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[54] **ALIGNMENT SIGHTING DEVICE**

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[52] **U.S. Cl.** **33/262,** 33/275, 33/370, 33/377

[51] **Int. Cl.** **G01c 9/26,** G01c 15/00

[58] **Field of Search** 33/262, 275, 333, 370, 33/371, 372, 373, 377, 334, 276

[56] **References Cited**

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[57] **ABSTRACT**

An alignment sighting device comprising a pair of hollow lenses in an eyeglass frame, each having intersecting horizontal and vertical cross-hairs and colored liquid filling the hollow interior of the lenses to the level of the horizontal cross-hair for registration with the latter.

4 Claims, 3 Drawing Figures

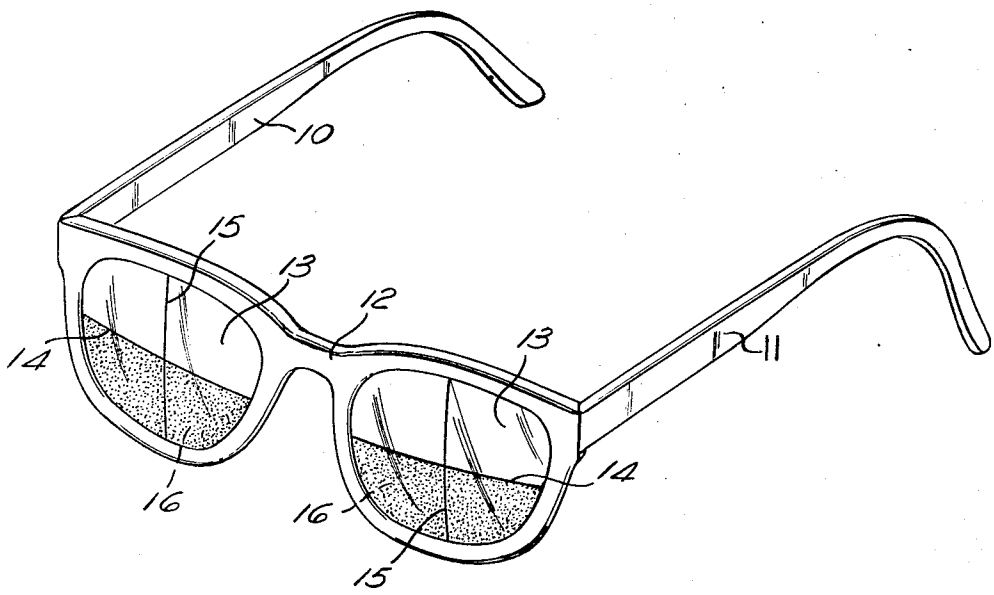
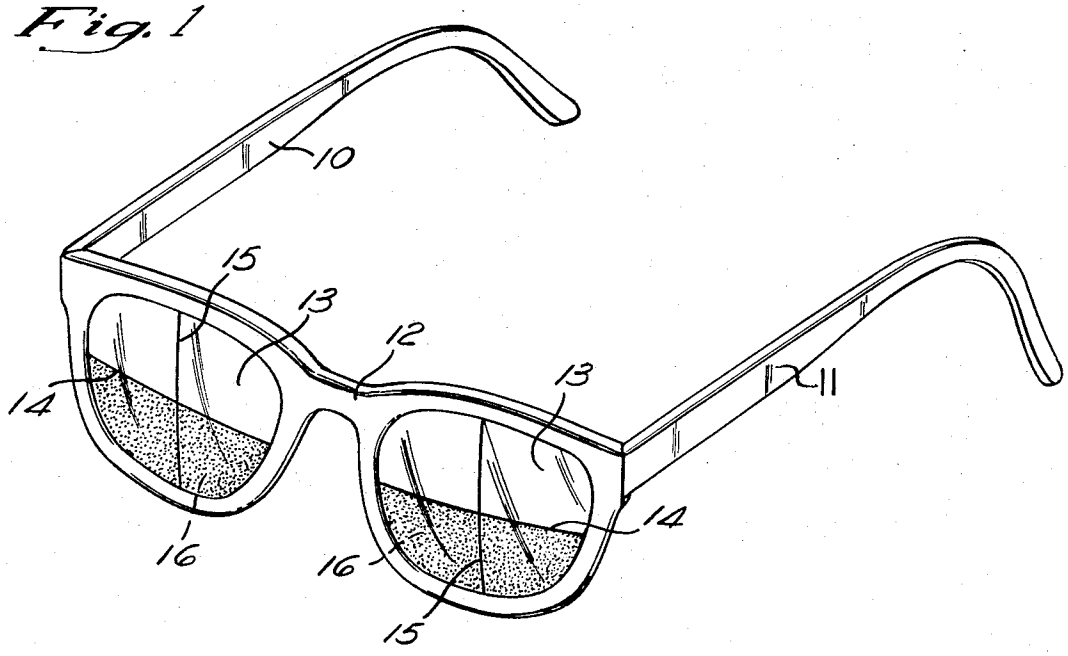


Fig. 1



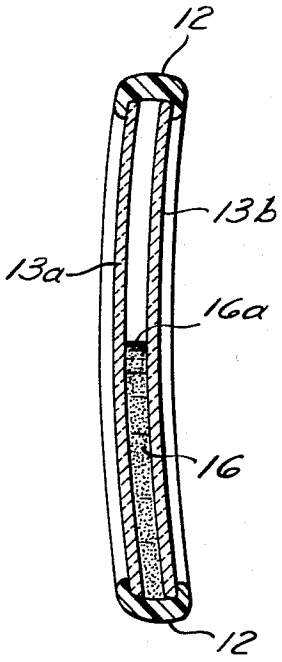


Fig. 2

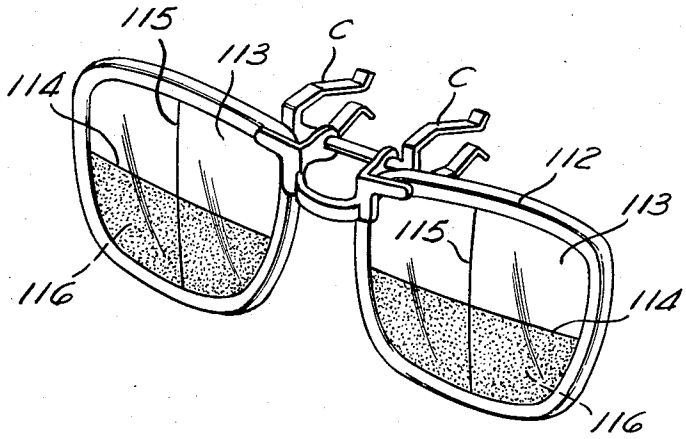


Fig. 3

ALIGNMENT SIGHTING DEVICE

BACKGROUND OF THE INVENTION

In building construction work the usual carpenter's bubble level is used for horizontal leveling and a plumb bob may be used to determine vertical lines. In actual practice, the use of these tools can be time consuming or cumbersome enough that workmen have a tendency to avoid using them when they should. As a consequence of such non-use or a mistake in using such tools, extensive corrective work may be required in order to get various parts of the building properly aligned horizontally and vertically. For example, the top and bottom of a wall cabinet should be precisely horizontal, and the sides of a doorway should be precisely vertical.

SUMMARY OF THE INVENTION

The present invention is directed to an alignment sighting device which, in the preferred embodiment, facilitates the making of both horizontal and vertical alignments. It comprises a pair of hollow lenses in an eyeglass frame, each lens having intersecting horizontal and vertical cross hairs and the hollow interior of the lens being filled with non-transparent liquid to the level of the horizontal cross-hair. For either horizontal or vertical alignment purposes, the top of this liquid filler first must be brought into precise registration with the horizontal cross-hair, at which position of the lens the horizontal cross-hair will be precisely horizontal and the intersecting vertical cross-hair will be precisely vertical.

A principal object of this invention is to provide a novel and improved alignment sighting device that facilitates making horizontal alignments.

Another object of this invention is to provide such a device that facilitates making both horizontal and vertical alignments.

Another object of this invention is to provide such a device that is embodied in an eyeglass construction, either a complete set of spectacles or a clip-on attachment for the user's regular vision-correcting eyeglasses.

Further objects and advantages of this invention will be apparent from the following detailed description of presently preferred embodiments thereof, which are shown in the accompanying drawing, in which:

FIG. 1 is a perspective view of a first embodiment of this invention;

FIG. 2 is an enlarged vertical cross-section through one of the hollow lenses in the FIG. 1 embodiment; and

FIG. 3 is a perspective view of a second, clip-on embodiment of this invention.

Before explaining the disclosed embodiments of the present invention in detail, it is to be understood that the invention is not limited in its application to the details of the particular arrangements shown, since the invention is capable of other embodiments. Also, the terminology used herein is for the purpose of description and not of limitation.

Referring first to FIG. 1, in this embodiment a complete eyeglasses frame is provided, having opposite temple bow arms **10** and **11** and a front frame member **12** that has the front ends of the temple bow arms pivotally attached to its opposite ends. This front frame member **12** carries a pair of lenses **13,** one for the left eye and one for the right eye. Each of these lenses has a horizontal cross-hair **14** and a vertical cross-hair **15** that intersects the horizontal cross-hair at or near the middle of the lens.

As best seen in FIG. **2,** each lens **13** is hollow, having a transparent front window **13***a* and a transparent back window **13***b* extending generally parallel to the front window and spaced a short distance behind it. The space between these windows in the lens receives a quantity of suitable non-transparent liquid **16,** preferably colored water. The volume of this liquid inside the hollow lens is such that the top **16***a* of the liquid registers exactly with the horizontal cross-hair **14** on that lens when that cross-hair is precisely horizontal. If the lens happens to be tilted so that the cross-hair **14** is not precisely horizontal, then it will not register with the top surface **16***a* of the colored water **16** which will, of course, remain horizontal.

The cross-hairs **14, 15** preferably are on the front window **13***a* of the lens but they may be on the back window **13***b,* if desired, or one on each window.

When registration between the horizontal cross-hair **14** and the top **16***a* of the colored water is achieved, then the vertical cross-hair **15** on the lens will be precisely vertical because it extends perpendicular to the horizontal cross-hair on the same lens.

In the use of this invention, the user places the eyeglasses frame on his head in the usual manner and faces toward the surface or edge that is to be aligned horizontally or vertically. Then he positions his head so that the top surface **16***a* of the colored water filler in each hollow lens **13** of the eyeglasses registers precisely with the horizontal cross-hair **14** on that lens. As long as this condition is maintained, he may use the horizontal cross-hairs **14** for horizontal sighting and/or the vertical cross-hairs for vertical sighting.

FIG. **3** shows an alternative embodiment in which the front frame **112** carries clips C for releasable attachment to the front frame of a set of eyeglasses that the user wears to correct his vision. In all other respects the FIG. **3** embodiment is the same as the FIG. **1** embodiment, with corresponding elements carrying the same reference numerals, plus 100, as in the FIG. **1** embodiment.

It is to be understood that, if desired, the vertical cross-hair **15** may be omitted from the hollow lens **13,** leaving only the horizontal cross-hair **14** and the liquid filler **16** for making horizontal alignments.

Also, the present invention may be embodied in a single hollow lens that may be held in the hand or embodied in an eye-glass frame, either of the full spectacle type or a clip-on frame for attachment to the user's vision correcting eyeglasses.

I claim:

1. An eyeglasses-type alignment sighting device comprising:

an eyeglasses frame;

a pair of laterally spaced lenses in said frame for the wearer's left and right eyes, respectively; each of said lenses having a hollow interior and having a horizontal sighting line extending laterally across it;

and a non-transparent liquid filling the hollow interior of each lens to the level of the horizontal sighting line thereon so that the top of the liquid registers with said horizontal sighting line when the latter is precisely horizontal.

2. An alignment sighting device according to claim **1,** and further comprising a vertical sighting line on each

lens which perpendicularly intersects the respective horizontal sighting line on said lens.

3. An alignment sighting device according to claim 2, wherein each vertical sighting line intersects the respective horizontal sighting line substantially midway across the lens.

4. An alignment sighting device according to claim 3, wherein said non-transparent liquid is colored.

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