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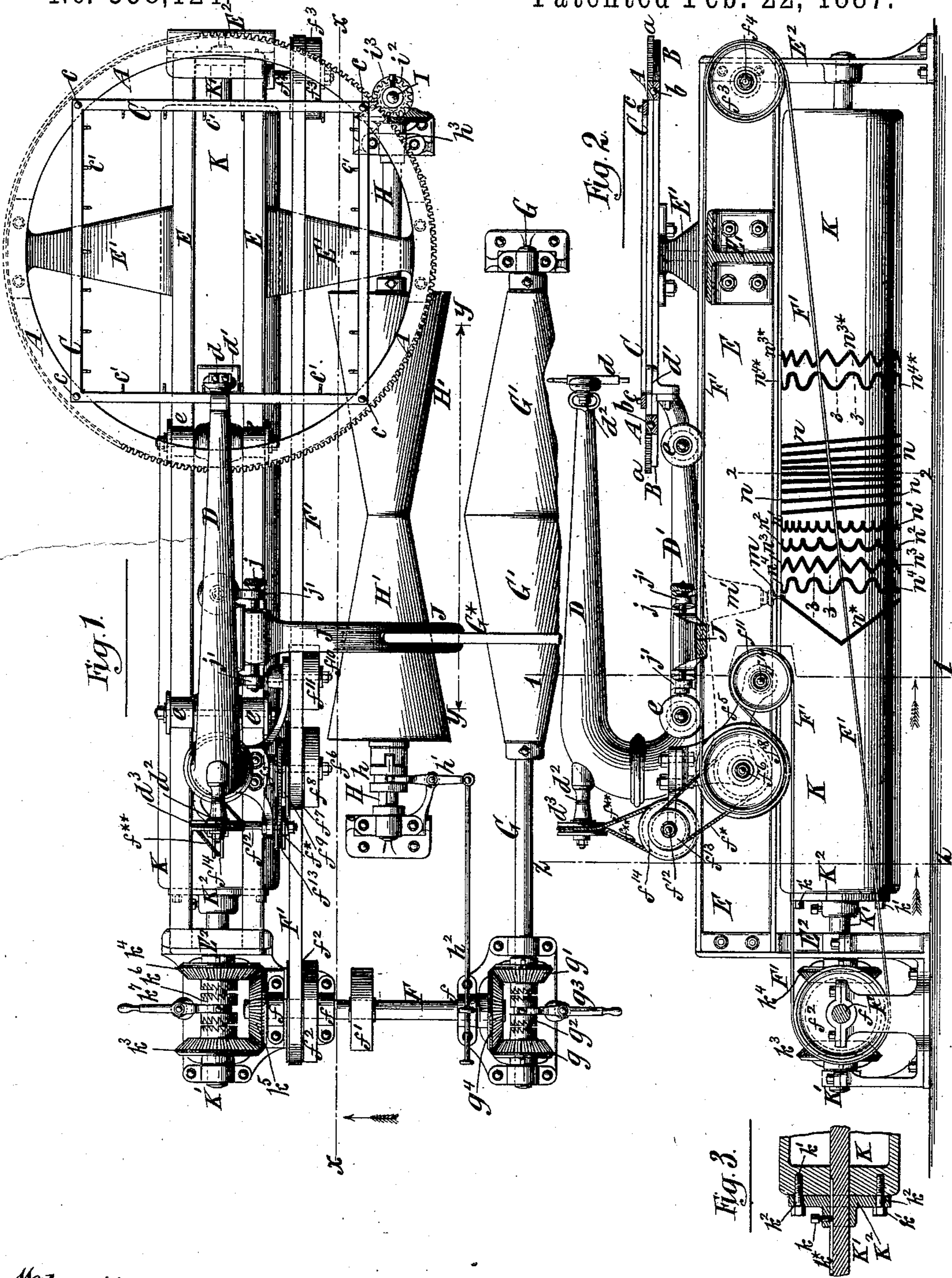
3 Sheets—Sheet 1.

F. L. PALMER.

MACHINE FOR SEWING AND QUILTING FABRICS.

No. 358,124

Patented Feb. 22, 1887.



Witnesses:

Louis M. F. Whitehead.

C. Sundgren

Inventor:

Frank L. Palmer
by his Attorneys:
Brown & Hall

(No Model.)

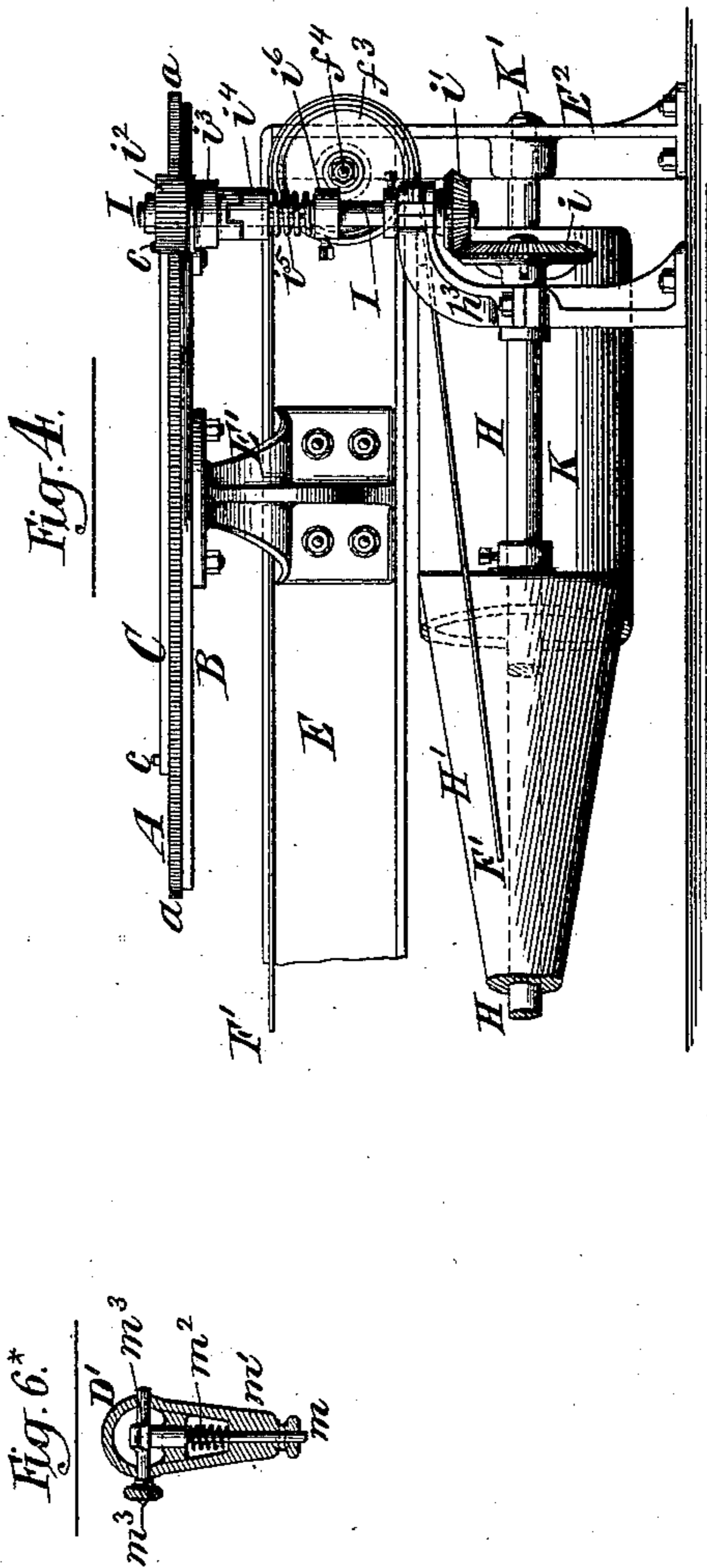
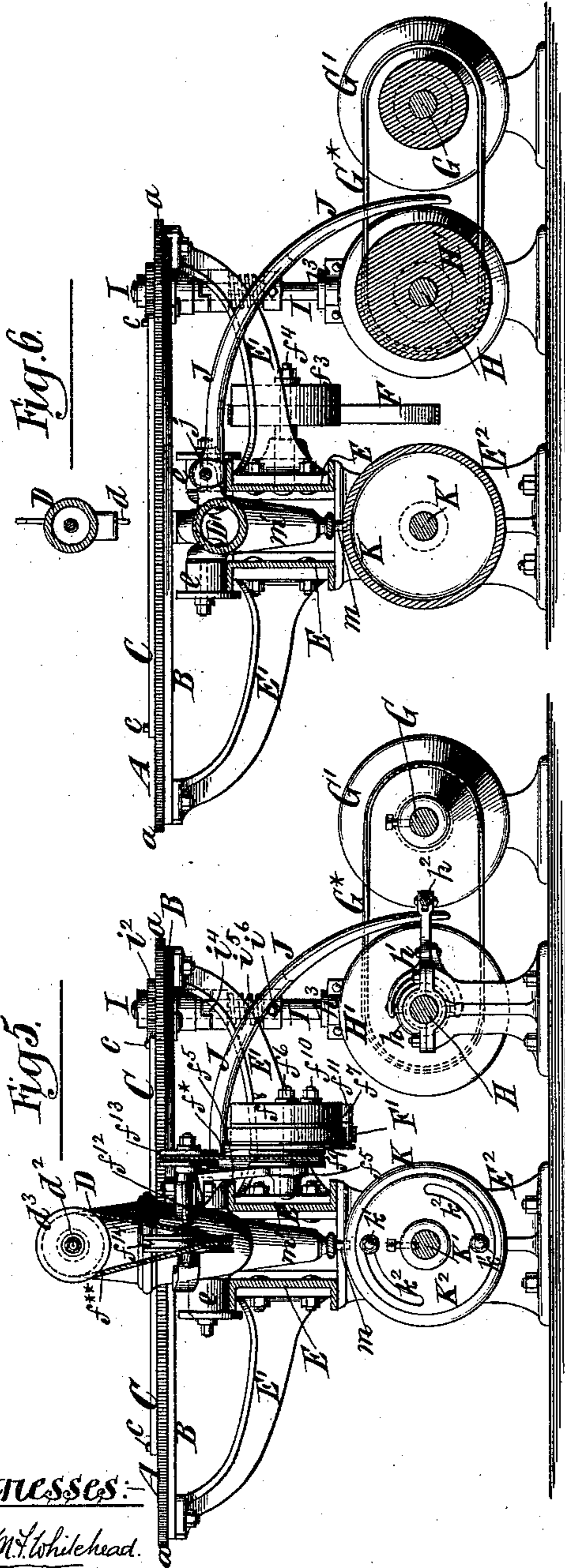
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Fig. 7.

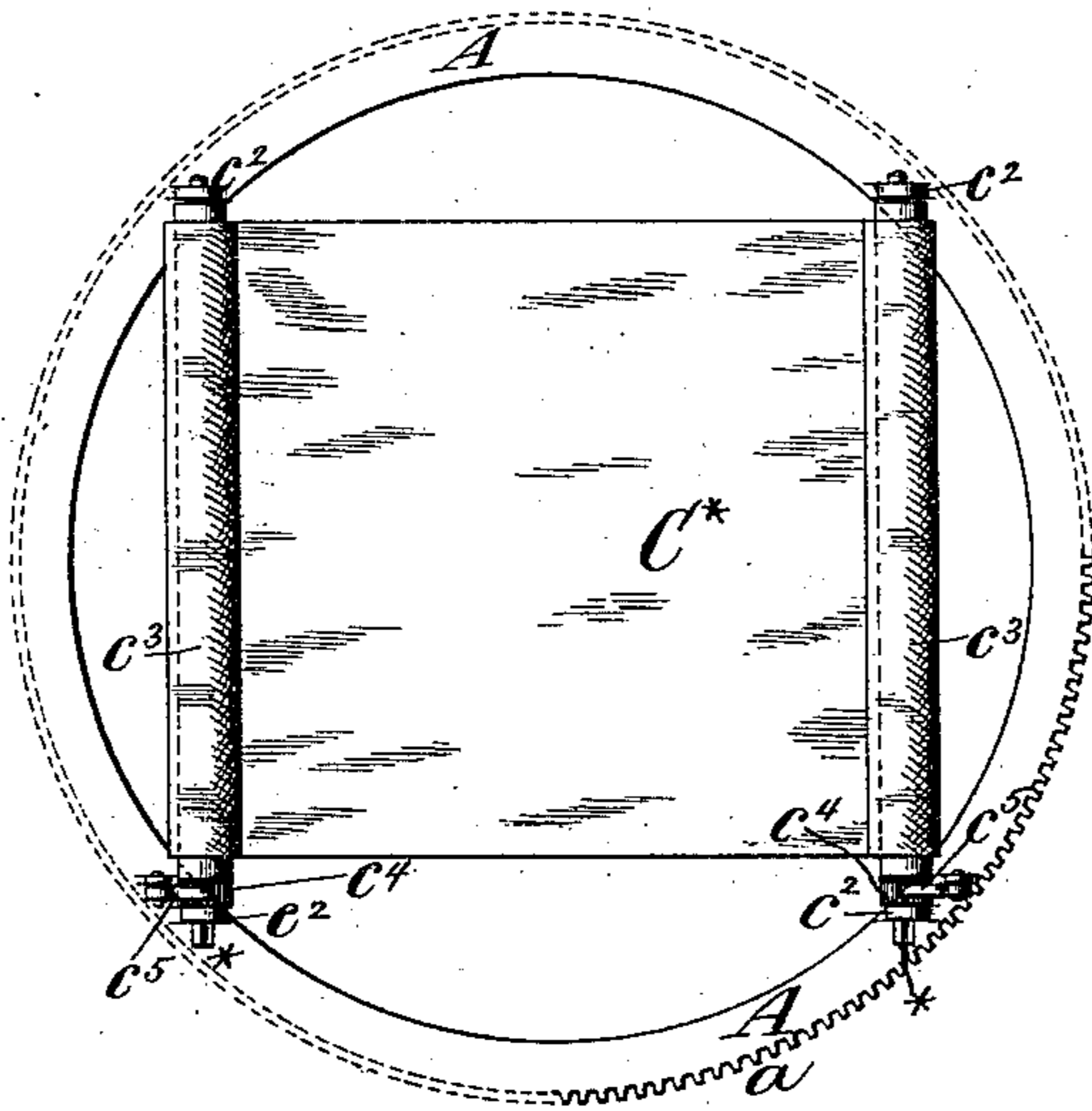
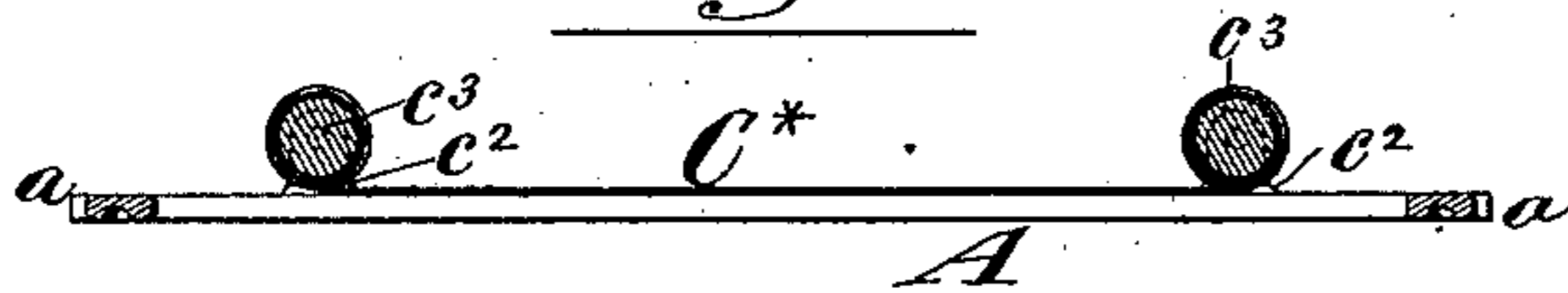


Fig. 8.



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UNITED STATES PATENT OFFICE.

FRANK L. PALMER, OF NEW LONDON, ASSIGNOR TO HIMSELF, AND ELISHA L. PALMER, GEORGE S. PALMER, AND EDWARD A. PALMER, ALL OF MONTVILLE, CONNECTICUT.

MACHINE FOR SEWING AND QUILTING FABRICS.

SPECIFICATION forming part of Letters Patent No. 358,124, dated February 22, 1887.

Application filed April 28, 1884. Serial No. 129,505. (No model.)

To all whom it may concern:

Be it known that I, FRANK L. PALMER, of the city of New London, in the county of New London and State of Connecticut, have invented a new and useful Improvement in Machines for Sewing and Quilting Fabrics, of which the following is a specification.

My invention more particularly relates to machines for quilting large fabrics of definite size—such, for example, as bed-comfortables—and producing thereon a pattern or design complete as to such a fabric and of a configuration appropriate to the shape thereof.

My invention consists in novel combinations of parts hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan of a machine embodying my invention. Fig. 2 is a vertical section on the dotted line *xx*, Fig. 1. Fig. 3 is a detail sectional view, hereinafter described. Fig. 4 is a side elevation, partly in section, of a portion of the machine, on the dotted line *yy*, Fig. 1. Figs. 5 and 6 are vertical sections taken, respectively, on the planes of the dotted lines *zz* and *11*, Fig. 2, looking in the direction indicated by the arrows thereon. Fig. 6* is a detail sectional view, hereinafter described; and Figs. 7 and 8 are respectively a plan and sectional view of a rotary fabric-carriage provided with rollers for sustaining a fabric and holding it under tension or extended.

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

A designates the rotary fabric carriage or carrier, which consists, as here shown, of a ring the periphery of which is toothed to form a gear, *a*, and which is supported by a lower ring or circular track, B. In the bearing-surfaces of these two rings are annular grooves, wherein are or may be arranged small balls or spheres *b*, which constitute anti-friction rollers and allow the upper ring or carriage, A, to turn with but little friction on the lower ring or bed-ring, B. These rollers are shown in Fig. 2. The carriage A constitutes, or has attached to it, a fabric-support or fabric-supports whereby a quilt or other fabric may be held extended or stretched, in which condition

it is carried round or rotated by the turning of the carriage A. As shown in all figures, except 7 and 8, the carriage supports a fabric-frame, C, which has holes at the corners adapted to fit pins *c* on the carriage, and which may also be provided with pins or tenter-hooks *c'*, (shown in Fig. 1,) on which a fabric may be held. The fabric is not shown in Fig. 1, as it would hide the parts below. When the frame C is attached to the carriage, as shown, it is obvious that any one of a number of frames may be thus removably held in place for operation and readily removed when the quilting of the fabric held by it is completed. The change of one frame and a quilted fabric for another frame and an unquilted fabric will consume but very little time, and will only necessitate a short stoppage of the machine.

In lieu of employing fabric-frames like the frame C, I may provide the carriage A with rollers, to which opposite edges of the fabric are to be secured, and which may be turned to put tension on or extend the fabric. Such an arrangement is shown in Figs. 7 and 8, to which I now refer.

The carriage A, in lieu of being provided with pins, has upon it bearings *c²*, wherein are mounted two rollers, *c³*. Each roller is provided with a ratchet-wheel, *c⁴*, with which engages a pawl, *c⁵*, and the end * of each roller-shaft is squared or otherwise so formed that a crank or key may be applied for turning it.

The two opposite edges of the fabric C* are attached by tenter-pins or otherwise to the two rollers *c³*, and by turning said rollers in opposite directions the fabric will be stretched or extended and there held by the engagement of the pawls *c⁵* with the ratchet-wheels *c⁴*. These rollers may be employed to hold a surplus of fabric to be passed from one to the other. The sewing-machine shown comprises an upper arm, D, carrying the needle-bar *d*, and a lower arm, D', carrying a work-plate or table, *d'*.

The needle-bar *d* is operated by a shaft, *d²*, and in the work plate or table *d'* is arranged a shuttle, looper, or other stitch-forming device, which I have not shown, as it forms no part of my invention.

The fabric to be operated on is stretched or extended on the fabric-frame or fabric-carrier in a plane perpendicular to the needle of the sewing-machine, and the axis of rotation of the carrier is parallel with the needle. The fabric-carrier and fabric are rotated between the upper and lower arms of the machine.

E E designate two channel-beams supported side by side in a horizontal position and forming, in this example of my invention, the support for the sewing-machine and also the base-ring B, on which turns the rotary carriage A. The base-ring is supported directly by brackets or arms E', securely bolted to and projecting in opposite directions from the horizontal beams E E. The beams E E are themselves supported at opposite ends by end frames, E'', which may be of any suitable form.

The fabric-carrier A may be rotated by any suitable means, even by mechanism operated by a hand-crank, if desired; and it will be obvious from the above description that if the carrier is rotated while the sewing-machine remains stationary and is operated the needle will produce a circular figure upon the fabric, the diameter of the circle being proportionate to the distance of the needle from the center of rotation. It will also be further understood that if the machine be moved laterally toward and from the center of the fabric during the rotation of the carrier A' a circular figure of irregular outline will be produced on the fabric, and if the stitches are to be of uniform length the speed of rotation of the carrier A must be increased and decreased inversely as the distance of the needle from the center of the fabric-carrier is increased or decreased, the necessity of this variation of speed being apparent whether the machine is set with its needle at different distances from the center of the fabric and then operated to produce circular figures of regular outline, or whether the distance between the needle and the center of the fabric is varied during the rotation of the latter to produce circular figures of zigzag or other ornamental and irregular outline.

The machine here shown is mounted upon or provided with rollers e, which run upon the beams E E and constitute a carriage having a lateral movement relatively to the rotary movement of the carriage A, to vary the distance between the needle and the center of the fabric. This lateral movement relatively to the fabric-carrier is produced by the rectilinear reciprocation of the sewing-machine and its supporting-carriage, consisting of the rollers e and their axles.

I will now describe how, in this example of my invention, motion is imparted to the needle-operating shaft d^2 in whatever position the sewing-machine may be, and how the fabric-carrier A is rotated in either direction and at variable speeds to produce a uniform length of stitch, no matter at what distance from its center the needle of the sewing-machine is operating.

F designates a driving-shaft supported in stationary bearings f, and having a pulley, f^1 , for a driving-belt. (Not here shown.) Upon the shaft F is a pulley, f^2 , and upon the beam E, near the end thereof, and in vertical alignment with the pulley f^2 , is a wide idler-pulley, f^3 , capable of rotation on a stud, f^4 . The distance between the shaft F and the idler-pulley f^3 is invariable; except the stud f^4 , supporting the latter, may, if desired, be moved slightly to take up slack in an endless belt, F', which passes around the pulleys $f^2 f^3$. This adjustment I have not shown and do not claim.

To one side of the sewing-machine is securely fastened a bracket or frame, f^5 , which depends therefrom on the outer side of one of the beams E, and on a stud, f^6 , fixed in said frame, are loosely fitted pulleys $f^7 f^8$ and a pulley, f^9 , rigidly secured to or formed with the pulley f^7 . In the frame or bracket f^5 is also fixed a second stud, f^{10} , on which is loosely mounted an idler-pulley, f^{11} . The course of the belt F' is best shown in Fig. 2, and there it will be seen that the said belt partly encircles the pulleys $f^7 f^{11}$, and thus imparts rotary motion to the pulley f^9 . When the belt F' is shifted upon the pulley f^8 , the latter runs idly without imparting any motion to the pulley f^9 . All the pulleys $f^7 f^8 f^9 f^{11}$ move to and fro with the sewing-machine, and therefore an equal tension of the belt is maintained, and the belt operates equally well whether the machine is operating near to or at a distance from the center of the fabric on either side of said center.

In rear of the sewing-machine and in bearings supported therefrom is a cross-shaft, f^{12} , carrying pulleys $f^{13} f^{14}$. Through the pulley f^{13} and a belt, f^{15} , the pulley f^9 , when rotated, transmits rotary motion to the cross shaft f^{12} and through a quarter-twist belt, f^{16} , and a pulley, d^1 , on the needle-operating shaft d^2 the cross-shaft f^{12} transmits its rotary motion to the said needle-operating shaft d^2 , and so operates the needle-bar d . When the belt F' is shifted onto the pulley f^8 , the needle is not operated.

G H designate two parallel shafts. (Here shown as arranged at the side of the sewing-machine.) The shaft G carries loose upon it reversely set bevel-wheels, $g g'$ and a clutch-piece, g^2 , which, by a lever, g^3 , may be shifted into engagement with corresponding clutch-pieces on the wheels $g g'$.

On the driving-shaft F is fixed a bevel-wheel, g^1 , which engages with and rotates the two wheels $g g'$ continuously in reverse directions. The clutch-piece g^2 is locked to the shaft G to turn therewith, but may be shifted lengthwise to engage with and lock either wheel g or g' to the shaft G, and so rotate said shaft in one direction or the other, as desired. As here shown, the clutch-piece g^2 is in an intermediate position, locking neither of said wheels $g g'$ to the shaft G, and the latter therefore does not rotate.

Upon the shaft G is secured a drum, from

which are formed reversely-set cone-pulleys $G' G'$, and loose upon the shaft H is a drum, forming similar but reverse cones, $H' H'$. The two sets or pairs of cones are connected by a belt, G^* , and the cones H' receive motion in one or other direction from the cones G' . The double cones H' , although loose upon their shaft H, are connected therewith by a clutch-piece, h , which is locked to the shaft so as to turn therewith, but which may be shifted by a lever, h' , into and out of engagement with a corresponding clutch-piece on the end of the double cones H' . By this means the shaft H, when rotating in either direction, may be stopped by shifting the clutch-piece h while the cones $G' H'$ continue their rotation. To the lever h' , I have connected an operating-rod, h^2 , whereby it may be moved from a position near the driving-shaft F.

The end of the shaft H is supported in a standard, h^3 , (best shown in Fig. 4,) and which also forms a bearing for an upright shaft, I. The shaft I is connected by bevel-wheels $i i'$ with the shaft H, and thus receives motion therefrom.

Upon the upper end of the shaft I is a spur-pinion, i^2 , which gears into the toothed rim a , and thus imparts rotary motion to the fabric-carrier A. The hub of the pinion i^2 is fitted to turn in a bearing, i^3 , attached to the base-ring B, and it is connected with its shaft I by a clutch-piece, i^4 , locked fast to the shaft I, so as to turn therewith, but capable of being lowered thereon against the force of a spring, i^5 , arranged below said clutch-piece and between it and a collar, i^6 , on said shaft. When the clutch-piece i^4 is lowered out of engagement with the clutch portion of the hub of the pinion i^2 , the pinion and fabric-carrier A are stopped, and this means may be utilized for turning the fabric-carrier A a short distance ahead or backward, for a purpose hereinafter described.

It will be understood from the foregoing that when the belt G^* drives from the portions of the cones G' , which are of smallest diameter, onto the portions of the cones H' , which are of largest diameter, the speed of rotation of the shafts H and I will be comparatively slow and the speed of rotation of the fabric-carrier A will be correspondingly slow; but when the belt drives from the larger portions of the cones G' onto the smaller portions of the cones H' the speed of rotation of the fabric-carrier will be correspondingly increased. By shifting the clutch-piece g^2 from engagement with one wheel, g or g' , into engagement with the other wheel, g' or g , the direction of movement of the fabric-carrier A will be reversed. By shifting said clutch-piece into an intermediate position the shaft G and all the mechanism operated thereby, including the fabric-carrier, will be stopped. By shifting the belt G^* the speed of the fabric-carrier in either direction may be varied in proportion to the distance between the needle of the sewing-machine and the center of rotation of the

fabric-carrier. By shifting the clutch h the shaft H and the mechanism operated by it, including the fabric-carrier, will be stopped, while the rotation of the cones is continued, and by lowering the clutch-piece i^4 on the shaft I the pinion i^2 and fabric-carrier may be disengaged and turned ahead or retarded relatively to the shaft I.

The position of the belt G^* is or may be controlled by a belt-shifter, J, carried by the sewing-machine and embracing the belt. In that case, when the sewing-machine is moved to carry its needle from the position shown in Fig. 1 toward the center of the fabric-carrier A, it will shift the belt to gradually increase the speed of rotation of the fabric-carrier, and as the needle of the sewing-machine passes the center of the fabric-carrier and continues its movement away from the center on the opposite side, as it may, and is intended sometimes to do, the belt G^* will be shifted so as to gradually decrease the speed of rotation of the fabric-carrier.

In order to provide the proper adjustment of the belt-shifter J, I support it by a rod, j , fitted to turn in bearings or lugs j' , projecting from the sewing-machine, as best shown in Figs. 1 and 2, and screw-threaded to engage with the belt-shifter J. By turning the screw-rod j the shifter J may be moved back and forth to such a position that it will bring the belt G^* to the largest portion of the cones G' and to the smallest portion of the cones H' at the time the sewing-machine needle passes the center of the fabric-carrier.

In the example of my invention here shown the movement of the machine is produced by a pattern drum or cylinder, K, upon a shaft, K' , which is here arranged below the sewing-machine. This drum or cylinder is not here connected invariably to its shaft, but is connected therewith through the medium of a flange, K^2 . (Shown best in Figs. 1, 2, and 5.) The flange K^2 is locked against turning on the shaft K' by a set screw, k , entering a groove, k^* , in said shaft, and the flange is adjustably secured to the drum or cylinder K by screws k' , passing through arc-shaped slots k^2 in the flange and entering the end of the drum or cylinder.

By loosening the screws k' the drum may be turned in either direction, and by tightening said screws it may be secured in its new position. The drum or cylinder may be adjusted lengthwise by loosening the screws k and sliding the flange K^2 along the shaft K' , the screw being tightened to secure the drum or cylinder in its new position.

On the shaft K' are loosely-fitted and reversely-set bevel-wheels $k^3 k^4$, which are rotated continuously in reverse directions by a bevel-wheel, k^5 , on the driving-shaft F, and k^6 is a clutch-piece, which may be shifted by a lever, k^7 , in a well-known manner to lock either wheel k^3 or k^4 to the shaft K' , and thus provide for rotating the pattern drum or cylinder in reverse directions, or to leave both wheels free from said shaft.

As here shown, the sewing-machine is controlled by the pattern drum or cylinder K through a pin, m , which extends through a downwardly-projecting hub or boss, m' , on the lower arm, D' , of the sewing-machine, and engages with a groove or guide formed upon or in the surface of the pattern drum or cylinder K.

I have shown in the detail sectional view, Fig. 6*, a means for raising and lowering the pin m , to effect its engagement with or its disengagement from the pattern drum or cylinder. The hub or boss m' is there shown as hollow, and the pin m is movable vertically therein, and is thrown up by a spring, m^2 , when not pressed down by a cam or eccentric shaft, m^3 , which may be turned from one end, and which has faces of different projection from its center. As shown in Fig. 6*, the pin m is raised; but when the cam or eccentric shaft m^3 is turned half-round said pin will be depressed and held down. Any other suitable means for accomplishing this result may be employed.

If the pin m engages with a truly circumferential groove in the drum or cylinder, or if the pin be raised out of engagement therewith and the sewing-machine held against movement along its supports E, a truly circular figure with a regular outline will be produced on the fabric.

As represented in Fig. 2, the dotted line 2 2 indicates the center of length of the pattern-drum, which corresponds to the center of the fabric-carrier, and at this point is a screw-thread or spiral groove, n , which increases in pitch each way from the center. Suppose that the pin m were in the groove n , the needle of the machine would be moved toward the center of the fabric at a gradually-decreasing speed and would then pass the center and move away from the center in the opposite direction at a gradually-increasing speed. The groove n forms, therefore, two portions of a pattern joined by a track portion or way.

On the left of the pattern portion n are pattern portions n' , n^2 , n^3 , n^4 , and n^* , consisting of grooves or guides which receive the pin m . The pattern-grooves n' n^2 n^3 n^4 are designed to produce circular figures of irregular outline about the center of the fabric, while the pattern-groove n^* is designed to form an approximately square border-line about the fabric.

On the right of the center line, 2 2, are only shown two pattern-grooves, n^{4*} n^{3*} , which are respectively the same distances from the center of the pattern as the portions n^3 n^4 on the left hand. The pattern n^3 and n^{3*} is designed to produce a circular figure having a zigzag outline, while the portion n^4 and n^{4*} is designed to produce a circular figure having a wavy or sinuous outline. If after the machine has been guided by the pattern portion n^4 n^3 it is moved to bring its needle on the opposite side of the center of the fabric, it may be controlled by the pattern portion n^{4*} to lay a wavy or sinuous line over the zigzag line produced by the portion n^3 , and may be con-

trolled by the portion n^{3*} to lay a zigzag line over the wavy or sinuous line produced by the portion n^4 . The fabric-carrier moves in reverse directions—that is, the portion on one side of the center moves in one direction, while that portion on the other side of the center moves in the other direction. These reverse movements of the fabric-support are transverse to the reciprocating or reverse movements of the sewing-machine.

The results produced by this machine may be greatly enhanced by moving the pattern-drum very slightly ahead or backward relatively to the fabric, or by moving the fabric-carrier in a corresponding manner. The first movement or adjustment may be effected by turning the drum K very slightly relatively to the flange K^2 , and the second movement or adjustment may be effected by disengaging the pinion i^2 from its shaft I and turning it slightly ahead or back relatively to said shaft. If a change be made in the relative position of the drum or cylinder K and the fabric equal to the distance between the dotted lines 3 3, Fig. 2, then a very much improved result would be obtained by repeating the figure produced under control of the portion n^4 of the pattern.

From the foregoing description it will be understood that in my machine the rotary fabric-carrier and the sewing-machine are so supported and combined that one of said parts—in this example of the invention the sewing-machine—is movable to permit the operation of the needle on the portions of the fabric which are outside a circle coincident with the sides of the fabric, or, in other words, to permit of the operation of the needle in the corners of the fabric.

It will be observed that in my machine the fabric frame or holder C is arranged substantially within the circular fabric-support A, and hence the axis of said support falls within the frame or holder C, and is not located beyond the sides of such frame or holder.

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

1. In a quilting-machine, the combination, with a sewing-machine, a rotary fabric-carrier whereon a fabric may be stretched or extended and rotated, and movable supports for one of said parts, permitting its bodily movement in a direction transverse to the line of rotation of said carrier, of variable driving mechanism for operating the rotary fabric-carrier at different speeds, substantially as herein described.

2. In a quilting-machine, the combination, with a sewing-machine and a rotary fabric-carrier on which a fabric may be stretched or extended in a plane perpendicular to the needle, and the axis of which is parallel with the needle, the sewing-machine being movable to carry the needle toward and from the axis of the fabric-carrier, of variable driving mechanism for the fabric-carrier, and a shipping device or shipper carried by the sewing-machine and serving to vary the speed of the fab-

ric-carrier as the needle approaches and recedes from the axis of the fabric-carrier, substantially as herein described.

3. In a quilting-machine, the combination, with fabric-supports and a sewing-machine, of a pattern for controlling the production of a design upon a fabric, consisting of a drum or cylinder having a spiral thread of varying pitch, substantially as herein described.

4. In a quilting-machine, the combination, with fabric-supports and a sewing-machine, one of said parts being movable to vary the relative position of the fabric and needle, of cone-pulleys, a belt, and intermediate connections for transmitting motion to said movable part, whereby provision is afforded for controlling its speed of movement by shifting the belt upon said cone-pulleys, substantially as herein described.

5. In a quilting-machine, the combination, with a sewing-machine and a rotary fabric-carrier on which a fabric may be stretched or extended in a plane perpendicular to the needle, and the axis of which is parallel with the needle, of variable driving mechanism, as cone-pulleys and a belt, and intermediate connections for varying the speed of rotation of the fabric-carrier while operating with the needle at different distances from its axis, substantially as herein described.

6. In a quilting-machine, the combination, with a sewing-machine and a rotary fabric-carrier on which a fabric may be held stretched or extended in a plane perpendicular to the needle, and the axis of which is parallel with the said needle, of variable driving mechanism, as cone-pulleys, a belt, and intermediate connections for rotating the fabric-carrier, a carriage for the sewing-machine, movable to carry its needle toward and from the axis of the fabric-carrier and connections between the sewing-machine, and variable driving mechanism for varying the speed of rotation of the fabric-carrier as the needle moves toward and from the axis thereof, substantially as herein described.

7. In a quilting-machine, the combination, with a sewing-machine and a fabric-carrier on which a fabric may be stretched or extended in a plane perpendicular to the needle, and the axis of which is parallel with said needle, one of said parts being movable to permit the operation of the needle on opposite sides of the axis of said carrier, and supports for the fabric-carrier, which permit of its rotation between the arms of the sewing-machine, substantially as herein described.

8. In a quilting-machine, the combination, with a sewing-machine and a rotary fabric-carrier having its axis parallel with the needle, and on which a fabric may be stretched or extended in a plane perpendicular to the needle, with its center approximately coincident with the axis of the carrier, one of said parts being movable to permit the operation of the needle on the portions of the fabric outside a circle coincident with the sides of the fabric, and

supports for the fabric-carrier, which permit its rotation between the arms of the sewing-machine, substantially as herein described.

9. In a quilting-machine, the combination, with a rotary fabric-carrier and two pairs of reversely-set cone-pulleys, and a belt and intermediate connections for rotating said carrier, of a sewing-machine for operating on the fabric, movable to carry its needle past the center of rotation of said carrier, and means, as belt-shifter, connected with the sewing-machine for shifting said belt to increase the speed of rotation of said fabric-carrier as the needle of the sewing-machine approaches its center, and to decrease the speed of rotation of said carrier as the needle recedes from its center, substantially as herein described.

10. In a quilting-machine, the combination, with a sewing-machine and a fabric-support, one of said parts being movable relatively to the other to vary the relative positions of the needle and fabric, of a fabric frame or holder wherein the fabric is held, and which during operation is held in fixed relation to the fabric-support, but which is detachable from said support, substantially as herein described.

11. In a quilting-machine, the combination, with a sewing-machine, of a rotary fabric-carrier having its axis parallel with the needle, and which is provided with a holder, wherein a rectangular fabric may be held stretched or extended in a plane perpendicular to the needle, the axis of the rotary carrier being within said frame or holder, substantially as herein described.

12. In a quilting-machine, the combination, with a sewing-machine, of a rotary fabric-carrier having its axis parallel with the needle and adapted to rotate between the arms thereof, and a fabric frame or holder on which a fabric may be stretched or extended, and which is supported by said carrier in a plane perpendicular to the needle, substantially as herein described.

13. In a quilting-machine, the combination, with a sewing-machine, of a rotary fabric-carrier having its axis parallel with the needle, and adapted to rotate between the arms of the sewing-machine and a fabric frame or holder, in which a fabric may be stretched or extended and which is detachably secured to said carrier in a plane perpendicular to the needle, substantially as herein described.

14. In a quilting-machine, the combination, with a sewing-machine and fabric-supports, of a fabric-frame wherein a fabric may be held stretched or extended, and means, as pins and holes, whereby the fabric-frame is detachably secured in definite position on the said supports, substantially as herein described.

15. In a quilting-machine, the combination, with a sewing-machine, of a rotary fabric-carrier having its axis parallel with the needle, a fabric-frame in which a fabric may be stretched or extended, and means, as pins and holes, whereby the fabric-frame is detachably

secured in a definite position on the carrier, substantially as herein described.

16. In a quilting-machine, the combination, with a rotary fabric-carrier and a sewing-machine for operating on a fabric, of a gear upon said carrier, a shaft and pinion for rotating said carrier, and cone-pulleys and a belt for operating said shaft at variable speeds, substantially as herein described.

17. In a quilting-machine, the combination, with a rotary fabric-carrier and a sewing-machine for operating on the fabric, of a gear on said carrier, a shaft and pinion for rotating said carrier, cone-pulleys and a belt for operating said shaft at variable speeds, and a clutch-connection between one on said cones and its shaft, whereby the carrier-operating shaft and pinion may be stopped while the rotation of said cones is continued, substantially as herein described.

18. In a quilting-machine, the combination, with a sewing-machine and supports whereby a fabric may be held stretched or extended, of a guide, as *u**, and connections through which it controls one of said parts, the said guide being capable of rotary adjustment to bring it into different operative positions relatively to the fabric, substantially as herein described.

19. In a quilting-machine, the combination, with a sewing-machine and supports, whereby a fabric may be held stretched or extended, of a pattern drum or cylinder and connections through which it controls one of said parts, the said pattern drum or cylinder being capable of longitudinal adjustment, and securing devices for holding the drum after adjustment, substantially as herein described.

20. In a quilting-machine, the combination, with a sewing-machine and a rotary fabric-carrier, whereon a fabric may be held stretched or extended in a plane perpendicular to the needle, and the axis of which is parallel with the needle, of a carriage for one of said parts movable to vary the distance between the needle and the axis of the carrier, and a pattern drum or cylinder and connections through which it controls the movement of said carriage, the pattern drum or cylinder being capable of adjustment lengthwise, and securing devices for securing the drum or cylinder in different operative positions, substantially as herein described.

FRANK L. PALMER.

Witnesses:

GEORGE S. PALMER,
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