Sept. 2, 1941. E. L. CARLSON 2,254,599

CLOCK CASING

Filed May 10, 1940

Fig-1

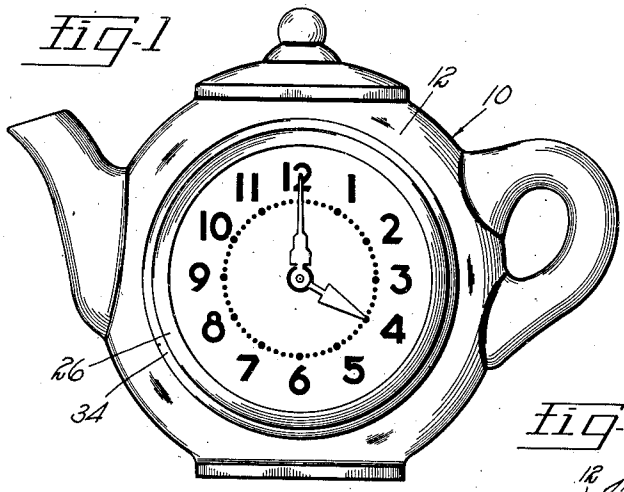


Fig-2

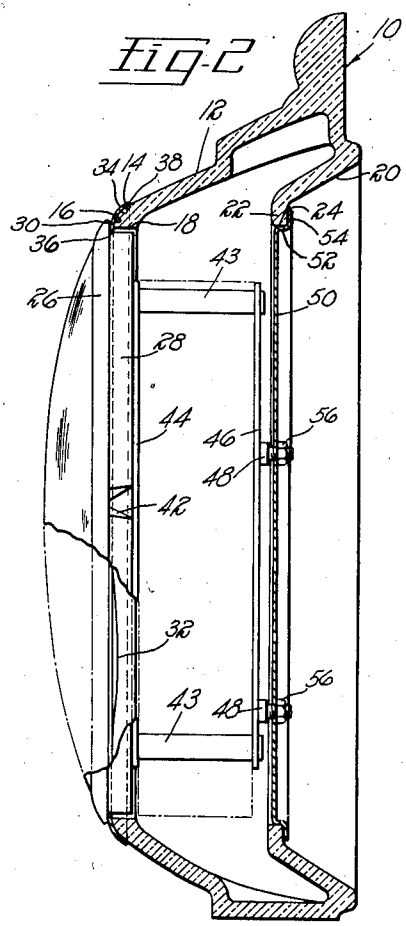
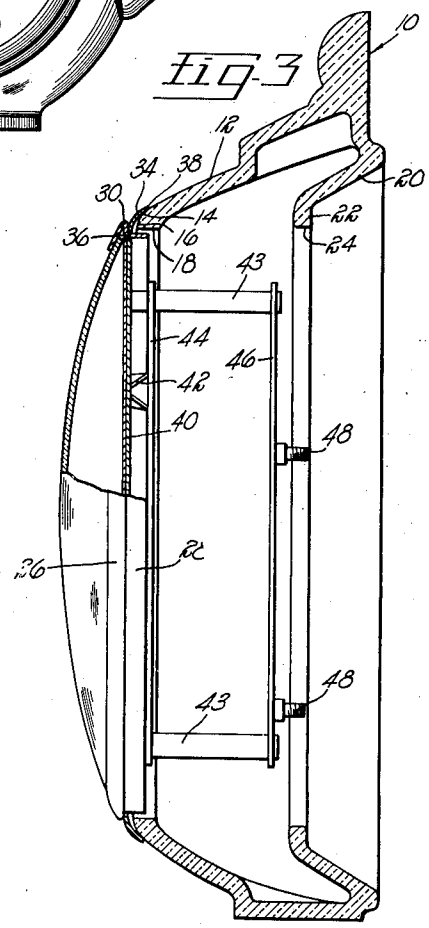


Fig-3



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CLOCK CASING

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3 Claims. (Cl. 58—53)

The present invention relates to clocks and more particularly to clocks having a ceramic casing into which there is fitted a time mechanism.

Heretofore, so far as applicant is aware, clocks utilizing a ceramic casing have all been manufactured with the time mechanism disposed to one side of a ceramic plate and the hands exposed on the other, with no provision being made to enclose or cover the hands. This type of construction has been common because in the production of ceramic casings irregularities occur in the shape thereof, and when a time mechanism is positioned therein the stop flange of the bezel ring would abut against the high points and be spaced from the low points of the surface it overlies. Because of these inaccuracies in fit, not only was the appearance of the clock marred, but upon securing the time mechanism within the casing a warping of the frame supporting the time mechanism would occur, causing the clock to either stop or run irregularly.

The object of the present invention is to provide a clock wherein a ceramic casing may be utilized and a time mechanism inserted in the casing and wherein means are provided to compensate for the irregularities of contour of the ceramic casing.

A still further object is to provide a clock of the above-indicated type which is economical to manufacture, requiring relatively few parts, and wherein the construction is such that the appearance of the clock is materially enhanced.

Other objects will be in part obvious and in part pointed out more in detail hereinafter.

The invention accordingly consists in the features of construction, combination of elements, and arrangement of parts which will be exemplified in the construction hereafter set forth and the scope of the application of which will be indicated in the appended claims.

In the accompanying drawing:

Figure 1 is a front elevation of a clock embodying the invention herein;

Fig. 2 is a side elevation with the casing in section and part of the bezel ring broken away for illustrative purposes; and

Fig. 3 is a side elevation with the clock partly assembled and partly in section to show details of construction thereof.

Referring to the drawing, there is shown a ceramic clock casing 10 which may be of any desirable shape; that shown having a frusto-conical body part 12 terminating at its forward end in a convex shoulder 14 having a forwardly facing rim portion 16 adjacent a face opening 18 provided in the front of the casing. The rear edge of the body portion has integral therewith an inwardly and forwardly extending flange 20 terminating in an annular shoulder 22 adjacent a rear opening 24 adapted to cooperate with the face opening for supporting the time mechanism therein, as hereinafter described.

As indicated, there is positioned within the face opening 18 a bezel ring 26 having a skirt portion 28 receivable in the face opening 18; the diameter of the skirt being slightly less than the opening 18 to compensate for such irregularities as may occur in the opening 18, for, in the manufacture of the ceramic body, this opening is seldom a true circle. There is further provided on the outer peripheral edge of the skirt 16 of the bezel ring an outwardly extending stop flange 30 of greater diameter than the face opening and adapted to abut against the forwardly facing rim portion 16 of the casing. As previously indicated, in the molding of the ceramic casing irregularities will occur, and thus instead of the rim portion 16 lying in one plane throughout its circumferential extent some points, such as indicated at 32, will lie in a plane lower than other portions thereof. Because of this, if the stop flange 30 were positioned against the rim portion 16 it would not contact all points of the rim portion and a sharp line of demarcation would appear between the casing and flange, and upon securing the time mechanism in the casing warping of the latter would occur.

To overcome this, there is located between the bezel ring and the rim portion 16 of the casing a tension and abutment member 34. As indicated, the tension member 34 is a ring of relatively thin material having an inside diameter such that its inner peripheral edge 36 fits over the bezel ring skirt 28 and is of such width that its outer peripheral edge 38 is spaced substantially away from the outer peripheral edge of the stop flange 30. The tension member is further given a slight concave curvature, whereby when it is placed onto the skirt as the parts are being assembled it will assume the position indicated in Fig. 3 with the bezel ring stop flange 30 overlying the portion of the tension ring adjacent the inner peripheral edge 36 thereof with a complete contact between the two throughout the circumferential extent of the stop flange. The tension member then curves upwardly and rearwardly from the stop flange until its outer edge abuts against the casing 10.

To assemble the clock and properly locate and

support the bezel ring and tension ring in position as seen in Fig. 2, the bezel ring has arranged therein a dial casing plate **40** (see Fig. 3) abutting against inwardly turned tongues **42** struck inwardly from the skirt **28**. The plate **40** has secured thereon a plurality of studs **43** upon which there is mounted front and rear frame members **44** and **46** for mounting the time mechanism, which has been omitted as it may be of any approved type, not requiring a detailed description herein. The rear frame member **46** is provided with a plurality of rearwardly projecting studs **48** adapted to extend through a securing plate **50** positioned in the rear opening **24** of the casing **10**. As seen in Fig. 2, the plate **50** is also provided with a skirt **52** receivable in the opening **24** and an outwardly extending flange **54** abutting against the shoulder **22**. With the plate so constructed, when the bezel ring is positioned in the face opening **18** the studs **48** extend through aligned openings provided through the plate **50** and are secured by suitable nuts **56** which when tightened will draw the bezel ring into position and securely hold the assembly together.

Upon the tightening up of the securing nuts **56** it will be seen that the stop flange **30** of the bezel ring will be drawn rearwardly against the outer face of the tension ring **34**, tending to draw the ring into the position indicated in Fig. 2. Upon this drawing up, the inner face of the tension ring **34** will overlie and contact the high points of the rim portion **16** and the outer face will make a complete circumferential contact with the stop flange **30**, and due to the inherent flexibility of the tension ring it will place an outward strain against the bezel ring stop flange and thus take up the pull exerted on the studs **48** by the securing nuts. In this manner, the irregularities in the rim portion are compensated for and the bezel ring and the rear frame member of the clock mechanism are maintained in substantially parallel planes, and no warping of the time mechanism will result. Furthermore, inasmuch as the tension member curves upwardly and rearwardly from the stop flange, the sharp line of demarcation between the bezel ring and casing is eliminated, and the tension member may be given any suitable finish to contrast with both the bezel ring and casing and thus enhance the appearance of the clock.

As many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the language used in the following claims is intended to cover all of the generic and specific features of the invention herein described and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

I claim as my invention:

1. In a clock, a casing of ceramic material, said casing having a face opening therethrough, and a rim portion adjacent said face opening of irregular face contour, a bezel ring provided with a skirt extending into the face opening and an outwardly extending stop flange of greater diameter than the face opening, a ring member positioned with its inner periphery on the bezel ring skirt and located between the outwardly extending flange thereof and the irregular rim face of the casing, said ring member being of substantially greater width than the outwardly extending flange of the bezel ring and sufficiently flexible to maintain its forward face in full circumferential contact with the stop flange of the bezel ring when its rear face is positioned against the irregular face of the casing rim portion, said ring member curving outwardly and rearwardly from the skirt portion and having its outer peripheral edge contacting the casing at a point substantially away from the clock casing face opening.

2. In a clock, a casing of ceramic material, said casing having a face opening therethrough, a bezel ring provided with a skirt extending into the face opening and an outwardly extending stop flange of greater diameter than the face opening, a ring member positioned on the bezel ring skirt and located between the outwardly extending flange thereof and the face of the casing, said ring member being of substantially greater width than the outwardly extending flange of the bezel ring and curving outwardly and rearwardly from its contact with the skirt to its engagement with the face of the casing, and means for securing said bezel ring in said casing and drawing it in against said ring member, whereby said ring member will exert an outward tension on the bezel ring flange and maintain the bezel ring in alignment.

3. In a clock, a casing of ceramic material having a face opening therethrough, a bezel ring provided with a skirt extending into the face opening and an outwardly extending stop flange of greater diameter than the face opening, a ring member positioned between the stop flange of the bezel ring and the casing, said ring member having its inner periphery positioned on the bezel ring skirt and being of substantial width and curved to position its outer periphery in a plane rearwardly of its inner periphery, whereby the outer periphery will contact the casing at a point spaced from the clock casing face opening, said ring being sufficiently flexible to maintain its forward face in full circumferential contact with the stop flange of the bezel ring when its rear face is positioned against the casing, a securing plate mounted in the rear portion of the casing, and connections between the bezel ring and rear plate for securing the bezel ring and rear plate in position.

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