(No Model.)

T. BENFIELD.

METHOD OF PRODUCING RAISED DESIGNS IN COLORS.

No. 438,397. Patented Oct. 14, 1890.

Fig. 1.

Fig. 2.

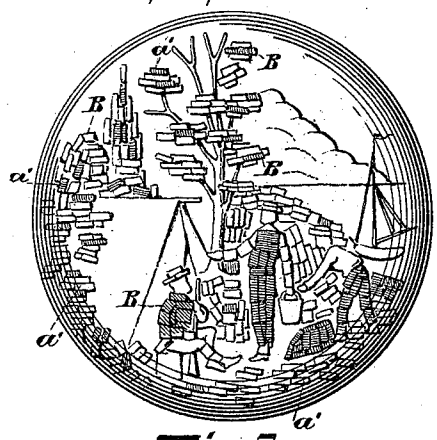
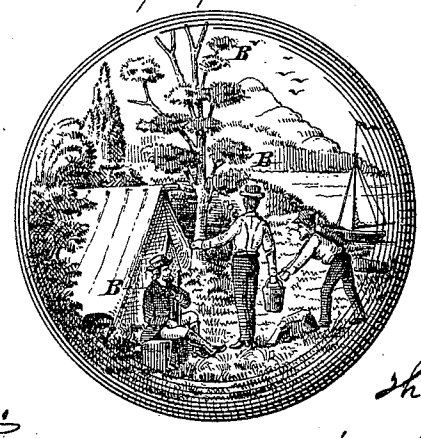


Fig. 3.



WITNESSES.

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METHOD OF PRODUCING RAISED DESIGNS IN COLORS.

SPECIFICATION forming part of Letters Patent No. 438,397, dated October 14, 1890.

Application filed May 23, 1890. Serial No. 352,845. (No model.)

To all whom it may concern:

Be it known that I, THOMAS BENFIELD, a subject of Her Majesty the Queen of Great Britain, and a resident of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in the Method of Producing Raised Designs in Colors, of which the following is a specification.

My invention relates to a new method of producing raised metal designs in colors; and it consists substantially in first partially producing or partially striking up the design by means of a suitable die; secondly, in soldering or otherwise securing small pieces of different-colored metal to such partially struck-up design; thirdly, in again subjecting the design to the action of a die for the purpose of completely or entirely striking up the design, and, finally, finishing the design by engraving or otherwise.

As will be hereinafter understood, my new method of producing designs is applicable to all cases where surface ornamentation is to be produced upon or in metal and is not limited to any particular design or designs. As I have heretofore used or employed my new method in the ornamentation of watch-cases, I will describe the same as employed for that purpose, the design in this instance being intended to represent a camping scene, as shown in the accompanying drawings, in which—

Figure I represents the lid or back of a watch-case having a design partially struck up or partially formed thereon in relief. Fig. II is a similar view showing the back or lid of the case after the small pieces of different-colored metal have been soldered or secured thereto. Fig. III is a similar view showing the lid or case after being subjected a second time to the action of a die and after being touched up or finished up by hand.

In carrying out my method a metal plate or blank is first subjected to the action of a die, the purpose of which is to partially form thereon in relief the design intended to be imparted to the case, the design at this stage being only partially imparted to the metal, the purpose or object of this operation being to produce thereon a clear outline of the design, in order to serve as a guide for the workman to properly arrange and secure thereto small pieces of different-colored metal—as, for instance, as will be seen by Fig. I of the drawings, the outline of the camping scene is imparted thereto by the action of the die, the raised portions *a* of which are comparatively flat, in order that small pieces of different metal B may be securely soldered or fastened thereto, the colors of said small pieces of metal B depending of course upon the design intended to be produced upon the case—as, for instance, those portions of metal lettered *a'*, intended to represent grass and the leaves of trees, will most properly be yellow and green, and, if desired, the trousers of one or more of the men appearing in the design may be of steel color or red and the coats of a different color to form or produce the necessary contrast, and so on through the design. After the small pieces of metal B have been properly arranged and soldered to the design the lid or back of the case is again subjected to the action of the die for the purpose of completely raising those portions of the design intended to be produced in relief, and also by means of the pressure exerted upon the die and the metal placed therein to bury the small particles of metal B in the metal of the case, and in order, also, to spread the small metal pieces B, so that their edges, where necessary, will be properly joined or united and all trace or traces of said edges removed. The lid or back is then removed from the die, and, if necessary, finished by engraving or otherwise to impart to the design a more finished appearance.

It will be understood that this method of producing raised designs in colors is not limited to any particular kind or character of metal, excepting in so far that the metal shall be such as will allow the design to be pressed thereon or therein by means of a die; nor is the method limited to any particular color, colors, or tints of metal, nor to the number of such, as it is obvious that the number of colors which may be used in a design is only limited by the size of the pieces B and the number thereof which may be soldered or secured to the case; nor do I intend to limit my claim to any particular design, as an infinite number of designs may be produced in relief

in colors by my method, nor to the application of my method to watch-cases, as such may be employed in ornamenting jewelry of all kinds.

Having fully described my invention, what I intend to claim as new, and desire to secure by Letters Patent, is—

1. The method hereinbefore described of producing designs in colors, consisting in, first, subjecting the article to the partial action of a die; secondly, soldering or otherwise securing different-colored pieces of metal to the partially-formed design; thirdly, subjecting the design to the action of a die.

2. The method hereinbefore described of producing designs in colors, consisting in, first, subjecting the article to the partial action of a die; secondly, soldering or otherwise securing different-colored pieces of metal to the partially-formed design; thirdly, again subjecting the design to the action of a die and finishing or touching up the design.

Signed at New York, in the county of New York and State of New York, this 22d day of May, A. D. 1890.

THOMAS BENFIELD.

Witnesses:
HERMAN GUSTOW,
FRED. C. RIECKERS.