T. LAMB.

Sewing-Machine.

No. 207,044. Patented Aug. 13, 1878.

Fig.1.

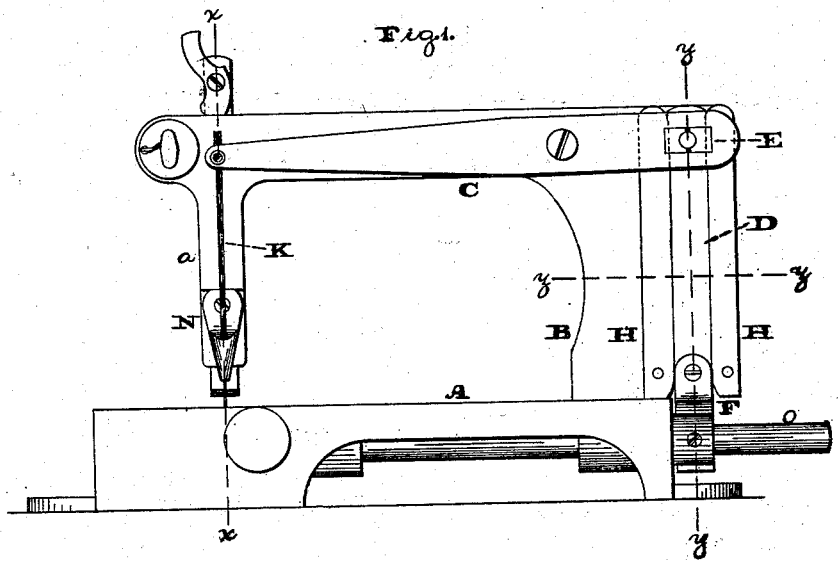


Fig.2.

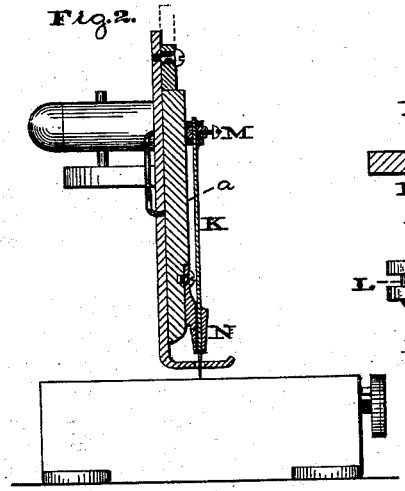


Fig.4.

Fig.6.

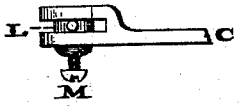


Fig.3.

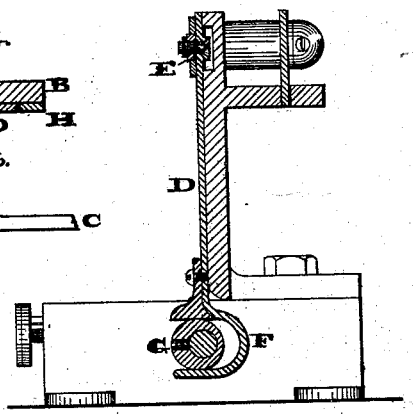
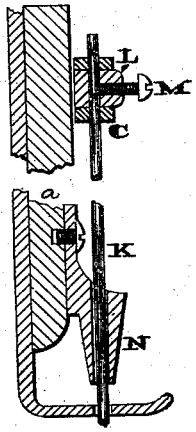


Fig.5.



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UNITED STATES PATENT OFFICE.

THOMAS LAMB, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **207,044**, dated August 13, 1878; application filed June 22, 1878.

To all whom it may concern:

Be it known that I, THOMAS LAMB, of the city and county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Sewing-Machines, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a side elevation of the sewing-machine embodying my invention. Figs. 2 and 3 are transverse sections, respectively, in lines *x x* and *y y*, Fig. 1. Fig. 4 is a horizontal section in line *z z*, Fig. 1. Fig. 5 is an enlarged view of a portion of Fig. 2. Fig. 6 is a top view of a detached portion.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists in securing the needle to the needle-arm by means of a perforated block, which enters a horizontal opening in said lever, and is prevented from lateral displacement by the needle itself.

It also consists in the employment of a needle-arm, bifurcated at its front end to receive a needle-block, and slotted near its rear end to receive an oscillating block having a hole for the reception of a stud on the upper end of a slide dovetailed between guides, and provided at its lower end with a yoke embracing an eccentric, by means of which a vertically-reciprocating motion is given the slide and needle-arm, as hereinafter more fully set forth.

Referring to the drawings, A represents the table, and B the bracket, which rises therefrom and supports the needle-arm C. D represents a vertically-extending slide, which carries at its upper end an oscillating block, E, and at its lower end a yoke, F, within which plays a rotating eccentric or cam, G, for imparting the proper vertical reciprocating motions to the slide D.

The slide is fitted between upright guides H, the contiguous sides of the slide and guides being inclined to form dovetailed bearings therefor, whereby said slide will be properly guided and prevented from lateral displacement.

The needle-arm C carries at one end the needle K, and its other end is slotted and fitted on the oscillating block E; and it will be seen that when power is applied to the eccentric G on the shaft O by turning the latter the slide D is operated, and rocking motions are imparted to the needle-arm C, whereby the needle is properly reciprocated.

The needle K is sufficiently long to be connected to the needle-arm C without the interposition of a needle-bar, thus dispensing with loose or rattling parts, simplifying the construction of the machine, and lessening the expense thereof.

It will be seen that the needle is straight or right-lined, and it moves nearly in a right line.

L represents a block, which is fitted loosely in a horizontal and transverse opening in the needle end of the needle-arm C, said end being bifurcated. A vertical opening is made in said block for the passage of the upper end of the needle, and a transverse opening for the passage of a screw, M, which tightens the needle.

It will also be noticed that the bearings in which the block is fitted allow of the slight rotary reciprocations imparted to said block by the needle-arm C, and transverse displacement of said block is prevented by means of the needle itself, which bears against the inner faces of the bifurcation of the needle-arm, as more clearly shown in Figs. 5 and 6.

By loosening the screw M the needle may be removed from the block L, and the latter then withdrawn from the needle-arm C.

To the lower end of the depending portion *a* of the arm B there is secured a piece, N, vertically perforated for the passage of the lower portion of the needle K, whereby the latter will be properly guided in its reciprocations.

The presser-foot and presser-bar are preferably made of one piece of metal, for the purpose of cheapness and simplicity; but other forms of construction may be adopted.

It will be seen that generally the described parts and connections of the machine are few in number, simple in construction and operation, and not liable to rattle, the consequent cheapness of the machine being an important feature.

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

1. The lengthened needle, in combination

with the perforated needle-block L and the needle-arm C, bifurcated at its outer end, and provided with bearings to receive the needle-block, with suitable clamping device, substantially as described, and for the purpose set forth.

2. The combination, with the needle-arm C, bifurcated at its outer end, and provided with a slot near its rear end, of the block L, with clamping device for the needle, guides H H, oscillating block E, and slide D, having a stud at its upper end and a yoke at its lower end, operated by an eccentric, substantially as described, and for the purpose set forth.

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