

Thomas & Everett.
Jacquard Motion for Loom.

N^o 9,545.

Patented Jan. 18, 1853.

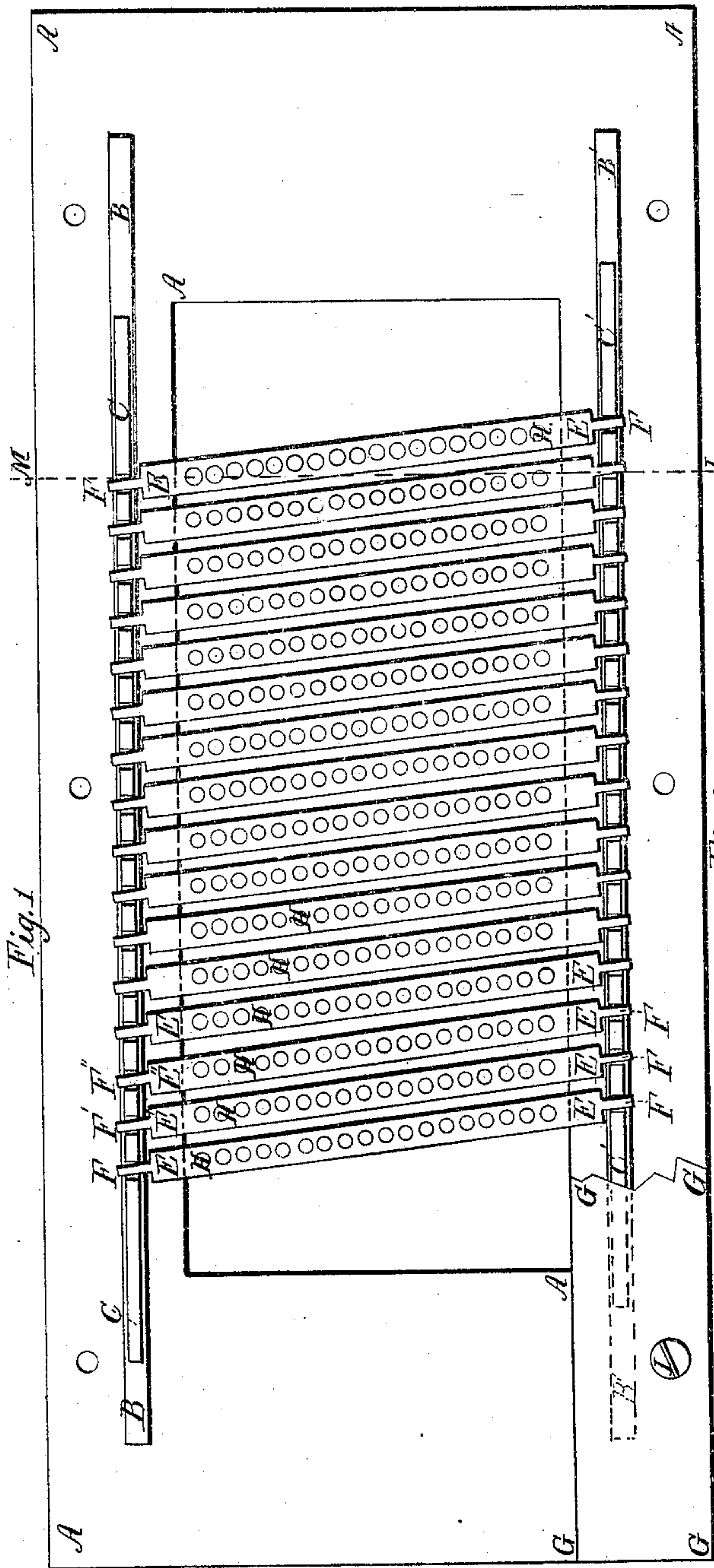


Fig. 1



Fig. 2

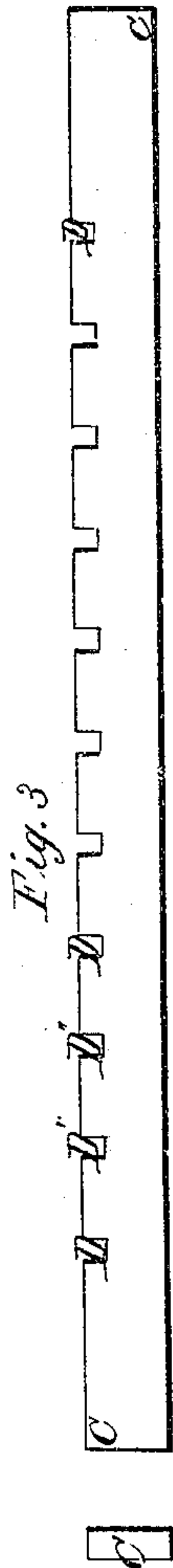


Fig. 3

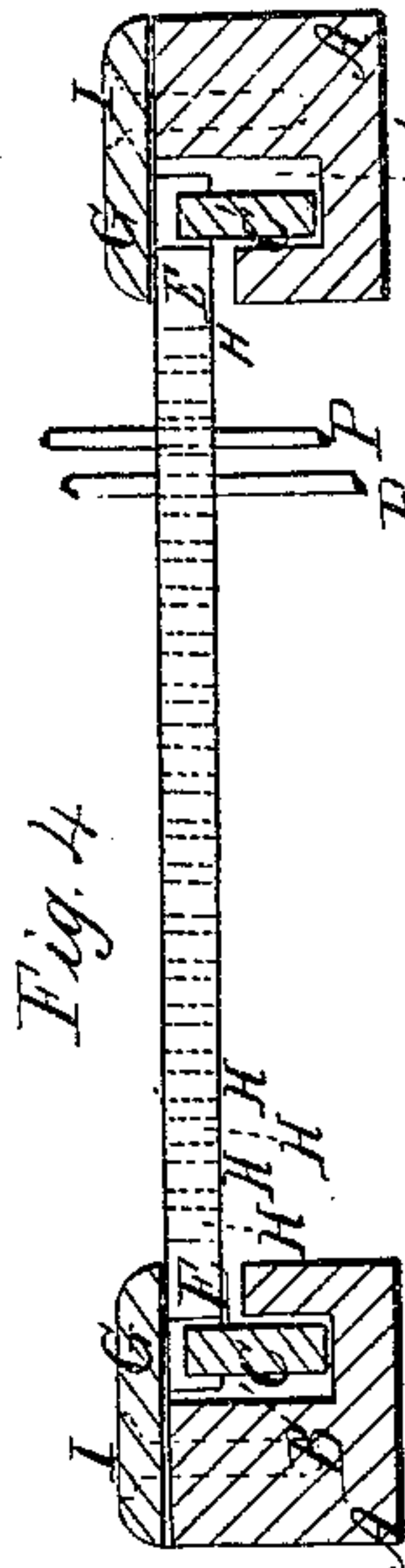


Fig. 4

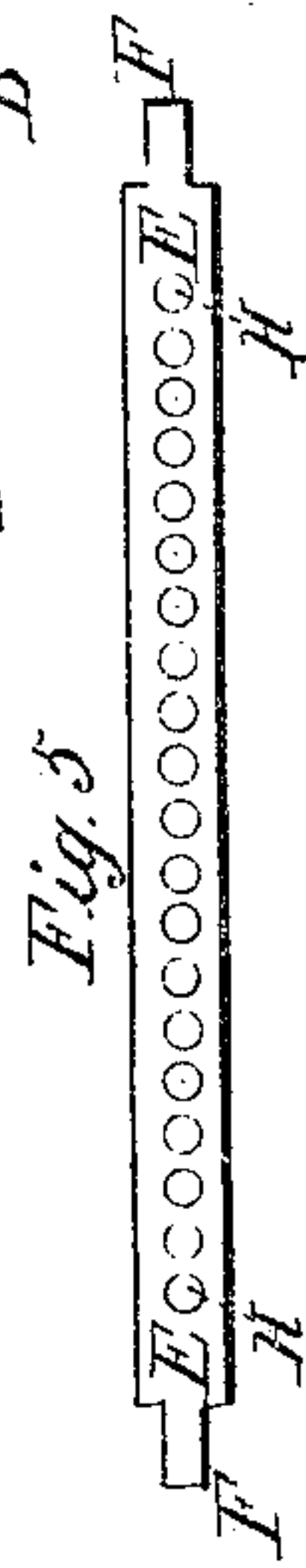


Fig. 5

UNITED STATES PATENT OFFICE.

EDWARD EVERETT, OF LAWRENCE, AND SAM'L. T. THOMAS, OF LOWELL, MASSACHUSETTS.

HARNESS-BOARD FOR JACQUARD LOOMS.

Specification of Letters Patent No. 9,545, dated January 18, 1853.

To all whom it may concern:

Be it known that we, EDWARD EVERETT, of Lawrence, in the county of Essex and State of Massachusetts, and SAMUEL T. THOMAS, of Lowell, in the county of Middlesex and State aforesaid, have invented an Improvement in Hole-Boards for Jacquard Looms; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure I, is a plan or top view of the hole board; Figs. II and III, side and end view of the notched bars; Fig. IV, end view of the hole board, in section; Fig. V, top view of one of the hole bars.

Our invention is designed to facilitate the operation of changing the relative position of the mail-cords or heddles in a Jacquard loom, when the number of threads in a given breadth of the cloth is to be increased or diminished, our improvement being confined to that part of the loom commonly called the "hole-board." Our improved hole-board occupies the same place in the loom as the one now in use, being secured in a horizontal position between the lifting wires and the warp.

The hole-board heretofore used is simply a board of suitable length and breadth, in which there are as many perforations as there are mail-cords in the mounting. Each mail-cord is, in the Jacquard loom, attached at its upper end to the lifting wires, and thence passes through one of the perforations in the hole-board, below which it hangs in a vertical position, suitable weights being fastened to each cord just below the level of the warps. Suppose that there are eight hundred threads of warp in a breadth of thirty inches; if the weaver wishes to make a cloth of thirty six inches in width, and having the same number of threads he is obliged to substitute a hole board in which the holes are bored farther apart. To do this he is compelled to unfasten every mail-cord from its lifting-wire, and draw it downward through the hole-board. He then puts the new hole board in place of the old one, draws each mail-cord upward through its hole and attaches it to the proper lifting-wire. This is a very perplexing and

tedious operation, from three to five days being required to effect it, according to the number of threads in the warp. Changes in the number of warp threads per inch, that in certain styles of goods would be very desirable are often omitted on account of the loss of time named above. The expense of making and keeping on hand a large number of hole-boards is also an objection to the present mode.

By our improvement we are able to make the changes above referred to, in from one to two hours, without removing the mail-cords from the lifting-wires. The frame of the hole-board A, A, Figs. I and IV, is of such length as to extend across the breadth of the frame of the loom, to which it is fastened. On each side of this frame there is a groove B, B', of suitable size to receive the bars C, C', which have upon their upper edge notches D, D', D'', as shown in Figs. II and III. The notches of the two bars thus placed opposite to each other are equi-distant, and receive the ends F, F, of the cross bars E, E, Fig. V. The ends F, are not closely fitted to the notches D, D', but are made a little smaller, so as to allow the bars C, C' to be moved a short distance endwise. The cross-bars E, may be made of brass, or other metal and should be about one eighth of an inch thick. Their number and the number of holes H, H, in each bar will depend upon the required number of warp threads in the cloth.

A screw I, Figs. I and IV holds a rib or band G, in contact with the top of the frame A, the breadth of this band being such as to allow it to lap over the ends of the hole-bars E, and confine them in place. The two side bars that are in use have always the same number of notches to an inch, in order that the cross-bars may all be parallel with each other. Other bars are provided, in pairs, having a different number of notches to an inch, which are inserted in the grooves B, B', when the breadth is to be altered, the mail cords P being allowed to remain in their respective holes in the cross bars, and hanging from the lifting wires, in their working position. If we use a pair of bars like Fig. III, having eleven notches, and each cross-bar having twenty holes, we have two hundred and twenty mail-cords in a breadth of six inches. If we substitute for

these a pair of bars, like Fig. II, and place the eleven cross-bars in eleven contiguous notches, we have the same number of mail-cords in a breadth of three inches. When
5 the side bars are inserted they are so placed with reference to each other as to bring the back hole of one cross-bar nearly in line with the front hole of the adjacent cross-bar, as shown by the dotted line L, M, Fig.
10 I. Any required number of threads to the inch can thus be obtained by simply using side bars having more or less notches to an inch. This apparatus may also be used in
15 raddle or guide for the yarns or threads.

What we claim and desire to secure by Letters Patent, is—

The sectional harness-board, in combination with the movable supporting bars placed on each side of the frame, for the 20 purpose of adjusting and retaining said harness-boards in the position required;—the whole constructed, combined and arranged in the manner, and for the purpose specified.

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Witnesses:

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