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Published:
— *With international search report.*

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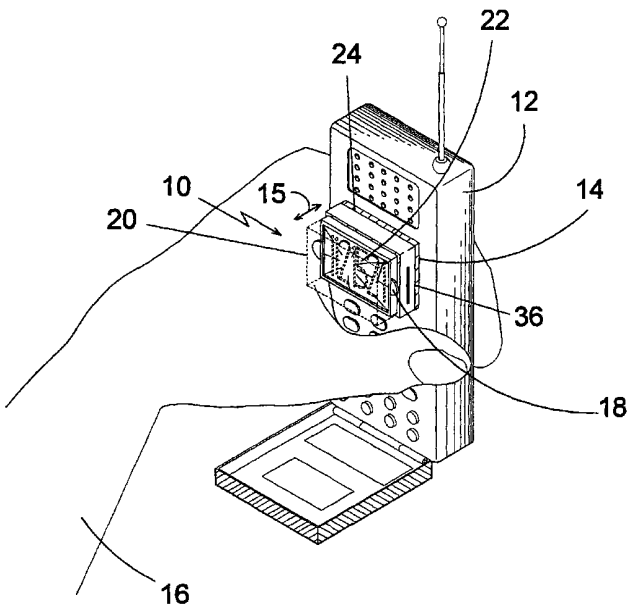
(54) Title: POWER LENS



(57) Abstract: The present invention (10) discloses a removably attached magnifying lens (22) which is designed for placement on display windows (14) of small devices such as are found on cellular telephones (12) and the like. The lens (22) is mounted onto an adjustable housing (20) having tabs (18) thereon for being grasped by the hands of the user (16) whereby the display window (14) can be brought into visual focus. The housing (20) can be attached to the display window (14) or to, for example, the instrument panel (38) of an airplane (40) by adhesive means (24) or a strap system (36). Also, the present invention (10) can be designed to fit variously shaped gauges (48), for example, round (46) or square (44) gauges.

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POWER LENS

DESCRIPTION

Technical Field

The present invention relates generally to magnifying devices and, more specifically, to a magnification apparatus for selectively magnifying information display windows. The present invention, an attachable and detachable magnification power lens, is an apparatus which is selectively attached and/or detached by means of a strap and can be selectively semi-permanently attached to such devices as, cellular telephones, beepers, cordless telephones, airplane gauges and instruments, CB's, boat gauges and instruments, car gauges and instruments, stereo display windows , TV display windows, VCR display windows, DVD display windows, home phone displays Caller ID's displays, hospital equipment displays, electrical readouts, heart monitors, military electronic displays and gauges computer monitors, and/or any device having a display window that is difficult to read.

The magnification apparatus includes a housing containing an adjustable extension member and a plastic magnification lens. The adjustable extension member and lens may be adjusted until enlargement of the display window has been achieved. The lens tabs provide a means of orientating the magnifying lens in a spaced relationship between the users visual clarity and the object of magnification. The magnification apparatus is selectively placed, positioned and secured to a display window by means of adhesive or elastic, rubber, or leather

strap.

The present invention is a means of improving the quality of visual clarity to people with poor vision and often need magnification lens to read small display windows. With the ever-expanding use of cellular phones, beepers and cordless phones with small, hard to read display windows, there is an increasing requirement for enlargement. The present invention provides a means of optical enlargement to determine the accuracy of the information displayed on the units display window.

Description of the Invention

The present invention discloses a removably attached magnifying lens which is designed for placement on display windows such as are found on cellular telephones and the like. The lens is mounted onto an adjustable housing having tabs thereon for being grasped by the hands of the user whereby the display window can be brought into visual focus. The housing can be attached to the display window of a small device or to, for example, the instrument panel of an airplane by adhesive means or a strap system. Also, the present invention can be designed to fit variously shaped gauges, for example, round or square gauges.

A primary object of the present invention is to provide a magnification apparatus for magnifying information display windows.

Another object of the present invention is to provide a magnification apparatus for magnifying information display windows of cellular phones, beepers, cordless phones, airplane gauges and instruments, CB's, boat gauges and instruments, car gauges and instruments, stereo display windows , TV display windows, VCR display windows, DVD display windows, home phone displays Caller ID's displays, hospital equipment displays, electrical readouts, heart monitors, military electronic displays and gauges computer monitors, and or any display window that are difficult to read.

Yet another object of the present invention is to provide a magnification apparatus for magnifying information display windows of cellular phones, beepers, cordless phones, airplane

gauges and instruments, CB's, boat gauges and instruments, car gauges and instruments, stereo display windows , TV display windows, VCR display windows, DVD display windows, home phone displays Caller ID's displays, hospital equipment displays, electrical readouts, heart monitors, military electronic displays and gauges computer monitors, and or any display window that are difficult to read. Also a magnification device with an adjustable housing and lens that will enhance or enlarge visual clarity.

Still yet another object of the present invention is to provide a magnification apparatus for magnifying information display windows of cellular phones, beepers, cordless phones, airplane gauges and instruments, CB's, boat gauges and instruments, car gauges and instruments, stereo display windows , TV display windows, VCR display windows, DVD display windows, home phone displays Caller ID's displays, hospital equipment displays, electrical readouts, heart monitors, military electronic displays and gauges computer monitors, and or any display window that is difficult to read. Also a magnification device with an adjustable housing and lens that will enhance or enlarge visual clarity, as well a device that is simple to adjust.

Yet another object of the present invention is to provide a magnification apparatus for magnifying information display windows of cellular phones, beepers, cordless phones, airplane gauges and instruments, CBs, boat gauges and instruments, car gauges and instruments, stereo display windows , TV display windows, VCR display windows, DVD display windows, home phone displays Caller ID's displays, hospital equipment displays, electrical readouts, heart monitors, military electronic displays and gauges computer monitors, and or any display

window that is difficult to read. Also a magnification device with an adjustable housing and lens that will enhance or enlarge visual clarity, as well a device that is simple to adjust and easy to adapt to display windows.

Additional objects of the present invention will appear as the description proceeds.

The present invention overcomes the shortcomings of the prior art by providing a magnification apparatus for magnifying information display windows of cellular phones, beepers, cordless phones and or any display windows that are difficult to read. Also a magnification device with an adjustable housing and lens that may correct visual clarity, as well a device simple to adjust and easy to adapt to display windows. The present invention provides a means of optical clarity to determine the accuracy of the information displayed on the units display window.

The foregoing and other objects and advantages will appear from the description to follow. In the description reference is made to the accompanying drawings, which form a part hereof, and in which is shown by way of illustration specific embodiments in which the invention may be practiced. These embodiments will be described in sufficient detail to enable those skilled in the art to practice the invention, and it is to be understood that other embodiments may be utilized and that structural changes may be made without departing from the scope of the invention. In the accompanying drawings, like reference characters designate the same or similar parts throughout the several views.

The following detailed description is, therefore, not to be taken in a limiting sense, and the scope of the present invention is best defined by the appended claims.

Brief Description of the Drawing Figures

In order that the invention may be more fully understood, it will now be described, by way of example, with reference to the accompanying drawings in which:

FIGURE 1 is an illustrative view of a cellular phone having a display window and a user who is unable to read the information displayed on said display window. As more and more equipment is miniaturized the size of the display area is decreasing. This has resulted in the need for a device which can be installed either permanently or selectively to magnify the information displayed on said equipment.

FIGURE 2 is a perspective view of the present invention semi-permanently positioned over the display window of the device as shown in Figure 1. Whereby the user can manipulate the magnification lens by means of tabs attached to the frame of the magnification lens until visual clarity has been achieved. It should be also noted that because the magnification lens is adjustable. The device upon which the magnification apparatus is attached can be adjusted to visual clarity for a plurality of user.

FIGURE 3 is a perspective view of a typical cellular telephone unit with power lens of the present invention adhesively adapted to the display window of the cellular phone. Also

shown are the lens tabs in which provide a means of orientating the magnifying lens in a space relationship between the users visual optic clarity and object of magnification. Also illustrated is an alternate attachment port in which an elastic strap may be incorporated rather than the use of adhesive.

FIGURE 4 is a perspective view of a typical cellular phone unit with the power lens of the present invention adapted to the display window by means of a strap system. The strap system is an alternate means of adapting the power lens in place of adhesive. Also shown are the lens tabs in which provide a means of orientating the magnifying lens in a space relationship between the users visual optic clarity and object of magnification.

FIGURE 5 is a sectional view of the present invention showing the lens and adjustable extension frame in its upmost position. The lens tabs shown provide a means of orientating the magnifying lens in a space relationship between the users visual optic clarity and object of magnification. Also shown , the power lens base mounted to a cellular phone by means of an elastic strap system. The elastic strap system consists of the strap, a clip and a pass thru buckle.

FIGURE 6 is a sectional view of the present invention showing the lens and adjustable extension frame in its down most position. The lens tabs shown provide a means of orientating the magnifying lens in a space relationship between the users optic clarity and object of magnification. Also shown the power lens base mounted to a cellular phone by means of an elastic strap system. The elastic strap system consists of the strap, clip and pass thru buckle.

FIGURE 7 is a perspective view of the present invention with elastic strap system attached to the two provided mounting ports. Also illustrated are the lens tabs in which provide means of orientating the magnifying lens in spaced relationship between the users visual optic clarity and the object of magnification.

FIGURE 8 is a top view of the present invention. Shown, the magnification power lens apparatus in which attaches to the display window of cellular phones, beepers, cordless phones and or any display window that is difficult to read. The embodiment, a housing containing an adjustable extension housing and a magnifying lens. Also shown, the lens tabs in which provide a means of orientating the magnifying lens in a spaced relationship between the users visual optic clarity and object of magnification.

FIGURE 9 is a perspective view of an aircraft instrument panel having the present invention adhesively installed thereon. Shown is an instrument panel having a plurality of magnification devices installed thereon. Each of the magnification devices can be individually adjusted for display enlargement purposes. Also shown are typical type of housings which can be used for the present invention.

FIGURE 10 is an enlarged perspective view of a magnification device as shown in Figure 9 having a housing adhesively attached to a typical instrument panel gauge found in an airplane. The magnification device can be selectively adjusted for display enlargement purposes by moving the lens housing by means of the lens tabs.

FIGURE 11 is an enlarged side sectional view of a magnification device as shown in Figure 9 having a housing adhesively attached to a typical instrument panel gauge found in an airplane. The magnification device can be selectively adjusted for display enlargement purposes by moving the lens housing by means of the lens tabs.

FIGURE 12 is an enlarged perspective view of a magnification device having a square housing adhesively attached to a typical instrument panel gauge found in an airplane. The magnification device can be selectively adjusted for display enlargement purposes by moving the lens housing by means of the lens tabs.

The reference numerals utilized throughout the drawing figures are defined as follows.

10 present invention

12 cell phone

14 display window

15 direction arrow

16 user

18 tabs

20 housing

22 lens

24 adhesive

26 strap slot

28 strap

30 clip

32 base

34 buckle

36 strap system

38 instrument panel

40 aircraft

42 pilot

44 square

46 round

48 gauge

Detailed Description of the Preferred Embodiment

In order that the invention may be more fully understood, it will now be described, by way of example, with reference to the accompanying drawings in which Figures 1 through 12 illustrate the present invention being a magnifying lens for display windows of small devices.

Turning to Figure 1, shown therein is an illustrative view of a cellular phone **12** having a display window **14** and a user **16** who is unable to read the information displayed on the display window **14**. As more and more equipment is miniaturized the size of the display area **14** is decreasing. This has resulted in the need for a device which can be installed either permanently or selectively to magnify the information displayed on the equipment so that a user **16** can more easily read the display **14**.

Turning to Figure 2, shown therein is a perspective view of the present invention **10** semi-permanently positioned over the display window **14** of the device **12** as shown in Figure 1 whereby the user **16** can manipulate the magnification lens **22** by means of tabs **18** attached to the frame **20** of the magnification lens **22** until the object has been brought into focus in the standard manner as shown by direction arrow **15**. It should be also noted that because the magnification lens **22** is adjustable with respect to the display window **14**, the device **12** upon which the magnification apparatus **10** is attached can be adjusted to visual clarity for a plurality of users **16**.

Turning to Figure 3, shown therein is a perspective view of a typical cellular telephone unit **12** with the power lens **22** of the present invention **10** adhesively **24** adapted to the display window **14** of the cellular phone **12**. Also shown are the lens tabs **18** which provide a means of adjusting the housing **20** holding the magnifying lens **22** in a spaced relationship between the point of the user's visual optic clarity and object of magnification in order to optically focus the object. Also illustrated is an alternate attachment slot **26** in which an elastic strap system **36** may be incorporated rather than the use of adhesive **24**.

Turning to Figure 4, shown therein is a perspective view of a typical cellular phone **12** unit with the power lens **22** of the present invention **10** adapted to the display window **14** by means of a strap system **36**. The strap system **36**, with slot **26**, strap **28** and clip **30** is an alternate means of adapting the power lens **22** in place of adhesive. Also shown are the lens tabs **18** which provide a means of orientating the magnifying lens **22** in a spaced relationship

between the user's visual optic clarity and object of magnification.

Turning to Figure 5, shown therein is a sectional view of the present invention **10** showing the lens **22** internal of frame **20** with adjustable extension frame **20** in its upmost position. The lens tabs **18** shown provide a means of adjusting the magnifying lens in a spaced relationship between the user's visual optic clarity and object of magnification. The frame **20** is disposed internal of cup-like base **32** which is mounted to a cellular phone **12** by means of an elastic strap system **36**. Base **32** is open on its top and bottom and frame **20** is slidably adjustable and frictionally held therein. The elastic strap system **36** consists of the strap **28**, a clip **30** and a pass thru buckle **34**. Note that base **32** forms a female-like member for receiving the frame **20** which is male-like.

Turning to Figure 6, shown therein is a sectional view of the present invention **10** showing the lens **22** and adjustable extension frame **20** in its down most position. The lens tabs **18** shown provide a means of orientating the magnifying lens **22** in a spaced relationship between the user's optic clarity and object of magnification. Also shown is the power lens base **32** mounted to a cellular phone **12** by means of an elastic strap system **36**. The elastic strap system 36 consists of the strap **28**, clip **30** and pass thru buckle **34**.

Turning to Figure 7, shown therein is a perspective view of the present invention **10** with elastic strap system 36 attached to the two provided mounting slots **26** which receive clips **30** which are attached to the ends of straps **28**. Also illustrated are the lens tabs **18** which provide means of orientating the magnifying lens **22** in spaced relationship between the users

visual optic clarity and the object of magnification. Elements previously disclosed are also shown.

Turning to Figure 8, shown therein is a top view of the present invention **10**. Shown is the magnification power lens apparatus **10** which attaches to the display window of cellular phones, beepers, cordless phones and or any display window that is difficult to read. Shown in this embodiment is a housing **20** being an adjustable extension housing and a magnifying lens **22**. Also shown are the lens tabs **18** which provide a means of orientating the magnifying lens **22** in a spaced relationship between the users visual optic clarity and object of magnification. Elements previously disclosed are shown.

Turning to Figure 9, shown therein is a perspective view of an aircraft **40** instrument panel **38** and pilot **42** having the present invention **10** adhesively installed thereon. Shown is an instrument panel **38** having a plurality of magnification devices **10** installed thereon. Each of the magnification devices **10** with lens **22** can be individually adjusted for display enlargement purposes. Also shown are typical types of housings which can be used for the present invention **10** which can be square **44** or round **46** shaped.

Turning to Figure 10, shown therein is an enlarged perspective view of a magnification device **10** as shown in Figure 9 having a housing **20** adhesively attached to a typical instrument panel gauge found in an airplane. The magnification device **10** can be selectively adjusted for display enlargement purposes by moving the lens housing **20** by means of the lens tabs **18**. Elements previously disclosed are also shown.

Turning to Figure 11, shown therein is an enlarged side sectional view of a magnification device **10** as shown in Figure 9 having a housing **20** adhesively **24** attached to a typical instrument panel gauge **48** found in an airplane. The magnification device **10** can be selectively adjusted for display enlargement purposes by moving the lens housing **20** by means of the lens tabs **18**. The lens **22** and base **32** are also shown.

Turning to Figure 12, shown therein is an enlarged perspective view of a magnification device **10** having a square base **44** adhesively attached to a typical instrument panel **38** gauge **48** found in an airplane. The magnification device **10** can be selectively adjusted for display enlargement purposes by slidably moving the lens housing **20** with lens **22** by means of the lens tabs **18**.

POWER LENS

CLAIMS

1. An apparatus for magnifying the display window of a device, comprising:

a) a cup-like base member open on its top and its bottom;

b) a frame member mounted internal of said base member;

c) a magnifying lens disposed internal of said frame member;

d) said frame member having means for adjustment internal said base member whereby the display window can be brought into focus by the user; and,

e) means for attaching said base member to the display window.

2. The apparatus of Claim 1, said base member being complementarily shaped as the display window.

3. The apparatus of Claim 2, wherein said base member is round shaped.

4. The apparatus of Claim 2, wherein said base member is square shaped.

5. The apparatus of Claim 1, said frame member further comprising means for being slidably adjusted internal said base member.

6. The apparatus of Claim 5, said frame member being frictionally mounted internal said base member.

7. The apparatus of Claim 6, said frame member being a male member for insertion into said base member, said base member being a female member.

8. The apparatus of Claim 1, said means for adjustment further comprising at least one tab disposed on said frame member.

9. The apparatus of Claim 1, said means for adjustment further comprising a pair of tabs disposed on said frame member.

10. The apparatus of Claim 1, said means for attaching further comprising adhesive.

11. The apparatus of Claim 1, said means for attaching further comprising a strap system.

12. The apparatus of Claim 11, said base member having a pair of slots therein, said slots for receiving a pair of clips wherein each said slot receives a clip.

13. The apparatus of Claim 12, said slots disposed in the wall of said base member, said slots further receiving a pair of clips wherein each said slot receives a clip.

14. The apparatus of Claim 13, said pair of clips wherein a first clip is disposed on a first strap end and a second clip is disposed on a second strap end.

15. The apparatus of claim 14, said first strap end and said second strap end connected by a means for buckling.

16. The apparatus of Claim 15, said means for buckling further comprises a pass through buckle.

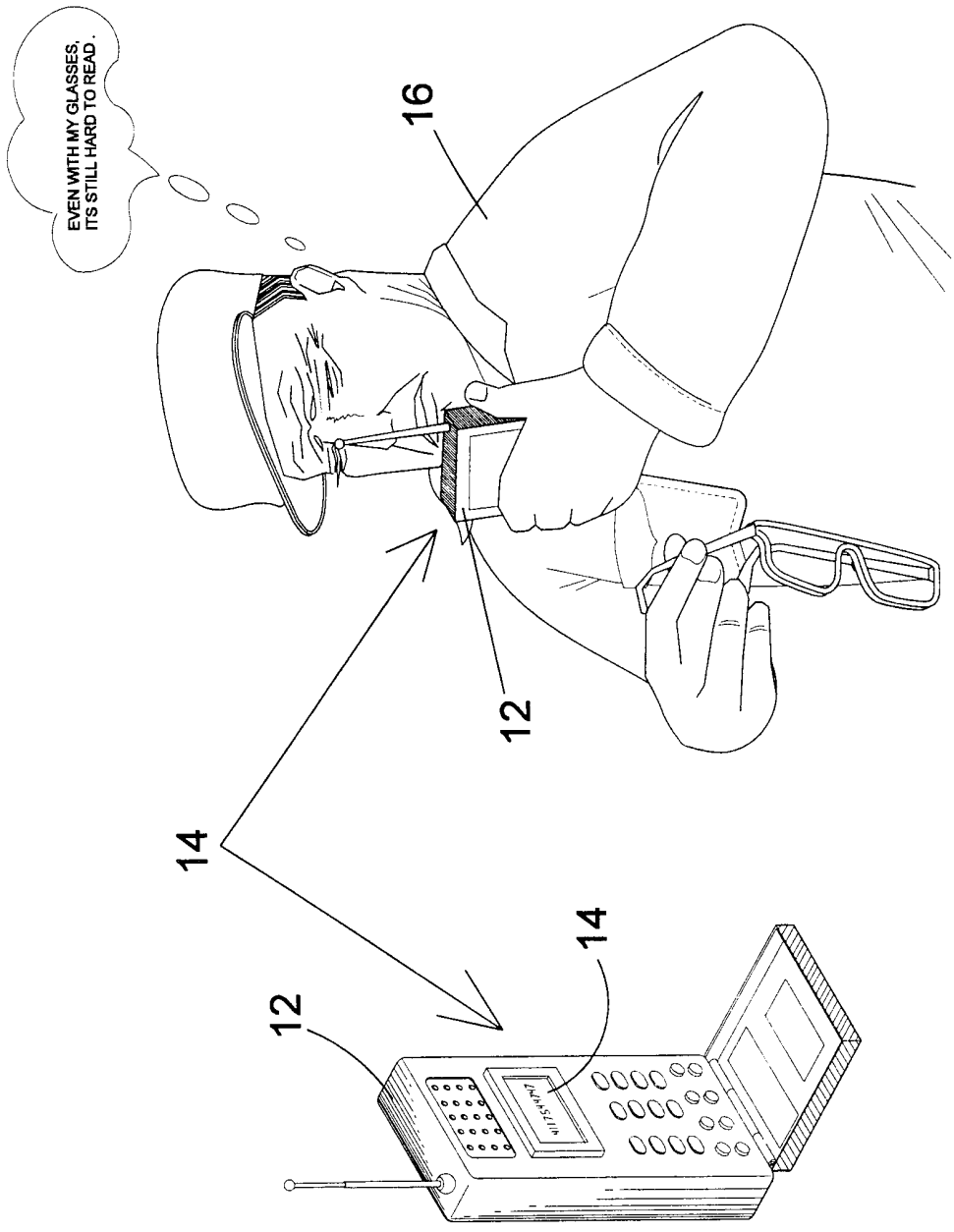

FIG 1

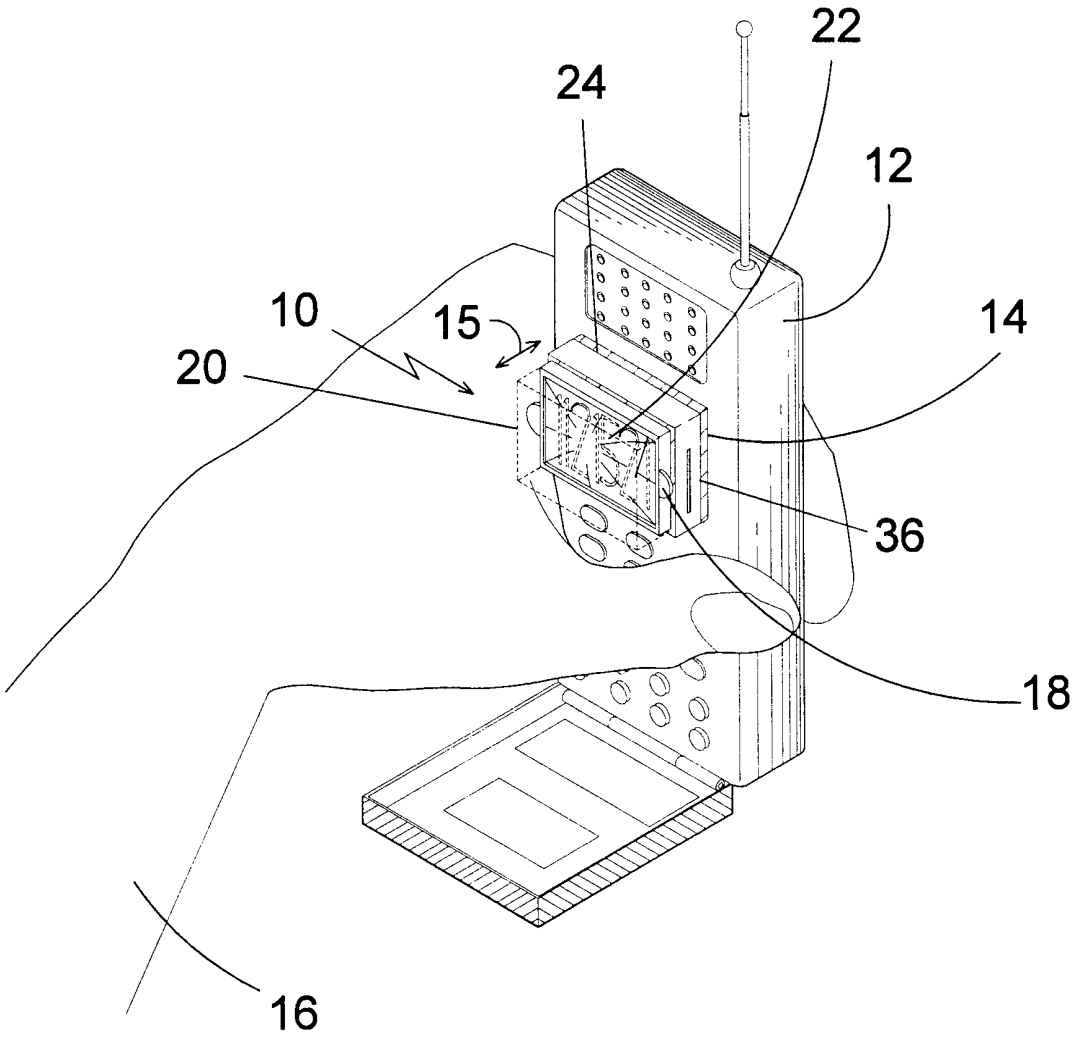

FIG 2

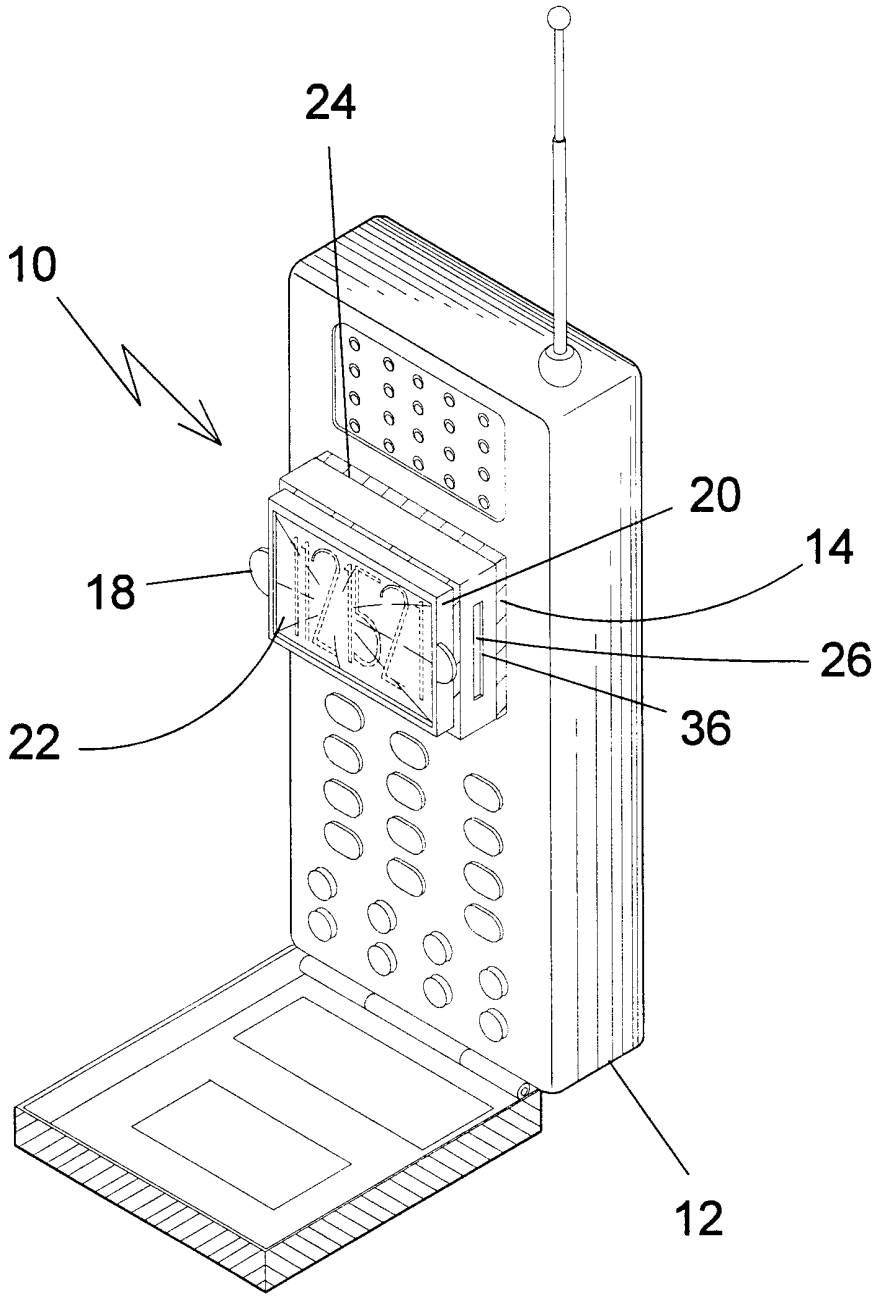

FIG 3

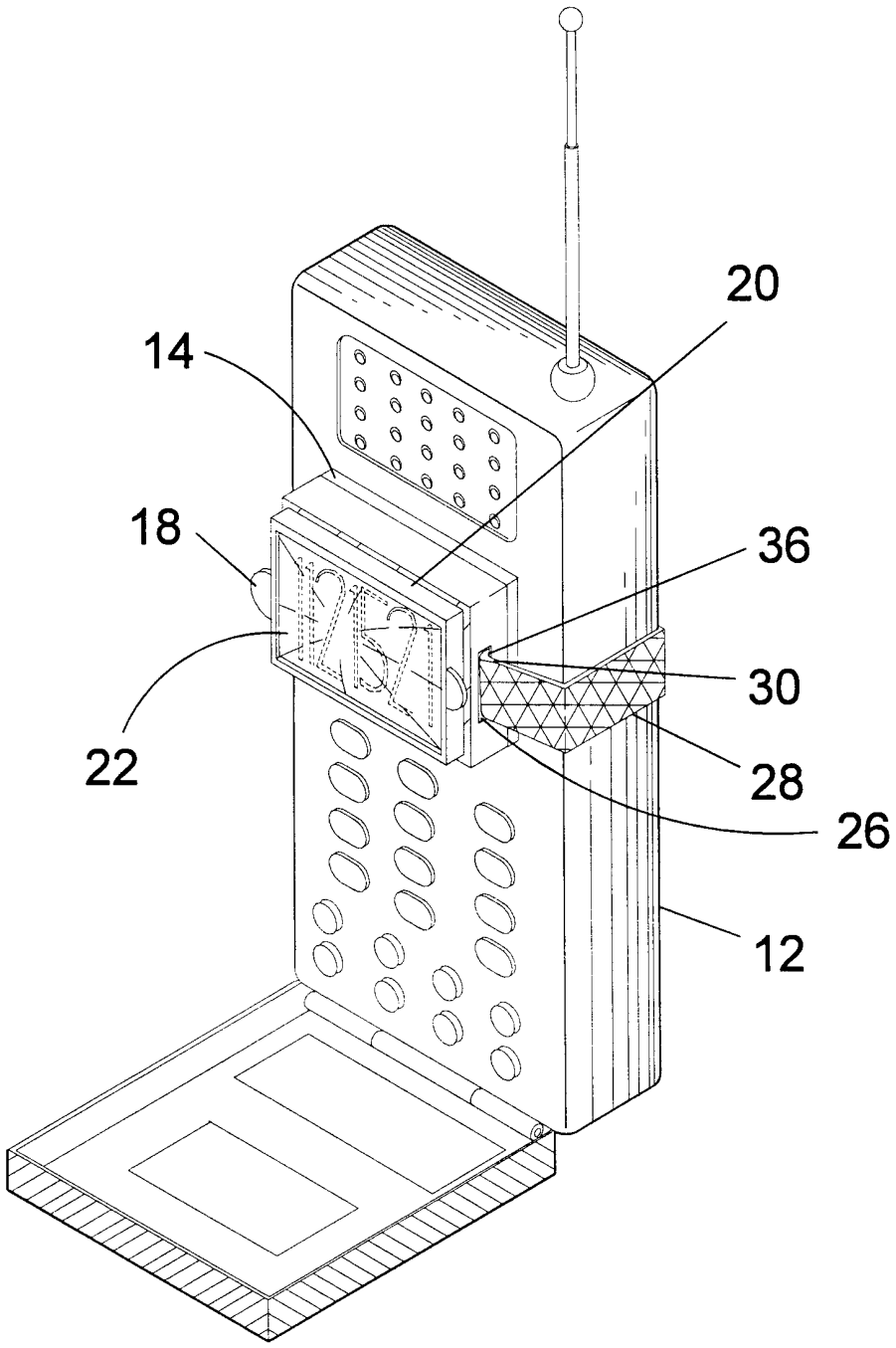

FIG 4

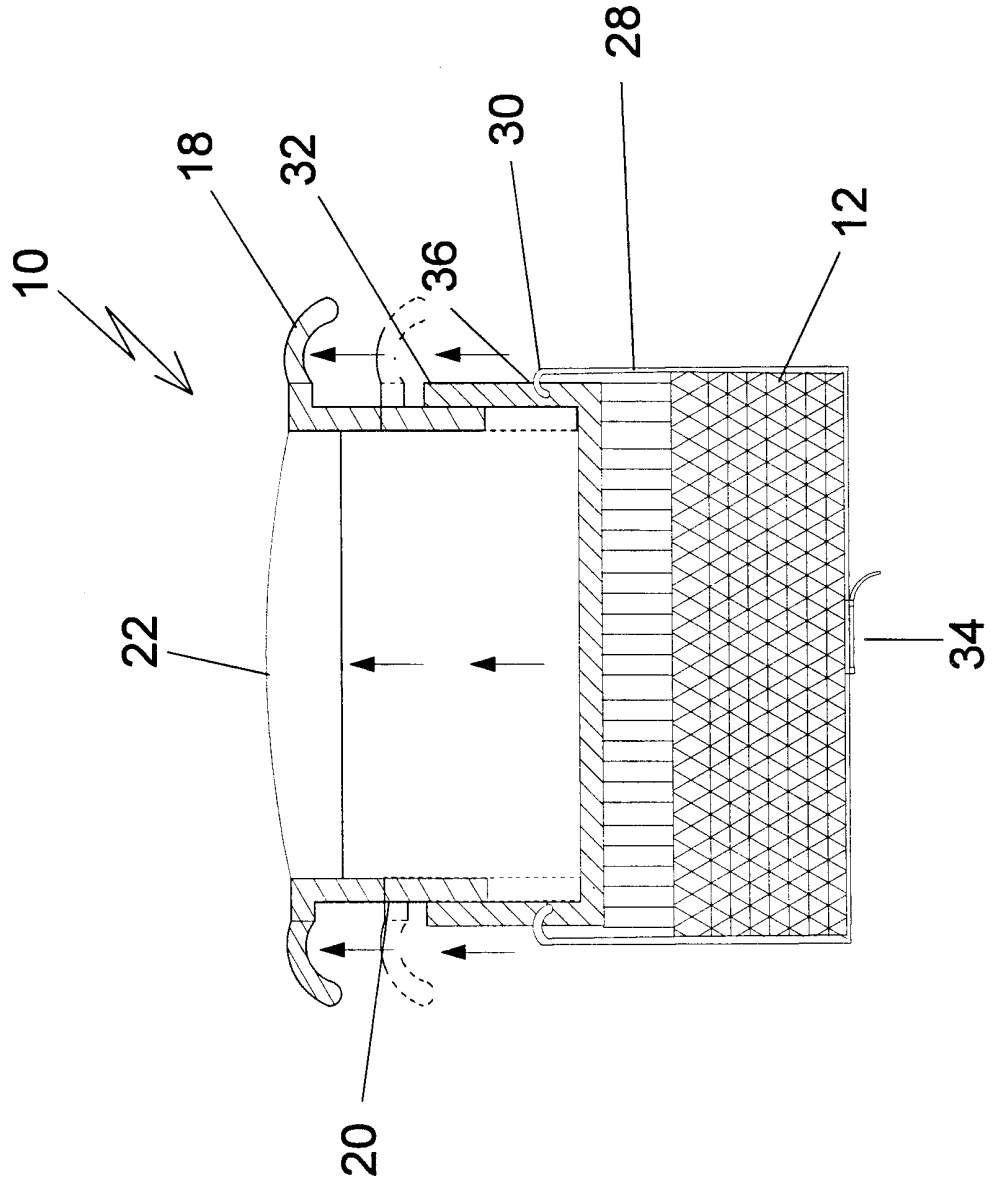

FIG 5

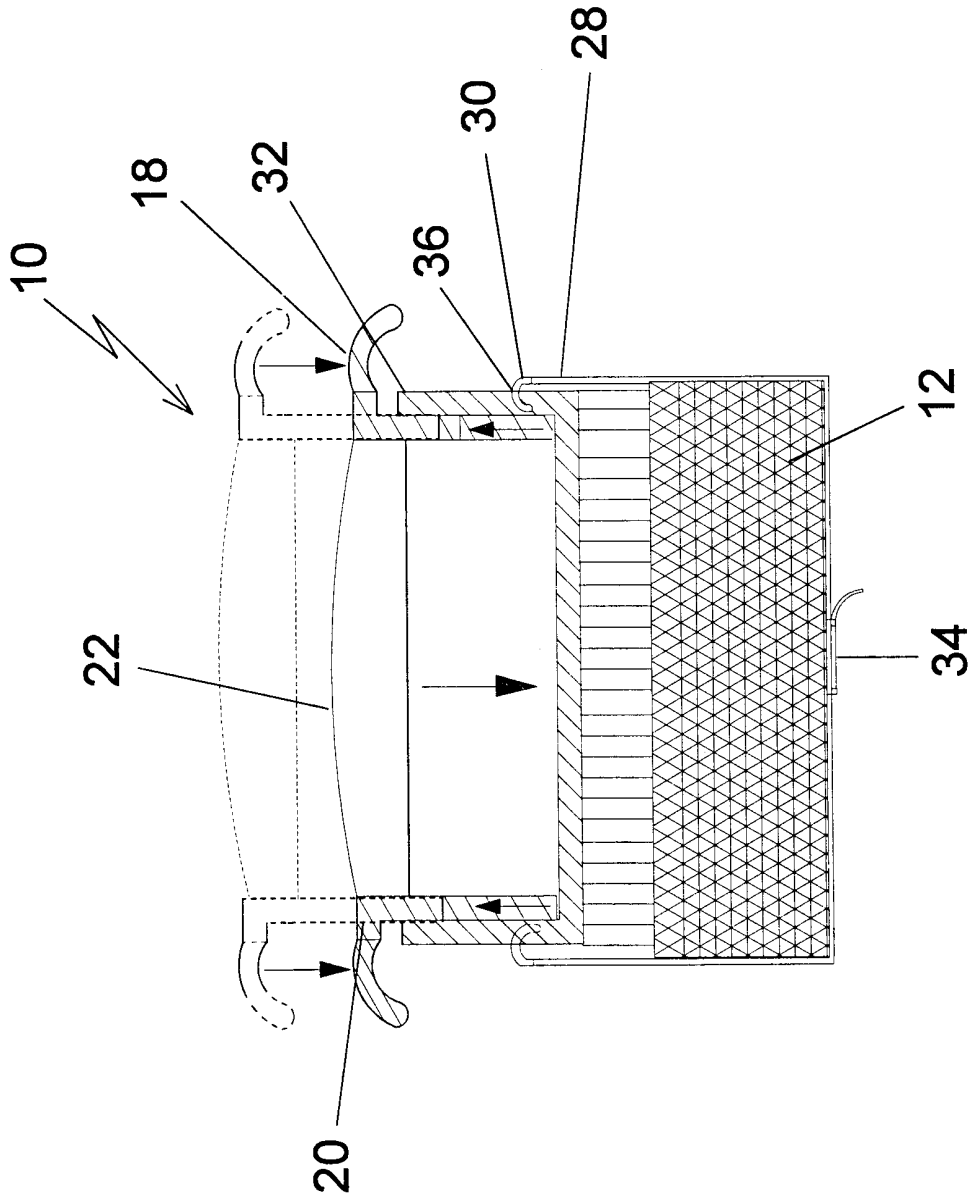

FIG 6

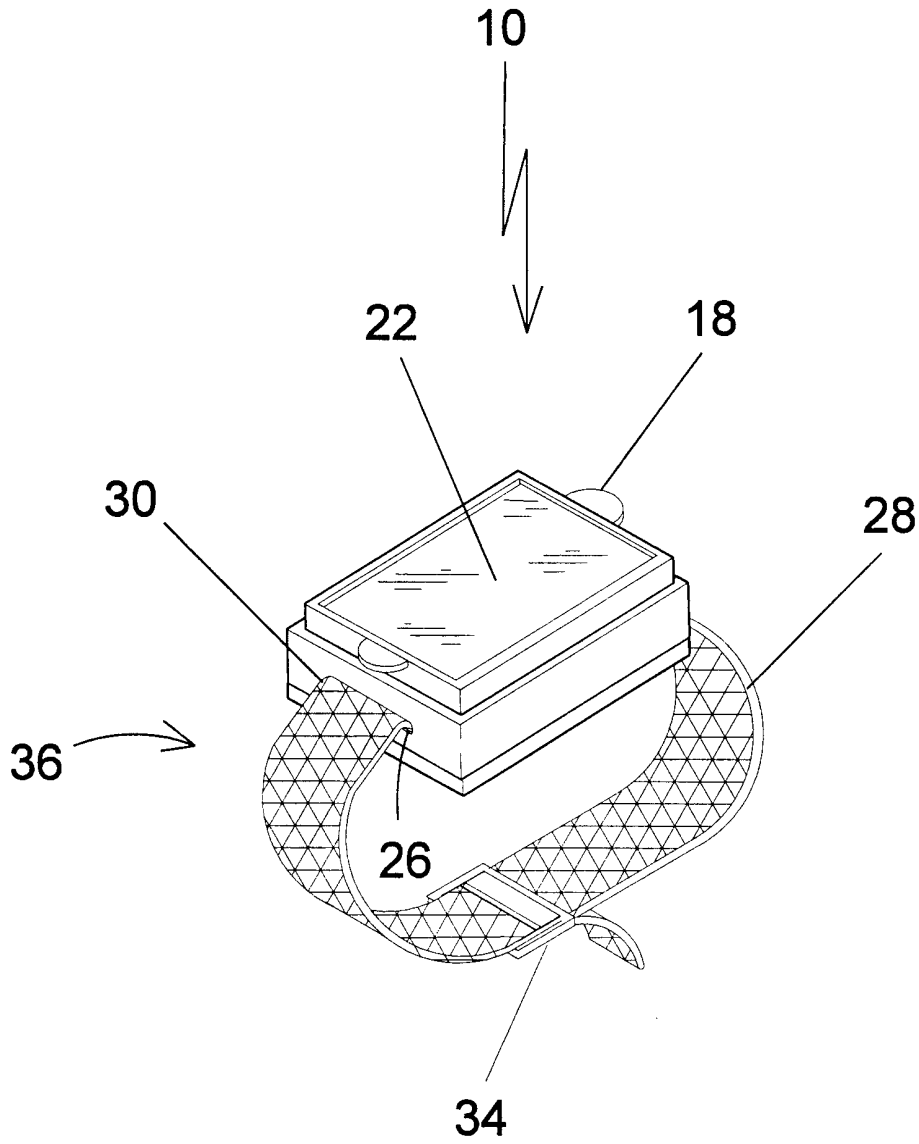

FIG 7

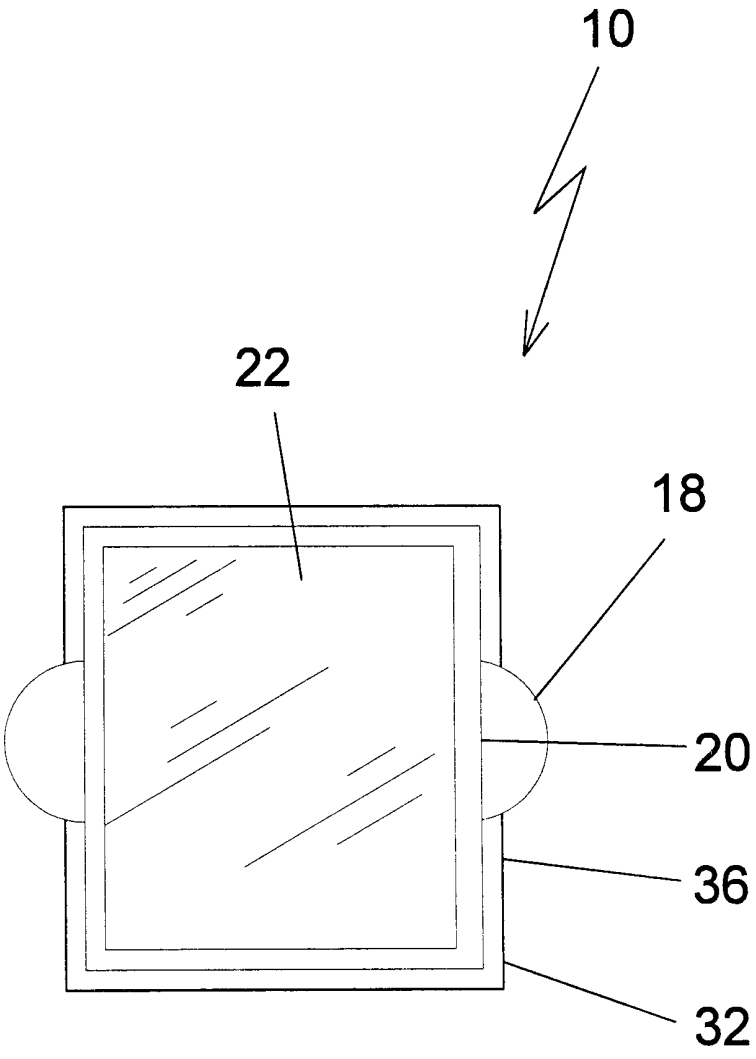

FIG 8

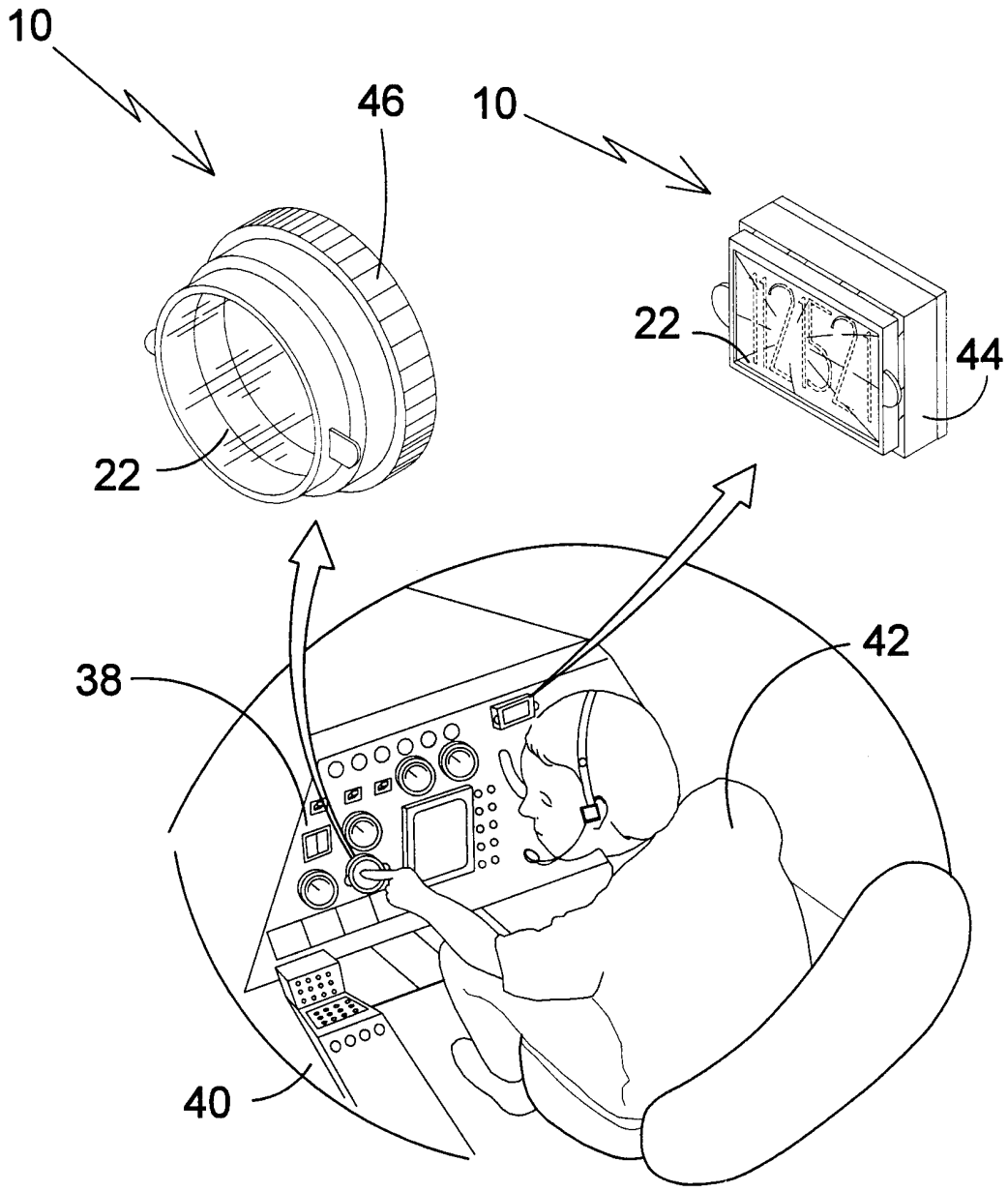

FIG 9

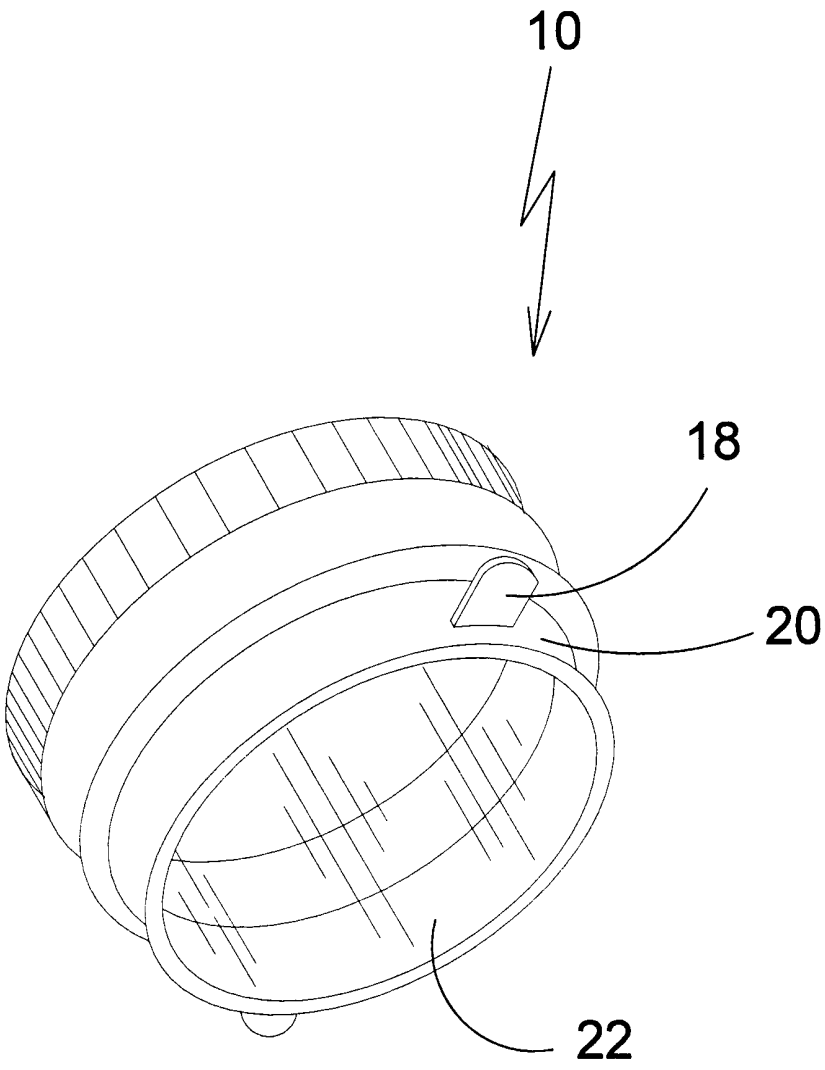

FIG 10

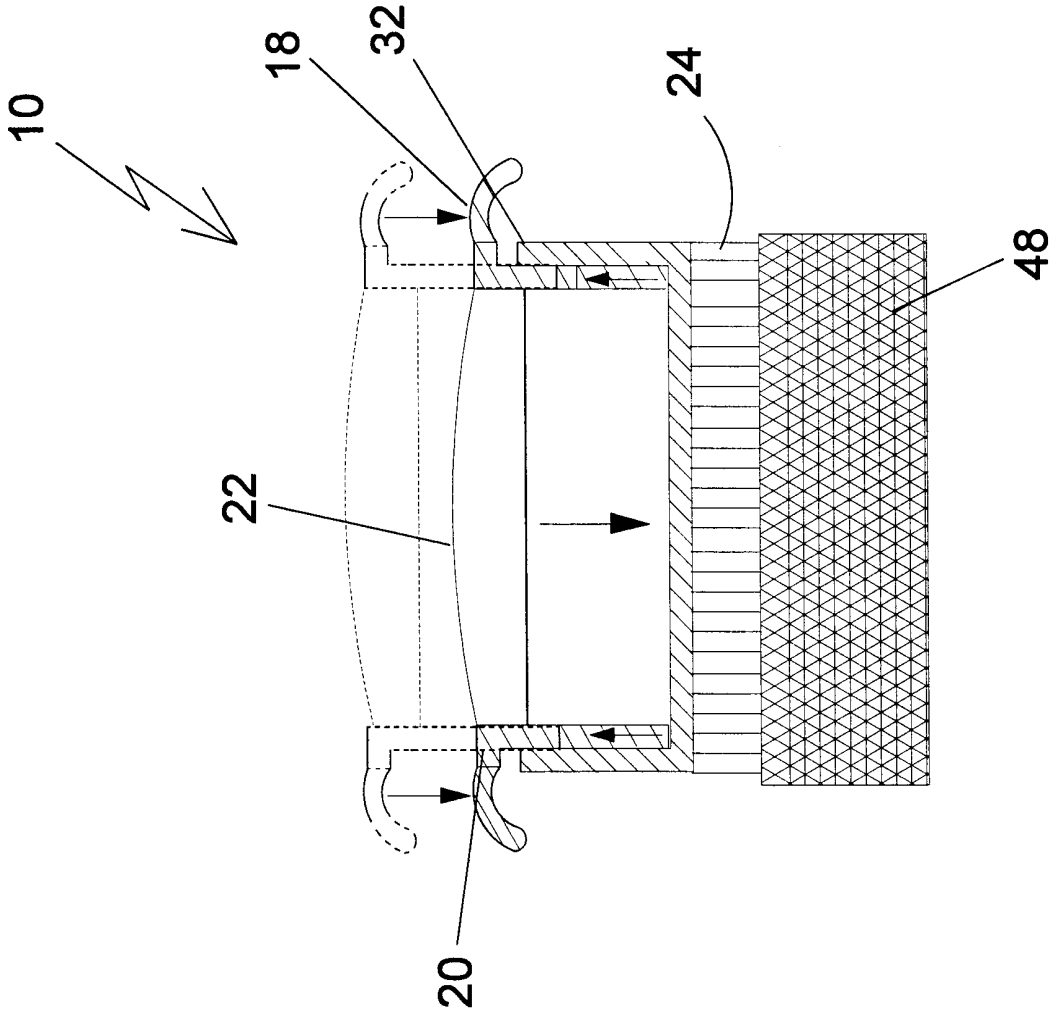

FIG 11

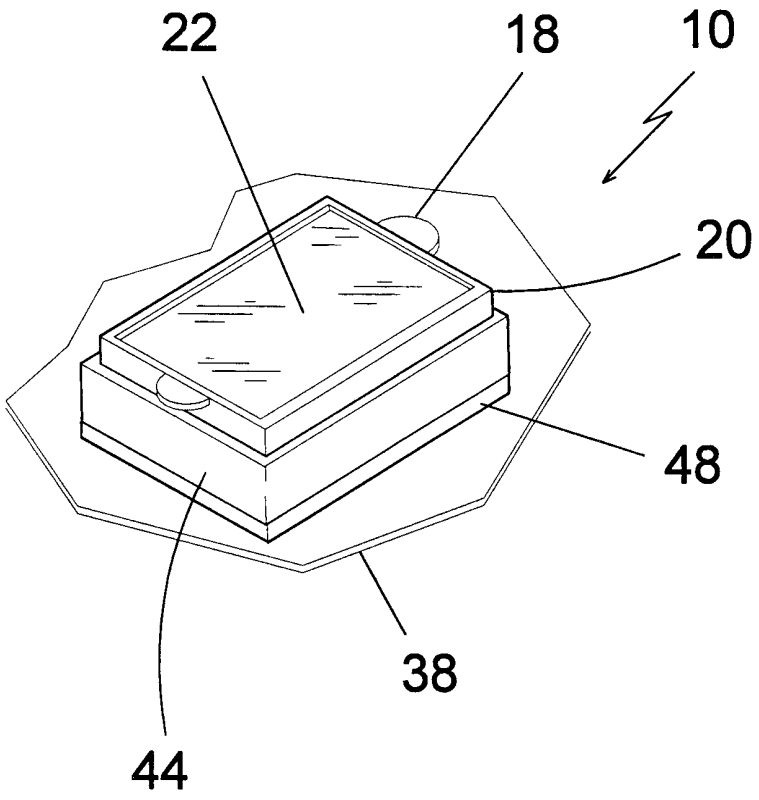

FIG 12

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US00/01564

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G02B 27/02
US CL : 359/802, 803; 40/362; 248/917
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 359/802, 803; 40/362, 363; 248/917-919

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

APS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X ---- Y	US 4,991,935 A (Sakurai) 12 February1991/(12.02.91), Fig 4, Fig 1	1, 2, 3, 4, 5, 8, 9 ---------- 6, 7, 10-16
Y	US 5,523,890 A (Reaney) 04 June 1996/(04.06.96), FIg 1	11-16
Y	US 4,958,907 A (Davis) 25 September 1990/(25.09.90), col 1, lines 1-40.	10-16
Y	US 5,239,416 A(Spitzberg) 24 Aug 1993/(24.08.93), col 4, lines 40-42.	6, 7

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

*	Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A"	document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E"	earlier document published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O"	document referring to an oral disclosure, use, exhibition or other means		
"P"	document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search 05 APRIL 2000	Date of mailing of the international search report 25 APR 2000
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