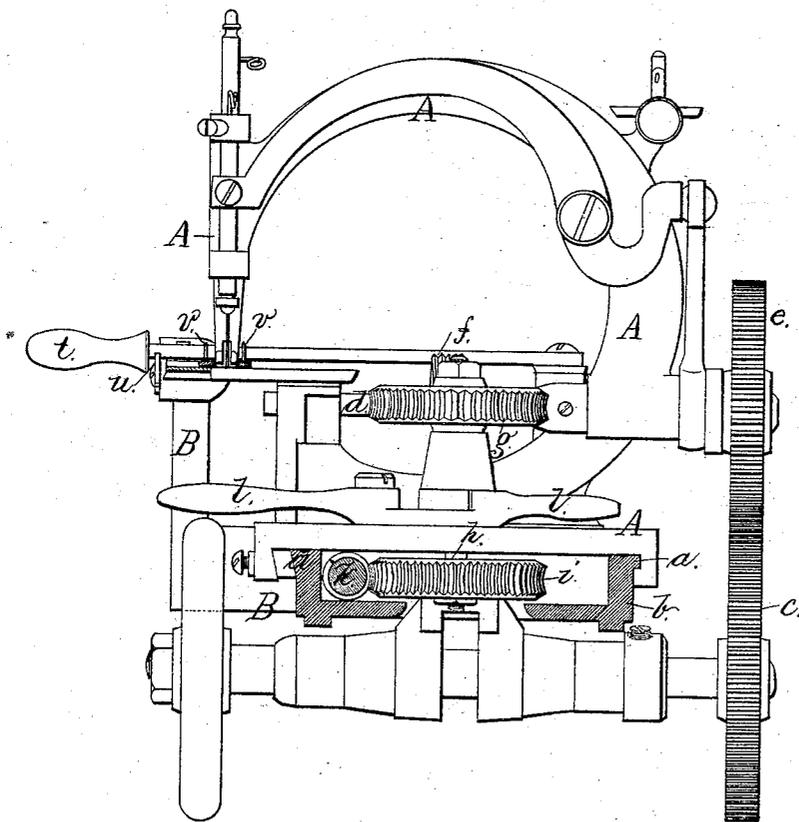


A. S. DINSMORE & J. T. CARTER.
Sewing-Machines.

No. 152,618.

Patented June 30, 1874.

Fig. 1.



Witnesses.
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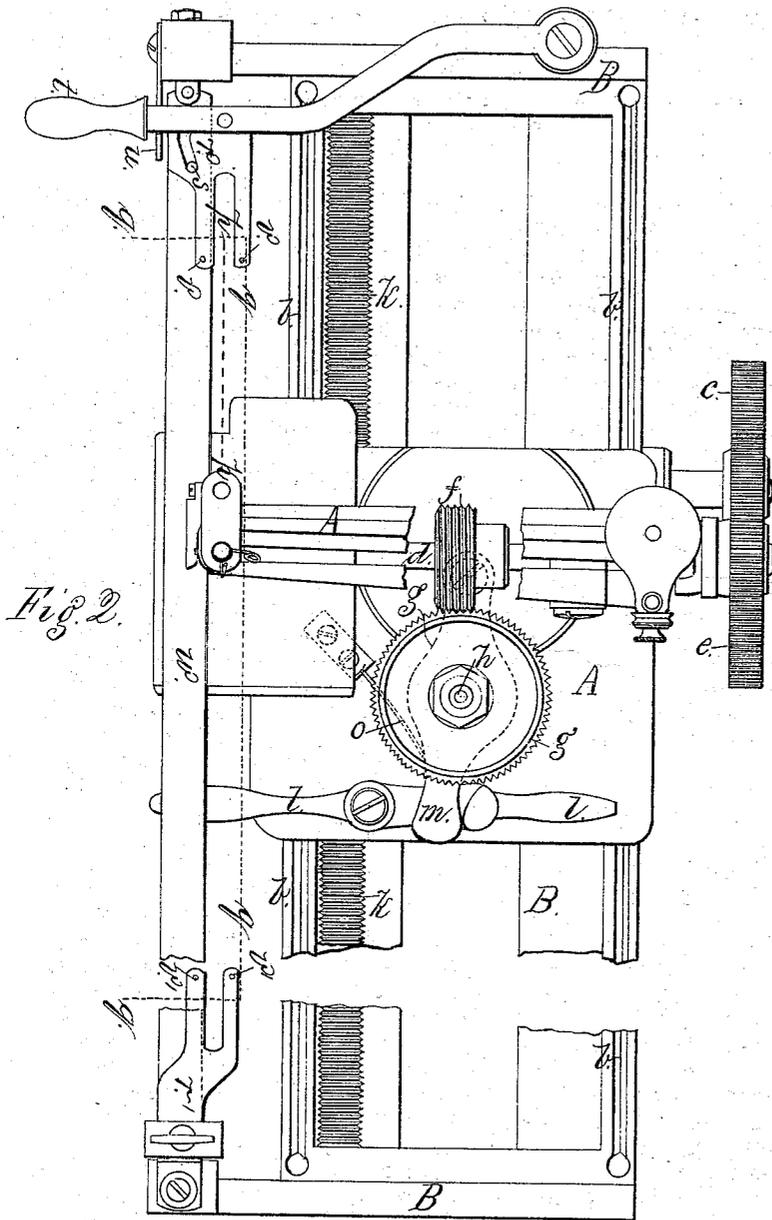


Fig. 2.

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UNITED STATES PATENT OFFICE.

ALFRED S. DINSMORE, OF BOSTON, AND JOHN T. CARTER, OF SALEM, MASS.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **152,618**, dated June 30, 1874; application filed May 8, 1874.

To all whom it may concern:

Be it known that we, ALFRED S. DINSMORE, of Boston, Suffolk county, and JOHN T. CARTER, of Salem, Essex county, all in the State of Massachusetts, have invented an Improved Sewing or Traveling Seam-Stitching and Cloth-Stretching Machine; and we do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification is a description of our invention sufficient to enable those skilled in the art to practice it.

Our invention is especially designed for joining together the ends of pieces of cloth or fabric, in order to convert them into a continuous piece, such as is necessary in many operations in, and branches of, manufacture; and the particular object sought by us is to insure a perfectly straight seam where two ends are thus joined, for if not straight the pieced web will not be straight nor flat, and will be correspondingly obstructed, and the results defective or unsatisfactory.

To attain the proposed end, our invention consists, primarily, in the employment of a sewing-machine combined with a track-frame and appropriate connecting mechanism, whereby the sewing-machine proper shall, when driven automatically, travel in a positively straight line, so as to carry its stitch-making devices across the ends of the cloths or goods to be seamed together, the cloth in the meantime being held stationary. It further consists in the special devices for effecting the traversing motion of the machine; for disconnecting it from such devices; for returning it to its starting-point; in a special mechanism for stretching and holding the goods; and in other details hereinafter mentioned.

In the drawings, Figure 1 is a side elevation, partly in section, and Fig. 2 is a plan of a machine, illustrating our invention.

A represents a sewing-machine, which, in this instance, is of the form of the Wilcox and Gibbs single-thread machine; but it must be understood that any other class of machine, whether making the chain, double-chain, or lock stitch, may be used in practicing our invention. The sewing-machine is arranged to rest and slide upon ways or tracks *a*, in parallel rails *b*, which extend lengthwise of a

frame, B, which frame and rails may be of any desired length to suit the widest goods across which the stitching mechanism is to traverse when uniting the ends of the fabrics. This traveling or traverse motion is effected as follows: The prime motor-gear *c*, in communicating a revolving motion to the shaft *d* by means of gear *e*, gives, also, revolving motion to the worm *f*, on said shaft, and this movement of the worm gives a slower revolution to the worm-gear *g*, which is rigidly secured to the vertical shaft *h*, which last-named shaft has also secured to it another and similar worm-gear, *i*, so that both gears *g* and *i* shall revolve coincidentally. This latter gear, *i*, is so arranged as, at will, to be thrown either into or out of engagement with a fixed, non-revolving, screw-threaded, cylindrical bar, *k*. It will now be seen that when they are thus in engagement the movement of the shaft *d*, which puts the sewing mechanism into operative action, will also cause gear *i*, as it revolves, to progress steadily along the threaded bar *k*, and thus carry along the whole sewing-machine in the same direction—that is, across the frame B, from one end toward the opposite end, the distance being entirely under the control of the operator, and determined by the width of the fabric; or, in other words, by the length of the seam to be made. To disengage the gear *i* from bar *k*, we employ a locking-lever, *l*, which, when in the positions shown in the drawing, acts upon the arm *m*, (through which passes the shaft *h*, on which are both the gears *g* and *i*,) and keeps *i* and *k* into engagement against the stress of a spring, *o*, and when this locking-lever is turned so as to free the arm *m*, the spring throws them out of engagement. When so out of engagement, the machine may be slid upon its track, as may be desired, to any position needed—as, for instance, back to its starting-point, preparatory to making a seam.

It will be seen from the above that the path of the machine, and, consequently, of its needle and stitches across the fabrics, must be absolutely in a right line, and the seam made a perfectly straight one, such as is shown in the dash-lines *p p*, Fig. 2, the dotted lines *q q* representing the sides and end of a piece or pieces of fabric.

Our devices for receiving, stretching, and holding the stretched fabrics while being united, are as follows: A slotted swing-plate, *r*, having thereon pins, upon which one selvage of the fabric may be impaled, is so pivoted and controlled in its movements by its irregular slot and a pin, that when the hand-lever *t* is slightly lifted from its latch *u*, and moved to the right, it will throw forward that end of the plate *r* which carries the pins *v v*, bringing them outward in front of the frame. Another slotted plate, *r'*, at the opposite end of the frame, is arranged to be slid and secured at any required distance along the band *w*, which extends across the frame, to adjust for cloths of any width.

To operate the combined apparatus, first move the sewing-machine to the left hand of the frame, throw the lever *t* forward, so as to bring the points *v v* forward in front of the traversing pathway of the needle; then hook the selvages at the ends of the cloth onto the points *v v* and *v' v'*, then draw the lever *t* back to its catch *u*; this draws the cloth directly under the needle, and stretches the goods. Now, move the handle *l* so as to bring *i* into gear with *k*, and then put the sewing-machine into action, and the same shaft that actuates the stitching mechanism will cause the machine to pass over the stationary goods and stitch across it. The machine may then be moved back, and other ends of goods united in the same manner.

It is evident that the details of construction may be varied to use mechanical equivalents

of some of the parts, or to vary their position to accommodate for different kinds of work, or for different styles of sewing-machines which may be employed, but without departing from the spirit of our invention. The track may be of any desired length, and the machine may be dovetailed to it or otherwise, so long as it be firm enough and yet travel thereon.

We claim—

1. In combination with the stationary frame, the devices herein described for holding the fabric in a stretched and stationary condition, and a sewing-machine arranged to travel automatically in right lines on ways or guides upon and across such frame, and across the breadth of the stretched fabric, substantially as shown and set forth.

2. The combination of the shaft *d*, worm *f*, shaft *h*, gears *g* and *i*, and threaded bar *k*, substantially as and for the purpose set forth.

3. The combination, with the gear *g*, of the arm *m*, locking-lever *l*, or its equivalent, and spring *o*, substantially as and for the purpose set forth.

4. The combination of the slotted swinging plate *r*, provided with pins, the locking-lever *t*, and the plate *r'*, adjustable on the band *w*, substantially as and for the purpose set forth.

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Witnesses:

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