

S. B. ELLITHORP.
 Waxing Mechanism for Sewing-Machines.
 No. 222,882. Patented Dec. 23, 1879.

Fig. 1

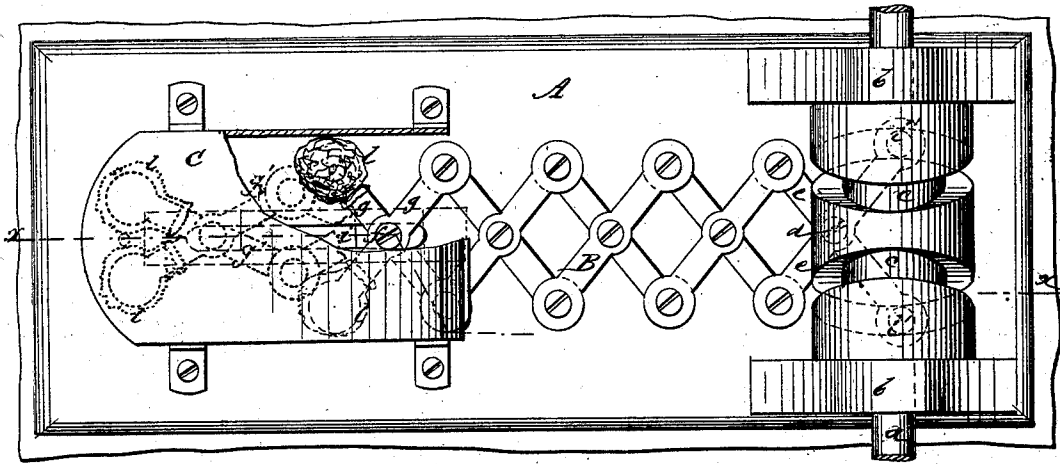
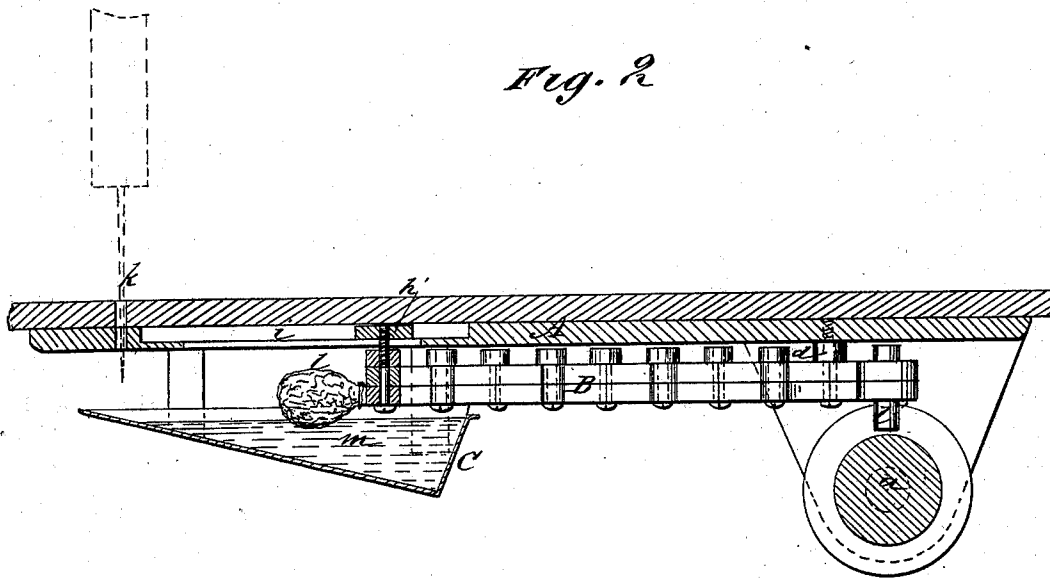


Fig. 2



WITNESSES:
C. Neveu
C. Sedgwick

INVENTOR:
S. B. Ellithorp
 BY *Munn & Co.*
 ATTORNEYS.

UNITED STATES PATENT OFFICE.

SOLOMON B. ELLITHORP, OF ROCHESTER, NEW YORK.

IMPROVEMENT IN WAXING MECHANISMS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. 222,882, dated December 23, 1879; application filed May 26, 1879.

To all whom it may concern:

Be it known that I, SOLOMON B. ELLITHORP, of Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in Sewing-Machines, of which the following is a specification.

My invention relates to mechanism arranged beneath the plate of a sewing-machine for automatically applying wax to so much of the needle and shuttle threads as is required to form the stitch, such application being made just previous to the formation of each stitch.

It consists of two arms carrying sponges, which are moved reciprocally by the operating mechanism of the machine in such a manner that they pass over melted wax held in a suitable receptacle taking up a suitable quantity thereof, and at the proper time are rubbed and clasped against the two threads carried by the needle and shuttle.

In the accompanying drawings, forming part of this specification, Figure 1 is a plan of the bottom of a sewing-machine, showing my improvement. Fig. 2 is a longitudinal section of the same through line *x x* of Fig. 1.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the under side of the base-plate of a sewing-machine made in the usual manner, and provided with a shaft, *a*, supported in suitable bearings *b b*. This shaft carries the cam or other device for communicating motion to the needle-bar, shuttle, and feed, and also a double cam, *c c*, for giving motion to the waxing devices, as will be hereinafter described.

B represents the lazy-tongs by which motion is transmitted to the waxing device. At the rear end these tongs are supported by the pivot *d*, passed through the arms *e e*, where they cross each other, and fixed in the base-plate A. At the opposite end the tongs are supported by the pivot *f*, connecting the two arms *g g* where they cross each other, and then fixed in the block *h*, secured in the grooved way *i*, made in the under side of the base-plate A, in line with the needle *k*, and of sufficient length to permit the movement of the waxing device to and from the point where the stitch is formed by the action of the needle and shuttle.

On the free ends of the arms *g g* are secured sponges *l l*. Beneath the sliding end of the lazy-tongs, and so placed as to cover the movement of the arms carrying the sponges, is fixed a wax-receptacle, C, consisting of a right-angular box placed so that its deeper part is under the sponges *l l* when the lazy-tongs have reached their extreme backward movement, while its shallower portion is just under the needle *k*.

To the free ends of the arms *e e* are fixed studs *l l*, which engage the double cam *c*. It is only necessary to say that the movement of the double cam opens and shuts the two arms *e e*, and this motion is communicated to all the arms of the lazy-tongs, thus alternately expanding and contracting their width with a resulting alternate shortening and lengthening of the same. This will be readily understood without further description, as it is a well-known mechanical arrangement.

The operation of my improvement is as follows: The cam communicates a reciprocating motion to the lazy-tongs, and when carried forward the two ends of the arms *g g* carrying the sponges *l l* are brought together, as shown by the dotted lines in Fig. 1, and the return movement opens them, as shown by the solid lines in the same figure. When the needle moves up, leaving a loop through which the shuttle passes, the stitch is formed, and at this moment and before their further movement the lazy-tongs are extended by the action of the cam, the sponges pass over the prepared wax, *m*, in the receptacle C, taking up an adequate quantity, and by the further movement of the mechanism the sponges are clasped around the stitch, as shown by the dotted lines in Fig. 1, and by the slight movement of the needle the threads forming the stitch are rubbed or pulled slightly through or between the sponges, by which they take off a small but sufficient quantity of wax, and before the stitch is drawn tightly the sponges are drawn back, so as to avoid interference with the movement of the needle and shuttle in drawing up the stitch.

It will be readily understood that the mechanism moving the needle-bar and shuttle must be so timed with that moving the waxing device that one may not interfere with the

other; but this can be readily arranged by any competent mechanic.

I do not wish it to be understood that I limit myself to the use of the lazy-tongs and cam for operating the waxing device, as any movement producing the desired effect will be included in the scope of my invention.

I am aware that wax has been applied to the needle and thread of a sewing-machine by means of a cup attached to the free end of a rising-and-falling arm, by which it is raised out of a molten-wax receptacle as the needle descends through the plate, so that the point and eye of the needle enter the cup.

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

1. The combination, with the needle and

the molten-wax receptacle placed beneath the same, of the sponges, carriers or arms, and mechanism for reciprocating said arms in a horizontal plane, whereby the sponges are carried over the surface of the wax toward and from the needle, substantially as shown and described.

2. The combination, with the bed-plate, of the wax-receptacles C, the reciprocating sponges, the lazy-tongs B, attached to and suspended from the bed-plate, and having said sponges affixed, as shown, and the cams *c c*, for operating the lazy-tongs, as specified.

SOLOMON B. ELLITHORP.

Witnesses:

CHAS. McCORMICK,
LOUIS F. KOLB.