No. 804,549. PATENTED NOV. 14, 1905.

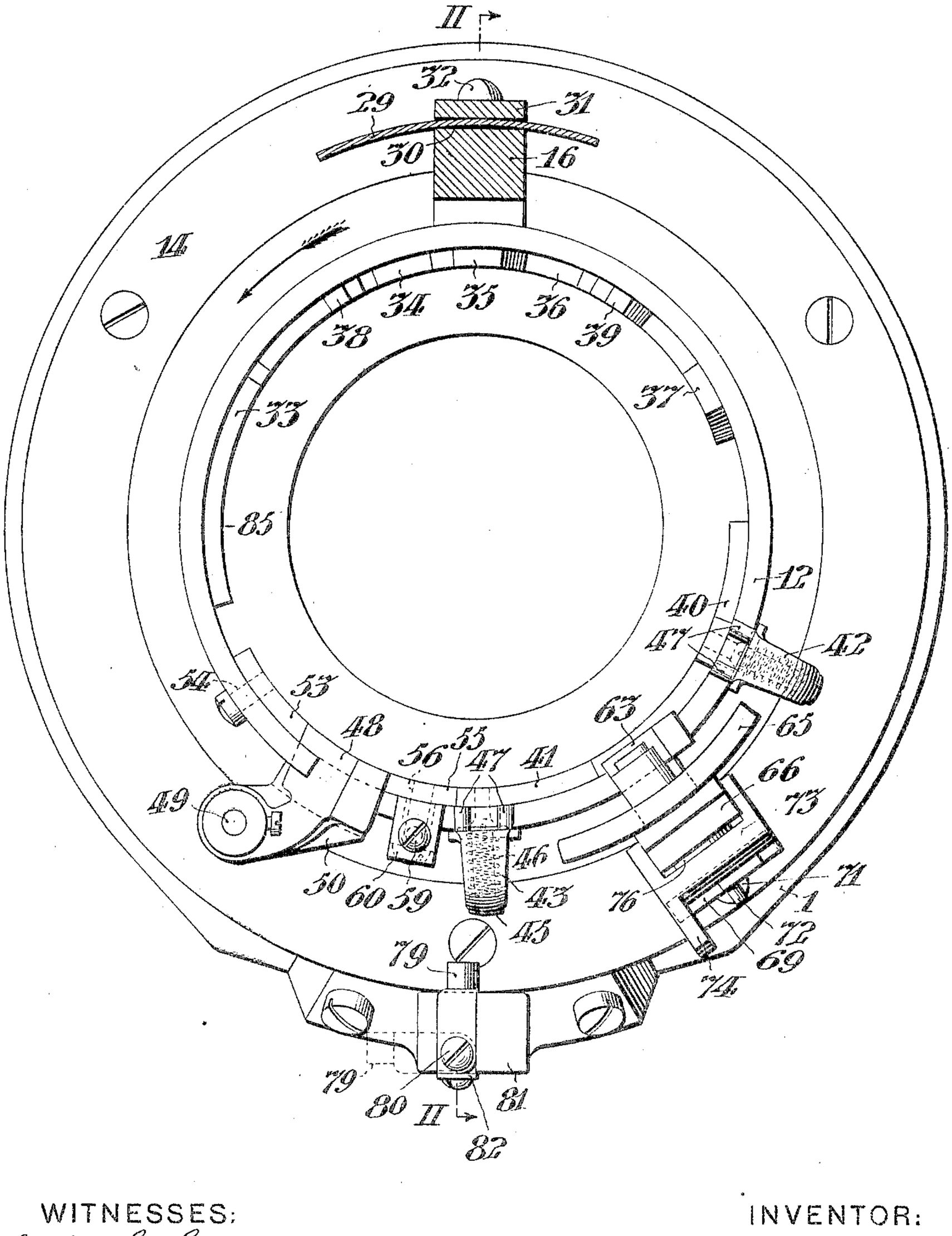
E. A. PIGEON.

KNITTING MACHINE.

APPLICATION FILED SEPT. 26, 1903.

5 SHEETS—SHEET 1.

FIG. I.



WITNESSES:

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John C. Bergner.

INVENTOR:

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by Arthur E. Paige

Atty.

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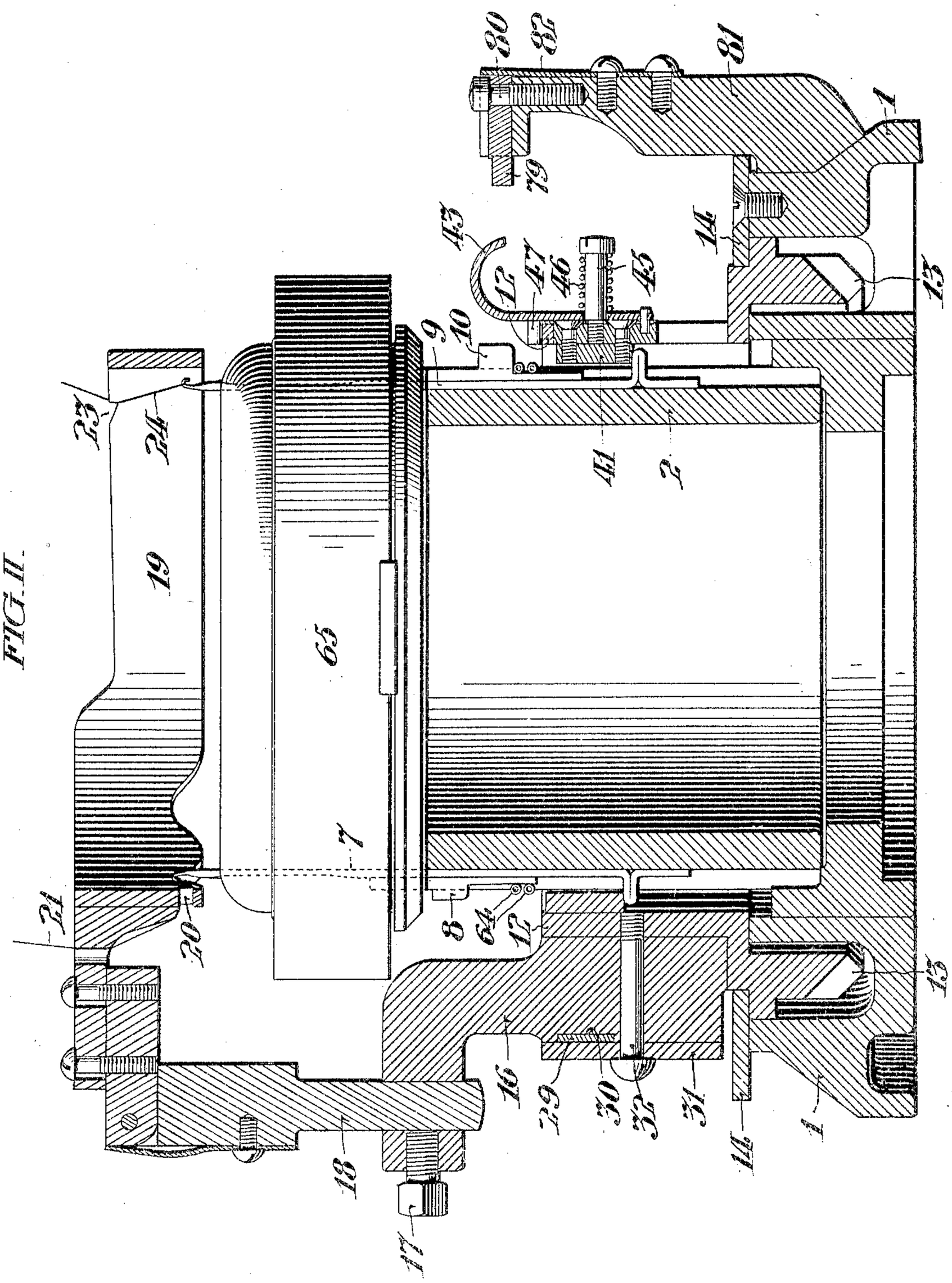
5 SHEETS—SHEET 2.

FIG. II.



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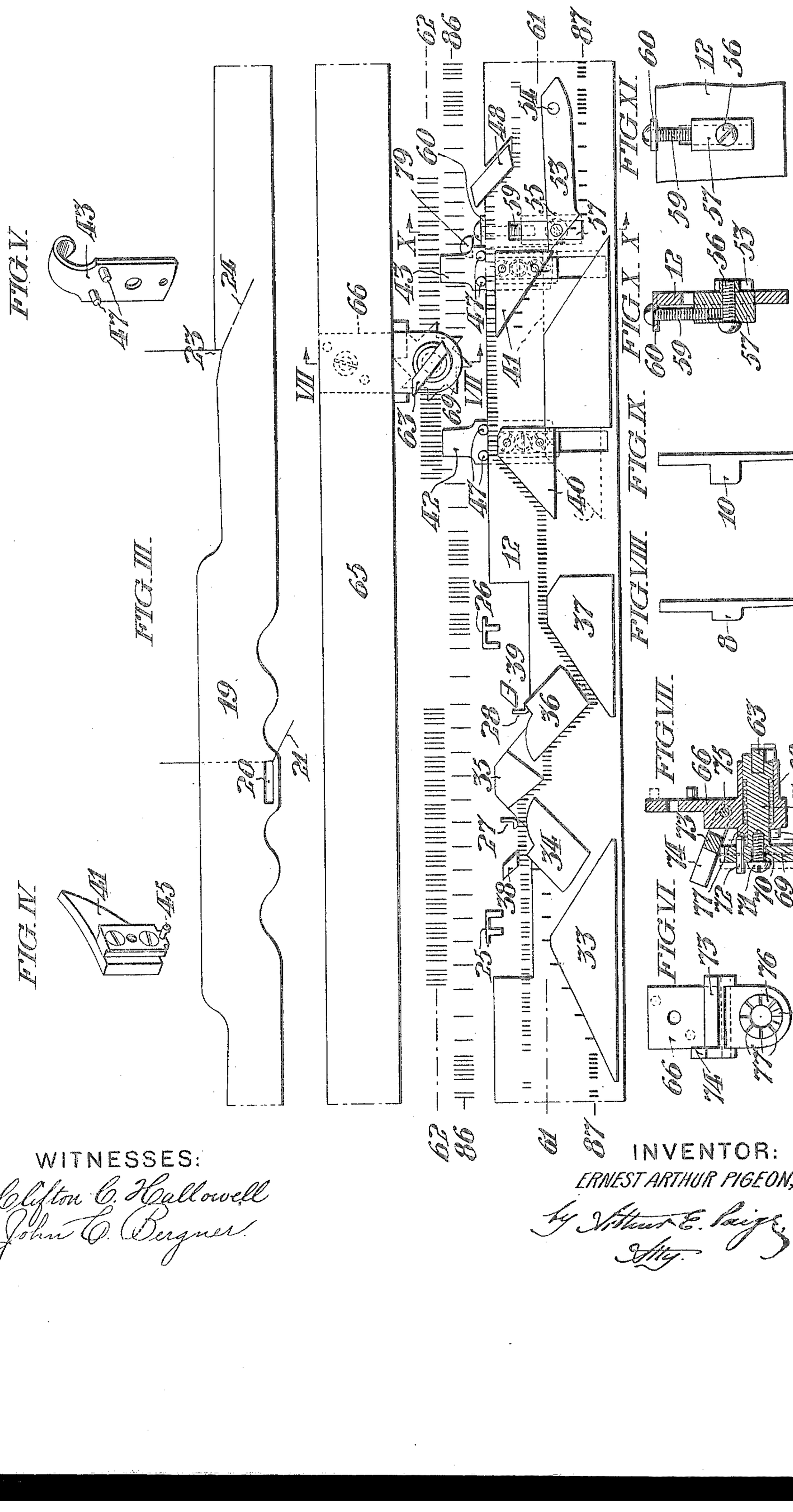
5 SHEETS—SHEET 3.



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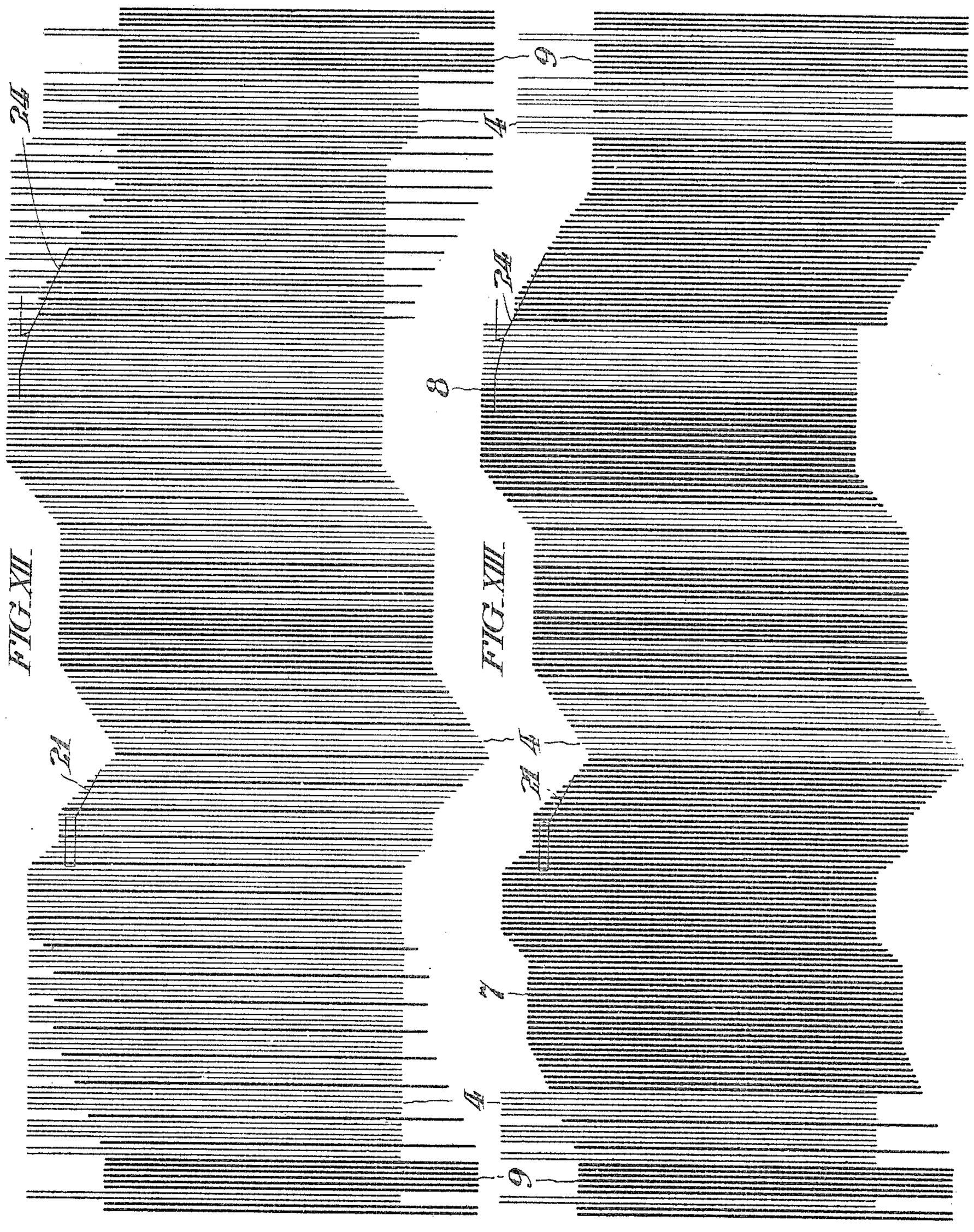
No. 804,649. PATENTED NOV. 14, 1905.

E. A. PIGEON.

KNITTING MACHINE.

APPLICATION FILED SEPT. 26, 1903.

5 SHEETS—SHEET 4.



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No. 804,549. PATENTED NOV. 14, 1905.

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KNITTING MACHINE.

APPLICATION FILED SEPT. 26, 1903.

5 SHEETS—SHEET 5.

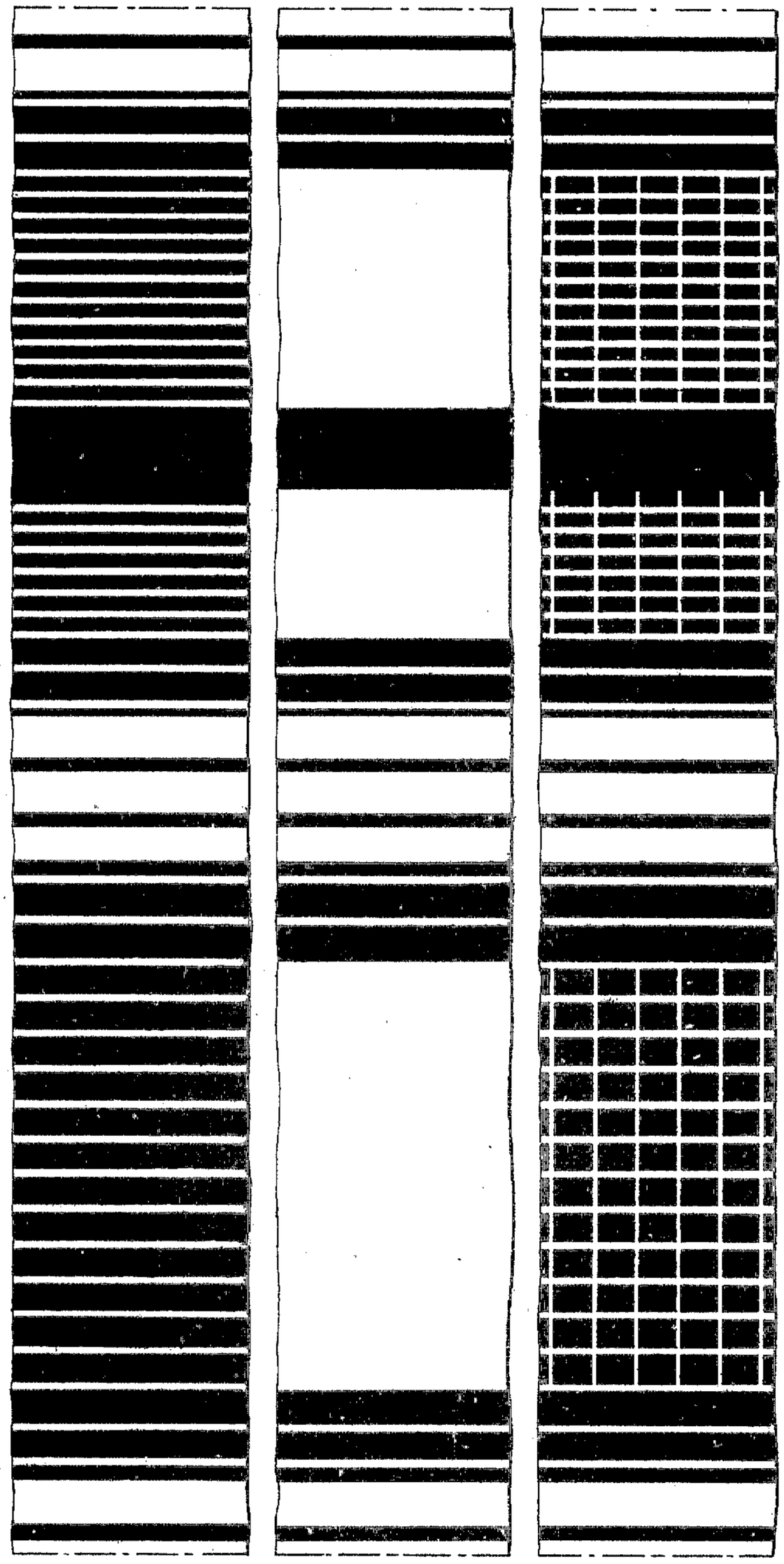

FIG. XI.

FIG. XI.

FIG. XI.

WITNESSES:

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John C. Bergner

INVENTOR:

ERNEST ARTHUR PIGEON,

by William E. Singer

Atty.

UNITED STATES PATENT OFFICE.

ERNEST ARTHUR PIGEON, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR OF ONE-HALF TO THE FIRM OF E. SUTRO & SON, OF PHILADELPHIA, PENNSYLVANIA.

KNITTING-MACHINE.

No. 804,549. Specification of Letters Patent. Patented Nov. 14, 1905.

Application filed September 26, 1903. Serial No. 174,835.

To all whom it may concern:

Be it known that I, ERNEST ARTHUR PIGEON, of Providence, in the State of Rhode Island, have invented certain new and useful Improvements in Knitting-Machines, whereof the following is a specification, reference being had to the accompanying drawings.

My invention provides a knitting-machine with needle-jacks controlled by a variable-pattern device arranged to manipulate selected needles independently of the other needles in the series to enable the machine to knit a tube comprising longitudinal stripes, checks, &c. As hereinafter described, the selected needles are provided with jacks which are separate from the needles, but mounted in the same grooves therewith, adapted to engage and shift the needles in but one direction and to release the needles for movement in the opposite direction, said needles being provided with individual butts of ordinary construction, so that the needles may be either operated by ordinary cam mechanism engaged with their butts or be operated by special pattern mechanism engaged with the butts of the jacks. Variation in the operation of the special needles is conveniently effected by providing them with respective jacks whose butts are of different radial extent and adapted to be operated by a switch-cam which is adjustable radially with respect to the needle-cylinder and arranged to engage the different types of jacks in accordance with its position of adjustment. As hereinafter described, said switch-cam of the pattern mechanism is mounted upon the sinker-actuating cam-ring and carried by the needle-cylinder independently of the cam-cylinder, which latter is provided with cams to engage the butts of the needles.

My invention comprehends the various novel features of construction and arrangement hereinafter more definitely specified and claimed.

In the drawings, Figure I is a plan view of a machine conveniently embodying my improvements. Fig. II is a vertical sectional view of said machine, taken on the line II II in Fig. I. Fig. III is a plane development of the cam-cylinder, sinker-ring, and thread-guide shown in Figs. I and II and showing diagrammatically the butts of the needles and jacks in the paths which they assume when the pattern mechanism is in the position shown in Fig. VII. Fig. IV is a perspective view of the movable switch-down cam shown in Fig. III. Fig. V is a perspective view of the locking-handle for the cam shown in Fig. IV. Fig. VI is an outside view of the pattern mechanism bracket carried by the sinker-actuating cam-ring, as shown in Fig. III. Fig. VII is a vertical sectional view of said pattern mechanism, taken on the line VII VII in Fig. III. Fig. VIII is a side view of the short butt-jack indicated at the left-hand side of Fig. II. Fig. IX is a side view of the long butt-jack indicated at the right hand side of Fig. II. Fig. X is a sectional view taken on the line X X in Fig. III, showing means for adjusting the pivoted tension-cam. Fig. XI is an outside view of the adjusting means shown in Fig. X. Fig. XII is a plane development of the series of needles, wherein the heavy lines indicate the needles provided with long butt-jacks controlled by the pattern mechanism when in the position shown in Fig. VII and corresponding with Fig. III, in which position the machine is adapted to make vertical stripes, as in the fabric shown in Fig. XIV. Fig. XIII is a plane development of the series of needles wherein the heavy lines indicate all the needles provided with jacks controlled by the pattern-mechanism cam when in its innermost position, in which position the machine is adapted to make vertical stripes, as in the fabric shown in Fig. XV. Figs. XIV, XV, and XVI show plane developments of fabric-tubes knit with the mechanism shown in the other figures in various positions of adjustment. In all of said fabrics white indicates the special thread controlled by the pattern device and black indicates the body-thread, with which a continuous black fabric is formed when the machine is operated with the pattern device in idle position, the white portion of Fig. XIV being knit with the needles controlled by the long butt-jacks, the white portion of Fig. XV being knit with the needles controlled by both the long and short butt-jacks, and the fabric of Fig. XVI showing a check-pattern produced by alternating the arrangement shown in Figs. XIV and XV. As before noted, Fig. XIV corresponds with the outer operative position of the pattern-cam shown in Fig. VII and contemplated in Fig. III, and Fig. XV corresponds with the inner operative position of said pattern-cam.

In said figures, 1 is the stationary frame, in which the needle-cylinder 2 is fixed. Said

cylinder is provided with a series of needles, all of which have butts by which they may be operated. Said needles are all shaped alike, as in Fig. II, but are arranged in three classes—to wit, the needles 4, arranged to be operated solely by their butts, the needles 7, provided with short butt-jacks 8, (shown at the left-hand side of Fig. II and in Fig. VIII,) and the needles 9, provided with long butt-jacks 10. (Shown at the right-hand side of Fig. II and in Fig. IX.) The cam-cylinder 12, provided with the gear-wheel 13 and arranged to rotate in said frame 1 beneath the flange-plate 14, carries the bracket 16, provided with the set-screw 17, to adjustably secure the shank 18 of the thread-guide 19. Said guide 19 comprises the aperture 20, through which is delivered the thread 21, which forms the body of the fabric indicated by black in Figs. XIV to XVI, inclusive, and the upper edge of said thread-guide 19 is provided with the notch 23, through which is delivered the special thread 24, which forms the pattern indicated by white in the fabric shown in Figs. XIV to XVI, inclusive. Said cam-cylinder 12 is provided with depressing-pickers (indicated at 25 26) and lifting-pickers, (indicated at 27 28 in Fig. III.) Said pickers are arranged to be shifted from operative to inoperative position by means of the slide-bar 29, (of ordinary construction and arrangement,) which is supported in the bearing 30 in the thread-guide bracket 16, as shown in Fig. II, wherein the plate 31 forms a cover for said slide-bearing to retain said slide-bar in position, and said plate and bracket are attached to the cam-cylinder 12 by the screw 32. As shown in Fig. III, the cam-cylinder 12 is provided with the ordinary stitch-cams 33 34 35 36 37 and guard-cams 38 39 and is also provided with the special raising-cam 40 and lowering-cam 41, which are arranged to be adjusted from their idle lower position (indicated by dotted lines in Fig. III) to their upper operative position (indicated in full lines in Fig. III) by their respective locking-handles 42 and 43. (Shown in Figs. I and III.) Said cams are adjustable by similar means, and Figs. II, IV, and V show the details of cam 41 and handle 43, which latter is fulcrumed upon the stud 45 and provided with the spring 46, which normally presses it into the position shown in Fig. II, wherein the studs 47 engage the upper edge of the cam-cylinder 12 and retain said cam 41 in its upper operative position, from which it may be released to drop into its lower idle position by tilting its handle 43 outwardly until the studs 47 clear the top of the cylinder 12. Said cam-cylinder 12 is also provided with the guide-cam 48, which, as shown in Fig. I, is pivoted upon the stud 49, carried by the bracket 50 and normally pressed into its inward operative position by the needle-butts. During the operation of the machine for continuous plain knitting and for pattern-knitting the cam 48 remains in its inner operative position and is only withdrawn during the fashioning operation.

Immediately adjoining the cam 41, as indicated in Fig. III, is the tension-cam 53, which is pivoted upon the stud 54 in the cam-cylinder 12 and has its free end 55 attached by the screw 56 to the vertical slide-block 57, which is arranged to be adjustably raised and lowered by the screw 59, which is mounted to rotate in the flange 60, extending from the cam-cylinder 12, as best shown in Fig. X, so that said cam 53 may be lowered when a heavy thread is to be employed and raised when a light thread is to be employed in pattern-knitting to adjustably determine the proper length of the loops.

When the machine is arranged to make ordinary plain knitting, the cams 40 and 41 are placed in their lowermost position and all of the needle-butts are caused to take the path indicated by the line 61 61 in Fig. III, during which operation the cams 40, 41, 48, and 53 in the cylinder and the switch-cam 63 of the pattern mechanism are inoperative and the jacks 8 and 10 are at their upper idle level, wherein their butts traverse the plane indicated by the line 62 62 in Fig. III. It is to be understood that when idle all of the jacks 8 and 10 are normally retained by the tension of the spring-bands 64 (shown in Fig. II) at said upper idle level, (indicated by said line 62 62 in Fig. III) and said jacks being separate from the needles permit the latter to be raised and lowered by the ordinary stitch-cams 35 to 39 during plain tubular knitting and fashioning, (with the single thread 21,) and said jacks only operate the needles when the switch-cam 63 of the pattern mechanism is presented in either of the two operative positions—first, the position shown in Fig. VII, where it is adapted to engage the long butt-jacks 10, (one of which is shown at the right-hand side of Fig. II and in Fig. IX,) and, second, when said cam 63 is thrust to its innermost position to also engage the short butt-jacks 8, one of which is shown at the left-hand side of Fig. II and in Fig. VIII. The pattern mechanism comprising said switch-cam 63 is supported by the sinker-actuating cam-ring 65, the details of which latter may be of ordinary construction and are omitted from the drawings. However, it may be noted that the sinker-head indicated in the drawings is arranged to operate L-shaped sinkers which are pivotally secured to the needle-cylinder by a spring-band, so that they may be oscillated by a cam-ring which engages their radially-projecting ends. Said cam-ring 65 rotates with the cam-cylinder 12 and supports the bracket 66, (shown in plan view in Fig. I and in section in Fig. VII,) wherein the cam 63 is arranged to be adjusted radially toward and away from the needle-cylinder 2 during the rotation of said cam-ring 65 around said cylinder. Said

cam is provided with the shank 67, encircled by the spring 68 (normally pressing the cam inwardly) and has the star-wheel 69 mounted to rotate upon the outer cylindrical extremity 70 of said shank, on which it is retained by the screw 71. Said cam 63 may be manually withdrawn outwardly to its idle position (indicated by the dotted outline of the star-wheel 69 in Fig. VII) and be retained in such idle position by the engagement of the cross-bar 73 of the latch 74, which is pivoted on the pin 75 in said bracket 66. When it is desired to shift the cam 63 into operative position, the latch 74 is uplifted to the position shown in Fig. VII, disengaging the wheel 69, so that the spring 68 shifts said cam toward the needle-cylinder until the stud 72 on the star-wheel 69 encounters the stationary ratchet-cam 76 on said bracket 66, where it is retained against accidental rotary displacement by the engagement of said stud in one of the radial ratchet-notches 77. (Shown in Fig. VI.) Said star-wheel 69 may be rotated step by step during successive rotations of the cam-cylinder 12 and sinker-actuating cam-ring 65 to finally present said cam 63 at its innermost position, (indicated by dash-lines in Fig. VII,) in which position the stud 72 enters the deep notch 78, (indicated at the lower edge of the cam 76 in Fig. VII,) such rotary movement of the star-wheel and radial movement of the cam 63 being conveniently effected by means of the tappet 79, (shown in Figs. I and II,) which is pivoted upon the screw-stud 80 in the bracket 81, fixed upon the frame 1. As indicated in Fig. I, the extremity of said tappet 79 adjacent to its fulcrum is squared to fit the spring 82, which serves to retain said tappet either in its operative position (shown in full lines in Fig. I) or in its inoperative position. (Shown in dotted lines in said figure.) During successive rotations of the cam-cylinder 12 with the sinker-actuating cam-ring 65 the teeth on said star-wheel 69 are successively encountered by said tappet 79 when in operative position, so that at each rotation of the machine the star-wheel is rotated to the extent of one space between its adjoining teeth, and with the arrangement shown seven courses are knit with the cam 63 in its outer operative position, followed by one course with said cam in its inner operative position, and so on.

The mechanism above described is operated as follows: The cams 40 and 41 being lowered and the cam 63 withdrawn, the pattern mechanism and the needle-jacks remain idle and the machine may be rotated to make continuous plain tubular knitting, with the thread 21 extending through the aperture 20 in the thread-guide 19, the thread 24 being omitted. When it is desired to fashion the fabric in a heel or toe pocket, the guide-cam 48 is withdrawn, the half-back needles raised, and the pickers 25, 26, 27, and 28 manipulated under control of the picker-slide bar 29 in the ordinary manner. When, however, it is desired to adjust the machine for pattern-knitting, the cam-cylinder 12 is rotated in the direction of the arrows on Fig. I until the cam 41 is at the front of the machine—that is to say, in the region indicated by 85 at the left-hand side of Fig. I—whereupon the cam 40 is raised to its operative position. (Shown in full lines in Fig. III.) Contemporaneously the latch 74 is raised, as shown in Fig. VII, releasing the star-wheel 69 from its cross-bar 73, so that said cam 63 assumes the outer one of its two operative positions—to wit, that indicated by full lines in Fig. VII. The tappet 79 is then turned into its operative position, (shown in full lines in Figs. I and II,) the cam-cylinder is rotated (in the same direction) until the cam 41 occupies the position previously occupied by cam 40, and the cam 41 is then raised to its upper operative position. (Shown in full lines in Fig. III.) The pattern-thread 24 is then drawn in the notch 23 in the guide 19, caught under the first active needle 9, provided with a long butt-jack 10, and the machine rotated, with the result that with the construction and arrangement shown fabric of the pattern indicated in Fig. XIV is made, with the needles 4 forming the black part and the needles 9, provided with long butt-jacks 10, forming the white part, by knitting both threads, until by successive step-by-step movements of rotation after seven courses the stud 72 of the star-wheel 69 reaches the deep notch 78, permitting the cam 63 to assume its innermost position, (indicated by dash-lines in Fig. VII,) whereupon all of the jack-provided needles 7 and 9 are operated by the cam 63, which shifts them from the level indicated by the line 62 62 down to the level indicated by the line 86 86, where the butts of the needles 7 and 9, respectively provided with short butt-jacks 8 and long butt-jacks 10, are caught by the point of the cam 41 and ride beneath the latter and beneath the tension-cam 53, as indicated by the line 87 87 in Fig. III, forming for one course fabric of the pattern shown in Fig. XV. It is of course to be understood, as aforesaid, that the combination of the two striped patterns of Figs. XIV and XV, as above described, produces the check-pattern. (Shown in Fig. XVI.) When it is desired to return the machine to its original position of adjustment for plain knitting, the cam-cylinder is rotated in the direction of the arrow on Fig. I until the cam 41 is at the front of the machine in the region indicated by 85 at the left-hand side of Fig. I. The cam 40 is then lowered, the cam 63 is withdrawn to its inoperative position and there engaged by the cross-bar 73 of the latch 74, the tappet 79 is then turned to its inoperative position, (indicated by dotted lines in Fig. I,) and the machine rotated in the same direction until the cam 41 is in the position previously occupied

by the cam 40, whereupon said cam 41 is lowered and rotation of the machine resumed.

It is to be understood that I do not desire to limit myself to the precise details of construction and arrangement hereinbefore described, as various modifications may be made therein without departing from the essential features of my invention.

I claim—

1. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a sinker mechanism mounted on said cylinder; and, means carried by said sinker mechanism, arranged to control the needles, substantially as set forth.

2. In a knitting-machine, the combination with a needle-cylinder provided with needles, of a sinker mechanism, mounted on said cylinder; and, a pattern device carried by said sinker mechanism arranged to control the loop-forming movement of said needles, substantially as set forth.

3. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a sinker mechanism, mounted on said cylinder; and, a variable-pattern device, carried by said sinker mechanism, arranged to control the loop-forming movement of said needles, substantially as set forth.

4. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a sinker mechanism; jacks for said needles; a cam, carried by said mechanism, arranged to operate said jacks; and, means arranged to shift said cam into and out of operative position, substantially as set forth.

5. In a knitting-machine the combination with a needle-cylinder provided with needles; of a sinker mechanism; jacks for said needles; a cam carried by said mechanism, arranged to operate said jacks; a spring arranged to press said cam into operative position; a shank for said cam; a star-wheel carried by said shank; a stud on said star-wheel; and, a cam in operative relation with said stud, substantially as set forth.

6. In a knitting-machine, the combination with a needle-cylinder provided with grooves; of needles arranged to reciprocate in said grooves; butts on said needles by which they may be reciprocated; jacks in said grooves above said needle-butts; butts on said jacks, whereby they may be reciprocated; and means arranged to shift said jacks downwardly by engagement with said butts; the arrangement of said needles and jacks being such that said jacks carry said needles downwardly but move upwardly independently of said needles, substantially as set forth.

7. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a cam-cylinder provided with cams arranged to actuate said needles; a sinker mechanism; and, means carried by said sinker mechanism, arranged to control said needles independently of said cams, substantially as set forth.

8. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a cam-cylinder provided with cams arranged to actuate said needles; a sinker mechanism; and, a pattern device, carried by said sinker mechanism, arranged to control said needles independently of said cams, substantially as set forth.

9. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a cam-cylinder provided with cams arranged to actuate said needles; a sinker mechanism; and, a variable-pattern device, carried by said sinker mechanism, arranged to control said needles independently of said cams, substantially as set forth.

10. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a cam-cylinder provided with cams arranged to actuate said needles; a sinker mechanism; a variable-pattern device, carried by said sinker mechanism, arranged to control said needles independently of said cams; and, means to adjust said pattern device, substantially as set forth.

11. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a cam-cylinder provided with cams arranged to actuate said needles; jacks for said needles; a sinker mechanism; and, a pattern device, carried by said sinker mechanism, arranged to control said needles, by said jacks, independently of said cams, substantially as set forth.

12. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a cam-cylinder provided with cams arranged to actuate said needles; jacks for said needles; a sinker mechanism; and, a variable-pattern device, carried by said sinker mechanism, arranged to control said needles, by said jacks, independently of said cams, substantially as set forth.

13. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a sinker mechanism; jacks separate from but in operative relation with said needles and, means carried by said sinker mechanism arranged to engage said jacks and thereby control the needles in one direction of their movement, and release them in the other direction of their movement, substantially as set forth.

14. In a knitting-machine, the combination with a needle-cylinder provided with needles; of jacks separate from but in operative relation with said needles; a cam-cylinder provided with cams arranged to operate said needles independently of said jacks; and adjustable cam mechanism arranged above said cam-cylinder to engage said jacks and thereby operate said needles independently of said cam-cylinder, substantially as set forth.

15. In a knitting-machine, the combination with a needle-cylinder provided with needles;

of a cylinder provided with stitch-cams operatively related to said needles; a tension-cam pivoted to said cam-cylinder in operative relation with said needles; and, means to vertically adjust the free end of said tension-cam, substantially as set forth.

16. In a knitting-machine, the combination with a needle-cylinder provided with needles; of jacks for said needles; a cam arranged to engage said jacks and shift said needles downwardly; means arranged to detachably retain said cam in operative position; a pivoted tension-cam arranged to coöperate with said other cam; and, means arranged to adjust said tension-cam, substantially as set forth.

17. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a cam-cylinder provided with cams to operate said needles; jacks separate from but in operative relation with said needles; a pattern device adapted to operate said jacks in predetermined order, comprising a rotary star-wheel; and, means to engage and rotate said star-wheel, substantially as set forth.

18. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a cam-cylinder provided with cams arranged to engage butts on the needles; jacks separate from but in operative relation with said needles; a pattern device adapted to operate said jacks in predetermined order, comprising a cam movable radially toward and away from the needle-cylinder; a rotary star-wheel operatively connected with said cam; and, means to engage and rotate said star-wheel, step by step, substantially as set forth.

19. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a cam-cylinder provided with cams to operate the needles; jacks separate from but in operative relation with said needles; a pattern device adapted to operate said jacks, comprising a cam movable radially toward and away from the needle-cylinder; a spring normally pressing said cam toward said cylinder; a rotary star-wheel, operatively connected with said cam, arranged to shift the latter in opposition to said spring, substantially as set forth.

20. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a cam-cylinder provided with cams to operate the needles; jacks separate from but in operative relation with said needles; a pattern device adapted to operate said jacks, comprising a cam movable radially toward and away from the needle-cylinder, and provided with a shank; a spring encircling said shank and normally pressing said cam toward said cylinder; a rotary star-wheel mounted upon the outer extremity of said shank; a stud on said star-wheel; a stationary ratchet in operative relation with said stud; and, means to engage and rotate said star-wheel step by step, substantially as set forth.

21. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a cam-cylinder provided with cams to operate the needles; jacks separate from but in operative relation with said needles; a pattern device adapted to operate said jacks, comprising a cam movable radially toward and away from the needle-cylinder, and provided with a shank; a spring encircling said shank and normally pressing said cam toward said cylinder; a rotary star-wheel mounted upon the outer extremity of said shank; a stud on said star-wheel; a stationary ratchet in operative relation with said stud; and, means to engage and rotate said star-wheel step by step, comprising a pivoted finger and means to retain said finger in operative position, substantially as set forth.

22. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a cam-cylinder provided with cams to operate the needles, comprising two cams which are adjustable from idle to operative position and adapted to respectively raise and lower the needles; and, a tension-cam provided with means to raise and lower it to vary the length of the loops formed by the needles, substantially as set forth.

23. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a cam-cylinder provided with cams to operate the needles comprising a pivoted tension-cam; and, means to raise and lower said cam, to vary the length of the loops formed by the needles, substantially as set forth.

24. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a cam-cylinder provided with cams to operate the needles; jacks separate from but in operative relation with said needles; a pattern device adapted to operate said jacks; a cam in said cam-cylinder, adjustable from idle to operative position, adapted to raise the needles for engagement by said pattern device; and, another cam in said cam-cylinder adjustable from idle to operative position, adapted to lower the needles operated by said pattern device, substantially as set forth.

25. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a cam-cylinder provided with cams to operate the needles; jacks separate from but in operative relation with said needles; a pattern device adapted to operate said jacks in predetermined order; a cam in said cam-cylinder, adjustable from idle to operative position, adapted to raise the needles for engagement by said pattern device; another cam in said cam-cylinder, adjustable from idle to operative position, adapted to lower the needles operated by said pattern device; and, a guide-cam arranged to lower the needles not operated by said pattern device, substantially as set forth.

26. In a knitting-machine, the combination

with a needle-cylinder provided with grooves; of needles arranged to reciprocate in said grooves; butts on said needles by which they may be reciprocated; two series of jacks in respective grooves, having respectively long and short butts; butts on said jacks whereby they may be reciprocated; and, means arranged to shift said jacks downwardly by engagement with said butts; the arrangement of said needles and jacks being such that said jacks carry said needles in one direction and move relatively to the needles in the opposite direction, substantially as set forth.

In testimony whereof I have hereunto signed my name, at Providence, Rhode Island, this 23d day of September, 1903.

ERNEST ARTHUR PIGEON.

Witnesses:

JAMES M. SCOTT,

JEREMIAH A. DUPONT.