

United States Patent

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[72] Inventors **David L. Pakter**
1192 Park Ave., New York, N.Y. 10028;
Thomas R. Krauss, 62-06 Eightieth St.,
Middle Village, N.Y. 11379

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Primary Examiner—Richard B. Wilkinson

Assistant Examiner—Stanley A. Wal

Attorney—Blum, Moscovitz, Friedman and Kaplan

[54] **TIMEPIECE FOR ACHIEVING SPECIAL VISUAL EFFECTS**

5 Claims, 9 Drawing Figs.

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[51] Int. Cl..... **G04b 19/00**

[50] Field of Search..... **58/152 F,**

126 A, 127 R

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ABSTRACT: A timepiece such as a clock or a watch having the capability of providing special visual effects. The timepiece has a stationary face in front of which the hands of the timepiece are located. The conventional sweep-second hand is replaced in the timepiece by a sweep-second disc which is situated in front of the hands and which is transparent so that the hands are clearly visible therethrough. This disc and the stationary face behind the hands are provided with designs of predetermined color and pattern which coact with each other to achieve predetermined visual effects during rotary movement of the sweep-second disc.

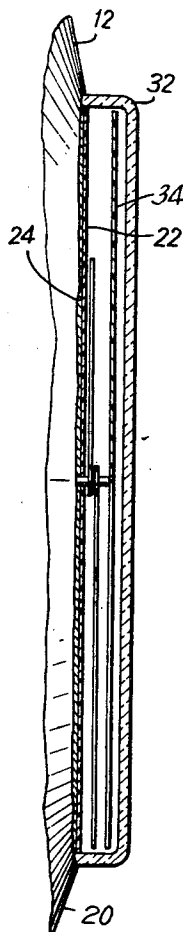


FIG. 1

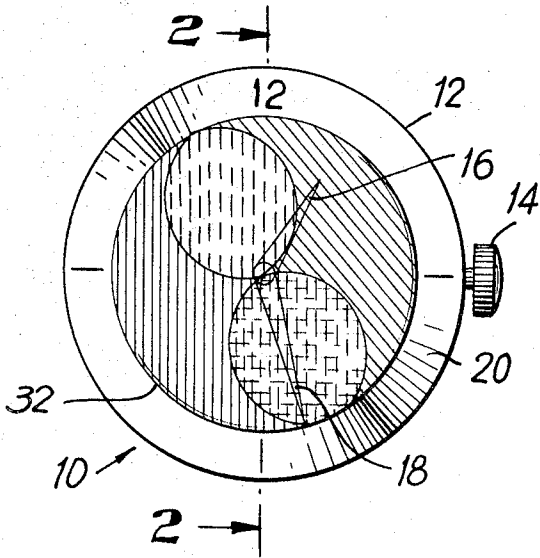


FIG. 2

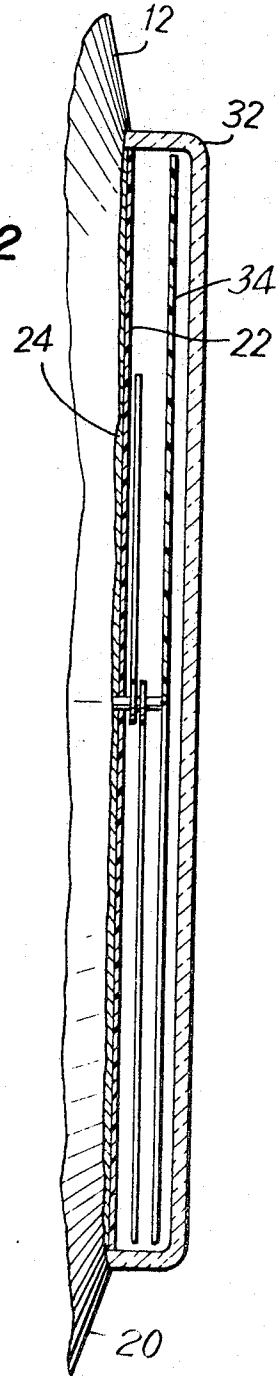


FIG. 3

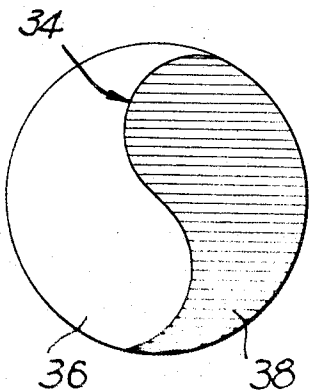
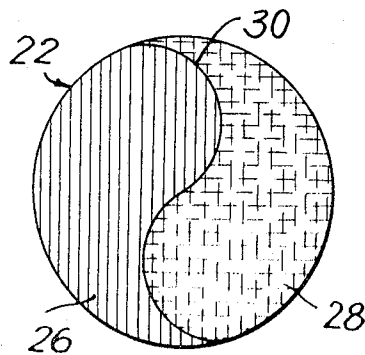


FIG. 4



DAVID L. PAKTER
THOMAS R. KRAUSS

BY

Blum, Moscovitz, Freedman, Kaplan
ATTORNEYS

FIG. 5

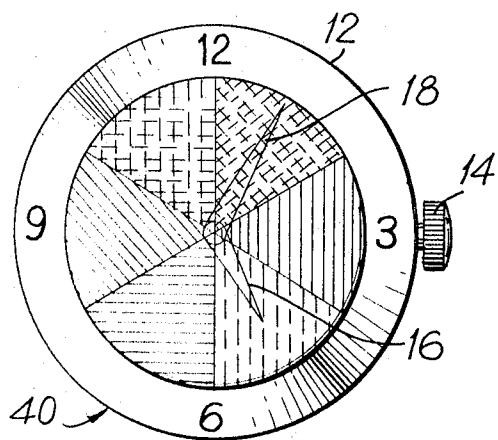


FIG. 6

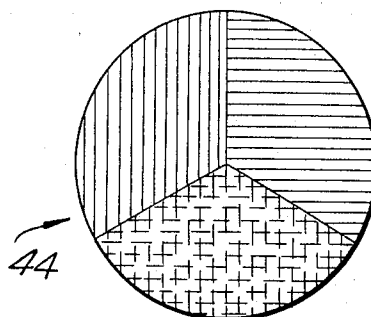


FIG. 8

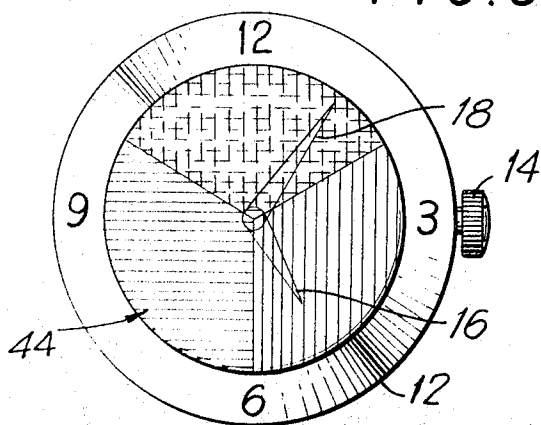


FIG. 7

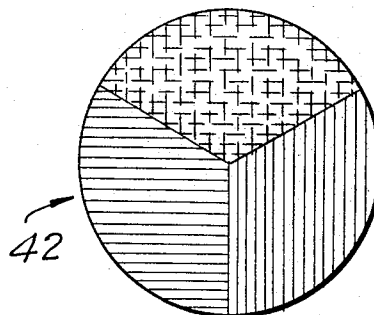
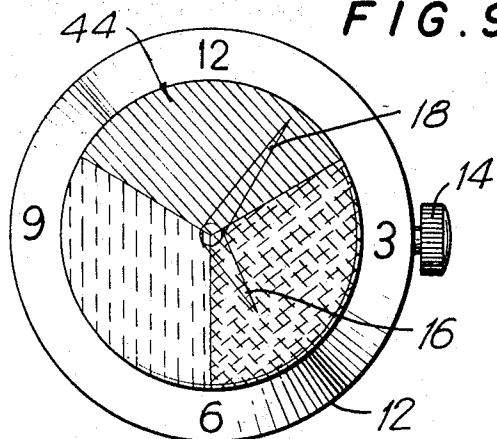


FIG. 9



INVENTORS
DAVID L. PAKTER
THOMAS R. KRAUSS

BY

Blum, Moscovitz, Friedman & Kaplan
ATTORNEYS

TIMEPIECE FOR ACHIEVING SPECIAL VISUAL EFFECTS

BACKGROUND OF THE INVENTION

The present invention relates to timepieces.

In particular, the present invention relates to timepieces such as clocks or watches which, in addition to telling time, are capable of providing pleasant visual effects.

Timepieces are known where the movement of components of the timepiece are used for special purposes. For example, it is known to provide a timepiece with rotary components which differ sharply from conventional hands and numerals of a clock or watch and which are designed to tell time in a very special way. Thus, with a construction of this type, it is indeed possible to achieve a special visual effect, but not only has the timepiece lost its conventional time-indicating function, in addition it becomes necessary for the owner of the timepiece to learn how the timepiece operates to tell time with the special visual effects, so that before the timepiece can make any sense, it is necessary to determine the significance of the positions of the movable components of the timepiece which are visible at the exterior thereof.

SUMMARY OF THE INVENTION

It is a primary object of the present invention to provide a timepiece of this general type which not only is capable of achieving special visual effects but which, in addition, will maintain its normal time-indicating function, so that the owner of the timepiece can tell time in the conventional way and need not learn special time-interpreting techniques to be applied to the special visual effects.

Also, it is an object of the invention to provide a timepiece which can achieve these results with an exceedingly simple structure which does not increase the cost of the entire timepiece undesirably.

Furthermore, it is an object of the invention to provide a construction which will retain the conventional structure of a timepiece, requiring only that components of the invention be added thereto without in any way changing the conventional timepiece components.

Furthermore, it is an object of the invention to provide a construction which lends itself to achievement of a wide variety of different types of visual effects which are pleasant to view and which at the same time give the timepiece an interest which would otherwise be lacking.

According to the invention, the timepiece has a pair of time-indicating hands, namely, an hour hand and a minute hand, which operate in a conventional way to indicate the time, in combination with a series of numerals arranged around a circle, as is well known. These hands of the timepiece of the invention are situated in front of a stationary face of the timepiece. However, instead of a sweep-second hand, there is situated in front of the hands of the timepiece a transparent sweep-second disc which is connected to the mechanism normally used for turning the sweep-second hand in the same way as the latter, so that with the structure of the invention it is a disc which is rotated instead of a hand. This transparent disc as well as the face which is visible therethrough and which is situated behind the hands are both provided with designs of predetermined colors and patterns which coact during rotary movement of the disc to achieve very special effects such as the appearance of areas of given configuration the size of which constantly increases and decreases.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention is illustrated by way of example in the accompanying drawings which form part of this application and in which:

FIG. 1 is a front view of one embodiment of a timepiece according to the invention;

FIG. 2 is a longitudinal sectional elevation taken along line 2-2 of FIG. 1 in the direction of the arrows, and showing the structure of the invention at a scale which is enlarged as compared to FIG. 1, the movement of the timepiece and other components thereof which are conventional and form no part of the invention being omitted from FIG. 2;

FIG. 3 is a front elevation of the transparent sweep-second disc of the embodiment of FIG. 1;

FIG. 4 is a front elevation of the stationary face of the timepiece of FIG. 1, which is situated behind the hands of the timepiece;

FIG. 5 is a front elevation of another embodiment of a timepiece according to the invention;

FIG. 6 is an illustration of the sweep-second disc of FIG. 5;

FIG. 7 is a front elevation of the stationary face of the timepiece of FIG. 5;

FIG. 8 shows the components of FIGS. 5-7 in a position different from FIG. 5 where the disc of FIG. 6 is displaced through 180° from the position thereof shown in FIG. 5; and

FIG. 9 shows the components of FIGS. 5-7 also in a position different from FIG. 5 where the disc of FIG. 5 is displaced through 300° beyond the position thereof shown in FIG. 5.

DESCRIPTION OF PREFERRED EMBODIMENTS

Referring now to the drawings, FIG. 1 shows a timepiece 10 in the form of a watch having a usual bezel 12 and capable of being wound or having the hands thereof set by way of a crown wheel 14, all of which is conventional.

The timepiece includes an hour hand 16 and a minute hand 18. Around the bezel 12 there is an annular area 20 carrying numerals for indicating the hours and for coacting with the hands 16 and 18 to tell the time in a normal, conventional manner.

Referring to FIGS. 2 and 4, in the timepiece 10 there is situated behind the hands 16 and 18 a stationary face 22 forming the front surface of a stationary circular plate 24. This face 22 in the illustrated example has a pair of areas 26 and 28 of different colors such as red and yellow, for example, with these areas separated from each other by the S-shaped line 30. Thus, it will be seen that the configuration and size of the areas 26 and 28 are identical, these areas only being inverted, one with respect to the other, and extending along the common boundary 30 therebetween.

The entire plate 24 with the stationary face 22 is enclosed within a suitable transparent cover 32 made of glass or plastic. Behind this clear glass or plastic crystal-type of cover 32 is a sweep-second disc 34. This disc 34 is connected to that part of the movement which is normally used to rotate the sweep-second hand. Thus, instead of a sweep-second hand, the timepiece includes a sweep-second disc 34 which makes one complete revolution each minute. The mechanism may be such that the disc carries out a stepwise movement by increments of one second or it may continuously sweep around completing the one revolution in one minute.

As is apparent from FIG. 3, the disc 34 is divided into a pair of areas which are identical to the areas 26 and 28 in shape and size. However, the area 36 is clear and transparent while the area 38 is transparent but of a different color such as a transparent blue or purple color.

Thus, with this construction, when the watch is running, the sweep-second disc 34 rotates through one revolution each minute, and the curved portion of the area 38 coacts with the areas 26 and 28 to achieve effects such as ellipsoidal areas which are continuously increasing and decreasing in size, so that an exceedingly pleasant, very special visual effect is achieved with this construction.

At the same time, the hands 16 and 18 are clearly visible through the disc 34 so that the time-indicating function of the timepiece is maintained.

In the timepiece 40 which is indicated in FIGS. 5-9, the hands 16 and 18 are the same as the hands 16 and 18 of FIG. 1, and the components 12 and 14 are also identical, so that the

same reference characters are used. However, in this case, the stationary face 42 behind the hands is shown in FIG. 7 as divided into sector-shaped areas each extending through an angle of 120° with these areas being of different colors. The sweep-second disc 44 shown in FIG. 6 is made up of identical areas but of different colors, and this disc is of course, transparent so the hands 16 and 18 are still visible. Thus, with this construction, the disc 44 will continuously rotate, completing one revolution each minute, and it can rotate from a position such as that shown in FIG. 5 where it has the same position as that of FIG. 6 to a position such as that shown in FIG. 8 where it has turned to 180° and through the position of FIG. 9 where it has turned through 300° beyond the position of FIG. 5. It is to be noted that when the position of FIG. 8 is reached, the areas on the disc 44 match those on the stationary face 42 so that the appearance of three sector-shaped areas of equal magnitudes is given. However, in the position of FIG. 5, it will be noted that the patterns coact to provide an impression of smaller sector-shaped areas because of the manner in which the different colors overlap. In FIG. 9 the areas are of the same size but a completely different color effect is achieved. Thus, with the invention, differences in color as well as size and shape are achieved during rotation of the transparent sweep-second disc.

What we claim is:

1. In a timepiece, such as a clock or watch, hour and minute hands, a stationary face situated behind said hands, and a transparent sweep-second disc situated in front of said hands and replacing a normal sweep-second hand of the timepiece, so that the hands are visible through said disc to maintain the time-indicating function of the timepiece, such stationary face having thereon a decorative design of a predetermined pattern visible through said disc and said transparent disc having thereon a decorative design of a predetermined pattern which is superimposed on the design of said face which is visible

through said disc with the design of the latter turning with respect to the design on said face for providing a predetermined visual effect during rotary movement of said disc with respect to said stationary face, a transparent cover engaging said stationary face beyond said hands and forming with said stationary face an enclosure for said hands and disc, and a bezel surrounding said stationary face and situated beyond said cover, said bezel carrying indicia with which said hands coact for indicating the time.

2. The combination of claim 1 wherein the pattern of the design on said face and disc are both in the form of sectors of a circle of different colors.

3. The combination of claim 2 and wherein each of the sectors extends through an angle of 120° and the colors of said face and disc providing at given instants during rotation of the disc with respect to said stationary face an impression of sectors whose areas are increasing and decreasing and of a smaller size than the 120° size of said sectors.

4. The combination of claim 1 and wherein the patterns on said face and disc coact to provide visible areas which appear to increase and decrease in size.

5. The combination of claim 4 and wherein said stationary face is divided into a pair of differently colored areas separated from each other by a substantially S-shaped line with said areas having the same size and configuration but being inverted, one with respect to the other, said transparent disc being clear except for one portion which has a configuration and size which is the same as that of one of said areas of said face and which is of a transparent color different from those of said areas of said face so that during rotary movement of said disc it will coact with said face to provide the appearance of areas of ellipsoidal configuration which are constantly increasing and decreasing in size.

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