

(No Model.)

V. WITTE.

FEEDING MECHANISM FOR SEWING MACHINES.

No. 535,181.

Patented Mar. 5, 1895.

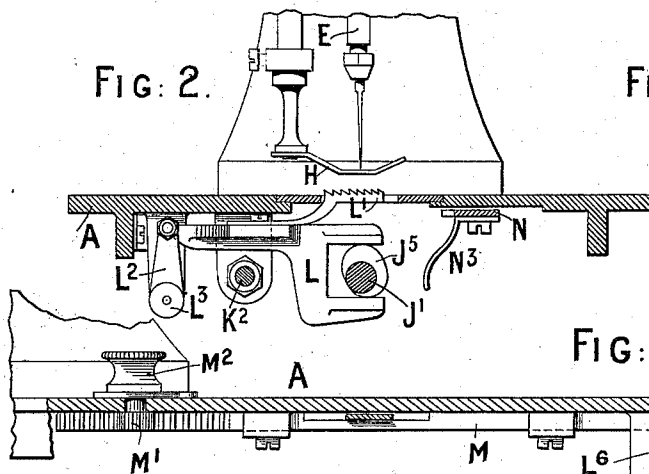
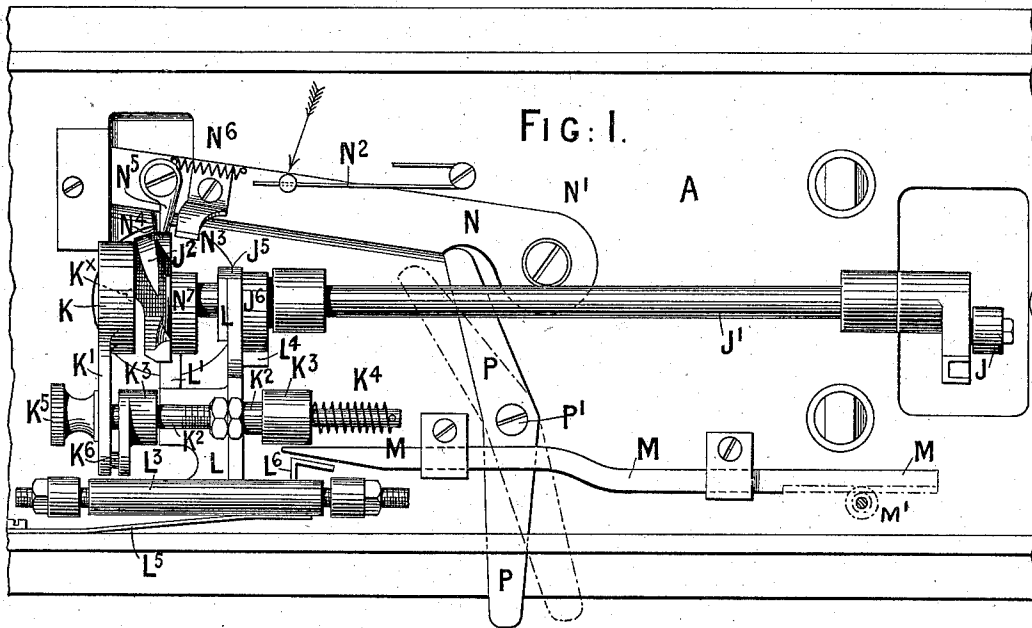


FIG: 4.

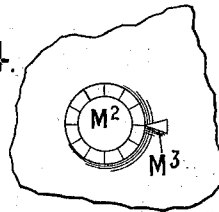


FIG: 3.

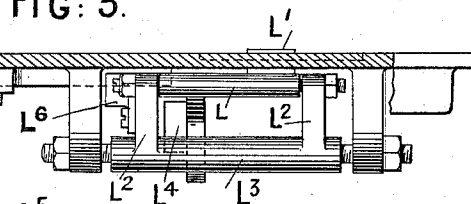
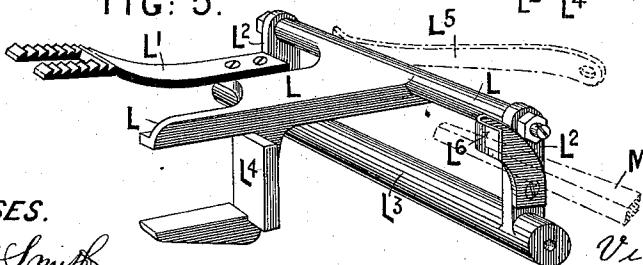


FIG: 5.



WITNESSES.

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# UNITED STATES PATENT OFFICE.

VICTOR WITTE, OF LONDON, ENGLAND.

## FEEDING MECHANISM FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 535,181, dated March 5, 1895.

Application filed December 22, 1893. Serial No. 494,456. (No model.) Patented in England February 28, 1893, No. 4,353; in Belgium July 13, 1893, No. 105,546, and in Italy August 3, 1893, No. 34,523.

### *To all whom it may concern:*

Be it known that I, VICTOR WITTE, a subject of the German Emperor, residing at 4 Newgate Street, in the city of London, England, have invented certain new and useful Feed Mechanisms for Sewing-Machines, (for which patents have been granted to me as follows: in Great Britain, dated February 28, 1893, No. 4,353; in Belgium, dated July 13, 1893, No. 105,546, and in Italy, dated August 3, 1893, No. 34,523,) of which the following is a specification.

My invention relates to the combination in an adjustable feed mechanism, of the parts hereinafter described.

The aforesaid feed mechanism is particularly applicable for use with such a machine as is described in a United States application for patent by myself, Serial No. 481,703, made July 28, 1893, this application referring to a sewing machine by which either a lock chain or locked-chain stitch may be formed, and it is as applied to such a machine (having a rotating looper shaft) that I will describe my present invention.

Figure 1 is an inverted plan of such a machine showing my improved combined feed and adjustment mechanism applied. Fig. 2 is a partial end elevation with the base plate in section. Fig. 3 is a longitudinal sectional elevation looking from the back part of the machine to further illustrate the feed regulating devices below the base plate. Fig. 4 is a plan of the feed index, and Fig. 5 is a perspective view of the feed levers.

A is the base plate of the machine.

E is the needle-bar receiving reciprocative motions from the main driving shaft at proper times.

H is the presser foot.

J' is the looper shaft receiving continuous rotary motion by ordinary means from the main shaft as usual, and J<sup>2</sup> is the looper fixed on the end of its shaft J'.

Upon the looper shaft J' I provide two cams J<sup>5</sup> J<sup>6</sup> adjacent to one another and located so that the cam J<sup>5</sup> is embraced by a forked end formed upon an arm L, Figs. 1 and 5, upon which the feed jaw L' is fixed. The feed arm L shown detached and in perspective at Fig. 5, is pivoted at its rear end between two arms

L<sup>2</sup> of a rock shaft L<sup>3</sup> carried in center bearings from lugs on the under side of the base plate. The cam J<sup>5</sup>, Fig. 2, acts as aforesaid within the fork of the feed arm L to give the rising and falling motion thereto and to support the end of the arm L while the cam J<sup>6</sup> acts against the projection L<sup>4</sup> at the back of the aforesaid forked end of the feed arm L to give the advanced feed motion, a spring L<sup>5</sup> attached to the base plate acting at the back of the feed arm L to give the return motion. It is however necessary, as is usual, to provide a means of regulating the distance to which the spring L<sup>5</sup> shall return the feed arm L, in order to have a practically operative feed mechanism by which various lengths of stitch may be effected by regulating the amount of traverse of the material, and thus I combine with the feed arm a sliding wedge to co-act therewith.

M is the sliding bar with a sloped or tapered end arranged to so-act with a part L<sup>6</sup> on the arm L<sup>2</sup> of the rocking shaft L<sup>3</sup>. By advancing the bar M toward the left hand in Fig. 1, the distance which the feed levers will be returned by the spring L<sup>5</sup> will be limited, and consequently a shorter stitch will be produced, and by moving the bar to the right hand (Fig. 1) a longer stitch is produced. Motion is communicated to the bar through the rack teeth thereon, gearing with a pinion M', Figs. 1 and 3, operated by a knob M<sup>2</sup>, Figs. 3 and 4, on the base plate. The base of the knob M<sup>2</sup> is formed with a divided disk, see Fig. 4, and contiguous thereto is a fixed pointer M<sup>3</sup>, whereby the knob and consequently the bar M may be at any time set or returned to a position which will give a known or desired length of stitch.

I am aware that it is not new to effect the vertical and longitudinal motions of the feed by means of two cams on one shaft, and also that feed mechanism has been devised with the object of obtaining for the feed dog a forward, downward, backward and upward motion, and I am also aware that it is not broadly new to combine a feed adjustment with the feed devices. I do not therefore attempt to broadly claim the before mentioned parts or combinations, my invention consisting in a particular combination of supporting, actuat-

ing and adjusting devices forming my afore-  
said feed mechanism.

I claim as my invention—

5 The combination in a sewing machine with  
the revolving looper shaft and the two cams  
thereon adjacent to one another, of a feed bar  
and its fork acted upon by the cams, and a  
spring for moving the feed bar toward the  
cams, a rock shaft and arms upon which the  
10 feed bar and fork are pivoted, and a bracket  
on one of the arms, a bar M having a tapered  
end to co-act with the bracket on the arm,

for regulating the movement of the feed, rack  
teeth on the bar, a pinion gearing with the  
rack teeth, a shaft therefor passing through 15  
the bed and a knob and indicating device on  
the shaft above the machine bed, to operate  
the pinion and move the tapered bar endwise  
in the regulation of the feed, substantially as  
set forth.

VICTOR WITTE.

Witnesses:

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E. W. ECAILLE.