

(No Model.)

2 Sheets—Sheet 1.

A. HILDT.
QUILTING MACHINE.

No. 358,355.

Fig. 1.

Patented Feb. 22, 1887.

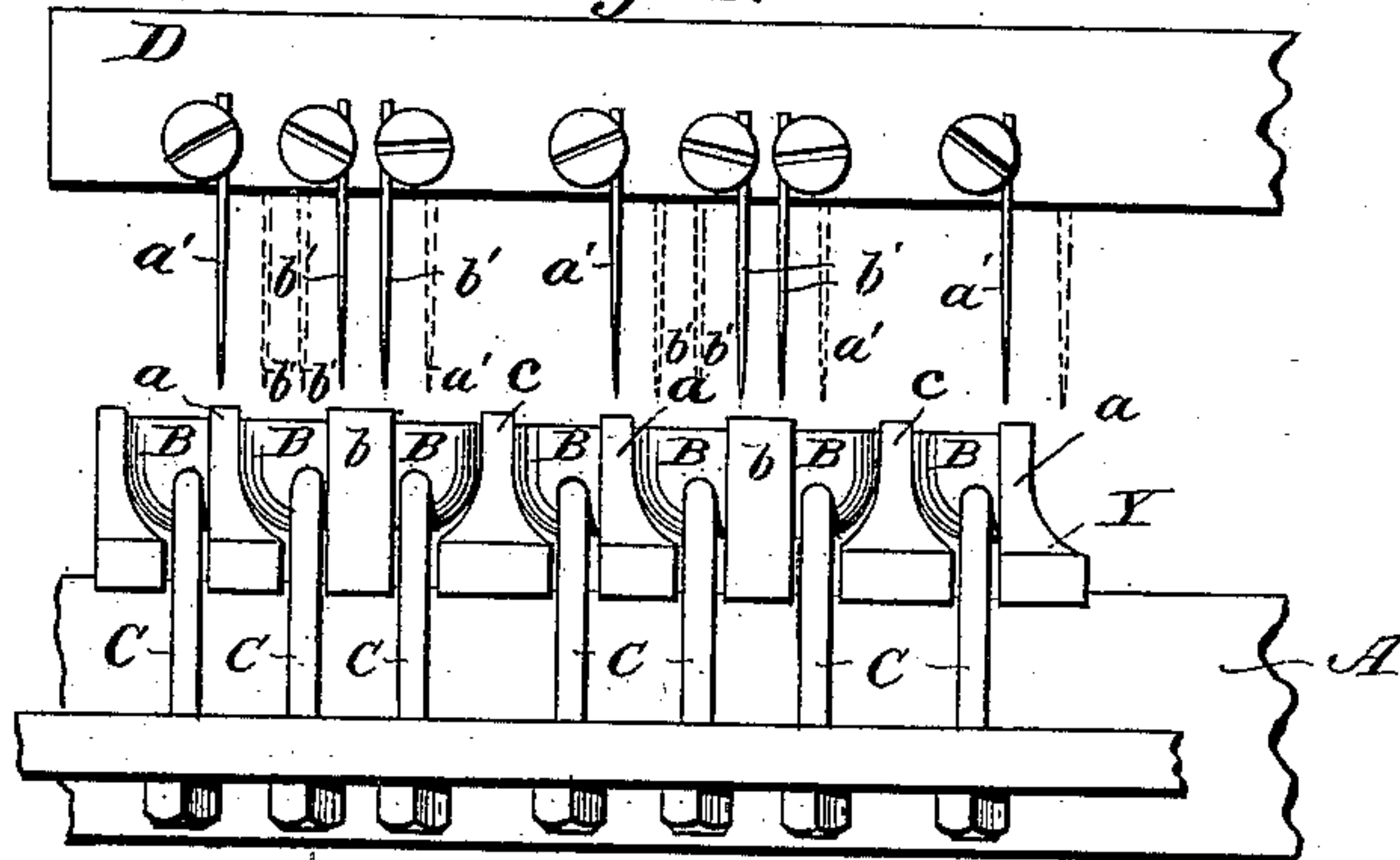
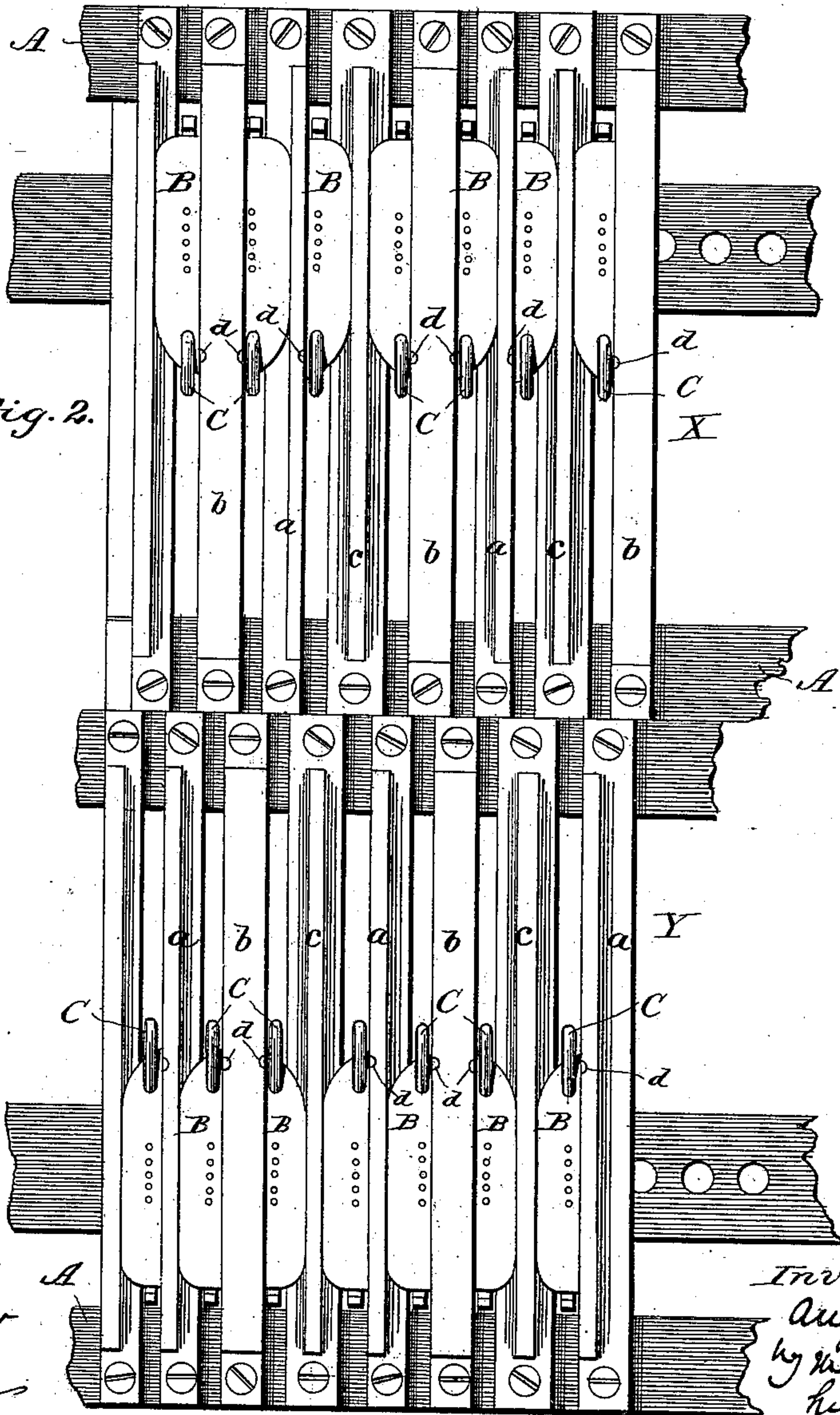


Fig. 2.



Witnesses:
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E. A. Dick

Inventor:
August Hildt
by Maxwell Bailey
his attorney

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Fig. 5.

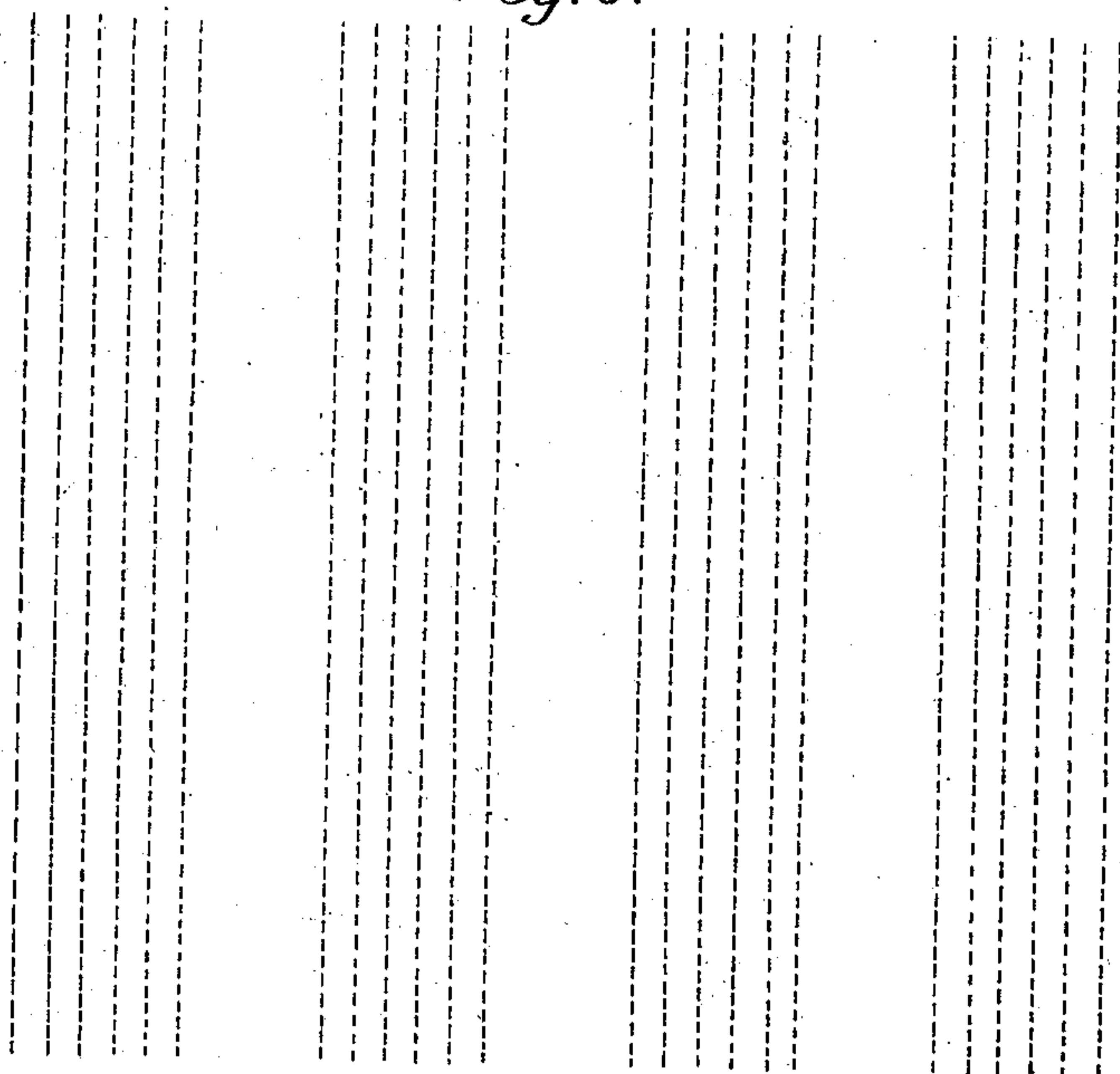


Fig. 4.

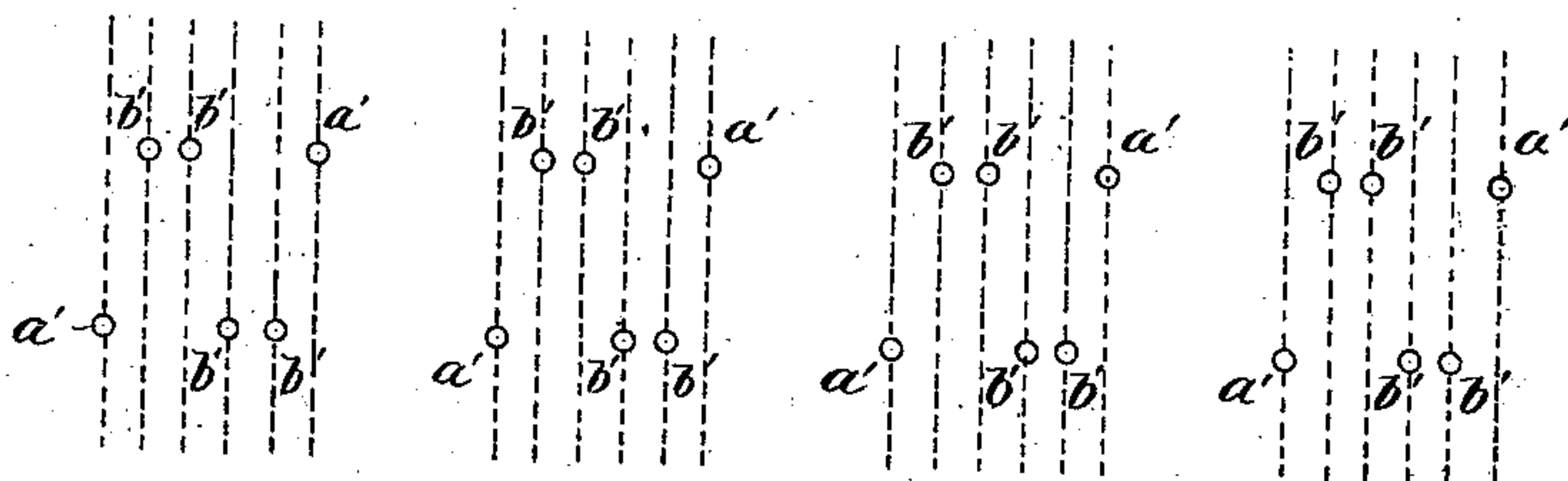
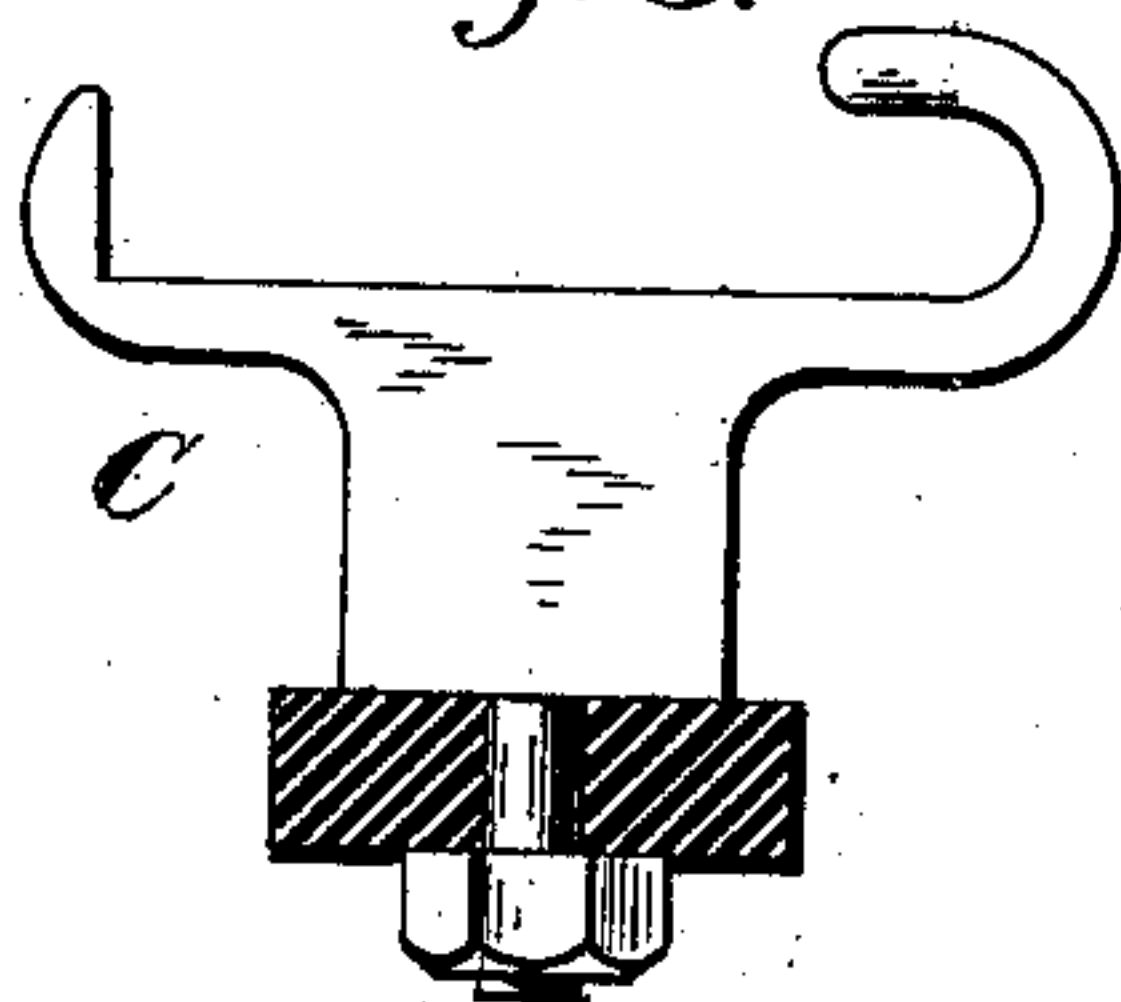


Fig. 3.



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UNITED STATES PATENT OFFICE.

AUGUST HILDT, OF NEW YORK, N. Y., ASSIGNOR TO L. DRYFOOS & CO.,
OF SAME PLACE.

QUILTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 358,355, dated February 22, 1887.

Application filed June 8, 1886. Serial No. 204,474. (No model.)

To all whom it may concern:

Be it known that I, AUGUST HILDT, of the city, county, and State of New York, have invented a certain new and useful Improvement in Quilting-Machines, of which the following is a specification.

My invention relates to that class of sewing-machines for quilting fabrics in which are employed two transverse rows of needles, together with shuttles—one for each needle—and it has reference particularly to the construction and arrangement of the parts in such manner as to bring the stitch-forming devices into compact form and small space, with a view to the production of a quilting-pattern in which the parallel rows of stitches are closer together, and consequently result in a finer pattern than has heretofore been the case in machine-quilting.

The nature of the improvement can best be explained by reference to the accompanying drawings, in which—

Figure 1 is an end elevation of a portion of a quilting machine embodying my invention. Fig. 2 is a plan of a portion of the shuttle-races and the shuttles therein, showing also the shuttle reciprocatory driver-carrier and one or two of the shuttle-drivers mounted on the same. Fig. 3 is a side elevation, partly in section, of one of the shuttle-drivers, together with the carrier-bar to which it is secured. Fig. 4 is a diagrammatic plan of a portion of the two needle-bars, illustrative of the relative position and arrangement of the needles in the two rows. Fig. 5 is a diagram illustrative of the stitching or quilting pattern made under said arrangement.

I have omitted from the drawings all parts of the machine except such as are needed for the purpose of explaining my improvement.

The needle-bars are to be vertically reciprocated, and the shuttle-driver-carrying frame is to be horizontally reciprocated in the manner and by the means usual in this class of machines, or in any other convenient way.

In the plan view, Fig. 2, A are the stationary cross-rails, to which are secured the parallel bars which form the shuttle races. There are two sets of shuttle-races, X Y, corresponding to the two transverse rows of needles. Each

set is composed of parallel plates or bars *a b c*. Bars *a* are concave on one face and flat on the other; bars *b* are flat on both faces, and bars *c* are concave on both faces. It is only the flat faces of the bars which constitute the shuttle-plates against which the acting faces of the shuttles B run, and in these flat faces are formed the vertical needle-grooves *d*. Consequently the bar *a* has a needle-groove on one face only, the bar *b* has a needle-groove on each of its two faces, and the bar *c* has no needle-groove at all. In each set of races the bars follow one another in regular order *a b c, a b c*, and so on, and between each two adjoining bars is a space forming a longitudinal slot in the race, through which passes the stem of the shuttle-driver C. The two sets X Y are so placed in respect to one another that the bars in the one will be opposite to the intervals or spaces between the bars of the other. Owing to this arrangement and form of the shuttle-race bars the needles are peculiarly placed, or rather spaced, as indicated in Fig. 1, where D is one of the two needle-bars and *a' b' b'* the needles. It will be noted that the needles are broken up into irregularly-spaced groups of threes—*a' b' b'*, and so on—*a'* working in the needle-groove of bar *a* and *b' b'* working in the two grooves of bar *b*, the parts being so proportioned that the space separating *b'* from *b'* is one-third of that which separates *b'* from *a'*. By this plan, under the described arrangement, the needles of the other row will be so placed that the two needles *b' b'* of any one of the groups of that row will come opposite to the space between *a'* and the two *b'* needles of the corresponding group of the other row, while the needle *a'* of the first-named group will follow the pair *b'* of the group last named, as indicated in Fig. 1, where the dotted lines *b' b' a'* represent the needles of the other row. The same thing is more distinctly shown in Fig. 4. By this arrangement the stitching or quilting pattern produced is one consisting of groups of parallel rows of stitches, which groups are at regular and definite intervals from one another. This results from the peculiar arrangement of the shuttle-races, the advantage of which arrangement lies mainly in the fact that by it I am enabled, simply, to

economically, and effectively, to bring the races much closer together than has heretofore been practicable, and to thus produce fine and close patterns:

5 In fact, by the arrangement referred to, I am enabled with two rows of needles to produce groups in which the parallel lines of stitching composing said groups are but three-sixteenths of an inch apart.

10 The carrier for the shuttle-drivers is composed, as usual, of horizontal cross-bars E, united together and mounted so as to form a reciprocatory frame, which, by suitable mechanism, is caused to move in unison with the
15 needles.

Having described my improvement and the manner in which the same is or may be carried into effect, what I claim, and desire to secure by Letters Patent, is—

20 In a quilting-machine, the combination of two rows of needles, each composed of groups

of three needles, *a' b' b'*, spaced as described, those in the one row being arranged relatively to those in the other row so that the two needles *b' b'* of a group in one row shall be opposite the space which separates the two needles *b' b'* from the needle *a'* of the corresponding group in the other row, as specified, in combination with two corresponding sets of shuttle-races, composed each of the bars or plates
30 *a*, concave on one face and flat on the other, *b*, flat on both faces, and *c*, concave on both faces, those of the one set being placed opposite the intervals between those of the other set, substantially in the manner and for the
35 purposes hereinbefore set forth.

In testimony whereof I have hereunto set my hand this 1st day of June, 1886.

AUG. HILDT.

Witnesses:

EDW. J. SEGHELL,
GUSTAVE HAER.