

United States Patent Office.

WALTER BENTLEY WOODBURY, OF LONDON, GREAT BRITAIN.

Letters Patent No. 77,230, dated April 28, 1868.

MODE OF PRODUCING DESIGNS ON PAPER.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, WALTER BENTLEY WOODBURY, of London, in the county of Middlesex, Kingdom of Great Britain and Ireland, have invented "certain new and improved Means of Producing Designs upon Paper;" and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention is designed for the production, by pressure, from reliefs or intaglios obtained by the aid of photography, of transparent designs upon paper, as pictures, or for trade-mark purposes, or as a water-mark on paper, (for bank-notes, checks, or other purposes,) which cannot be counterfeited, and also, by the same means, with the interposition of thin paper charged with a greasy substance, to produce a design which may be transferred to stone, for printing by the ordinary lithographic process.

Such being the nature and object of my said invention, for "improved means of producing designs upon paper," I will now proceed to describe more in detail the manner in which the same is to be or may be performed or carried into practical effect.

In carrying out my invention, a relief is first obtained in gelatine, by the process described in the specification of Letters Patent granted to me, and dated at Washington, the 20th day of February, A. D. 1866, No. 52,803, or by any other analogous means. This relief is mounted or laid on a plate of hard metal, and the paper to be impressed is rolled or passed through a press in contact therewith, by which means the paper will be rendered transparent at those parts where it has been pressed in contact with the relief parts of the design.

On looking at the paper by reflected light, a positive picture will be seen, (the transparent parts appearing darker than the surface,) but upon viewing the same by transmitted light, it will appear as a negative. If the reverse effect be desired, it will be necessary to replace the ordinary negative by a transparent positive in the production of the gelatine relief. Or a metal relief or intaglio may be obtained from the gelatine, (by pressure or by the electrotype process,) and used with the ordinary paper machinery for producing the water-mark.

Either line-subjects, or those bearing half tints, may be thus impressed on the paper. In the latter case, the different amounts of pressure given to the paper by the varying heights of the relief will produce the effect of the middle tints, as well as the extremes of light and shade. In place of using the relief direct, as obtained, to produce the water-mark in the paper, a reverse of this relief may be obtained by means already known, and a number of casts of it may be made in gelatine on the surface of a steel or zinc plate, and when dry, these plates may be used for pressing the paper, or a sheet of highly-pressed paper may take the place of the steel or zinc plates.

Where the reliefs obtained by light are used, having for their support collodion, they may be cut to any shape, and mounted on the zinc or copper plate by means of India-rubber or other varnish or cement.

It will be evident that if (while the paper is undergoing pressure in contact with the gelatine relief) a piece of fine paper, charged with a colored greasy material, similar to the carbonized paper used for copying letters, is interposed between the relief and the sheet of unsized paper, a design bearing half-tones, according to the variations of the relief, will be impressed upon the latter, which may be transferred to stone and used to print lithographic impressions in the ordinary manner, or the image may, by the same means, be impressed at once on to the stone without transferring.

What I claim as my invention, is—

The peculiar method, hereinbefore described, of producing transparent designs or water-marks upon paper from reliefs or intaglios obtained by the aid of photography, and also of producing, by the same means, (with the interposition of paper charged with a greasy substance,) of designs, either directly upon stone, or which may be transferred on to stone, for printing by the ordinary lithographic process.

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

WALTER B. WOODBURY,

Witnesses:

GEORGE DAVIES,

F. C. MICKLEWEIGHT.