J. L. RINGWALT.

Typographical Printing Plates.

No. 140,542. Patented July 1, 1873.

FIG. 1.

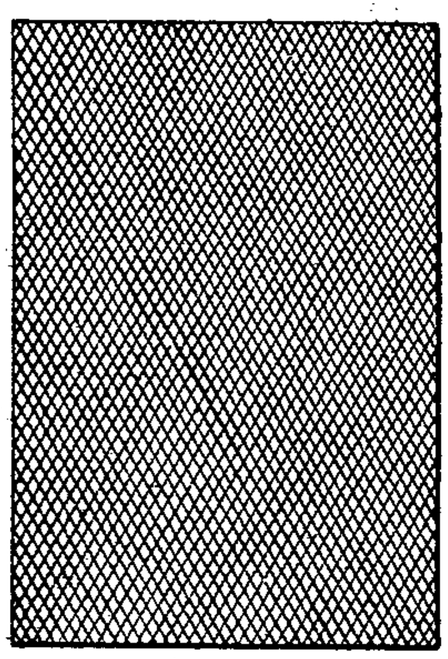


FIG. 2.

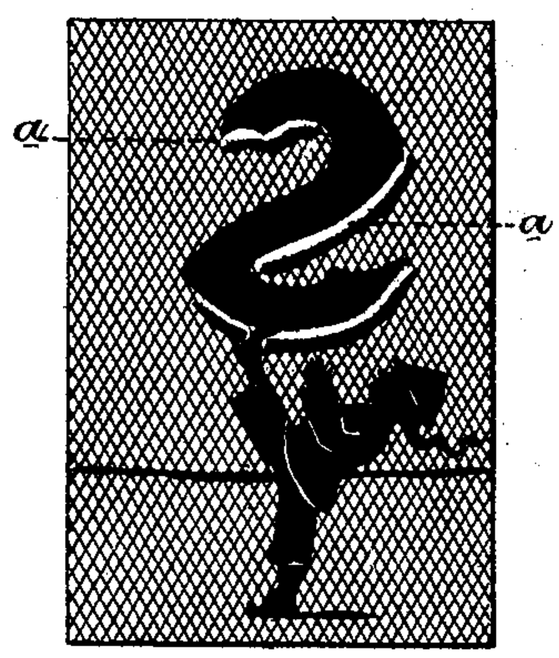
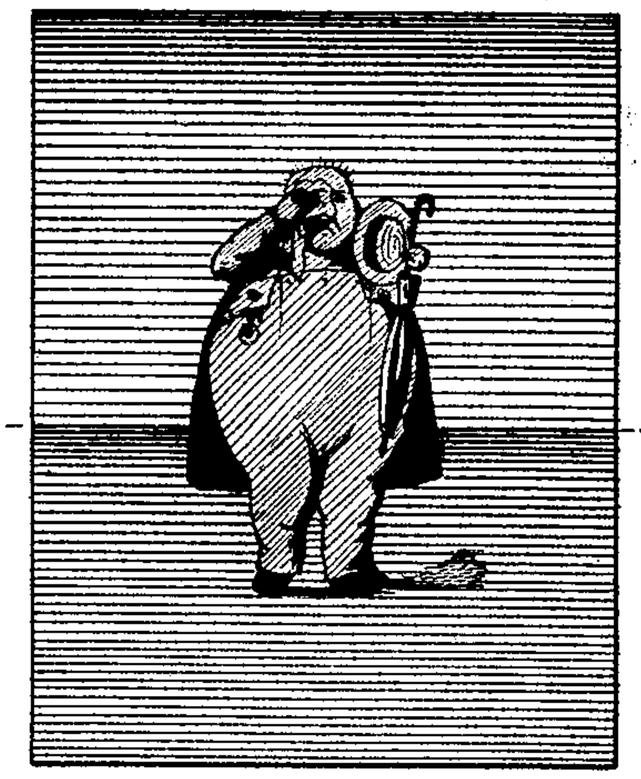


FIG. 3.



Witnesses, John K Ruperties.
Thomas McIlvain

John L. Ringwalt
By his Attys.
Howson and Sons

UNITED STATES PATENT OFFICE.

JOHN L. RINGWALT, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN TYPOGRAPHICAL PRINTING-PLATES.

Specification forming part of Letters Patent No. **140,542**, dated July 1, 1873; application filed May 9, 1873.

To all whom it may concern:

Be it known that I, JOHN L. RINGWALT, of Philadelphia, Pennsylvania, have invented an Improved Typographical Printing-Plate and mode of making the same, of which the following is a specification:

The object of my invention is to produce quickly and at a cheap rate plates from which pictures may be made by an ordinary typographic printing-press; and this object I attain by drawing on a varnished and scored plate, with acid-resisting varnish, the picture to be produced and then subjecting the plate to the action of appropriate acid, all as described hereafter.

In carrying out my invention the first thing to be done is to select a metal plate of proper size having a perfectly plane and smooth surface. I prefer, both on the score of economy and efficiency, ordinary sheet-zinc, such as is used beneath stoves. I first cover the plate with a thin coat of varnish or other material capable of resisting the corrosive action of the acid to which it has to be subsequently subjected. I then, by means of a ruling-machine, score the entire surface of the plate, making for ordinary work one set of parallel lines in one direction and another set of lines at right angles to the first, as shown in Fig. 1 of the accompanying drawing, the surface of the plate being exposed at every line.

It may here be remarked that the varnished surface of the plate may be scored with any system of lines which the character of the picture to be produced may suggest, the scoring determining the style of groundwork of the picture.

After the varnished plate has been thus scored it is ready for the artist, who proceeds to paint with a resistant varnish on the scored surface the design or figure he desires to produce—such, for instance, as the figure shown in Fig. 2. At the points where high lights are required, as, for instance, at the points *a a*, Fig. 2, the varnish is scraped away and the metal surface of the plate exposed to an extent and form determined by the character of the lights. The plate is now subjected to the action of dilute nitric or sulphuric acid or other corroding-bath usually employed in etching, the acid eating away all the parts of the metal exposed. When this process has been completed the varnish is removed from the face of the plate, and the latter is then mounted on a block of appropriate thickness, and this block may be used for printing from in an ordinary typographical press, the ink adhering to those parts only of the plate which had been covered with the varnish. The impression taken from the plate will consequently be precisely like the varnished portion of the same.

The above is a description of the most simple application of my invention, and may be used for producing plain placards, &c.

More finished and elaborate pictures can be produced by treating the plate in the following manner, reference being had to Fig. 3 of the accompanying drawing: The varnished plate is, in the first instance, scored in one direction only, from the upper edge to the horizon-line *x*, the lines being graduated so that the picture produced from the plate will have a graduated tint. This can be readily accomplished by the well-known engraving-machine. The portion of the varnished plate from the horizon-line to the bottom edge of the plate may be scored with uniform lines, or lines otherwise differing from those above. The figure of the man or other object is then drawn on the surface of the plate, so as to cover with varnish all the lines within the limit of the figure, and the surface of the latter is then scored with cross-lines, or other lines differing from those of the groundwork of the plate. The artist then makes with the same varnish the desired shades of the figure, and exposes the plate at the points where the high lights have to be made, after which the plate is subjected to the action of acid, as before, and then cleansed and mounted, ready for printing from in an ordinary typographical press.

By this process I have made plates from which to print bold and attractive posters.

More elaborate plates may be produced by varying the character of the scoring in a manner which the nature of the picture to be produced may suggest.

I claim as my invention—

1. The within-described process of making plates for typographical printing—that is to say, drawing on a varnished and scored plate with resisting-varnish the picture to be pro-

duced, and then subjecting the plate to the action of acid, as set forth.

2. A typographical printing-plate on which the pictorial effect has been produced by drawing on a varnished and scored plate with resisting-varnish and subjecting the plate to the action of acid, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

J. L. RINGWALT.

Witnesses:
WM. A. STEEL,
HUBERT HOWSON.