

(No Model.)

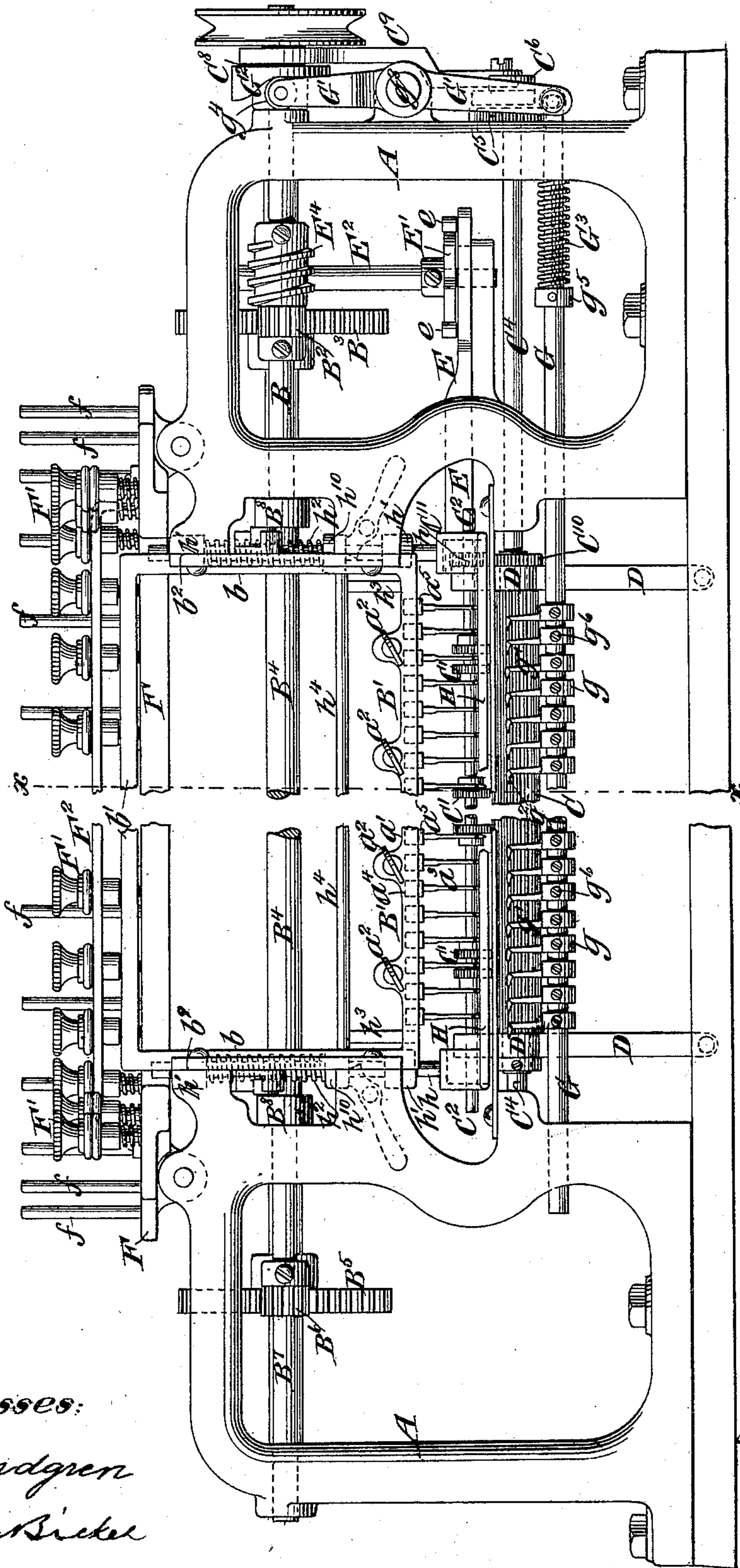
3 Sheets—Sheet 1.

A. FAULKNER.
QUILTING MACHINE.

No. 405,403.

Patented June 18, 1889.

Fig. 1



Witnesses:

Olundgren
Lundbeck

Inventor:
A. Faulkner
By attorney
Brown & Gilwell

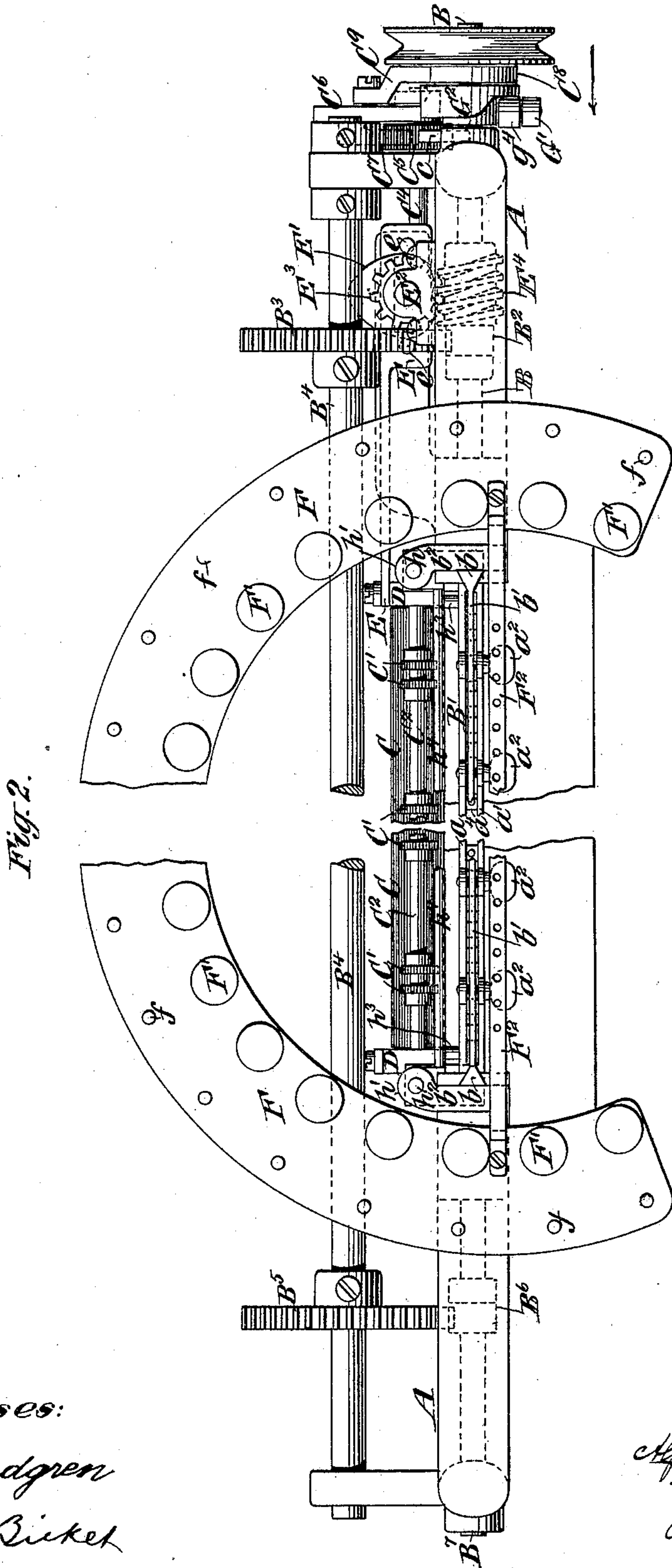
(No Model.)

3 Sheets—Sheet 2.

A. FAULKNER.
QUILTING MACHINE.

No. 405,403.

Patented June 18, 1889.



Witnesses:

O Sundgren
John Bicket

Inventor:

Alfred Faulkner
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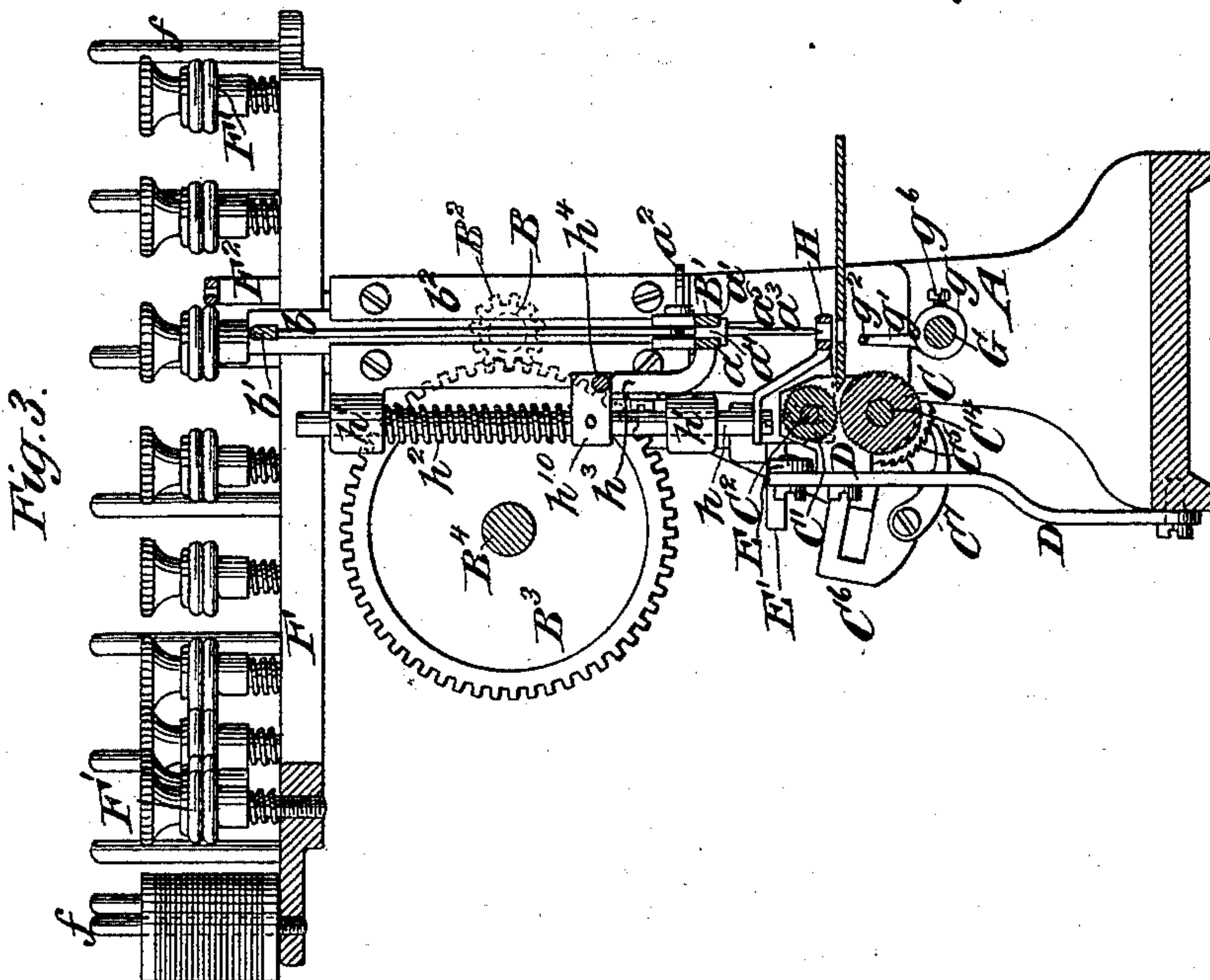
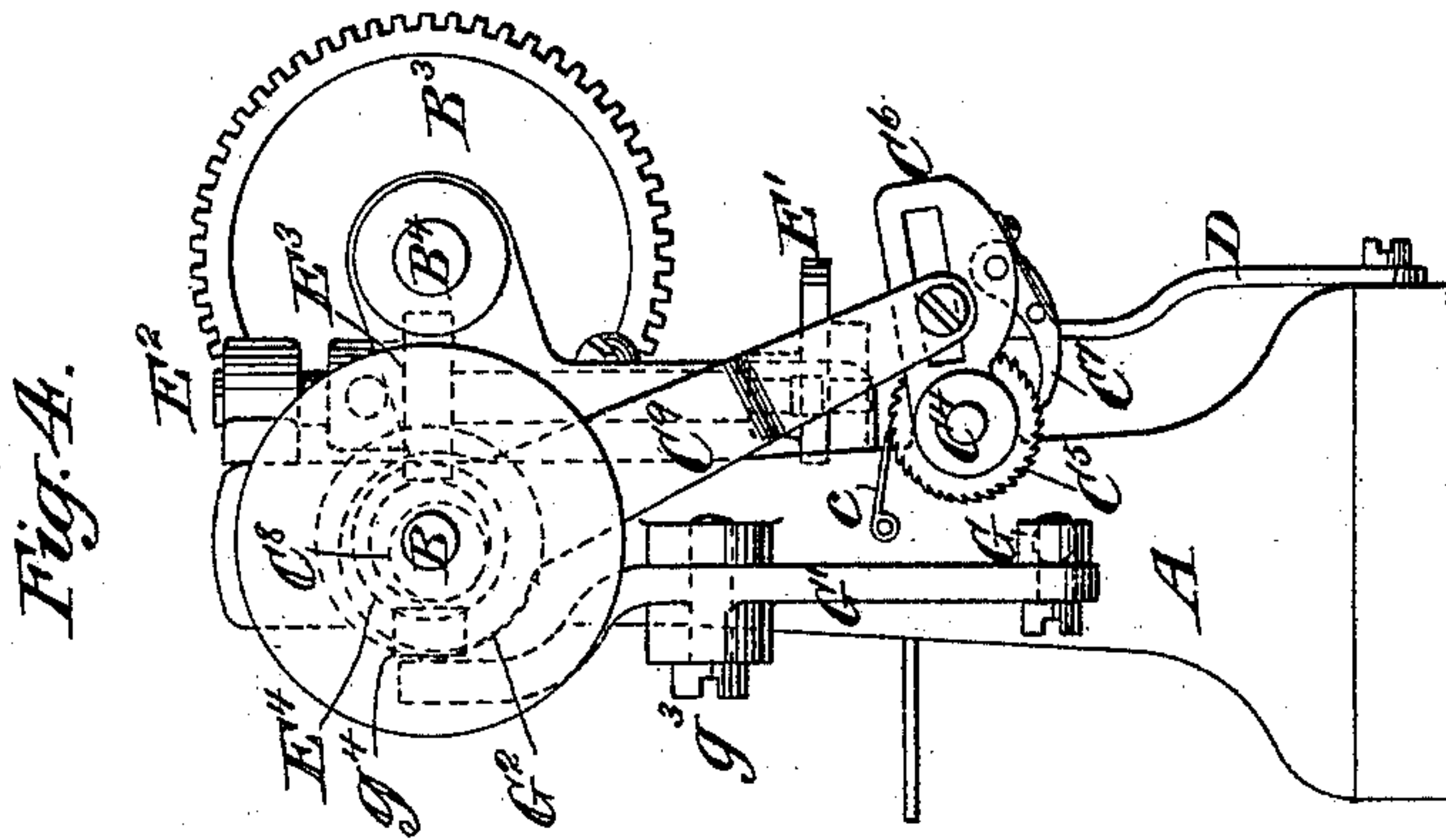
(No Model.)

3 Sheets—Sheet 3.

A. FAULKNER.
QUILTING MACHINE.

No. 405,403.

Patented June 18, 1889.



Witnesses:

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Schubert

Inventor:
Alfred Faulkner
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UNITED STATES PATENT OFFICE.

ALFRED FAULKNER, OF BROOKLYN, ASSIGNOR TO ELI W. BROADBENT, OF
NEW YORK, N. Y.

QUILTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 405,403, dated June 18, 1889.

Application filed February 21, 1889. Serial No. 300,660. (No model.)

To all whom it may concern:

Be it known that I, ALFRED FAULKNER, of Brooklyn, in the county of Kings and State of New York, have invented a certain new and useful Improvement in Quilting-Machines, of which the following is a specification.

I will describe my improvement in detail, and then point out the novel features in claims.

In the accompanying drawings, Figure 1 is a front elevation of a quilting-machine embodying my improvement. Fig. 2 is a plan or top view of the same. Fig. 3 is a vertical section taken on the line $x x$, Fig. 1. Fig. 4 is an end view looking in the direction of the arrow, Fig. 2. Fig. 5 is a plan of one of certain loopers employed.

Similar letters of reference designate corresponding parts in all the figures.

A designates a main frame of the machine. I have shown the same as broken away in order to save space.

B designates a main shaft, from which the various parts of the machine are driven.

B' designates a needle-bar. This needle-bar is composed of sections $a a'$, extending parallel to each other. These sections are secured together by means of clamping-screws a^2 . Between the sections of the needle-bar needles a^3 are secured. These needles are of peculiar construction, as seen more clearly in Fig. 3. Each has a top portion a^4 , which is, as shown, rectangular. Below this top portion the same is provided with horizontally-extending flanges a^5 . When the needle is in position, the flanges a^5 extend beneath the sections $a a'$ of the needle-bar at approximate right angles to the length of the bar, and serve to maintain the needles in a true vertical position. The needles may also be adjusted on the needle-bar relatively to each other in the direction of the length of the bar. The needle-bar is mounted upon a frame comprising uprights b and a cross-bar b' , said frame sliding in vertical guideways b^2 .

Upon the main shaft B is mounted a gear-wheel B^2 , which gear-wheel meshes with a gear-wheel B^3 upon a shaft B^4 , extending lengthwise of the machine and upon the rear thereof. Upon the shaft B^4 is another gear-

wheel B^5 , which meshes with a gear-wheel B^6 , mounted upon a shaft B^7 , journaled in the main frame and extending approximately parallel with the shaft B^4 . Upon the inner ends of the shafts $B B^7$ are cranks B^8 , which cranks engage suitably-formed sockets or rests in the uprights b of the needle-bar frame. When the shafts $B B^7$ are rotated, vertical reciprocating motion will therefore be imparted to the needle.

C C' designate feed-rollers for the material to be quilted. The roller C is arranged beneath the roller C', and is, as shown, continuous. It is journaled at its ends in rocking supports D, which rocking supports are pivoted upon the base of the machine. The rollers C' are rigidly mounted upon a shaft C², which shaft is also secured near its ends upon the rocking support D. When a longitudinal to-and-fro movement is imparted to the rollers C C', the material passing between them will be moved from side to side, so that the needles will form rows of zigzag stitching upon the material. The roller C has extending through it and loosely secured thereto a shaft C⁴, which shaft is journaled in suitable bearings in the frame. Said roller may both slide upon the shaft and revolve therewith. Near its outer end or in that portion which is beyond the frame said shaft bears a ratchet-wheel C⁵.

Loosely hung upon the shaft C⁴ is a pawl-carrier C⁶, which pawl-carrier carries a spring-actuated pawl C⁷, adapted to act upon the ratchet-wheel C⁵ in order to rotate the latter and the shaft C⁴. Upon the main shaft B is an eccentric C⁸, from which extends an eccentric-rod C⁹, having a pivotal and slotted connection with the pawl-carrier C⁶. As the shaft B is rotated, the eccentric-rod C⁹ will be moved longitudinally, thus causing a rocking movement of the pawl-carrier C⁶, by which the ratchet-wheel C⁵ will be rotated, and by means of the slotted connection between the eccentric-rod C⁹ and the pawl-carrier C⁶ variations in the throw of the pawl-carrier may be obtained, whereby the speed with which the material will be fed between the rollers C C' may be varied at pleasure.

I have shown a stop-pawl c mounted upon the frame A and engaging the ratchet-wheel

C⁵ in a well-known manner. The shaft C⁴ has mounted upon it a gear-wheel C¹⁰, which meshes with a gear-wheel C¹¹ upon the shaft C², upon which the feed-rollers C' are mounted. Rotary motion is therefore imparted from the shaft C⁴ to the shaft C², and the feed-rollers rotate in unison.

Side-to-side movement of the feed-rollers is accomplished by means of a bar E, connected near one end with one of the rocking supports D. Near its other end said bar bears upwardly-extending rollers *e*. Between these rollers is arranged a cam E', here shown as a heart-cam. Said cam is mounted upon a shaft E², journaled in bearings on the main frame. Upon said shaft is mounted a worm-wheel E³, which worm-wheel engages a worm E⁴ upon the main shaft B of the machine. When the shaft E² is rotated, the cam E', by means of its contact with the rollers *e* and its conformation, will cause a to-and-fro movement of the bar E, and consequently a to-and-fro movement of the feed-rollers C C'. Upon the upper side of the frame A is mounted a frame F, upon which are arranged a number of spindles *f* for receiving spools of thread. The threads from the spindles *f* pass through tension devices F', which may be of ordinary construction, thence through suitable apertures in a guide-plate F², and from thence to the needles.

I will now describe the means by which the loop is formed upon the under side of the material being quilted, prefacing the description by the remark that this machine is one adapted for a single thread, no shuttle being employed.

G designates a bar adapted to be slid to and fro in suitable bearings upon the main frame A. Upon this shaft are mounted any desired number of loopers *g*, each of which loopers coacts with a needle to perfect the stitch. The form of these loopers is peculiar. They comprise upright portions *g*' and hook portions *g*², which hook portions extend approximately parallel with the axis of the bar G, so that no rocking motion is necessary in the loopers, all the movement they receive being a bodily movement in the direction in the length of the machine due to the reciprocation of the bar G.

Reciprocating motion is imparted to the bar G in one direction by means of a lever G', fulcrumed upon a stud *g*³, mounted on a projection extending from the frame A. The lower end of the lever G' is pivotally connected to the rod G. The upper end thereof bears a roller or bowl *g*⁴, which roller or bowl bears upon the face of a cam G², rigidly mounted upon the shaft B. As the shaft B is rotated, a rocking motion is imparted to the lever G', which rocking motion moves the bar

G longitudinally in one direction, carrying with it all the loopers *g*. Longitudinal movement is imparted to the rod G in the other direction, as here shown, by means of a coil-spring G³, surrounding the bar G, and bearing at one of its ends against a portion of the frame A and at the other end against a collar *g*⁵, secured upon the bar G.

It will be observed that the loopers *g* are adjustably secured upon the bar G, each being secured thereto by means of a clamping-screw *g*⁶. By this means the loopers may be adjusted upon the bar into any desired position in which they will co-operate accurately with their respective needles.

I have shown a presser-bar H, which presser-bar is mounted upon uprights *h*, adapted to slide in slideways *h*', which form part of the slideways *b*². Collars *h*¹⁰ surround the bars *h*', and are connected with a cross-bar *h*⁴. Between the collars *h*¹⁰ and the bearings *h*' are arranged coil-springs *h*², tending to hold said presser-bar against the material being quilted. Upon the needle-bar B' are arms *h*³, which arms extend into such position that when the needle-bar is raised they will contact with the cross-bar *h*⁴, and so elevate the presser-bar to admit of the forward feed of the material.

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

1. In a quilting-machine, the combination, with a needle-bar composed of parallel sections, of needles having heads arranged between said sections, said heads being provided with flanges extending beneath the sections of the needle-bar and at right angles to the direction of the length thereof, and clamping devices for securing said sections together, substantially as specified.

2. In a quilting-machine, the combination, with a needle-bar, of a number of needles secured thereon and capable of adjustment in the direction of the length of the bar, a number of loopers, a bar upon which said loopers are adjustably secured, so as to be adjustable in the direction of the length of the bar, and mechanism for imparting a longitudinal reciprocation to said bar, substantially as specified.

3. In a quilting-machine, the combination, with reciprocating needles, of a non-rotary looper-bar, a number of loopers arranged on said bar, all of said loopers having hooks extending approximately parallel with the axis of said bar, and mechanism for imparting a longitudinal movement to said bar, substantially as specified.

ALFRED FAULKNER.

Witnesses:

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ARTHUR H. GAMBLIN.