

JENNIE M. BOYCE.
PLAITING-MACHINE.

No. 182,016.

Patented Sept. 12, 1876.

Fig. 1.

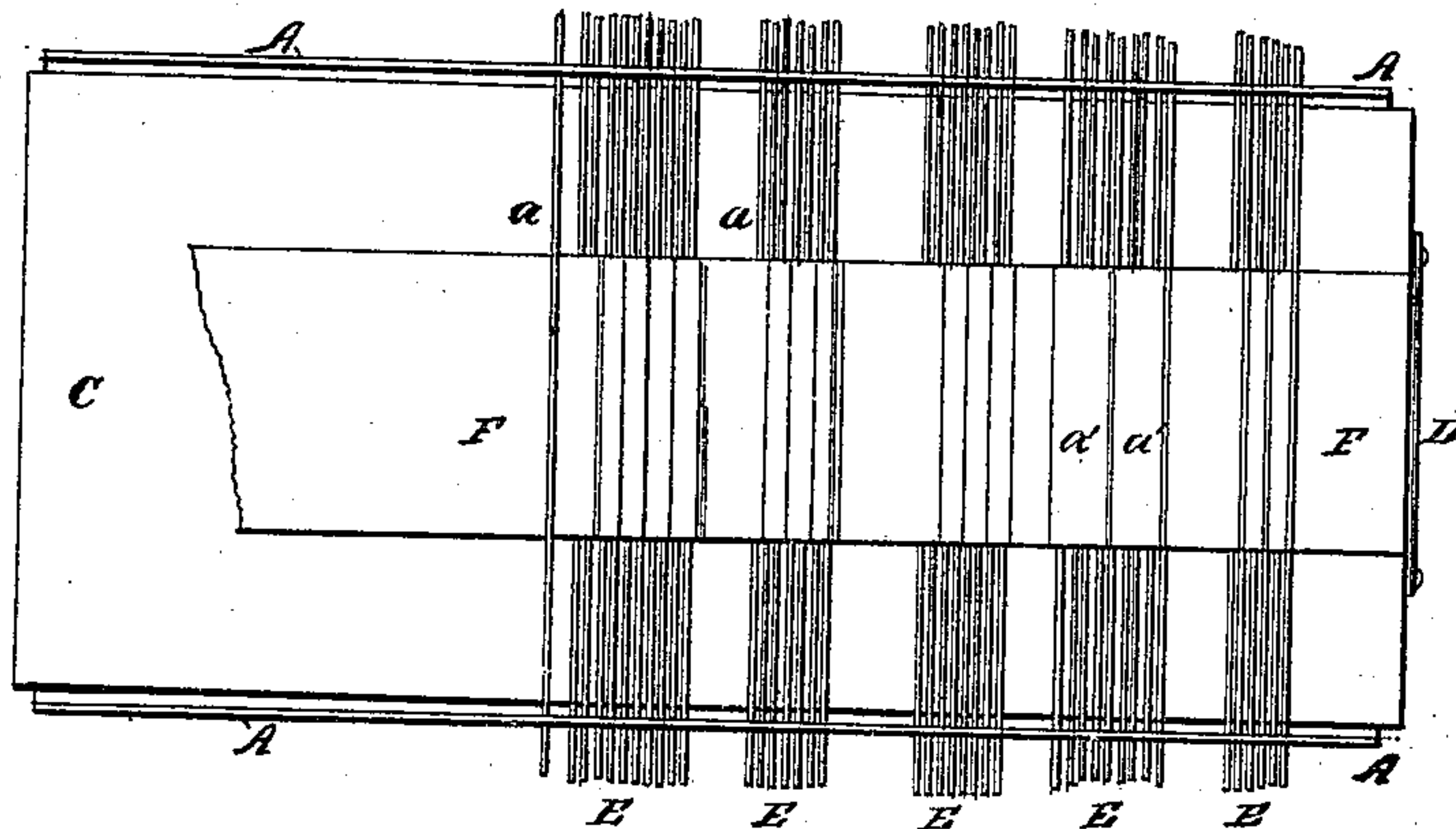


Fig. 2.

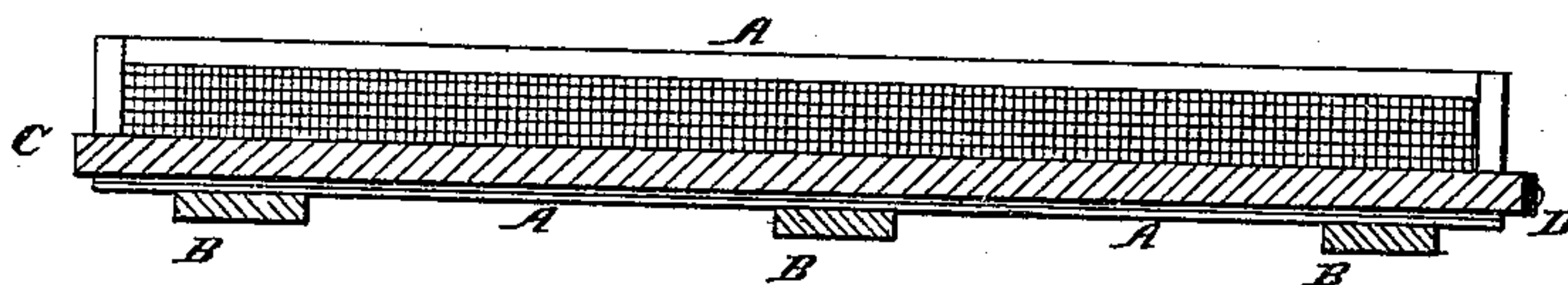
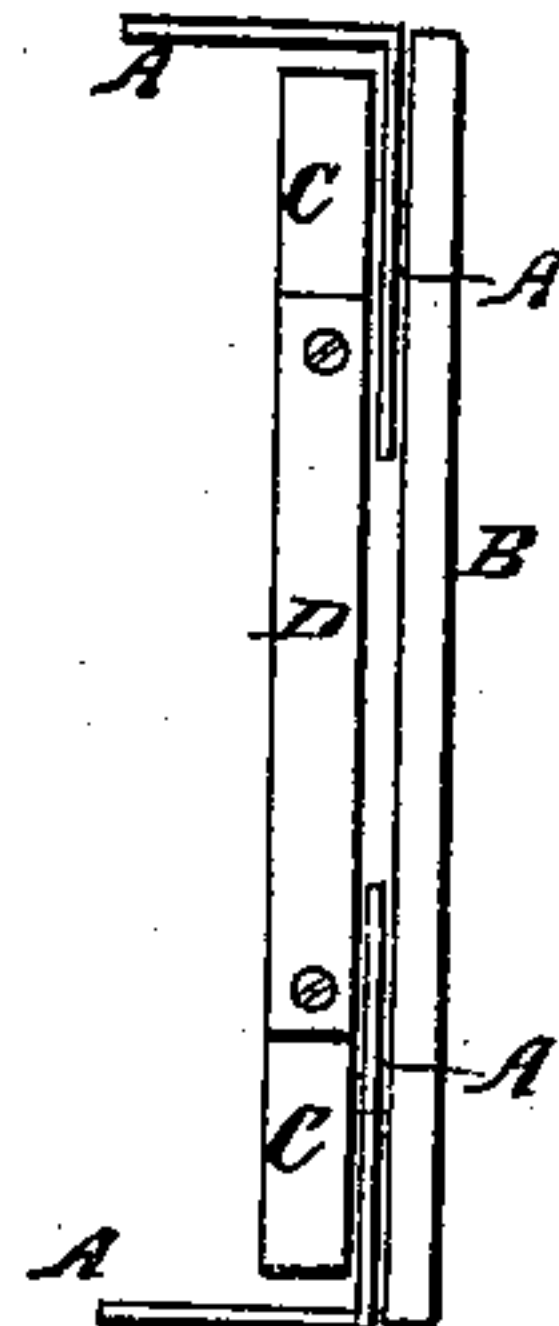


Fig. 3.

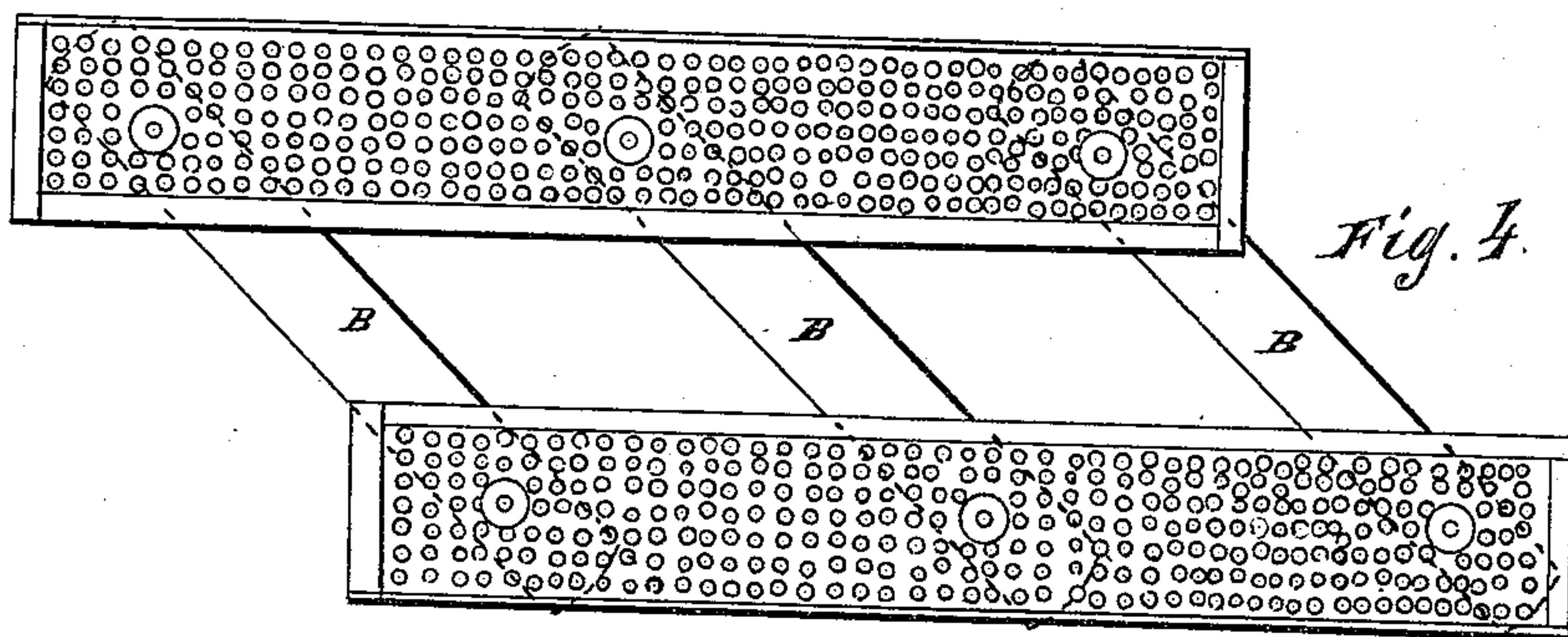


Fig. 4.

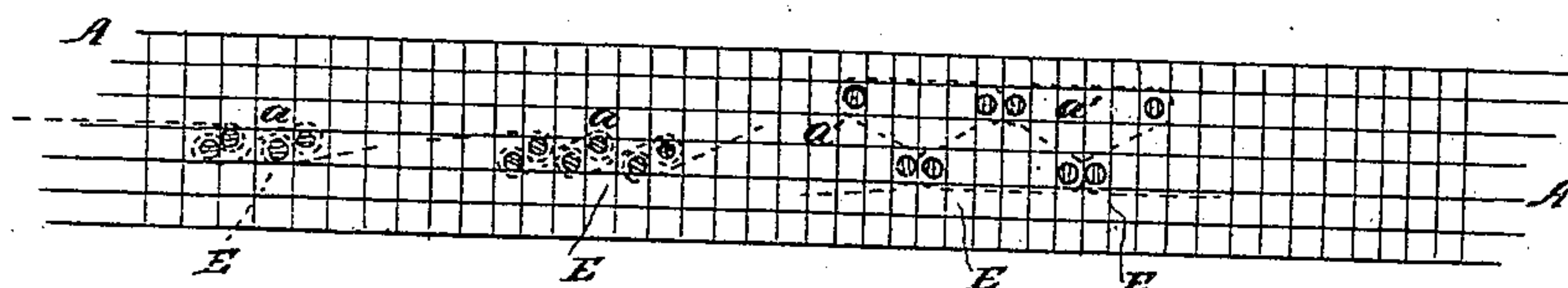


Fig. 5.

Witnesses:
James B. Miller
John L. Smith.

Inventress:
Jennie M. Boyce.
By T. F. Warner.
(his atty.)

UNITED STATES PATENT OFFICE.

JENNIE M. BOYCE, OF BELVIDERE, ILLINOIS.

IMPROVEMENT IN PLAITING-MACHINES.

Specification forming part of Letters Patent No. **182,016**, dated September 12, 1876; application filed May 25, 1876.

To all whom it may concern :

Be it known that I, JENNIE M. BOYCE, of Belvidere, in the county of Boone and State of Illinois, have invented a new, useful, and Improved Plaiting and Fluting Machine, of which the following is a full, clear, and exact description, which will enable others skilled in the art to which my invention appertains to make and use my improved device, reference being had to the accompanying drawing, forming a part hereof, and in which—

Figure 1 is a top or plan view of a plaiter and fluter embodying my improvements; Fig. 2, an end view thereof; Fig. 3, a vertical central section of the same; Fig. 4, a top or plan view of a modification thereof; and Fig. 5, a side elevation of one of the parts which constitute the needle-holder.

Like letters of reference indicate like parts.

The object of my invention is to make a cheap and serviceable device, whereby either plaiting or fluting, or both, may be done with facility, and the plaits or folds easily varied, either in width or height, and made to lie either at right angles or diagonally with relation to the goods. To this end my invention consists of the several novel features of construction hereinafter particularly claimed.

In the drawing, A A represent vertical strips of wire-cloth, arranged parallel, or nearly so, to each other, and B B are cross-bars or connecting-pieces, to which the strips A A are pivoted; but correspondingly-perforated strips of sheet metal or other suitable and similarly-perforated material may be used instead of wire-cloth, as represented in Fig. 4. C is a removable board, adapted to pass freely between the strips A A, and lying on the bars B B. D is an elastic band, loop, or catch, attached to or near one end of the board C. E E are removable needles or bars, adapted to pass freely through the interstices of the wire-cloth, or through the perforations of the sheet metal, whichever may be employed. F is a piece of goods arranged about the needles.

In order to plait goods by means of this device, the needles should be arranged, one by one, with reference to the style of work to be done, and as the needles are thus arranged the goods should be properly folded with re-

lation to them, so as to give the desired form to the plaits or folds. Any one familiar with this class of work will readily perceive, without further description, the manner in which the device is intended to be used for the purposes set forth.

An arrangement of needles and goods to produce knife-plaiting is represented at *a a*, Fig. 5. For fluting, the arrangement must be varied, as represented at *a' a'*. In beginning the work, one end of the goods may be retained in place by arranging it under the band D.

In order to make diagonal plaiting or fluting, the needles may be either first arranged diagonally, or they may be arranged as described, and then made diagonal by removing the base or board C, and carrying one of the side pieces or needle-holders either forward or rearward with relation to the other, preferably by the latter method, it being understood that the goods are first arranged upon the needles before they are shifted to a diagonal position. If the goods should become wrinkled or displaced by this operation, they may be smoothed or rearranged by a slight manipulation. After the goods are thus properly placed, they should be steamed over a vessel suitable for that purpose, the board C being first, preferably, removed. After this they should be exposed to the heat of an oven, or be otherwise heated and dried. The needles should then be withdrawn, thus leaving the goods free; and the latter will retain their form sufficiently to be stitched without being first ironed or pressed; but they may be first ironed and then stitched, if desirable.

It will be perceived from the foregoing description that the needles may be arranged and retained in various positions, either vertically or laterally, with relation to each other and the goods, according to the kind and style of work to be done, and that the same machine is adapted to various patterns of either plaiting or fluting, and that the plaits or folds may be made diagonal, as well as straight, and shifted from the latter to the former with ease, thus facilitating the operation of laying diagonal plaits or folds; also, that the facility with which the goods may be steamed and

heated diminishes the danger of injuring them by otherwise dampening, drying, and pressing them.

The board C is not essential, except to give firmness to the device, and any convenient means may be used instead of the band D to retain the end of the goods in place when the work is commenced. Neither is it essential that the needle-holders should be pivoted to cross-pieces, except to aid in shifting straight plaits or flutes to diagonal ones.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A plaiting and fluting machine provided with needle or bar holders of wire-cloth or metal strips, having therein numerous rows of perforations, interstices, or spaces, arranged both vertically and laterally with relation to each other, substantially as shown and described, for the purpose of admitting of the

plaiting or fluting needles or bars being differently arranged or adjusted, and held either vertically or laterally with relation to each other and the goods, and in positions corresponding to the various styles or patterns of work.

2. The combination of the needle or bar holders of a plaiting or fluting machine with the bars or connecting-pieces B B, when the former are pivoted to the latter, for the purposes set forth.

3. The combination of the side pieces or needle or bar holder A A, cross-pieces or connecting-bars B B, removable board or base C, and removable needles or bars E E, substantially as and for the purposes specified.

JENNIE M. BOYCE.

Witnesses:

D. G. COURTNEY,
H. A. BOOMER.