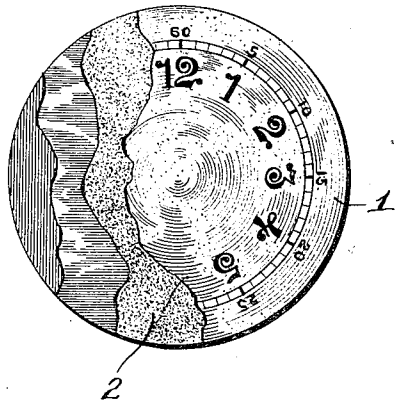
C. H. VIOL.

LUMINOUS COMPOSITION.

APPLICATION FILED FEB. 26, 1916.

1,202,625. Patented Oct. 24, 1916.



WITNESSES

E. Nottingham

G. F. Downing.

INVENTOR

C. H. Viol

By Seymour & Bright

Attorneys

UNITED STATES PATENT OFFICE.

CHARLES H. VIOL, OF PITTSBURGH, PENNSYLVANIA, ASSIGNOR TO STANDARD CHEMICAL COMPANY, OF PITTSBURGH, PENNSYLVANIA.

LUMINOUS COMPOSITION.

1,202,625. Specification of Letters Patent. Patented Oct. 24, 1916.

Application filed February 26, 1916. Serial No. 80,756.

To all whom it may concern:

Be it known that I, CHARLES H. VIOL, a citizen of the United States, and a resident of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Luminous Composition; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in luminous articles of manufacture and more particularly to means for rendering objects luminous in the dark,—the object of the invention being to provide a luminous composition in which the light giving ingredients shall be incorporated therein in such manner that they shall constitute a fixed part of the composition and to so apply the material to an object that it will form, in effect an integral part thereof and prevent possibility of the escape or displacing of said light giving or phosphorescent ingredients.

With these and other objects in view, the invention consists in certain novel combinations of ingredients as hereinafter set forth and pointed out in the claims.

The accompanying drawing is a view of a watch dial illustrating an embodiment of my invention.

My improved composition comprises a vitreous material, such as glaze or enamel, either transparent or white, having incorporated therein, a luminous material.

More specifically the composition may consist of transparent enamel, in which is incorporated a radio-sensitive material, such as phosphorescent zinc sulfid rendered permanently luminous by the admixture therewith of a radio-active excitant, such for example, as a salt of radium. The composition thus constituted is adaptable for application to various objects or parts thereof,—such as dials, ornaments, etc.,—to render the same luminous in the dark.

In the drawing, I have shown a watch dial 1, the luminous enamel being indicated at 2.

In applying the composition to the object to be rendered luminous, a preliminary coating of a vitreous glaze (which may be white or transparent) is applied to the object and after firing this glaze, I place upon the surface, a mixture of a suitable phosphorescent compound, such as zinc sulfid containing radium salt,—such luminous material being mixed with a proper proportion of a suitable vitreous glazing material which shall be such that when then fired, the luminous material becomes incorporated in the glaze. Over this, a finishing coat of phosphorescent glaze is then fired and upon this, suitable figures and characters may be imprinted if desired to form, for example watch or other indicating dials.

Slight changes may be made in the form of the ingredients and in the manner of applying the material, and hence I do not wish to restrict myself to the precise details herein set forth.

Having fully described my invention, what I claim as new and desire to secure by Letters-Patent, is:—

1. A luminous article of manufacture comprising a vitreous glaze and radio sensitive material incorporated therein.

2. A luminous article of manufacture comprising a vitreous glaze having a radio-sensitive material combined with a radio-active material incorporated therein.

3. A luminous article of manufacture comprising a transparent glaze having phosphorescent zinc sulfid combined with radium salt incorporated therein.

4. A luminous article of manufacture comprising a transparent glaze of vitreous material having incorporated therein radio-active phosphorescent material.

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

CHARLES H. VIOL.

Witnesses:
JOSEPH A. KELLY,
H. B. KEARNEY.