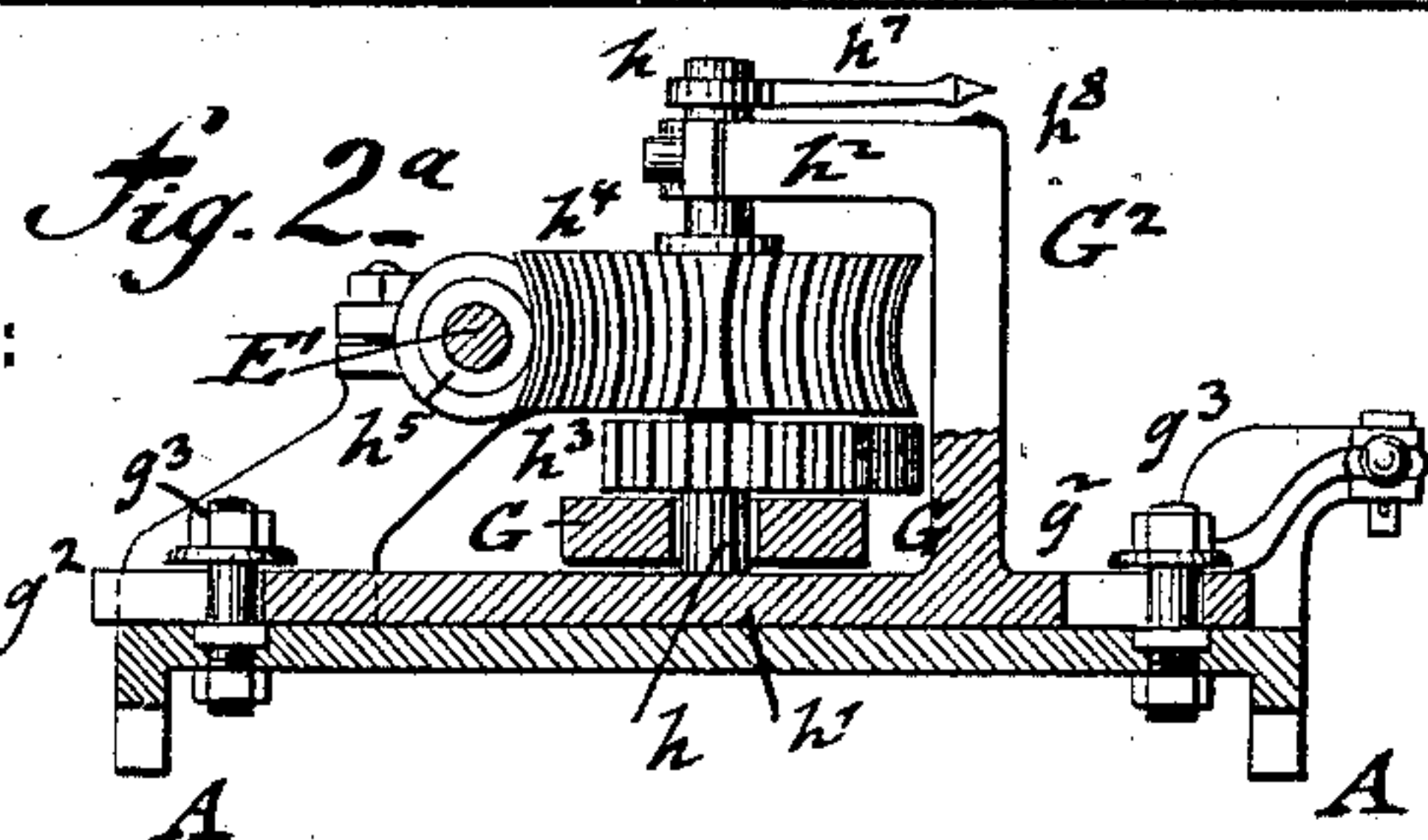
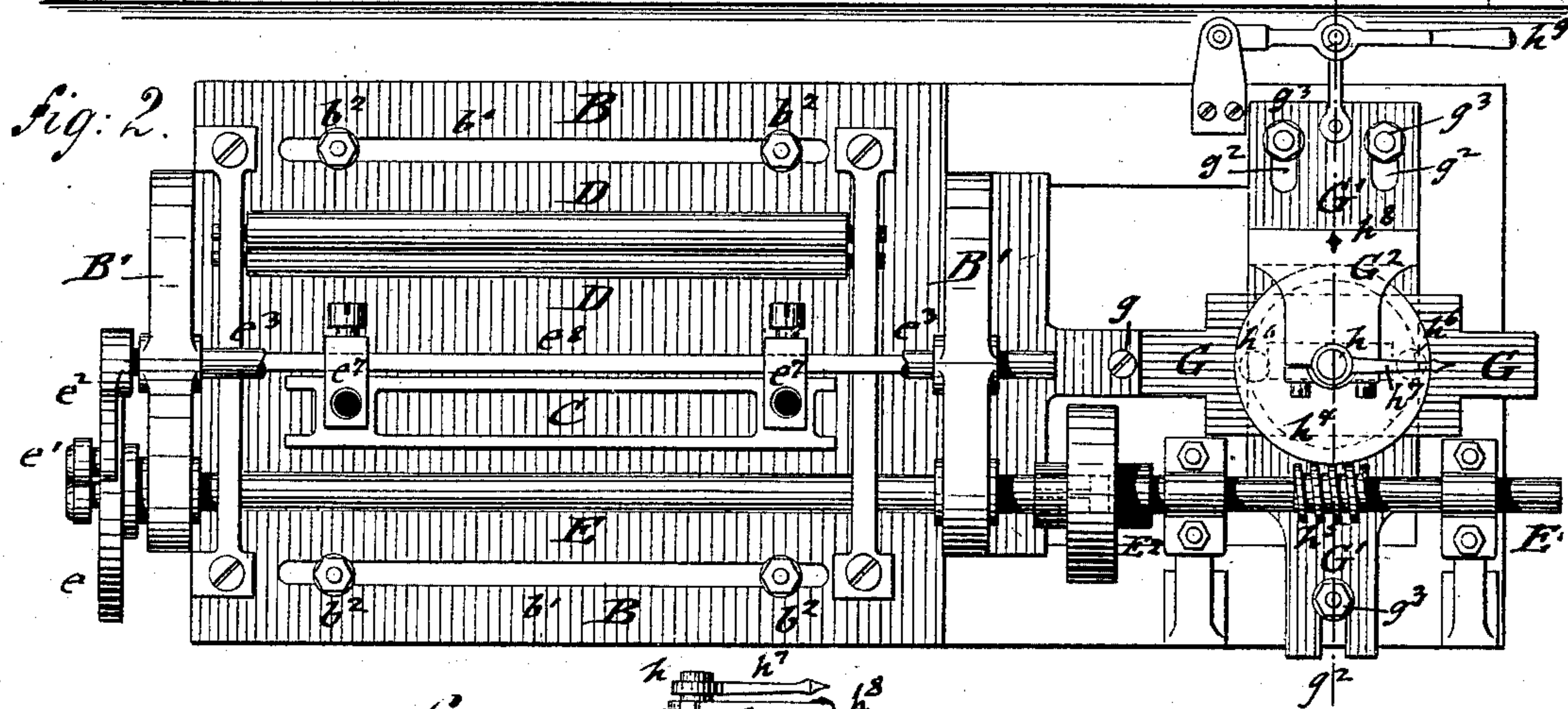


2 Sheets—Sheet 1.

QUILTING MACHINE.

No. 279,632.

Patented June 19, 1883.



WITNESSES:

A. Schehl.

Otto Risch.

INVENTOR

August Beck

BY

Paul Goepfer

ATTORNEY

(No Model.)

2 Sheets—Sheet 2.

A. BECK.

QUILTING MACHINE.

No. 279,632.

Patented June 19, 1883.

fig: 3.

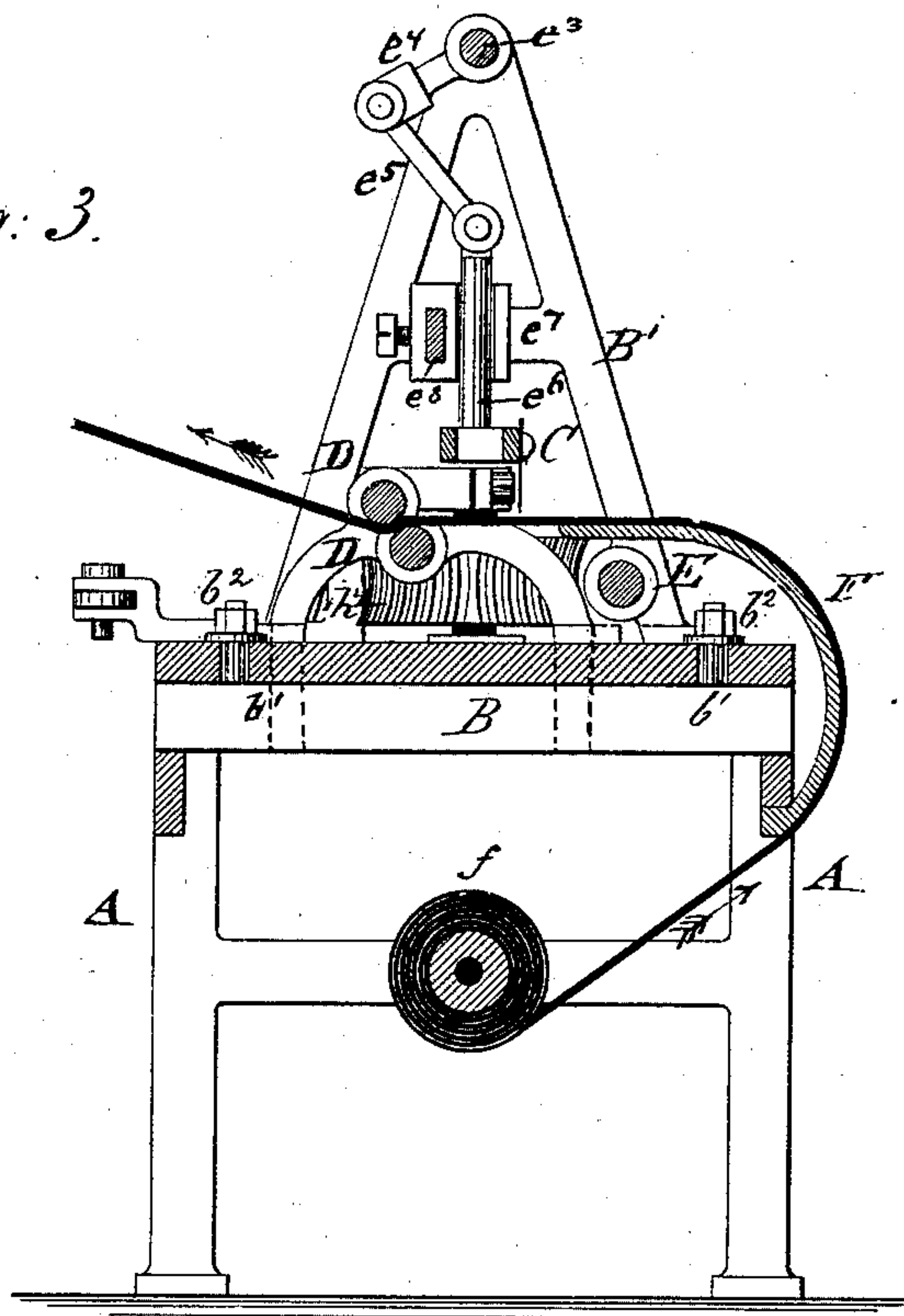


fig: 4.

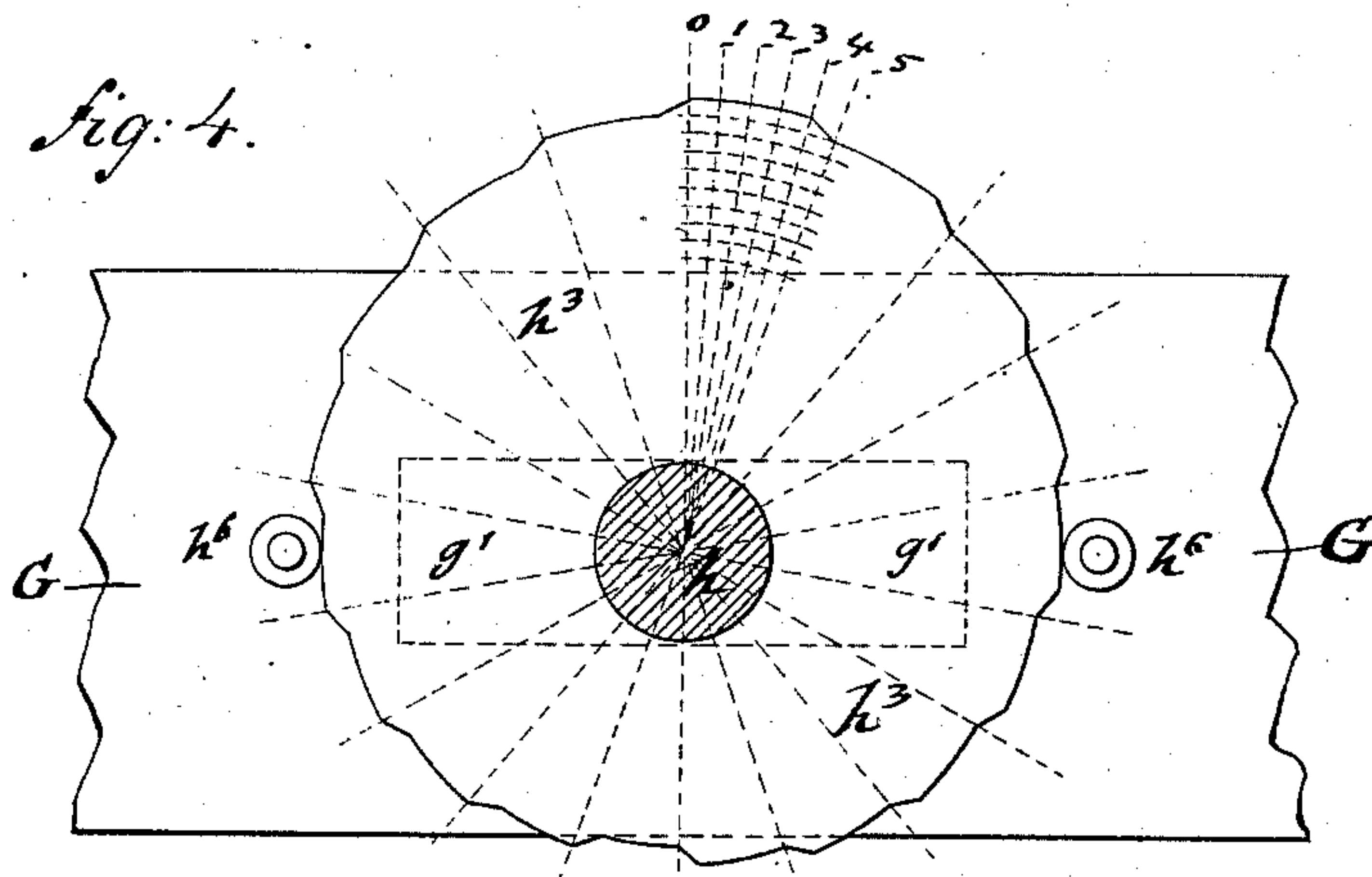


fig: 5.

WITNESSES:

A. Schenck.

Otto Risch.

Figure

Plain

Figure

BY

INVENTOR

August Beck
Russ Goepe
ATTORNEY

UNITED STATES PATENT OFFICE.

AUGUST BECK, OF NEW YORK, N. Y.

QUILTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 279,632, dated June 19, 1883.

Application filed March 19, 1883. (No model.)

To all whom it may concern:

Be it known that I, AUGUST BECK, of the city, county, and State of New York, have invented certain new and useful Improvements in Quilting-Machines, of which the following is a specification.

This invention has reference to improvements in quilting-machines of that class in which a needle-bar with a single gang of needles is employed, and in which the fabric to be quilted receives a straightforward motion alternately with a compound forward and laterally-reciprocating motion; and the invention consists of the combination, with a laterally-reciprocating carriage supporting an organized sewing mechanism, with a vertically-reciprocating needle-bar having a single gang of needles, of mechanism whereby laterally-reciprocating motion is imparted to the carriage, mechanism for throwing the latter mechanism in or out of gear with the driving-shaft, of rollers mounted on the stationary frame for moving the fragment intermittently forward, operated by any suitable mechanism, and details of construction which will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 represents a sectional front elevation of my improved quilting-machine. Fig. 2 is a plan of the same with parts broken away. Fig. 2^a is a detail vertical transverse section of the carriage-actuating mechanism on line *y y*, Fig. 2. Fig. 3 is a vertical transverse section on line *x x*, Fig. 1. Fig. 4 is a diagram plan of the cam by which laterally-reciprocating motion is imparted to the main part or carriage of the quilting-machine, and Fig. 5 shows the pattern or design to be quilted on the machine.

Similar letters of reference indicate corresponding parts.

A in the drawings represents the supporting-frame of my improved quilting-machine, which frame is made of oblong shape.

On the horizontal top part of the frame A is supported, on anti-friction rollers *b b*, a laterally-reciprocating carriage, B, upon which are supported a vertically-reciprocating needle-bar, C, and a needle-plate, with the shuttles and their actuating mechanism. The rolls D for feeding the fabric are mounted on standards shown in dotted lines, and supported by

the frame A. The shuttles and the shuttle-driving mechanisms are not shown in the drawings, as they are the same as in other quilting-machines having a needle-bar with a single gang of needles. The carriage B is guided by means of longitudinal slots *b'* on vertical guide-posts *b''* of the main frame A.

The mechanism by which vertically-reciprocating motion is imparted to the needle-bar C is actuated by the main driving-shaft E, which receives rotary motion by a belt-and-pulley transmission in the usual manner.

Any approved mechanism for imparting vertically-reciprocating motion to the needle-bar C, also any approved mechanism for imparting intermittent rotary motion to the feed-rollers D D, may be employed. The mechanism for reciprocating the needle-bar C consists of a crank-disk, *e*, at the end of the driving-shaft E, a connecting-rod, *e'*, and a crank, *e''*, at the end of a rock-shaft, *e'''*, supported in bearings at the upper ends of standards B', secured to the carriage B, the rock-shaft *e'''* being connected by fixed cranks *e''* and connecting-rods *e'''* with the fixed vertical guide-rods *e''''* of the needle-bar C, said guide-rods sliding in sleeves *e'''''* of a transverse stiffening-bar, *e''''''*, as shown clearly in Fig. 1.

The mechanism for transmitting intermittent rotary motion to the feed-rollers D is, for the sake of greater clearness, not shown in the drawings.

The shaft E is made in two sections that are connected by a suitable coupling and sleeve, *E'*, at one side of the carriage B, said coupling being so arranged that that section of the shaft E above the carriage B is capable of a short reciprocatory motion in said coupling-sleeve, so as to follow the lateral motion of the carriage.

The fabric to be quilted is wound up upon a roller, *f*, that is supported at the lower part of the main frame A. The fabric is then conducted over a fixed convexly-curved guide or covering plate, F, and below the needle-bar C to the feed-rollers D, as shown clearly in Fig. 3.

For producing reciprocating motions there is arranged at one end of the machine an auxiliary guide-plate, G, which is pivoted at *g* to the reciprocating carriage B. Through a lon-

longitudinal center slot, g' , of the guide-plate G (see Fig. 4) passes a vertical shaft, h , that turns in suitable step-bearings, h' , of a transverse base-plate, G' , that is guided by slots g^2 on fixed studs g^3 of frame A, below plate G, and in neck-bearings h^2 of a bracket-plate, G^2 , attached to the base-plate G' . The shaft h carries an eccentric pattern-cam, h^3 , of special construction, which cam is shown in detail in Fig. 4, and above the same a worm-wheel, h^4 , which latter meshes with a worm, h^5 , on that section E' of the driving-shaft E that does not participate in the laterally-reciprocating motion that is imparted to the carriage B of the sewing mechanism. The circumference of the eccentric cam h^3 is divided into as many equal parts as there are stitches to be made in each individual zigzag, diamond, wave-line, or other figure, the cam being for this purpose of symmetrical shape, so that one half of the cam makes the stitches of one half of the figure, the other half of the cam the stitches of the other half of the individual figure. Each of the parts into which the circumference of the cam is divided is again divided into five parts, four of which form arcs concentric to the axis of the cam, while the fifth part is arranged at an outward angle thereto, and connects the concentric arc of one part with the arc-shaped portion of the next adjoining section of the cam, as shown clearly in Fig. 4. The cam h^3 engages anti-friction rollers h^6 , which are arranged equidistantly from the shaft h on the pivoted guide-plate G, so as to impart thereby, by the action of the cam, reciprocating motion in one or the opposite direction to the carriage B, on which the sewing mechanism is supported. The laterally-reciprocating motion of the carriage B, however, only takes place when the worm-wheel h^4 is in mesh with the worm h^5 on the driving-shaft E' . Whenever the worm and worm-wheel are thrown out of engagement with each other, the reciprocating motion is interrupted and the carriage stopped. This is accomplished at the pleasure of the operator by means of a hand-lever, h^9 , connected to the base-plate G' , which lever moves the base-plate G' as far as its guide-slots g^2 permit. The worm-wheel h^4 is thereby thrown out of gear with the worm h^5 , the laterally-reciprocating motion that is imparted by the cam to the carriage of the sewing mechanism interrupted, and thereby the quilting of the fabric changed back again from figured stitches to straight parallel lines of stitches, as shown in Fig. 5.

The mechanism for throwing the worm-gear in or out of mesh with the worm is operated by hand, the pointer h^7 on the upright shaft h indicating, by the number of its revolutions, the number of individual figures, whether they

be zigzag, diamond, waves, &c., that have been quilted on the machine. By properly counting these revolutions the attendant is enabled to throw the intermeshing worm and worm-gear at the proper moment in or out of gear, so as to cause the quilting of the fabric in alternating straight and in figured lines, as required by the pattern to be produced. If it be desired not to leave this to the attendant, a special mechanism may be provided, by which this work is performed automatically by the action of the machine, which mechanism, however, is not shown in the drawings.

By my improved quilting-machine, skirts or other fabrics can be quilted with a continuous line of stitches that alternate with figured stitches at the proper points. Fabrics so quilted have the advantage that they present a neater and more finished appearance than fabrics that are quilted in the same figure over a part or the entire body of the fabric.

I have made a special application for Letters Patent for a design for skirts and other garments quilted in this manner, which has been filed at or about same date herewith, and to which reference is made.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of the supporting-frame A, having rollers b , a laterally-guided carriage, B, carrying a series of organized sewing mechanisms, a guide-plate, G, having rollers h^6 , a transversely-guided plate, G' , carrying a bracket, G^2 , a vertical shaft, h , eccentric pattern-cam h^3 , transmitting worm-gear h^4 , and a lever mechanism for shifting the transverse plate G' and throwing the transmitting worm-wheel in or out of mesh with the worm on the driving-shaft E' , substantially as specified.
2. In a quilting-machine, the combination, with a laterally-guided carriage, B, supporting a series of organized sewing mechanisms, of a centrally-slotted guide-plate, G, pivoted to the carriage B, said guide-plate having anti-friction-rollers h^6 , a transversely guided plate, G' , having a bracket, G^2 , a vertical shaft, h , having a pointer, h^7 , and turning in bearings of plate G' and bracket G^2 , eccentric pattern-cam h^3 , engaging rollers h^6 , gear-wheel h^4 , worm-wheel h^5 , and lever mechanism for shifting the transverse plate G' , substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

AUGUST BECK.

Witnesses:

CARL KARP,
 SIDNEY MANN.