

UNITED STATES PATENT OFFICE.

FREDERICK CRANE, OF NEWARK, NEW JERSEY.

INLAYING METALLIC HARNESS-TRIMMINGS AND THE LIKE WITH PLASTIC MATERIALS.

SPECIFICATION forming part of Letters Patent No. 241,622, dated May 17, 1881.

Application filed April 12, 1881. (Specimens.)

To all whom it may concern :

Be it known that I, FREDERICK CRANE, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Inlaying Metallic Harness-Trimnings and the Like with Plastic Materials; and I 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.

The object of this invention is to enamel, inlay, and ornament metallic trimmings for harness, saddlery, and other similar hardware. Several methods are now in use for this purpose, such as gilding, silvering, nickel-plating, tinning, inlaying with rubber, celluloid, japan, and other like material. Some of these give good results in such small articles as rosettes, but are expensive, since they require costly dies for the inlaying. In others a contrasting effect is produced by covering depressed sections with paint or japan; but these depressions are receptacles for dirt, and the fine effect of a genuine inlay is never produced.

My invention consists in affixing directly to the article to be ornamented a hard material, which will become plastic with heat, solvents, or chemical combinations, and when cold take and hold a high polish.

The essential features of the invention are—

First, preparing the article by casting with suitable depressions for receiving the enamel, and then heating it and applying the composition in a plastic condition, so as to completely fill the depressions; or the article may be formed by striking up.

Second, polishing at the same time both the surface of the metal which is not covered by the enamel and those parts which are so covered, thereby making the exposed metallic portions and the enameled parts flush with each other. The rougher grinding may, however, have been done to the casting before applying the inlay.

Third, in keeping the article cool with water or other liquid while polishing, so that the enamel shall not be softened.

The following description will enable those

skilled in the art to which my invention relates to make and use the same.

The article to be enameled is cast or struck up in dies in the usual manner for making harness-mountings—such as buckles, terrets, rings, rosettes, hooks, clasps, and the like—of any suitable metal. White-metal, German silver, bronze, brass, iron, and the various alloys and metals capable of being cast or struck up, and which are sufficiently strong, are all suitable for the purpose. In the process of casting or striking up depressions are formed to receive the inlay. These depressions might be formed by the use of tools and machines; but as the method of casting is the cheapest it is to be preferred. The article thus formed is then heated to such temperature as that at which the inlay or composition is plastic. The composition in a plastic condition is next pressed into the depressions so as to completely fill them. By this treatment the inlay will adhere without the necessity of undercutting. When cold the article is completed by polishing in the manner common in finishing metal articles of this kind. By applying water or other cold liquid upon the article during this operation the greatest brilliancy of finish is secured.

I do not limit myself to any one particular plastic compound for the inlay, as there are many now in use in the arts which will serve my purpose, the essential thing being that they may be rendered plastic by heat, solvents, or chemical combinations, are hard and not too brittle when cold, and capable of taking and holding a high polish. The compounds formed of shellac as a basis I find to answer well. The best color for contrasting with the metals named above is black; but other colors may be used, as taste or fancy may dictate. The form of a broad band of the enamel with narrow metal borders gives a fine effect. The metal and the enamel or inlaying being flush with each other, the article is both easy to polish and to keep clean when in use—a condition which also greatly increases the beauty of the article.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. The process herein described of enameling and inlaying metal articles, such as herein de-

scribed, with plastic composition, consisting in forming the article with recesses in its surface in form of design to be produced, filling the recesses with the plastic material, and then polishing the metal and the inlaying, all substantially as set forth.

2. In the process of inlaying metal articles with plastic materials which do not shrink in cooling, heating the metal, applying the plastic composition to it while heated, and pressing them together so as to produce a firm adhesion, as described.

3. The process of inlaying metal articles with plastic materials of the character herein described, consisting in fixing the composition upon the article and then polishing the composition and metal together, so as to produce an even surface, as described.

4. The process of finishing articles composed of a body of metal and an inlaying of plastic

composition, consisting in applying cold water or other liquid to the surface while grinding or polishing, as and for the purpose set forth.

5. The new article of manufacture herein described, consisting of a body of metal with recesses, and the recesses entirely filled with plastic material, so as to be flush with the metal, and the whole polished, substantially as set forth.

6. Inlaid metallic harness-trimmings having a broad band of inlaying and a narrow metallic border, each flush with the other, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

FREDERICK CRANE.

Witnesses:

HALSEY M. BARRETT,
EDWARD N. CRANE.