Oct. 8, 1935. V. H. BODLE 2,016,312

MULTIPLE COLORED RUBBER LABEL AND THE LIKE

Filed Dec. 30, 1932

Fig-1

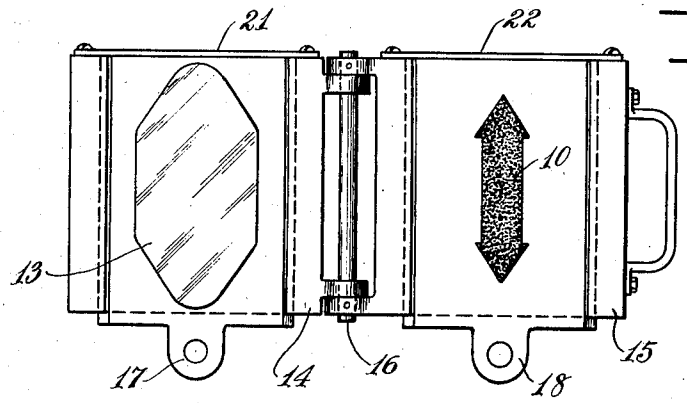


Fig-2

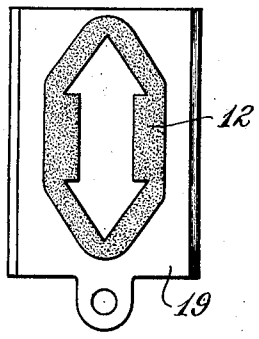


Fig-3

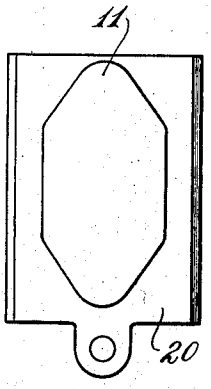


Fig-4

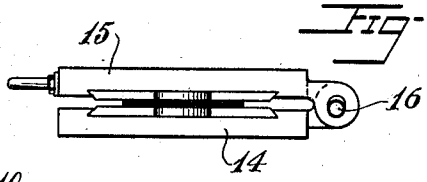


Fig-5

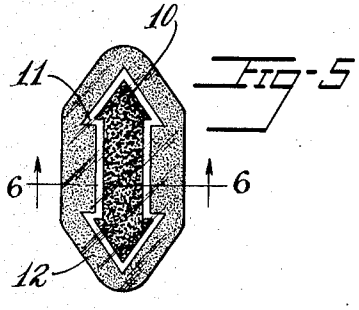
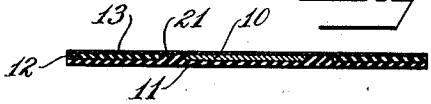


Fig-6



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MULTIPLE COLORED RUBBER LABEL AND THE LIKE

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Application December 30, 1932, Serial No. 649,489

11 Claims. (Cl. 41—33)

This invention relates to multiple-colored rubber designs such as labels and to methods of producing the same.

The principal objects of the invention are to provide a design or label having a plurality of colors accurately registered and to provide a method whereby said labels may be expeditiously and neatly produced.

Other objects will appear from the following description and the accompanying drawing.

In the drawing:

Fig. 1 is a plan view of a label assembling device showing parts of the label in place.

Fig. 2 is a plan view of a slide adapted to be inserted in the device shown in Fig. 1 with a label part in place thereon.

Fig. 3 is a similar view showing a second slide with a label part thereon.

Fig. 4 is an end view of the device shown in Fig. 1 in closed position.

Fig. 5 is a plan view of a complete label.

Fig. 6 is a cross-section on line 6—6 of Fig. 5 drawn to an enlarged scale.

The method comprises forming and assembling a plurality of thin layers of colored rubber compound in an unvulcanized state and contemplates the assembly of the layers on a thin, preferably transparent film so that the assembled design may be handled and applied without distortion, may be seen through the film to facilitate placing and is protected from dust. The method is best illustrated by a specific example and in order to explain the same the construction of a particular design such as shown in Figs. 5 and 6 will be described, it being understood that the design may assume different forms.

Referring to the drawing, and particularly to Fig. 6, the design there shown comprises a double arrow shaped center 10 of one color, for instance red, a border 11 of another color, for instance white, and a second border 12 of a third color, for instance black. These are for convenience assembled upon a protective film 13 of transparent material which may be coated with a transparent adhesive cement if desired.

In order to properly assemble the parts of the design I provide a jig comprising a pair of leaves 14, 15, hinged as at 16 and formed with dovetailed guideways on their opposed faces adapted to receive a series of dove-tailed slides 17, 18, 19, 20 of similar size and shape. Stops 21 and 22 are provided to limit the extent to which the slides may be inserted in the leaves.

Slide 17 has the film of transparent material 13 temporarily secured to its exposed face and is inserted in one leaf of the jig as shown in Fig. 1. A film of rubber compound 10 of the proper shape and color is secured or formed on slide 18 and is inserted in the other leaf of the jig. The leaves are then folded to bring the rubber part 10 into contact with the film 13 to which it will become attached due to greater adhesion in the film than to the slide 18.

The jig is opened and slide 18 removed. Slide 19 is inserted in the jig in place of slide 18 and has the label part 12 secured or formed thereon in such position as to register correctly with the rubber part 10 when deposited on the film 13. By again folding the leaves together the part 12 is deposited on the film in registry with the part 10. The jig is again opened and slide 19 is removed therefrom.

Slide 20 carrying the third part of the design is now inserted in the jig and its rubber part 11 deposited in similar manner over the previously deposited rubber parts. The jig may then be placed in a press and pressure applied to force the part 11 into engagement with the other parts and therebetween as at 21. The completed label may then be stripped from plate 17 and applied to a rubber article with the film 13. The film may then be stripped from the label before or after vulcanization of the article.

The rubber parts of the design may be formed or applied to the slides 18, 19, and 20 in any desired manner. A convenient method is to form the slides of metal and to deposit the rubber on the metal from a natural or artificial dispersion of the rubber compound, all parts of the metal on which it is not desirable to have a deposit formed being coated with an insulating substance and the rubber being electrically deposited from the dispersion, or such portions of the slide may be coated with a substance which will not permit wetting by a coagulant so that the rubber will be deposited only where desired by dipping the slide first in a coagulant and then in a rubber dispersion. It is also possible to prepare slides having the parts of their faces where it is desired to deposit the rubber of electrically conductive material and other parts of the slide of insulating substance.

Although the rubber design parts may be cut from sheet material and applied to the slides, methods by which the design parts are formed on the slides are preferable as no distortion of the parts can take place.

The protective film 13 may be formed on the plate 17 by deposit from a solution of cellulose or similar material.

For better adhesion of the label elements the surface of the transparent film 13 may be coated with a transparent rubber cement before the label elements are applied to it. To avoid blurring of outlines it is desirable that alternate elements of the design be of relatively non-flowing composition as compared with the intervening elements or that the elements be of successively increasing flowability from the first-applied element to the last-applied element of the series.

By making the temporary support or film of transparent material the design may be seen through the support and misplacement or inversion of the design is avoided.

I claim:

1. The method of making a multiple-colored rubber design which comprises separately forming colored parts of the design by deposit from aqueous dispersions of different rubber compositions, depositing one of said parts upon a transparent supporting member, depositing another part in juxtaposed relation to said first part, and superimposing a third part over the previously deposited parts in overlapping relation thereto.

2. The method of making a multiple-colored rubber design which comprises assembling in adhering relation to each other a series of design elements formed from dispersions of different rubber compositions with a margin of one projecting beyond an overlying margin of another by picking the design elements in order from supporting means by adhesion between the elements.

3. The method of making a multiple-colored rubber design which comprises assembling in adhering relation to each other a series of design elements formed from aqueous dispersions of rubber compounds of different composition and flowability with a margin of each projecting beyond an overlying margin of another by picking the design elements in order from supporting means by adhesion between the elements and molding and vulcanizing the design to bring faces of the elements substantially flush with each other.

4. The method of making a multiple-colored rubber design which comprises assembling in adhering relation to each other a series of design elements with a margin of one projecting beyond an overlying margin of another by picking the design elements in order from supporting means by adhesion between the elements and molding and vulcanizing the design to bring faces of the elements substantially flush with each other the elements being deposited from aqueous rubber dispersions of different flow-characteristics so that sharpness of their outlines is maintained.

5. The method of making a multiple-colored rubber design which comprises assembling a pair of rubber parts formed by deposit from aqueous rubber dispersions of relatively non-flowing compositions on a temporary support in determinate relation, depositing a sheet of rubber compound of contrasting color over said parts in overlapped relation thereto, and applying pressure to faces of the said parts and the said sheet to bring the faces of the parts substantially flush with each other.

6. The method of making a multiple-colored rubber design which comprises affixing a temporary supporting film to a platen, assembling a set of colored rubber parts formed from aqueous dispersions of rubber compositions on said temporary support so as to present different colors on the face of the assembly in contact with the support, removing the support from the platen, applying the label to a rubber article, and removing the temporary support.

7. A rubber design assembly comprising a plurality of rubber parts of different colors and flow characteristics adhesively united to each other in overlapping face-to-face relation and a removable inelastic, transparent support in adhesive contact with said parts.

8. A rubber design assembly comprising a plurality of rubber parts of different colors and flow characteristics adhesively united to each other, and a transparent, inelastic, removable support in adhesive contact with said parts.

9. A rubber design assembly comprising a plurality of superimposed rubber parts of different colors and flow characteristics adhesively united to each other, the entire margin of one projecting beyond the margin of another, and an inelastic transparent removable support in adhesive contact with said parts.

10. A rubber design assembly comprising a plurality of rubber parts of relatively non-flowing composition and of different colors adhesively united to each other, and a transparent layer of rubber composition adhesively united to the face of the design.

11. A rubber design assembly comprising a plurality of rubber parts of relatively non-flowing composition and of different colors adhesively united to one face of a transparent layer of rubber composition, and a protective removable layer of transparent inextensible material adhesively united to the opposite face.

VIRGIL H. BODLE.