

July 7. 1925.

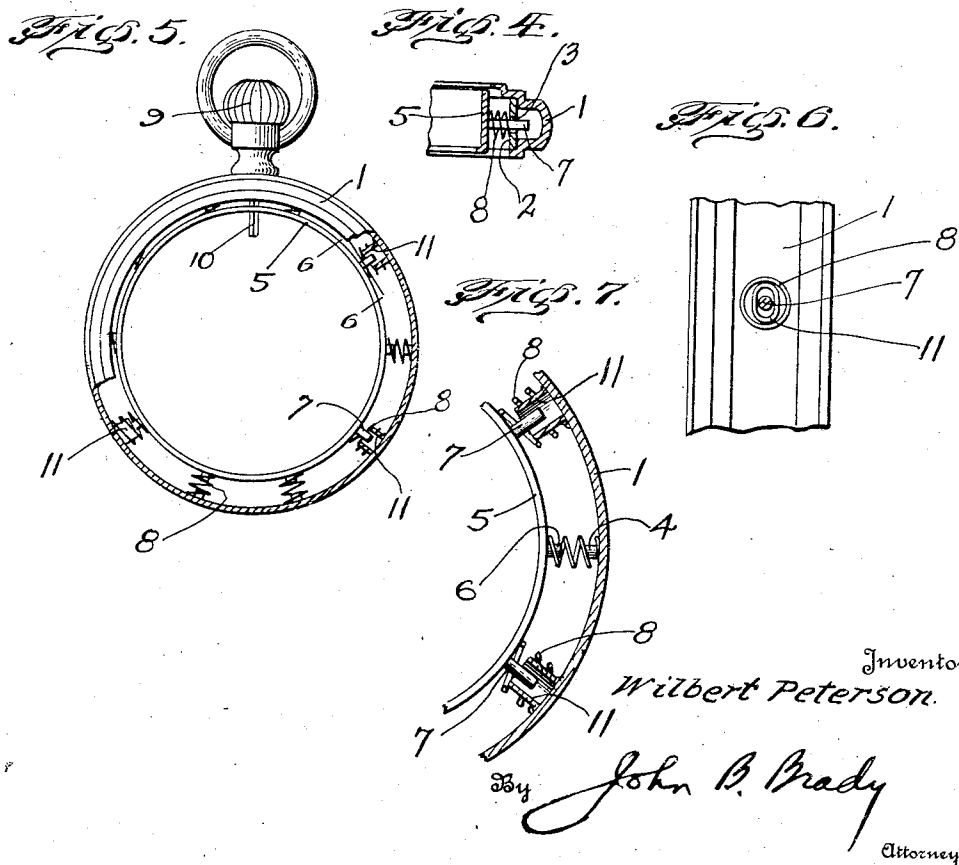
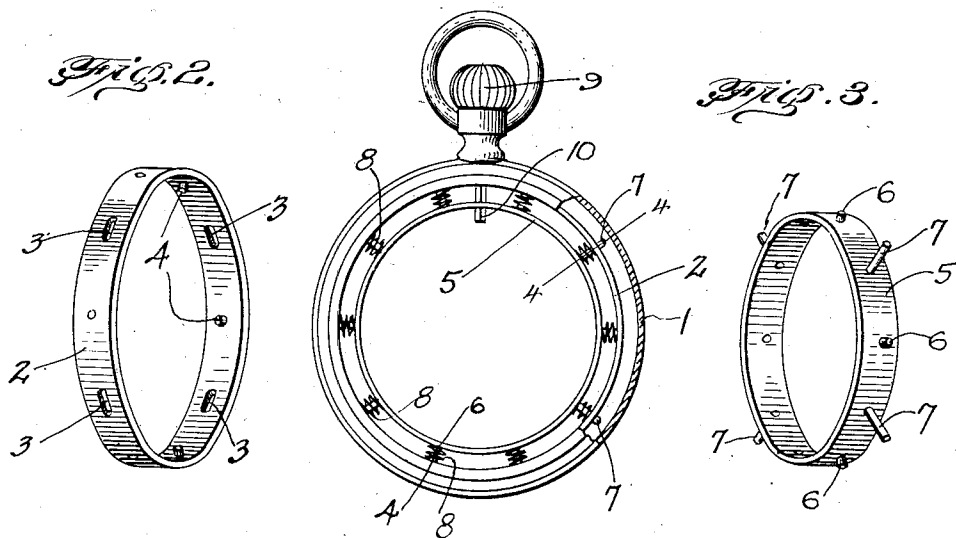
W. PETERSON

1,544,932

WATCHCASE

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Fig. 1.



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UNITED STATES PATENT OFFICE.

WILBERT PETERSON, OF PLAINVIEW, TEXAS.

WATCHCASE.

Application filed March 31, 1924. Serial No. 703,200.

To all whom it may concern:

Be it known that I, WILBERT PETERSON, a citizen of the United States, residing at Plainview, in the county of Hale and State of Texas, have invented a certain new and useful Improvement in a Watchcase, of which the following is a specification.

My invention relates broadly to watches and more particularly to a construction of watch case for protecting the delicate mechanism of the watch from shocks and jars.

One of the objects of my invention is to provide a watch case in which the watch mechanism is floated within a watch case upon a plurality of delicate spiral springs radially positioned at different points about the periphery of the watch mechanism within the periphery of the watch case.

Another object of my invention is to provide a spiral spring suspension for delicate watch mechanism in a watch case having means for connecting a winding stem with the watch mechanism from the outside of the watch case and operating the same within causing the spring suspension watch mechanism to turn sidewise within the watch case.

Still another object of my invention is to provide a spring suspension for a watch mechanism within a watch case wherein spiral springs and guide pins are alternately positioned about the frame of the watch mechanism cooperating with parts of the watch case whereby sudden shocks and jars or impact of any character imparted to the watch case is prevented from affecting the delicate watch mechanism.

Still other objects of my invention reside in the construction of the mounting of a watch mechanism within a watch case as will be hereinafter referred to in more detail by reference to the following specification and the accompanying drawings, in which:

Figure 1 is a front view showing my watch case construction in accordance with my invention; Fig. 2 is a perspective view showing the construction of the guide rim carried within the watch case; Fig. 3 is a perspective view showing the construction of the rim which surrounds the frame supporting the watch mechanism; Fig. 4 is a cross-sectional view of the resilient supporting means taken on line 4—4 of Fig. 1; Fig. 5 is a front elevation of the watch case partially broken away to show in cross-section

a modified construction of resilient mounting for the watch mechanism; Fig. 6 is an enlarged plan view of a portion of the rim of the watch case taken on line 6—6 of Fig. 5; and Fig. 7 is a partial cross-sectional view of the modified form of resilient mounting shown in Fig. 5.

Heretofore in the art it has been proposed to provide a protective casing for watches which entirely surrounds the watch case and which may be constructed of soft rubber or a hard metallic casing within which the watch case is held by means of leaf springs. It has also been proposed to provide leaf spring devices having means projecting from the watch case which may absorb the shocks or jars which the watch mechanism might receive in the event that the watch was accidentally dropped. I am also aware that it has been proposed to place leaf springs between the watch mechanism and the watch case for preventing violent shocks from injuring the watch mechanism but all of these constructions have inherent disadvantages which I have overcome by the construction described hereinafter. I have found that the spring suspension supporting the delicate mechanism of a watch in order to be effective must be capable of absorbing shocks and jars of even slight amplitude. I have therefore devised a mounting in which a plurality of spiral springs are disposed between the frame of the watch mechanism and the casing of the watch. Guide means are positioned concentrically within the spring means at equally spaced points about the periphery of the frame of the watch case distributing the weight of the watch parts equally within the watch case and enabling the frame of the watch mechanism to move only in a single direction within the watch case and to be unaffected during the winding operation of the watch.

The invention will be more clearly understood by reference to the drawings, in which reference character 1 represents the outer frame of the watch case in which is seated a circular rim member 2. The circular rim member 2 is provided with a plurality of elongated apertures 3 disposed in diametrically opposed positions. The rim 2 also includes inwardly projecting pin members 4 which are radially aligned with the center of the watch and alternately positioned between the apertured means 3. The watch operating mechanism is carried within a

frame upon which circular rim member 5 is secured. The circular rim member 5 has a plurality of pins extending outwardly from its surface in a radial direction. One set of these pins is relatively short as represented by reference character 6, which set of pins aligns with pins 4 of the first mentioned rim member 2. Another set of pins on the rim member 5 is relatively long as represented by reference character 7 and are diametrically oppositely positioned on the rim 5 to register with apertures 3 in rim member 2. The watch operating mechanism which is circumferentially bounded by rim member 5 is positioned within frame 1 with pins 7 of rim 5 passing through apertures 3 in rim 2. Spiral springs 8 are concentrically disposed upon the pin members 4, 6, and 7 at a plurality of points about the periphery of the watch operating mechanism as indicated in such manner that pins 7 are free to ride back and forth radially within apertures 3 while adjacent ends of pins 4 and 6 are spaced apart by the clear springs 8. The watch operating mechanism is wound as usual through any desired form of winding stem 9 with operating shaft 10 but rotative movement of the watch in the watch frame carrying the watch operating mechanism is precluded by pins 7 guided in apertures 3.

In Figs. 5, 6, and 7 I show a modified mounting in which the pins 4 are secured directly within the outer frame 1 with cup shaped devices or lug members 11 alternately positioned with the pins 4 about the outer frame 1 extending inwardly in a radial line to receive the pins 7 and guide the said pins against movement in all directions excepting a radial direction within the outer frame 1. Spiral springs 8 are positioned over the pins 4 and 6 and lug members 11 and pins 7 providing a resilient cushion for the watch operating mechanism.

It will be understood that the watch operating mechanism is at all times floating within the outer frame 1 on delicate springs 8 which are so proportioned as to preclude the transfer of sudden shocks and jars or other impact forces which may be imparted to the outer frame 1 from the delicate parts of the watch mechanism.

While I have described my invention in

certain particular embodiments I desire that it be understood that modifications may be made and that I intend no limitations other than are imposed by the scope of the appended claims.

Having thus described my invention what I claim and desire to secure by Letters Patent of the United States is as follows:

1. A watch case, comprising in combination an outer frame and an inner frame, a circular rim member apertured at diametrically opposed points and disposed within said outer frame, a plurality of inwardly directed pin members carried at a plurality of points about the periphery of said circular rim member, a second circular rim member carried by said inner frame and having a plurality of pins extending outwardly from the surface thereof, a number of said pin members registering with the apertured points in said first mentioned circular rim member and the other of said pin members being concentrically aligned with corresponding pin members on said first mentioned circular rim, and spiral springs disposed on said pin members between the inner surface of the first mentioned circular rim member and the outer surface of the second mentioned circular rim member whereby said watch operating mechanism freely floats within said outer frame shielded from shocks and jars to which said outer frame may be subjected.

2. A watch case, comprising in combination an outer frame, an inner frame, a plurality of alternately positioned apertured means and pins extending radially inwardly from said outer frame, said inner frame having a plurality of outwardly extending radially positioned pins corresponding in number to the number of said apertured means and pins on said outer frame, a plurality of sets of diametrically disposed pins on said inner frame being substantially longer than other pins on said frame and arranged to extend into said apertured means in the outer frame, and spiral springs disposed concentrically upon said pins whereby said inner frame floats within said outer frame free from effects of shocks and jars to which said outer frame may be subjected.

WILBERT PETERSON.