

UNITED STATES PATENT OFFICE.

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COLORED CELLULOSE ARTICLE.

No. 931,634.

Specification of Letters Patent.

Patented Aug. 17, 1909.

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To all whom it may concern.

Be it known that I, OSCAR MÜLLER, a subject of the King of Prussia, residing at Krefelderstrasse 24, Cologne-on-the-Rhine, Germany, have invented certain new and useful Improvements Relating to Colored Cellulose Articles and the Processes of Making the Same, of which the following is a specification.

Formerly when producing artificial threads, fibers, strips, films or the like, from cellulose for instance cotton, sulfite cellulose, the cellulose products obtained were colorless or white and were dyed in any desired manner as is done with articles of the natural fiber. Under certain circumstances this dyeing could also be effected by providing the cellulose solutions from which the cellulose articles were produced, with the suitable coloring matter. Now, experiments have shown that when a certain raw cellulose material is employed, colored cellulose articles can be directly produced from the solutions of the same. For this purpose, the cellulose of cottonseed shells has proven suitable. This result is effected by forming a solution of cottonseed shell cellulose, in a suitable solvent, such as caustic alkali with sulfuret of carbon, Schweitzer's reagent, chlorid of zinc, and obtaining cellulose articles therefrom in a suitable manner. This may be carried out practically in the following way:—For instance, this solution of the cottonseed shell cellulose is permitted to enter through openings of a cross-section which is adapted to the cross-section of the cellulose articles to be produced, into a precipitating liquid of an acid nature. This solution may be of either an acid or acid salts, and may also contain other salts, in which more acid is contained than corresponds to the equivalent of the base. A solution of salts of an acid nature, such as sesqui-salts may also be used. The threads, strips, etc. formed have a cross-section corresponding to the opening and if desired, may be subjected to further treatment. In this way cellulose products are obtained, which vary in color

according to the quantities of coloring matter left in the cottonseed shell cellulose employed. The colors vary from red to the faintest yellow or white. The depth of the color may also be regulated by adding a suitable quantity of the alkaline solution of coloring matter obtained during the production of the cottonseed shell cellulose before, during, or after the dissolution of the cellulose referred to. The solution of cottonseed shell cellulose employed may also contain other cellulose matter, as for instance cotton, etc. in solution, and it is immaterial whether the shell cellulose is dissolved, mixed, or in conjunction with the other cellulose, or whether the solutions are separately produced and then mixed. The essential part is in always having dissolved cottonseed shell cellulose present. By means of this mixing, the desired color between red and faintest yellow or white can be secured.

The natural color produced by the process described can of course be considerably varied in any suitable manner of treatment or additions, for instance, of metal salts or coloring matters.

I claim as my invention:

1. As a new product, an article containing the cellulose substance of cotton seed shells freed from the binding gums of the latter, said article being colored by the natural dye-stuff of said shells.

2. The process of producing colored cellulose articles which consists in dissolving a cellulose mass containing non fibrous cotton seed shell cellulose in which the natural dye-stuff of the shell is retained and precipitating said cellulose in the desired form with said dye-stuff present whereby an article colored by the natural dye-stuff of the shell is obtained, substantially as described.

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

OSCAR MÜLLER.

Witnesses:

BESSIE F. DUNLAP,
LOUIS VANDORN.