

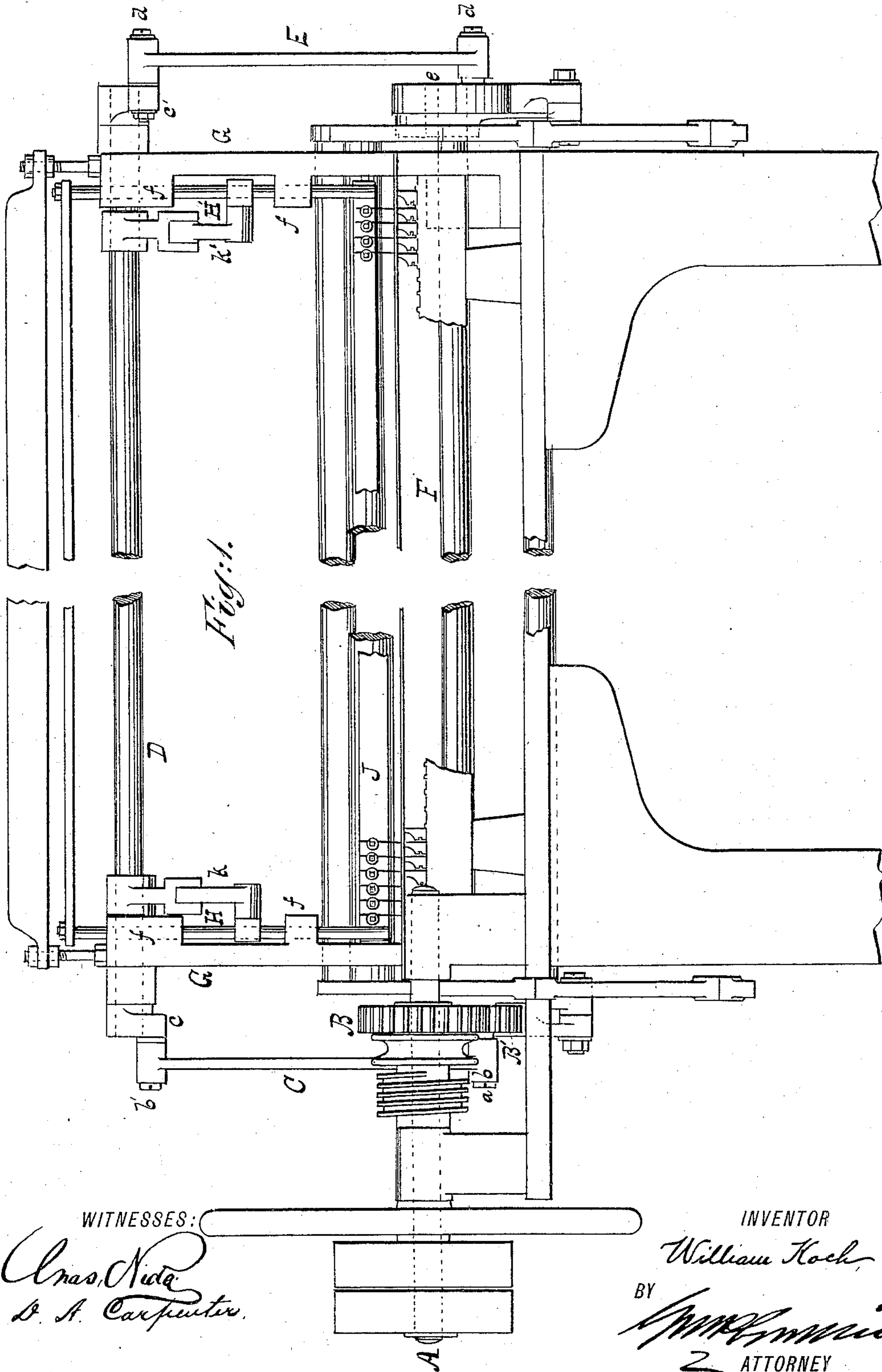
(No Model.)

3 Sheets—Sheet 1.

W. KOCH.
QUILTING MACHINE.

No. 371,950.

Patented Oct. 25, 1887.



WITNESSES:

Chas. Nida
D. A. Carpenter

INVENTOR

William Koch

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(No Model.)

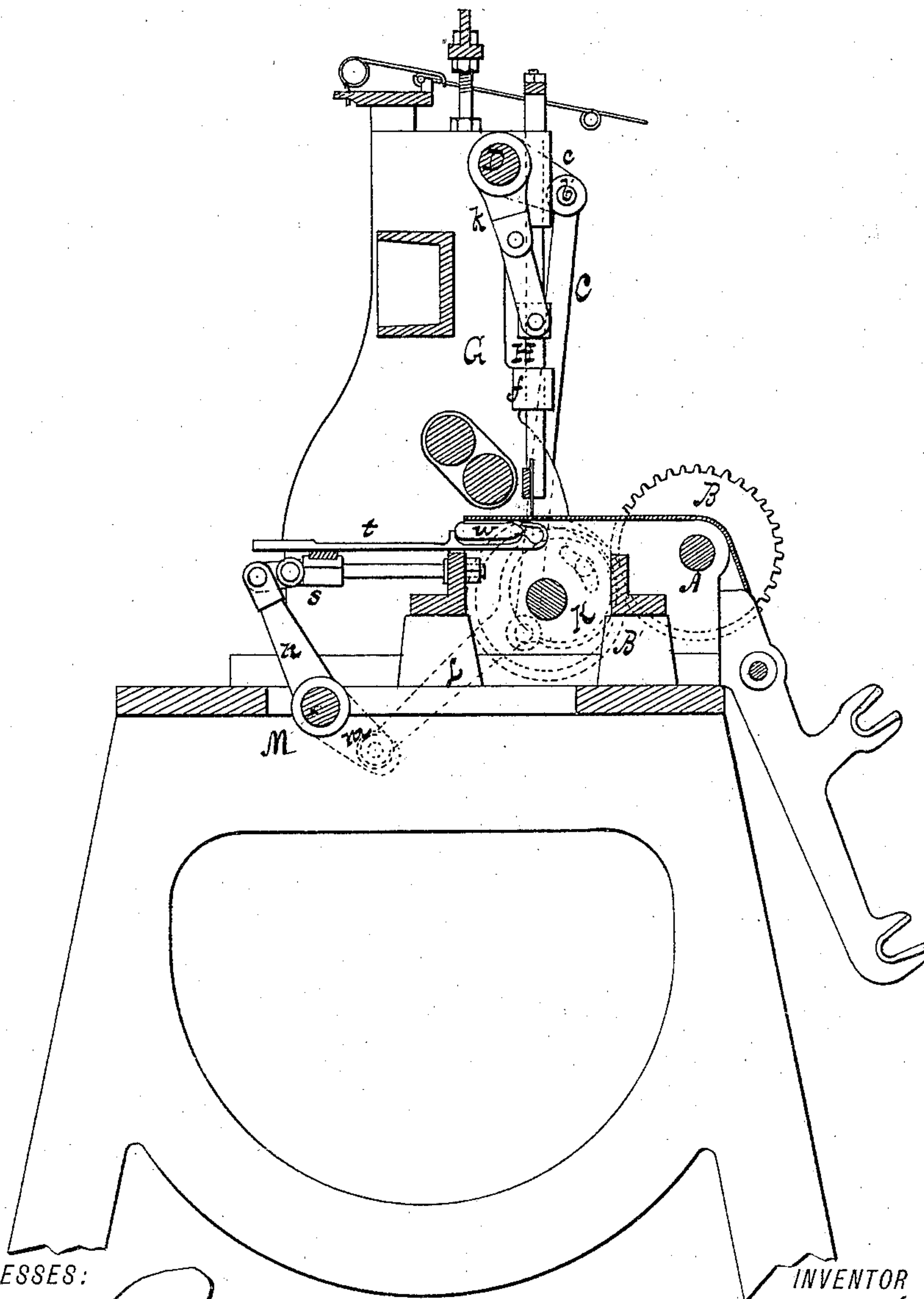
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Fig. 2.



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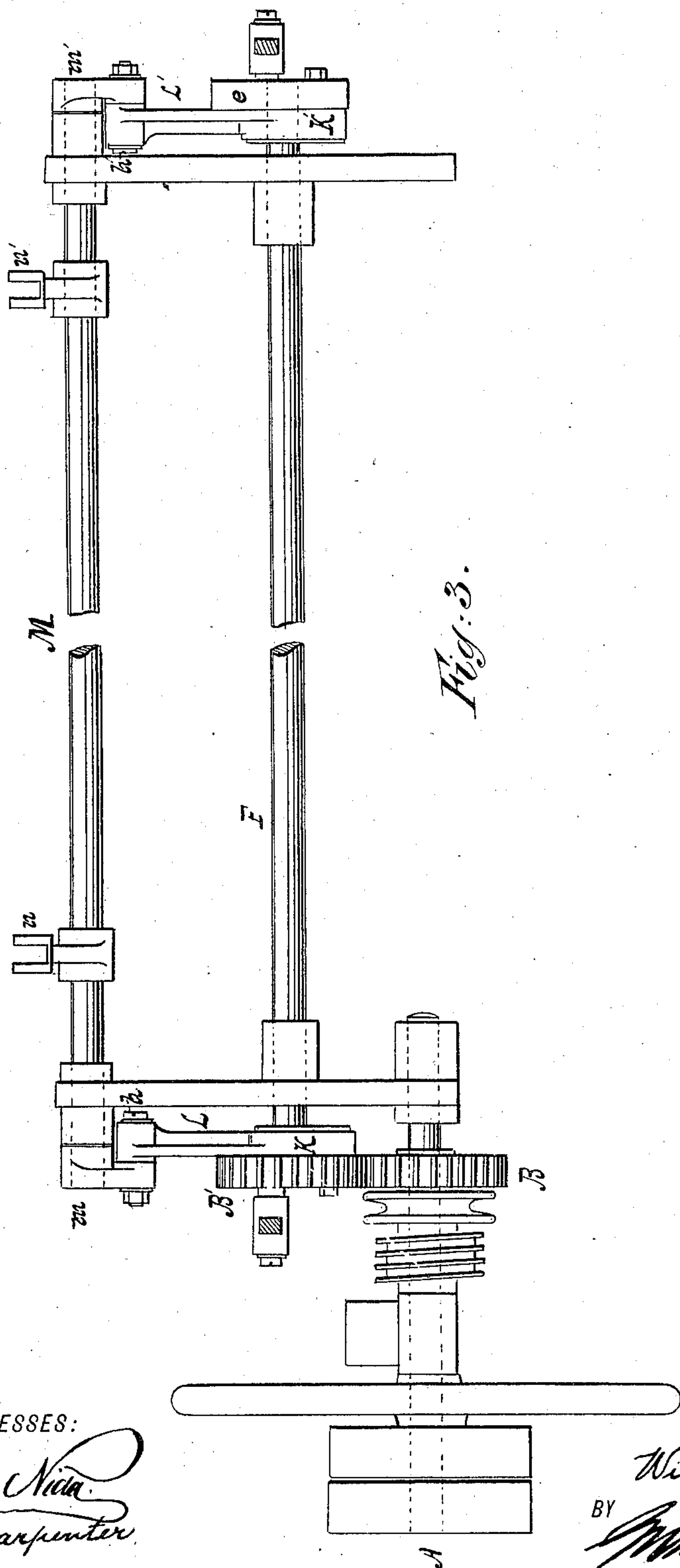
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UNITED STATES PATENT OFFICE.

WILLIAM KOCH, OF NEW YORK, N. Y.

QUILTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 371,950, dated October 25, 1887.

Application filed December 15, 1885. Serial No. 185,692. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM KOCH, of the city, county, and State of New York, have invented a certain new and useful Improvement in Quilting-Machines; and I declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has for its object an improvement in quilting-machines; and the invention consists in a quilting-machine with the operating parts of its needle and shuttle mechanism constructed, arranged, and combined in the manner hereinafter with particularity shown, described, and claimed.

In the accompanying sheet of drawings, Figure 1 is a side view of my quilting-machine, partly in section; Fig. 2, a sectional end view of the same, and Fig. 3 a detail plan or top view.

Similar letters of reference indicate like parts in the several figures.

This invention relates to quilting-machines or sewing-machines which have a series of needles secured to one or more needle-bars, with a corresponding series of shuttles and shuttle mechanism, so that stitches in given designs may be produced on the fabric under the action of the needles.

Quilting-machines of this general character, but varying somewhat in detail of construction, are well known; and as my invention is applicable to most or all of them no particular machine need be described further than to say that in such quilting-machines the needles are arranged in one or more rows on one or more needle-bars, which extend practically across the width of the machine and the goods that are to be quilted by it. Such machines have heretofore been employed to quilt fabrics of comparatively narrow widths, and it is to adapt such machines to the purpose of quilting goods of extra width that my invention and improvement especially relates.

The ordinary quilting-machine, as it is constructed to quilt comparatively narrow-width fabrics, is made to run at a fairly high rate of speed, or, say, four hundred reciprocating motions of the needle-bar a minute. Now, if this quilting-machine has its needle bar or bars and operating mechanism and its series of

shuttles and their operating mechanism extended so as to make a quilting-machine, say, double the width of the ordinary quilting-machine, so that it can be made to sew fabrics double the width, or thereabout, of the fabrics that are ordinarily quilted, it is found that the extension of the operating parts of the needle and shuttle mechanism causes those parts to spring and vibrate to such an extent as to interrupt the uniform coacting of the needles and shuttles. Now, in order to make this widened machine run at about the same rate of speed as the smaller machine, its operating parts should not be materially increased in size and weight or made from metal of larger size or greater weight, or this speed cannot be maintained.

To accomplish this object is an important purpose of my invention, and to that end I construct my quilting-machine with the ordinary operating-shaft A supported in suitable bearings in the frame of the machine. To this shaft is fixed a gear-wheel, B, and this gear-wheel meshes into a second gear-wheel, B'. To this last-named gear-wheel is secured a wrist-pin, *a*, which passes through the lower end, *b*, of a connecting-rod, C. The upper end of this connecting-rod is fitted on a wrist-pin, *b'*, of a crank, *c*, and this crank is secured to one end of a rock-shaft, D, provided with links *k k'*, arranged to actuate the connecting-bars H H', fitted in slides *f* on the frame G, in order to reciprocate the needle-bar *j* in the ordinary manner. Now the gear-wheel B is keyed on one end of a shaft, F, and this shaft extends across the width of the machine and has keyed upon its other or opposite end a disk-wheel, *e*, and to this disk is fitted a wrist-pin, *d'*, which is encircled by the lower end of a connecting-rod, E, the upper end of this rod being fitted in like manner to a wrist-pin, *d*, of a crank, *c'*, the crank being secured to the other or opposite end of the rock-shaft D. Now, also, to the shaft F, before mentioned, and at or near both ends of the same, are fitted eccentrics K K', these eccentrics being also adjustably bolted to the gear-wheel B' and the disk-wheel *e*. These eccentrics are encircled by straps in the ordinary way to operate the eccentric-rods L and L', these rods extending to and being fitted to wrist-pins *h* and *h'* of cranks *m m'*, which cranks are secured to the ends of

a rock-shaft, M, to which rock-shaft are fitted arms $n n'$, which convey, through the links s , the necessary reciprocating motion to the shuttle-carriers t , it being understood, of course, that these shuttle-carriers contain and operate the shuttles w .

Now, from the foregoing description it will be seen that the necessary operating power to drive my quilting-machine—that is, its sewing and shuttle-operating mechanism—is applied to both sides of my machine simultaneously with practically duplicate operating parts by one and the same operating-shaft, and it follows from this construction that the resistance offered by the gravity and friction of the several parts named is overcome at two opposite places on the machine where such gravity and friction is greatest, and, it being overcome simultaneously at these places, there is less vibration or jarring or springing of the operating parts than would be the case if the power was applied at one side of the machine only, and hence, as is obvious, the several operating parts move smoothly, uniformly, and positively, and I am therefore enabled to build a quilting-machine double the width of the ordinary quilting-machine, capable of running at the same speed as, or at greater speed than, the smaller machine, and without increasing

the weight and size of the metal used in its construction beyond that which is used in the smaller quilting-machine before referred to, and I am also enabled to quilt fabrics having double, or more than double, the width of the fabrics now usually quilted.

I am aware that quilting-machines have previously been patented to which power is applied through duplicate mechanism at both sides of the machines. I therefore do not claim, broadly, a machine so constructed; but

What I do claim as new, and desire to secure by Letters Patent, is—

In a quilting-machine, the combination of the following elements: a driving-shaft, A, an operating-shaft, F, gear-wheels B B' and disk-wheel e fixed to the same, wrist-pins $a d'$, connecting-rods C E, wrist-pins $b' d$, cranks $c c'$, needle-bar rock-shaft D, vertical rods H H', needle-bar J, shuttle-carrier rock-shaft M, with arms $n n'$ and cranks $m m'$ secured thereto, wrist-pins $h h'$, eccentric-rods L L' and eccentrics K K', shuttle-carriers t , with intermediate operating mechanism, and shuttles w , as and for the purpose described.

WILLIAM KOCH.

In presence of—

G. M. PLYMPTON,
D. A. CARPENTER.