

(No Model.)

S. A. CHEW.
BLOCK FOR PRINTING OIL CLOTH.

No. 549,438.

Patented Nov. 5, 1895.

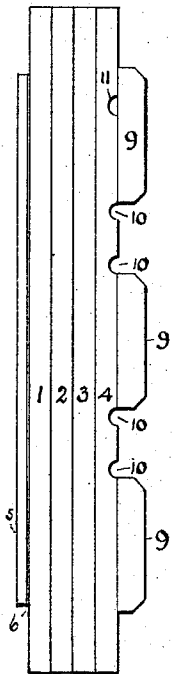


Fig. 4

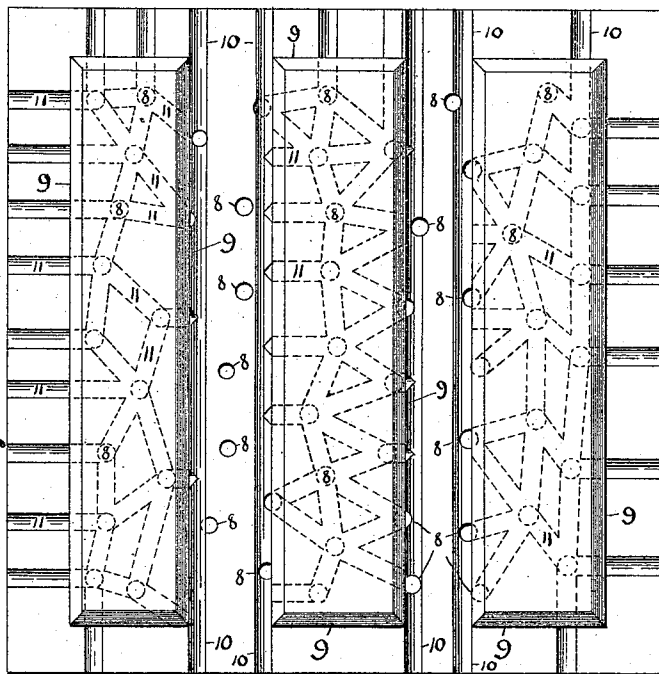


Fig. 2

A

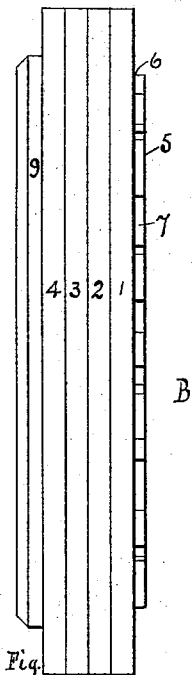


Fig. 5

WITNESSES.

M. W. Collier

Wm. Stenmarkson

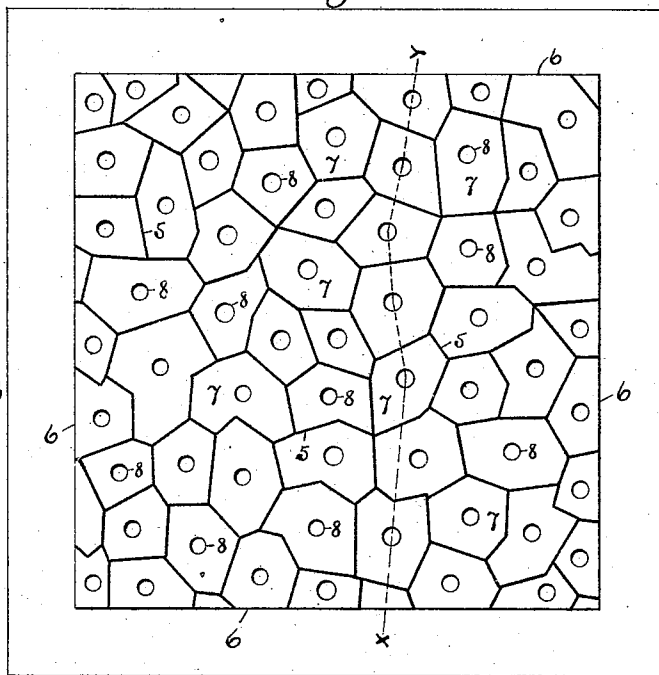


Fig. 1

INVENTOR.

Septimus A. Chew.

by his Attorney

R. C. Wright

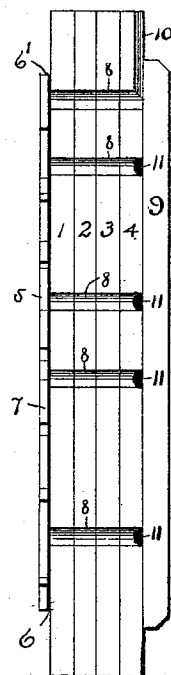


Fig. 3

UNITED STATES PATENT OFFICE.

SEPTIMUS A. CHEW, OF WESTVILLE, NEW JERSEY.

BLOCK FOR PRINTING OIL-CLOTH.

SPECIFICATION forming part of Letters Patent No. 549,438, dated November 5, 1895.

Application filed June 8, 1895. Serial No. 552,060. (No model.)

To all whom it may concern:

Be it known that I, SEPTIMUS A. CHEW, a citizen of the United States, residing at Westville, in the county of Gloucester and State of New Jersey, have invented certain new and useful Improvements in Metal-Lined Blocks for Printing Oil-Cloth and Linoleum; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in metal-lined blocks for printing oil-cloths and linoleum when done by machinery, making with my improved block a quality of work superior to that heretofore made; and the objects of my invention are, first, to relieve the surface of the cloth being printed from any pressure from compressed air, and, secondly, to do away with the air-suction when the block is withdrawn from the surface it operates upon, and thereby prevent air-bubbles and the color from being forced or sucked away from the metal lines, and also to do away with the wavy, ragged, indistinct, and irregular lines heretofore produced upon the printed surface, owing to the color not adhering closely to the metal line on which it is placed, and which has heretofore blurred and daubed the printed outlines. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is the type or metal-line side of the block, the side which is down when in operation. Fig. 2 is the back or pressure side of the block, the side which attaches to the cross-head which carries it and presses it down. Fig. 3 is a vertical section on line x y of Fig. 1. Fig. 4 is an elevation of side A of Fig. 2. Fig. 5 is an elevation of side B of Fig. 1.

Similar reference-numerals refer to similar parts throughout the several views.

The block is generally made up of alternate layers of wood 1 2 3 4, and the grain of each adjoining piece is run at right angles to the other to insure stability against warping and shrinkage. The metal lines or type 5 are

cast upon a plate 6, from which they are raised up sufficiently to insure no color touching or adhering to any surface except the outer edge or face 5 of the metal lines, which are made to conform to the design desired to be reproduced, and extend over and across the plate 6 in varied and multifarious ways, the design in the drawing being multangular.

Each of the metal lines or type 5 intercepts or joins others in the design, and in consequence many pockets 7 are formed over the plate 6, and as the pockets 7 are uncovered and open to the air, it necessarily follows that when the block is in its operative position with the open side of the pocket down, and when it is pressed against the material on which its impression is to be made, air is forced into the pocket 7, and if it cannot easily and readily escape otherwise it will force its way between the face of the metal line or type 5 and the material under pressure and form bubbles or blow the liquid coloring-matter enough to blur and distort the distinct contour so desirable in the figures and greatly mar its perfection of finish and in a great measure destroy its commercial value. When the block 1 2 3 4 is removed from the cloth after the color is deposited, another disturbing element is introduced, for an air-suction is created into the numerous pockets and additional blurring is done, and so much difficulty exists from the two causes which I have named that an artistic piece of work cannot be produced, but all is dauby and crude.

To obviate the difficulties I have enumerated, there have been vent-holes 8 introduced, running from the pockets 7, through the block 1 2 3 4 to its upper side to prevent the air being compressed in the pockets 7 when the block 1 2 3 4 is forced to its work and to prevent the air-suction when the block is removed from contact with the cloth upon which it prints.

With the introduction of machinery and the use of the blocks on a machine it is necessary to reinforce the block 1 2 3 4 on its back by pressure-bars 9 across them to secure the blocks to the cross-head of the machine, and many of the vent-holes 8 are covered by these bars 9 and become inoperative and produce the trouble I have specified; and

to prevent such inoperation and defect I make grooves 10 adjacent to and parallel, or nearly so, to the pressure-bars 9. These grooves 10 are cut into the back of the block 1 2 3 4 and communicate with the vent-holes 8 by means of connecting-grooves 11, which are cut into the back of the block 1 2 3 4 under the surface where the pressure-bars 9 are seated, or they may be cut in the under surface of the metal bars, thus permitting the air to flow from the pockets 7 to the atmosphere freely, preventing compression with its bad effects, suction with its equally-objectionable results, and permitting more perfect and desirable work than heretofore.

I do not claim the holes bored through the blocks as of themselves; but

I do claim—

1. A metal lined block for printing oil cloth and linoleum having a pressure bar on the back thereof, vent passages under the pressure bar connecting the vent holes through the block, opposite the pressure bar, with side passages adjacent to the bar, communicating with the atmosphere, substantially as described.

2. A printing block for oil cloth and linoleum having metal lines upon its printing side, pockets formed by the intersection of said lines, vent holes from said pockets through the block to the back thereof, pressure bars on the back of the block, and air passages under the pressure bars communicating with the holes which come under the bars at one of their ends and the other end in free communication with the atmosphere, substantially as described.

3. A printing block having the plate provided with the metal lines and vent holes as described, and the grooves formed in the back of the block and adjacent to which the vent holes terminate as shown and described.

4. A printing block composed of alternate layers of wood, a metal plate having raised type lines therefrom on the working face thereof, pockets formed by the type lines having communicating air holes through the block to its back, pressure plates upon the back of the block, and cross passages from the air holes covered by the plates to allow free communication with the atmosphere from the said holes—substantially as described.

5. A printing block composed of a multiple of layers of wood, a metal plate secured to its working face having raised type lines thereon, open top pockets formed by the type lines joining each other, pressure bars or plates secured to the back of the block for attachment to the machine, air holes from the pockets on the face of the block to the back thereof through the block, grooves on the back of the block adjacent to the pressure bars or plates, and communicating grooves or passages therefrom and connected to such air holes as come under the pressure bars or plates, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

SEPTIMUS A. CHEW.

Witnesses:

GEO. W. REED,
R. C. WRIGHT.