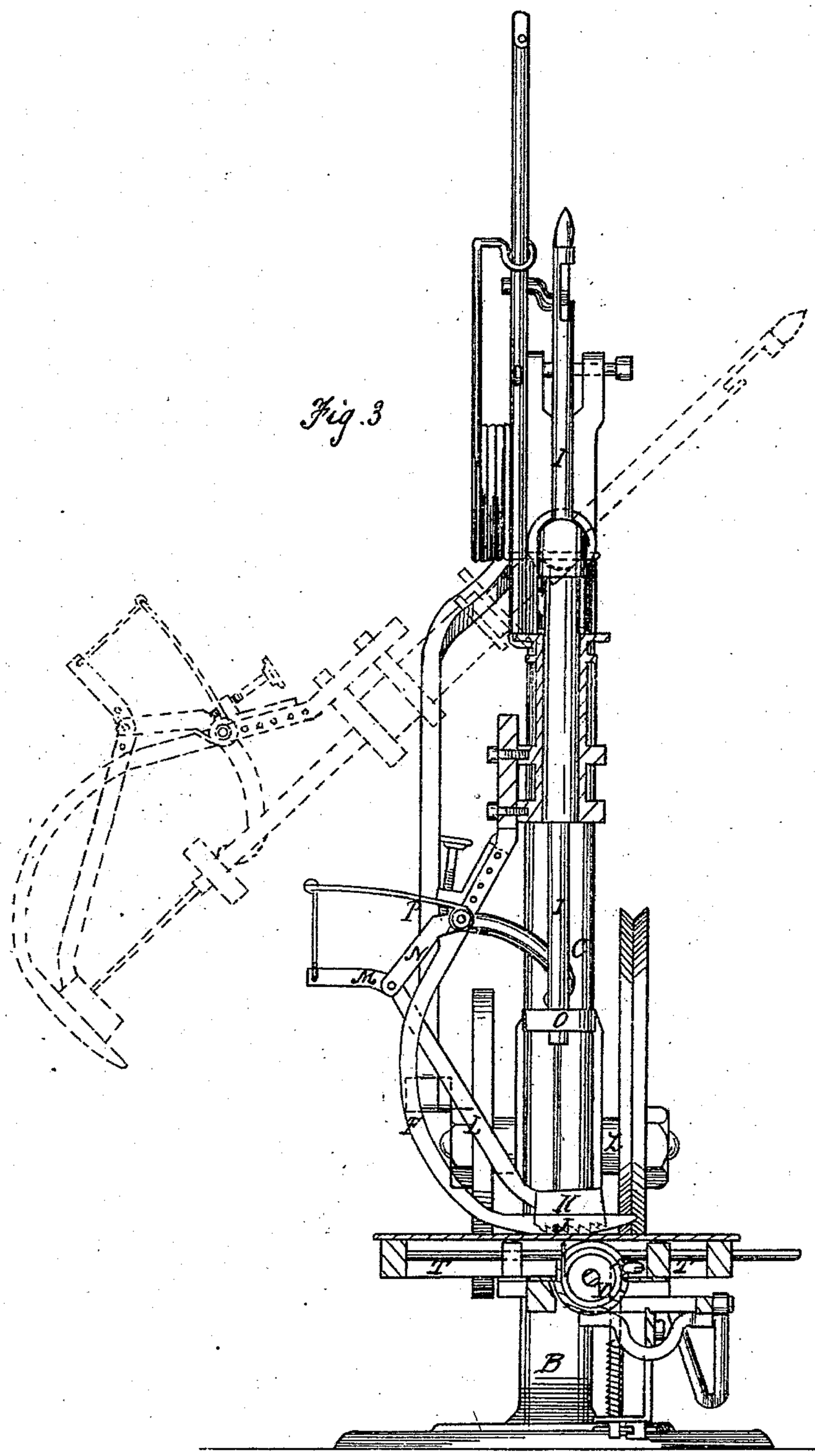
2 Sheets—Sheet 1.

W. S. ELLIOTT.

Sewing Machine.

No. 75,884. Patented March 24, 1868.

Fig. 3



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2 Sheets—Sheet 2.

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Fig. 4.

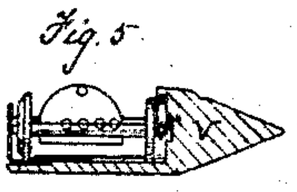
Fig. 5.

Fig. 1.

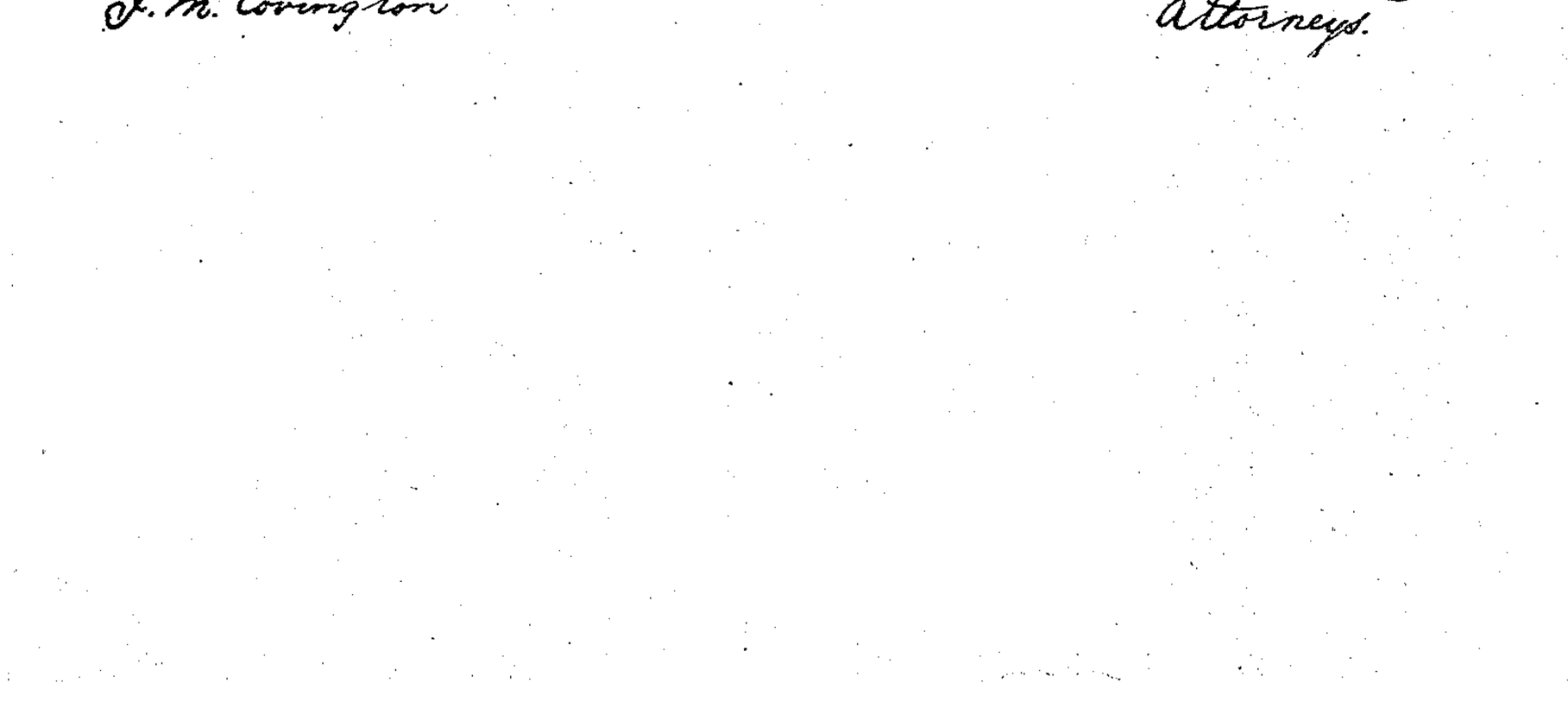
Fig. 2.

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United States Patent Office.

W. ST. GEORGE ELLIOTT, M. D., OF MORRISTOWN, NEW JERSEY.

Letters Patent No. 75,884, *dated March* 24, 1868.

IMPROVEMENT IN SEWING-MACHINES.

The Schedule referred to in these Letters Patent and making part of the same:

TO ALL WHOM IT MAY CONCERN:

Be it known that I, W. St. George Elliott, M. D., of Morristown, in the county of Morris, and State of New Jersey, have invented new and useful Improvements in Sewing-Machines, and that the following description, taken in connection with the accompanying drawings, hereinafter referred to, forms a full and exact specification of the same, wherein I have set forth the nature and principles of my said improvements, by which my invention may be distinguished from all others of a similar class, together with such parts as I claim, and desire to have secured to me by Letters Patent.

The improvements in sewing-machines embraced in the present invention principally consist in the construction and arrangement of the feed-mechanism, as will be hereinafter more fully described.

In the accompanying plates of drawings my improvements in sewing-machines are illustrated—

Figure 1, plate 1, being a side elevation of a sewing-machine constructed according thereto.

Figure 2, plate 1, a horizontal section taken in the plane of the line *x x*, fig. 1.

Figure 3, plate 2, a transverse vertical section taken in the plane of the line *y y*, fig. 2, showing the feed-mechanism in red lines, as thrown up and off of the cloth-plate to the machine.

Figures 4 and 5, plate 1, views of the shuttle, the one a side view, and the other a section in the direction of its length.

A, in the drawings, represents the cloth-plate to the sewing-machine. This cloth-plate is secured to a stand or pedestal, B, by which it is supported, and is provided with an upright or arm, C, that is extended over the cloth-plate, and carries the mechanism for operating the needle D to the machine. E, the feed-mechanism, which is shown as arranged to operate upon the upper surface of the cloth, and in the construction, as well as the arrangement of its parts, is as follows: F is a curved or bent arm, hung so as to turn or swing around by a sleeve or collar, G, fixed at its upper end to and upon the downward-projecting piece or extension H of the arm C, hereinbefore referred to, through which arm plays the needle-bar I of the machine. This arm F, by its curved shape, extends down and toward the cloth-plate, where it terminates with a foot-piece, J, on which runs and plays forward and backward the feed-surface or bar K, operated by and through the arrangement of mechanism to be now described. This feed-bar K is fixed to the lower end of a lever, L, hung upon a fulcrum-pin, *a*, of the curved arm F, and connected, at its upper end, M, with a curved-shaped or bent lever, N, also hung upon a fulcrum, *b*, on the arm F, and extended into the plane of movement of the collar O to the needle-bar I, so that when the said needle-bar moves upward, such collar will abut against said lever N, and, swinging it, impart the requisite movement to the feed-bar K to carry or feed the cloth along upon the cloth-plate. The lever L is provided with a spring, P, to bring it back after the bar I has ceased to operate it, and when the needle is on its downward movement, and thus to bring the feed-bar back into position for again feeding the cloth forward by the upward movement of the lever N, and consequently to increase or decrease the amount of feed to the cloth upon each upward movement of the needle-bar.

As the feed-mechanism is arranged, through its curved arm, to swing upon the extension H, it is plainly obvious that the feed-bar, arranged to move on its foot-piece J, can be brought into position to operate in any desired line or direction, according as may be found necessary or desirable in stitching or sewing the material; the arm N, through which the feed-bar is operated, being always in position for being operated upon by the collar to the needle-bar.

R, the race for the shuttle, consisting of parallel bars S, that at each end are hung upon cross-rods T fixed in the frame U, to the cloth-plate A of the machine, whereby it can be moved either toward or away from the plane of movement of the needle through the cloth-plate, either more or less, as may be found necessary to bring the said shuttle or other under-thread carrier which is hung thereon into position for operating, in connection with the needle, to form the stitches in the cloth. The shuttle V is provided upon opposite sides with longitudinal grooves *c*, which fit and slide upon the inside edges of the parallel bars S forming the race R. This shuttle is moved backward and forward by means of a connecting-rod, Y^2, pivoted at one end, eccentrically, to a disk upon a driving-shaft, Z, and at the opposite end to a carrier, X, arranged to move upon a guide, Y, below the shuttle-race. The shuttle fits between the arms of the carrier, as shown in fig. 2. A^2, a spring-arm

fixed to shuttle-race R, in position to throw the loop on the head or point of the shuttle off of the same as the shuttle moves forward. The shuttle V is made open upon its upper side, so as to allow the bobbin or spool B^2 to be inserted and removed without necessitating the removal of the shuttle from the race.

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

The curved arm F, having the presser J, pivoted lever L having feed-foot K and arm M, adjustable bent lever N and spring P, in combination with the sliding sleeve G, needle-bar I, and collar O, all constructed and arranged to operate as herein shown and described.

The above specification of my invention signed by me, this 20th day of July, 1867.

WM. ST. G. ELLIOTT, M. D.

Witnesses:

WM. F. McNAMARA,

J. A. SERVICE.