(No Model.)

T. LAMB.

SEWING MACHINE.

No. 327,800. Patented Oct. 6, 1885.

Fig. 1.

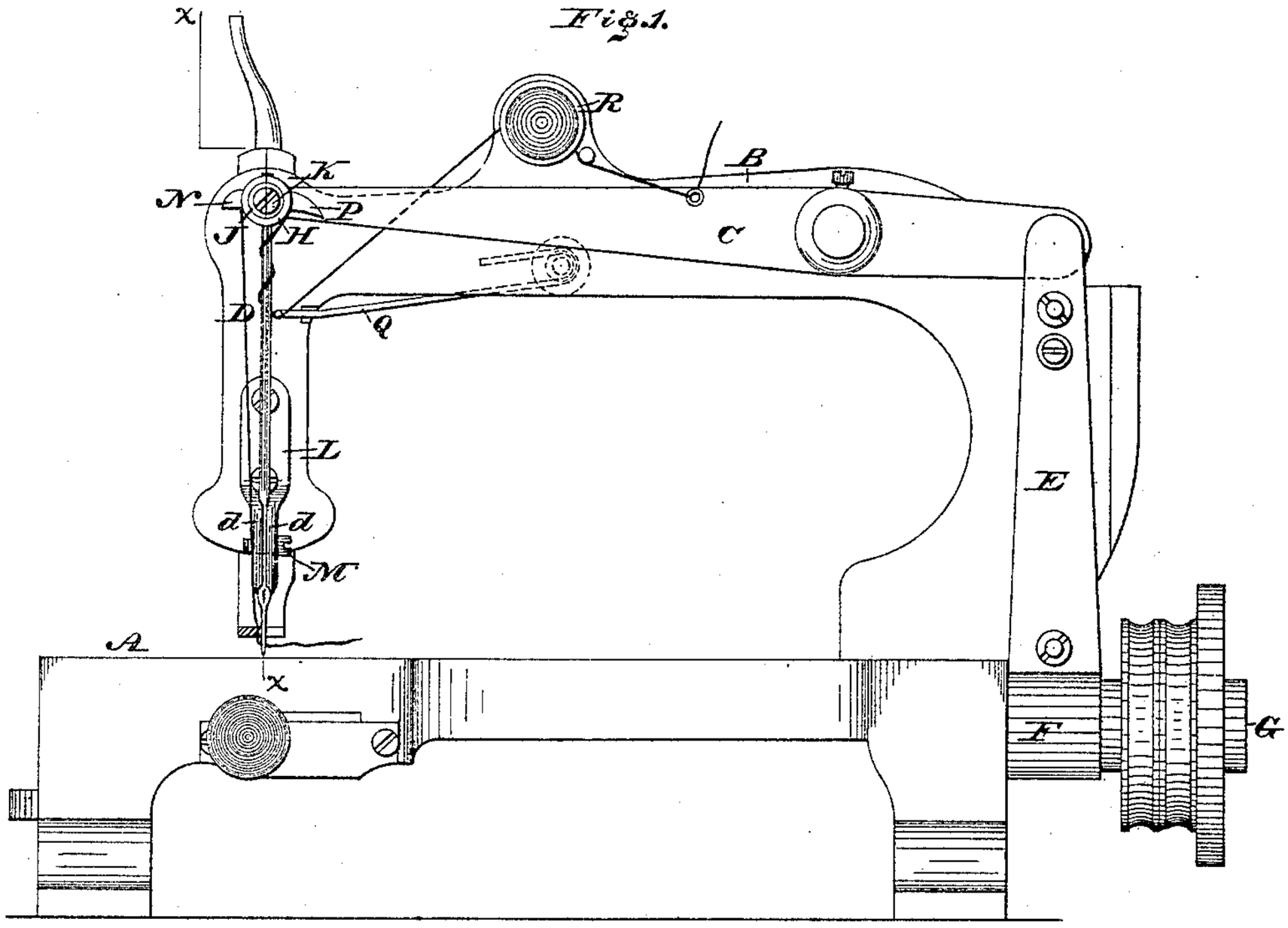


Fig. 2.

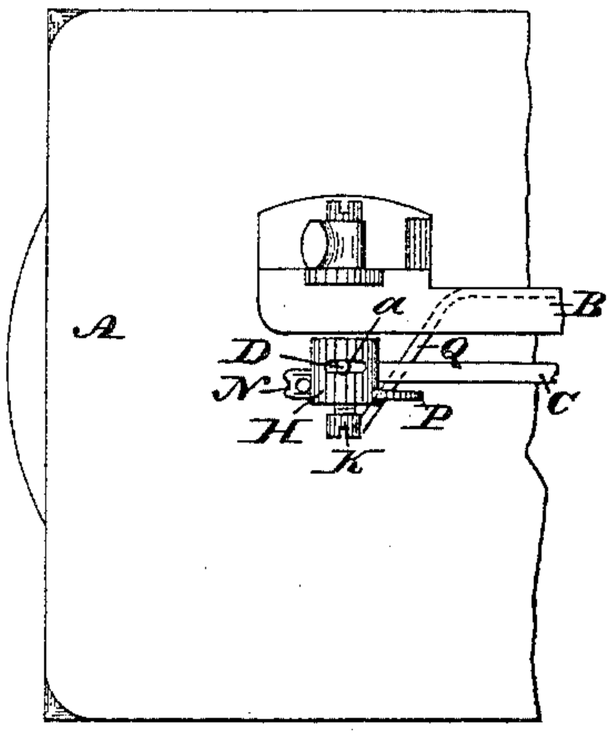
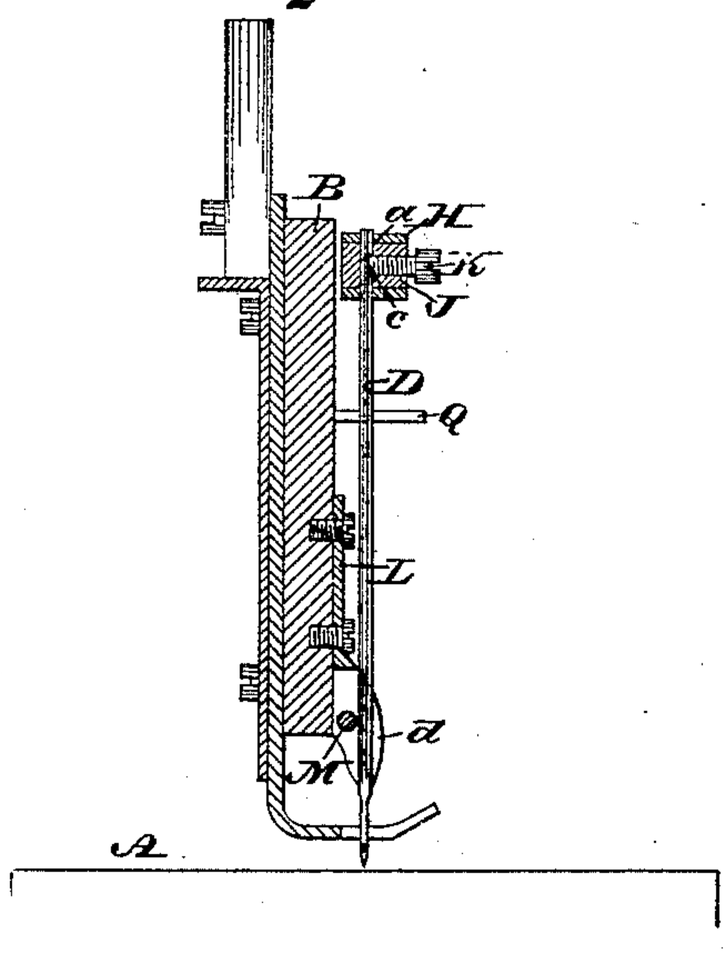


Fig. 3.



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THOMAS LAMB, OF PHILADELPHIA, PENNSYLVANIA.

SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 327,800, dated October 6, 1885.

Application filed September 6, 1884. Serial No. 142,360. (No model.)

To all whom it may concern:

Be it known that I, THOMAS LAMB, a citizen of the United States, residing in the city and county of Philadelphia, 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 represents a side elevation of a sewing-machine embodying my invention. Fig. 2 represents a top or plan view of a portion thereof. Fig. 3 represents a vertical section in line *x x*, Fig. 1.

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

My invention consists of a novel manner of connecting a sewing-machine needle with the operating-arm thereof, a needle-bar being avoided.

It also consists of a guide for the needle, the same being adjustable relatively to the wear of the needle and guide, and causing the needle to move true at all times.

It also consists of a novel tension device.

Referring to the drawings, A represents a cloth-plate of a sewing-machine; B, the goose-neck or arm rising therefrom; and C the arm which is pivoted to the arm B, and has connected with it at one end the needle D and at the other end the arm E, the latter being provided with a yoke, F, which encircles an eccentric on the driving-shaft G of the machine, whereby motion is imparted to the arm C, and consequently to the needle. I do not, however, limit myself to the means shown for operating said arm C, as the same forms no part of the present invention.

In the front end of the arm C is a boss, H, which extends horizontally, and receives through its open end an oscillating cylinder or block, J, in which latter is a vertical opening or perforation, *a*, for the insertion of the needle D, it being noticed that the top and bottom of the boss H are slotted at places coinciding with the perforation *a*, the top of the needle passing through or into the upper slot of the boss, and the portion of the needle below the block J passing through the lower slot thereof. In order to secure the needle to the block J a screw, K, is passed through the end of said block and tightened against the needle, the latter having a notch or shoulder, *c*, which serves to seat the point of the screw properly on the needle. As the needle projects into and through the slots of the boss displacement of the block J and consequently of the needle is prevented, said slots also permitting the location of the needle through the block from above. The withdrawal of the needle and block is, however, readily accomplished by removing the screw K, so that the needle may be disconnected from the block and the latter from the boss without disturbing the other parts of the machine.

Connected with the lower end of the arm B, at the needle end thereof, is a guide, L, for the needle, the same consisting of a piece of metal vertically divided or split, forming expansible jaws *d d*, the inner faces whereof are vertically grooved to receive the needle. A screw, M, is fitted to the guide and passed through the two jaws, whereby the jaws may be readily closed and opened relatively to requirements.

It will be seen that when power is applied to the machine the arm C is operated and the needle D advanced and returned. As the needle is guided by the piece L the block J oscillates in the boss H, and thus the operation of the needle is accomplished with but few parts and little friction. It will also be seen that I employ a lengthened needle and avoid a complicated needle-bar, the needle itself being guided on the arm B by means of the piece L. When the needle or the grooves in the jaws *d*, or both, are worn, the screw M is properly rotated, thus closing said jaws and moving them nearer to the needle, whereby the latter may be guided true in a right-line direction at all times.

For the purpose of producing a proper tension of the thread, I employ an eye, N, and a lip, P, which are on the end of the arm C on opposite sides of the boss H. A bent spring-arm, Q, is connected with the arm B, and has its outer end or limb free and parallel with the boss H, or at an angle to the eye N and lip P. When the thread leaves the friction-disk R of the machine, it is passed around the end of the arm Q, then twisted around the needle D, then passed between the lip P and arm C, next through the eye N, and thence directed to the eye of the needle.

By this provision the thread is nicely given

out as required and tightly held at the proper time, the tension thus being uniform and reliable, the degree of tension being adjusted by the disks R and the extent of twisting or wrapping of the thread around the needle.

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

1. A needle-carrying arm provided with a boss, an oscillating block fitted in said boss, and a screw connected with said block, the boss being slotted at top and bottom, and the block perforated at coincident places, whereby the needle may be passed through the boss and block and connected with the block by said screw, and whereby the needle may prevent displacement of the block, all of said parts being arranged and combined substantially as and for the purpose set forth.

2. In a sewing-machine, a needle-carrying arm in combination with a boss slotted at top and bottom attached to said arm, and a block having a perforation adapted to oscillate in said boss and be retained therein by the needle, substantially as and for the purpose set forth.

3. In a sewing-machine, the arm B, in combination with the pivoted arm C, provided with boss H, having upper and lower slots, block J, having perforation *a*, a needle having a shoulder, *c*, screw K, guide L, having jaws *d d*, and screw M, substantially as and for the purpose set forth.

4. In a sewing-machine, a needle in combination with a needle-carrying arm, C, provided with the boss H, having the eye N and lip P, the arm Q, and friction-disk R, substantially as and for the purpose set forth.

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Witnesses:

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