

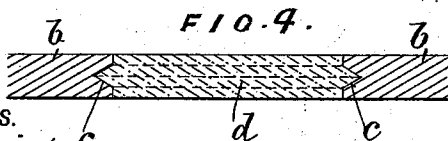
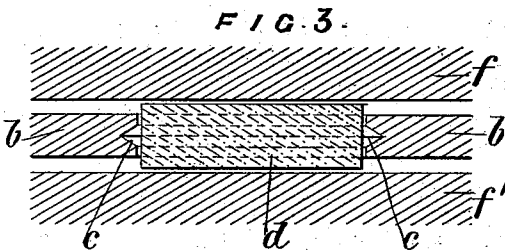
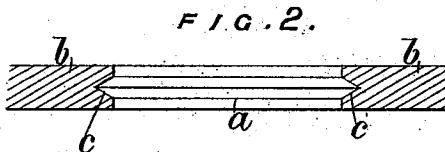
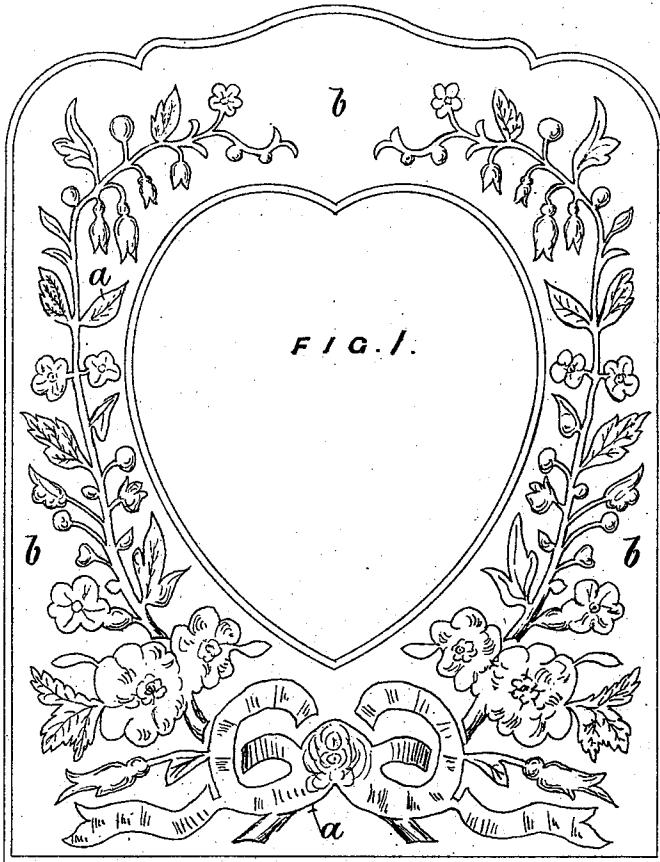
(No Model.)

H. F. L. AUMONT.

PROCESS OF INLAYING METAL GOODS WITH TORTOISE SHELL OR CELLULOID.

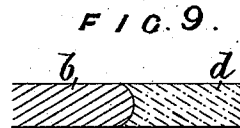
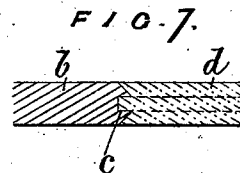
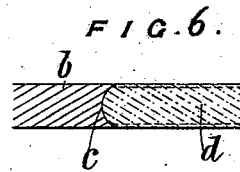
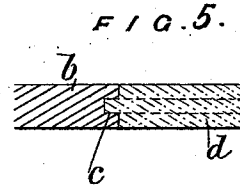
No. 530,817.

Patented Dec. 11, 1894.



WITNESSES.

W. Sedgwick
A. Purcott



INVENTOR:

H. F. L. Aumont

BY

Munn & Co.

ATTORNEYS

UNITED STATES PATENT OFFICE.

HENRI FRANCOIS LOUIS AUMONT, OF LONDON, ENGLAND.

PROCESS OF INLAYING METAL GOODS WITH TORTOISE-SHELL OR CELLULOID.

SPECIFICATION forming part of Letters Patent No. 530,817, dated December 11, 1894.

Application filed September 12, 1894. Serial No. 522,803. (No specimens.) Patented in France March 5, 1894, No. 236,758.

To all whom it may concern:

Be it known that I, HENRI FRANCOIS LOUIS AUMONT, goldsmith, of 7 Carlisle Street, Soho Square, London, W., England, have invented
5 new and useful Improvements in Processes of Inlaying Metal Goods with Tortoise-Shell or Celluloid, (for which I have obtained Letters Patent in France, dated March 5, 1894, No. 236,758,) of which the following is a full,
10 clear, and exact description.

This invention relates to the inlaying with tortoiseshell or celluloid, of watch-cases, jewelry, ornaments, photograph-frames, cigar-cases, and other fancy goods made of gold,
15 silver, or other metal.

The object of the invention is to produce a transparent, enamel-like effect, whether the article inlaid be viewed by reflected or transmitted light.

20 The invention consists essentially in the mode whereby the tortoiseshell or celluloid is firmly secured in "through" or unbacked apertures in the plate of metal, without the use of cement, or of any apparent means of retaining the inlaid material, which although
25 flush with the two faces of the metal plate is caused to interlock with the edges of the apertures in which it is placed, in such manner that it is securely retained therein.

30 The invention is illustrated in the accompanying drawings, merely by way of example, as applied to a photograph-frame, but it will be evident that the nature of the article and the character of the design may be varied
35 indefinitely.

Figure 1 is a face view of a photograph-frame having a design inlaid therein, in accordance with the method of my invention. Fig. 2 is a cross-section of the metal plate,
40 through one of the apertures. Fig. 3 is a similar section, with the piece to be inlaid placed in the aperture ready to be pressed, and Fig. 4 is a similar section, showing how the inlaid piece is secured. Figs. 5, 6, and 7, show
45 modifications of the form of the groove in which the inlaid material becomes embedded. Figs. 8, and 9, show how the interlocking of the inlaid material with the metal plate is effected in the case of plates which are so thin
50 that they cannot be conveniently grooved. All these figures are drawn to a magnified scale, and the same letters of reference indicate the same parts in all of them.

b is the plate of metal in which apertures
a are cut or stamped in the ordinary way, in
55 accordance with any floral or other ornamental design. These apertures are prepared to receive and hold the pieces of inlaid material either by having a groove *c* cut in the thickness of the edge of each aperture, as in Figs. 60
2, 3, 4, 5, 6, and 7, or by having the edges beveled, as in Figs. 8 and 9. The groove *c* would be cut by means of a burin or graving tool and should be about one or two millimeters
65 in depth and it would extend entirely around the aperture so as to form a kind of bezel to hold the piece of inlaid material in the manner of a watch glass. The groove may either be V-shaped in profile, as in Figs. 2, 3, and 4,
70 or it may be of rectangular section, as shown in Fig. 5, or the edges of the aperture may be hollowed or grooved over the whole thickness of the plate, as in Fig. 6. With either of the forms of groove shown in Figs. 2 to 5, the
75 arrises of the metal may beveled off on both faces of the plate, as shown in Fig. 7, so that a double bond of the inlaid material with the metal will be obtained, this form of interlocking being a combination of the groove before
80 described and the beveled form shown in Fig. 8. In this latter case the edge of the aperture instead of being grooved is oppositely beveled, as in Fig. 8, or rounded, as in Fig. 9, so that the relative forms of the metal and the inlaid material are reversed, the
85 groove being virtually formed in the inlaid material instead of in the metal, the interlocking connection being the same in both cases.

The method of inlaying is as follows:—The
90 tortoiseshell or celluloid is of greater thickness than the metal plate (say one and one-half to twice the thickness) and is cut in pieces *d* corresponding in shape to, and just large enough to enter, the apertures *a* in the
95 metal plate *b*. All the apertures of the design having been thus filled with the pieces of tortoiseshell or celluloid *d*, the plate is subjected to heat and pressure between two
100 blocks *ff'* of gun metal so as to thereby soften the pieces of inlaid material, compress them until they are but little thicker than the metal
plate, and cause them to expand laterally so
that their edges become squeezed into the
105 grooves *c*, as shown in Fig. 4, or become interlocked with the beveled edges, as shown

in Fig. 8. This pressure must be maintained until the whole has become cold, so that the interlocking of the inlaid material and metal may be permanent. The thin film of the inlaid material which has become squeezed out and spread over the surfaces of the plate *b* is then filed off until the inlaid material is flush with the metal, as shown in Figs. 4 to 9. The whole is then polished, and the inlaid material may then be engraved or carved to heighten the effect.

The heat required for the pressing operation must be sufficient to soften, but not to burn, the inlaid material and the heated gun metal pressure blocks must be coated with a strong solution of sea-salt before the work to be pressed is applied between them or layers of cloth soaked with sea water may be applied between the pressure blocks and the work, the object being to prevent the discoloration of the inlaid material.

I claim—

1. The herein described mode of inlaying metal goods with tortoiseshell or celluloid,

which consists in squeezing the pieces of material to be inlaid, when softened by heat, into interlocking engagement with the grooved or beveled edges of "through" apertures in the metal, maintaining the pressure until the work is cold, and then removing any superficial excess of the inlaid material, substantially in the manner described.

2. A plate of metal having pieces of tortoiseshell or celluloid inlaid in it by being squeezed, under the combined effect of heat and pressure, into interlocking engagement with the edges of "through" apertures in the plate, substantially as specified.

Signed by me, the said HENRI FRANCOIS LOUIS AUMONT.

HENRI FRANCOIS LOUIS AUMONT.

In presence of—

JOHN D. VENN,
Gracechurch Street, London, England.

WALTER J. SKERTEN,
Notary's Clerk, Gracechurch Street, London, England.