

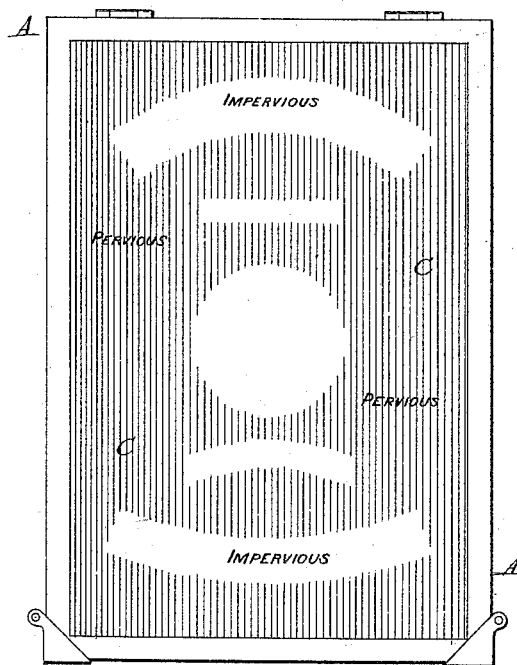
(No Model.)

R. MERIMAN.  
PRINTING.

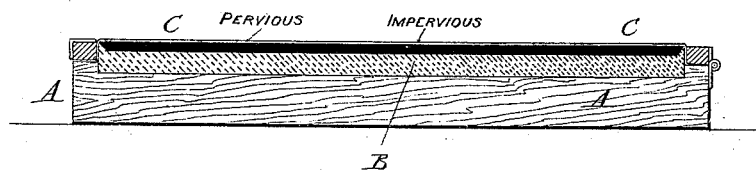
No. 417,738.

Patented Dec. 24, 1889.

*Fig. 1.*



*Fig. 2.*



*Attest:*

*Sidney P. Hurlingham*  
*Horace A. Dodge.*

*Inventor:*

*Ralph Meriman*  
*Dodger Sons, Atty.*

# UNITED STATES PATENT OFFICE.

RALPH MERIMAN, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-FOURTH TO  
EDWIN E. WISE, OF SAME PLACE.

## PRINTING.

SPECIFICATION forming part of Letters Patent No. 417,738, dated December 24, 1889.

Application filed October 22, 1888. Serial No. 288,758. (No model.)

*To all whom it may concern:*

Be it known that I, RALPH MERIMAN, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Printing, of which the following is a specification.

This invention relates to printing, and is more particularly intended for producing large grounds, broad lines, or extended surfaces, though not confined thereto.

Briefly stated, it consists in constructing an ink reservoir or pad containing ink either in a free state or in an absorbent body, and providing the same with a pervious cover through which the ink may pass uniformly to the surface to be printed, the reservoir and its cover constituting the "form." The form may be made in the outline of the design to be printed, or such portions thereof as are not intended to give off an impression may be rendered impervious by painting, drawing, or otherwise working upon the pervious covering-sheet, and upon either face thereof, with any substance or composition that will render those portions impervious to ink.

In the drawings, Figure 1 is a face view of a printing-form made in accordance with my invention; Fig. 2, a sectional view of the same.

The construction of the ink reservoir or pad may vary considerably without departing from the spirit of my invention, the only requirement as to this being that some form of reservoir, pad, or fountain capable of supplying ink to one face of the printing sheet or cover be provided, different forms of pad being already in use, and novel forms of pad and reservoir constituting subjects-matter of other applications filed by me, one of which latter I have represented in the drawings, because it is deemed the best that can be used in carrying out the present invention.

Whatever may be the construction or character of the ink fountain, pad, or reservoir, it is to be covered over by a sheet of material pervious to the ink of the reservoir, except as to those portions, if there be such, that are not intended to print, and from this sheet the impression is to be taken direct. For this sheet I prefer to use fine linen, because it is strong, even in texture, and possesses

the property of absorbing the ink and becoming impregnated or saturated therewith in every fiber, so that it will give off even and perfect impressions or prints.

Referring again to the drawings, A indicates a block, plate, or backing, of wood, metal, or other suitable material, recessed to receive an ink-reservoir or an ink-pad, a reservoir B being represented in the drawings. This reservoir I prefer to make of printing-roller composition, with a shallow depression in its outer face in which to place the ink. This depression usually varies in depth from about one thirty-second to one-eighth of an inch; but these limits are not fixed and can be departed from at will.

C indicates a sheet of fine linen or other material pervious to ink, preferably to printers' ink, as the most satisfactory results are obtained when such ink is used. If it be desired merely to produce an unbroken ground of color, the sheet C is applied without any special preparation; but if it be desired to produce a color ground and to leave white or unprinted spaces the sheet will be rendered impervious in those portions corresponding to the portions of the sheet to remain white or unprinted. If it be desired to produce designs in white or in the color or tint of the paper or surface printed upon with a ground of another color, the design may be painted, drawn, or produced upon the cover-sheet in varnish, wax, or any preparation which will render the sheet impervious where the preparations are applied thereto. It is preferable to produce the design upon the sheet before the latter is applied to the ink-reservoir and to that side which is to go next to the ink; but this is not essential. Such plan, however, permits the drawing to be direct instead of reversed and produces no unevenness of printing-surface.

Figures or sketches may be produced by rendering the sheet impervious up to the main boundaries or outlines of the figure and drawing or painting the finer outlines, details, and high lights with the preparation which renders the sheet impervious; or the design may be painted or drawn in a substance or preparation which, though offering no obstacle to the passage of the ink, shall

prevent the adhesion of the preparation used to render the sheet impervious, so that the design can be produced upon the sheet, and then the preparation used to render the sheet  
 5 impervious be washed or brushed over the sheet or otherwise applied thereto, the lines of the design repelling the coating or preparation, and consequently leaving said design pervious to the ink, while all other portions  
 10 of the sheet are made impervious thereto. In this way the designs may be made with the same facility as an ordinary drawing or simple painting and the sheet be speedily prepared for use. Various preparations may  
 15 be used for the purpose. Thus the design may be executed in a preparation consisting wholly or largely of glycerine with aniline or other coloring-matter, and a coating preparation be composed largely of wax or paraffine  
 20 with a solvent capable of reducing it to the proper consistency; or a suitable varnish may be used to coat the sheet after the design is produced with some fatty or greasy substance which will unite with or be taken  
 25 up by the ink or by the first sheet or surface against which the form is pressed, leaving the ink free to pass through the design. The sheet with the design prepared or left in a pervious condition, but with all other portions  
 30 left impervious, is applied to the ink pad or reservoir and completes the form, which is then printed from in essentially the same manner as from an engraved block, a type-form, or like surface, except that no  
 35 inking is required.

The above-explained plan admits of printing grounds in any color, or in any combination of colors, by merely dividing the ink pad

or reservoir and supplying each section with its appropriate ink, and it permits the speedy, 40 cheap, and perfectly-accurate reproduction of any design, map, chart, drawing, plate, or print of which a correct drawing can be made upon the sheet. For circulars, maps, charts, architectural designs, manufacturers' plans, 45 and all analogous purposes it offers a very cheap and desirable plan of reproduction.

From the foregoing description it will be seen that my invention is distinguishable from former plans in that the design-sheet is 50 placed directly in contact with the ink instead of being placed upon an intermediate covering-sheet. This distinction is important, as I am enabled by my present method to secure much heavier and more solid inked or 55 printed grounds than where the intermediate covering is employed and to replenish the ink-supply much more readily, the better effect produced being, however, the point of greatest importance. 60

Having thus described my invention, what I claim is—

The herein-described printing-form, consisting of a backing, a yielding ink-reservoir containing ink, and a printing-sheet stretched 65 over and in immediate contact with the ink, said sheet being pervious to the ink in the portions that are to give an impression, but impervious to the ink in other portions.

In witness whereof I hereunto set my hand 70 in the presence of two witnesses.

RALPH MERIMAN.

Witnesses:

CHAS. R. CALKINS,  
EDWARD SWEENEY.