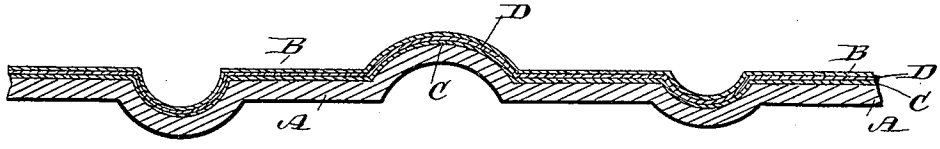
(No Model.)

F. PRIESTER & O. WEIDEMANN.

PROCESS OF MANUFACTURING COLORED RELIEF IMPRESSIONS ON SHEET METAL.

No. 351,125. Patented Oct. 19, 1886.



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FRIEDMANN PRIESTER AND OTTO WEIDEMANN, OF BERLIN, GERMANY.

PROCESS OF MANUFACTURING COLORED RELIEF IMPRESSIONS ON SHEET METAL.

SPECIFICATION forming part of Letters Patent No. 351,125, dated October 19, 1886.

Application filed January 23, 1886. Serial No. 189,467. (No model.) Patented in England January 2, 1886, No. 74, and in France January 2, 1886, No. 173,294.

To all whom it may concern:

Be it known that we, FRIEDMANN PRIESTER and OTTO WEIDEMANN, subjects of the King of Prussia, residing at Berlin, Prussia, German Empire, have invented certain new and useful Improvements in the Manufacture of Colored Relief-Impressions on Sheet Metal, (for which patents have been granted in the following countries viz: Great Britain January 2, 1886, No. 74, and France January 2, 1886, No. 173,294;) and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, and to letters or figures of reference marked thereon, which form a part of this specification.

The object of our invention is to prevent the colors from coming off of sheet metal when relief-impressions are made.

The invention will first be described, and then specifically pointed out in the claims.

The figure represented in the accompanying drawing shows a cross-section of a piece of sheet metal having colored relief-impressions.

In the manufacture of colored relief-impressions on sheet metal it often happens that the coat of color breaks or cracks off when the sheet metal receives the impression forming the relief, so as to expose the blank metal. This is specially the case whenever an abrupt curve or sharp projection is formed in the sheet metal. Heretofore attempts have been made to overcome these objections by making the coloring-matter elastic; but such elastic coloring-matter contains metallic oxides which combine with the sheet metal and produce a chemical action, forming an oxide which spoils the elasticity of the coloring-matter and also changes the tint of the coloring-matter—as, for instance, sheet-brass coated with zinc oxide changes the white tint to green.

We place between the sheet metal A and the coloring-matter B a thin elastic and isolating film, C, which prevents the ingredients of the coloring-matter from coming in contact with the sheet metal A, and at the same time produces an elastic coating, which allows the sheet metal to be subjected to abrupt and sharp impressions.

The film C is a clear watery substance composed of the following ingredients: turpentine, eight parts; benzine, two parts; copal-varnish, three parts; caoutchouc dissolved in benzine, one part. The sheet metal coated with this film is dried, after which a background, D, is placed over the film C, which background is composed of the following ingredients: white lead mixed with double varnish, two hundred parts; zinc oxide, one hundred parts; Venetian turpentine, ten parts; caoutchouc, fifteen parts; elemi-resin, ten parts, (the caoutchouc and elemi-resin being dissolved in benzine;) benzine, thirty parts; turpentine, eighty-five parts; wax (from the combs of young bees) dissolved in varnish and turpentine, five parts; manganese oxide, ten parts.

For articles of superior quality we add a second ground coat composed of the following ingredients: zinc oxide mixed with double varnish, four hundred parts; caoutchouc dissolved in benzine, six parts; Venetian turpentine, five parts; drying-powder mixed in varnish, fifty parts; wax (from the combs of young bees) dissolved in turpentine, thirty parts; poppy-seed oil, ten parts; benzine and turpentine, according to the quantity needed.

If the background of the sheet metal is to be colored instead of white, the zinc oxide or white lead is mixed with a coloring-matter, which produces the desired color, after which the desired pattern is placed or painted upon the background and permits of placing various colors one upon the other in a manner similar to the method employed in producing chromos, as the background is capable of absorbing the colors so that the different layers of color adhere to each other.

Metal plates treated in this manner can be pressed into reliefs without displacing the coloring-matter, and this advantage is in the main due to the isolating coat and the elastic background.

Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

1. The method of preparing sheet metal for receiving relief-impressions, which consists in coating the metal with an elastic isolating film, then drying the same, then applying a coating over the film to form a background, and finally applying the desired pattern, the

sheet then being ready to be impressed, substantially as set forth.

2. The herein-described composition for forming an isolating film upon sheet metal that is to receive relief-impressions, comprising turpentine, benzine, copal-varnish, and caoutchouc dissolved in benzine, in about the proportions stated, substantially as set forth.

3. The herein-described composition for forming a background on sheet metal to be impressed, the same consisting in white lead or zinc oxide combined with turpentine and caoutchouc dissolved in benzine, in about the proportions stated, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

FRIEDMANN PRIESTER.
OTTO WEIDEMANN.

Witnesses:
PAUL BERER,
B. ROI.