

(No Model.)

W. H. LEGATE.

METHOD OF AND MEANS FOR MARKING AND ORNAMENTING
TABLE WARE.

No. 534,895.

Patented Feb. 26, 1895.

Fig. 1.

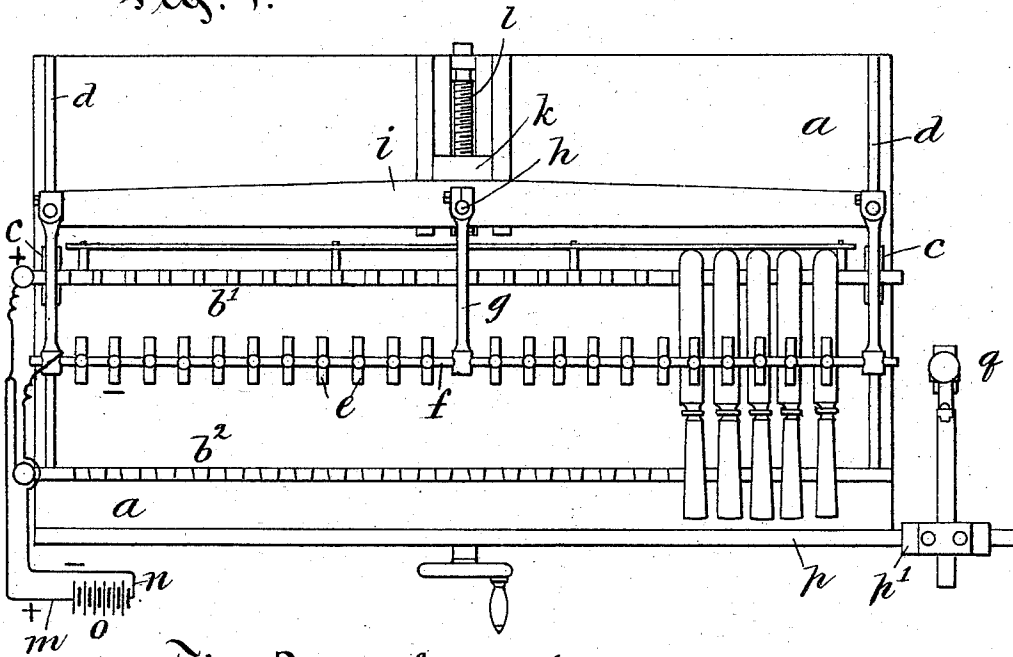


Fig. 2.

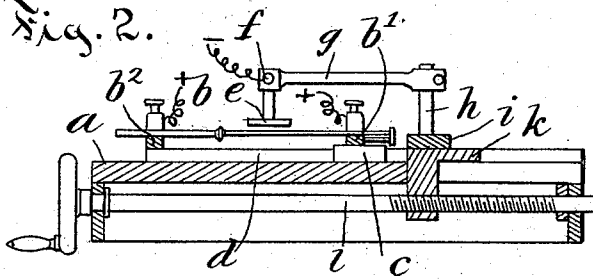
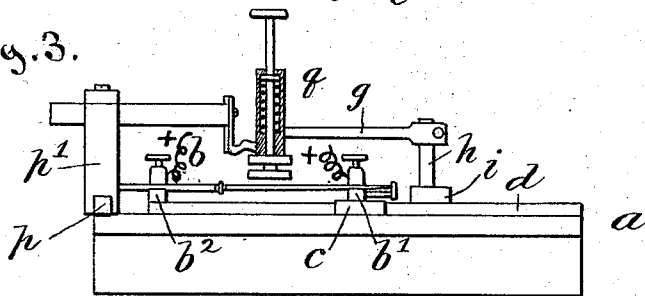


Fig. 3.



Witnesses:

J. A. Cantin.

Arthur B. Jenkins.

Inventor:

William H. Legate

By Chas. L. Burdett,
Attorney

UNITED STATES PATENT OFFICE.

WILLIAM H. LEGATE, OF HARTFORD, CONNECTICUT.

METHOD OF AND MEANS FOR MARKING AND ORNAMENTING TABLEWARE.

SPECIFICATION forming part of Letters Patent No. 534,895, dated February 26, 1895.

Application filed July 18, 1894. Serial No. 517,895. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. LEGATE, a citizen of the United States, and a resident of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Methods of and Means for Marking and Ornamenting Tableware, of which the following is a full, clear, and exact description, whereby any one skilled in the art can make and use the same.

The object of my invention is to provide an improved means and apparatus for marking articles of table ware and of cutlery the process involving the use of stamps for outlining and of electricity for etching the letters, figures or characters to be delineated on the surface marked.

To this end my invention consists in the method or process of marking metallic articles and in the several devices and combination of devices for marking as more particularly hereinafter described and pointed out in the claims.

Referring to the drawings: Figure 1 is a detail top or plan view of an apparatus for practicing my invention. Fig. 2 is a detail view in vertical transverse section through the apparatus. Fig. 3 is a detail view in end elevation of the apparatus.

In the accompanying drawings the letter *a* denotes a table or base preferably of wood; *b*, a support for holding the article to be marked, the support in this case consisting of the rods *b'*, *b''*, having shallow sockets in their upper surfaces to receive and hold a table knife, as my invention is described herein in connection with an apparatus particularly adapted for marking cutlery, although the invention is equally applicable for marking and ornamenting other articles whether of cutlery or table ware, or for ornamental purposes.

The rods *b'*, *b''*, are of metal and are insulated, the former resting on strips of insulating material *c* which are held on the guides *d* on the table. A metallic conductor *e* is removably supported at a slight distance above the surface at the point where the mark is to be etched, and in the form of device shown these conductors consisting each of a small block of copper are supported from a rod *f* by the arms *g* which project from the standards *h* fixed on a carriage *i*. This carriage is se-

cured to a slide *k* that by means of a feed screw *l* is movable toward and from the row of knives. This form of device is convenient where a number of articles as knives are to be marked with the same character, symbol or subject matter and for other articles any convenient form of carriage may be provided, it being necessary that the conductor *e* should be held for a certain time immediately over the surface of the article where the mark is to be etched by the action of electricity, as already described. A conducting wire *m* from a battery *o*, or like source of electrical energy, is connected from the positive (+) pole to the rods *b'*, *b''*, on which the article to be marked is supported, and a wire from the negative (-) pole of the battery is connected to the rod, *f*, on which the conductor *e*, is supported.

In a convenient position, preferably along the front of the table, there is a guide *p* on which a slide *p'* is movably supported, an adjustable arm extending from this slide supporting a stamp *q*. By means of this stamp the character or figure to be etched is outlined on the surface of the blade by pressing the stamp down upon the surface which has been treated with a special varnish, the surface of the stamp having been wiped with a solution as hereinafter described. The copper conductors *e* are withdrawn at the time the articles are successively stamped and then the stamp being moved out of the way, as indicated in Fig. 1 of the drawings, the carriage is moved forward and the conductors arranged directly over the imprint of the stamp on the surface.

The marking upon the surface of the metallic article is accomplished by the use of an electric current and to prepare the article for marking by this process the surface is treated with a varnish preferably made of the following ingredients: To one gallon of naphtha add two ounces bi-sulphide of carbon, two pounds of pulverized resin, and one and one-half pounds of chloride of copper. A thin layer of this varnish is spread across the surface and the stamp having been washed with a weak solution of wood potash is then pressed down onto the varnished surface. The surface of the varnish where the stamp has touched it is then treated with a weak solution of sal-ammoniac by means of what is termed in the

trade a goose, which is an implement allowing small quantities of the solution to be dropped upon the surface. The copper conductors are then arranged as described and the current turned on with the result that the surface of the liquid lying on the plate is lifted into contact with the copper conductor and the surface of the steel or other metal cut away by the action of electricity. The etching operation is one of comparatively brief duration and the current being turned off the knives are removed and dipped into a solution of caustic potash or sal-soda to wash off the varnish. The knives or like articles are then ready for the plating room or for such subsequent treatment as may be desired.

By means of the process described the surface of an article may be cut to a sufficient depth to clearly outline any desired figure which may be delineated by means of a stamp, the design being cut into or etched on the surface by the action of the electricity.

I claim as my invention—

1. The improved method of marking metallic articles which consists in treating the surface to be marked with a protecting varnish, then printing upon the varnished surface with a stamp treated with a solution of wood potash, then washing the stamped surface with water, then treating the stamped surface with a solution of sal-ammoniac, then connecting up the article to the positive pole of a battery and placing a metallic conductor which is connected to the negative pole of the battery in close proximity to the varnished surface where the mark is imprinted and subjecting it to the action of an electric current, all substantially as described.

2. The improved method of marking cut-

lery which consists in treating the surface of the article with a resinous varnish, then imprinting a mark on the varnished surface by means of a stamp treated with an alkaline solution, then washing the surface with water, and then applying a solution of sal-ammoniac to the marked surface, then placing the article in an electric circuit, the negative wire terminating in a block of copper placed adjacent to but out of contact with the surface to be marked, the said article being connected to the positive pole of the battery and then washing off the varnish with an alkaline solution, all substantially as described.

3. The improved method of marking and ornamenting cutlery and other articles of metal which consists in applying a resist to the surface, imprinting the outline of the mark, by removal of the resist treating the surface with a solution of sal-ammoniac and then placing a metallic block connected to the negative pole of a battery close to but out of contact with the surface and connecting the article to the positive pole of the battery while the latter is in action, all substantially as described.

4. An improved apparatus for marking cutlery which comprises a table or stand, metallic supports for the article, a metallic conductor, as a copper block, supported on a movable carriage and adapted to be held near the surface of the article, and an adjustable stamp for imprinting the surface, all substantially as described.

WILLIAM H. LEGATE.

Witnesses:

CHAS. L. BURDETT
ARTHUR B. JENKINS.