

E. Brierley. Press Dyeing.

N^o 6,932.

Patented Dec. 11, 1849.

Fig. 3.

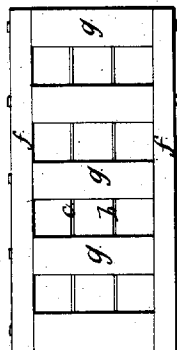


Fig. 2.

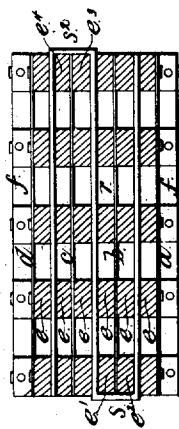


Fig. 6.

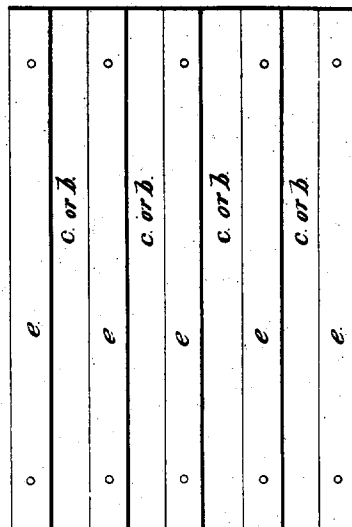


Fig. 5.

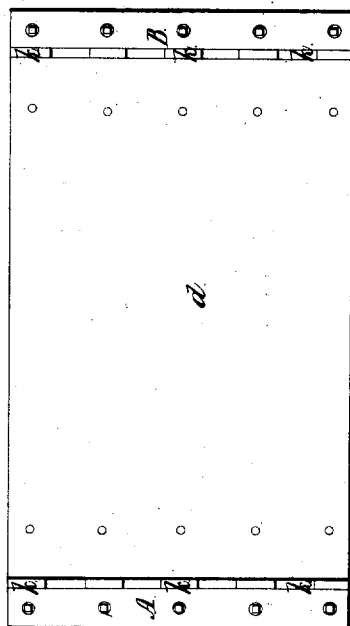


Fig. 1.

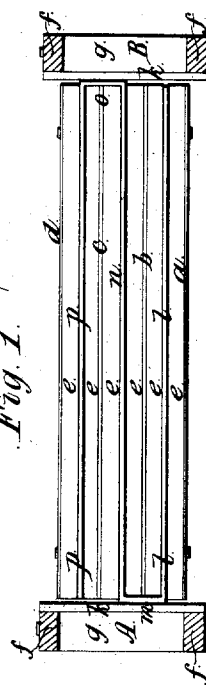
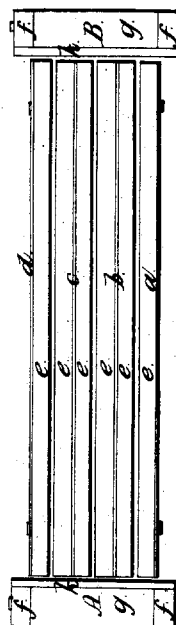


Fig. 4.



UNITED STATES PATENT OFFICE.

EDWARD BRIERLEY, OF LOWELL, MASSACHUSETTS.

APPARATUS FOR DYEING.

Specification of Letters Patent No. 6,932, dated December 11, 1849.

To all whom it may concern:

Be it known that I, EDWARD BRIERLEY, late of England, but now of Lowell, in the county of Middlesex and State of Massachusetts, have invented a new and useful Process of Dyeing Cloth in Fancy Patterns; and I do hereby declare that the same is fully described and represented in the following description and accompanying drawings, letters, figures, and references thereof.

My process is particularly applicable to producing stripes or figures of various colors in cloth. It differs essentially from the usual practice of producing such figures by imprinting them on the surface of the cloth as by my method they are dyed into and through the cloth during the process of dyeing it.

In order to illustrate my mode of proceeding I will now explain its application to the production of striped goods.

Of the drawings above mentioned, Figure 1 represents a longitudinal and vertical section of one of my dyeing frames for dyeing striped goods. Fig. 2, is a transverse section of it. Fig. 3, is an end view of it. Fig. 4, is a side elevation. Fig. 5, is a top view.

In the said drawings, *a, b, c, d,* are plates of zinc or other proper material, each, excepting the two outer ones, having several strips or pieces of wood *e, e, e,* &c, affixed to both sides of it, and parallel to one another as seen in Figs. 1, 2, and 6 the latter figure being made to exhibit the said strips as disposed at equal distances asunder and parallel to each other. The outer plates have said strips affixed to only one of their surfaces. When used these plates are disposed so as to bring their parallel strips together, or with respect to one another essentially as seen in Figs. 1 and 2. In connection with the series of plates and strips two end frames A, B, are used, each of the said frames being composed of two parallel bars *f, f,* and a series of connecting bars *g, g, g,* &c, extending from one to the other and placed respectively at the same distances apart at which the parallel bars or strips *e, e, e,* &c, of each plate *a, b, c, d,* are removed. These frames when used are pressed against the strips *e, e, e,* and so that each vertical range of said strips about being covered with a strip of caoutchouc, as seen at *k, k, k,* &c.

The piece of cloth to be dyed in stripes is first laid between the contiguous strips

of the two plates *a* and *b*, as seen by the blue line at the line *l*. Next, it is carried around the ends of the strips of the plate *b*, as seen at *m*, thence over and upon the strips on the upper surface of the plate *b*. This being done, the plate *c*, is placed upon the cloth in such manner that its lower series of strips *e, e, e,* may rest upon it and have each strip directly over a strip of the plate below, the piece of cloth being between the strips as seen at *n*. Next, the cloth is carried up against the ends of the strips of the plate *c* as seen at *o*, thence over and upon the upper strips of said plate as seen at *p*, and receives upon it the plate *d*, and its strips. This being effected the end frames A, B, are to be applied so as to bring their strips of rubber against the cloth wherever it presses against or in contact with the ends of the strips *e, e*. The whole series of horizontal and vertical frames is next to be confined down upon the cloth, or forced firmly together by means of screw clamps or other suitable contrivances, applied to them with such force and in such manner as to so compress the cloth between the strips immediately above and below it, as to prevent the dyeing color, when the frame and cloth is immersed in the dye vat from penetrating those parts of the cloth pinched between the strips, although at the same time allowing the coloring liquid to have free access to the remaining parts of the cloth. All this being done the dyeing frame provided with cloth is to be immersed in a dye vat charged with the color we may desire to produce in stripes longitudinally on the piece of goods, and after it has remained therein a proper time for the color to have done its office it is to be removed, and so placed that the extraneous liquid may run off or be evaporated, so as to dry the cloth on removal of the piece of cloth from the frames it will be found to have been dyed in parallel stripes running longitudinally in it.

The next part of the process is to produce stripes transversely of the others. This is effected by arranging the cloth transversely upon the frames or winding it between them at right angles to the direction in which it was before wound, the same being as seen at *r*, in Fig. 2, it being understood that where it is carried around the bars or strips *e', e', e', e',* as seen at *s* or *s', s', s', s',* the depth of the two strips *e'* and *e'* or *e'* and *e'* in-

cluding the thickness of their connecting plate *b*, or *c* should be just equal to the width of one of the stripes. This when the frame is dipped into the vat produces a stripe at *s* and *s*². On the whole piece of cloth being thus laid between the sections or parts composing the dyeing frame they are clamped together and afterwards immersed in the dye vat containing the color which penetrating those parts unprotected by the stripe *e*, *e*, thus forms stripes across those previously produced. In this manner, shawls, handkerchiefs or many other articles may be dyed in stripes or fancy patterns the main principle being by means of boards suitably cut to protect those parts thereof which are not to be colored, while those parts which are to be dyed are left free for the liquid to penetrate on to them.

What I claim as my invention is, The above specified mode or process of producing either stripes or fancy patterns on or in cloth or fabrics of various kinds the same consisting in the employment of one or more dye vats and a dyeing frame, so constructed as to prevent the dyeing liquid from penetrating those portions of the cloth which we may not desire to color and at the same time allow the coloring liquid to freely come in contact with the remainder or those which it may be desirable to color; all substantially as specified. And as auxiliary thereto I claim the employment of the vertical frames A, B, in connection with the main dye frame in manner and for the purpose of protecting from contact with dyeing liquid those parts of the cloth which may be strained directly over, against or on the ends of the horizontal strips of the main dye frame as set forth.

In testimony whereof I have hereunto set my signature this twenty eighth day of May A. D. 1849.

EDWARD BRIERLEY.

Witnesses:

S. B. CLARK,
ANDREW J. CASS.

Disclaimer.

State of Massachusetts, county of Middlesex, ss.

On this twenty eighth day of May A. D. 1849, personally appeared before me the above named Edward Brierley and made oath that he does verily believe himself to be the original and first inventor of the im-

provements herein above specified, that he does not know or believe the same to have ever before been known or used (that is before his invention thereof), and that he is a subject of Great Britain but has resided the year preceding in the United States of America and made oath of intention to become a citizen of the same.

S. A. BROWN,
Justice of the Peace.

To the Commissioner of Patents:

The petition of JOHN HOLT, of Lowell, in the county of Middlesex and State of Massachusetts, respectfully represents that he has by an assignment duly recorded in the Patent Office become the owner of all the right, title, and interest within the United States of America of Edward Brierley of Lowell, Massachusetts, in and to a certain improvement in apparatus for dyeing, (except a license originally granted to James Monarch and by him transferred to Edward N. Mason to use said improvement for five years from March 28th, A. D. 1850,) for which improvement Letters Patent of the United States were granted to said Edward Brierley dated the eleventh day of December A. D. 1849: that he has reason to believe that through inadvertence and mistake the claim made in the specification of said Letters Patent is too broad, including that of which the patentee was not the first inventor.

Your petitioner therefore hereby enters his disclaimer to that part of the claim in the aforementioned specification whereby is claimed any particular apparatus for dyeing with liquid dyeing material by stopping off or excluding the same from certain portions of the cloth according to the design while it has free access to the other parts of the cloth independent of the vertical frames A, B as a part of said apparatus: meaning however still to claim the mode of applying said principle by means of the apparatus with the end frames A, B, as specified in said Letters Patent: which disclaimer is to operate to the extent of the interest in said Letters Patent vested in your petitioner, who has paid ten dollars into Treasury of the United States agreeably to the requirements of the act of Congress in that case made and provided.

JOHN HOLT.

Witnesses:

F. A. BROOKS,
J. M. PINKERTON.