July 28, 1964 J. W. MORGAN ETAL 3,142,148

INDICATOR

Filed March 4, 1963

Fig. 1.

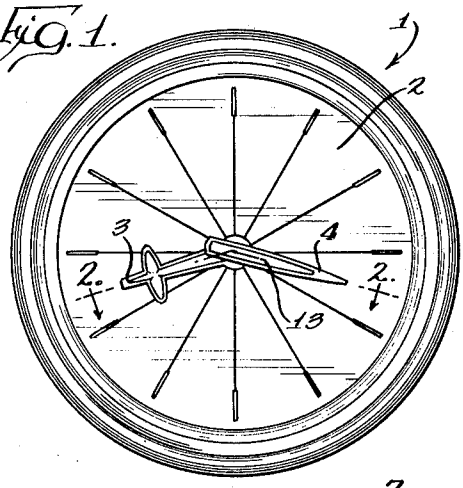


Fig. 3.

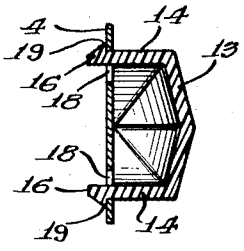


Fig. 2.

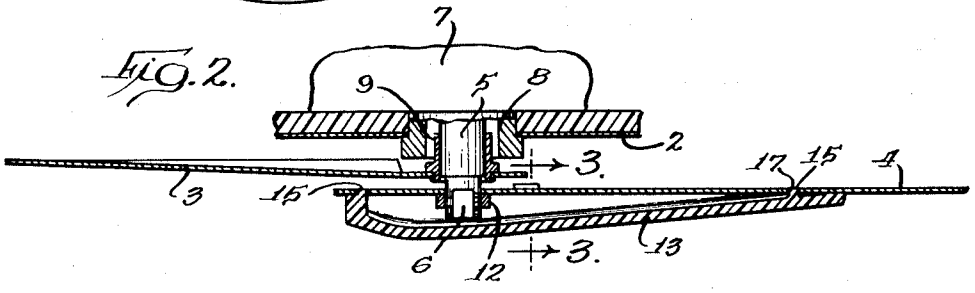
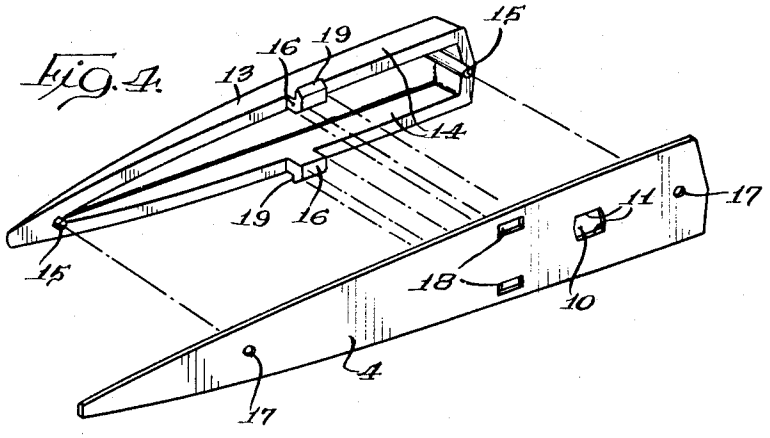


Fig. 4.



INVENTORS:
John W. Morgan
Charles A. McLeod
By
George R. Clark Atty

United States Patent Office 3,142,148 Patented July 28, 1964

3,142,148

INDICATOR

John W. Morgan, Elmhurst, and Charles A. McLeod, Evanston, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois

Filed Mar. 4, 1963, Ser. No. 262,652
3 Claims. (Cl. 58—126)

This invention relates to an indicator, and more particularly to an improved indicator for dials such as clock faces.

In clocks it is well known to mount an hour and minute hand on an outer hollow rotary spindle and an inner rotary shaft, respectively. The minute hand shaft is disposed within and projects slightly beyond the hollow spindle. The minute hand is apertured for mounting on the shaft, and it may be retained thereon by a nut or the like threaded on the outer end of the shaft. In order to improve the appearance of the exposed end of the shaft, it is well known to replace the exposed nut on the minute hand shaft with an internally threaded cap or the like which, however, is more expensive than a nut.

In the above-described arrangement, the minute hand is provided with a final design to give it a pleasing decorative appearance. If the decorative appearance of the minute hand is to be changed, it must be replaced by another, and the same may also be true of the cap on the end of the minute hand shaft.

Therefore, it is one object of this invention to provide a cover for the exposed minute hand shaft of a clock which is low cost and which can be used to change the decorative appearance of the minute hand with a minimum number of parts and without requiring a shaft cap or substitution of the minute hand as in the prior art.

In the preferred form of the invention, a single piece removable decorative cover member is provided. This member covers the exposed end of the shaft and retaining nut, and also a substantial portion of the minute hand. Therefore, it is not necessary to use the cap of the prior art to cover the exposed minute hand shaft and substitute the minute hand when it is desired to change the decorative design or appearance of the minute hand. With the invention it is only necessary to substitute the single piece decorative cover member while using the same minute hand to obtain a wide range of minute hands having different appearances.

The features of the invention which are believed to be novel are set forth with particularity in the appended claims. The invention itself, however, both as to its organization and operation, together with further objects and advantages thereof, may best be understood by reference to the following description taken in connection with the accompanying drawing.

In the drawing, FIG. 1 is a front elevation view of a clock utilizing the invention;

FIG. 2 is an enlarged sectional view taken along the section line 2—2 of FIG. 1;

FIG. 3 is an enlarged sectional view taken along the section line 3—3 of FIG. 2; and

FIG. 4 is an enlarged exploded perspective view of the minute hand and cover member of the illustrated clock.

Referring first to FIGS. 1 and 2 of the drawing, illustrated therein is a clock or timekeeping device indicated generally by reference numeral 1. Only those parts of the clock will be described which are believed to be necessary for a full understanding of the invention. The device comprises a dial or clock face 2 and a pair of indicating pointers or hands 3 and 4 disposed in front of the clock face. In the illustrated form of the invention, the hand 3 is an hour indicating hand, whereas the hand 4 is a minute indicating hand. The hand or pointer 3 is mounted on a rotary hollow spindle 5, and the hand or

pointer 4 is mounted on a rotary shaft 6. The rotary elements 5 and 6 are driven by a clock motor and suitable gearing positioned within a housing 7 located behind the dial face 2 in a manner which is well known in the art. The dial face 2 is connected to the housing 7 by appropriate means such as a retaining member 8 which is hollow. The rotary elements 5 and 6 extend through the element 8. Rotary element 6 is disposed within the hollow spindle 5 and extends beyond the outer end of spindle 5 for a short distance. The hour hand 3 is retained on the outer spindle 5 by suitable means such as a collar 9 which may be force fitted to element 5.

Referring now also to FIG. 4, the minute hand 4 is provided with an aperture 10 for mounting the minute hand 4 on the shaft 6. The end of shaft 6 is threaded and it has two opposite flat sides. The slot 10 also has two opposite flat sides as indicated by reference numeral 11. These flat sides are for the purpose of fixing the minute hand 4 on the shaft 6 so that these two parts cannot rotate with respect to each other. After the minute hand 4 is positioned on shaft 6, it is retained thereon by a nut or the like 12.

Referring now also to FIG. 3, a unitary or single piece plastic decorative cover member 13 is provided for the minute hand 4 and its exposed shaft and retainer 12. The minute hand 4 is generally elongated and flat; and the cover member 13 is elongated and hollow. It is hollow so that the end of the shaft 6 and retainer 12 can be disposed therein. The member 13 has closed ends and is generally U-shaped in transverse cross section as best illustrated in FIG. 3. It is constructed by a molding operation or the like from a suitable plastic so that its sides 14 have a desired degree of resiliency. Integral projections 15 are formed at the opposite ends of member 13, and integral projections 16 are formed on the opposite sides 14. Since the member 13 overlies the minute hand 4, the projections 15 and 16 can be described as being formed on the underside of member 13. Apertures 17 are formed adjacent opposite ends of the minute hand 4 to correspond with the projections 15, and apertures 18 are formed adjacent the opposite sides of pointer 4 to correspond with the projections 16. The projections 16 have integral catch portions 19 formed thereon to retain the cover member 13 latched on the minute hand 4. The projections 15 and 16 and the slots 17 and 18 serve to properly align the decorative cover 13 with respect to the minute hand 4, and since the side walls 14 are resilient the catch portions 19 on projection 16 will snap into the slots 18. Obviously, the slots 17, 18 could be provided in member 13 and projections 15, 16 on the member 4.

In the invention, it is not necessary to use a more expensive part such as a threaded cap on the end of shaft 6 instead of the nut 12 in order to cover the exposed end of the shaft. This is because part 13 covers the shaft. Additionally, with the invention the same part 4 can be used as a basic element in a series of clocks while providing different appearances for the minute hand merely by changing the part 13, For example, the part 4 can be colored black and the part 13 can be provided in different contrasting colors to make it possible to readily achieve a plurality of two tone colored minute hands at minimum expense. Further, although in the preferred form of the invention the part 4 is exposed along the edges of the part 13 to obtain a two tone colored indicator, it is obvious that the part 13 could completely obscure part 4. In such event the visual indicating and shaft covering functions would be provided solely by the part 13 whereas part 4 could be much smaller than as illustrated and would serve solely as a means for connecting the part 13 to the shaft 6.

Since the cover part 13 has resilient sides 14, it can be removed from part 4 merely by squeezing sides 14 to-

wards each other to disengage the catches 19 from the slots 18. In assembling part 13 on part 4, the sides 14 need only be squeezed towards each other slightly to permit the catches 19 to snap into the slots 18.

While there has been shown and described a particular embodiment of the invention, it will be obvious to those skilled in the art that changes and modifications may be made without departing from the invention, and that it is intended by the appended claims to cover all such changes and modifications as fall within the true spirit and scope of the invention.

What is climed as new and desired to be secured by Letters Patent of the United States is:

1. In the combination of a rotary shaft and an indicating pointer carried by one end of the shaft; the improvement of said pointer comprising a bottom member and a top member, releasable means for connecting said members together in superposed relationship, the underside of said top member having a groove formed therein and an aligned aperture formed in the bottom member, said shaft extending through said aperture into said groove, means in said groove for connecting said bottom member to said shaft, and said releasable connecting means being operable by finger pressure on said top member.

2. In the combination of a clock face, an indicator hand in front of said face, aligned openings in said face and hand, a rotary shaft, and one end of the shaft extending through said aligned openings to support the hand and sweep the same along the face; the improvement of a replaceable decorative cover for said hand and shaft end, said cover comprising a plastic member having resilient tabs integrally formed thereon, apertures formed in said

hand, said plastic member overlying said hand and shaft end with said tabs being positioned in said apertures to removably retain said decorative cover on said hand by the resiliency of said tabs, and said tabs being releasable from said apertures by finger pressure on said plastic member.

3. In the combination of an indicating pointer which is mounted on a shaft, said pointer being generally elongated and having an opening formed therein for positioning the pointer on one end of the shaft; the improvement of a single piece replaceable decorative plastic cover member for said pointer and shaft end, said plastic cover member being generally elongated and superposed over said pointer and shaft end, integral projections being formed on the underside of said cover member and corresponding projection receiving slots being formed on the pointer to align the cover member and pointer with respect to each other, and integral catch portions being formed on some of said projections for removably latching said cover member with respect to said pointer.

References Cited in the file of this patent

UNITED STATES PATENTS

1,558,895	Kreisel	Oct. 27, 1925
2,213,853	Whitehead	Sept. 3, 1940
2,255,003	Rodanet	Sept. 2, 1941
2,860,028	Taylor et al.	Nov. 11, 1958

FOREIGN PATENTS

324,250	Switzerland	Oct. 31, 1957