(No Model.)

L. B. MILLER.

MECHANISM FOR CONVERTING MOTION.

No. 274,094. Patented Mar. 13, 1883.

Fig. 1.

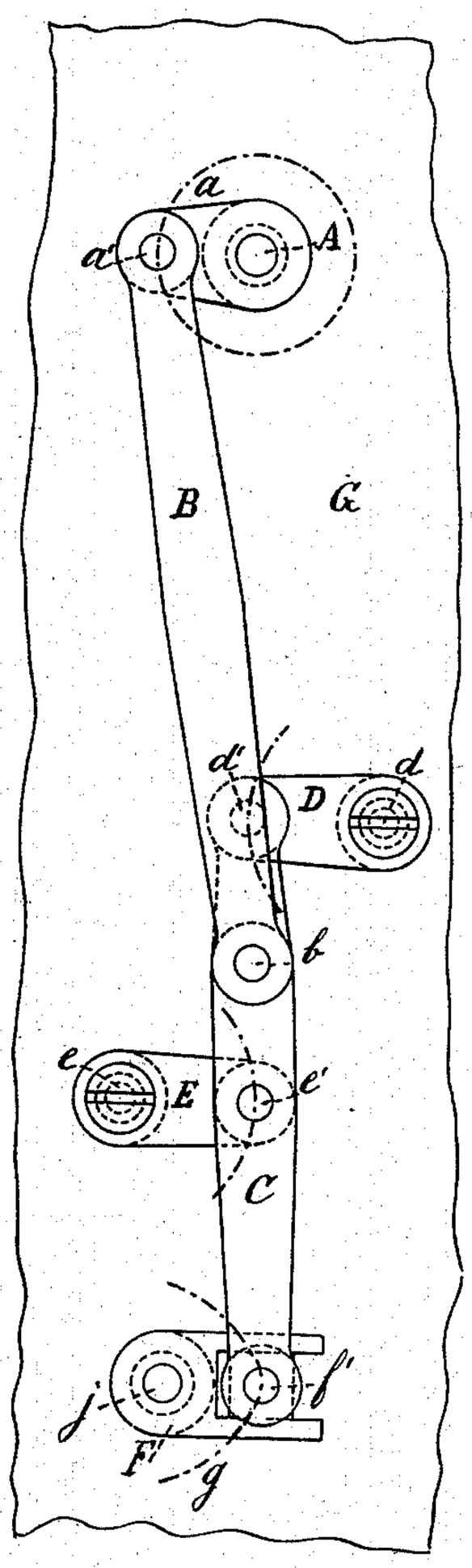


Fig. 2.

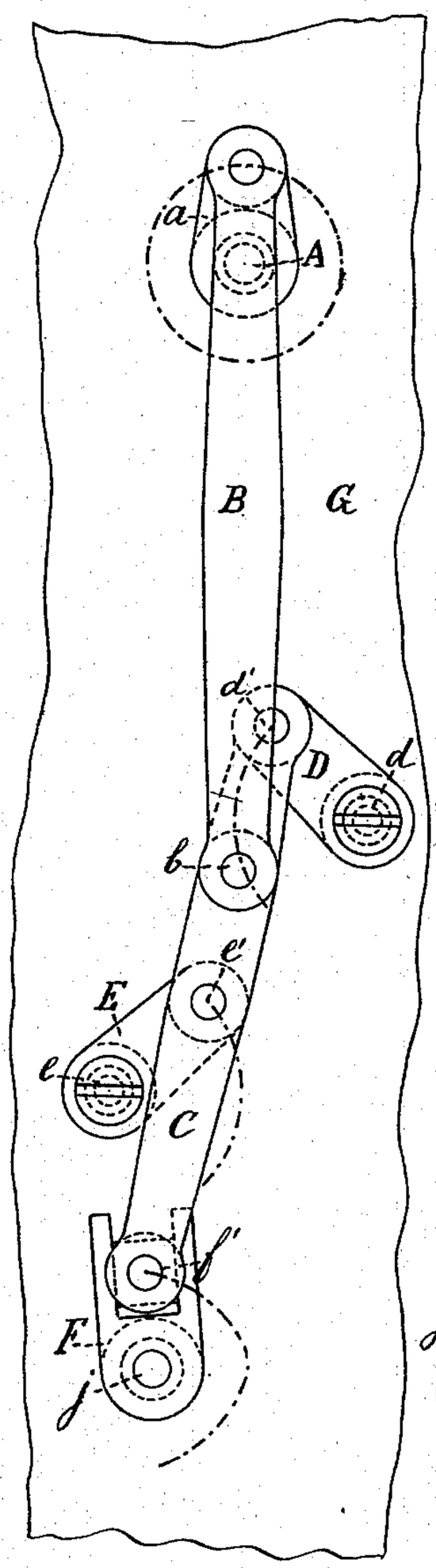
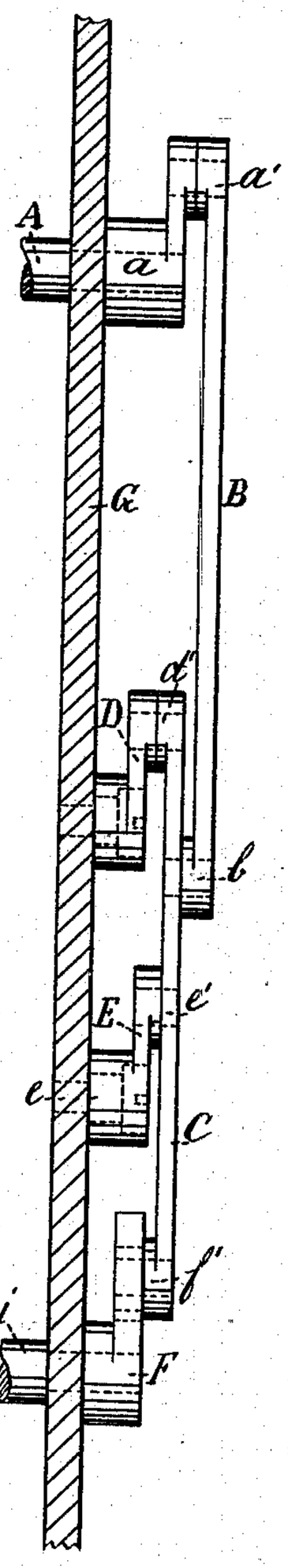


Fig 3



WITNESSES:

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MECHANISM FOR CONVERTING MOTION.

SPECIFICATION forming part of Letters Patent No. 274,094, dated March 13, 1883.

Application filed November 4, 1882. (No model.)

To all whom it may concern:

Be it known that I, LEBBEUS BALDWIN MILLER, of the city of Elizabeth, in the county of Union and State of New Jersey, have made an invention of certain new and useful Mechanism for Converting Motion, especially applicable to the shuttle-movement of sewing-machines; and I do hereby declare that the following is a full, clear, and exact description and specification of the same.

The object of the said mechanism is to obtain from a common reciprocating motion an oscillating movement which can, if desired, be increased to more than half a circle.

In the drawings, Figures 1 and 2 are face views, and Fig. 3 is an edge view, of such mechanism, which is shown as applied to a sewing-machine beneath the bed-plate.

A represents the lower end of a revolving shaft, from which, by means of a crank, *a*, or equivalent, motion is communicated to the connecting-rod B, the other end of which is pivoted to the lever C at the point *b*, between the two links D and E, which are also respectively pivoted to said lever C at the points *d'* and *e'*, and to the bed-plate G at the points *d* and *e*, thus forming swinging fulcrums for said lever. The end of said lever C is provided with a pin, roller, or projection, *f'*, adapted to enter a slot in the outer end of the crank F of the upright shaft *j*, which passes through the bed-plate, and to which, above the plate, is attached the shuttle-carrier. As the shaft A revolves it communicates to the connecting-rod B a reciprocating movement. The lever C, receiving this motion at the pivot *b*, is controlled and guided in the lines shown on one side of said pivot by the link D and on the other side by the link E, and the result is that the end of it provided with the projection *f'* receives an elliptical oscillating motion in the line *g*, and said projection, acting in the slot of the crank F, gives said crank and its vertical shaft the required oscillating motion. The extent of this movement may be varied at will by varying the length or changing the position of the fixed pivots of the controlling-links, or either of them, or changing the position of the center of the crank F.

While I prefer to pivot the connecting-rod B to the lever C at a point midway between the link-pivots, in order to get a "parallel" motion, the same result will be obtained in the oscillation of the crank-shaft from a given amount of reciprocation, if the connection be made at any point on said lever C, or if motion be given through one of the controlling-links.

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

In a sewing-machine, the combination, with a rock-shaft having a slotted crank, of a lever provided with a projection adapted to enter and work in such slot, said lever being attached to a bed-plate by swinging links pivoted on opposite sides of it, and also connected to regularly-reciprocating mechanism, substantially as described.

LEBBEUS BALDWIN MILLER.

Witnesses:

GEO. A. SQUIRE,

WM. H. INSLEE.