Feb. 7, 1961 G. KOTTMANN 2,970,426

PORTABLE CLOCK

Filed April 21, 1959

Fig. 1.

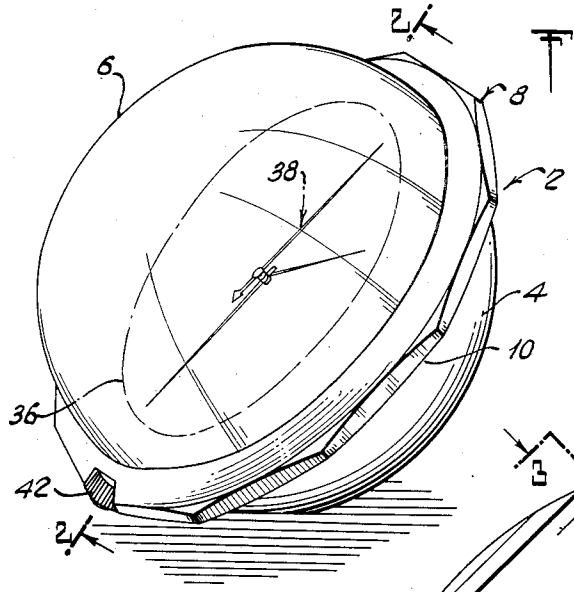


Fig. 2.

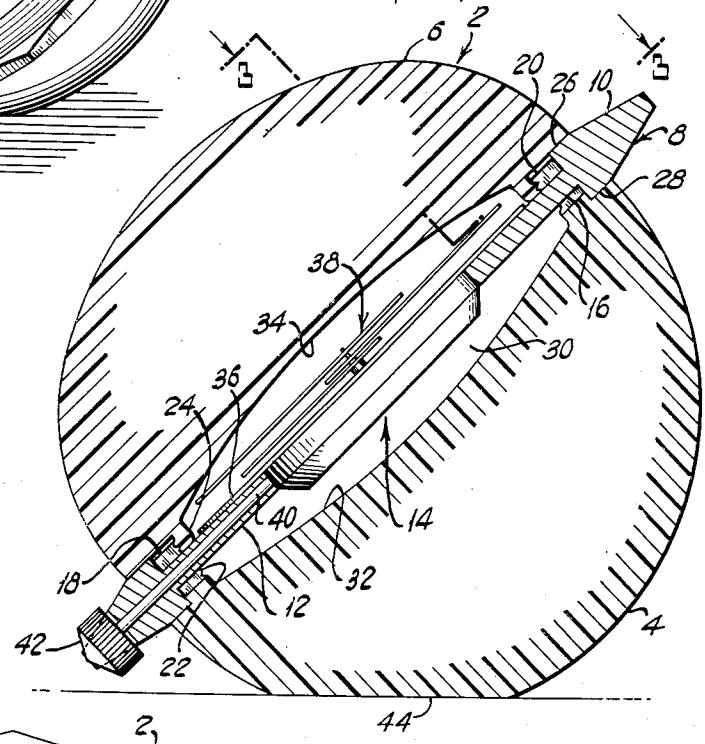
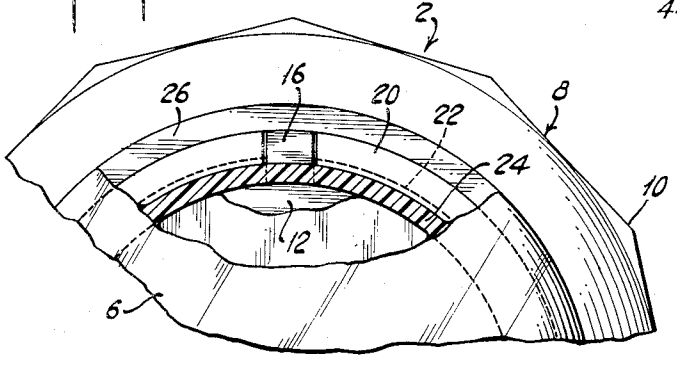


Fig. 3.



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PORTABLE CLOCK

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5 Claims. (Cl. 58—2)

This invention relates to clocks, and more in particular to portable clocks and the like.

An object of this invention is to provide an improved clock construction. A further object is to provide an improved case and support arrangement for the clock works assembly. A further object is to provide for the above with a construction which permits the easy viewing of the clock face and hands. A still further object is to provide for the above with a casing formed by a pair of magnifying lens structures. A still further object is to provide for the above with structure which is sturdy, simple, pleasing in appearance, and which provides a secure seal for the clock mechanism, but yet is readily disassembled. These and other objects will be in part obvious, and in part pointed out below.

In the drawings:

Figure 1 is a perspective view of a clock showing one embodiment of the invention;

Figure 2 is an enlarged vertical section on the line 2—2 of Figure 1; and,

Figure 3 is a fragmentary sectional view on the line 3—3 of Figure 2.

Referring particularly to Figure 1 of the drawings, a clock 2 is formed by a bottom, somewhat hemispherical lens and case portion or section 4, a top lens and case portion or section 6 and a clock works assembly 8 which is rigidly mounted between the lens and case portions or sections 4 and 6. Assembly 8 comprises an exterior rim 10 (see also Figures 2 and 3), a disc-like internal frame 12, and clock works 14 rigidly mounted in a central opening in the internal frame. The external rim 10 and the internal frame 12 are rigidly interconnected by two integral and diametrically opposite radial arms 16 and 18 which are snugly received in and project through a pair of slots in a peripheral flange 20 on the lower lens and case portion 4. Flange 20 is internally threaded at 22, and the top lens and case portion 6 has a somewhat similar flange 24 which is smaller and externally threaded. These two flanges are threaded tightly together so that the externally threaded flange 24 presses down upon the periphery of the internal disc-like frame member 12 and also upon the inner ends of the radial arms 16 and 18. The external rim portion 10 has annular surfaces at 26 and 28 which are tightly pressed against mating annular surfaces upon the lens and case portions 4 and 6, respectively. Hence, the turning of the top lens and case portion 6 forms a tightly sealed case.

The lens and case portions are of Lucite, and the lens portion 10 and frame portion 12 with the integral interconnecting arms 16 and 18 are of metal. As indicated above, this provides sealing contacts between the interengaged annular surfaces. At the same time, the clock is rigidly supported in a cavity 30 which is formed between the lens and case surfaces 32 and 34. The clock works 14 has a face 36 and hands 38. The clock is spring-operated and a stem 40 projects through the radial

portion 18 and rim portion so that the clock can be wound and set at 42.

With the lens structure shown, the face and hands of the clock are magnified so as to make it appear that the face is the full size of the lens. The operation of the clock may be observed through the lower lens in case portion 4 which also provides magnification. As shown best in Figure 2, the bottom lens and case portion 4 has a segmental portion cut away to provide a circular flat surface 44 upon which the clock rests, as shown in Figures 1 and 2. When so positioned, the face 36 and the hands 38 of the clock are viewed with sufficient magnification to permit ready viewing.

It has been indicated above that the internal frame 12 is integral with the radial arms 16 and 18 and, through them, with the external rim 10. The clock works 14 are secured to the internal frame 12 by screws not shown, with the face 36 extended radially outwardly over the major portion of the internal frame. During the assemblying of the clock, the frame and works assembly may be handled by grasping the external rim 10. This rim is placed in general alignment with the lower lens and case portion or section 4, with the radial arms 16 and 18 in alignment with the slots in flange 20. It has been indicated above that these radial arms are snugly received in these slots. The radial arms are rectangular in cross section, so that they slide readily into the slots. When the rim portion 10 rests against the surface 28, the upper lens and case portion 6 is placed into position and turned so as to interengage the threads on flanges 20 and 24. During this turning movement, flange 24 presses against the periphery of the internal frame and also upon the inner ends of arms 16 and 18. The somewhat elastic characteristic of the Lucite permits easy tightening, and yet provides secure seals at the peripheral surfaces 26 and 28.

As many possible embodiments may be made of the above invention and as the art herein described might be varied in various parts, all without departing from the scope of the invention, it is to be understood that all matter hereinabove set forth or shown in the accompanying drawings is to be interpreted as illustrative and not in a limiting sense.

What is claimed is:

1. A clock comprising: a casing formed by a front lens portion, a rear lens portion and an annular rim portion positioned between the peripheries of said lens portions, said lens portions having inner lens surfaces which are spaced from each other to form a cavity; a central frame rigidly attached to said rim portion and positioned within said cavity; a plurality of radial arms connecting said central frame to said rim portion; and, a clock works positioned within said cavity and mounted upon said central frame and having a face exposed behind said front lens portion whereby said face may be viewed through said front lens portion.

2. A clock as described in claim 1, wherein each of said lens portions has a peripheral flange, and wherein said flanges are threaded with mating threads whereby said flange portions are screwed together, and wherein one of said flanges has slots into which said radial portions are nested.

3. A clock as described in claim 2, wherein said rim portion has annular surfaces against which the peripheries of said lens portions are pressed by the threaded interengagement of said flanges.

4. A clock comprising: a casing formed by a front casing portion, a rear casing portion and an annular rim member positioned between the peripheries of said casing portions, said casing portions having inner surfaces which are spaced from each other to form a cavity, said

front casing portion being transparent and comprising a magnifying lens having its inner surface of lesser curvature than its outer surface whereby it tends to magnify an object in the general plane of said rim portion, said casing portions having interengaging flanges which are threaded together with said rim member clamped therebetween, the flange on one of said casing portions having a plurality of spaced radial slots therein; a central frame positioned within said cavity and rigidly attached to said rim portion by a plurality of radial arms which are positioned respectively in said slots in one of said flanges; and, a clock works positioned within said cavity and mounted upon said central frame and having a face exposed behind said front casing portion whereby said face may be viewed through said front casing portion.

5. A clock comprising: a casing formed by a front lens portion, a rear lens portion and an annular rim portion positioned between the peripheries of said lens portions, said lens portions having inner lens surfaces of lesser curvature than their outer surfaces and spaced

from each other to form a cavity, said lens portions having flanges which interengage each other at the periphery of said cavity and clamp the peripheries of said lens portions against the opposite sides of said rim portion, said rear lens portion having a flat surface upon which the clock rests and the plane of which is at an acute angle to the axis of said rim portion; a central frame rigidly attached to said rim portion and positioned within said cavity; and, a clock works positioned within said cavity and mounted upon said central frame and having a face exposed behind said front lens portion whereby said face may be viewed through said front lens portion.

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