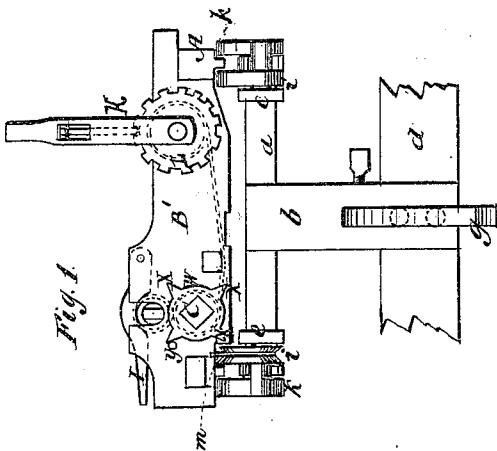
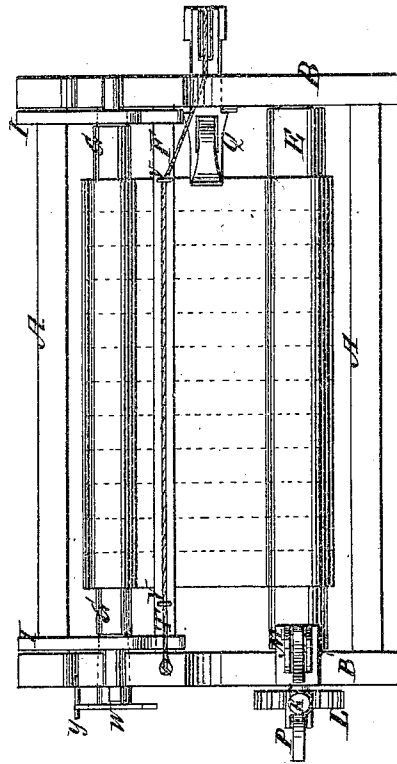
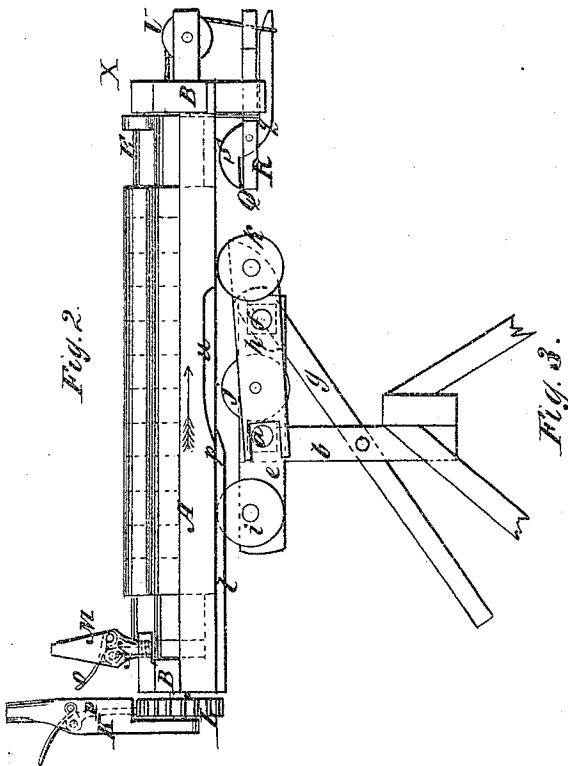


W. H. NULL.

Quilting Attachments for Sewing-Machines.

No. 143,092.

Patented September 23, 1873.



Witnesses:

A. Sedgwick
J. Goethals

Inventor:

W. H. Null

Per

Wm. H. Null

Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM H. NULL, OF BLANDINSVILLE, ILLINOIS.

IMPROVEMENT IN QUILTING ATTACHMENTS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **143,092**, dated September 23, 1873; application filed April 12, 1873.

To all whom it may concern:

Be it known that I, WILLIAM H. NULL, of Blandinsville, in the county of McDonough and State of Illinois, have invented a new and Improved Quilting Attachment to Sewing-Machines, of which the following is a specification:

My invention relates to an improvement in the class of machines or apparatus for supporting, stretching, and moving quilts or other fabrics across the feed-plate of a sewing-machine; and consists in a peculiarly-constructed carriage and a tilting roller-frame, on which it is supported, and in devices for holding and adjusting the fabric, as hereinafter described.

Figure 1 is a side elevation of the carriage and one of the benches whereon it is supported and moves to feed the fabrics to be sewed together. Fig. 2 is an end elevation of the carriage, and Fig. 3 is a plan view.

Similar letters of reference indicate corresponding parts.

A represents the side rails, and B B' the end pieces, of the carriage, which are framed together so that the end piece B can be readily taken off to pass one of the side pieces and one of the rolls under the needle-arm of a sewing-machine. C represents a roll extending along the carriage from end to end at the front side, and E a similar one at the rear side, between which the fabrics to be sewed together are stitched. Said fabrics, comprising an upper and lower sheet of cloth, with a layer of cotton batting between, pass under both rolls, also under a bar, F, which ranges just inside—that is to say, the back side of the line when the seam is formed—and keeps the quilt down on the plate of the machine, no matter what may be the size of the cloth on the roll E, on which it is rolled after being sewed. Over the front roll C is another roll, G, on which the fabrics are wound, to be unwound as the work progresses, the object being to have the lower roll unvarying in size, so as to guide the cloth close down to the sewing-machine plate at all times. This roll G rests on the roll C, and its journals are arranged in vertical notches in the cross-pieces of the carriage, which allow it to settle down as the size of the quilt rolled on it diminishes, and it has pressure-levers I bearing on the

journals to create the requisite tension, the quilt being subjected to strain by a pawl-lever, K, and a ratchet-wheel, L, on the roll E, with which there is also a binding-screw, M, to fasten and hold it after being adjusted by the pawl-lever. I also propose to have a holding-pawl, N, in connection with the binding-screw to drop into holes or notches in the roller for assisting the screw to hold it, and will arrange the pawl in a central hole through the screw, providing it with a lever, O, to lift it out of the notches. The catch-pawl P of lever K I also arrange in a hole in the lever.

To cause the quilt to feed at the middle over the plate with the same speed that the rollers move, and not fall behind and gather in folds by means of the frame moving faster than the quilt, which it is liable to do, as it is mounted on a descending way, I have a griper, Q, at the forward end of the carriage to catch the edge of the quilt in the line of the seam and draw it along even with the side portions. This griper consists of the straight jaw R, arranged in the end piece of the frame to slide forward and back, and the jaw S, pivoted to it so as to close on the edge of the quilt, between it and the jaw R, and hold it; and in order that the operator may actuate this griper-jaw from the other end of the carriage and hold it fast, I attach a cord, T, at one end, and conduct it over a guide-roller, U, and guide-eyes V, to the end of the carriage—the operator's position. The cord pulls the griper after engaging the quilt to stretch it forward even with the edges at the rollers, and a spring, g, throws it back again when the cord is released. W is a spacing-disk on the shaft of roll C, to regulate the distance between the seams. It has a number of points, X, projecting from the periphery, as wide apart as the required breadth of the spaces, which are arrested by a stop-pin, Y, and stop the rolls C G when the quilt is being shifted along by the lever K. The stop-pin Y is caused to release the points when the quilt is to be shifted along by springing out so as to let the point pass, after which it springs back to stop the next point.

Different disks with varying distances between the points will be used for spaces of different widths, the said disks being detach-

ably connected to the shaft, so as to be readily put on and taken off.

The carriage, thus constructed and equipped, is mounted on two benches, one on each side of the machine, with the roller E under the needle-arm to feed the quilt to the machine, beginning at the end X, and moving in the direction of the arrow, Fig. 2. The carriage rests by its side bars A on rollers in the said benches. The benches consist of a cross-piece, *a*, mounted rigidly on the top of a vertically-adjustable bar, *b*, attached to a stud, *d*. Two bars, *e*, having rollers *i* at their outer ends, are journaled to said cross-piece, one at each end. The bars *e e* are connected by a cross-bar, *f*, the ends of which project through the bars *e*, and serve as journals for the bars *h*, provided with wheels *j k*. An adjusting lever-support, *g*, is pivoted to cross-bar *f* at one end, and passes through the stand-piece *b*, so as to adjust the bars *e* and *h*. The bars *h* are notched at one end, and receive the ends of bar *a*, said notches being a little wider than the ends of the shaft to allow a little play of bars *h* up and down. The benches are placed with the wheels *k* next to the machine. Wheels *i* and *j* are in the same plane, and *k* in another plane, so that ribs *l* on the under side of the side pieces A of the carriage will pass between them to guide the carriage laterally; and as a further means of controlling it in this respect, the wheels *i j* of one side are grooved, and a metal plate, *m*, is arranged to run edgewise in them. It is necessary to have two bearing-points to preserve the frame *h* in a horizontal plane, and not more than two friction-rolls to support it in order to create as little friction as possible. The bars *h* are arranged so that they nearly but not quite balance on the bar *f*, the parts having the wheels *j* being slightly the heaviest, so that they fall until the notched ends of bars *h* rest on the bar *a*.

At the beginning of the operation the carriage rests on the wheels *i* of one bench, and wheels *k* of another, the wheels being inoper-

ative by reason of a long notch, *u*, in the sides A of the carriage-frame; but when the carriage passes off from the wheels *i*, the notches *u* pass beyond the wheels *j*, so that the track at *p* passes on them, which presses them down and raises wheels *j*, so that it is supported on them and *k* until the frame passes off under the notch *u*. The two benches will be constructed alike in this respect. The object is to have the points of support for the opposite ends of the carriage always about the same distance apart, and only have it rest on one pair of wheels at once, or mainly so, at each end, to lessen the friction.

The benches will be adjusted with sufficient descent to have the carriage mainly caused to move forward in feeding by gravitation.

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

1. The combination, on a carriage adapted to operate in connection with a sewing-machine in the manner described, of the rollers G, C, and E, guide-bar F, presser-bars I, and adjusting and holding devices R, L, and M, substantially as specified.
2. The combination of the griper Q with said carriage and rollers, substantially as specified.
3. The combination, with the griper, of the actuating-cord T, substantially as specified.
4. The combination of the stop-disk W, pointers X, and spring-stop Y with the roll C, substantially as specified.
5. The combination of the bars *e*, wheels *i*, adjusting-bars *h*, and wheels *j* and *k* with a carriage having the long notches *u* in the tracks, substantially as specified.
6. The vertically-adjustable standard *b*, oscillating bars *e*, and adjusting lever-support *g*, combined and arranged substantially as specified.

WILLIAM H. NULL.

Witnesses:

DAVID R. RALSTON,
GEORGE W. WILLIAMS.