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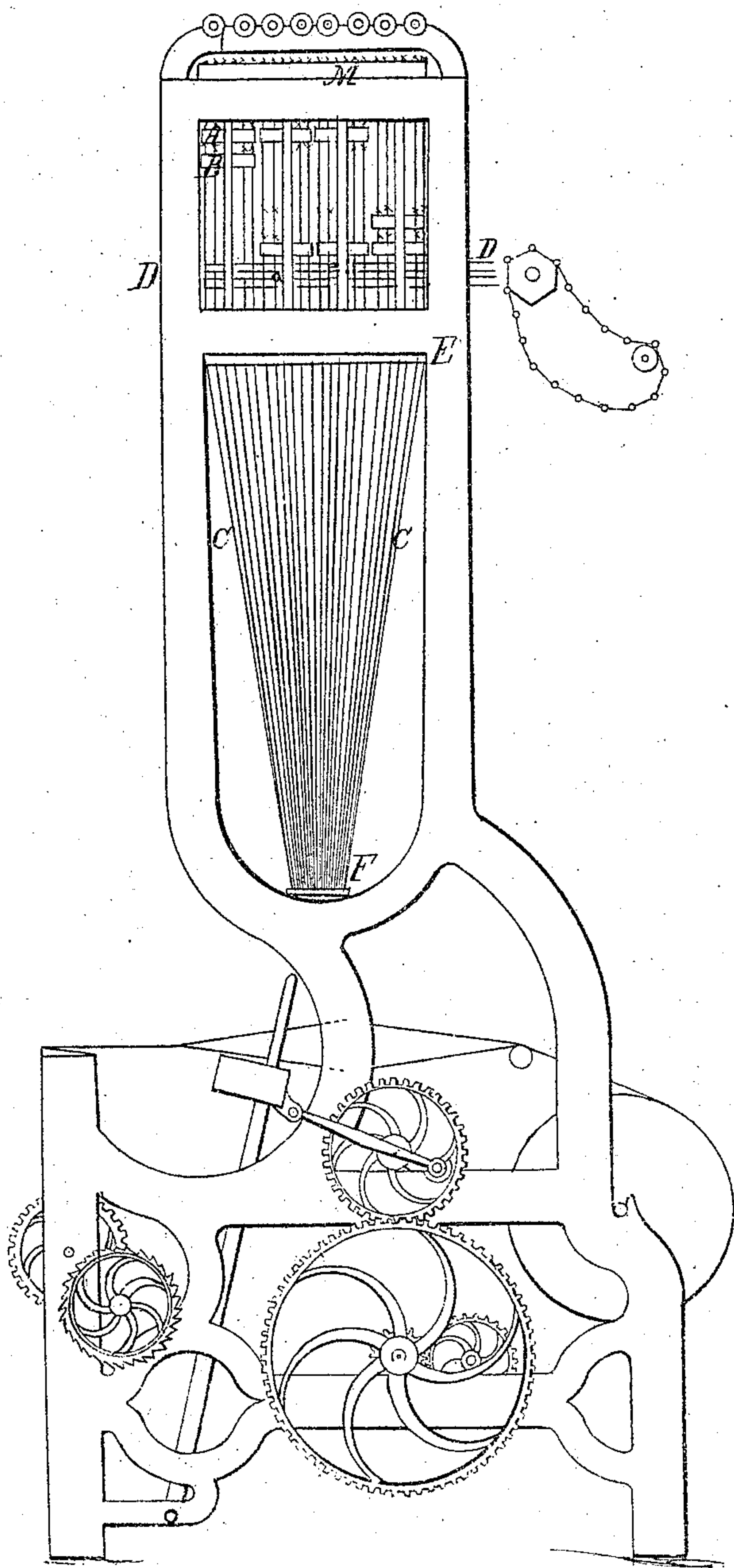
J. A. Elder.

Jacquard Motion for Loom.

N^o 9,795.

Patented Jun. 21, 1853.

Fig. 1



Sheet 2-3 Sheets.

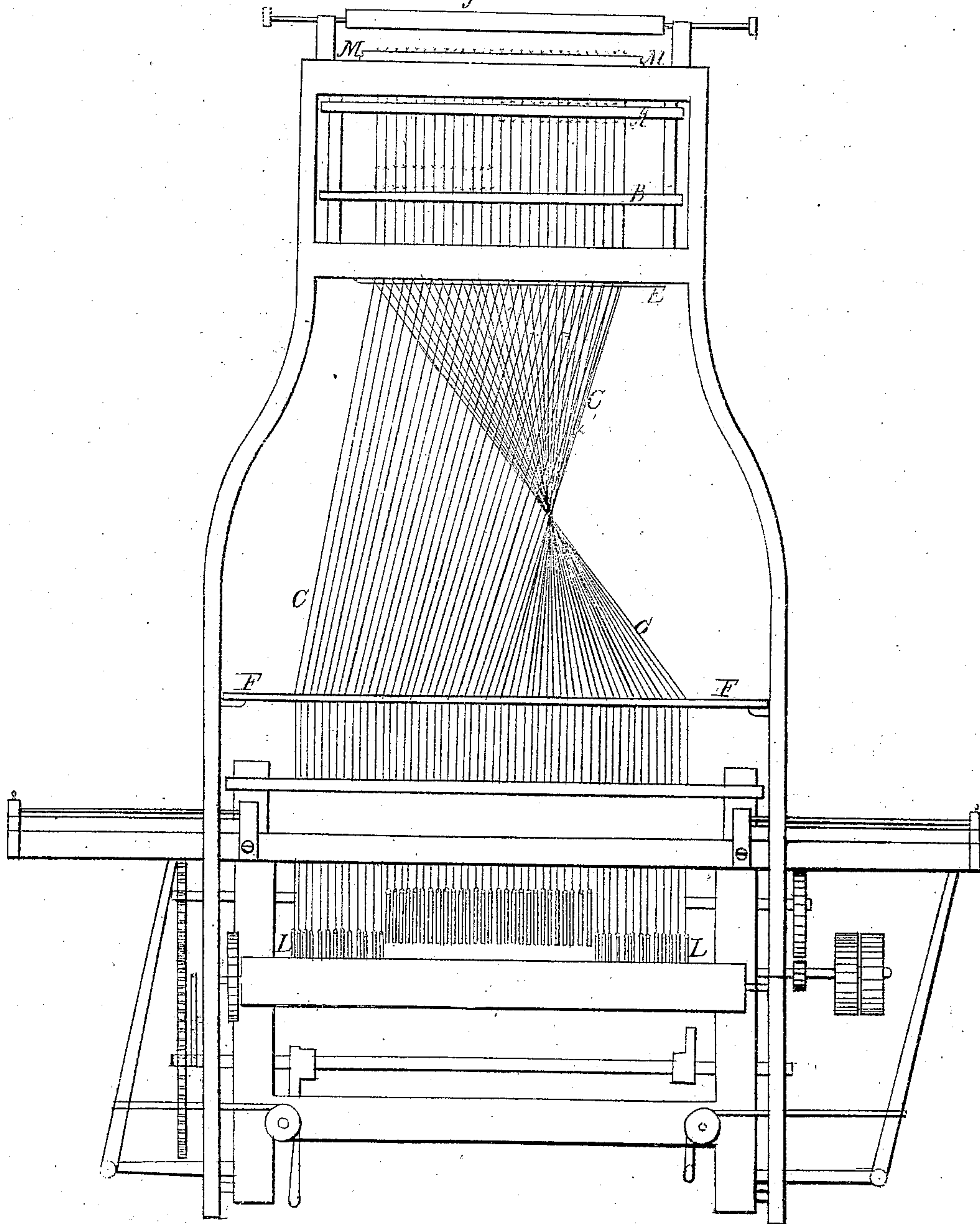
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Fig. 2



J. A. Elder.

Sheet 3 - 3 Sheets.

Jacquard Motion for Loom.

N^o 9,795.

Patented Jun. 21, 1853.

Fig. 4

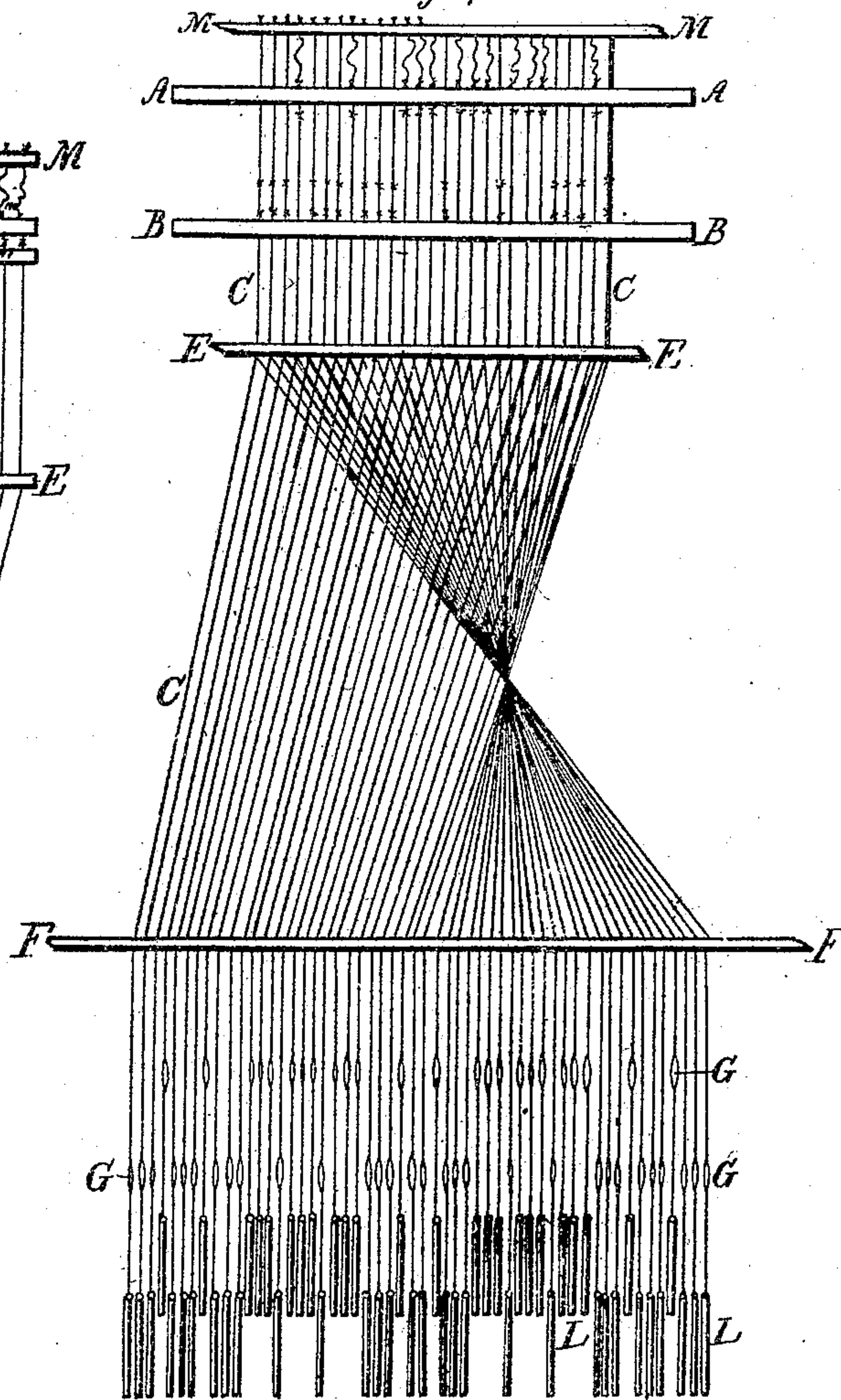


Fig. 5

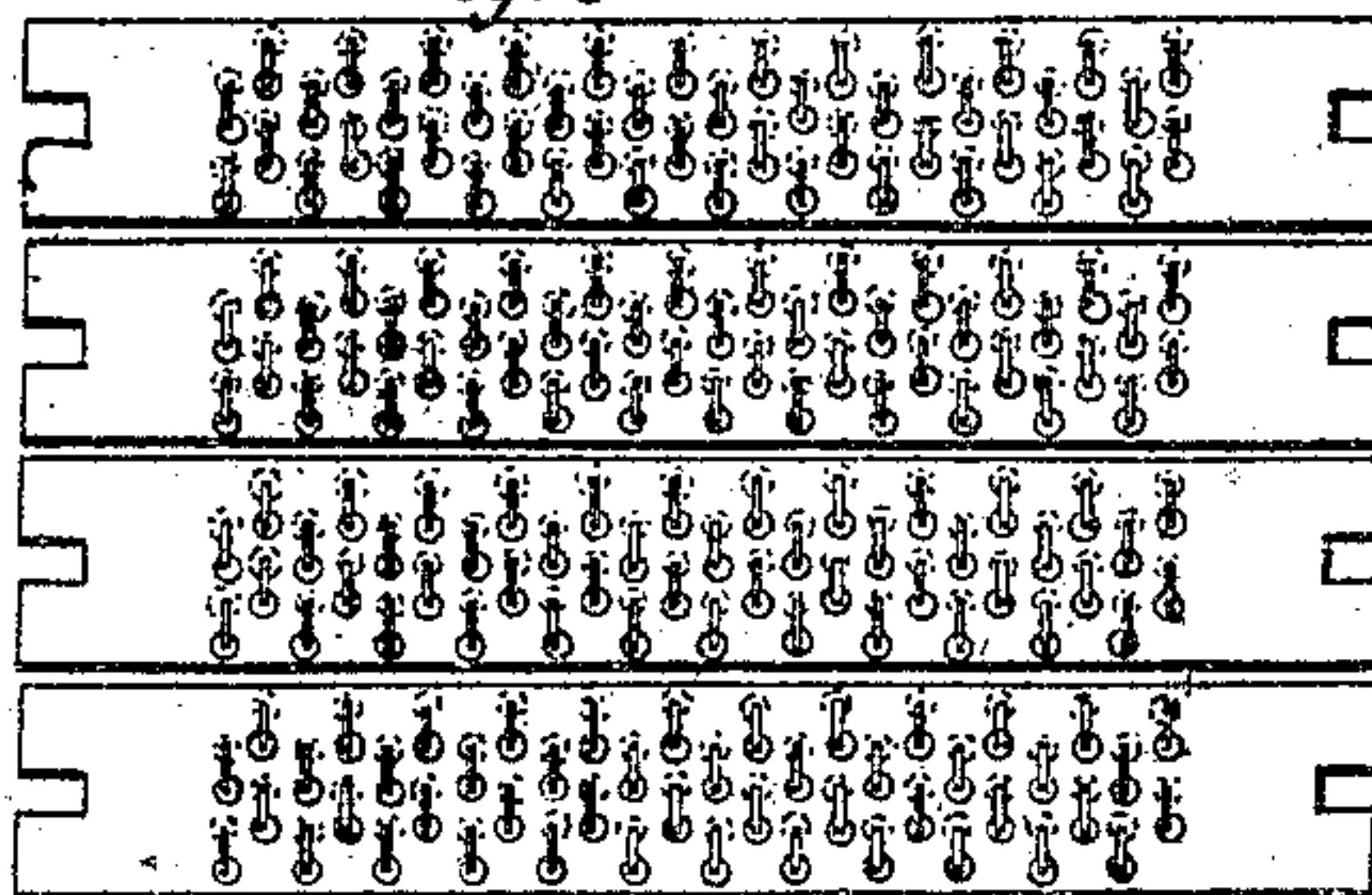


Fig. 3

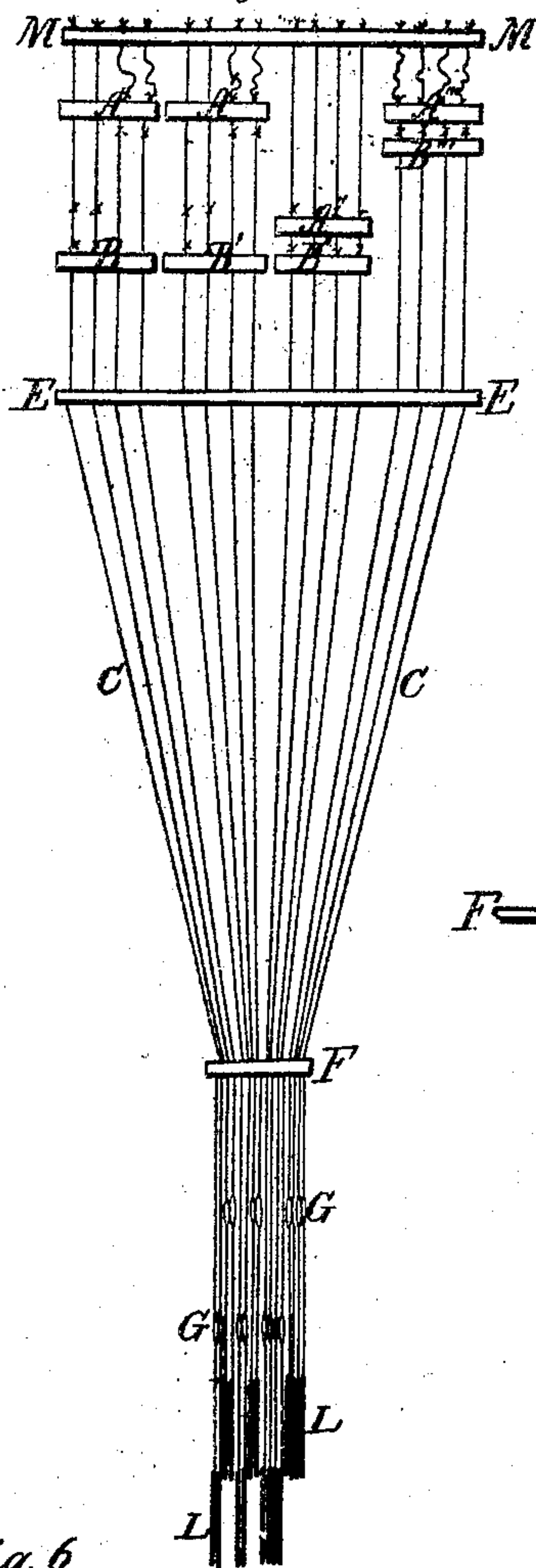
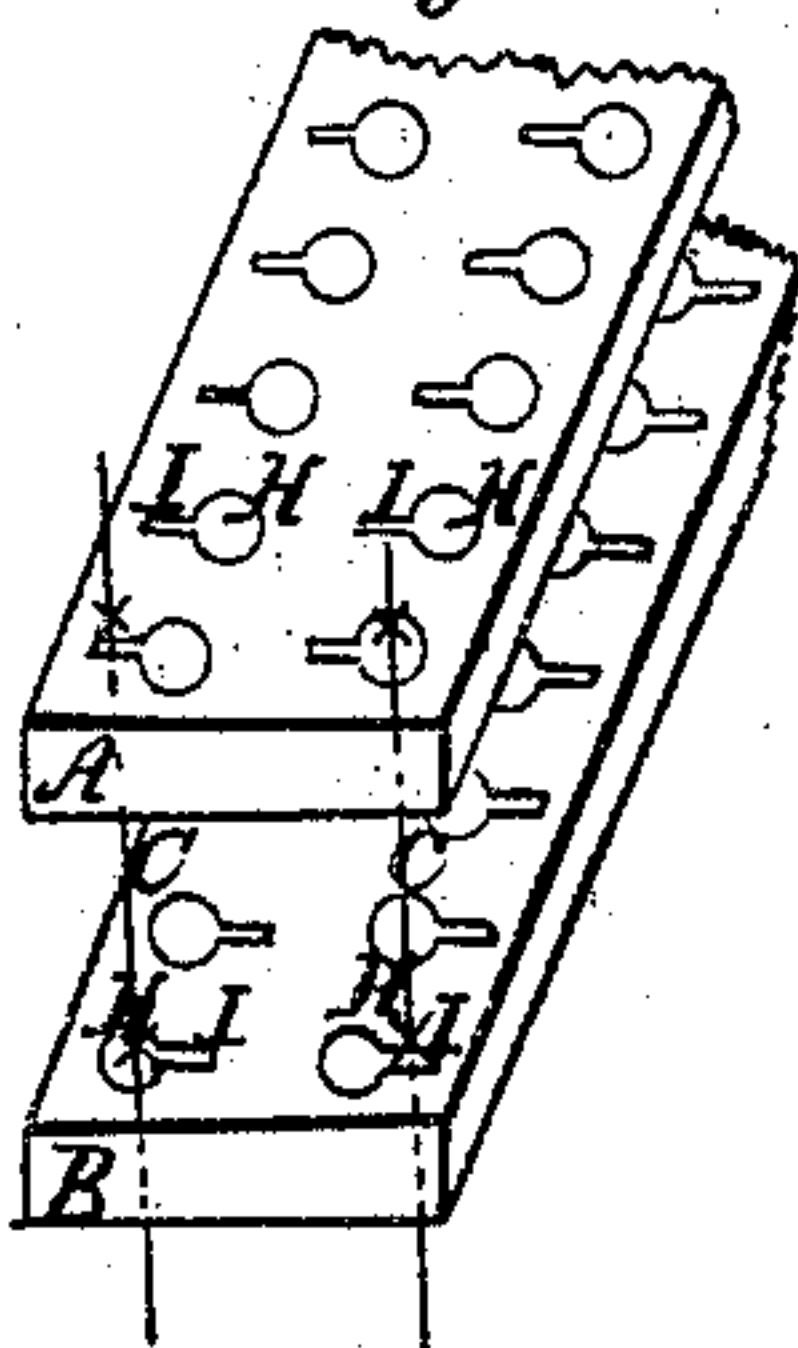


Fig. 6



UNITED STATES PATENT OFFICE.

JOHN A. ELDER, OF WESTBROOK, MAINE.

JACQUARD APPARATUS OF LOOMS.

Specification of Letters Patent No. 9,795, dated June 21, 1853.

To all whom it may concern:

Be it known that I, JOHN A. ELDER, of Westbrook, in the county of Cumberland and State of Maine, have invented certain
5 Improvements on Looms for Weaving Checked and Figured Fabrics; and I do hereby declare that the following is a full description of the construction and operation of the same, reference being had to the
10 annexed drawings, making a part of this specification, in which—

Figure I is a side view of the loom and mountings; Fig. II, front view of the same; Fig. III, side view of the trap-board, guide-
15 bars, knot-cords, and weights; Fig. IV, front view of the same; Fig. V, plan of the trap-board—the red lines showing the apertures in the bottom boards; Fig. VI, perspective view of two trap-board and knot cords.

20 The main feature of my invention consists in placing one-half of the trap-boards directly above the other half, their position being such as to allow the knot-cords to pass from their point of supervision through
25 holes in the two trap-boards, thus placed one above the other, and a short distance apart.


The knot-cords C, C, C, are fastened at the top to a fixed board M, from which they
30 descend and pass through the upper series of trap-boards A, A' A'' A'''; thence through the lower series of trap-boards B, B', B'', B''', thence through the eye of the horizontal needle D, thence through the
35 upper guide-bar E, thence through the lower guide bar F; below this is the eye of the harness G, through which the warps pass; at the lower end of each mail-cord, a weight L is attached in the usual manner. Each
40 knot-cord instead of having one "trap-board knot" has two knots, one above the other, to correspond with the double series of trap-boards arranged between the suspension board and needles as represented.

45 The trap-boards A and B, Fig. VI, are perforated with holes of the same shape, as those in common use, consisting, of a circular aperture, H, upon one side of which there is a slot, I, the circular part of the
50 hole being of such size as to allow the knot upon the knot-cord to traverse freely through it, and the slot being of such breadth as to arrest the knot and lift the mail-cord and warp when required. In Figs. V and
55 VI it will be noticed that the slots in the top trap-boards is in a different direction from

the slots in the bottom boards, so that when one of the knot-cords is in the slot I, in the lower trap-board, B, the upper knot can pass through the circular hole H in the top-
60 trap-board A and vice versa. The vertical motion of the trap-boards is produced by suitable shafts, cams, levers and connecting rods, or cords.

Any required number of trap-boards may
65 be used; in the present description and drawings, two series of four each are referred to. Each of the needles, D, Fig. I, has four eyes, and commands four threads of the warp; if five trap-boards are used
70 there should be five eyes in each needle, the number of eyes being the same as the number of trap-boards in one series.

Instead of allowing the trap-board that has last operated upon the warp to rise and
75 fall after each shot of filling the lifting cam is so shaped as to cause the trap-board to rise at the beginning of a change in the figure and remain up during the time that the three succeeding shots of filling are in-
80 serted; in consequence of this the aggregate vertical distance traversed by the warp is much reduced, and friction and wear of the warp diminished.

By reversing the position of part of the
85 slots in each trap-board (thus ) various changes may be produced in the figures, according as the knot cord plays through the holes or is arrested by the slot.

By this improvement the number of pat-
90 tern-cords required to produce certain kinds of cloth is much reduced; the area of each cord is also much less than those now in use to produce the same effect, and only one fourth as many needles are required.
95

By reversing the position of the slots in one series of trap boards various changes may be produced in the figure. When the slots in the top trap board is in a different
100 direction from the slots in the bottom boards and the needles stand at rest it will weave drilling with the tweel on one side of the cloth and if the knot cords is thrown into the other series of boards the tweel will be woven on the other side. If part of the
105 tweel should be woven on one side a card can be applied to the needles which operate the knot cords and make a change in the figure. If the change is not wanted in the figure the needles can stand at rest. If part
110 of the needles are pushed forward and the rest are not a part of the tweel will be woven

on one side of the cloth and the remainder of the tweel will be on the other side, thus making a figure in the fabric.

What I claim is—

5 1. Arrangement of the two trap boards placed the one above the other and between the suspension board and needles.

2. I also claim two trap boards arranged the one above the other with their slots in
10 opposite directions to the knot cord holes

when combined with the knot cords having a knot for each board and a single set of needles for the purpose of vibrating the knot cords from the slots in one board to the slots in the other, the whole arranged 15 and combined in the manner herein set forth.

JOHN A. ELDER. [L. s.]

Witnesses:

JAMES PENNELL,

HENRY F. SANDS.