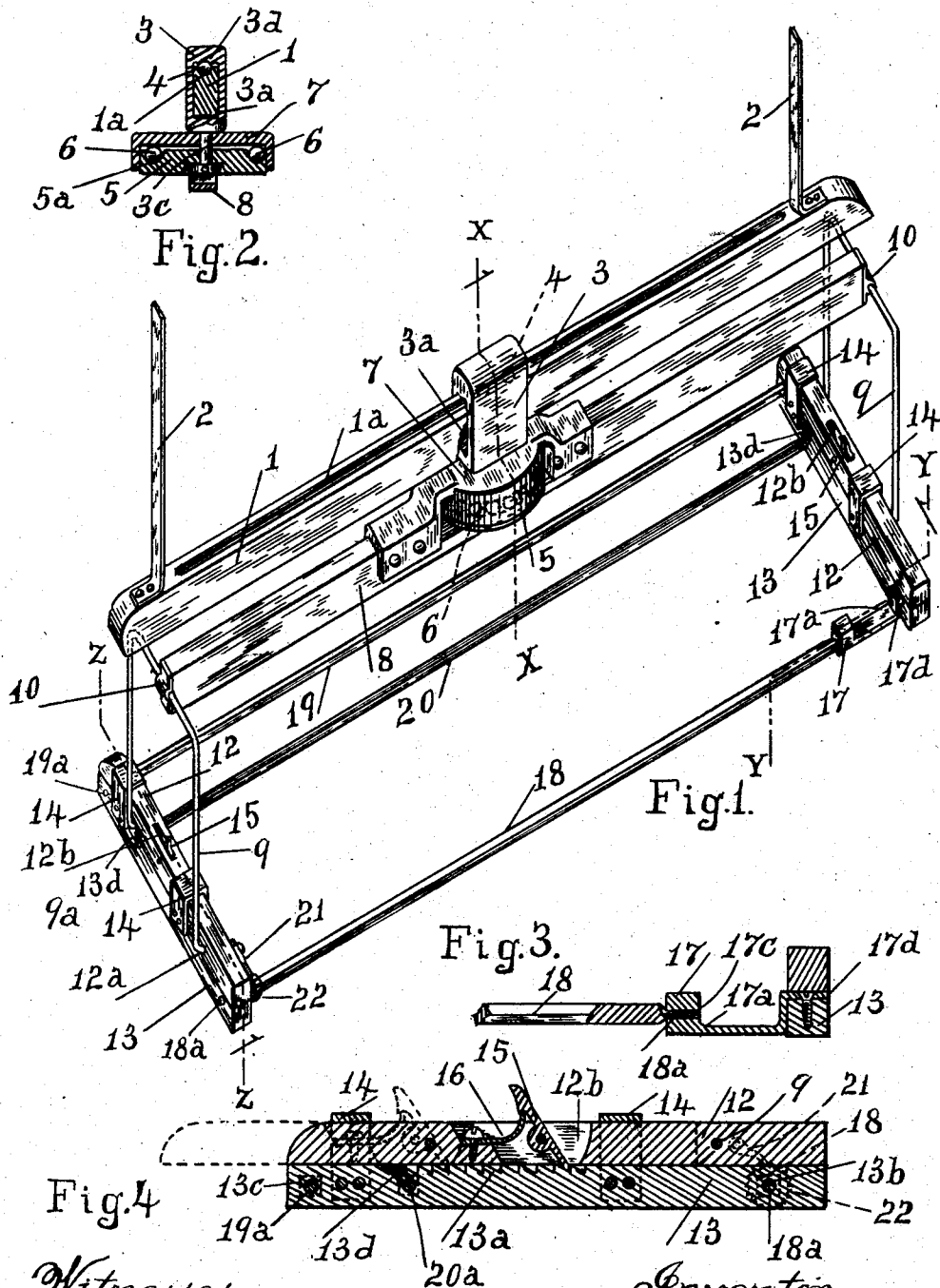


E. S. MANN.
QUILTING FRAME.

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994,526.

Patented June 6, 1911.



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ELIAS S. MANN, OF SPRINGFIELD, ILLINOIS.

QUILTING-FRAME.

994,526.

Specification of Letters Patent.

Patented June 6, 1911.

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To all whom it may concern:

Be it known that I, ELIAS S. MANN, a citizen of the United States, residing at Springfield, in the county of Sangamon and State of Illinois, have invented a new and useful Quilting-Frame, of which the following is a specification.

This invention relates to quilting frames for sewing machines and the general purpose of the invention is to provide means for increasing the effectiveness and enlarging the scope of operation of the quilting frame and reducing to the minimum the effort required in manipulating the quilting frame.

More specific purposes are: to provide a swinging track-rail and in connection therewith a rotative carriage capable of movement lengthwise of the frame; to provide improved means oscillatively connecting the roller-supports with the carriage; to provide means for adjusting the frame to maintain the equilibrium of the frame under different conditions of use; to provide means to facilitate the placing of the work under the arm of the sewing machine; and to provide other new and useful features hereinafter set forth.

Referring to the annexed drawing in which similar reference characters designate like parts in the several views; Figure 1 is an isometric view of the complete quilting frame; and Figs. 2, 3, and 4 are enlarged vertical sections on the lines X. X.; Y. Y. and Z. Z. respectively.

A track rail 1 is suspended from any suitable stationary support by straps 2 or equivalent means. The rail 1 has a lengthwise channel 1^a adapted to accommodate balls 4, rolling in the channel. A block 3 has a rectangular opening 3^a in which the track-rail 1 fits so that the block will slide easily on the rail. The block 3 also has pockets 3^b accommodating balls 4 which roll in the channel 1^a and minimize the friction of the block traveling on the rail. The block 3 also has a downwardly extending stem 3^c. A circular table 5 is secured on the lower part of the stem 3^c and has a circumferential groove 5^a forming a track for a series of balls 6 which occupy the groove. A circular box 7 surrounds the table 5 and is supported on the balls 6 and is adapted to rotate freely around the stem 3^c, and the balls minimize the friction of the box rotating on the table.

The carriage 8 is rigidly connected with

the box 7 and the parts are so arranged that if the carriage be moved endwise the block 3 will travel lengthwise of the rail 1 and the carriage is adapted to rotate with the box 7 around the stem 3^c. This construction admits of lengthwise movement of the carriage on the track rail and rotation of the carriage on the table.

Hangers 9 are mounted to oscillate freely in blocks 10 secured on the ends of the carriage 8 and have at their lower ends laterally extending fingers fitting in holes 12^a in the bars 12. The hangers 9 which support the roller supporting bars 12 and 13 have an oscillative movement on the carriage 8, in order that the work may swing to the right or left, within the scope of oscillation of the brackets. Box loops 14 are secured on the bars 13 and surround the bars 12, so that the bars 12 will slide in the loops and on the bars 13. On the upper surface of the bars 13 are ratchet teeth 13^a. Pawls 15 are mounted to oscillate in slots 12^b extending through the bars 12 and the lower ends of the pawls engage the ratchet teeth 13^a. Springs 16 serve to normally keep the pawls 15 in engagement with the teeth 13^a. A block 17, called a gate-block, has a transverse depression 17^a called a gate, and a laterally extending angular member 17^d rigidly secured on one of the bars 13. The gate block 17 also has a horizontal hole 17^c in which the spindle 18^a of the roller 18 fits. The receiving roller 18 is of suitable length to fit between one bar 13 and the block 17 and has at its ends spindles 18^a. One spindle turns in the hole 17^c and the other turns in a transverse hole 13^b in one of the bars 13. A ratchet wheel 22 mounted on the roller 18 is engaged by a pawl 21 mounted on one of the bars 13 and the pawl prevents reverse rotation of the roller. A winding-roller 19 has spindles 19^a turning in holes 13^c in the bars 13. A tension-roller 20 has spindles 20^a turning in inclined slots 13^d in the bars 13.

The goods to be quilted are wound by hand on the winding-roller 19, passes under the tension roller 20, and as the quilting progresses, is wound onto the receiving roller 18. The winding roller, the tension roller, and the receiving roller are, except as specified, of the usual construction and operate in the usual manner; it is therefore unnecessary to describe them more particularly.

From time to time during the course of operation the goods wound onto the receiving roller 18 will over-balance the goods remaining on the winding roller 19 and will
 5 tend to cause tipping of the frame, which will interfere with the manipulation of the work. To overcome this objection the pawls 15 will, from time to time, be disengaged and the bars 12 will be slid on the bars 13,
 10 as indicated by dotted lines in Fig. 4, to restore the equilibrium of the frame. In introducing the work under the arm of the sewing machine the needle and the presser-foot will be raised and the gate-block will
 15 be passed under the presser-foot and the work placed in position to begin operation. In practical use the carriage will be moved lengthwise of the track when stitching cross-wise of the goods; the carriage will rotate
 20 on the table when doing circular stitching and the carriage will travel lengthwise of the track and will rotate on the table when stitching a spiral or other curved and intricate design. These various adjustments
 25 adapt the quilting frame to do a great variety of work and admit of stitching of intricate and variously curved designs or figures.

Having fully described my invention what

I claim as new and desire to secure by Letters Patent is:

1. In a quilting frame, the combination of a carriage adapted to slide and adapted to rotate; hangers mounted to oscillate on the carriage; roller-supports supported on said hangers; a gate block secured on one
 35 roller-support; a receiving roller mounted on the gate-block and one roller-support; and winding rollers mounted on the roller-supports.

2. In a quilting frame, the combination of a carriage; hangers mounted on the carriage; adjusting bars mounted on the hangers; roller-supporting-bars parallel to the
 40 adjusting-bars and provided with ratchets; box-loops connecting the adjusting-bars with the roller-supporting-bars; and pawls mounted on the adjusting bars and engaging the ratchets of the roller-supporting-bars.

In witness whereof I have hereunto subscribed my name at Springfield, Illinois this
 50 3d day of December, 1910.

ELIAS S. MANN.

Witnesses:

FRED HAHN,

JOHN F. BREUSING.