No. 889,364. PATENTED JUNE 2, 1908.

W. J. GARDINER.

WATCHCASE.

APPLICATION FILED APR. 22, 1907.

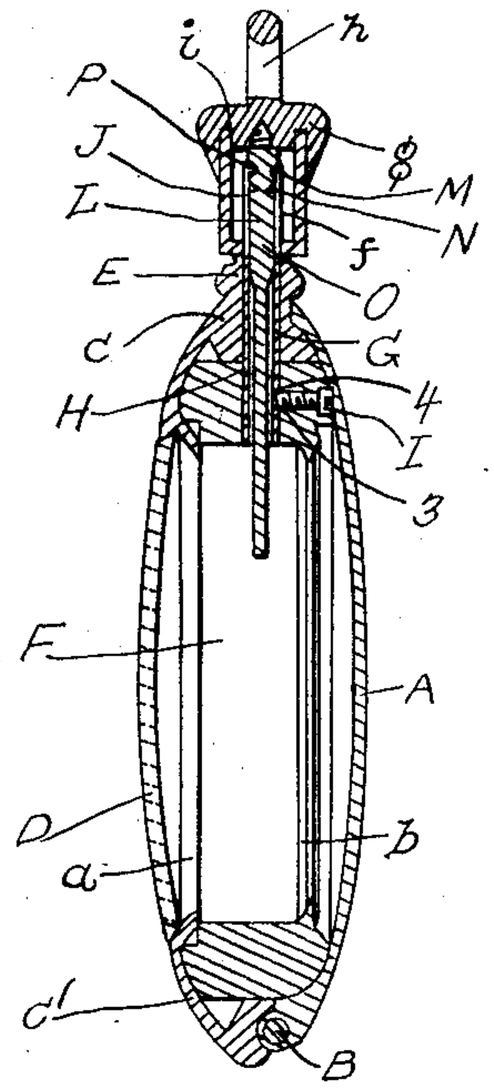

Fig. 1

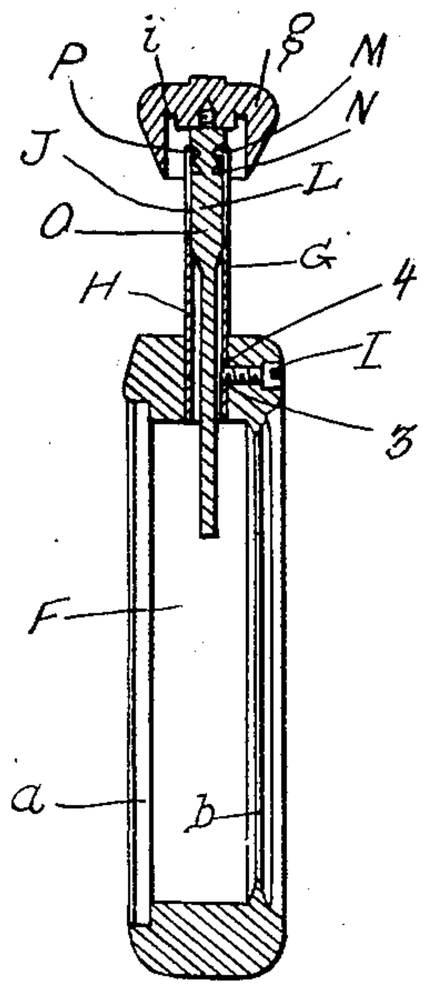

Fig. 2.

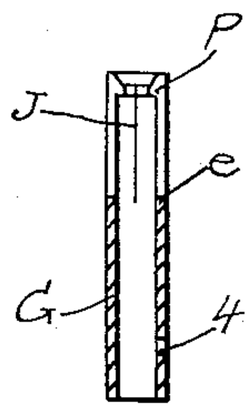

Fig. 3.

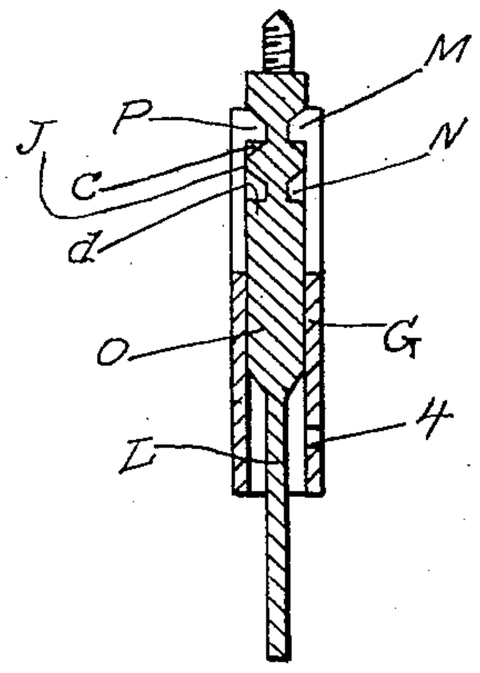

Fig. 4.

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WATCHCASE.

No. 889,364. Specification of Letters Patent. Patented June 2, 1908.

Application filed April 22, 1907. Serial No. 369,696.

To all whom it may concern:

Be it known that I, WILLIAM JAMES GARDINER, a subject of the King of Great Britain, residing at East Toronto, in the county of York and Province of Ontario, Canada, watch case-maker, have invented certain new and useful Improvements in Watch-cases, of which the following is a specification.

Some watch-cases now on the market must be made quite thick in order that they be strong enough to stand ordinary usage, because they are not internally supported by a backing-ring: in this class of watches, the expense of manufacturing same is much greater than is necessary because of the weight of precious metal used to obtain the desired strength of case. In still other watch-cases, a backing-ring is used which is permanently interlocked with the case so as to provide a firm backing for the center and bezel. In order to hold the movement within the said watch-case, a movement-holding ring is secured within the backing-ring.

In contradistinction to the above, I omit the use of a separate movement-holding ring, and so construct the watch-case that the backing-ring may be readily inserted thereinto and removed therefrom, so that it will not only perform the function of a firm and snugly-fitting backing for the center and bezel of the watch-case, but the additional function of a readily-removable support for the movement.

In carrying out this invention, the center and bezel will be formed integral, and the center so constructed that the combined backing-and-movement-supporting ring may be readily placed therewithin or removed therefrom, thus providing a very important and convenient construction in that the movement can be much more easily and accurately secured or attached to the said ring when the same is out of the case, than when the same is therewithin. The outer perimeter of the said ring is turned to snugly fit the center and bezel, and is held in relation thereto by no permanent engagement therewith of the bezel or center, as is the case in connection with a mere backing-ring now used in many watches. In this watch-case, although the center and bezel are not permanently associated or locked, with the combined backing-and-supporting ring, yet the said ring snugly fits against the same, thereby providing these parts of the case with a firm backing of metal: because of this backing, it is possible to make the said bezel and center very thin, thus reducing cost of production. The thin case is not liable to be easily dinted or dinged, as the bezel and center are entirely supported by the metal backing afforded by the said ring.

From the foregoing it will be understood that one of the objects of this invention is to enable the watch-case to be constructed very thin, and also to reduce the cost of manufacturing watch-cases.

Another object is to render the watch-case absolutely dust-proof by constructing after a peculiar manner the means for holding the winding-and-setting mechanism in place.

Figure 1 is a vertical central section through a watch case embodying my invention, the works being removed. Fig. 2 is a vertical central section through the ring or band and the sleeve and the setting and winding bar. Fig. 3 is an enlarged vertical central section through the split sleeve used, and Fig. 4 is an enlarged vertical central section through the split sleeve and the winding bar.

In the drawings like characters of reference indicate corresponding parts in each figure.

It is well known that it is a desideratum in watch case making, to make the case as thin as possible, and yet not sacrifice strength. By using the dust-band or ring after the manner in which I use it, a manufacturer is enabled to use the minimum quantity of precious or other metal in manufacturing the watch case, and yet obtain a strong and durable watch case, and one which, by reason of the support given thereto by the metal dust-band or ring, will not be easily dinted or dinged on its perimeter. Furthermore, by means of the co-action between the watch case and the dust-band or ring, the movement is prevented from undue jarring.

The watch case consists of a back lid A which is suitable jointed or hinged as at B to the combined glass bezel C^1 and center C, which supports the glass or crystal D. The pendant E is preferably formed a part of the combined glass bezel and center C.

F is a combined backing-and-movement-supporting ring which is preferably formed of solid metal, preferably aluminum, or other base metal, and is constructed so that its outer perimeter will abut the inner perimeter of the center of the watch case, thus

supporting the center at all points on its perimeter, thereby enabling me to make the watch case very thin so as to save the cost of manufacture, for the reasons before amply set forth. It will be noticed that the center C does not over-lap nor embrace the ring F, thereby providing a construction whereby the said ring can be readily placed within or removed from the watch-case: these parts merely contact each other, for the purpose set forth. The movement (not shown) is placed in the ring or dust-band F and secured thereto after any well known manner. By means of the front and back seatings *a* and *b* formed in the ring F, I provide a preferred construction whereby the movement (not shown) may be secured thereto.

Upon referring to Fig. 1 it will be seen that the ring F abuts against not only the center of the watch case, but also against the glass bezel, thus also providing a solid back for the glass bezel, which I have called C^1.

G is a sleeve preferably made of steel tubing which is supported in the hole H formed in the ring F, and removably held in position by means of the screw I, or any other suitable means. When I use the screw I for locking the sleeve G to the ring F, I form a hole 3 in the side of the said ring and open it into the hole H. In the lower portion of the sleeve G I form a hole 4 which is threaded so as to receive the inner end of the screw I. The upper end of the sleeve G is split so as to provide spring members J which normally occupy the position shown in the drawings.

L is the winding and setting bar provided with the usual annular notches M and N to allow for the winding and setting of the movement: any other construction may be used that will allow the said movements. As will be noticed upon referring to the drawings, the winding and setting bar is provided with a portion O which snugly fits within the sleeve G. The ends P of the spring members J are shaped so as to allow for the longitudinal and axial movement of the winding and setting bar, as will be understood. The under side of the ends P of the spring members J are preferably formed square as shown at *c* so that the square annular shoulder *d* of the winding and setting bar will abut thereagainst and prevent same from being pulled out too far. As the portion O of the winding and setting bar L always extends above and below the bottom *e* of the slits between the spring members J, it will be understood that no dust can get into the watch between the sleeve G and the winding and setting bar. It will be understood that the pendant E is roomy enough to provide the necessary space for the movement of the spring members J during the longitudinal movement of the winding and setting bar L, as will be seen at *f*.

g is the crown which is suitably secured to the winding and setting bar L, and *h* is the bow. The crown *g* is provided with the usual annular groove *i* so as to allow for the movement of the winding and setting bar L.

The sleeve G snugly fits the hole H in the ring F and absolutely prevents any dust from passing between these parts. By the construction before described and illustrated in the drawings it will be understood that the movement (not shown) and ring or dust band F are firmly held in place when opening and shutting the case.

Although I have shown the major portion of the winding and setting bar L as being reduced in size in cross-section, it will be understood that I may extend the portion O any suitable distance.

I do not confine myself to the construction shown, as my invention can be embodied in various forms without going outside of the scope of the appended claims.

By removing the screw I or other fastening means it will be readily understood that the winding bar L, the crown *g*, and the sleeve G will be readily removed from the watch case so that when the lid A is opened, the movement supported in the ring or dust band F can be readily removed therewith from the watch case. By providing the sleeve G split at its upper end, I give the end of the winding and setting bar considerable play so as to assist inserting same in the movement (not shown).

It will be understood by one skilled in this art that the outer perimeter of the ring or dust band F can be turned or made to fit any watch case. The ring or dust band F will be constructed so as to snugly fit in place, particularly where it abuts the combined glass bezel C^1 and center C so as to prevent any dust from getting between these parts.

In place of jointing or hinging the lid to the watch case, it will be understood by one skilled in this art that same may be screwed in place, without departing from the spirit of my invention.

What I claim as my invention is:

1. A watch case having the glass bezel and center and pendant formed integral; the back lid or cover removably secured in place; a ring or dust-band, provided with a hole, and removably held within the watch case between the lid or cover and the glass bezel and abutting the center, thus providing the watch case with a ring of substantially solid metal so as to prevent the dinging or damaging of the perimeter of the edge of same; a sleeve provided at its upper end with spring members formed by slitting the upper portion of said sleeve for a suitable distance, this sleeve resting within the pendant and extending into the hole in said ring or dust band where it is removably held; the crown, and a winding or setting bar associated with said crown and designed to be moved thereby longitudinally and axially within said sleeve and

suitably constructed so that the said spring members may co-act therewith so as to allow for the necessary movement of said winding and setting bar; said winding and setting bar snugly fitting said sleeve the required distance above and below the bottom of said slits so as to prevent the passage of dust between these parts.

2. A watch case having the glass bezel and center and pendant formed integral; the back lid or cover removably secured in place; a ring or dust-band, provided with a centrally-directed hole, and another hole opening thereinto from one of its sides, and removably held within the watch case between the lid or cover and the glass bezel and abutting the center, thus providing the watch case with a ring of substantially solid metal so as to prevent the dinging or damaging of the edge of same; a sleeve provided at its upper end with spring members formed by slitting the upper portion of said sleeve for a suitable distance, and provided in its side near its lower end with a hole, this sleeve resting within the pendant and extending into the centrally-directed hole in said ring or dust-band where it is removably held; the crown, and a winding or setting bar associated with said crown and designed to be moved thereby longitudinally and axially within said sleeve and suitably constructed so that said spring members may co-act therewith so as to allow for the necessary movement of said winding and setting bar; said winding and setting bar snugly fitting said sleeve the required distance above and below the bottom of said slits so as to prevent the passage of dust between these parts, and a screw resting in the hole opening from the side of said dust-band or ring and extending into the hole in the lower end of said sleeve whereby the sleeve and winding bar and crown are secured in place.

3. In a watch case, the combination of a sleeve provided at its upper end with spring members formed by slitting the upper end of said sleeve for a suitable distance, and a winding and setting bar designed to have longitudinal and axial movement within said sleeve and constructed with upper and lower annular notches with which is designed to co-act the ends of said spring member, the said winding and setting bar snugly fitting said sleeve the required distance above and below the bottom of said slits so as to prevent the passage of dust between these parts.

4. In a watch case, the combination of a sleeve provided at its upper portion with spring members formed by slitting the upper portion of said sleeve for a suitable distance, and a winding and setting bar designed to have longitudinal and axial movement within said sleeve and suitably constructed so that the said spring members may co-act therewith so as to allow for the necessary movement of said winding and setting bar, the said winding and setting bar snugly fitting said sleeve the required distance above and below the bottom of said slits so as to prevent the passage of dust between these parts.

5. In a watch case, the combination of a ring or dust-band provided with a hole; a sleeve snugly fitting said hole and designed to be removably held therein and provided at its upper portion with spring members formed by slitting the sleeve for the desired distance, and a winding and setting bar designed to have longitudinal and axial movement within said sleeve and suitably constructed so that the said spring members may co-act therewith so as to allow for the necessary movement of said winding and setting bar, the said winding and setting bar snugly fitting said sleeve the required distance above and below the bottom of said slits so as to prevent the passage of dust between these parts.

6. In a watch case, the combination of a ring, or dust-band provided with a hole; a sleeve snugly fitting said hole and designed to be removably held therein and provided at its upper portion with spring members formed by slitting the sleeve for the desired distance; a winding and setting bar designed to have longitudinal and axial movement within said sleeve and suitably constructed so that the said spring members may co-act therewith so as to allow for the necessary movement of said winding and setting bar, the said winding and setting bar snugly fitting said sleeve the required distance above and below the bottom of said slits so as to prevent the passage of dust between these parts, and the crown suitably secured to said winding and setting bar.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses.

WILLIAM JAMES GARDINER.

Witnesses:
EGERTON R. CASE,
F. MCDERMOTT.