

# UNITED STATES PATENT OFFICE.

GEORGE S. WHITTY, OF NEW YORK, N. Y., ASSIGNOR TO F. W. DEVOE & C. T. RAYNOLDS COMPANY, OF NEW YORK, N. Y.

DYEING COMPOUND AND PROCESS OF PRODUCING THE SAME.

982,194.

Specification of Letters Patent.

Patented Jan. 17, 1911.

No Drawing.

Application filed July 22, 1910. Serial No. 573,273.

*To all whom it may concern:*

Be it known that I, GEORGE S. WHITTY, a citizen of the United States, and a resident of the borough of Brooklyn, county of Kings, city and State of New York, have invented a new and useful Dyeing Compound and Process of Producing the Same, of which the following is a specification.

Heretofore it has ordinarily been found necessary to adapt the dyeing material to the character or quality of the material to be dyed, that is to say, animal fiber differs from vegetable fiber in the character or quality of the dye used in order to secure good effects, and this has resulted in many cases in dissatisfaction where fibers of two or more classes are combined in the same fabric, as for instance, wool and cotton, wool and silk, or cotton and silk, it sometimes being necessary to submit the combined fabric to a double dyeing process using first dyes of one class or kind and then to submit the same fabric to a second dyeing process with dyes of a different kind or class. This not only increases the expense of the process but likewise in domestic use, where no great skill on the part of the operator exists, results are frequently quite disappointing.

I have discovered that by a combination of different dyes and chemicals dyeing materials can be made, which are adapted to be put up in convenient, safe and permanent form for transportation, commercial handling and for use, which will dye all fibrous materials, animal as well as vegetable, and whether separate or combined in the same fabric, with substantially equal perfection, giving satisfactory results in practically all instances.

The ingredients I use, the method of combining them and the manner in which I prepare them for presentation upon the market are as follows: I take coal tar dyes, either direct substantive colors, or a mixture of direct and acid colors, or of direct and basic colors, as the color or shade of color may require, and in the proportion of one tenth of one per cent. to six per cent. of the weight of the material to be dyed; in other words, to one hundred pounds of the fabric or fibrous material which is to be dyed, I use from one and six tenths ounces to ninety six ounces of the dye, depending upon the color, or shade of color desired, and also depending upon whether

or not the material has already been dyed with the same or another color which has to be overcome. This dye or mixture of dyes is reduced to dry powdered condition. I then, in order that it may be conveniently prepared for presentation upon the market in such manner that an uninformed user may be sure of the quantity of dye to be used to produce the desired effect, make it up in two forms, first, in that of cakes or tablets, and second, in that of a paste which I prefer to inclose in an ordinary collapsible tube such as is used by artists for their paints.

In the manufacture of cakes or tablets I proceed as follows: I first make a paste or dough-like mass of gum tragacanth, dextrin, or similar material with water, adding a suitable percentage, 30 to 50 per cent. of the weight of the dough-like mass more or less, of an accelerating agent so called, such as a suitable salt, such, for example, as chlorid of sodium, sodium sulfate, sodium phosphate, borax, or sodium carbonate, working the material between rollers or otherwise until it attains the consistency of a stiff dough, during which working I incorporate the desired amount of dyeing material above stated in dry powdered condition, so that the resulting material is a homogeneous, evenly colored, stiff, dough-like layer or slab composed of the vehicle or extender, the dye and the suitable salt. I then, by the use of suitable mechanical appliances, preferably when the material is partly dry, cut the slab or layer into small cakes or tablets of the most convenient size or sizes to use in domestic or manufacturing processes, and the proportions of the materials compounded are such that each tablet will contain the desired amount or percentage of dyeing material to adapt it to dye a certain weight of fabric or fibrous material.

To prepare the material in paste form, so that it may be conveniently used in collapsible paint tubes, I proceed as above described, except that I leave the material in a more plastic or fluid condition than when making the cakes or tablets and also for making the paste-like product I can employ glycerin in addition to gum tragacanth or dextrin as the vehicle or extender. The resulting mass is a soft, homogeneous paste which may be readily ejected from the collapsible tubes referred to upon removing the cap or cover thereof and compressing the

body of the tube, whereby more or less of the dyeing material will exude from the open mouth of the tube.

Directions how to use the material, stating the amount to be employed for any given weight of fabric or fiber, will of course be printed upon the boxes containing the tablets or cakes, and likewise upon the tubes containing the paste, or upon paper directions accompanying the same.

In use the desired number of cakes or tablets, or the desired amount of the dye paste will be dissolved in a suitable amount of water, sufficient to cover the material to be dyed. The dyeing operation will be carried out by heating the bath to such degree and for such length of time as the material to be dyed shall require.

It is obvious that changes may be made in the details of compounding the materials and the proportions mentioned by me without departing from the essentials of the invention.

I claim:

1. A dyeing compound in paste form consisting of coal tar dyes compounded with an

accelerating agent, a vehicle or extender and water.

2. The process described of making a dyeing compound consisting in reducing coal tar dyes to dry powdered condition, reducing gum tragacanth to a pasty or dough-like consistency with water and mixing the powdered dye and an accelerating agent with the paste or dough into a homogeneous mass.

3. The process described of making a dyeing compound consisting in reducing coal tar dyes to dry powdered condition, reducing gum tragacanth to a pasty or dough-like consistency with water, mixing the powdered dye and an accelerating agent with the paste or dough into a homogeneous mass and drying the same into cakes or tablets.

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

GEORGE S. WHITTY.

Witnesses:

PHILLIPS ABBOTT,  
EDWIN F. VALENTINE.