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SIDEWALL CONSTRUCTION FOR A TIRE

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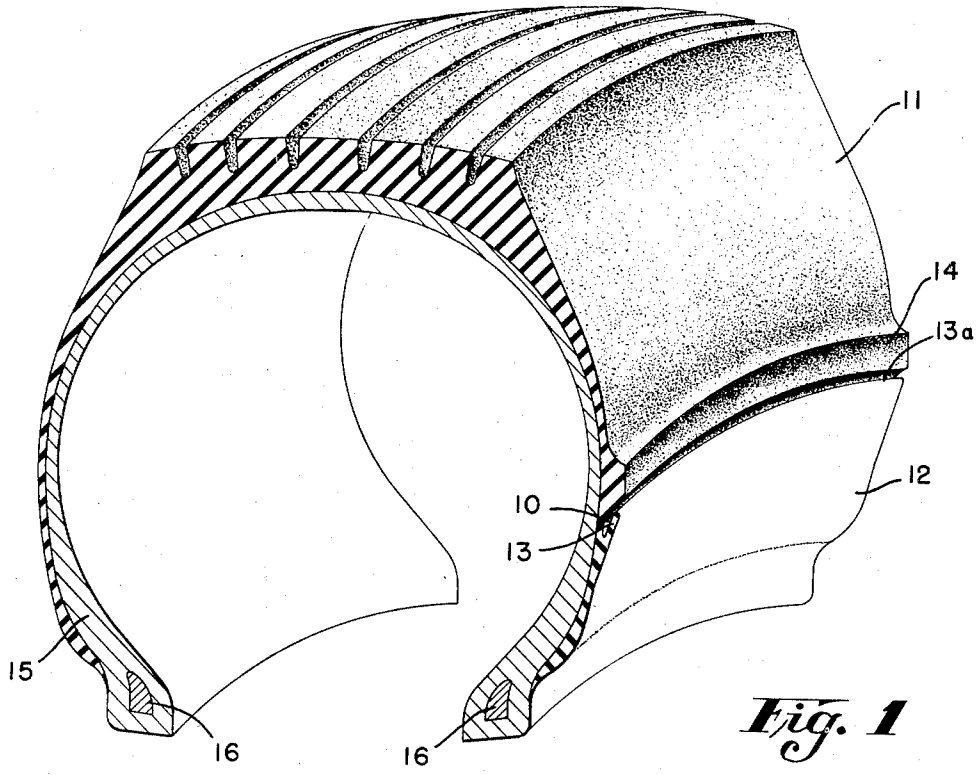


Fig. 1

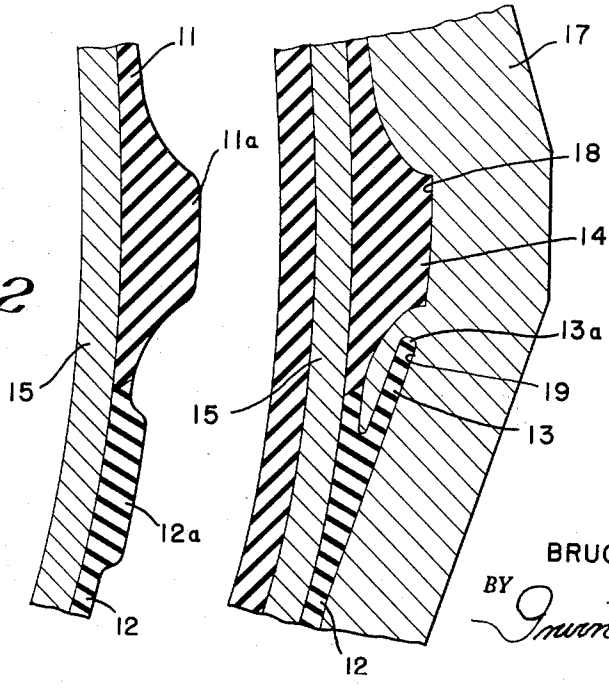


Fig. 2

Fig. 3

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SIDEWALL CONSTRUCTION FOR A TIRE

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This invention relates to vehicle tires of the type incorporating for decorative purposes rubber stocks of two different colors, usually black and white, in the sidewalls thereof.

In the manufacture of tires of this type, it is impossible to obtain a sharp, even line of juncture between the two stocks merely by careful fabrication, as in the subsequent molding and vulcanization there is an inner-flow of the stocks resulting in an uneven, irregular line of juncture therebetween.

In order to obtain a sharp, even line of juncture, it has been the practice to lap one of the stocks over the other at the joining edges, usually by the use of a separate cover strip, and after the molding and vulcanizing of the tire to grind or buff away the protruding portion of the overlapped stock to form an even regular, externally visible line of juncture between the stocks.

The primary object of the present invention is to provide a sidewall construction which will eliminate the necessity of using separate cover strips or overlapping constructions and the subsequent grinding or buffing operations inherent in the methods heretofore used, but which at the same time will provide an even regular, boundary line between the two contrasting stocks.

To this end, the present invention contemplates the provision of a flap or lip formed of one of the stocks which extends or projects therefrom in overhanging spaced relation to the adjacent edge of the other stock to conceal the irregular line of juncture between the two stocks. In this manner, the externally visible boundary line between the two stocks is formed by the regular, even, molded free edge of the flap or lip. The irregular line of juncture between the two stocks being concealed, no grinding or buffing subsequent to the molding of the tire is necessary. The contrast between the two stocks is enhanced by the shadow illusion and three dimensional effect created by the overlying flap or lip.

The elimination of the grinding or buffing operation, in addition to providing a considerable saving in labor, also eliminates the dulling of the surface of the tire as results when the surface is buffed or ground, and further minimizes sidewall "checking" which often is initiated by buffing or grinding of the surface of the tire. As no surface stock is ground away, there is no need for overlapping the two stocks and no separate cover strip need be applied.

The provision of the flap or lip also provides generous tolerances in the placement of the two stocks during fabrication, as the line of juncture between the two stocks may vary by an amount equal to the width of the flap or lip and still be concealed by the flap or lip.

If the line of juncture between the two stocks is not completely concealed by the flap or lip, the unconcealed portion can easily be camouflaged with paint, since the trough formed by the flap prevents streaking of the paint onto the colored sidewall. Furthermore, the raised portion of the sidewall or buffing rib protects the paint and the flap from scuffing and scraping.

The lip or flap also minimizes dirt streaking of the lighter colored stock, as the flap or lip forms a trough along which dirty water may drain.

Other objects and advantages of the invention will become apparent from the following description when read in conjunction with the accompanying drawings wherein:

Fig. 1 is a fragmentary perspective view of a portion of a tire constructed in accordance with the present invention showing the flap or rib which overlies and conceals the line of juncture between the two stocks in the sidewall thereof;

Fig. 2 is a partial sectional view through the sidewall of the fabricated tire prior to the molding and vulcanizing thereof showing the extra stock provided to form the buffing rib and the flap or lip; and

Fig. 3 is a partial sectional view of the tire in the vulcanizing mold showing the forming of the buffing rib and the flap or lip.

Referring to the drawings, and in particular to Fig. 1, in which there is shown a section of a finished tire formed in accordance with the present invention, the uneven, irregular line of juncture **10** between the relatively dark rubber stock **11** forming the tread and outer sidewall portions, and the lighter colored stock **12** forming the inner sidewall portion is concealed by a circumferentially extending flap or lip **13** which is formed of the lighter stock **12**, protrudes from and overlies the juncture line **10** adjacent the usual buffing rib **14**. As viewed externally, the boundary line between the dark stock **11** and the lighter stock **12** appears as an even, regular, sharply defined line formed by the outer protruding, free edge **13***a* of the flap or lip **13**. The constrast between the dark stock **11** and the lighter stock **12** is enhanced by the shadow illusion and third dimensional effect created by the flap or lip **13**.

Because the irregular line of juncture **10** between the two stocks is concealed by the flap or lip **13**, no grinding or buffing is necessary and no overlapping cover strip is necessary. Should the juncture line be visible because of improper location of the stocks thereof in the fabrication of the tire, the visible lighter stock along the line of juncture may be covered up with dark paint, without danger of the paint being scuffed or scraped off as the lip **13** in conjunction with the buffing rib **14** will prevent such an occurrence.

As the rib or flap **13** is not in contact with the darker stock **11**, the need for non-staining or barrier stock to prevent "bleed through" from the dark stock to the lighter stock is minimized. The trough formed by the flap or lip **13** minimizes dirt streaking of the lighter stock **12** by draining off dirty water that might run down the outer dark stock **11**.

Preferably, the flap or lip **13** does not extend out from the surface of the tire any further than the outer surface of the rib **14**, when the tire is mounted on a rim and inflated, so that the rib **14** will protect the flap or lip against damage by scuffing or scraping.

The tire of the invention is otherwise of conventional construction and includes a fabric carcass **15** and bead wire bundles **16** to which the carcass is anchored during vulcanization.

In fabricating the tire, an extra thickness **11***a* of the dark stock **11** is provided adjacent the joining edge thereof for forming the buffing rib **14** and an extra thickness **12***a* of the lighter stock **12** is provided adjacent the joining edge thereof to form the flap or lip **13**, as shown in Fig. 2. The tire is otherwise fabricated and shaped to approximate tire shape in the conventional manner.

After fabrication and shaping, the tire is placed in the tire mold **17**, as illustrated in Fig. 3. During the molding and vulcanizing of the tire, the buffing rib **14** and the flap or lip **13** are formed. The buffing rib **14** is

formed by a recess 18 provided in the wall of the mold 17 and the rib or flap 13 is formed by a recess 19 in the wall of the mold 17 which extends towards the recess 18, at an angle of approximately 10° to a line tangent to the outer surface of the rib.

From the above description, it can be seen that there is provided a sidewall construction for a tire incorporating two stocks of different colors which provides an even, regular, sharply defined line of demarcation between the two different colored stocks without the necessity of performing a buffing or grinding operation after the tire has been molded and vulcanized, and which minimizes dirt streaking of the lighter stock, eliminates the necessity of a separate cover strip or the use of non-staining or barrier stocks, and provides for a generous tolerance in the placement or positioning of the stocks in the fabrication of the tire. The term "rubber" has been used herein to denote natural or synthetic rubbers or blends thereof.

Having thus described my invention, what I claim and desire to protect by Letters Patent is:

1. In a vehicle tire having a sidewall formed of at least two externally visible concentric bands of different colored rubber stocks, a circumferential external lip formed of one of said stocks extending therefrom in overhanging spaced relation to the line of juncture between the two bands of different colored rubber stocks, to substantially conceal the said line of juncture.

2. In a vehicle tire having a sidewall formed of at least two externally visible concentric bands of different colored rubber stocks, a circumferentially extending outwardly projecting external rib formed of one of said stocks adjacent the line of juncture between said bands, and a lip formed of the other of said stocks and extending therefrom in overhanging spaced relation to the line of juncture between the two bands, to substantially conceal the same.

3. In a vehicle tire having a sidewall formed of a radially outer band of comparatively dark rubber stock and a radially inner band of lighter colored rubber stock, a circumferentially extending external lip formed of said lighter colored stock and projecting therefrom in overhanging spaced relation to the adjacent dark stock, and substantially concealing the line of juncture between the two bands of the different colored stocks.

4. In a vehicle tire having a sidewall formed of a radially outer band of comparatively dark colored rubber stock and a radially inner band of lighter colored rubber stock, a circumferentially extending outwardly projecting external rib formed of the dark colored stock adjacent

the line of juncture between the two bands, and a circumferentially extending external lip formed of the lighter colored rubber stock and projecting therefrom in overhanging spaced relation to and substantially concealing the line of juncture between the two stocks.

5. In a method of forming a tire having a sidewall formed of at least two externally visible concentric bands of different colored rubber stocks, the step of forming during molding of the tire a circumferential lip of one of said stocks extending in overhanging spaced relation to the line of juncture between the stocks to substantially conceal the same.

6. In a method of forming a tire having a sidewall formed of two concentric bands of different colored rubber stocks, the steps of forming a circumferentially extending outwardly projecting external rib from one of said stocks adjacent the line of juncture between the stocks, and forming a circumferentially extending lip from the other of said stocks which projects therefrom in overhanging spaced relation to the line of juncture between the two bands of stocks to substantially conceal the same.

7. In a method of forming a tire having a sidewall formed of a radially outer externally visible band of relatively dark rubber stock and a radially inner externally visible band of a lighter colored rubber stock, the step of forming a circumferential external lip of the lighter colored rubber stock projecting therefrom in overhanging spaced relation to the adjacent dark colored stock to substantially conceal the line of juncture between the two stocks.

8. In a method of forming a tire having a sidewall formed of a radially outer externally visible band of rubber stock of a relatively dark color and a radially inner externally visible band of a lighter colored rubber stock, the steps of forming during molding of the tire a circumferentially extending outwardly projecting external rib of the dark colored stock adjacent the line of juncture between the stocks, and forming a circumferential external lip from the lighter stock extending therefrom in overhanging spaced relation to the line of juncture between the two stocks, for the purposes set forth.

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