

(No Model.)

2 Sheets—Sheet 1.

W. ROBERTSON.

QUILTING ATTACHMENT FOR SEWING MACHINES.

No. 583,550.

Patented June 1, 1897.

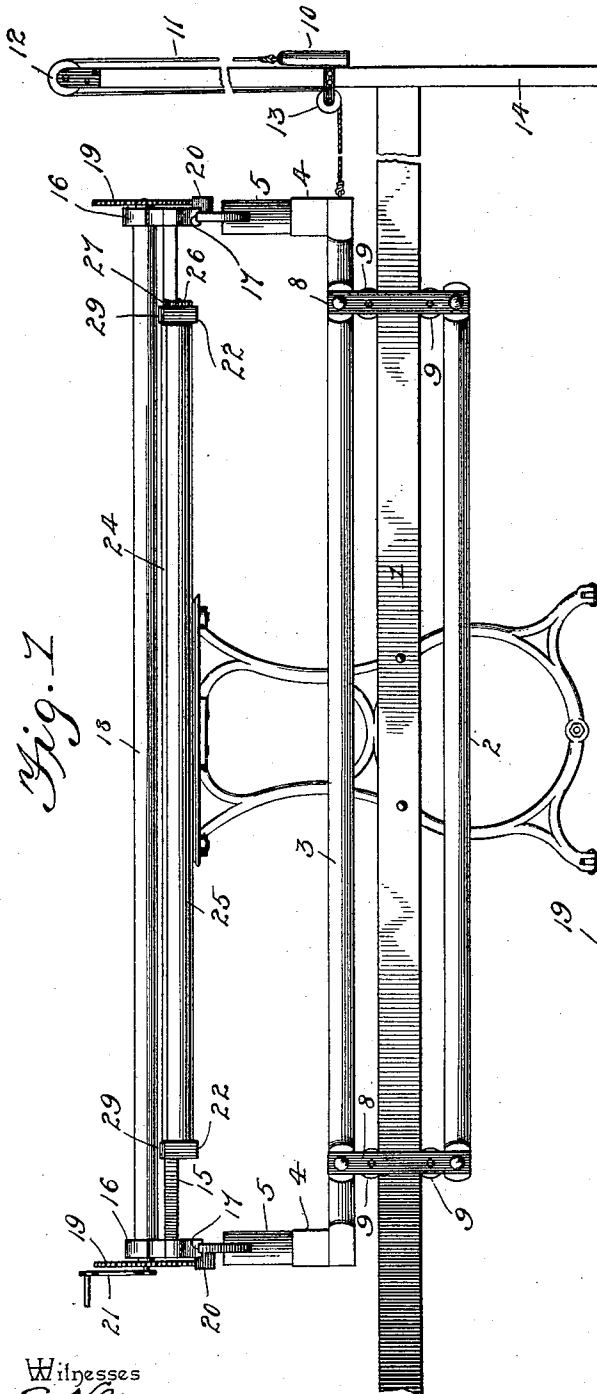


Fig. 1

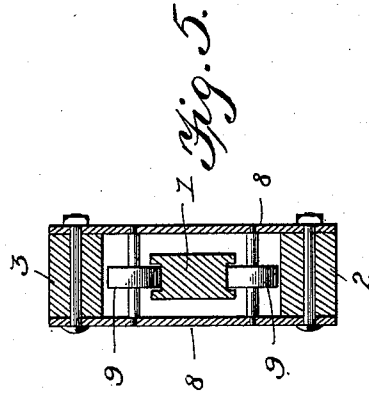


Fig. 5.

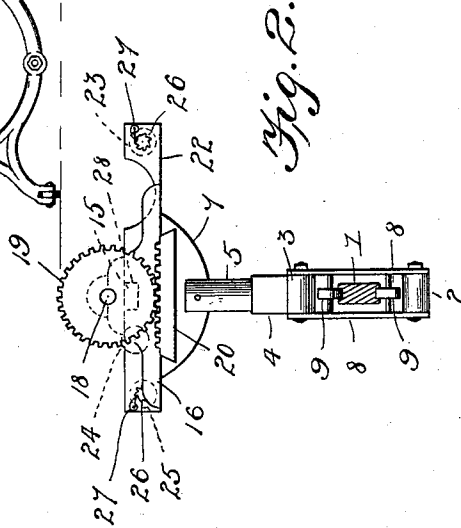


Fig. 2.

Witnesses
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By his Attorneys.

Inventor
William Robertson

C. A. Snow & Co.

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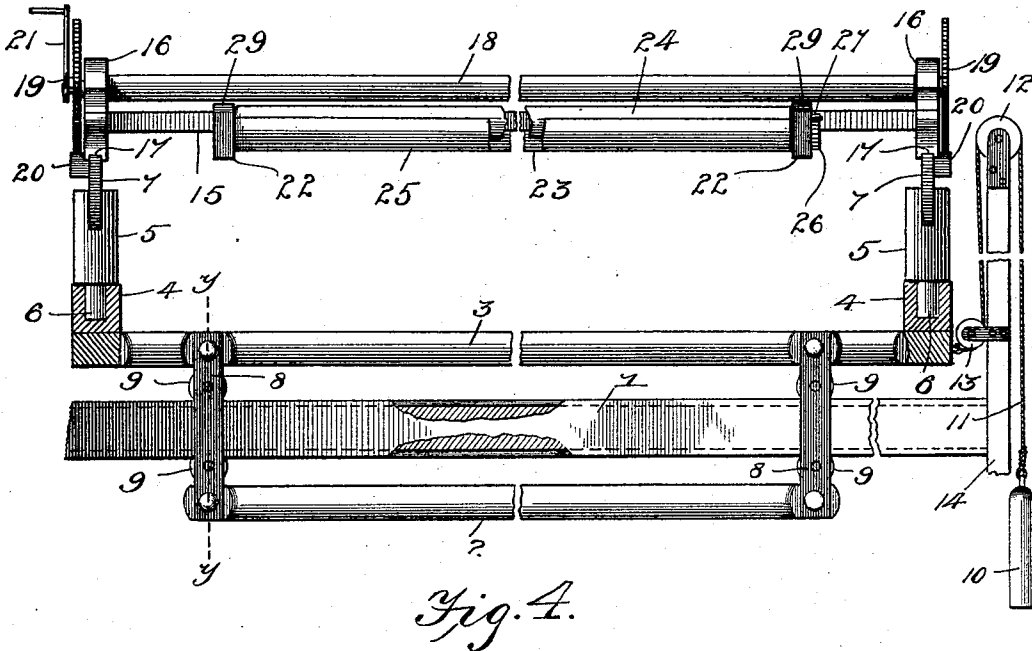


Fig. 4.

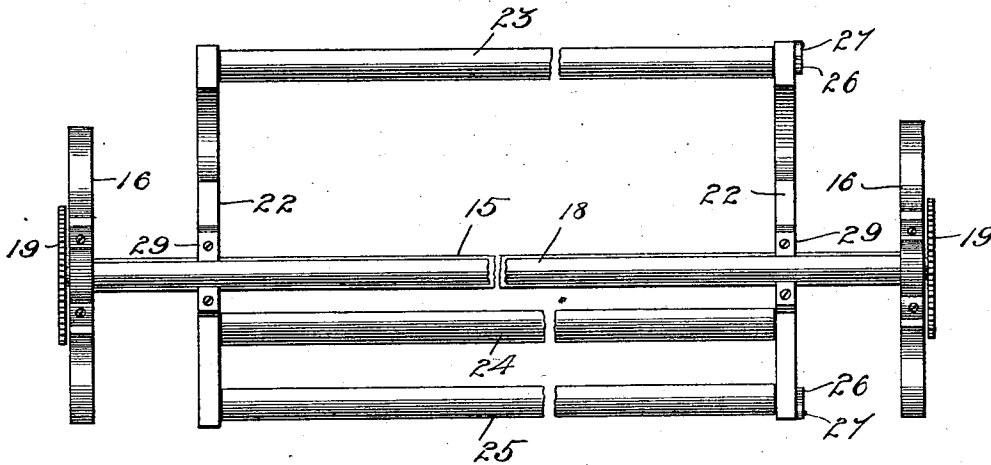


Fig. 5.

Witnesses
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Inventor
William Robertson
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UNITED STATES PATENT OFFICE.

WILLIAM ROBERTSON, OF COBDEN, ILLINOIS.

QUILTING ATTACHMENT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 583,550, dated June 1, 1897.

Application filed March 26, 1896. Serial No. 584,961. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM ROBERTSON, a citizen of the United States, residing at Cobden, in the county of Union and State of Illinois, have invented a new and useful Quilting Attachment for Sewing-Machines, of which the following is a specification.

This invention relates to quilting attachments for sewing-machines, and aims to dispense with overhead tracks, line-wires, or elevated suspending devices for the quilting-frame proper as commonly provided in this class of appliances.

The improvement consists of a track or support adapted to be applied to the frame or stand of a sewing-machine, a carriage mounted upon the track and bearing a quilting-frame, and means for moving the quilting-frame laterally upon the carriage, whereby the stitching may be effected in parallel rows and spaced any required distance apart without necessitating measurement, the carriage being counterbalanced, so that the feeding mechanism of the sewing-machine will move it without requiring any assistance on the part of the operator; also, to improve the general construction of the attachment whereby the efficiency and the usefulness of appliances of this character are increased, so that the same will come into more general favor and use.

For a full understanding of the merits and advantages of the invention reference is to be had to the accompanying drawings and the following description.

The improvement is susceptible of various changes in the form, proportion, and the minor details of construction without departing from the principle or sacrificing any of the advantages thereof, and to a full disclosure of the invention an adaptation thereof is shown in the accompanying drawings, in which—

Figure 1 is a side elevation or front view of the invention applied, parts of the track and the upright at one end thereof being broken away. Fig. 2 is an end view thereof, showing the track in section. Fig. 3 is a top plan view of the quilting-frame and supplemental carriage, having an intermediate portion broken away. Fig. 4 is a side view, partly in section and parts broken away, of the main and

supplemental carriages and track. Fig. 5 is a detail section, on a larger scale, of a portion of the track and the main carriage on the line Y Y of Fig. 4.

Corresponding and like parts are referred to in the following description and designated in the several views of the accompanying drawings by the same reference-characters.

The track 1 is of proper length, according to the size of the attachment, and is adapted to be secured at a point about midway of its ends to a standard of a sewing-machine by bolts or other suitable fastenings. This track is grooved in its top and bottom edges and is preferably a strip of wood grooved in its edges and secured to the sewing-machine frame with its width in a vertical direction, so as the better to withstand the load imposed thereon.

The main carriage comprises a lower bar 2, an upper bar 3, end standards 4 at the terminals of the upper bar 3, posts 5 having pin-tles 6 at their lower ends which obtain bearings in the end standards 4, cross-heads 7, having pivotal connection with the upper ends of the posts 5, parallel links 8, connecting the upper and lower bars, and a pair of wheels 9 for each set of parallel links and journaled in the latter, so that a wheel of each pair will travel in the upper and the lower groove of the track. This carriage is adapted to move back and forth upon the track 1 a distance corresponding to the length of the quilt being operated upon, and in order to overcome the friction of the wheels 9 and the mass of the carriage and its load the said carriage is counterbalanced by means of a weight 10, which is connected by a cord or chain 11 with one end of the carriage, said cord being deflected by direction-pulleys 12 and 13, the former being located at the upper end of an upright 14, secured to one end of the track 1, and the other pulley 13 being applied to the upright 14 a short distance above the track 1 and about in line with the upper bar 3 of the said carriage. The mass of the weight 10 is nicely adjusted so that the main carriage will travel upon the track in each direction without any perceptible hindrance to its movement due to friction or weight, thereby enabling the feeding mechanism of the sewing-

machine to propel the carriage upon the track during the quilting operation without requiring any assistance on the part of the operator. By having the posts 5 connected with the end standards 4 in the manner set forth the said posts can be disconnected to enable the attachment to be packed in a small space, or the posts can be turned so as to bring the cross-heads 7 in parallel relation and at right angles to the track 1, and by having the cross-heads pivotally connected with the upper ends of the posts 5 the said cross-heads, the supplemental carriage, and the quilting-frame can be tilted to the horizontal to raise or lower one side of the quilting-frame, as required.

The supplemental carriage comprises a longitudinal bar 15 and end pieces 16, the latter being slidably mounted upon the cross-heads 7 in any convenient way. As shown, the lower edges of the end pieces 16 have grooves 17, which receive the upper edge portions of the cross-heads 7. Obviously the upper edges of the cross-heads 7 may, if desired, be grooved to receive the lower edges of the end pieces 16. A shaft 18 is journaled at its ends in the end pieces 16 and extends parallel with the longitudinal bar 15, and is supplied at its extremities with toothed wheels 19, which engage with rack-bars 20, secured to the cross-heads 7, and by turning this shaft either to the right or to the left the supplemental carriage will be moved laterally with respect to the main carriage, and this movement will be the same at both ends. Hence the supplemental carriage will at all stages of its movement remain parallel to a given position. Therefore the quilt will be fed laterally, so as to insure the rows of stitches being in true parallel relation.

By turning the shaft 18 a given distance at each operation the supplemental carriage will be moved laterally an equal distance each time it is actuated. Hence the rows of stitches will be spaced apart an equal distance corresponding to the movement of the carriage. The shaft 18 may be grasped and turned by hand; but it is preferred to provide it at one end with a crank 21, by means of which the operation is rendered easy.

The quilting-frame proper consists of end bars 22 and longitudinal rollers 23, 24, and 25, which are journaled at their ends in the bars 22, the roller 23 occupying a position at one side of the frame, and the rollers 24 and 25 being closely related and being disposed upon the opposite side of the frame. The completed portion of the quilt is wound upon the roller 23, and the layers to be quilted, and between which is placed the filling or batting, are wound upon the rollers 24 and 25, and these several rollers are prevented from turning backward when the goods are subjected to tension by means of ratchet-wheels 26, secured to the ends of the rollers, and pawls 27, applied to the bars 22, adjacent to the ratchet-wheels 26. A notch 28 is formed in the upper edge of each bar 22 at about a middle

point of its length and is of a size to receive the longitudinal bar 15, and a yoke or plate 29 closes the open side of the notch and extends over the bar 15 and retains the latter within the notch and practically forms a support for the quilting-frame. These yokes or plates 29 will be bolted or otherwise secured to the end bars 22, so as to be readily removed when it is required to disconnect the quilting-frame from the supplemental carriage. A recess 30 is formed in the top edge of each bar 22, adjacent to the roller 23, to provide clearance for the presser-foot of the sewing-machine, thereby enabling the quilting-frame to pass beneath and by the presser-foot.

The quilting-frame is shorter than the supplemental carriage and has a limited longitudinal movement thereon, thereby reducing the longitudinal movement of the main carriage upon the track. In quilting some designs it is desirable to reciprocate the quilting-frame within a comparatively small space, and such movement can be attained by having the quilting-frame slidably mounted upon the supplemental carriage without necessitating a movement of the main carriage upon the track.

When it is required to utilize the attachment, the track 1 is bolted or otherwise secured to the frame of the sewing-machine at the proper elevation and the main carriage is mounted thereon substantially as shown and in turn supports the supplemental carriage, bearing the quilting-frame, to which latter the goods to be quilted are secured by being made fast to the rollers 23, 24, and 25. After a row of stitching is completed the shaft 18 is turned to feed the supplemental carriage laterally a distance corresponding to the space required between the rows of stitching, after which a second row of stitching is formed, and so on until the quilting is completed.

After that portion of the goods exposed between the roller 23 and the longitudinal bar 15 is quilted it is wound upon the roller 23, thereby bringing a new portion in position to be quilted, and at the same time the supplemental carriage is returned to a normal position to properly feed the quilt to the sewing-machine, it being remembered that only a portion of the goods is quilted at a time and that the supplemental carriage has a lateral movement corresponding to the portion so exposed. Hence when winding the quilted portion upon the roller 23 it is necessary to readjust the supplemental carriage to secure a proper feed of that portion of the goods brought into position to be quilted.

Having thus described the invention, what is claimed as new is—

1. In a quilting attachment for sewing-machines, the combination of a support, a carriage mounted upon the support and bearing the quilting-frame, a rack-bar, and a shaft provided with a toothed wheel to engage with

the rack-bar to feed the carriage laterally upon the said support, substantially in the manner and for the purpose specified.

2. In a quilting attachment for sewing-machines, the combination of a support comprising cross-heads, rack-bars applied to the said cross-heads, a carriage bearing a quilting-frame and slidably mounted upon the said cross-heads, a shaft journaled to the carriage, and toothed wheels applied to the said shaft and adapted to engage with the rack-bars to effect a lateral feed of the carriage and the quilting-frame, substantially in the manner and for the purpose set forth.

3. In combination, a track to be secured to a sewing-machine frame, a main carriage adapted to travel lengthwise of the track, a supplemental carriage slidably mounted upon the main carriage and bearing the quilting-frame, a feed mechanism between the supplemental and main carriages for feeding the supplemental carriage laterally, and a counterbalance applied to the main carriage to counteract the effect of the friction and load, substantially in the manner and for the purpose set forth.

4. In a quilting attachment for sewing-machines, the combination of a track, a main

carriage adapted to travel upon the track, a supplemental carriage having pivotal connection with the main carriage and capable of tilting at one side, a feed mechanism between the two carriages for moving the supplemental carriage laterally, and a quilting-frame mounted upon the supplemental carriage, substantially as set forth.

5. The herein shown and described quilting attachment, comprising a track, a main carriage to travel upon the track and supplied with wheels to operate upon the upper and lower portions of the track, and provided with cross-heads, a supplemental carriage slidably mounted upon the cross-heads, means for effecting a lateral feed of the supplemental carriage, a quilting-frame slidably mounted upon the supplemental carriage, and a counterbalancing-weight operatively connected with the main carriage, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM ROBERTSON.

Witnesses:

J. A. BLANCHARD,
J. H. PRICE.