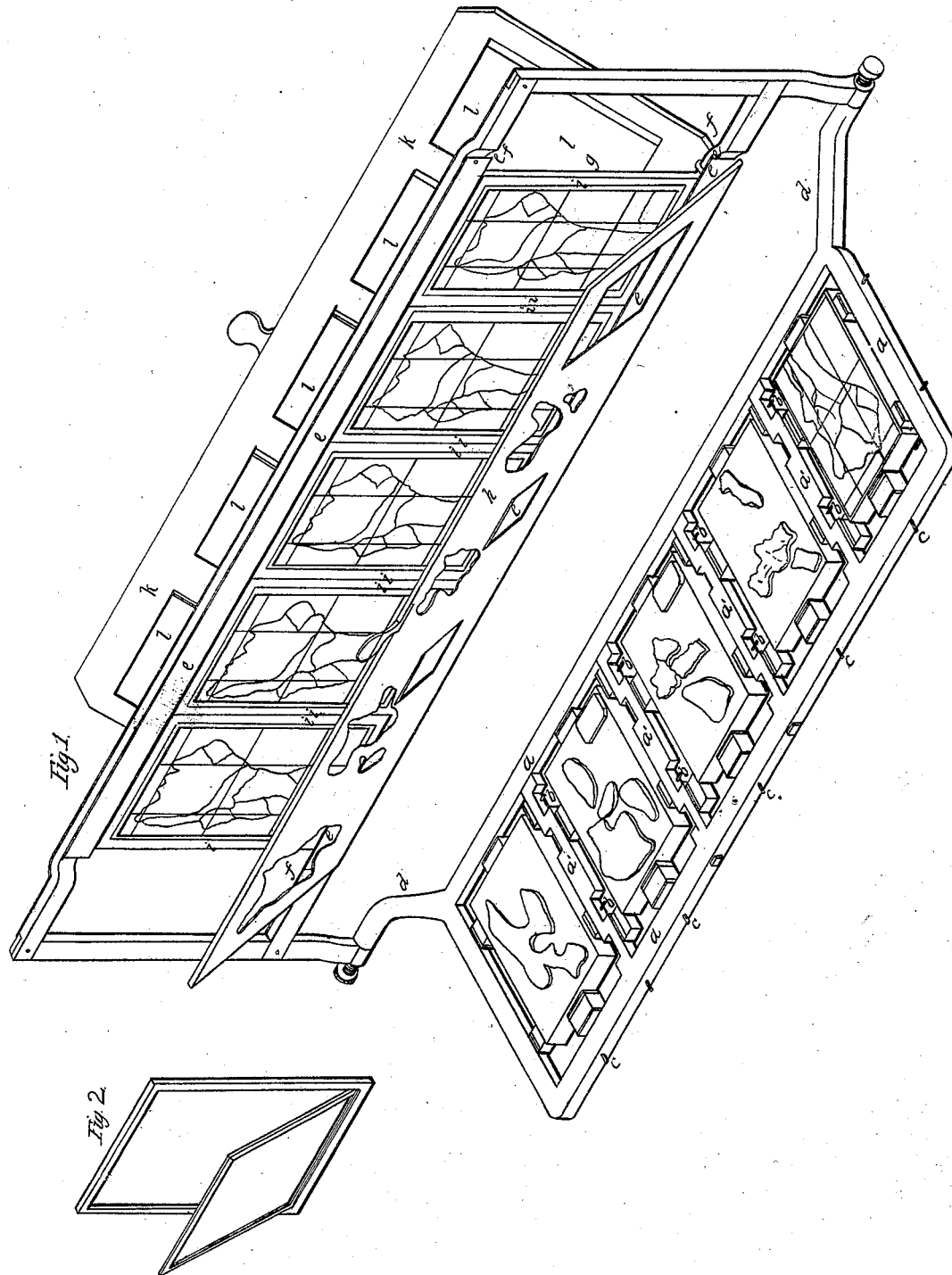


*A. D. McKinzie.*  
*Color Printing.*  
*N<sup>o</sup> 4838. Patented Nov. 6. 1846*



# UNITED STATES PATENT OFFICE.

ALEXR. D. MCKINZIE, OF PHILADELPHIA, PENNSYLVANIA.

## PRINTING IN COLORS.

Specification of Letters Patent No. 4,838, dated November 6, 1846.

*To all whom it may concern:*

Be it known that I, ALEXANDER D. MCKINZIE, of the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Printing Colored Maps, Prints, &c.; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which make a part of the same.

Printing in colors has heretofore been effected in various ways, but either by complicated and expensive apparatus, or by printing at several times by shifting the form or press so that it was very difficult to obtain a register or work with expedition or facility. By my apparatus I avoid all complexity in the apparatus and am enabled to work as many different colors as are required and that without taking the sheet of paper from the machine before it is effected.

The machinery for giving the impression is nothing more than a common type printing press and is well known in all its parts, therefore no further description of it will be required. Upon the bed of the press is placed a chase such as is shown in Figure 1, and designated by letter (*a*). Each page in this chase is separated by a cross bar *a'*, with recesses in each side but not opposite each other. Screws *b*, are inserted through the cross bars in these recesses horizontally and the other screws *c* are inserted in the sides opposite the head and foot of each page; by these screws the blocks, on which the plates hereafter described are fastened, are adjusted and then register adjusted; arms *d*, project from one side of the chase to which what I denominate a tympan frame is hinged that is about the same size as the chase. This has a groove formed behind the plates *e, e*, on each of its sides inside and at the two ends of said grooves are springs *f*, for the purpose of holding the frames (*i*) said springs are connected together by a cross piece *g*. A series of smaller frames, *i*, as many in number as there are colors to be printed are fitted to slide in the above named grooves and just fill the space between the springs *f*, (the number of the frames shown in the drawing are five) and represent printing in four colors besides the black. The sliding frames are tympan and are made in two parts one within the other as delineated

in Fig. 2. These inclose the paper in a similar large manner to a frame drawing board, and hold it secure while going through the operation of printing. A frisket *h*, is hinged to the tympan frame below and is formed in the ordinary way, the frisket being cut out to suit the work to be done. On the back of the frame in which the tympan *i*, slide is hinged a plate of metal *k*, from which project a series of flat plates *l*, that I denominate platens; these fit into the small tympan and upon them the platen of the press is brought when the whole are turned down and the carriage is run in to give the impression.

On the blocks above named in the chase are plates with the figure to be printed in colors left raised on their surface and the other parts cut away as in ordinary block printing shown in Fig. 1, a roller or series of rollers in one frame having the different colors upon them are then passed over the form inking each block with a separate color and an impression is taken in the usual way; the tympan frame is then raised and one of the small tympan *i* is removed from one end and after being supplied with another sheet it is put in at the other end of the tympan frame and the others are all moved the width of one frame farther along; another impression is then taken, and then the second frame, which has now become the end one, is taken out, the sheet removed, and a new one replaced in it, and that is placed in the other end of the frame and so on in succession through the series, after which all the succeeding sheets being brought alternately over each of the plates from which they receive an impression the effect produced is similar to a colored print.

Having thus fully described my invention and its uses, what I claim therein as new and desire to secure by Letters Patent is—

The combination of a series of sliding tympan with a corresponding series of plates for printing colors so that a sheet when put into the machine shall receive successively an impression from each plate, the whole forming a varicolored impression.

A. D. MCKINZIE,

Witnesses:

J. J. GREENOUGH,  
A. P. BROWNE.