(No Model.)

E. H. SMITH.

MACHINE FOR SEWING HEAVY MATERIALS.

No. 260,130. Patented June 27, 1882.

Fig. 1.

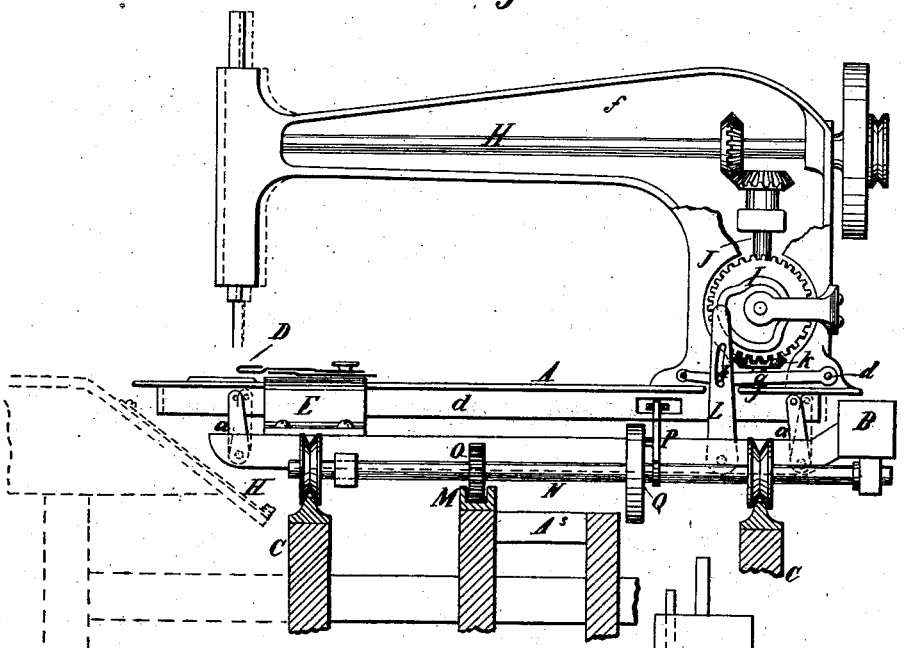


Fig. 2.

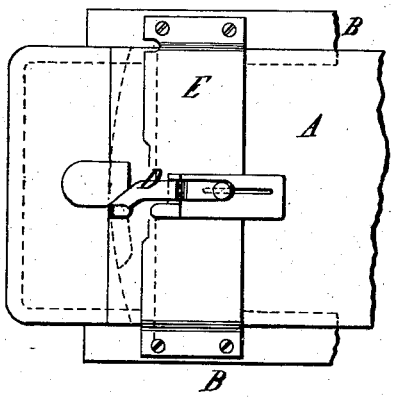
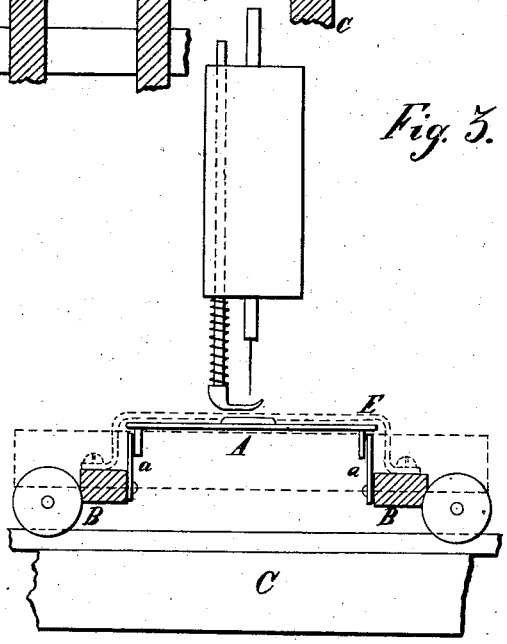


Fig. 3.



Witnesses:
O. F. Malmberg.
E. Zimmermann.

Inventor:
Earle H. Smith

UNITED STATES PATENT OFFICE.

EARLE H. SMITH, OF NEW YORK, N. Y.

MACHINE FOR SEWING HEAVY MATERIALS.

SPECIFICATION forming part of Letters Patent No. 260,130, dated June 27, 1882.

Application filed July 6, 1881. (No model.)

To all whom it may concern:

Be it known that I, EARLE H. SMITH, of the city of New York, in the State of New York, have invented certain new and useful Improvements in Machinery for Sewing Heavy Materials, whereof the following is a specification.

The object of this invention is to sew seams in heavy materials with oblique stitching lying across the edge of the goods and without imparting a lateral movement to the goods or articles sewed, such as sails, tents, &c. To form such oblique stitching by machinery adapted to large and bulky articles, the goods sewed are supported and held stationary in a horizontal position by suitable work-supports, while the needle or needles have a lateral movement in respect to the feed, so as to carry the thread of each stitch over the selvage or edge of the goods in the line of the seam, which lateral motion may be given with or without so moving the entire machine. At the same time the edges of the goods to be united are guided and controlled by seam-guides held fixedly as to said lateral movement and to the feed and presenting the goods to the needle or needles as the sewing progresses.

In the drawings, Figure 1 is a side elevation of a traveling sewing-machine, showing a railway frame in section and part of work-supports. Fig. 2 is a top view of the seam-guide and means for supporting the same. Fig. 3 is an end elevation, partly in section, of Fig. 1.

The sewing-machine is preferably of the "shuttle" or "lock-stitch" variety. That here shown is similar to the "Singer" style, having a main shaft in the bracket-arm geared by miter-wheels to a vertical shaft in the bracket-post. The machine is movably attached, as by links *a*, to the support B, which, in this instance, is part of a sewing-machine carriage adapted to run on a tramway, C, but may be of other forms. By the links *a* the machine is held free to be reciprocated with its needle or sewing device transversely to the line of the feed. For imparting the transverse motion to such sewing device various means may be used.

In the drawings, I indicates a cam-wheel driven by a bevel-wheel, *k*, on the vertical shaft J at half the speed of the main shaft H. Such cam imparts a vibratory motion to a lever, L, and thence through suitable connections to the needle and sewing mechanism, giving one lateral movement to and fro with every two stitches or every two revolutions of the main shaft H and vertical shaft J. The lower end of lever L is pivoted to the support B, and a roller at the upper end runs in the cam-groove of cam I. The lever L is connected to the sewing-machine through means of an arm, *g*, attached to the bracket post at *d*, there being a pin, *h*, fixed in the arm *g*, that enters a slot in the lever L. By lifting or lowering the arm *g*, and so changing the place of the pin *h* therein, the lateral movement is increased or diminished, thus increasing or diminishing the spread of the oblique stitching.

By using what is known as a "twin" machine two lines of oblique stitching may be done at one operation.

The articles or goods in process of being sewed are supported and secured in a stationary condition while breadth after breadth is added and sewed in a similar manner to that set forth in my patent of November 1, 1881, No. 248,892, of which the present is a modification and improvement, and I refer to that patent for a description of such method and of the work-supports, one of which is partially indicated in dotted lines in Fig. 1 and the other is seen at A^3.

D is a seam-guide for the edges of the goods being sewed together.

E is a device, termed a "bridge," made fast to the support B, and spanning the bed-plate A. This bridge receives the seam-guide and holds the same stationary with respect to the vibrating needles in the same manner, substantially, as if attached to a sewing-machine bed-plate.

The sewing-machine and carriage are advanced intermittently by any suitable mechanism, preferably by that seen in my patent of November 1, 1881, before mentioned.

The foregoing improvements may be variously modified within the invention. For example, other cam-motions may be used to vibrate the needle or sewing mechanism. Rollers may take the place of the links *a*. Other forms of seam-guide may be adopted, and their means of support may be varied.

I claim as my invention—

1. The combination of the sewing-machine with a support, B, by means of links *a*, substantially as specified.

2. The combination, with a sewing mechanism adapted to reciprocate laterally and a support, B, of a bridge, E, to sustain the seam-guides, substantially as and for the purpose specified.

3. The combination, with the sewing mechanism and a support, B, of a cam, I, and a lever, L, for imparting a lateral reciprocating movement, as set forth, whereby to carry the sewing devices from side to side as the sewing progresses, for the purpose specified.

4. In combination, a sewing-machine carriage supporting a movable sewing mechanism, a cam and lever for reciprocating the sewing mechanism laterally as to the feed, seam-guides for presenting the work to the vibrating needle or needles, and means of supporting and holding the guides fixedly with respect to the lateral movement of the sewing mechanism.

EARLE H. SMITH.

Witnesses:
H. W. FULLER,
M. E. R. SMITH.