

T. F. GAYNOR.
WATCH CLOCK.
APPLICATION FILED JAN. 15, 1909.

993,050.

Patented May 23, 1911.

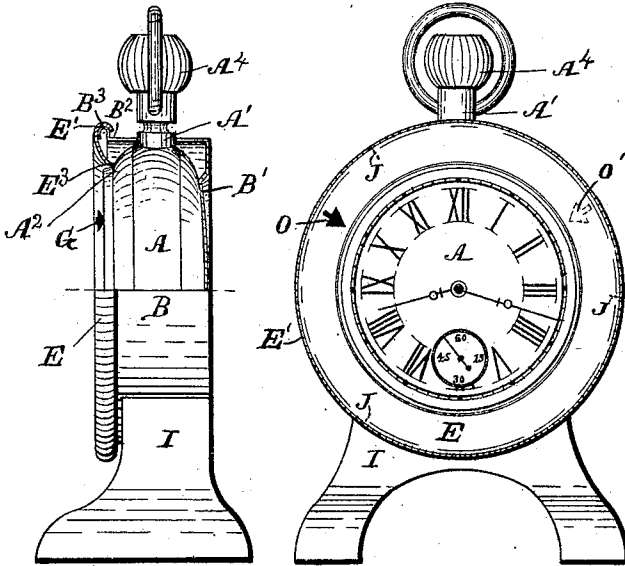


Fig. 2.

Fig. 1.

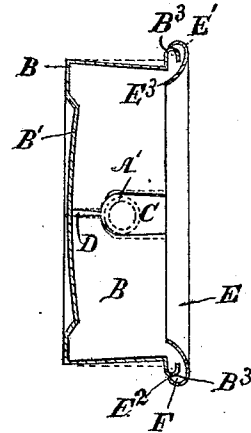


Fig. 5.

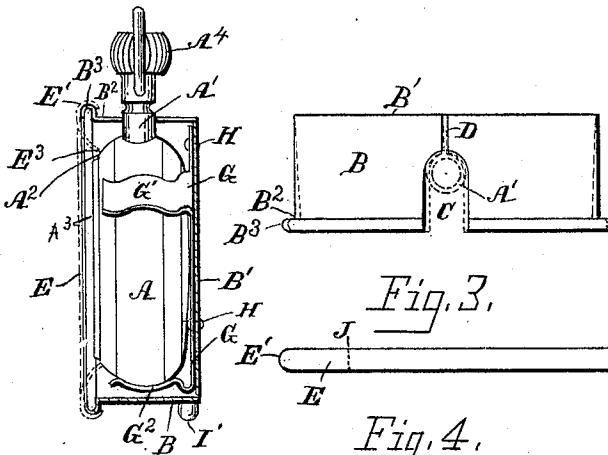


Fig. 6.

Fig. 3.

Fig. 4.

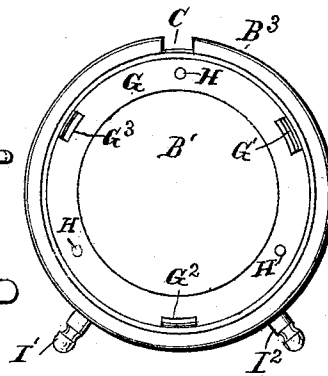


Fig. 7.

WITNESSES

William A. Fitzgerald.
George J. Gaynor

INVENTOR

Thomas F. Gaynor

UNITED STATES PATENT OFFICE.

THOMAS F. GAYNOR, OF NEW YORK, N. Y.

WATCH-CLOCK.

993,050.

Specification of Letters Patent.

Patented May 23, 1911.

Application filed January 15, 1909. Serial No. 472,546.

To all whom it may concern:

Be it known that I, THOMAS F. GAYNOR, a citizen of the United States, and a resident of New York city, Brooklyn borough, in the county of Kings and State of New York, have invented certain new and useful Improvements in Watch-Clocks, of which the following is a specification.

This invention relates to watch-clocks, and it consists in combining a watch of the open face class, with a clock case of novel suitable construction, in which the watch can be quickly and securely placed, the object being to provide a combination that will have the appearance and utility of a clock, and when desired, the watch can be removed from the clock case and used as a watch in the usual manner.

Clocks having dials of approximately the sizes of watch dials are now manufactured and used to a large extent, on account of the smallness and convenience of such sizes, but they are not durable, owing to the difficulties of manufacturing the movements and the lack of durability of the materials employed. An accurate and durable time piece of such diminutive dimensions must be made like, and have the material components of a watch, or in other words be a watch.

Now, as all the parts of a watch (open face) are essential in a clock movement, excepting the ring on the stem, which is of relatively slight cost and small dimensions, I take the watch in its entirety for the movement member of the time piece and provide a clock case, adapted to hold it and otherwise serve as a case, so as to make it complete as a clock, by the combination.

I term the case a "clock-case", to distinguish it from the case proper of the watch, to better distinguish the two cases in the combined article, and because there are features essential in a clock-case which are essential thereto, and which are provided in my improvement, and which will be more fully hereinafter explained.

The nature and objects of my invention will be more fully understood by referring to another application for Letters Patent by me, filed August 6th, 1906, Serial No. 329,435, for an improvement in watch-clocks, and which is now pending in the

Patent Office, and which is of the same class to which this invention relates.

The nature and object of this invention can also be more fully understood from the following specifications, and the accompanying drawings, forming a part thereof, and in which similar letters refer to similar parts throughout the several views.

In the drawings:—Figure 1, is a front elevation of a watch and clock case combined according to my invention. Fig. 2, is a side elevation of Fig. 1, with the upper portion thereof being shown in a vertical section through the case member thereof. Fig. 3, is a top view of the shell part of the case, and Fig. 4, is a top view of the cover or cap part thereof. Fig. 5, is a horizontal sectional view of the shell and cap parts of the case, showing the cap in the position of being partly pushed over the flange of the shell. This figure is arranged in a vertical position, to better illustrate the action of the working parts of the case, and the degree of resiliency in the shell which is provided for it by this form of construction. Fig. 6, is a vertical section of a case containing a watch, considerably smaller in diameter than the internal diameter of the shell, and a spring tension watch holder within the shell to hold the watch concentrically and firmly within the shell. Fig. 7, is a front view of the shell and holder for the watch, shown in Fig. 6, but the watch being removed therefrom.

In the drawings A, represents a watch of the open face class, over which the shell, B, is loosely fitted and having a slot, C, adapted to receive the stem, A', of the watch, A. The side wall of the shell, B, is also provided with a slit, D, extending backwardly from the slot, C, therein to the back wall, B', thereof, and the front edge, B², terminates in a projecting bead shaped flange, B³, over which the cap, E, is fitted, and the edge, E', of which is correspondingly bead shaped for the purpose. The dimensions of the flange, B³, of the shell, B, externally, and the internal dimensions of the edge, E', of the cap, E, are such that normally the diameter of the flange, B³, externally is greater than the diameter of the rim, B², of the cap, E, internally, but when the cap, E, is firmly

pressed against the flange, B³, of the shell, B, the diameter of the flange contracts enough to allow the rim of the cap to pass over the flange and the latter springs outwardly into the groove, F, of the cap.

The shell, B, is made of sheet brass or similar resilient material and the slot, C, and slit, D, in its side wall allow the latter, with its flange, B³, to yield and contract under the pressure applied to the cap, E, when the parts are brought together.

The normal dimensions of the shell, B, are shown by the full lines in Fig. 3, and by the dotted lines in Fig. 5, while the compression dimensions are shown by the dotted lines in Fig. 3, and the full lines in Fig. 5. The relations of the shell, B, and cap, E, are shown as separated in Figs. 3 and 4, partly together in Fig. 5, and completely together in the upper portion of Fig. 2.

The effect of this construction is that when the watch, A, is placed within the shell, B, and the cap, E, is pressed over the flange, B³, the cap springs onto the flange quickly and with a snap, and is retained in position by the outward spring tension of the flange against the inner wall of the rim and adjacent portions of the cap, E.

The inner rim, E³, is shaped and of such dimensions as that it loosely bears against the front edge, A², of the watch A, and so as to clear the crystal, A³, thus causing the cap, E, to hold the watch securely and firmly within the shell, the back wall of which, B', taking the bearing against the watch at the back. By this arrangement of the parts, the watch can be quickly dropped into the shell, which is adjusted vertically by the stem, A', registering in the slot, C, and then by pressing the cap, E, over the flange, B³, of the shell, B, the watch becomes securely held in its position in the case, and as already described.

The face of the cap, E, is provided with an index, O, which points toward the graduations on the watch dial, and which can be brought into registering position with any of the divisions or numerals of the dial, by turning the cap around into the proper position necessary to attain this result. For instance, in Fig. 1, the index is shown as registering with the numeral "X", now, by turning the cap, E, around to the right 120 degrees, the index will be in the position shown by the dotted line, O', over the numeral "II" on the dial, assuming that that was the numeral to be indicated. In the same way, any other position around the dial can be indicated by manipulating the cap, E, accordingly, and which is knurled, or reeded upon its outer edge, to facilitate this operation.

The resilient spring tension bearing and fit of the bead shaped flange, B³, of the cap,

B, in the groove, F, of the cap, E, is such that while the cap is retained securely and tightly in its position upon the flange of the shell, yet it can be rotated thereon so as to carry the index around to any position desired with reference to the divisions and numerals on the watch dial. The frictional pressure of the bead of the shell against the inner wall of the cap is sufficient to hold the cap firmly and fixedly in any position that the index may be set at, and yet it yields sufficiently to allow the turning of the cap around by an ordinary grip of the fingers on the reeded outer edge, E', when being manipulated to set the index to the position desired. This resiliency and yielding pressure of the flange or the shell against the cap is also such as to allow the cap to be pushed onto, or removed from the flange of the shell by the fingers by ordinary manipulation of the parts, while the combined article is held in the hand, and which operation is made possible and easy by the projecting form of the flange from the shell wall, and the cap, as fitted thereon, and which the construction of the parts provides for.

In Fig. 2, the watch, A, appears as being of the same dimensions diametrically as the internal dimensions of the shell, B, and the fit of the parts of the case, (the shell and cap), over the watch is such as to give complete fixity of the watch in the case. In Fig. 6, however, the watch is shown as being considerably smaller in diameter than the internal diameter of the shell. So to prevent the watch from changing position therein and to hold it concentrically in the shell, the latter is provided with the spring tension holder, G, which is secured to the back, B', of the shell by means of rivets, H, H, and being provided with three elastic fingers, G', G² and G³, shaped to fit over the periphery of the watch with a spring tension grip. The shape of the fingers, G', G² and G³, is such that the watch can easily be pushed into, or removed from, their grasp as may be desired, and when the watch is thus held it cannot shake or vibrate within the shell and is held concentrically therein, regardless of the cap, (which is indicated by dotted lines only in this figure, Fig. 6). This watch holder member is needed only when the shell is intended to hold sizes of watches smaller than the maximum size, of which the shell is intended to be used with. It can be dispensed with, as can be understood, when the shell is to be used with watches of proper size and dimension to make an accurate fit therein.

The shell can be provided with any suitable base or support, such for instance as the form shown in Figs. 1 and 2, comprising a casting, I, which can be secured in any suitable manner to the shell, B, or the studs,

I', I², as seen in Figs. 6 and 7, or of any other design which may be desired. The shell can also be made the essential member of an endless number and variety of external designs and shapes of cases, having any suitable or desired form of base or support and without departing from the principles of construction of the invention, and the cap member fitted to the shell as herein shown and described, as can be understood.

The face of the cap, E, as seen in Fig. 1, also serves as a contrasting surface or background for the watch dial and can be of any suitable contrasting color, to bring out more plainly the dial and hands of the watch to view.

The operation of the device can be understood from the foregoing description, as it is only necessary to remove the cap from the shell and then insert the watch within the latter, the slot therein allowing the stem of the watch to come into the vertical position and retaining it thus, after which the cap is pressed over the flange of the shell into position and the operation of adjusting the watch in the case is completed. Whenever the watch is to be wound, or its hands set or changed, either of these operations can be performed by manipulating the knob, A⁴, of the watch stem in the usual manner, and without removing the watch from the case.

For registering the starting time of any event, or to indicate some future hour, the index can be set against the division of time desired, opposite the numeral or graduation mark on the dial, by turning the cap around as already described. In this way, a time for starting or stopping any work can be indicated, appointments can be visibly reminded, times for taking medicine or the like noted, length of time for performing any work measured off, and so on indefinitely, according to the requirements needed, the index feature of the invention can be used with effectiveness and simplicity of manipulation.

This invention can be used for domestic, or office purposes, or with the addition of suitable and special connecting members, it can be used on automobiles, motorcycles, vessels, and all other applications where a small time piece will serve. The watch member of the combination, retaining its completeness as a time piece, is also always available to be used as such and being quickly removable from the case is, of course, another advantage of the invention.

If for any reason the shell should have to be manufactured of a material, or of thickness of wall, as would give the flange an insufficiency of compression and expansion to allow the cap to have the proper degree of fit and ease of rotation, then the cap can

have one or more slits in its outer edge, as indicated by the dotted lines at J, J, J, in Figs. 1 and 4, which will give the desired result. It is preferable, however, that the opening in the walls of the shell be used, rather than slitting the edge of the cap, as a larger degree of resiliency is obtainable for the working parts and I have found that the slot, C, in the shell, which is necessary to allow for the watch stem, is generally sufficient to give the desired degree of compression, if the shell is made of thin sheet metal, although the extension of the slot backwardly, in the form of a narrow slit, D, greatly increases the elasticity of the wall of the shell, and requires less accuracy in the fitting thereto of the cap.

It can thus be seen that I provide a simple and inexpensive device, and that it meets all the requirements for the purposes intended.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is:—

1. The combination of a watch, and a clock-case shell having its front edge terminating in a projecting flange and a slot in its side wall into which the stem of the watch fits and is thereby held with the dial in an upright position, and a cap rotatably and detachably fitted to the flange of the shell and serving as a means of holding the watch within the shell and having an opening through which the watch can be seen, substantially as described.

2. The combination of a watch, and a clock-case shell having its front edge terminating in an outwardly projecting flange and having a slot through the flange and side wall thereof adapted to position the watch by means of its stem when the watch is placed within the shell, and a cap detachably and rotatably fitted to the flange of the shell and adapted to retain the watch within the shell and having an opening therein through which the watch can be seen, substantially as described.

3. The combination of a watch, and a clock-case shell having its edge terminating in an outwardly projecting flange and having a watch-stem positioning slot therein, and a cap detachably and rotatably fitted to the flange of the shell and provided with a dial numeral indicating device adapted to register with the watch-dial numerals and having an opening through which the watch can be seen and the cap serving as a means of retaining the watch within the shell when placed therein, substantially as described.

4. The combination of a watch, and a clock-case shell having its edge terminating in an outwardly projecting flange and a watch-stem positioning slot therein, and a cap detachably and rotatably fitted to the

flange of the shell and serving as a retainer
for the watch within the shell when placed
therein and being provided with an open-
ing through which the watch can be seen
5 when so placed, and a shell upright support-
ing base secured to the shell, substantially
as described.

Signed at New York city, in the county of
New York, and State of New York, this
13th day of January, A. D. 1909.

THOMAS F. GAYNOR.

Witnesses:

WM. L. M. SILBER,
ARTHUR M. SILBER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
