J. KANTA AND V. G. HUML.

QUILTING MACHINE.

APPLICATION FILED JAN. 13, 1919.

**1,329,411.**

Patented Feb. 3, 1920.

2 SHEETS—SHEET 1.

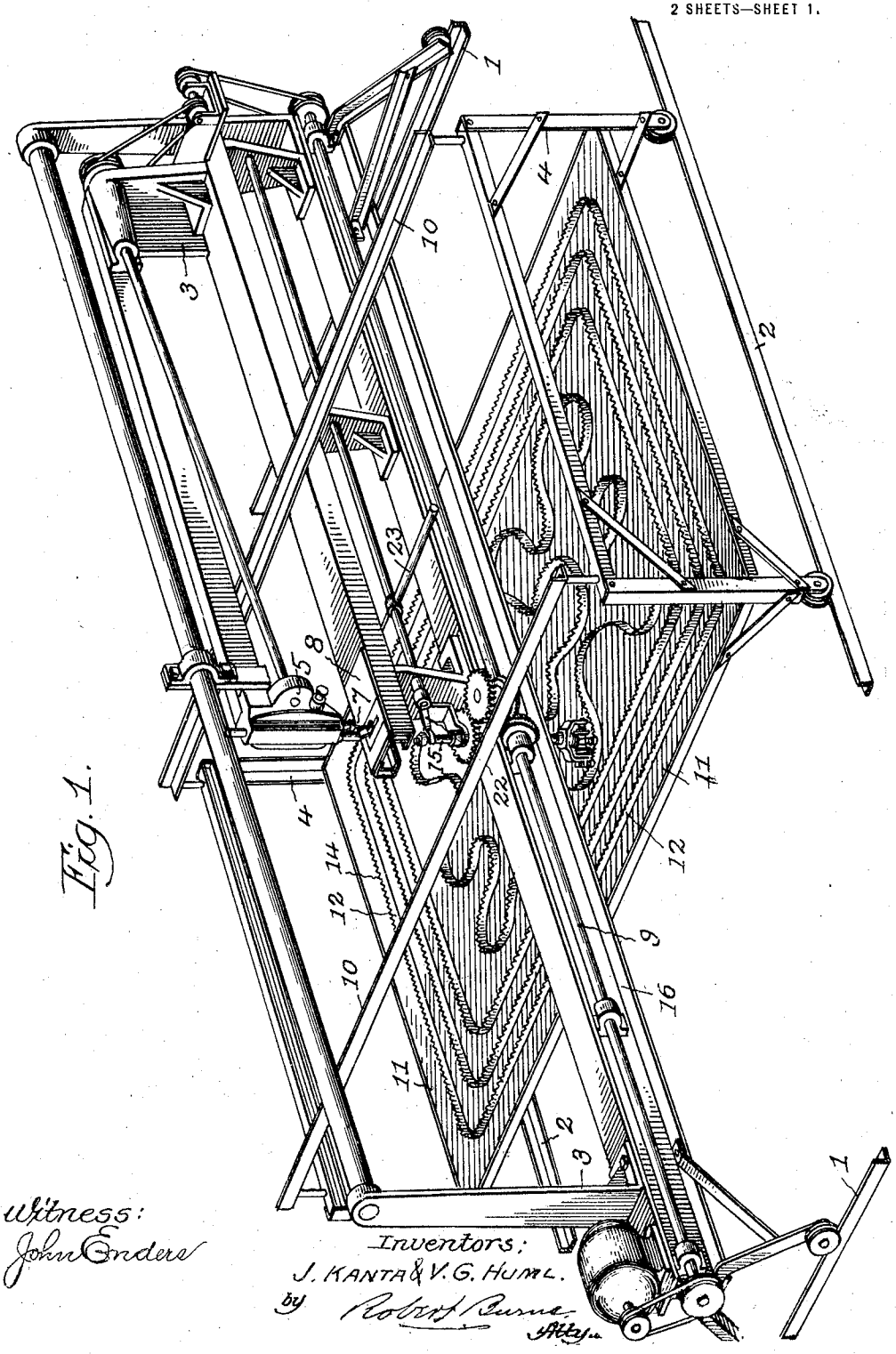



Fig. 1.

Witness:
John Enders

Inventors:
J. KANTA & V. G. HUML.
by Robert Burns
Atty.

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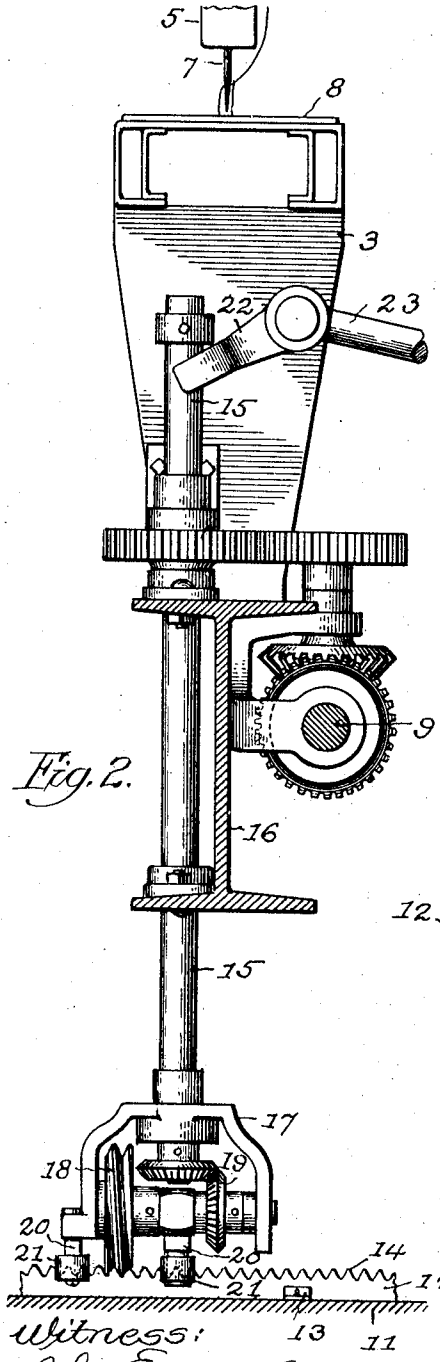



Fig. 2.

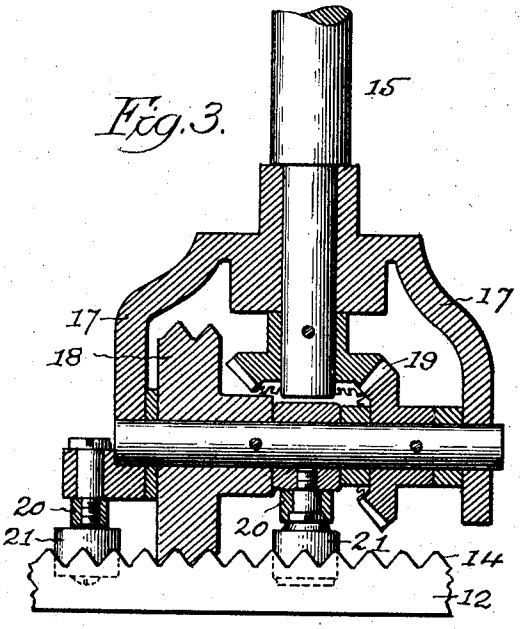



Fig. 3.

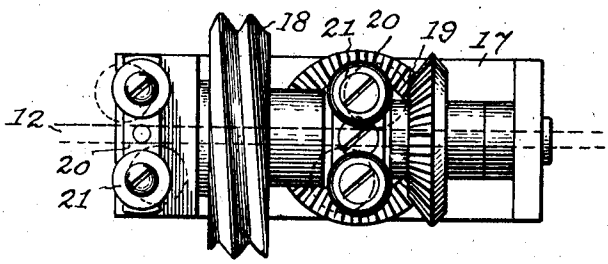



Fig. 4.

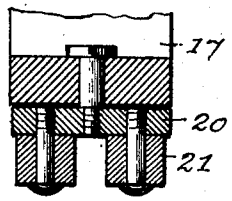



Fig. 5.

Witness:
John Enders

Inventors:
JOSEPH KANTA,
by VINCENT G. HUML,
Robert Burns Atty.

# UNITED STATES PATENT OFFICE.

JOSEPH KANTA AND VINCENT G. HUML, OF CHICAGO, ILLINOIS, ASSIGNORS TO AJAX QUILTING AND MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

## QUILTING-MACHINE.

1,329,411. Specification of Letters Patent. Patented Feb. 3, 1920.

Application filed January 13, 1919. Serial No. 270,790.

*To all whom it may concern:*

Be it known that we, JOSEPH KANTA and VINCENT G. HUML, citizens of the United States of America, and residents of Chicago, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Quilting-Machines, of which the following is a specification.

This invention relates to that class of machines for quilting bed comforts and like articles in which the stitching mechanism and the work carrier have movement in paths in angular relation to each other to attain the universal movement required between said parts in the quilting operation. And the present improvement has for its objects:—

To provide a simple and efficient structural formation and association of parts in which the carrier of the stitching mechanism and the work carrier or mechanism are arranged for rectilinear movement in right-angle relation to each other and are operatively connected together by a pattern controlled driving and guiding mechanism, disposed intermediate of said carriers and constituting the sole operating means between the same, with said mechanism adapted to effect a travel of the work carrier with the comfort or like article to be quilted in a path past the needle and associated stitch forming means of the stitching mechanism corresponding with the pattern associated with and forming a part of said driving and guiding mechanism.

To provide a simple and efficient formation of the driving and guiding mechanism whereby a ready disconnection of the same can be made, and a relative adjustment effected by hand between the work carrier and the stitching mechanism, when required, all as will hereinafter more fully appear.

In the accompanying drawings:—

Figure 1, is a perspective view illustrating the general arrangement of parts in the present invention.

Fig. 2, is a detail vertical section illustrating the intermediate driving and guiding mechanism between the carriers of the present machine.

Fig. 3, is a detail longitudinal section of the same.

Fig. 4, is a bottom plan of said mechanism.

Fig. 5, is a detail transverse section illustrating the swinging guide rollers of the said mechanism.

Like reference numerals indicate like parts in the several views.

Referring to the drawings, 1 and 2 designate pairs of tracks secured in right-angle relation to each other upon the floor of a building or other suitable stationary supporting base.

3 and 4 designate a pair of carriages or trucks of any suitable construction, and individual to and mounted on the tracks 1, 2 for movement in rectilinear paths in right-angle relation one to the other.

5 designates a stitch forming mechanism of any ordinary and suitable type mounted on the carriage or truck 3 aforesaid, and having the usual needle bar 7, work supporting bed and table 8 and the other usual accessories of a stitch forming means.

9 designates a power driven shaft having operative connection with the stitch forming mechanism aforesaid, and with the hereinafter described driving and guiding mechanism of the carriages or trucks 3 and 4 aforesaid.

10 designates supporting rails at the top of the carriage 4 aforesaid, and adapted to receive and support the usual frame on which the comfort or other article to be quilted is stretched in a flat condition.

11 designates a horizontally arranged pattern carrying plate or bed fixedly secured to the carriage or truck 4 aforesaid, and upon the upper surface of which bed, the hereinafter described pattern piece or rails of the present improvement are detachably secured.

The pattern piece or rails 12 above referred to, may be formed of a single bar or rail of metal, or of a series of sections having end to end relation, and bent to the configuration of a predetermined design as illustrated in Fig. 1. In the present improvement the pattern rails 12 are provided with lugs 13 or like attaching means on their base portions adapting the rails for removable attachment to the carrying bed 11 aforesaid, while the upper surface of said pattern rails 12 are formed with gear teeth 14 for operative engagement with the driving and guiding means now to be described.

15 designates a revoluble shaft mounted

in bearings on the aforesaid horizontal rail 16 and operatively connected by a train of spur and bevel gear wheels with the power shaft 9 heretofore referred to, so as to rotate in unison with the aforesaid stitch forming mechanism.

The shaft 15 is so arranged as to have vertical movement in its aforesaid bearings and is associated with the hereinafter described means by which the operator can raise or lower said shaft and its associated parts as may be required in actual use.

17 designates a tracker frame journaled by means of a bearing hub or the lower end of the vertical shaft 15 aforesaid and adapted to support driving and guiding means as follows:—

18 designates a worm wheel journaled in the tracker frame 17 and operatively connected to the vertical shaft 15 by bevel gears 19 as shown in Figs. 2, 3 and 4.

20 designates rocker frames or bars pivoted at their mid-length to the underside of the tracker frame 17 and disposed at the front of and at the rear of the worm wheel 18, and provided with depending guide rollers 21 at their respective ends for guiding engagement with the opposite sides of the pattern rail 12 heretofore described. In the present construction the worm wheel 18 meshes with and has driving engagement with the gear teeth 14 of the pattern rail 12 aforesaid, so that in a continued rotation of the worm wheel, relative movement of the carriages or trucks 3 and 4 will take place and owing to the guiding engagement of the guide rollers 21 with the pattern rail 12, individual travel of the work carriage or truck, or an individual travel of the carriage or truck of the stitch forming mechanism, or a simultaneous travel of both of said carriages or trucks, are at different times imposed to cause the comfort or other article being quilted to move past the needle bar and accessories of the stitch forming mechanism in a path corresponding with the pattern formation of the pattern rail 12 carried upon the bed 11 of the work carriage or truck 4.

22 designates a rock arm pivotally mounted on the carriage or truck 3 of the stitch forming mechanism and having operative engagement with the upper end of the vertical shaft 15 aforesaid, to impart an upward movement to the same when it is desired to disengage the driving and guiding mechanism from the pattern track 12 aforesaid.

23 designates a hand lever associated with the rock arm 22 for convenient manual operation of the same.

Having thus fully described our said invention what we claim as new and desire to secure by Letters Patent, is:—

1. In a quilting machine, the combination of a pair of carriages movable in angularly related paths, a stitch forming means mounted on one carriage, a work holder mounted on the other carriage, a pattern track associated with the work carriage aforesaid and having a toothed formation along the length of its top surface, a driving mechanism associated with the carriage of the stitch forming mechanism and having operative engagement with the toothed formation of the pattern track aforesaid, means for holding said driving mechanism against lateral displacement in relation to the pattern track, and means for operating the said driving mechanism and stitch forming mechanism in unison, substantially as set forth.

2. In a quilting machine, the combination of a pair of carriages movable in angularly related paths, a stitch forming means mounted on one carriage, a work holder mounted on the other carriage, a pattern track associated with the work carriage aforesaid and having a toothed formation along the length of its top surface, a driving mechanism associated with the carriage of the stitch forming mechanism and having a worm wheel element in operative engagement with the toothed formation of the pattern track aforesaid, means for holding said driving mechanism against lateral displacement in relation to the pattern track, and means for operating said driving mechanism and stitch forming mechanism in unison, substantially as set forth.

3. In a quilting machine, the combination of a pair of carriages movable in angularly related paths, a stitch forming means mounted on one carriage, a work holder mounted on the other carriage, a pattern carrying bed attached to said work carriage, a pattern track removably secured to said bed and having a toothed formation along its length, a driving mechanism associated with the carriage of the stitch forming mechanism and having operative engagement with the toothed formation of the pattern track aforesaid, depending rollers associated with said driving mechanism and having guiding engagement with the sides of the pattern track aforesaid, and means for operating the said driving mechanism and the stitch forming mechanism in unison, substantially as set forth.

4. In a quilting machine, the combination of a pair of carriages movable in angularly related paths, a stitch forming means mounted on one carriage, a work holder mounted on the other carriage, a pattern carrying bed attached to said work carriage, a pattern track removably secured to said bed and having a toothed formation along its length, a driving mechanism associated with the carriage of the stitch forming mechanism and having operative engage-

ment with the toothed formation of the pattern track aforesaid, depending rollers associated with said driving mechanism in a horizontally swinging manner and having guiding engagement with the sides of the pattern track aforesaid, and means for operating the said driving mechanism and the stitch forming mechanism in unison, substantially as set forth.

5. In a quilting machine, the combination of a pair of carriages movable in angularly related paths, a stitch forming means mounted on one carriage, a work holder mounted on the other carriage, a pattern track associated with the work carriage aforesaid and having a toothed formation along the length of its top surface, a driving mechanism associated with the carriage of the stitch forming mechanism and having operative engagement with the toothed formation of the pattern track aforesaid, means for effecting a vertical disengagement of the driving mechanism and the pattern track, and means for operating said driving mechanism and stitch forming mechanism in unison, substantially as set forth.

6. In a quilting machine, the combination of a pair of carriages movable in angularly related paths, a stitch forming means mounted on one carriage, a work holder mounted on the other carriage, a pattern track associated with the work carriage aforesaid and having a toothed formation along the length of its top surface, a driving mechanism associated with the carriage of the stitch forming mechanism and having a worm wheel element in operative engagement with the toothed formation of the pattern track aforesaid, means for effecting a vertical disengagement of said driving mechanism and the pattern track, and means for operating said driving mechanism and stitch forming mechanism in unison, substantially as set forth.

Signed at Chicago, Illinois, this 11th day of December, 1918.

JOSEPH KANTA.
VINCENT G. HUML.