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MEANS FOR IDENTIFYING MATERIALS

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This invention relates to means for identifying materials, and more particularly to means for detecting alterations in checks and other valuable instruments.

I have found that certain substances possess the property of fluorescing under the influence of ultra-violet light. This property in certain instances is so extremely marked that infinitesimally small amounts of a particular substance may be spread upon or incorporated into material such as checks and the like and still retain their fluorescing properties.

It is therefore an object of this invention to provide means for identifying materials by the incorporation therein of substances having strong fluorescent properties under the action of ultra-violet light.

It is a further object of this invention to provide a safety paper that cannot be altered or tampered with, without being capable of ready detection when observed under the action of ultra-violet light.

Other and further important objects of this invention will become apparent from the following description and appended claims.

While this invention is applicable to many purposes and in connection with the identification of many substances, it will be hereindescribed in connection with the manufacture and use of safety paper. Paper to be used for the manufacture of checks, bank notes and other valuable instruments may be so treated according to my method that alteration, as by erasure, chemical or other means, can be readily detected. According to my invention, the paper is treated with a substance having high fluorescing properties under the influence of ultra-violet light. Substances that have proven suitable for this purpose are æsculin, quinine and its salts, uranium salts, salicylic acid and the like.

The treatment of the paper with these particular compounds may be carried out in various ways; for instance, the particular compound in the form of a fine powder, may be dusted over the surface of the paper, and the excess powder removed, or the paper may be treated with a solution of the compound, or small quantities of the compound may be incorporated in the fibers during the manufacture of the paper.

The compound that I prefer to use for treating paper and the like is æsculin, which has a formula—$C_{15}H_{16}O_9+1/2H_2O$ which is a glucoside obtainable from the barks of certain trees in the form of a white powder.

One application of my invention would be the detecting of fraudulently altered checks or the like. Where the checks are made of paper surface treated as above, any erasure upon the face of the check would show up under an ultra-violet light as a dark area free of fluorescence. For the examination of the checks, an ultra-violet light could be suitably positioned in the counter by the teller's window in the bank, for instance, with a plate of quartz glass or the like over the ultra-violet light flush with the surface of the counter. In this way the teller would merely pass the check over the light and thus examine it in the regular routine of business. It is obvious that the identifying compound might be arranged upon the surface of the check in the form of a particular design or in figures so that one examining the paper could tell at a glance whether or not it were genuine.

My invention is also intended to cover the use of a fluorescing material in the ink used in printing a design upon checks or the like, or along with coloring matters for surface tinting papers. It is also intended to cover the use of fluorescing material in the ink employed for making indicia, such as the amount or value of the instrument, upon the surface of the paper.

I am aware that numerous details of the process may be varied through a wide range without departing from the principles of this invention, and I, therefore, do not purpose

limiting the patent granted hereon otherwise than necessitated by the prior art.

I claim as my invention:

As a new article of manufacture, safety paper containing æsculin.

In testimony whereof I have hereunto subscribed my name at Chicago, Cook County, Illinois.

D. JULIAN BLOCK.