3 Sheets—Sheet 1.

J. THOMAS.

Machine for Quilting Fabrics.

No. 236,466. **Patented Jan. 11, 1881.**

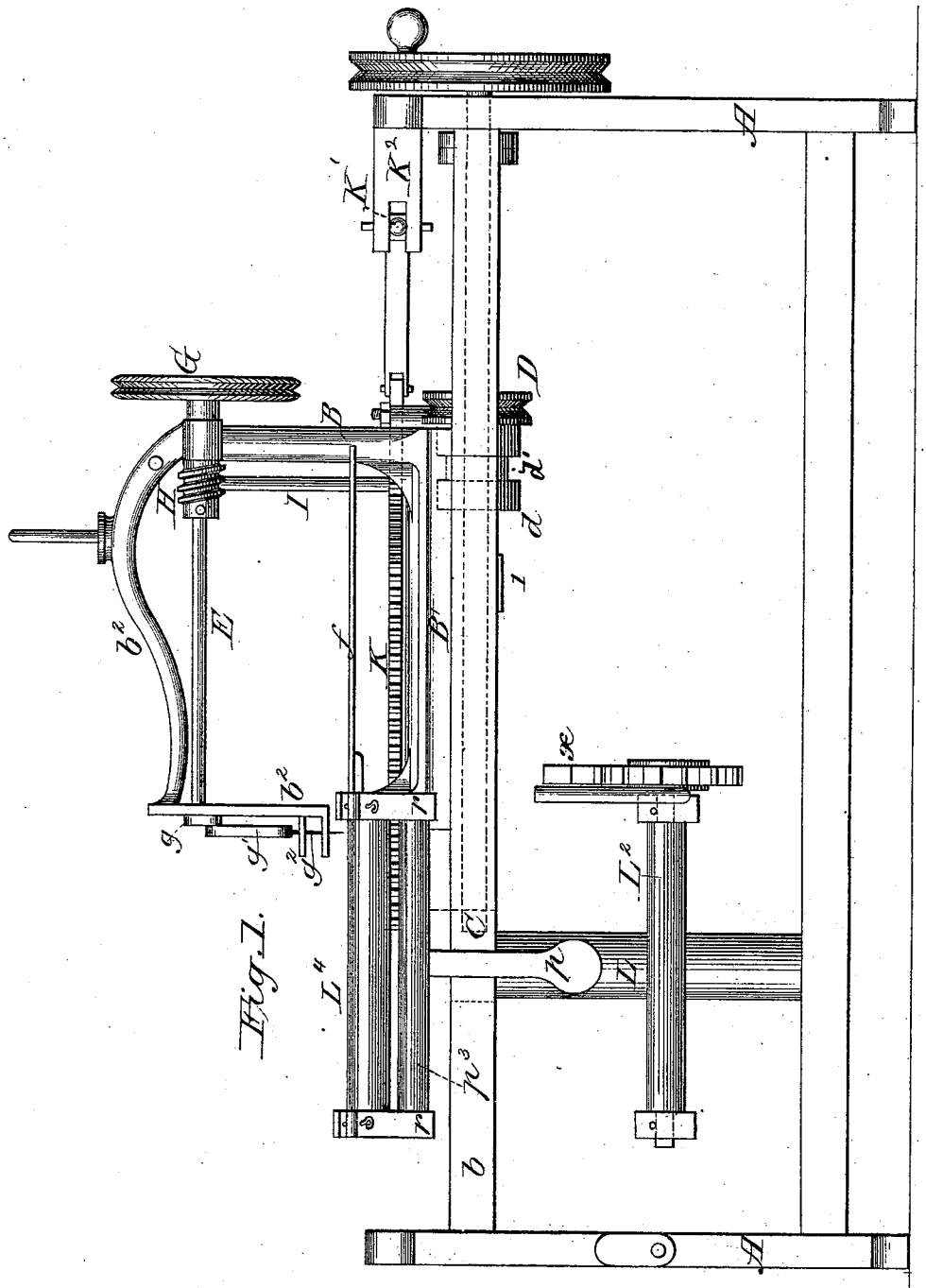


Fig. 1.

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Geo. Pfeiffer

Inventor:
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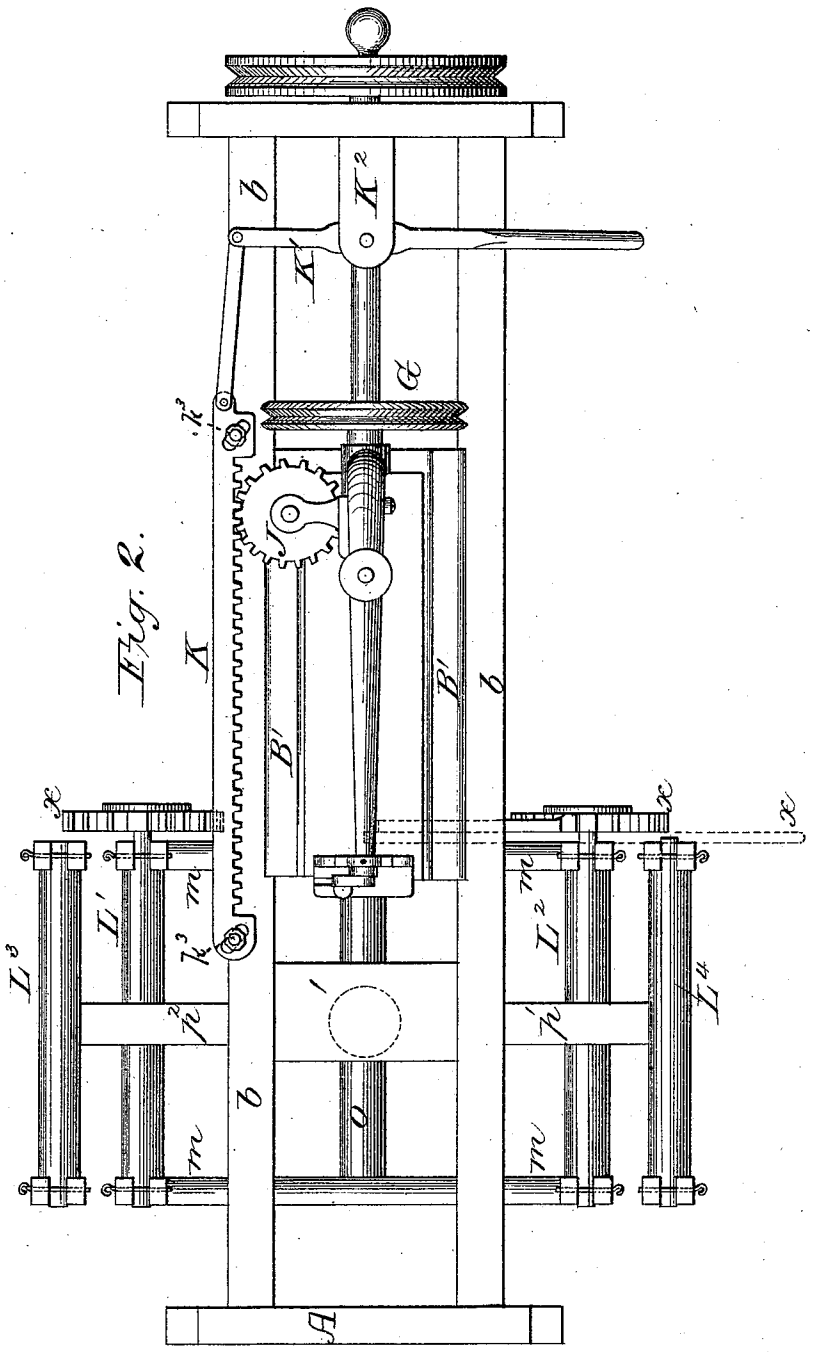
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Fig. 3.

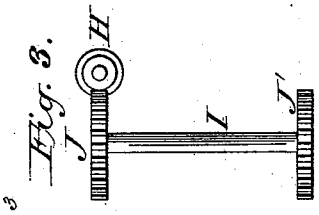


Fig. 5.

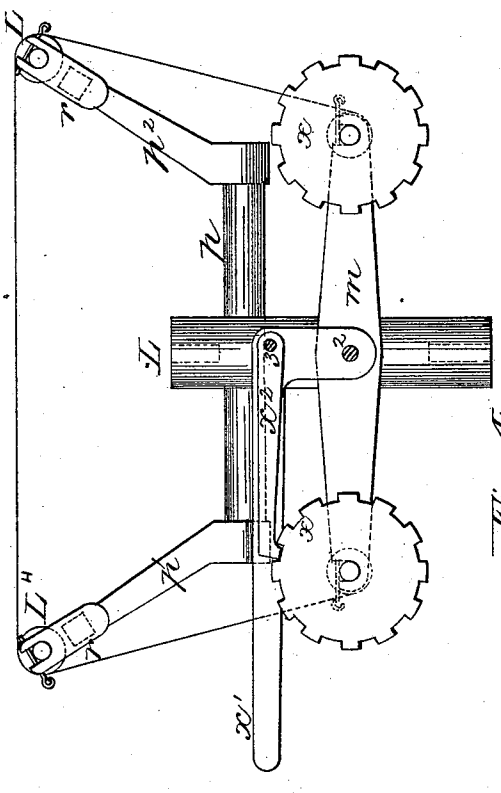
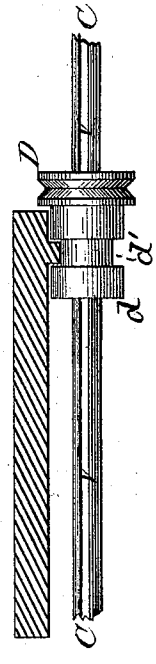


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOSEPH THOMAS, OF NEW YORK, N. Y.

MACHINE FOR QUILTING FABRICS.

SPECIFICATION forming part of Letters Patent No. 236,466, dated January 11, 1881.

Application filed February 14, 1878.

To all whom it may concern:

Be it known that I, JOSEPH THOMAS, of the city, county, and State of New York, have invented new and useful Improvements in Machines for Quilting Fabrics; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification—

Figure 1 being a side elevation of the apparatus, including the sewing-machine, the sliding carriage and its ways, and the adjustable holding-reel, on which the cloth is mounted and properly presented to the sewing mechanism; Fig. 2, a top view of the same; Figs. 3, 4, and 5, views of parts detached.

Like letters designate corresponding parts in all of the figures.

The object of my invention is to quilt fabrics by sewing machinery, and to effect this on cloth of any required length and width and in rectangular or diagonal lines without the necessity of holding and adjusting the cloth by hand.

My invention consists in the combination of a sewing mechanism, a reel for holding the fabric in proper relation to the said mechanism, and a vertical shaft on which the holding-reel is mounted, and on which it may be turned to hold the fabric for receiving the quilting-lines in various directions; also, in the construction of the holding-reel, which is composed of a horizontal and a vertical shaft, bars secured to the vertical shaft, let-out and take-up rollers, and a take-up wheel, lever, and pawl, and a suitable frame for the parts, all substantially as hereinafter specified, whereby the fabric may be gradually unwound from one roller and wound upon another roller, and be kept at a proper tension between the rollers.

A suitably-constructed frame, A, is provided, upon which the operative parts are mounted. The frame or carriage B of the sewing mechanism has a floor or base, B′, which is directly supported by and travels upon two parallel horizontal bars or ways, *b b*, forming part of the main frame A, the lower outer corners of this base being suitably rabbeted or grooved to fit the inner upper corners of the said ways. The carriage is kept on its ways while moving along by means of a transverse plate or bar, 1, attached to the under side of the carriage and reaching under the ways. The driving-shaft C (shown partially in Fig. 4 and by dotted lines in Fig. 1) is arranged between the ways *b b* and parallel therewith, and it is provided with a groove, V, extending longitudinally throughout its length, in which fits a key or projection from the eye of a pulley, D, mounted on the shaft so that it will slide freely lengthwise thereof, but cannot turn thereon. This pulley is provided with a hub or extension, *d*, at one side, in which is a peripheral groove, *d′*, that receives a key or projection on the under side of the carriage. In the upper part of the carriage B is mounted a horizontal shaft, E. On the rear end of this shaft is a pulley, G, situated over the pulley D, from which the shaft receives its motion by a band running on the said pulleys; and on another part of the shaft is a worm-screw, H, gearing into a spur-wheel, J, on a vertical shaft, I, on the lower end of which is another spur-wheel, J′, that gears into a stationary rack, K, mounted on one of the ways *b b* by means of two oblique parallel slots, k^3 k^3, Fig. 2, in the said rack, and fixed pins or screws extending down through the slots into the way. Thus a longitudinal movement given to the rack also moves it laterally, for the purpose of throwing it into or out of gear with the spur-wheel J′ at will. The movement given to the rack is effected by means of a lever, K′, and connecting-rod between them, as represented most clearly in Fig. 2. The revolution of the shaft C, and consequently of the shaft E, in either direction causes the carriage B, on which is mounted the sewing mechanism, to move forward or backward in its ways over the fabric to be quilted with the required speed to make the stitches while the needle is at work. A crank, *g*, on the shaft E drives the needle-bar *g′*, which carries the needle g^2. The pulley D travels with the carriage B, sliding on the driving-shaft C, and is always retained in its proper position under the pulley G by the means above described.

The reel, as shown in Figs. 1, 2, and 5, is constructed as follows: It is mounted on an upright post or shaft, L, which turns or vibrates in suitable bearings, *l*, attached to the frame A. At a proper height a cross rod or

bar, O, is secured at right angles to the said shaft, preferably extending through it; and on the ends of this cross-bar two horizontal parallel bars, *m m*, are mounted, furnishing support and bearings for take-up and let-out rollers L′ L², as shown, the fabric being first rolled upon one, as L′, and as required let out therefrom and wound upon the other roller, as L². The fabric does not pass directly from one roller to the other, but passes up over two other rollers, L³ L⁴, to present the cloth at the right height to the sewing mechanism. The latter rollers L³ L⁴ have their bearings *r r* upon T-shaped or forked uprights *p′ p²*, secured respectively upon the ends of a horizontal bar, *p*, extending through or otherwise secured to the vertical shaft L somewhat above and at right angles to the cross-bar O, which supports the rollers L′ L². For transferring the cloth from one roller, L′, to the other roller, L², and keeping it at the proper tension between them, the latter roller has a ratchet-wheel, *x*, into which takes a pawl, x^2, pivoted on a bent lever, *x′*, which is so pivoted, as at 2, Fig. 5, that an up-and-down movement of the same will, through the said pawl, rack the ratchet-wheel round and take up the fabric on its shaft. A similar ratchet-wheel, *x*, may be secured to the let-out roller L′, as shown, and a similar lever and pawl may be used to let out the fabric therefrom; but this is not essential if sufficient friction is applied or given to the roller to produce the required tension of the fabric. The reel thus constructed and mounted on the vertical turning shaft L is capable of presenting the fabric to the sewing mechanism in all directions for producing longitudinal and transverse lines or diagonal lines at all angles.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of a sewing mechanism, a reel for holding the fabric in proper relation to the said mechanism, and a vertical shaft on which the holding-reel is mounted, and on which it may be turned to hold the fabric for receiving the quilting-lines in various directions, substantially as and for the purpose herein specified.

2. The holding-reel composed of the rollers L′ L² and L³ L⁴, frames O *m m′* and *p p′ p²*, ratchet-wheel *x*, lever *x′*, and pawl x^2, in combination with the vertical shaft L, substantially as and for the purpose herein specified.

JOSEPH THOMAS.

Witnesses:
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