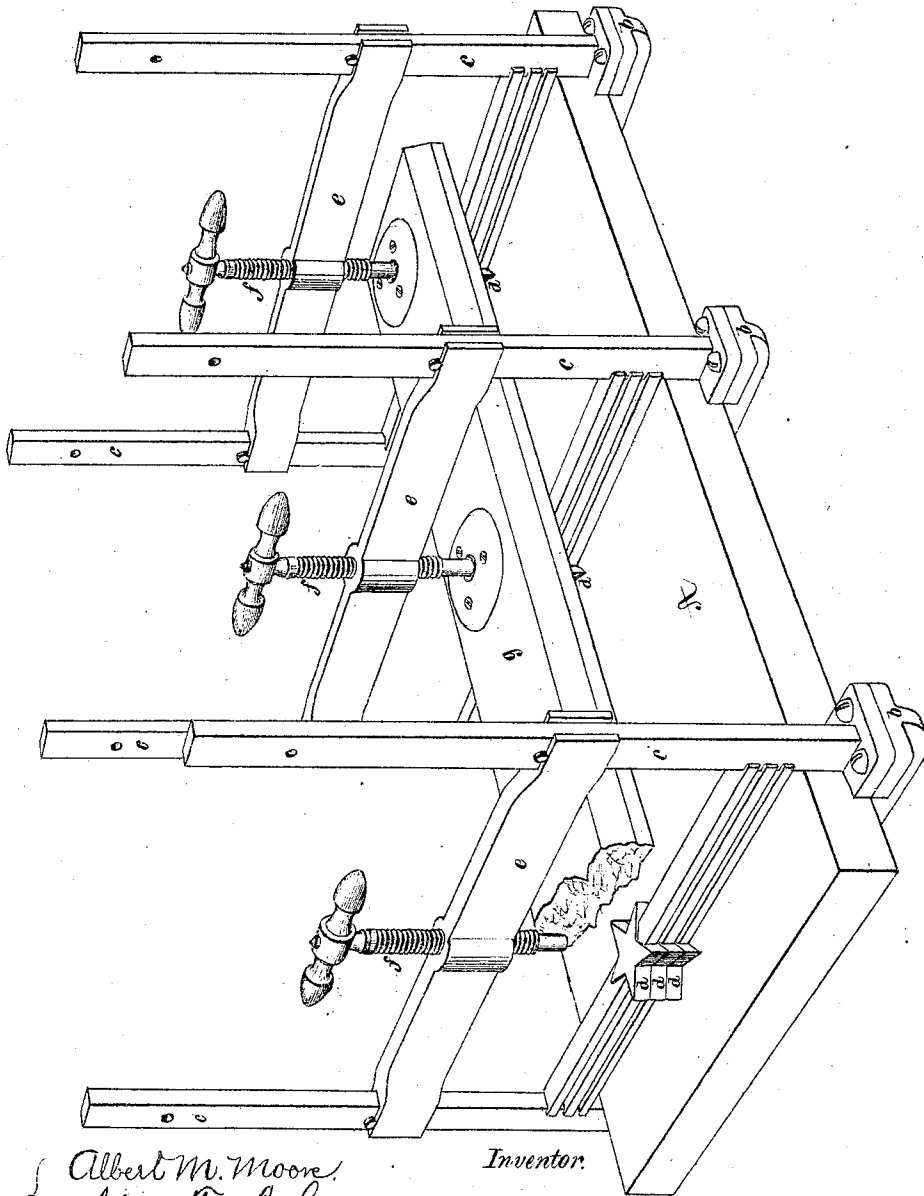


DE WITT C. FARRINGTON.

Improvement in Apparatus for Press Dyeing Stars for Flags.

No. 124,428.

Patented March 12, 1872.



Witnesses.

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IMPROVEMENT IN APPARATUS FOR PRESS-DYEING STARS FOR FLAGS.

Specification forming part of Letters Patent No. 124,428, dated March 12, 1872.

I, DE WITT C. FARRINGTON, of Lowell, in the county of Middlesex and Commonwealth of Massachusetts, have invented certain Improvements in Press-Dyeing, of which the following is a specification:

My invention relates to the forming of stars or other patterns by press-dyeing, and is more particularly valuable in the manufacture of the American flag, signals, &c.

A is a bed-plate fastened to the cross clamp-bars *b b b*. The stanchions *c c c* are firmly secured to the clamp-bars *b b b*, and serve at once as guides to keep the dies in their places, and as posts, to which the top clamp-bars *e e e* may be securely pinned. The plate A, the upper and lower clamp-bars *e e e b b b*, and the stanchions *c c c*, together with the frame *d d d*, are dies fastened to a thin stem, which has a slot cut at each end, to fit and slide between the stanchions; by this means the dies are kept from any movement after they have been put in place. In use, these dies are laid in tiers—one above the other—to any required number and height, the fabric being put in layers between each die. In and through each top clamp-bar *e e e* screws *f f f* are worked, so as to deliver any pressure required upon the dies beneath. Metal steps, fastened in the proper place upon a follower, *g*, receive this pressure from the points of the screws, and convey it evenly to the dies beneath.

This apparatus is used as follows: The top clamp-bars and screws, together with the follower, having been removed, one layer of dies is left upon the bed-plate; the fabric is then placed upon the dies, or folded upon them, in as many thicknesses as may be convenient; another row of dies is laid upon this cloth, and more cloth is laid upon these dies; and this operation is repeated until the press is full, or till the requisite quantity of cloth has been disposed of; the top clamp-bars are now pinned to their stanchions, the follower is placed so that a step shall surmount each die, and the screws are turned down till the requisite pressure is attained, when the "bundle" is ready for the die-vat. When it is immersed the die-liquor will permeate and color all the fabric except the portion which is squeezed between the dies. The pressure on the dies

excludes the liquor, and that portion of the fabric is "saved" in its original color. The cloth is taken out of the press by reversing the process by which it was loaded. In the manufacture of flags, for which this apparatus is especially valuable and useful, I have found it a practical impossibility to use, successfully, the apparatus commonly employed in press-dyeing fabrics, (meaning, thereby, the apparatus described in Edward Brierly's patent, hereinafter referred to,) first, because the pressure, being given collectively upon all the dies, did not suffice to secure a clean-cut pattern; and, second, because from the form of pressure the die-liquor could not circulate freely through the "bundle," and hence the fabric was colored unevenly. By my improved apparatus I secure a direct and individual pressure on each tier of dies, which insures sharply-defined edges to the pattern. This condition I consider absolute essential to the beauty of the fabric. I also insure, from the peculiarly open construction of the entire frame, a complete circulation of the dye-liquor, so that all parts of the fabric exposed are dyed quickly and of an even shade.

I do not confine myself to any number of screws *f f f* in each clamp-bar, nor to any special location upon the bed-plate of the dies, stanchions, or clamp-bars, as these may all be changed or adjusted to suit the style or quantity of the fabric to be dyed.

I do not claim as my invention the process of press-dyeing, as said process was patented by Edward Brierly, December 11, 1849; but

What I do claim as my invention is—

1. The screws *f f f*, or their equivalents, placed in the cross-bars *e e e*, in the manner substantially as described, and for the purpose herein set forth.

2. The combination of the dies *d d d* with their stems, substantially as described.

3. The combination of the dies *d d d*, upon their stems, with the frame, as described, substantially for the purpose herein set forth.

DE WITT C. FARRINGTON.

Witnesses:

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