

No. 645,833.

Patented Mar. 20, 1900.

A. RONTKE.
CHAIN STITCH SEWING MACHINE.

(Application filed Apr. 13, 1897.)

(No Model.)

2 Sheets—Sheet 1

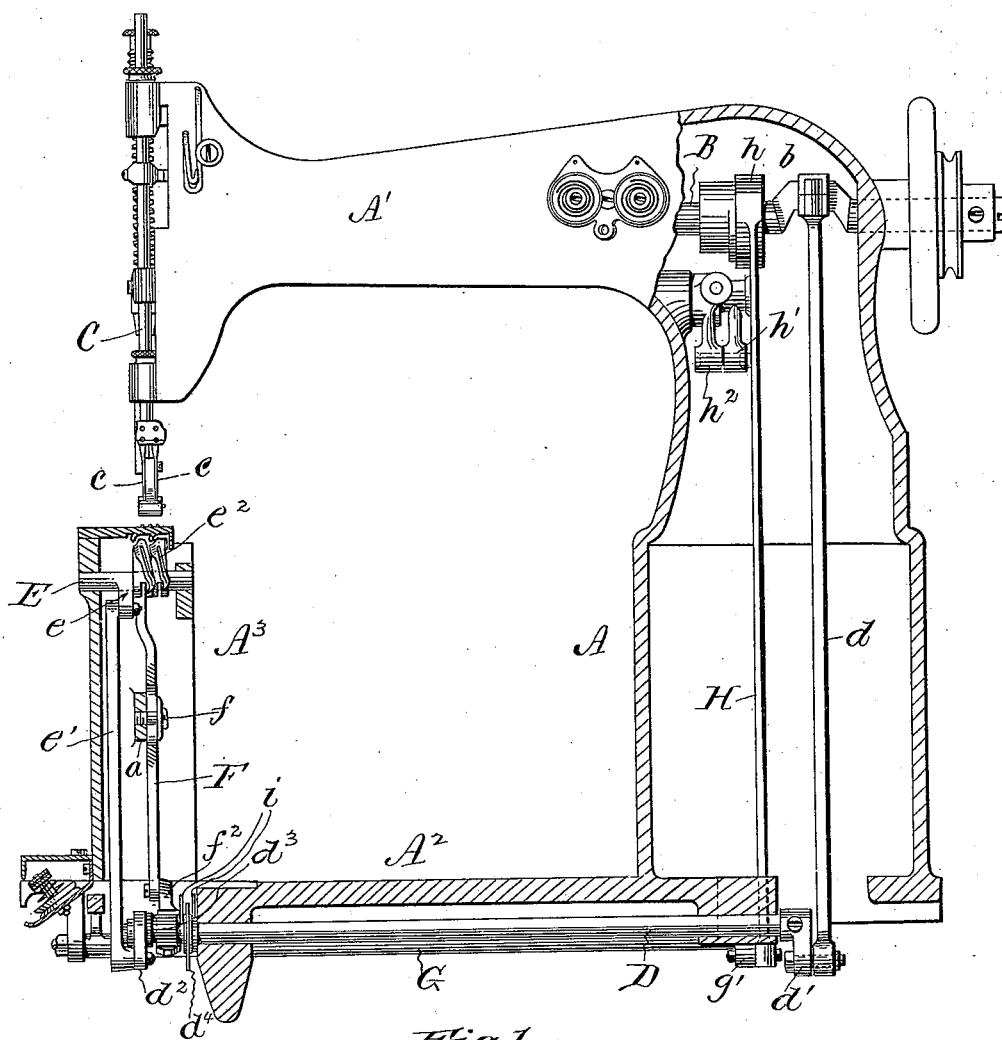


Fig. 1.

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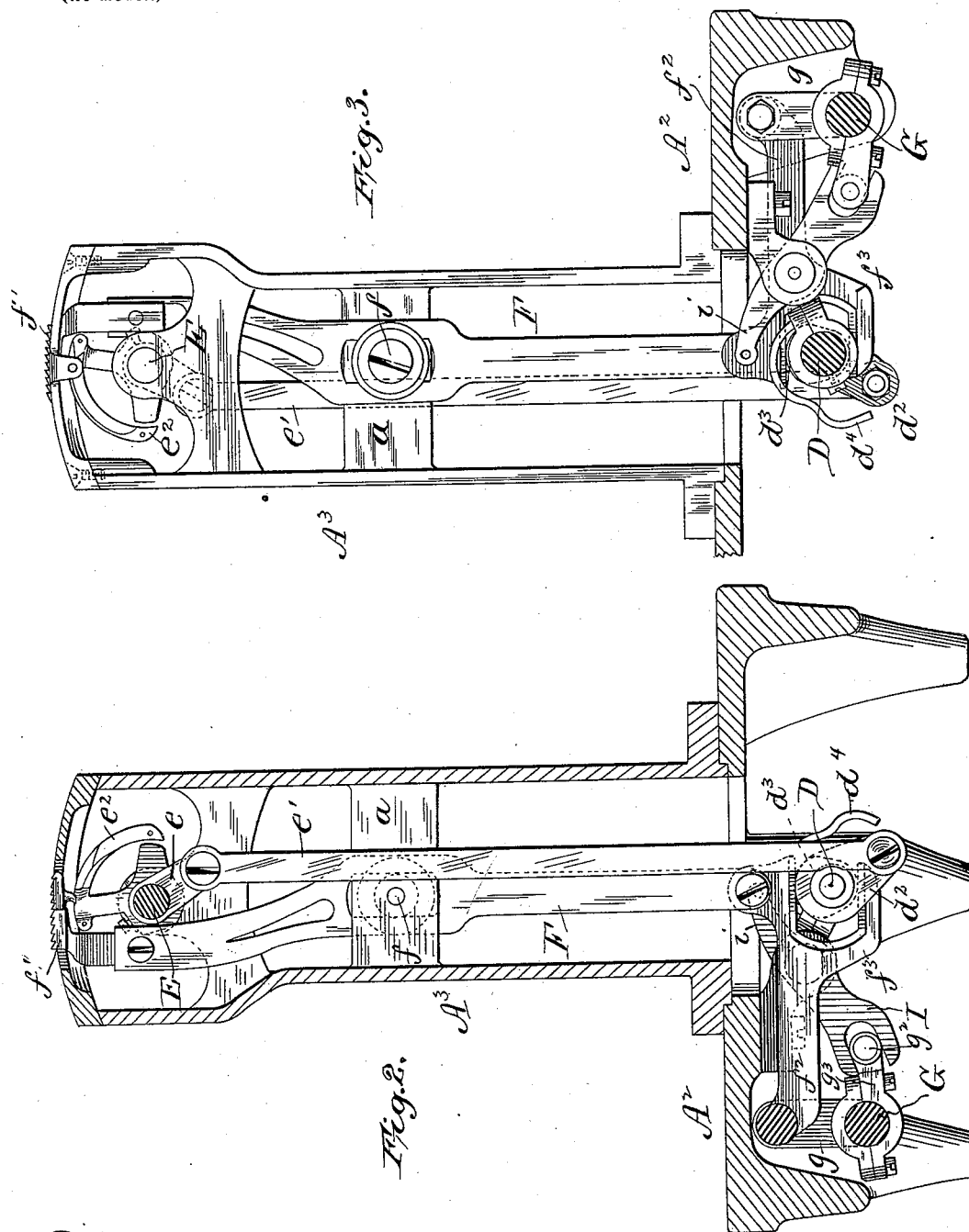
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UNITED STATES PATENT OFFICE.

ALBERT RONTKE, OF ELIZABETH, NEW JERSEY, ASSIGNOR TO THE SINGER
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CHAIN-STITCH SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 645,833, dated March 20, 1900.

Application filed April 13, 1897. Serial No. 632,003. (No model.)

To all whom it may concern:

Be it known that I, ALBERT RONTKE, a citizen of the United States, residing at Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Sewing-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention has for its object to provide a high-speed "post" sewing-machine of simple construction and adapted to be employed either as a single-needle, two-needle, or multiple sewing-machine in that oscillating or rocking loop-taking device or devices are employed and are carried or operated by a horizontal rock-shaft arranged transverse to the direction of the feed of the work and located in the upper part of the work-supporting post, so that any desired number of these rocking loop-taking devices to cooperate with any desired number of needles may be employed.

In carrying the invention into effect double chain-stitch loopers carried by the horizontal rocker or rock-shaft, which is arranged transverse to the direction of the feed of the work, so that said loopers oscillate in the line of the feed of the work, are preferably employed, although other equivalent forms of similarly-arranged oscillating loop-taking devices might be used.

In the accompanying drawings, Figure 1 is a side elevation, with the framework partly broken away, of a sewing-machine embodying the invention. Fig. 2 is a front end view of the lower part of the same, with the framework in section; and Fig. 3 is a sectional elevation looking at the rear side of the post.

The framework of the machine comprises the standard A, the overhanging arm A', and the bed-plate A², the last named being provided at its forward end with the elevated hollow work-supporting post A³.

B is the rotating driving-shaft, provided near its rear end with the crank b and having at its forward end the usual crank-and-pitman connection with the needle-bar C, carrying one or more eye-pointed needles c. The crank b is connected by a pitman d with an arm d' at the rear end of a rock-shaft D, journaled beneath the bed-plate A² and having at its forward end an arm d².

E is a horizontal rocker or rock-shaft journaled in the upper part of the post A³ and provided with an arm e, connected by a pitman e' to the arm d² of the operating rock-shaft D, said rocker or rock-shaft carrying within said post one or more oscillating loop-taking devices. These loop-taking devices, as herein shown, are double chain-stitch loopers e², moving back and forth in the same plane and operating as fully set forth in my Patent No. 582,692, granted May 18, 1897; but it will be understood that any other forms of oscillating loop-taking devices rocking on a horizontal axis or carried by a horizontal rock-shaft may be substituted for the particular loop-taking devices herein shown, although these double chain-stitch loopers are preferred.

F denotes a vertical feed-lever within the post A² and pivoted on a pin or screw f, supported by a web a, integral with said post, said lever carrying at its upper end the feed-dog f' and being jointed at its lower end to one end of a bar f², the opposite end of which is pivotally connected to an arm or arms g at the forward end of a feed-operating rock-shaft G, having at its rear end an arm g', to which is jointed the lower end of a feed-operating lever H, having at its upper end a yoke h to embrace a cam on the rotating driving-shaft B and connected by a link h' to the feed-regulating lever h². This toggle operating and regulating mechanism for the feed-operating rock-shaft G is that which has long been in use in several kinds of the well-known "Singer" machines and need not therefore be herein more fully described. The vertical movements of the feed-lever F are imparted thereto by a cam or eccentric d³ on the rock-shaft D and working in a yoke f³, with which the bar f² is provided, while the vibrating movements of said feed-lever to cause the feed-dog f to be moved back and forth horizontally to feed the work and return are imparted thereto from the rock-shaft G, these vibrating or feeding movements being varied or regulated by varying the rocking movements of the said shaft by means of the lever h².

In connection with the double chain-stitch-loopers herein shown I prefer to employ a

take-up mechanism for the looper-threads located at or near the base of the post A³ and consisting of a lever I, slotted at one end to embrace a roller-stud g², carried by an arm 5 g³, fast on the feed-operating rock-shaft G, and forked at its other end to form two thread-eye arms i i, between which works an opposing take-up arm d⁴, fixed to the looper-operating rock-shaft D. The lever I is pivoted to 10 a lug or part of the bed-plate A², and as it is vibrated from the feed-operating rock-shaft its vibrating movements will vary according to the feeding movements of said shaft, so that the take-up movements of said lever will 15 be longer or shorter as the feed or length of stitch is longer or shorter.

I am aware that two-needle post sewing-machines have heretofore been constructed; but in these machines, in which the loop-taking 20 devices were located in the upper parts of the work-supporting posts, rotating lock-stitch or other forms of rotating devices have been employed. These rotating loop-taking devices are more or less difficult of adjustment when it is desired to vary the distance 25 between the two seams or rows of stitches, and it is, moreover, impracticable to construct a post-machine which will form more than two independent seams at one time when 30 rotating loop-taking devices are used; but by employing a horizontal rock-shaft located at the upper part of the hollow work-supporting post and by which rock-shaft the loopers or loop-taking devices are carried it will be apparent that in adjusting the said loopers or 35 loop-taking devices to vary the distance between the seams they may be readily moved longitudinally of said shaft, (to which they will preferably be attached by set-screws,) so 40 that the adjustment may be easily and quickly effected. Moreover, this horizontal looper-carrying rock-shaft, placed transverse to the plane of the feed of the work, permits of the employment in a post-machine of any 45 desired number of oscillating or rocking loopers or loop-taking devices moving back and

forth in the plane of the feed of the work, so that my improved post-machine is capable of sewing three or more seams simultaneously, instead of being limited merely to two seams, 50 as are the post-machines heretofore constructed and employing rotating loop-taking devices.

Having thus described my invention, I claim and desire to secure by Letters Patent— 55

1. In a sewing-machine, the combination with the framework thereof comprising a hollow standard, an overhanging arm and a bed-plate provided at its forward end with a vertical, hollow, work-supporting post, of a rocker 60 located at the upper part of said post and provided with one or more double chain-stitch loopers, operative mechanism for said rocker, a take-up device for the looper thread or threads located at or near the base of said 65 post and near the forward end of the said bed-plate, operating mechanism for said take-up device and connections between the latter and said loopers.

2. In a sewing-machine, the combination 70 with a feeding mechanism comprising a feed-operating rock-shaft from which horizontal movements are imparted to the feed-bar, of a double chain-stitch looper, a rock-shaft from which movements are imparted to said looper, 75 a take-up arm moving with said shaft and two take-up eyes between which said take-up arm operates, said eyes being carried by a movable part which is operated from said feed-operating rock-shaft so that the move- 80 ments of said take-up eyes will be varied in accordance with the length of the feed, said eyes having a greater movement when the feed is longer and a lesser movement when the feed is shorter. 85

In testimony whereof I affix my signature in presence of two witnesses.

ALBERT RONTKE.

Witnesses:

HENRY CALVER,
PHILIP DIEHL.