

No. 813,432.

PATENTED FEB. 27, 1906.

S. JANNER.

WATCH.

APPLICATION FILED JAN. 23, 1905.

Fig. 1.

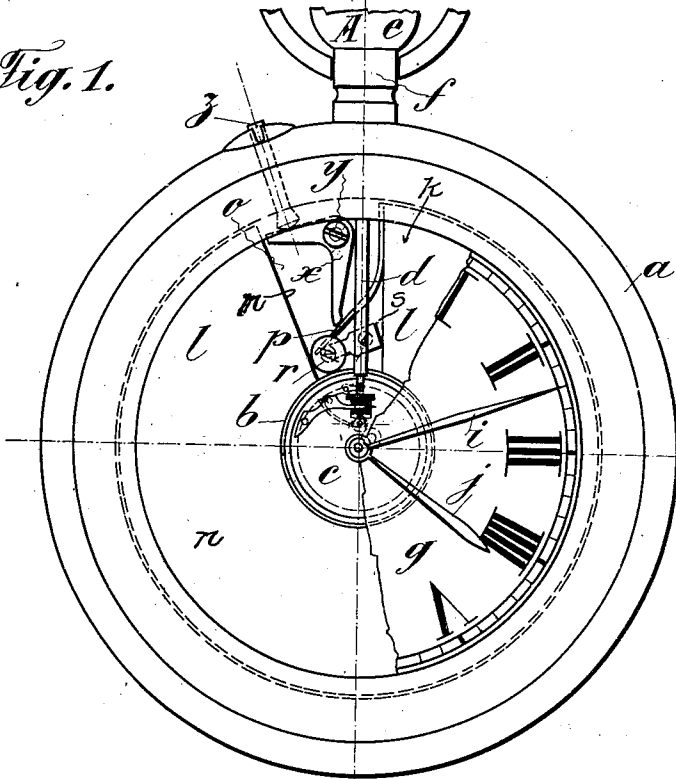


Fig. 2.

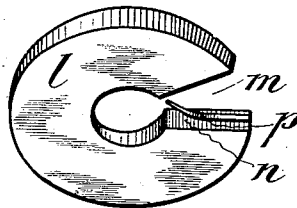
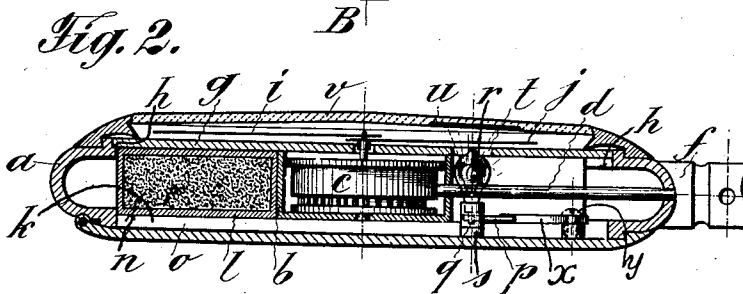


Fig. 3.

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UNITED STATES PATENT OFFICE.

SALVATOR JANNER, OF LA CHAUX-DE-FONDS, SWITZERLAND.

WATCH.

No. 813,432.

Specification of Letters Patent.

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Application filed January 28, 1905. Serial No. 243,073.

To all whom it may concern:

Be it known that I, SALVATOR JANNER, a citizen of Switzerland, residing at La Chaux-de-Fonds, Canton of Neuchâtel, Switzerland, have invented new and useful Improvements in Watches, of which the following is a specification.

My invention relates to improvements in watches of that class wherein provision is made for momentarily illuminating the dial or face.

My invention consists in locating suitable lighting means, with its source of supply, in the case of the watch and in the provision of an apertured dial and a light-reflecting surface whereby the rays of light may be projected upon the face or dial, together with suitable means for connecting and disconnecting the lighting means with and from its source of supply.

Heretofore in watches of this class it has been necessary where the lighting means consisted of a miniature incandescent lamp to provide a galvanic battery adapted to be carried separately from and outside of the case of the watch. It has also been the practice to place the lamp in a position at one side of the dial and reflect the rays of light thereon by angularly-disposed reflecting-surfaces.

The location of the battery-cell outside of the watchcase is objectionable, inasmuch as it involves the use of a conducting-cord which is carried near the watch-chain and cannot be effectively concealed. Further, in locating the light-producing means so as to project rays of light upon the dial it has also been found necessary to enlarge the case to make room for the lamp.

The foregoing difficulties which have characterized watches of this class heretofore have been avoided by my improved construction by the provision of a galvanic cell located within the case and adapted to encircle the movement, the cell being cut away to form an open segmental space for the lamp or other light-producing means and also for the device whereby the light-producing means may be connected with and disconnected from its source of supply. The necessity of lateral enlargements on the case is avoided by the provision of an aperture in the dial and in providing the crystal with a reflecting-surface adjacent the aperture, the rays of light passing through the aperture and being reflected upon the face or dial.

My invention will be more fully described in connection with the accompanying drawings and will be more particularly pointed out in the appended claims.

In the drawings, Figure 1 is a face view of the watch with parts broken away, showing the device of my invention applied thereto. Fig. 2 is a sectional view on line A B of Fig. 1. Fig. 3 is a perspective view of one of the detailed views of the invention.

Like characters of reference designate similar parts throughout the different figures of the drawings.

In the drawings the case, which is designated by *a*, is provided with a hinged back *o* and a dial *g*, seated in a suitable annular recess *h*. The crystal *v* is removably secured to the case *a* and is provided with a reflecting-surface *u*, which may be formed by a coating of amalgam or mercury. The movement *c* is desirably inclosed in a circular casing *b*, which is centrally disposed within the case *a*, there being also provided the usual hour and minute hands *i* and *j*, together with a winding and setting stem *d*, the latter extending through a pendant *f* and carrying a winding-button *e*.

The dial *g* is preferably made of any suitable opaque material and is provided with an aperture *t*, located opposite the reflecting-surface *u*. I desirably locate any form of light-producing means in alinement with the aperture and reflecting-surface and below the dial, so that the rays of light are projected therethrough upon the reflecting-surface and therefrom to the face dial. By this improved construction the light-producing means is located in close proximity to the reflecting-surface and the distribution of light is so effective and general as to entirely eliminate shadows usually caused by the minute and hour hands and other structural parts. In the embodiment shown I provide a miniature incandescent lamp *r*, which is mounted upon a metal support *s*, anchored to the back *o* in any desirable manner. The bulb of the lamp is located closely adjacent the dial *g*, so as to effectively cast the rays of light upon the reflecting-surface *u*. A contact *q* is provided on said lamp, as shown in dotted lines in Fig. 2. There is also provided a suitable battery *l*, inclosed in a zinc casing *n*, which is desirably circular in form and which surrounds the movement *c* and engages the walls of the case *a*, forming an outer circular chamber *k*. The cell or casing

n is provided with a recessed or cut-away portion, forming a chamber adapted to receive the lamp and improved switching mechanism for connecting and disconnecting the same with and from the battery.

In the preferred embodiment of my invention the mechanism for connecting and disconnecting the lamp with and from the battery is secured to the hinged back *o* of the watchcase, while the remainder of the mechanism is secured to the case. Said switching mechanism consists, as shown, of a spring-contact *p*, secured to the casing *n* of the battery and extending outwardly therefrom to a point adjacent the contact *q* of lamp *r*. The bell-crank *x*, pivotally mounted to the back *o* at *y*, is provided with angularly-disposed arms, one of which is adapted to engage the spring at *p* to force the same into engagement with the contact *q*. The remaining arm engages the inner end of a push-rod *z*, which is mounted in the casing and is reciprocated by the finger of the user. Spring-contact *p* serves to normally hold the parts in the position shown in Fig. 1, wherein the contact *p* is out of engagement with the lamp-contact and the push-rod is in a position to be reciprocated downwardly. The said bell-crank is made of insulating material. When the circuit is closed, current flows from the battery, through contact *p* and lamp *r*, to the watchcase and back through the metallic casing of the battery. When pressure on the rod *z* is withdrawn, circuit is broken automatically by the spring-contact *p*.

What I claim, and desire to secure by Letters Patent, is—

1. A watch of the class described having a case provided with an apertured dial, a hinged back for said case, and an incandescent lamp secured to said hinged back in a manner to bring said lamp into register with the aperture of said dial when said back is closed.

2. A watch provided with a case, a dry-cell battery and an incandescent lamp located within said case, a spring-contact mounted on and connected with said battery, a reciprocating plunger, a bell-crank of insulating material whereby said spring may

be engaged with the lamp to close circuit with the battery.

3. A watch of the class described having a case provided with an apertured dial of opaque material, a crystal provided with a deflecting-surface alined with said aperture, a hinged back for said case, and an incandescent lamp secured to said hinged back in a manner to bring said lamp into register with said aperture and deflecting-surface to deflect the rays of light on said dial.

4. A watch of the class described having a case provided with an apertured dial, a hinged back for said case, and light-producing means secured to said hinged back in a manner to bring said means into register with the aperture when said case is closed.

5. A watch of the class described having a case provided with an apertured dial, a removable back for said case, and light-producing means secured to said back in a manner to bring said means into register with the aperture when said case is closed.

6. A watch of the class described provided with a case and operating works, a dry-cell battery surrounding said works and provided with a recessed or cut-away portion, a lamp projecting up within said recessed portion, and switch mechanism adjacent said lamp for closing circuit with said battery.

7. A watch of the class described provided with a case and an apertured dial, a battery secured in said case, a removable back for said case, a lamp secured to said back, switch mechanism for closing circuit with said lamp and battery, one part of said mechanism being of insulated material and being secured to the back, the remainder of said mechanism being secured to the case, said insulated part and said lamp being secured to the back in a manner to bring said parts into operative relation with the case mechanism and the aperture when said back is closed.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SALVATOR JANNER.

Witnesses:

PHILIPPE BÉGUIN,
WALTHER LANMER.