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E. MORRILL

2,293,072

DYE PACKAGE

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Fig. 1

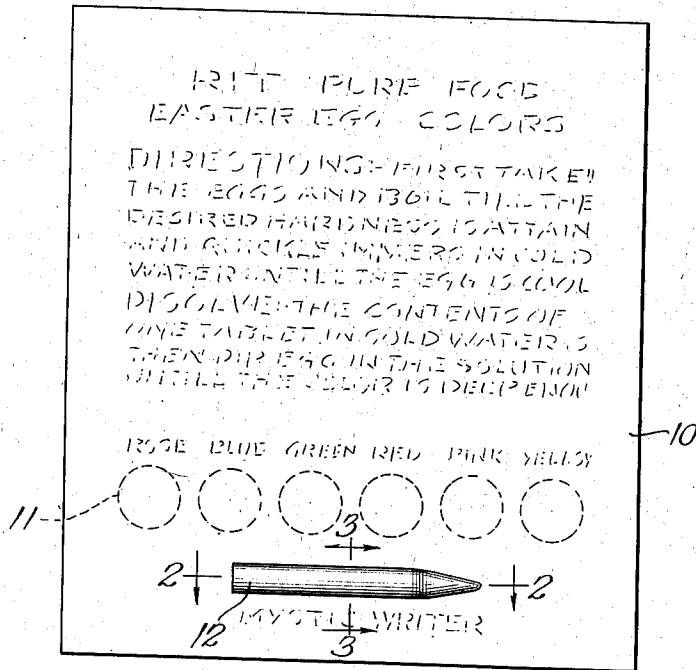


Fig. 2

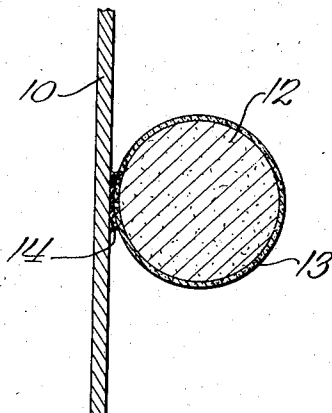
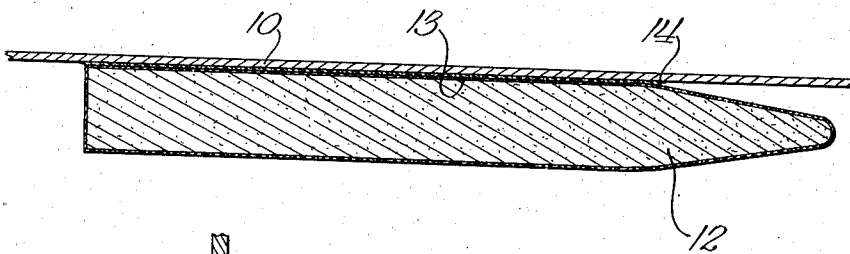


Fig. 3

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DYE PACKAGE

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4 Claims. (Cl. 206—81)

This invention relates to dye packages, particularly dye packages sold for use in the dyeing of eggs, and is also concerned with novel means for affixing to a paper surface a wax pencil or a waxy material which may be used in connection with the dyes proper.

It has heretofore been known that novel effects could be obtained in the dyeing of eggs to make the dyed Easter eggs by preliminarily coating a portion of the surface of the egg with a waxy or oily material, for example, by means of a wax pencil, wax crayon or melted wax, and then dyeing the thus coated egg with the usual aqueous dye solution. In such cases, those portions of the shell which were covered by the wax or the like repelled the dye while the uncovered portions of the shell would take up the dye. Thus, for example, one could write one's name on the egg shell with a wax pencil and then dip the treated egg in the desired dye solution. Upon removal of the egg from the dye bath, all portions of the shell would be dyed except those portions which had been coated with the wax, the result being that the name would stand out and thereby produce a novel effect.

In attempting to evolve a practicable manner of embodying in an Easter egg dye package a wax pencil or the like, numerous difficulties were encountered. Furthermore, problems were encountered in evolving the proper kinds of waxy materials in order to obtain fully satisfactory results. It was found to be important, for example, in order to obtain the best effects, that the waxy material employed be white or nearly colorless in order that the writing or designs made therewith on the egg shell be substantially invisible on merely a casual inspection of the egg although not necessarily so on closer scrutiny. A colored crayon or wax pencil was found somewhat objectionable since, although the portions of the egg shell marked therewith would not take up the dye in the subsequent dyeing operation, the picture, design or other marking could not readily be distinguished from the dyed portion of the shell, particularly where the dye employed was of the same color as or of a color similar to that of the wax pencil.

It was also found that ordinary wax crayons did not produce a satisfactory writing on egg shells. Thus, for example, the type of crayon ordinarily found in children's coloring sets and similar articles flaked off and smeared the egg shell and did not provide the desired sharp delineating lines. Crayons having a high pigment

content were found not fully suitable since they left deposits of pigment on the egg and these served to disturb or break the continuity of the wax film. Hence, when eggs were preliminarily marked with such crayons and then dipped in a dye solution, the dye penetrated into the broken portions of the wax film which resulted in the production of an undesired mottled effect. It was found that where the proportion of pigment did not exceed about 10% of the wax crayon, the objection pointed out was somewhat obviated, but much superior results were obtained when the wax was devoid or essentially devoid of pigments.

As a result of careful study and experimentation, the criteria were evolved with respect to satisfactory compositions for the wax pencil. Compositions having a melting point ranging from about 40 degrees C. to 80 degrees C. were found to be most satisfactory. Such a melting point range is sufficiently high so that the wax pencil will not be softened by contact with the hands or fingers or under normal atmospheric conditions. Furthermore, the melting point is not so high that the composition is unduly brittle, it being understood that a brittle pencil is unsatisfactory since it tends to break too readily when used or when shipped in the cartons or the like in which it is packaged.

The waxes which were found to be most desirable were those having the characteristics described hereinabove, typical examples of such waxes being white ceresin wax, rilan wax, white palm wax, opal wax, Japan wax, and mixtures thereof. Of exceptional utility is white ceresin wax, which is a mixture of vegetable and mineral waxes, having a melting point of about 72 degrees C. It should be understood that the term "waxes" is used herein in a generic sense to include not only the vegetable and mineral waxes but also substances having waxy characteristics such as monostearin and other hard higher fatty acid esters of polyhydroxy substances.

In order to provide a satisfactory way of incorporating the wax pencil into the dye package, it was found particularly advantageous to affix the wax pencil to a sheet of thin paper, preferably generally similar to the usual cigarette paper but slightly heavier. Such paper has been used heretofore in Easter egg dye packages, the same being printed with directions for use and with characters thereon for transferring said characters to the egg shells. It has also been known to affix to such paper a plu-

ality of dye buttons or dye tablets, the assembly being then disposed in an outer envelope. While the affixing of the wax pencil to the paper sheet was found to be very convenient, various problems were encountered in effecting a satisfactory bond between the wax pencil and the paper. It was found that heating the wax pencil to an extent sufficient to cause a portion thereof to soften or melt followed by pressing against the paper was not feasible. Within a relatively few minutes after the wax solidified, the bond between the wax and the paper weakened and the wax pencil become detached from the paper.

Efforts were made to utilize glues or adhesives. It was essential that the glue or adhesive, to be fully satisfactory, be one that would adhere to the wax pencil so that the pencil would adhere to the paper, but at the same time would permit the pencil to be removed readily from the paper by simply lifting it off with the fingers. A further desideratum was that the removal of the wax pencil from the paper should not result in the simultaneous tearing of the paper and the removal of a portion of the paper with the wax pencil. Various glues and adhesives were employed and found unsatisfactory until it was discovered that a glue or adhesive, preferably one having a dextrin base, which did not crystallize on drying was especially satisfactory. Such glues or adhesives per se are known in the art and, hence, no description of specific formulae appears to be necessary. Further investigation resulted in the finding that the adhesion of the glue or adhesive to the wax pencil was increased tremendously by first precoating the pencil with a dry, starchy material. While various starchy materials can be employed, such as the cereal and tuber starches and flours, cornstarch is especially useful. A convenient way of pre-coating the wax pencils with the cornstarch or the like comprises rotating a plurality of the pencils in the presence of a small amount of cornstarch in a drum or cylinder. Another convenient method comprises shaking a number of the pencils with some cornstarch in a cloth or towel or the like. The pre-coated wax pencils are then affixed to the paper sheets by means of the non-crystallizing adhesive, this operation readily being accomplished either mechanically or by hand operations. The wax pencils so affixed to the paper do not become loose during shipment of the packages and yet readily may be removed by pulling with the fingers. Furthermore, the adhesive, having a somewhat greater adherence to the paper than to the wax pencil, remains on the

paper and is not removed with the removal of the pencil.

The accompanying drawing shows the preferred embodiment of the invention, Figure 1 being a plan view, Figure 2 being an enlarged sectional view taken along the line 2—2 of Figure 1, and Figure 3 being an enlarged sectional view taken along the line 3—3 of Figure 1. The paper sheet 10, which may comprise a single sheet or a plurality of sheets, is provided with the usual printed matter giving directions for use or the like and with a plurality of dye buttons or tablets 11, shown in dotted lines, suitably affixed to the paper, for example by means of an adhesive. Disposed preferably below the dye buttons, or on any other desired portion of the paper sheet 10, is the wax pencil 12. Said pencil has a layer of cornstarch or the like designated as 13 and an adherent layer of glue or adhesive 14 whereby the wax pencil 12 is affixed to the paper 10 in a firm but readily removable manner. The wax pencil may be adhesively attached to the paper along essentially the entire length thereof or only along a portion of the length. The entire assembly may then be enclosed in an envelope, carton or other desired package or container.

While the several aspects of the invention have been described in detail, it will be understood that the same has been by way of illustration rather than as limitative, the full scope of the invention being pointed out in the claims.

What I claim as new and desire to protect by Letters Patent of the United States is:

1. In a dye package, a sheet of paper or the like and a wax pencil affixed thereto by means of a non-crystallizing adhesive, there being a starchy material, disposed in the form of a thin layer, between the wax pencil and the non-crystallizing adhesive.

2. In a dye package, a sheet of paper or the like and a white or light-colored wax pencil affixed thereto by means of a non-crystallizing adhesive having a dextrin base, there being a starchy material, disposed in the form of a thin layer, between the wax pencil and the non-crystallizing adhesive.

3. In a dye package, a sheet of paper or the like and a white ceresin wax pencil affixed thereto by means of a non-crystallizing adhesive, there being a thin cornstarch layer between the wax pencil and the non-crystallizing adhesive.

4. In a dye package, a sheet of paper or the like and a white or light colored wax pencil affixed thereto by means of a non-crystallizing adhesive having a dextrin base.

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