May 2, 1933. W. LA HODNEY 1,906,629

COMBINED MIRROR AND TIMEPIECE

Filed April 25, 1931

Fig. 1

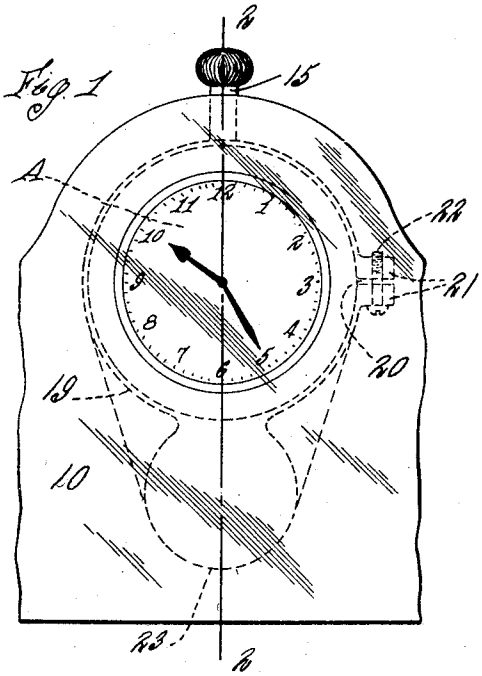


Fig. 2

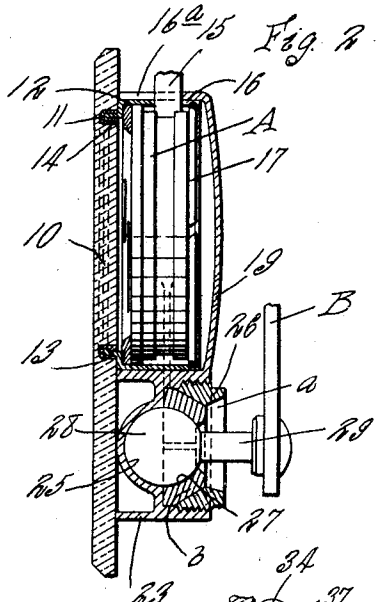


Fig. 3

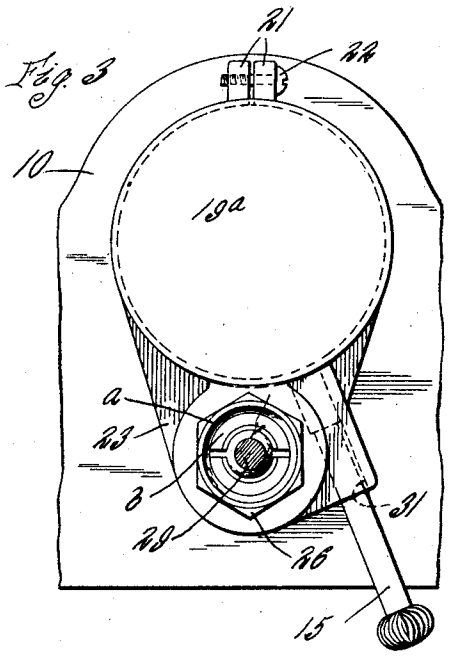


Fig. 4

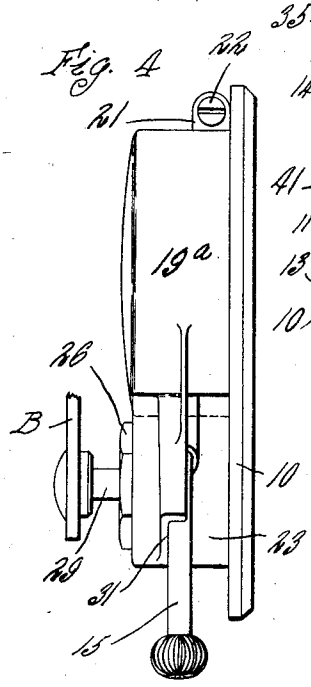
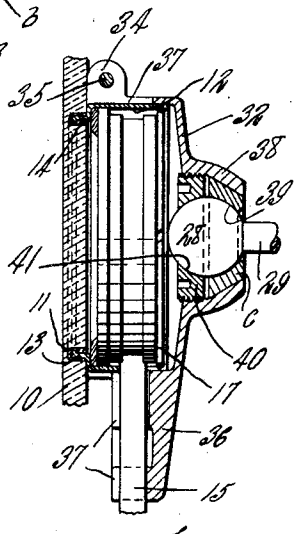


Fig. 5



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UNITED STATES PATENT OFFICE

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COMBINED MIRROR AND TIMEPIECE

Application filed April 25, 1931. Serial No. 532,841.

This invention relates to means for attaching instruments to panels, and particularly to the mounting of time pieces upon rear view mirrors for use in connection with motor vehicles.

An object of the invention is to improve attaching means of this type, both as to appearance and construction.

Another object of the invention is to provide improved means for attaching a dial instrument to a face of a panel in such a manner that the dial or indicating means of the instrument will be visible through a transparent section of the said panel, with which the instrument may be easily removed and replaced when desired, with which the instrument will be inclosed and protected against natural elements, with which the panel and instrument will be supported in a simple and practical manner and concealed entirely behind said panel, with which the panel and attached instrument may be adjusted into and held in different angular positions, and which will be relatively simple, practical and inexpensive.

Various other objects and advantages will be apparent from the following description of several embodiments of the invention, and the novel features will be particularly pointed out hereinafter in connection with the appended claims.

In the accompanying drawing:

Fig. 1 is a front elevation of part of a combined mirror and time piece, constructed in accordance with this invention.

Fig. 2 is a transverse, sectional elevation of the same, the section being taken approximately on the line 2—2 of Fig. 1.

Fig. 3 is a rear elevation of a modification of the same.

Fig. 4 is a side elevation of the modification; and

Fig. 5 is a transverse sectional elevation of another modification of the same.

Referring first to the embodiment of the invention shown in Figs. 1 tnd 2, the panel which may be a mirror 10 is formed of a plate of transparent material such as glass and is of any desired shape. This plate is provided upon the interior area of its rear face with an annular groove 11 which has a maximum depth less than the thickness of the plate. The section of the plate encompassed by this groove constitutes what may be considered as a boss upon the rear face of the plate, without increasing the thickness of the plate. The side walls of the groove extend normal to the rear face of the plate and serve as an anchorage for a tubular shell 12 that is open at both ends. This shell 12 is preferably annular in shape and abuts endwise against the rear face of the plate 10.

The shell 12 is provided with an inwardly offset end or flange 13, which extends into the annular groove 11, the extreme inner end of this flange being preferably also turned inwardly slightly to serve as an anchor abutment. The shoulder at the beginning of the offset end or flange 13 abuts against the rear face of the plate 10, and the annular groove is then filled with a quantity of suitable cement 14 which, after setting, securely anchors the shell 12 to the plate 10. The portion of the rear face of the plate 10 which surrounds the annular groove is provided with the usual reflecting coating, and the area of the rear face of the plate 10, enclosed by the annular groove 11, is free of coating, thereby providing a transparent window for a purpose which will appear presently.

A time piece A of any suitable make is disposed within the shell 12 in a manner similar to the mounting of a time piece in its usual casing. The winding and setting stem 15 of the time piece extends outwardly from the time piece through a slot 16 in the outer end edge of the shell 12. The stem 15 may extend beyond the edge of the plate 10 and terminates in a crown or button by which the stem may be manipulated for winding and setting the time piece, in the manner of the usual watch stem. While the time piece may be secured within the shell 12 in any desired manner, in the embodiment of the invention illustrated in Figs. 1 to 2, it is secured against the shoulder at the offset end 13 by a split ring 17 which abutts against the outer end of the time piece and is sprung into an internal, annular groove in the outer end section of the shell 12.

A second shell 19, which is cup like in shape, telescopes over the shell 12 so as to form therewith a complete enclosure for the time piece. The top part of this cup-like shell 19 is provided with a slot 16ª extending endwise from the open face or edge to straddle loosely the stem 15 of the time piece. Lugs or ears 21 may be provided on the outer face of the side wall of the shell 19 on opposite sides of another slot 20 at one side of the shell, and a screw or bolt 22 may connect these ears or lugs so as to draw them together and contract the cup 19 along its open end edge, and frictionally and tightly clamp it upon the shell 12, yet permitting removal of the shell 19 when access to the time piece, or its removal or replacement, is desired.

The shell 19 is provided with a lateral extension 23 which may abutt against the rear face of the plate 10, and this extension is provided in its rear face with a recess, the bottom or inner end wall of which is made concave to provide a partially spherical seat 25 facing the open end of the cavity. A ring 26 is threaded into the open end of the cavity and this ring on its inner face is provided with a concave surface 27, in the shape of a segment of a spherical surface, facing the seat 25. The surface 27, therefore, serves as a second seat opposing the seat 25, and the seats clamp between them a spherical head 28 of a stud 29 which extends through the ring 26 to the rear of the casing, and serves as a supporting arm for the entire assembly of the mirror plate 10, the time piece and the two shells 12 and 19.

The ring 26 may, for convenience of manufacture, be made of two sections *a* and *b* so that when the outer section *a* is threaded into the cavity, the inner or other section *b* need not necessarily rotate therewith. The spherical head 28 is thus frictionally clamped between the opposing seats 25 and 27, and this connection provides a universal joint between the stud 29 and the casing or shell 19, enabling adjustment of the shell or casing 19 into any desired angular positions in which it will be frictionally held.

The construction shown in Figs. 3 and 4 is very similar to that of Figs. 1 and 2, except that the lugs or ears 21 and the bolt 22, as well as the slot in the case, are provided at the top of the shell 19ª instead of the side as in Figs. 1 and 2, and the stem 15 is disposed to extend downwardly in an oblique direction at one side of the supporting arm 29, so that the free end of the time piece stem is accessible for manipulation from adjacent the lower edge of the mirror instead of at the top. In this form of the invention, however, the extension 23 is provided in one face with a slot 31 which receives the stem 15 and confines it against lateral play during its manipulation to wind or set the time piece.

Referring now to Fig. 5, the shell 19 is replaced by a shell 32 which also is cup-like, telescoping over the shell 12, and is provided with a slot 37 extending in an endwise direction from its open end face or edge. Ears or lugs 34, similar to the ears 21 of Figs. 1 to 4, are provided on opposite sides of the slot 37. The ears 34 are connected by a bolt or screw 35, similar to the screw 22, which, when tightened, will draw the split shell tightly about the inner shell 12 and securely clamp or attach together the two shells 12 and 32. The shell 32 may have a lateral extension 36 with slots 37 in the face thereof toward the plate 10 which guides and steadies the stem 15 of the time piece.

The rear end wall of the casing 32 is provided with an aperture surrounded by an outwardly extending tubular flange 38. The outer end of the passage formed by the flange 38 is somewhat converging and provided with a concave seat 39 in the shape of a segment of a sphere which faces the time piece, and a ring 40 is threaded into the inner end of the same passage. The ring 40 is provided with a partially sperical, concave seat 41 which faces the seat 39.

The supporting stud 29 extends through the outer end of tthe aperture into the space between the seats 39 and 41 and terminates therein in a spherical head which is frictionally clamped between those seats 39 and 41, so as to provide a universal, frictional joint between the stud 29 and the shell 32. The seat 39 of the tubular flange may be provided on a separate piece *c* which is attached or fitted to the flange for convenience in manufacture. The outer end of the flange 38 is convergingly tapered, and for that reason the ring piece *c* need not be actually attached to the flange, since it is held in the converging end by the spherical head 28.

From the foregoing it will be observed that in all forms of the invention which have been illustrated, the panel and instrument are both supported solely from the shell 12, and the latter is in turn supported solely by the shell 19, 19*a*, or 32, the latter constituting a supporting element having a universal, frictional joint connecting it to a supporting arm or stud 29 which is intended to be attached to an object B from which the mirror and time piece are to extend. The amount of friction in the universal joint may be adjusted by tightening or loosening the rings 26 or 40, and none of the supporting parts are visible beyond the side limits of the mirror when viewed from in front of the mirror. The apperance of the device is therefore very greatly improved, and an extremely practical, simple and compact construction is obtained. By removing the shell 19, 19*a*, or 32 from the shell 12, the instrument is available for regulation or replacement. The telescoping shells together form a dust proof and protective enclosure for the instrument.

It will be obvious that various changes in the details, which have been herein described and illustrated in order to explain the nature of the invention, may be made by those skilled in the art within the principle and scope of the invention as explained in the appended claims.

I claim as my invention:

1. Improved mounting means comprising a plate having a groove in its rear face, a member secured in said groove and extending rearwardly from the plate, an instrument mounted on said member and disposed closely against the grooved face of the plate, and a support element attached to said member by which the plate and instrument are both supported.

2. Improved mounting means comprising a plate having an annular groove in its rear face and of maximum depth less than the thickness of said plate, a shell disposed endwise against the rear face of said plate with an end edge extending into said groove and secured against removal therefrom, an instrument mounted in said shell immediately adjacent the rear face of said plate, and a support element secured to said shell whereby said plate and instrument will both be supported only from said bracket support.

3. Improved mounting means comprising a plate having an annular groove in its rear face and of maximum depth less than the thickness of said plate, a shell disposed endwise against the rear face of said plate with an end edge extending into said groove and secured against removal therefrom, an instrument mounted in said shell immediately adjacent the rear face of said plate, a support element removably clamped to said shell and in turn formed for connection to a support whereby said plate and instrument will both be supported from said element.

4. Improved mounting means comprising a plate having a groove in its rear face and of less depth than the thickness of said plate, a shell disposed against the rear of said plate and having a portion entering and secured in said groove, an instrument disposed in said shell, and a supporting member attached to said shell for supporting said plate and instrument through said shell.

5. Improved mounting means comprising a plate having a depression in its rear face, a shell disposed against the rear of said plate and having a part entering and secured within said depression, an instrument disposed in the rear of said plate, and confined thereto by said member, and a supporting element, attached to said member so as to support said instrument and plate solely therefrom.

6. Improved mounting means comprising a plate having, in the interior area of its rear face, a wall extending in a direction normal to the rear face of said plate, a shell secured to and supported by said wall and formed to receive and support an instrument, and a supporting element attached to said shell and through it supporting said plate.

7. Improved mounting means comprising a plate having a boss on the interior of its rear face, a shell telescoping with said boss and secured thereto, and formed to contain and support an instrument, and a supporting element attached to said shell whereby an instrument and said plate may be supported entirely from said element.

8. Improved mounting means comprising a plate having a depression in its rear face, a shell cemented in said depression and projecting from the rear face thereof, an instrument disposed in said shell so as to be visible from the exterior thereof, and a supporting element attached to said shell and constituting the sole support for said instrument and plate.

9. Improved mounting means comprising an imperforate plate, a shell secured to the rear of said plate and projecting rearwardly therefrom, an instrument mounted in said shell and visible from the exterior thereof, and means telescoping with and removably attached to said shell to form an extension thereof and the sole support of the shell, plate and instrument.

10. Improved mounting means comprising a plate, a tubular shell disposed endwise against the rear face of said plate and attached thereto, an instrument disposed in said shell so as to be visible from the exterior thereof, a second shell telescoping with and removably clamped to said first shell and confining said instrument in said first shell, said second shell having a partially spherical seat, a member removably attached to said second shell and providing a partially spherical seat opposing the first seat, and a stud having a spherical head confined between said seats and providing therewith a universal joint supporting said second shell.

11. Improved mounting means comprising a plate, a tubular shell disposed endwise against the rear face of said plate and attached thereto, an instrument disposed in said shell so as to be visible from the exterior thereof, a second shell telescoping with and removably clamped to said first shell, said second shell having a portion provided with a partially spherical seat, a ring removably attached to said second shell and adjustable toward and from the first seat, and formed to provide a second seat opposed to the first seat, and a stud having a spherical head clamped between said opposing seats by the adjustment of said ring, whereby said stud provides the sole support for said plate and instrument.

12. Improved mounting means comprising a plate, a tubular shell secured to said plate at the rear face thereof, a second tubular shell

telescoping with said first shell to form therewith an instrument receiving cavity, and slit endwise for a portion of its length, means for causing relative movement of the sections of said second shell at opposite sides of said slit in a manner to clamp said shells tightly to one another, and a stud having a universal joint connection to second shell for supporting said shell and said plate.

13. Improved mounting means comprising a plate, a tubular shell abutting endwise across the interior area of the rear face of said plate and secured thereto, a second shell telescoping with the first shell and removably attached thereto, said shells together forming an instrument receiving cavity, said second shell having an extension from one side thereof and abutting against the rear face of said plate, said extension having in the rear face thereof a concave, partially spherical seat, a ring concentric with said seat and secured to said second shell for adjustment toward and from the said seat, said ring having on its inner face a partially spherical, segmental seat opposed to the first seat, a stud extending through said ring and terminating in a spherical head clamped between said opposing seats to provide a universal, frictional joint between said stud and said second shell, by which said plate and both of said shells will be supported solely from said stud.

14. Improved mounting means comprising a plate, a tubular shell abutting endwise across the interior area of the rear face of said plate and secured thereto, a second shell telescoping with the first shell and removably attached thereto, said shells having a cavity between them, said second shell having an extension from one side thereof and abutting against the rear face of said plate, said second shell in its rear end having an aperture surrounded by a rearwardly extending flange, said flange having around said aperture a segmental, spherical seat facing said plate, a member secured in said aperture at the inner end thereof and adjustable toward and from said seat, said member also having a partially spherical seat facing said first seat, and a stud extending into said aperture and terminating in a spherical head which is clamped between said opposing seats.

15. Means for adjustably supporting an instrument and a panel, which comprises said panel having a groove in a face thereof, a tubular shell in which said instrument may be received and mounted, said shell having an end edge extending into and anchored within said groove, a second shell telescoping with and attached to the first shell, and a stud having a universal joint connection directly to said second shell.

16. Means for adjustably supporting an instrument, which comprises a tubular shell which is formed to receive and support said instrument, a second shell telescoping with and attached to said first shell, and having a projecting boss, said boss having a socket with a concave seat, means having an opposing concave seat removably and adjustably engaged in said socket, and a stud projecting into said socket and terminating therein in a spherical head which is adjustably clamped between said seats.

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