

PAPERS  
IN  
MANUFACTURES.

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*The SILVER ISIS MEDAL and TEN GUINEAS were this Session voted to Mr. STEPHEN MARSHALL, at the Prince's Head, Streatham, in Surry, for a Calico Printers' Block, of a new Construction. The following Communications were received from him, an explanatory Engraving is annexed, and the Printing Block is preserved in the Society's Repository, along with Specimens of Calico printed therewith.*

SIR,

**P**ERMIT me to lay before the Society, a mechanical improvement which I have made in the Blocks for printing calicoes, which I think will be of advantage to the public. The invention is quite new : I have never shewn it to any one till within this month. I made it, and printed the  
goods

goods I have sent with it. If I had made the pattern much closer, it would perhaps have had a better effect with the Society. As you are acquainted with the nature of calico-printing, you will oblige me by explaining the principles of its construction and application.

I have sent herewith a Certificate from Mr. Sutherland, a gentleman well conversant in this business, and I have added some new patterns of the stile of work to which this invention is applicable, and which cannot be executed in the common mode of callico-printing.

I am, Sir,

Your most obedient, humble servant,

S. MARSHALL.

*Streatham, May 3d, 1814.*

To C. TAYLOR, M. D. SEC.

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\* \* MR. MARSHALL, the inventor, on attending the Committee, explained to them, that by one block on this construction, two different colours can be printed at one stroke of the block; and thus a new style of work can be executed, and the finest designs completed, without showing any joining mark on the cloth.

That, in the block produced, which is a striped pattern, the stripes are formed of slips of copper let into the wood, and so contrived, that a certain number of them can rise above, or sink below the surfaces of the others, or form a level surface with them at pleasure; so that if a black and red colour are to be printed at once on the cloth, the red stripes being furnished with colour from the sieve by turning

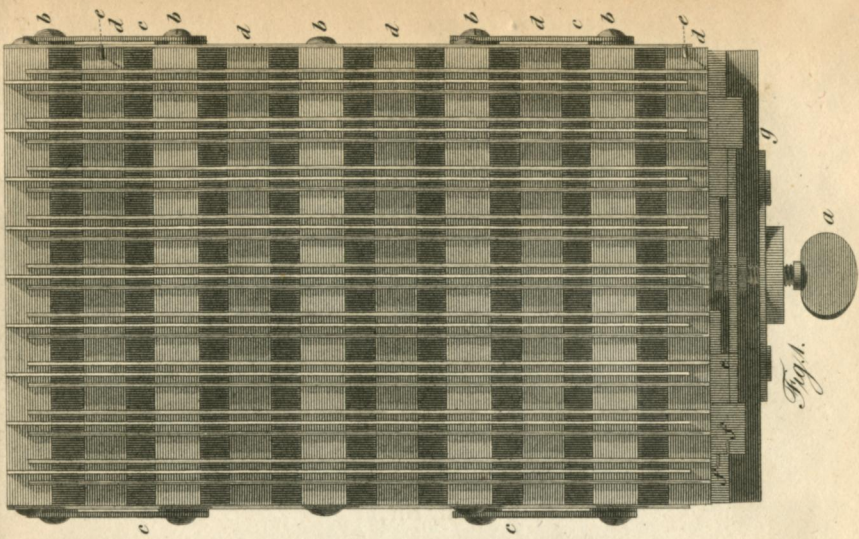


Fig. 1.

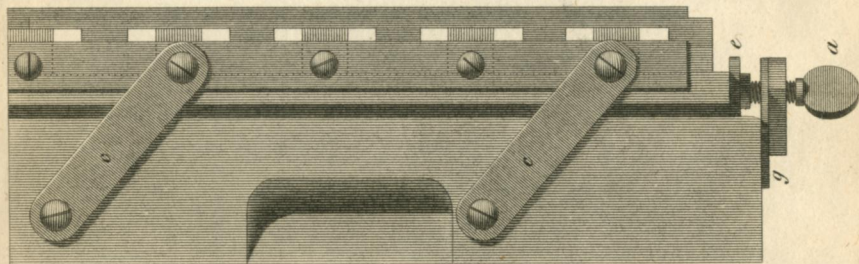


Fig. 2.

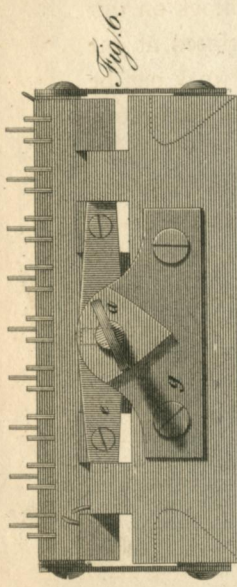


Fig. 3.

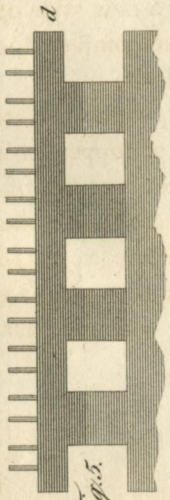


Fig. 4.

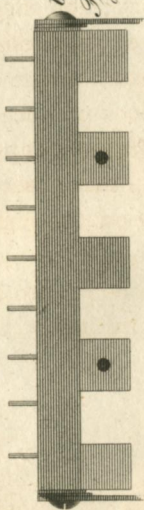


Fig. 5.

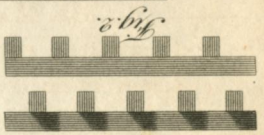


Fig. 6.

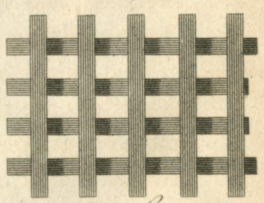


Fig. 7.

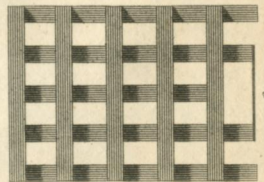


Fig. 8.

M<sup>r</sup> S. Marshall's Calico Printing Block.

J. Davison sculp. 27, B. Row. Hill.

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turning a screw, are drawn down within the others on the block, whilst the black stripes remaining, are furnished with colour. Both parts of the block being thus supplied with their respective colours, are then brought to a level, by turning a screw with the left hand, till the two regulating pins near the screw are upon a level and in a line. The block is then laid on the cloth, and struck with the printer's mallet in the usual manner, delivering the impressions of both colours at once upon the cloth. During the whole operation, the printer needs never to quit hold of the block with his right hand, and custom so soon reconciles the management of the screw with the left hand, that the block needs not to be looked at whilst receiving either colour, but merely to be examined when both are finished, to see that the two regulating pins near the screw are placed in a line, and on a level just before the block is laid upon the cloth. Patterns so delicate as to be impossible to be worked in the common way, can thus be perfectly executed, and with great facility. Another advantage possessed by printing blocks on this principle is, that one block can be made to produce a great variety of patterns; for instance, in the case of this block of Mr. Marshall's, formed to print straight parallel lines only, it is evident, that the wide single lines, lying between the double ones, when elevated above them, form one pattern; the double ones, when the single ones are depressed beneath them, form another, the lines being nearer together; and, when all the lines on the surface are brought even, they form another pattern with still closer lines.

## CERTIFICATE.

SIR,

THIS day Mr. STEPHEN MARSHALL showed me a block to print two colours at once for the use of callico-printers, and about two yards of callico printed by it. I beg leave to say, that I think it the most ingenious printing I ever saw, from my experience of twenty years, in which I have carried on the printing business in the neighbourhood of London. I conceive such patterns cannot be executed upon any other principle, and that it is capable of being extended to many patterns, which the printers before could not undertake. I think this block will enable one man to do the work quicker, and with more accuracy.

This print may be applied to any pattern, and probably to more colours than two. But there are many patterns that cannot be done on any other principle.

Mr. Marshall's print appears to me the only improvement certain to be of utility, in the mode of printing, called block-printing, that has been produced for the last forty years.

I am, Sir, respectfully,

Your obedient, humble servant,

G. SUTHERLAND.

*No. 18, Park Place, Kennington Cross,  
May 5th, 1814.*

TO C. TAYLOR, M. D. SEC.

*Reference*

*Reference to the Engraving of Mr. S. Marshall's Calico  
Printing Block. Plate 3. Figs. 1 to 7.*

Fig. 1 is the printing block, with the middle line of each series raised above the two others, by the thumb-screw *a* being screwed in ; either for printing single lines, or for taking the colour, and then, by the screw *a* being turned back, they may be sunk below the other two outside lines, which may then be either used by themselves, or covered with a different colour ; and then, by again screwing up the single lines, till the two regulating-pins *ff*, fig. 1 are on a level, they are all made even, and will print together ; *ee* are two pitch-pins for marking dots to guide the printer as usual. *ff* are two regulating-pins, the one on the fixed, and the other on the moveable part of the block, which, when both are brought in a line together, shew that all the three lines of each series are even on the surface.

The middle lines are carried by the alternate bars, *bb b b b*, which are fastened on other moveable bars, as fig. 2 2 and 7 ; and this frame is attached to the block, like a parallel ruler, by copper bars, as *c c*, figs. 1 and 3, on each side of the block, so that by the alternate motion of the screw *a* they are raised or lowered.

All the outside lines of each series are carried by the alternate bars *d d d d d*, figs. 1 and 5, which are fastened to other bars, as fig. 4, 4 and 5, and this frame is immovably fastened to the block itself, as in figs. 5 and 6.

Fig. 6 is an end-view of the block, with the middle lines only raised.

Fig. 5 shews how the cross-bars *d* are cut away over the 5 bars of fig. 7, to let them rise up. The point of the

H

screw

screw *a*, is made cylindrical, and moves in a slit in the plate *e*, fig. 6, between two washers, adjusted by another screw at the end of the screw *a*; and the screw itself works in a female screw attached to the plate *g*, figs. 1, 3, and 6, screwed to the front of the block.