W. G. KOCH.

METAL COATED SHEET.

APPLICATION FILED MAY 26, 1916.

1,223,399. Patented Apr. 24, 1917.

Fig. 1.

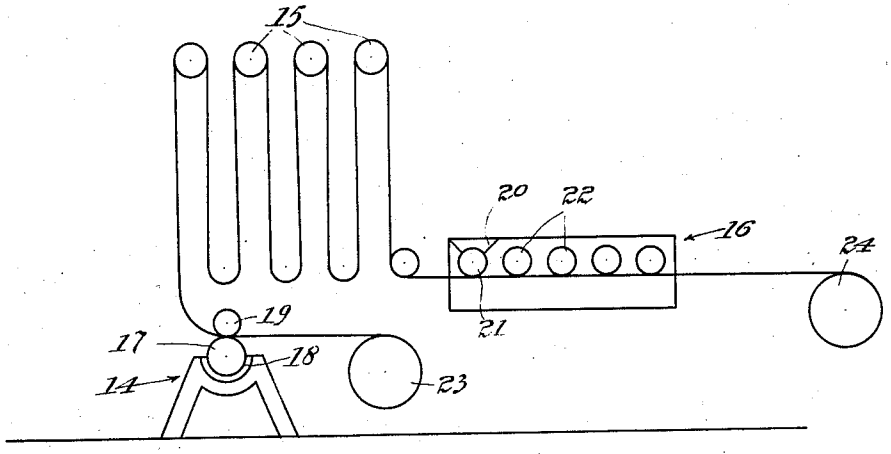


Fig. 2.

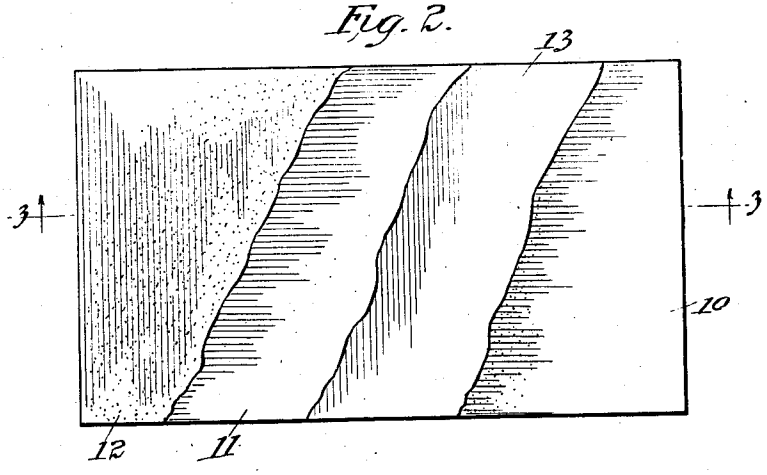
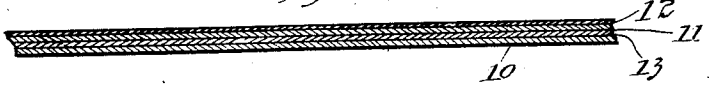


Fig. 3.



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UNITED STATES PATENT OFFICE.

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METAL-COATED SHEET.

1,223,399. Specification of Letters Patent. Patented Apr. 24, 1917.

Application filed May 26, 1916. Serial No. 99,940.

To all whom it may concern:

Be it known that I, WILLIAM G. KOCH, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Metal-Coated Sheets, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawing, forming a part of this specification.

My invention relates to metal coated sheets and more specifically to bronzed paper.

One of the objects of my invention is to make such a sheet in which the metal coating will have a brilliant and glossy appearance.

Further objects will appear from the detailed description to follow taken in connection with the appended claims.

In the drawings in which one embodiment of my invention is shown;

Figure 1 is a side elevation showing diagrammatically an apparatus for making bronzed paper embodying my invention;

Fig. 2 is a plan view of a composite sheet, different layers being partly removed to show the construction; and

Fig. 3 is a cross section of a composite sheet embodying my invention showing the different layers.

The finished sheet comprises a plurality of layers 10, 11, 12 and 13, the layer 10 forming the base of any suitable material such as paper, the layer 11 being a coating of any suitable adhesive such as varnish, the layer 12 being a coating of pulverized metal such as bronze, and the layer 13 being a coating of gum or any other suitable material impervious to the adhesive layer 11 lying between the adhesive layer and the layer 10 to prevent the varnish from soaking in the pores of the paper.

If the varnish were applied next to the paper it would soak into the pores of the paper making the surface of the varnish rough, and a coating of metal applied to such a rough surface would not have the brilliant glossy appearance which it has when the coating of gum or other impervious material is applied to the paper between the adhesive coating and the paper.

The apparatus shown in Fig. 1 for making the composite metal coated sheet comprises a machine 14 for applying the varnish to the gummed paper, a plurality of drying rollers 15 over which the varnished paper passes after it has passed through the varnishing machine, and a bronzing machine 16 for applying the powdered metal to the varnished sheet.

The varnishing machine 14 comprises a roller 17 which revolves in a bath of varnish 18, and a pressure roller 19 which holds the gummed sheet against the varnishing roller.

The bronzing machine comprises a compartment or hopper 20 containing a supply of powdered metal, a revolving brush 21 for sweeping the metal from the hopper and spreading it on the sticky varnished paper, and a plurality of revolving finishing rollers 22 which dust off the surplus metal and at the same time give the surface a slight burnishing. The sheet may be unwound from a roll 23 and wound up on a roll 24. The purpose of the rollers 15 is to give the varnish a chance to set somewhat before the powdered metal is applied.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is;—

1. As an article of manufacture, a composite sheet comprising a layer of paper forming a base, a first coating impenetrable to an adhesive superposed on said layer, an adhesive coating of varnish superposed on said first coating, and a coating of pulverized metal superposed on said adhesive coating.

2. As an article of manufacture, a composite sheet comprising a layer of paper forming a base, a first coating impenetrable to an adhesive superposed on said layer, an adhesive coating superposed on said first coating, and a coating of pulverized metal superposed on said adhesive coating.

3. As an article of manufacture, a composite sheet comprising a layer of paper forming a base, a first coating of gum impenetrable to an adhesive superposed on said layer, an adhesive coating superposed on said first coating, and a coating of pulverized metal superposed on said adhesive coating.

4. As an article of manufacture, a composite sheet comprising a layer of paper

forming a base, a first coating of gum impenetrable to an adhesive superposed on said layer, an adhesive coating of varnish superposed on said first coating, and a coating of pulverized metal superposed on said adhesive coating.

In witness whereof, I have hereunto subscribed my name in the presence of two witnesses.

WILLIAM G. KOCH.

Witnesses:
HERBERT SEGNITZ,
W. D. MORRIS.