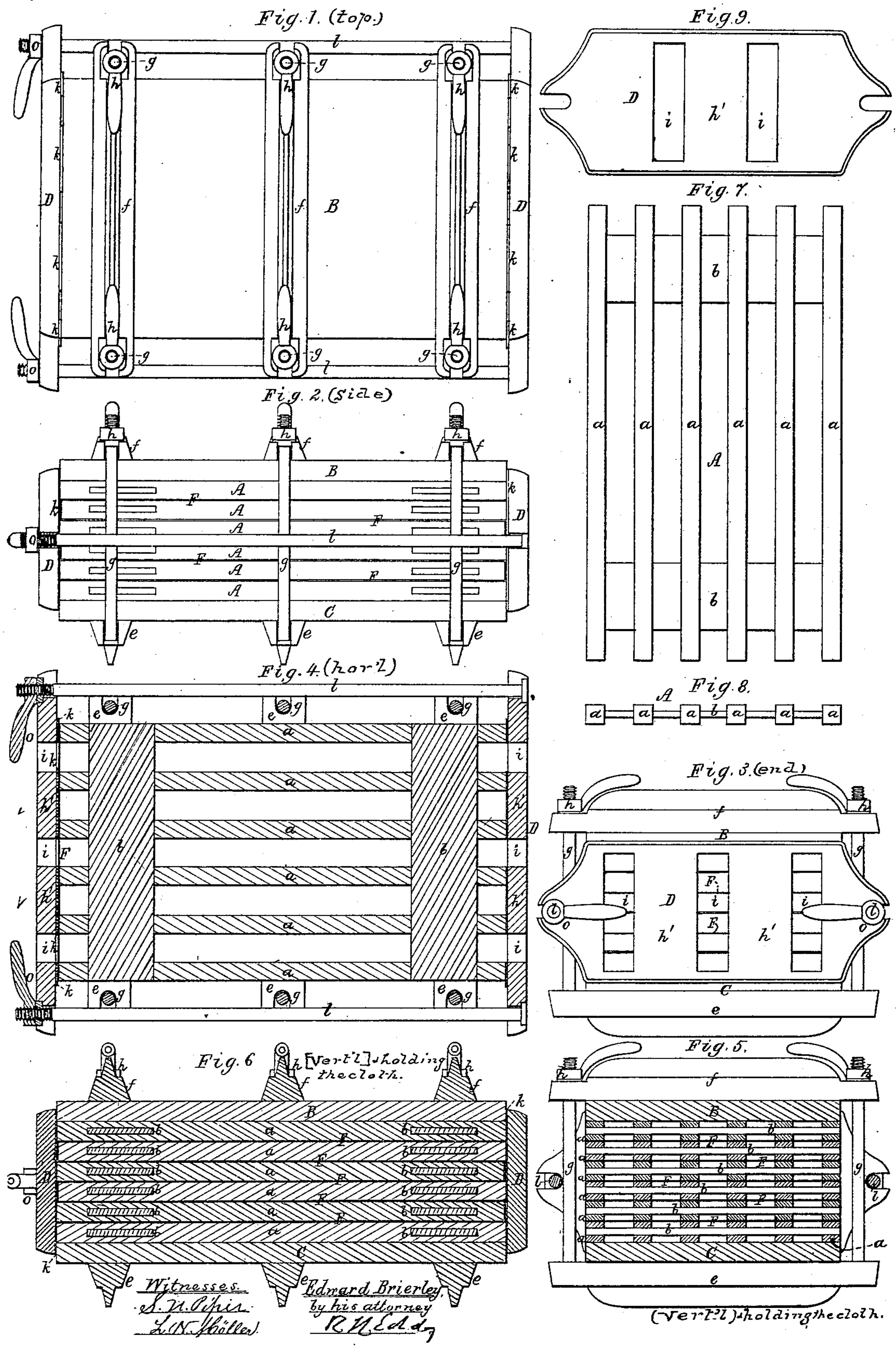
E. BRIERLEY.

Frames for Dyeing Cloth.

No. 166,450. Patented Aug. 10, 1875.



UNITED STATES PATENT OFFICE.

EDWARD BRIERLEY, OF MILTON MILLS, NEW HAMPSHIRE.

IMPROVEMENT IN FRAMES FOR DYEING CLOTH.

Specification forming part of Letters Patent No. **166,450**, dated August 10, 1875; application filed June 1, 1875.

To all whom it may concern:

Be it known that I, EDWARD BRIERLEY, of Milton Mills, of the county of Strafford and State of New Hampshire, have invented a new and useful Improvement in Frames for Dyeing Cloth in Fancy Patterns or Stripes; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a top view, Fig. 2 a side elevation, Fig. 3 an end view, Fig. 4 a horizontal and longitudinal section, Fig. 5 a transverse section, and Fig. 6 a longitudinal section, of one of my improved dye-frames, with cloth arranged therein for being dyed. Fig. 7 is a top view, and Fig. 8 an end view, of one of the series of connected parallel bars.

The present invention has reference to that for which Letters Patent No. 6,932, dated December 11, 1849, were granted to me, the dye-frames referred to and described in the specification and drawings of said patent being capable of dyeing cloth with parallel stripes of one color only, with intermediate stripes of the color of the cloth.

My present improvement enables a piece of cloth to be dyed with parallel stripes of two different colors with intermediate stripes of ground color. By the term "ground color" I mean the color of the cloth before it is dyed—that is to say, if we suppose the ground color to be white, I can dye the cloth so that there shall be red and blue stripes alternating with white spaces or stripes between them.

In the drawings, A A A denote a series of the sections of parallel bars laid one over the other in a pile, and between two plates or boards, B C, each section A being composed of a series of long quadrilateral pressers or bars, *a a a*, arranged at equal distances apart, and connected by two bars, *b b*, going transversely through the series, each bar *b* having a vertical thickness less than that of each bar *a*—that is, about one-third thereof. The piece of cloth to be dyed is shown at F. It is first laid on the lower section, resting on the board C, after which another section is laid on the cloth, and directly over the first section. This done, the cloth is next to be turned up around and against the next contiguous ends of the bars of the upper of the two sections, and thence it is to be laid over the upper surfaces of the said upper section, after which another section should be laid over the cloth.

The cloth and sections are thus to be arranged—that is, in manner as represented in the drawings—and after the top plate or board B may have been placed over the sections the whole is to be clamped together by a series of clamps, each consisting of two bars, *e f*, and two screw-rods, *g g*, provided with two nuts, *h h*, all being as and arranged as represented.

Instead of making each end covering-frame D with a series of vertical bars corresponding in their widths to the bars of the sections, as represented in my patent aforesaid, I construct each bar of a width sufficient to cause it to entirely cover the ends of any two next adjacent section-bars and the space between them, there being between each two bars of the end frame a space equal in width to a space between two next adjacent bars of a section. In the drawings each of the bars of each of the end frames is shown at *h'*, the spaces between them being seen at *i i i*.

The end frames, having been placed against the pile of sections and cloth, and being provided on their inner surfaces, where to bear against the section-bars, with vertical strips *k k*, of vulcanized rubber or rubber cloth, are to be clamped firmly to the pile by means of bolts *l l* and nuts *o o*, arranged and applied in manner as represented. The dye-frame will then be ready for being immersed in the dye-vat, which, with the frame, will cause the cloth to be dyed with stripes of one color, having between each two next adjacent ones a stripe of the ground color of three times the width of each of the dyed stripes so produced by the dyeing process. After the cloth may have been so dyed, the end frames are to be removed from the pile, and others of similar character substituted, but having their bars arranged so as to cover the cloth at the ends of the pile, except when it may be desirable to have stripes of another color.

Fig. 9 represents such an end frame. On the dye-frame being next inserted in a vat of color different from that first dyed, this second color will be dyed in stripes which will be midway between the stripes previously dyed.

Metal plates in the sectional frames are objectionable in several respects, particularly on account of their liability to oxidize, which renders it difficult to keep them clean.

I claim as my invention or improvement—

In the above-described dye-frame, the end frames D, having bars which severally lap on and cover two next adjacent bars and the space between them of each of the sectional frames, all being to enable the cloth to be dyed with stripes of different colors, as set forth.

EDWARD BRIERLEY.

Witnesses:
R. H. EDDY,
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