O. JUNGHANS.

INDICATOR CONSISTING OF A STATIONARY PART AND ONE OR MORE MOVABLE PARTS.

APPLICATION FILED MAY 19, 1911.

**1,166,461.** Patented Jan. 4, 1916.

Fig. 1.

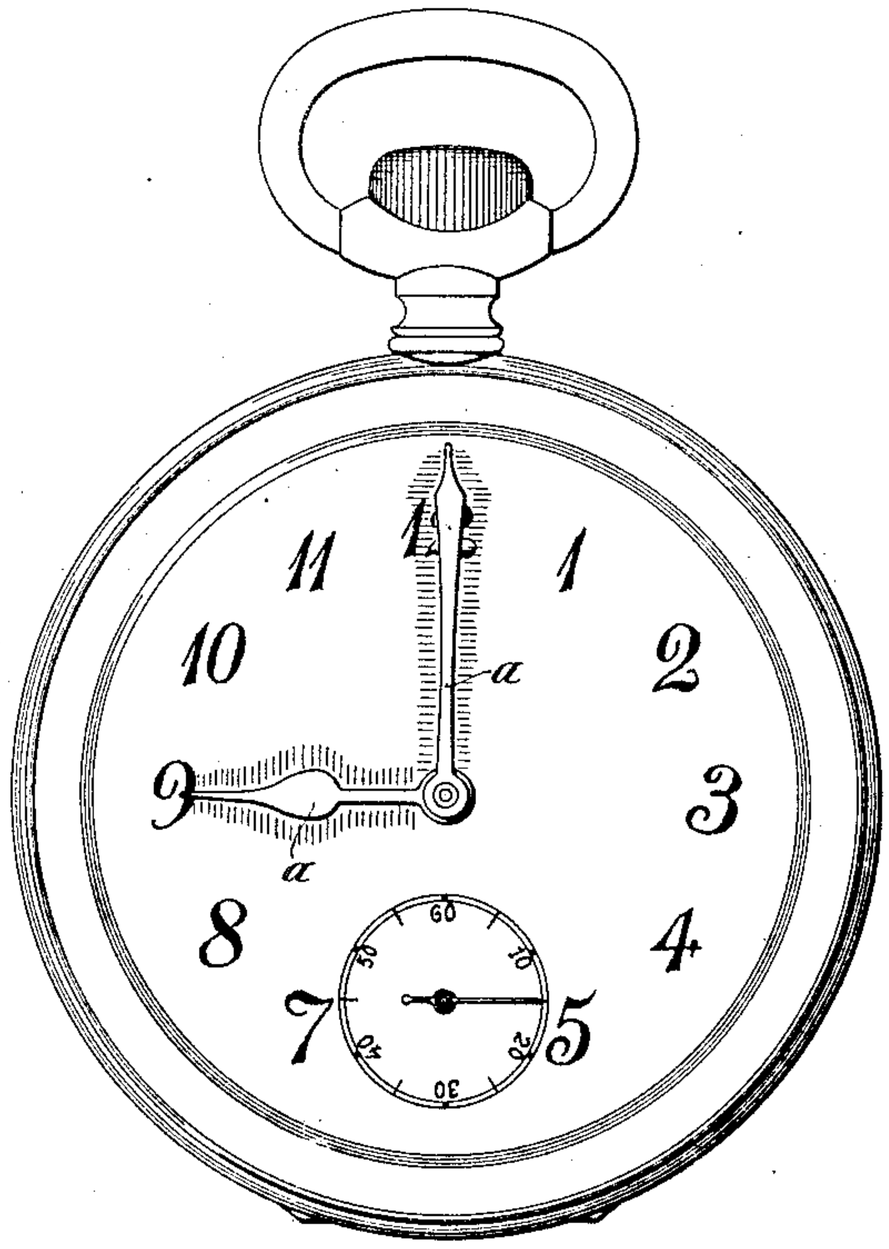



Fig. 3.

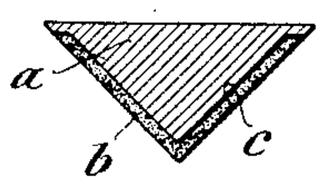



Fig. 2.

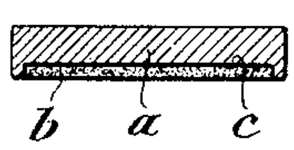
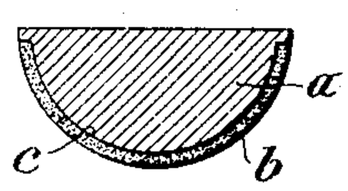



Fig. 4.




Witnesses:

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# UNITED STATES PATENT OFFICE.

OSKAR JUNGHANS, OF SCHRAMBERG, GERMANY, ASSIGNOR TO THE AMERICAN RADIUM COMPANY, A CORPORATION OF NEW YORK.

## INDICATOR CONSISTING OF A STATIONARY PART AND ONE OR MORE MOVABLE PARTS.

1,166,461. Specification of Letters Patent. Patented Jan. 4, 1916.

Application filed May 19, 1911. Serial No. 628,275.

*To all whom it may concern:*

Be it known that I, OSKAR JUNGHANS, engineer, a subject of the King of Wurttemberg, residing at Schramberg, in the Kingdom of Wurttemburg, Germany, have invented certain new and useful Improvements in Indicators Consisting of a Stationary Part and One or More Movable Parts, of which the following is a full, clear, and exact description.

This invention relates to an indicator consisting of a stationary part and one or more movable parts, such as used in connection with clocks, compasses and the like.

It is known to employ a luminous compound for such indicators in order that the actual time, etc., can also be read in the dark. For this purpose, the luminous compound was not only provided on the stationary part, for instance, on the dial or the like but also on the movable part, for instance, the hands of a clock, etc., and on the upper surface thereof. This latter method of providing the luminous compound was not so satisfactory from a practical point of view, because the applied yellow luminous compound affected the good appearance of the hands and especially when particles of the compound came off, it being not possible to render a special shaping of the upper surface of the hands independent of the luminous compound. This great drawback from a practical point of view is obviated according to the present invention in that the luminous compound mixed with radium is provided on the underside of the movable part or parts, for instance, the hands of a clock, etc. This has the result that the upper surface of the hands or the like is not interfered with or affected in any way, the usual form or construction being maintained and the actual position of the hands readily visible in the dark. According to the present method of providing the luminous compound on the hands or the like, the dial or the like practically acts as a mirror, whereby the hand or hands are rendered conspicuous in the dark.

There is shown by way of example in the accompanying drawing a constructional form of the present indicator as applied to a clock.

Figure 1 is a front elevation of the same showing the radiation of the luminous compound in the dark and Figs. 2–4 represent different cross-sections for the hands.

As is obvious from the drawing, the hands *a* of the clock are only provided on their underside with a luminous compound *b* containing radium. For this purpose, this underside may be flat (Fig. 2) or of angular or semi-circular shape, as shown in Figs. 3 and 4. In the two latter cases, the advantage is also attained that the luminous compound further radiates laterally, whereby the hands are rendered more conspicuous on the dark dial. The indicator may not only serve for clocks but also for compasses etc. in which case, the movable part or parts, for instance, the needle of a compass, would have to be provided on the underside with the radium luminous compound. For enabling the luminous compound to adhere better to the surfaces of the hands or the like, they are preferably provided with depressions *c* wherein the luminous compound is placed.

What I claim as my invention and desire to secure by Letters Patent is:

1. An indicator hand having a radio-active luminous compound on its underside, said compound haying a surface greater in area than the flat surface of the hand.

2. An indicator hand having a radio-active luminous compound on its underside, said compound having a surface projecting downwardly from the underside of said hand.

3. An indicator hand having a radio-active luminious compound on its underside, said compound having an inclined surface projecting downwardly from the underside of said hand.

4. An indicator hand having a downwardly projecting face on its underside and having a radio-active luminous compound on said face.

5. An indicator hand having a downwardly projecting inclined face on its underside and having a radio-active luminous compound on said face.

6. An indicator having a stationary part and a movable part, said movable part having a radio-active luminous compound on its underside, said compound having a surface projecting downwardly from the underside of said movable part.

7. A time-piece having a stationary part and movable hands, said hands having a radio-active luminous compound on their underside, said compound having a surface projecting downwardly from the underside of said movable hands.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

DR. OSKAR JUNGHANS.

Witnesses:
FRIDA KLAIBER,
PAULINE KLAIBER.