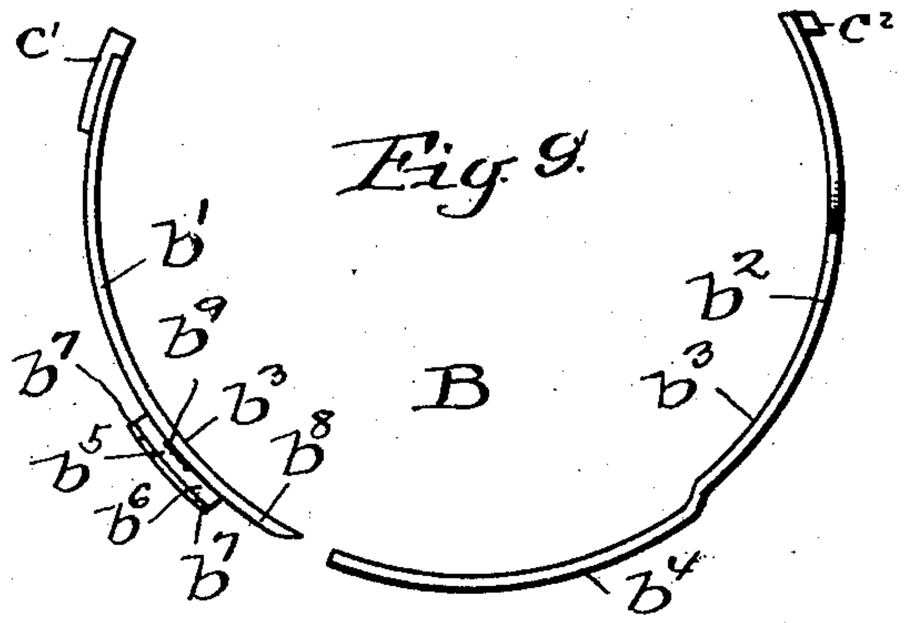


Fig. 9.



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UNITED STATES PATENT OFFICE.

CHARLES NOBS, JR., OF NEWARK, NEW JERSEY.

WATCHCASE-SPRING.

SPECIFICATION forming part of Letters Patent No. 724,604, dated April 7, 1903.

Application filed February 14, 1902. Serial No. 94,115. (No model.)

To all whom it may concern:

Be it known that I, CHARLES NOBS, Jr., a citizen of the United States, and a resident of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Watchcase-Springs, of which the following is a specification.

My invention relates generally to watchcase-springs, and more particularly to combination lock and lift skeleton springs.

I shall describe a combination lock and lift skeleton spring and afterward point out the novel features in the claims.

Heretofore combination lock and lift springs have been made in one solid piece. On account of this watch-repairers have been under the necessity of keeping in stock a large assortment of springs of different sizes, so as to be able to fit different sizes of watches with the proper size of spring.

The necessity of having an assortment of different sizes of springs is obviated by my invention, since the length of my improved combination lock and lift spring may be increased or decreased to fit any size of watchcase.

Wherever it has been attempted to make a combined lock and lift spring adjustable it has been done in such an imperfect manner as to make it practically useless in the trade.

The object of my invention is therefore to make an improved adjustable combination lock and lift spring which while inexpensive combines features of construction which make it highly useful and desirable. This is accomplished especially by making it in two separable parts and also by the combination of elements and features of construction, as will be more fully hereinafter set forth, and pointed out in the claims.

In the drawings I have embodied my invention in a suitable form; but changes may of course be made within the scope of the claims.

In the said drawings, Figure 1 is a view of a watchcase, showing my improved combination-spring in position. Fig. 2 is a top view of the spring. Fig. 3 is a view similar to Fig. 2, showing the length of the spring increased. Fig. 4 is a view of the inside periphery of the spring. Fig. 5 is a detail view showing a means for creating a tension or friction on the means for adjusting the length of the spring. Fig. 6 is a detail view showing the means for fastening the spring to the case. Fig. 7 is a view of the outer periphery of one of the parts composing the spring, showing the extension carried by same. Fig. 8 is a view of the outside periphery of the other part of the two parts composing the spring, showing the means for securing in position the extension of the first part. Fig. 9 is a view of the under edge of the spring, showing the two parts entirely separated.

Similar letters of reference indicate corresponding parts in the different views.

A indicates the watchcase, and B the combination lock and lift spring composed of two separable parts b' and b^2, whose inside peripheries b^3 are flush with each other or located on arcs of the same circle. In this instance the part b' is a lock-spring and the part b^2 a lift-spring, the two carrying, respectively, a catch c' and a lift-hook c^2 at opposite ends. The part b^2 is provided with an extension b^4, adapted to be secured adjustably on the outer periphery of the part b' by means of the projecting lip b^5, so that the adjacent ends of the two parts are fastened together, leaving the ends carrying the lift hook and catch free. By adjusting the two separable parts circumferentially the length of the spring may be increased or decreased, according to the direction of the adjusting movement, or, in other words, the distance between the adjacent ends of the two parts is increased or decreased. It will be noted that the length of each of the parts or individual springs is substantially equal to an arc one-quarter of a circle long and that the length of the combination-spring as a whole when adjusted to its normal position, as shown in Fig. 2, is substantially equal to a semicircle.

In order to prevent a possible looseness between the two parts and to cause the said parts to remain in the position to which they have been adjusted, a friction is obtained by bending the extension b^4 on a curve eccentric with relation to the arcs described by the peripheries of the main parts, so that the said extension will bear firmly at its ends against the outside periphery of the part b', as shown at X in Figs. 2 and 5. It will of course be understood that this eccentricity is very slight

and is highly exaggerated in the said Fig. 5 in order to illustrate this feature clearly.

When the spring is assembled, the extension carried by one of the said parts is inserted from the lower side b^6 of the lip b^5 and the two projections b^7 bent up under the extension, so as to prevent it from coming out. Should it be desired to make the spring smaller than the size shown in Fig. 2, the part b^8 can be filed off, thus enabling the length of the spring to be still further decreased. The lip b^5 is also used for securing the spring to the case itself, it being provided with a series of holes b^9 for the reception of the holding-pin in the usual manner.

Having thus described my invention, what I claim is—

1. The combination of a lift-spring, a lock-spring, each of a length substantially equal to an arc a quarter of a circle long and having respectively a lift-hook and a catch at opposite ends, means for adjustably securing the adjacent ends of the springs together leaving the outer ends carrying the lift-hook and catch free, so that the distance between the said adjacent ends may be increased or decreased, and whereby the normal length of the combined springs and means for securing same together is substantially equal to a semicircle.

2. The combination of the lift-spring b^2, the lock-spring b', carrying respectively a lift-hook and a catch at opposite ends, an extension b^4 carried by one of said springs, a lip b^5 for receiving the extension b^4 carried by the other of said springs and adapted to coöperate with same to adjustably secure the adjacent ends of the springs together, so that the distance between the said adjacent ends may be increased or decreased, leaving the outer ends carrying the lift-hook and catch free.

Signed at Newark, in the county of Essex and State of New Jersey.

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