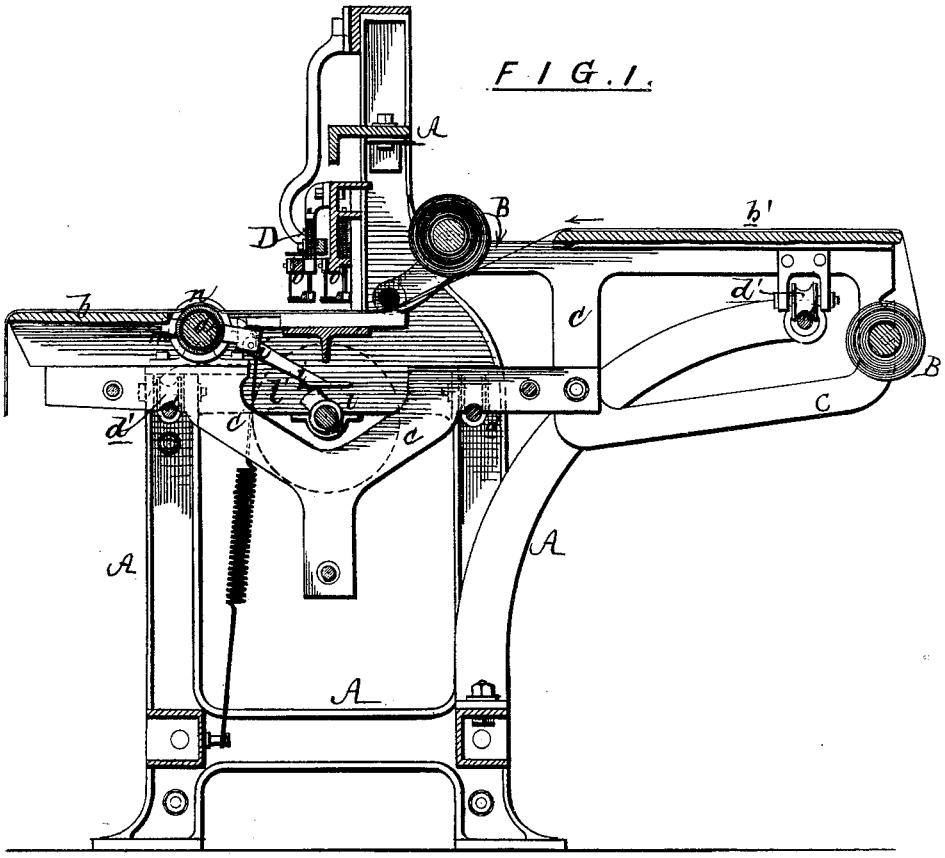
3 Sheets—Sheet 1.

H. ORAM.

SEWING-MACHINE FOR QUILTING.

No. 185,952. Patented Jan. 2, 1877.

FIG. 1.



Witnesses
Thos. E. Davies
Mr. Hughes

Henry Oram

3 Sheets—Sheet 2.

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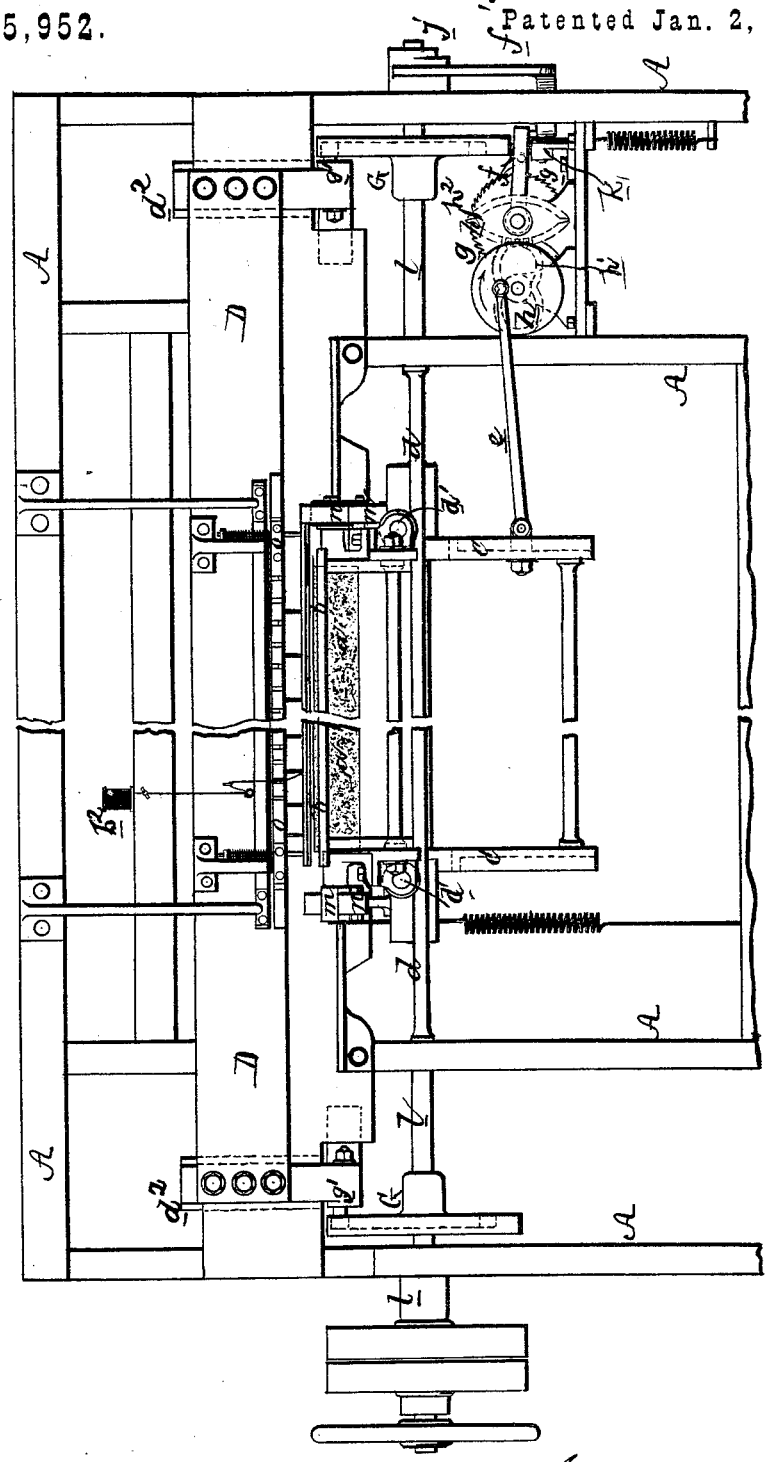

FIG. 2.

Witnesses.

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3 Sheets—Sheet 3.

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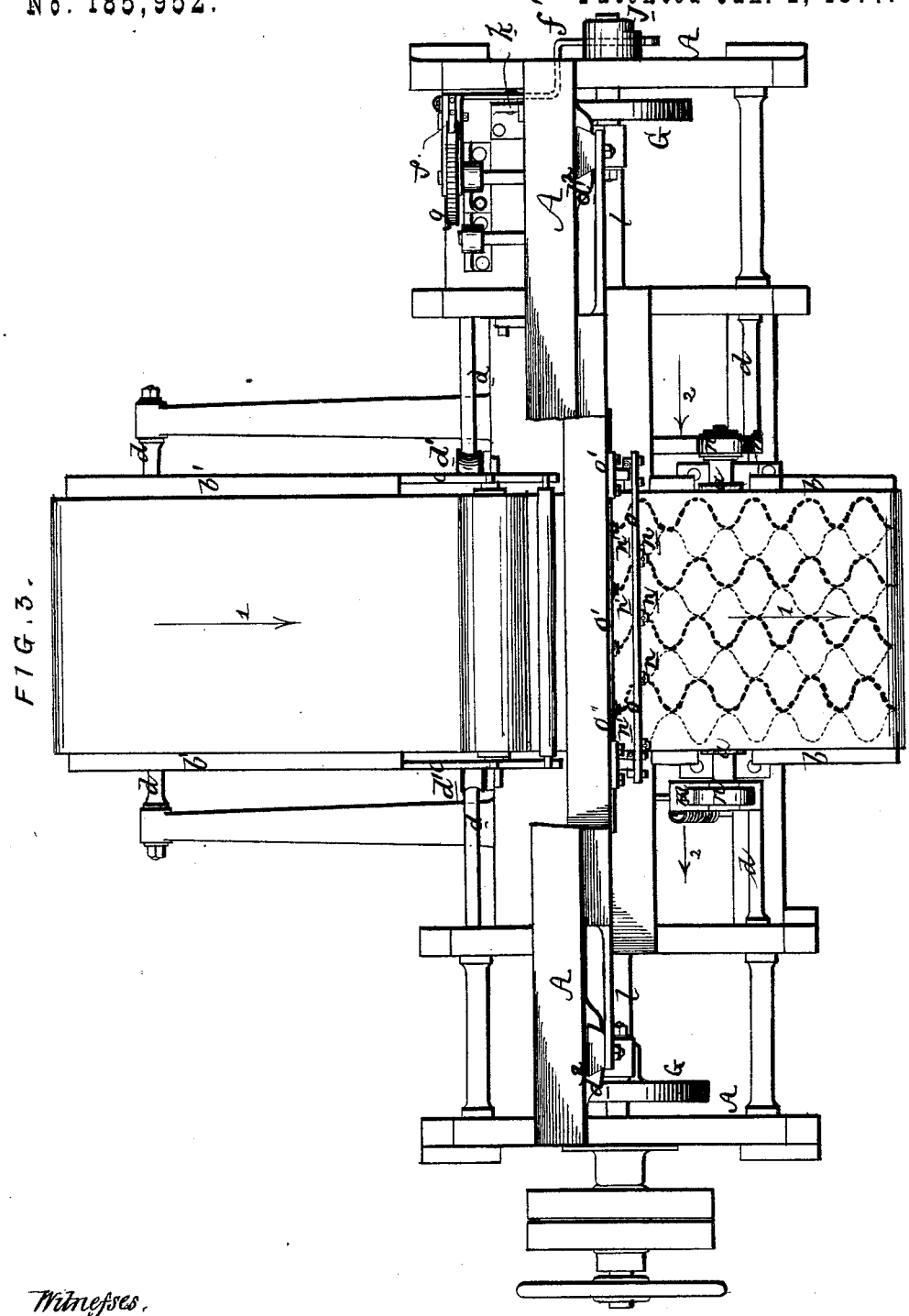

FIG. 3.

Witnesses.

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UNITED STATES PATENT OFFICE.

HENRY ORAM, OF BURY, GREAT BRITAIN.

IMPROVEMENT IN SEWING-MACHINES FOR QUILTING.

Specification forming part of Letters Patent No. **185,952**, dated January 2, 1877; application filed December 4, 1875.

To all whom it may concern:

Be it known that I, HENRY ORAM, of Bury, county of Lancaster, England, have invented certain Improvements in Sewing-Machines, of which the following is a specification:

My invention relates to that class of quilting-machines in which a number of needles on a vertically-reciprocating needle-bar are combined with feed mechanism and the usual shuttles, presser-feet, thread-guides, &c., to form rows of stitching on the fabric, these rows of stitching being formed in a waved, zigzag, or other desired pattern by the transverse reciprocation of the table, which carries the feed mechanism of the fabric.

The object of my invention is to render the motion of this reciprocating table more effective than heretofore, by means of mechanism more fully described hereafter.

In the accompanying drawing, Figure 1 is a transverse vertical section of a quilting-machine with my improvement; Fig. 2, a front view, and Fig. 3 a plan view of the machine.

In bearings in the frame A of the machine turns the driving-shaft *l*, which has the requisite fast and loose pulleys. (Shown in Figs. 2 and 3.) In guides d^2 d^2 in the upper portion of the frame slides the horizontal needle-bar D, which carries at opposite ends pins g' adapted to cam-slots in the cam-wheels G, secured to the driving-shaft, Fig. 2. By this means a vertically-reciprocating motion is imparted to the needle-bar. The thread-spools b^2, together with tension devices, are carried by a portion of the stationary frame, while the thread-guides and presser-feet are carried by the reciprocating bar D; but it has not been deemed necessary to illustrate these more fully, as they form no part of my invention.

To the bar D are secured two bars, O O′, the former of which carries a row of needles, *n*, while the bar O′ has a similar row of needles, *n′*, one row being in advance of the other a distance equal to half the length of the pattern to be formed, while the needles of one row are placed midway between the needles of the other row, as shown in Fig. 3, for a purpose described hereafter.

C is a traveling frame carrying the rolls B B′ of fabric, the tables *b* b^1, over which the fabrics pass, and the feed-roll *a*, Fig. 1. This frame has a number of friction-rollers, d^1, which run on the bars *d* of the stationary frame, and to a pendent portion of this frame is hinged the rod *e*, as shown in Fig. 2, the opposite end of this rod being connected to a crank-pin on the wheel *h*. On the shaft of this wheel *h* is an irregular gear-wheel, h^1, gearing into a corresponding wheel, h^2, on the shaft of which is a toothed ratched-wheel, *g*, (Figs. 2 and 3,) under the control of a spring-pawl, *f*, pivoted to the axis of ratchet-wheel. This pawl is operated by one end of a bent lever, *f′*, pivoted to the frame at *k*, the opposite end of the lever being under the control of the cam *j* on the driving-shaft *l*. As the shaft rotates, an intermittent rotary motion is by this means imparted to the wheel *h*, which causes the reciprocation of the frame C, carrying the cloth and feed mechanism.

This feeding device consists of a roller, *a*, projecting slightly above the surface of the table *b*, as shown in Fig. 1, and having its surface covered with cards, and to this roller an intermittent rotary motion is imparted by means of a cam, *l′*, on the driving-shaft *l*, through the medium of the arm *i* and clip *m*, acting on the friction-disk *n* on the shaft of the roller.

On reference to Fig. 3 it will be seen that while the fabric is fed in the direction of the arrows 1, an irregular reciprocating motion is imparted through the gear-wheels h^1 h^2 to the frame carrying the fabric on the line of the arrows 2. Hence each needle forms a waved line of stitching, and by having two rows of needles, arranged in respect to each other, as described above, the lines of stitching so ad just themselves as to form a complete pattern, whereas, if there was but one row of needles, the fabric would have to be passed twice through the machine before the pattern could be completed.

It will be evident that by changing the form of the gear-wheels h^1 h^2, the pattern may be altered accordingly, and that zigzag lines of stitching, resulting in a diamond pattern, will be formed when regular gear-wheels are used.

I wish it to be understood that I do not de-

sire to claim a quilting-machine having a needle-bar carrying two rows of needles, as this is old; but

I claim as my invention—

The combination, in a quilting-machine, of a reciprocating needle-bar having two rows of needles, arranged substantially as described, with the frame C carrying the fabric as it is fed, and with the wheel h, the gear-wheels h^1 h^2, and the ratchet-wheel g, operated from the driving-shaft, as set forth.

In testimony whereof I have signed to this specification in the presence of two subscribing witnesses.

HENRY ORAM.

Witnesses:

THOS. E. DAVIES,

JNO. HUGHES.