

UNITED STATES PATENT OFFICE

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BLEACHING PROCESS

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Hitherto, active oxygen has been used for bleaching chiefly in the form of hydrogen peroxide-solutions, except with soaps and oils that are bleached by means of persulphate or benzoyl peroxide. Bleaching by perborate or similar agents is practically a hydrogen peroxide bleaching process, since these chemical compositions split off hydrogen peroxide when dissolved.

Now, it was found, that a number of articles can be bleached to advantage by mixtures of hydrogen peroxide and percompounds, that do not split off hydrogen peroxide in the presence of water, as e. g. persulphates or benzoyl peroxide. It might have been expected, that such mixtures would decompose each other in a bleaching process, but such is not the case, rather a stronger bleaching effect taking place than with the employment of the single components. To obtain a more or less strong bleaching effect indifferent liquids, e. g. alcohol, may be added to the bleaching solutions. The bleaching baths, according to the requirements, may be either alkaline or neutral or acid.

If per-salts are used in an acid solution the same bleaching effect results as with the addition of hydrogen peroxide, since hydrogen peroxide is split off from the percompounds by the acid, so that this case forms a special case of the general process only. The bleaching effect of such mixtures is so strong, that they will bleach even in the cold, quickly and efficiently within a few hours.

Example

There are certain colouring matters in the hair or in feathers that cannot be bleached or can but insufficiently be bleached by hydrogen peroxide. If the hydrogen peroxide is applied in stronger baths or for a longer time to increase the effect, the goods to be bleached are acted upon. If, however, a bleaching liquor be used containing e. g. 100 gr. of 30% hydrogen peroxide, 1000 gr. water, 20-30 gr. of 96% alcohol and 30 gr. persulphate of ammonia, feathers or hair may be bleached and become bright within a few hours without affecting the article to be bleached. The bleaching effect is accelerated

and increased in many cases by exposing the article to be bleached to the light during the bleaching process, whereby the bleaching process may take place either in the bleaching bath itself or in the open air, in the latter case after the article has been soaked with the above mentioned solutions.

We declare, what we claim is:

1. In the process of bleaching, the step which consists in treating the articles to be bleached in a bath containing hydrogen peroxide and a persulphate.

2. As a new article of manufacture, a bleaching bath comprising hydrogen peroxide and a persulphate.

In testimony whereof we hereunto affix our signatures.

DR. GUSTAV ADOLPH.
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