

(No Model.)

E. HART.

METHOD OF MAKING ORNAMENTAL METAL ARTICLES.

No. 582,528.

Patented May 11, 1897.

Fig. 1.

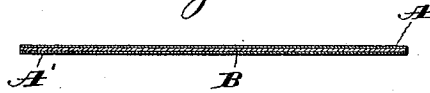


Fig. 2.

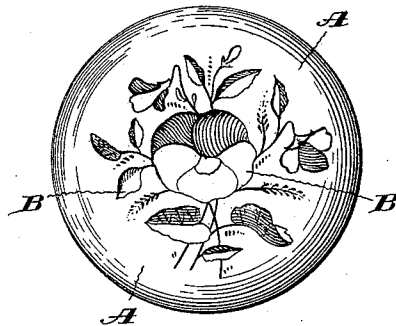


Fig. 3.

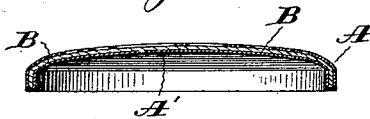


Fig. 4.

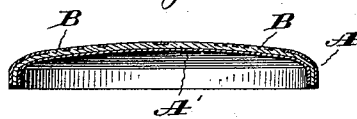
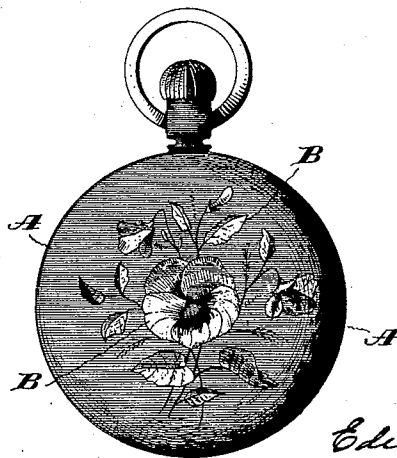


Fig. 5.



Witnesses:
James Hutchinson.
Henry C. Hazard

Inventor.
Edwin Hart
by Charles W. Russell
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UNITED STATES PATENT OFFICE.

EDWIN HART, OF WATERBURY, CONNECTICUT, ASSIGNOR TO THE WATERBURY WATCH COMPANY, OF SAME PLACE.

METHOD OF MAKING ORNAMENTAL METAL ARTICLES.

SPECIFICATION forming part of Letters Patent No. 582,528, dated May 11, 1897.

Application filed February 17, 1896. Serial No. 579,529. (No model.)

To all whom it may concern:

Be it known that I, EDWIN HART, of Waterbury, in the county of New Haven, and in the State of Connecticut, have invented certain new and useful Improvements in Methods of Making Ornamental Metal Articles; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 is a view in section of the first blank used in making the back of a watch-case. Fig. 2 is a plan view of the same after the outer plate has been cut away or engraved to expose the middle plate. Fig. 3 is a section on the line *xx* of Fig. 2. Fig. 4 is a like view of the same after having been subjected to pressure to force the middle plate into the openings formed by cutting the outer plate, and Fig. 5 is a plan view of the finished product.

Letters of like name and kind refer to like parts in each of the figures.

The object of my invention is to produce ornamental or other designs on watchcases and other metal articles; and to this end said invention consists in the method employed, substantially as hereinafter specified.

Although I have devised my invention with especial reference to the ornamentation of watchcases and for the purpose of illustrating the same shall describe it in connection with watchcases, I wish it understood that I do not limit my invention to this particular use, as it is applicable to a great variety of metal articles.

In the carrying of my invention into practice as applied to the ornamentation of watchcases, and where the case-back is the part to be ornamented, I form the blank, (shown in Fig. 1,) which consists of two plates or sheets of steel A and A' and an interposed plate of gold B, the three being suitably united together and rolled to the thickness desired for the back. Said blank, after having been given the customary cup form, as shown in Fig. 3, is engraved or cut away on its outer side with a desired design, the engraving or cutting being deep enough to pass entirely through the outer sheet or plate of steel A to the surface of the gold plate, the blank after

this procedure being as shown in Figs. 2 and 3. The blank is next placed in dies and by means of a drop-press or otherwise is subjected to such pressure as to cause the gold that is exposed by the cutting away of the steel to be forced out into so as to fill the openings produced by the cutting even with the surface of the uncut portion of the steel, the appearance produced being that of one metal inlaid in the other. The surface of the gold thus made to fill the design cut out of the outer plate of steel is engraved, if the nature of the ornamentation desired calls for it, and the surface of the outer plate blackened or colored, by oxidizing or otherwise, to enhance by contrast the ornamental effect. The article thus finished is shown in Fig. 5.

I have specifically referred to steel and gold as the metals used in the practice of my invention, because these two metals are susceptible of such treatment as to produce most beautiful effects, but I wish it understood that I do not limit myself to the use of these metals only, as obviously the scope of the invention extends to the use of any metals having such relative softness and hardness as to enable one to be forced into openings cut into the other.

Having thus described my invention, what I claim is—

1. The method of ornamenting metal articles which consists in uniting two plates of metal, one of which is softer than the other, cutting a desired design through the harder plate to the softer, and then forcing the material of the softer plate into the opening or openings cut into the other plate, substantially as and for the purpose specified.

2. The method of ornamenting watchcases and the like, which consists in superimposing one plate of metal upon another that is relatively softer, then giving to the combined plates the customary cup form of the case, next cutting a desired design through one plate to the other, and finally forcing the material of the softer plate into the opening or openings cut in the other plate, substantially as and for the purpose shown.

3. The method of ornamenting metal articles, which consists in making a blank of three superimposed plates, the middle one being

softer than the others, cutting a desired design through one of the outer plates, and then forcing the material of the softer plate into the opening or openings, cut in the outer
5 plate, substantially as and for the purpose set forth.

In testimony that I claim the foregoing I

have hereunto set my hand this 24th day of January, 1896.

EDWIN HART.

Witnesses:

D. L. ARTHUR,
M. C. HAYNOR.