

No. 721,076.

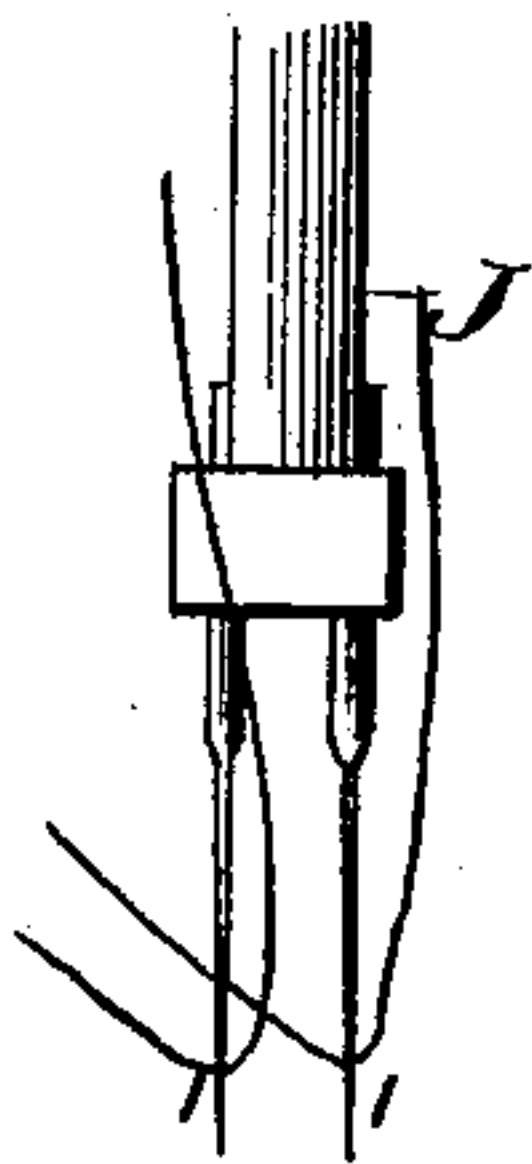
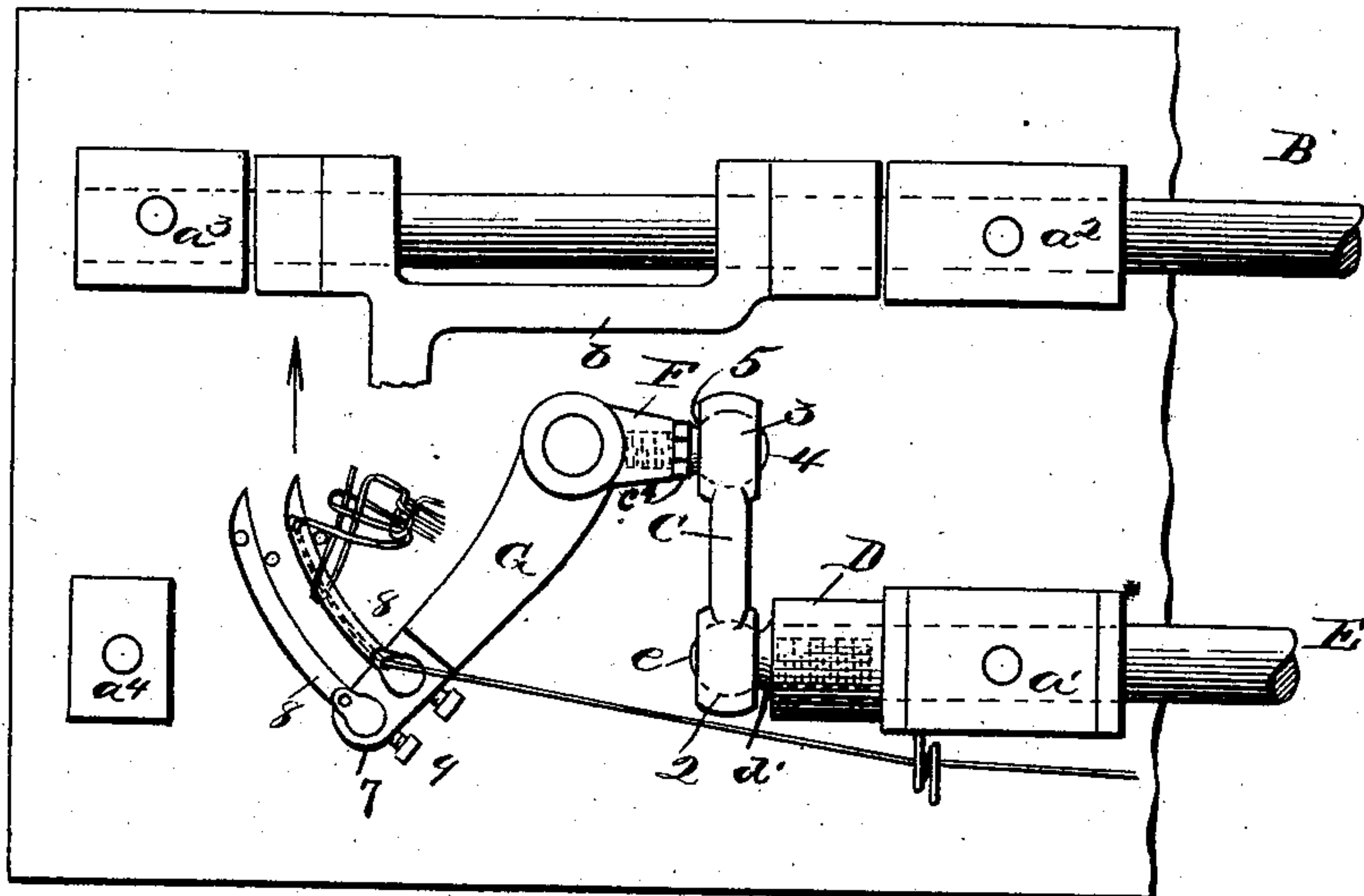
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L. ONDERDONK.  
LOOPER MECHANISM FOR SEWING MACHINES.

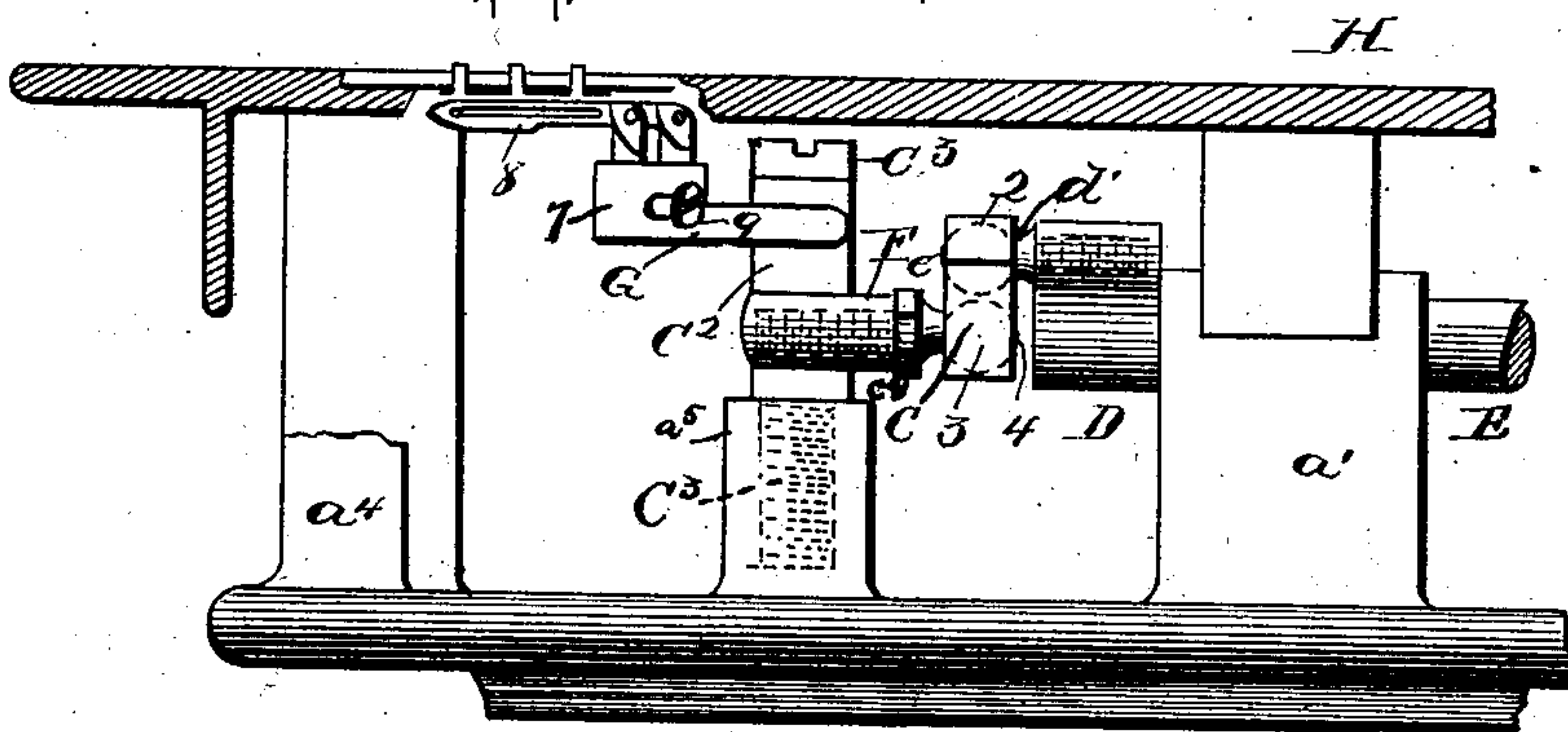
APPLICATION FILED JAN. 6, 1897.

NO MODEL.

*Fig. 1.*



*Fig. 2.*



WITNESSES

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# UNITED STATES PATENT OFFICE.

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## LOOPER MECHANISM FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 721,076, dated February 17, 1903.

Application filed January 6, 1897. Serial No. 618,154. (No model.)

*To all whom it may concern:*

Be it known that I, LANSING ONDERDONK, a citizen of the United States, residing at Winthrop, in the county of Suffolk, State of Massachusetts, have invented certain new and useful Improvements in Looper Mechanism for Sewing-Machines, of which the following is a description, reference being had to the accompanying drawings and to the letters and figures of reference marked thereon.

My invention relates to an improvement in double-chain-stitch sewing-machines, and particularly to an arrangement for supporting and operating the under-thread-carrying looper of such machines, the object of the invention being to provide a machine having such a construction and arrangement of loopers and needles and mechanism for operating the loopers that the latter may be moved forward and back to take and leave the loop in a simple curved line, dispensing with two of the usual four motions of the looper—namely, the sidewise or needle-avoiding movements—the loopers in both their forward and backward movements passing on the front side of the needles. Furthermore, the use of loop-spreaders for either the needle-loop or looper-loop is not necessary in the present construction.

The invention consists in the various matters hereinafter described, and referred to in the appended claims.

In the accompanying drawings, which illustrate the invention, Figure 1 is a top plan view of so much of a sewing-machine as is necessary to a complete understanding of my invention, which is shown as applied thereto; and Fig. 2 is a side elevation of the same.

In the drawings, A represents the bed of the machine, and  $a'$ ,  $a^2$ ,  $a^3$ , and  $a^4$  the bearing-lugs and supports, to which the cloth-plate H is attached by means of screws in the usual manner.

J represents the needle-bar of usual construction and operated in any well-known manner, being herein shown as provided with two eye-pointed thread-carrying needles 1, arranged at points diagonal to each other respecting the line of the feed, which is in the direction of the arrow shown in Fig. 1.

B represents a feed rocking shaft, and  $b$  the

rocking frame, to which the feed-dog (not shown) is secured, this feed rocking frame and shaft being operated in any suitable and well-known manner from the driving-shaft. The driving-shaft is shown at E and on its end has a head D, forming a crank in which is secured a screw-stud  $d'$ , having on its end a ball  $e$ .

C represents an arm or link having end heads 2 and 3, the head 2 having a socket in which the ball  $e$  fits, having a free movement therein, and the head 3 having a socket in which the ball 4 on the stud 5 fits, this ball-stud 5 being secured to an arm F by being screwed therein, a check-nut  $c^4$  being also provided. This arm F, which I call the "looper-carrier connection-arm," is attached to or integral with the looper-carrier, herein shown as a sleeve  $C^2$ , embracing and turning on a screw stud or post  $C^3$ , secured in the lug  $a^5$  on the bed of the machine. Attached to or integral with the sleeve  $C^2$  and projecting therefrom is the curved arm G, which has at its outer end a head 7, having sockets in which are set the shanks of the loopers 8, the loopers being secured in the sockets by the set-screws 9. The loopers are curved, as shown, to bring them in proper relation to the needle, so that as the looper-carrier as a whole oscillates the loopers will properly take and recede from the loops.

While the looper-carrier as a whole is herein shown as comprising the pivoted sleeve  $C^2$ , the arm G, and the connection rod or arm F, I do not wish to be limited to this precise construction in all my claims; but it will be obvious that the sleeve may be dispensed with and the arm G be arranged to oscillate in any suitable manner. So when in the claims I use the term "looper-carrier" or "looper-carrying frame" I mean thereby a generic term covering an oscillating supporting device for the loopers. Furthermore, I do not wish to be limited to the exact number of loopers and needles herein shown, as more or less may be provided at will, and the needles may be arranged abreast instead of diagonally to each other respecting the line of feed. In the construction herein shown the needles are set with their eyes at right angles to the line of



feed and the looper is grooved for the reception of its thread on the outside and is threaded from the outside to the inside, which is the side toward the needle, or on the inside of the curve of the looper. The stitch feeds off the points of the loopers in the direction of the arrow. In Fig. 1 the manner of forming the stitch is shown.

Various modifications and changes in the construction of the device may be made without departing from the spirit of my invention.

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

1. In a sewing-machine having a feeding mechanism moving in a defined path, a thread-carrying needle having its eye arranged transversely to the line of feed, and a thread-carrying looper, with means for imparting to it positive reciprocation in a single horizontal plane, and in a curved path substantially tangential with the line of feed from a point in

front to a point in rear of the needle, whereby the stitch is fed off the point of the looper; substantially as described.

2. In a sewing-machine having a feeding mechanism moving in a defined path, a thread-carrying needle having its eye arranged transversely to the line of feed, and a thread-carrying looper grooved upon its outer side for the reception of its thread, with means for imparting to it positive reciprocation in a single horizontal plane from a point in front to a point in rear of the needle, and in a curved path, substantially tangential with the line of feed, whereby the stitch is fed off the point of the looper; substantially as described.

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

LANSING ONDERDONK.

Witnesses:

CHAS. L. STURTEVANT,  
F. S. FAWCETT.