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E. S. AVERY

RUBBER COATED METAL AND METHOD OF PRODUCTION

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Fig. 1.

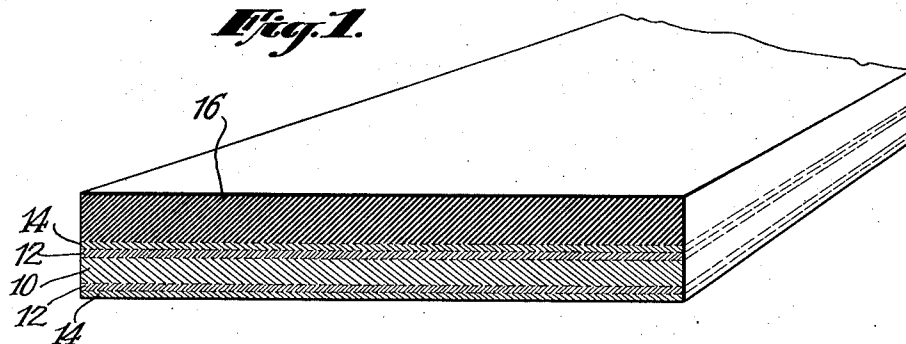
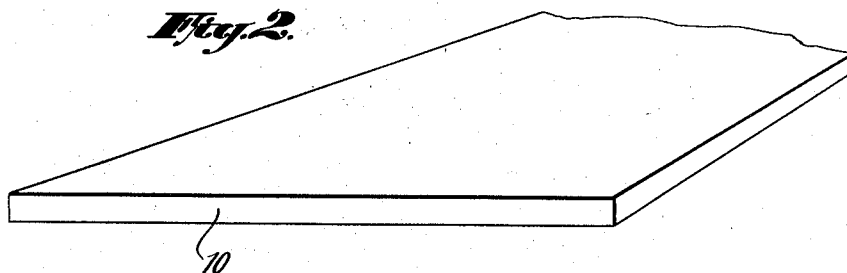


Fig. 2.



Inventor
EDWARD S. AVERY
By his Attorney
D. Anthony Usina

UNITED STATES PATENT OFFICE.

EDWARD S. AVERY, OF EAST HAMPTON, NEW YORK.

RUBBER-COATED METAL AND METHOD OF PRODUCTION.

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This invention relates to an improved article of manufacture coated with rubber and to the method of producing rubber coated sheets and the like.

5 The invention will be apparent from the following specification when read in connection with the accompanying drawings in which:—

10 Fig. 1 is a perspective view showing a metallic sheet at a large scale embodying my invention and made according to my improved method.

15 Fig. 2 is a perspective view of a metal piece such as sheet iron or the like which is to be coated with rubber.

In the drawings, Fig. 2 shows a stock sheet 10 of black iron, cold rolled steel, or other ferrous metal. This sheet is galvanized and then wiped with benzol or other solvent material so as to remove any oil, grease or other foreign matter which would interfere with subsequent steps. The cleansed galvanized sheets are then plated with an alloy consisting of copper, zinc and antimony. I find that in practice, best results are secured when the alloy consists of 62 $\frac{2}{3}$ % copper, 33 $\frac{2}{3}$ % zinc and 3 and a fraction percent antimony, although it is understood that I do not limit myself to an alloy of such proportions.

30 In the drawings, 12 represents diagrammatically the layer applied to the sheet 10 by galvanizing and 14 is the layer of copper, zinc and antimony plated on the galvanized surface. To the plated surface 14, I vulcanize a layer 16 of rubber, the latter making a very intimate bond with the layer of plating 14.

40 I am aware that others have attempted to secure rubber to sheet metal having a coating of a copper alloy. Prior attempts have not been wholly successful, however, because of the difficulty in making an intimate bond between the metal base and the alloy. Most commercial grades of sheet iron contain a thin film of oil which seems to penetrate into the pores of the metal and which is practically impossible to eradicate so as to make the sheets chemically clean so as to effect a good bond for the plate of the copper alloy. On the other hand, uncoiled metallic sheets contain an objectionable oxi-

dized area or rust spots. The cleaning of such sheets by sand blast or grinding is practically prohibitive because of the expense and liability of reforming the plates. The use of an acid bath for cleaning the sheets is objectionable as the acid residue interferes with the subsequent necessary step of plating with the copper alloy.

60 I have discovered that by galvanizing the sheet and then wiping it clean with benzol that I can intimately secure the copper alloy to the sheet.

While I have described my invention with great particularity it is not to be construed that I am limited to the steps in the method defined or to the particular characteristics of the article referred to since various changes may be made without departing from the invention as defined in the appended claims.

What I claim is:—

1. In the production of rubber coated metallic articles, the method which consists in galvanizing a body of metal, plating the same with an alloy of copper, zinc and antimony and vulcanizing a layer of rubber thereto.

2. In the production of rubber coated metallic articles, the method which consists in galvanizing a body of metal, cleansing the surface thereof with a suitable solvent, plating over the galvanized surface and vulcanizing a layer of rubber over the plating.

3. In the production of rubber coated metallic articles, the method which consists in galvanizing a body of metal, cleansing the surface thereof with benzol, plating over the galvanized surface and vulcanizing a layer of rubber over the plating.

4. In the production of rubber coated metal sheets, the method which consists in providing a galvanized sheet, plating the same with an alloy containing a substantial percentage of copper and vulcanizing a layer of rubber directly thereto.

5. In the manufacture of rubber coated articles, the method which consists in galvanizing a metallic body, plating the same with an alloy containing a substantial percentage of copper and vulcanizing a layer of rubber directly thereto.

6. An article of manufacture consisting of

a galvanized metal body having a plated alloy of copper, zinc and antimony and surface consisting of an alloy containing a having a layer of rubber vulcanized directly substantial percentage of copper and hav- thereto. 10
 ing a layer of rubber vulcanized directly
 5 thereto.

In witness whereof, I have hereunto signed my name.

7. An article of manufacture comprising a galvanized metal sheet plated with an

EDWARD S. AVERY.