

T. J. W. ROBERTSON.

2 Sheets—Sheet 1.

Sewing Machine.

No. 25,913.

Patented Oct. 25, 1859.

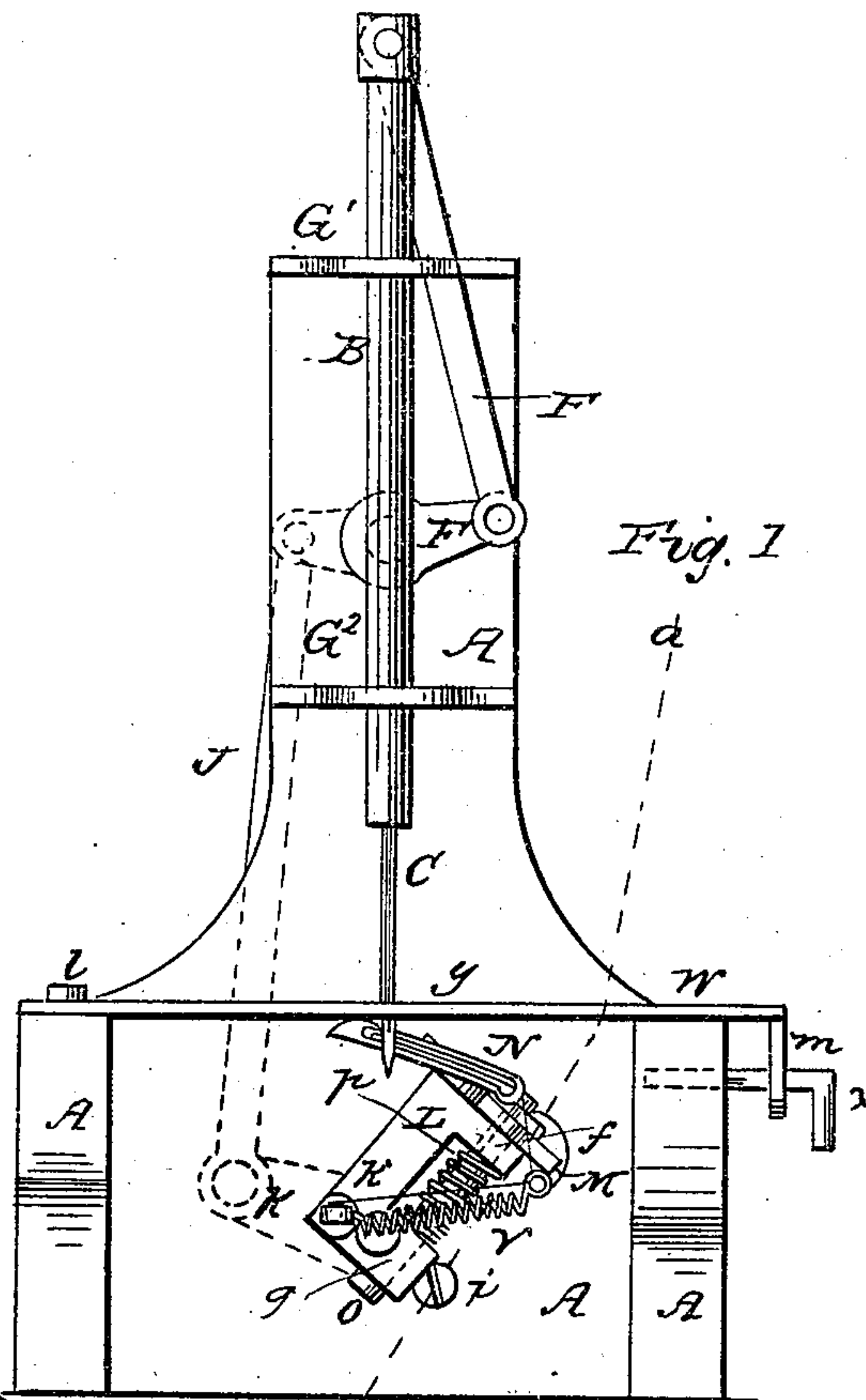


Fig. 1

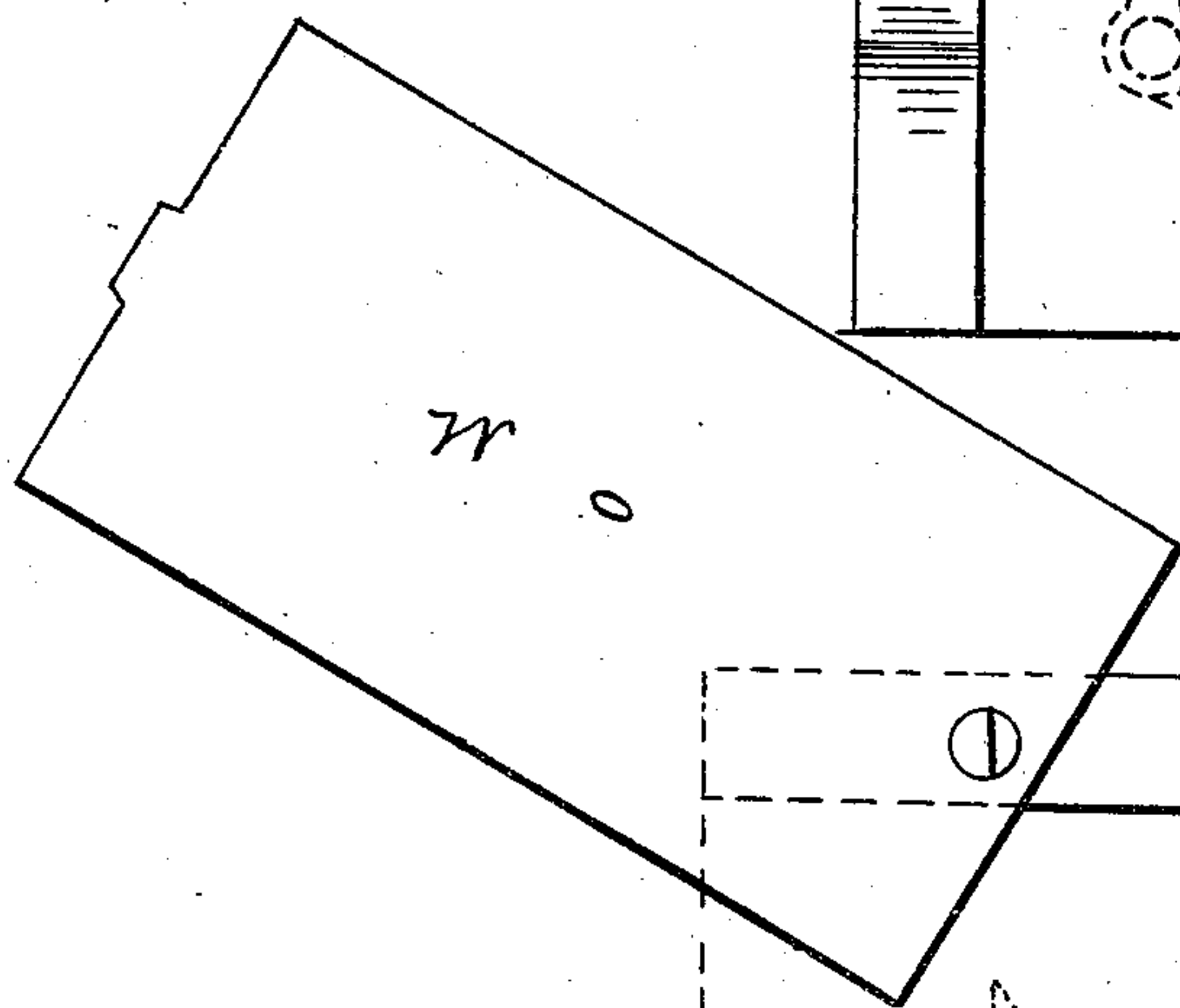
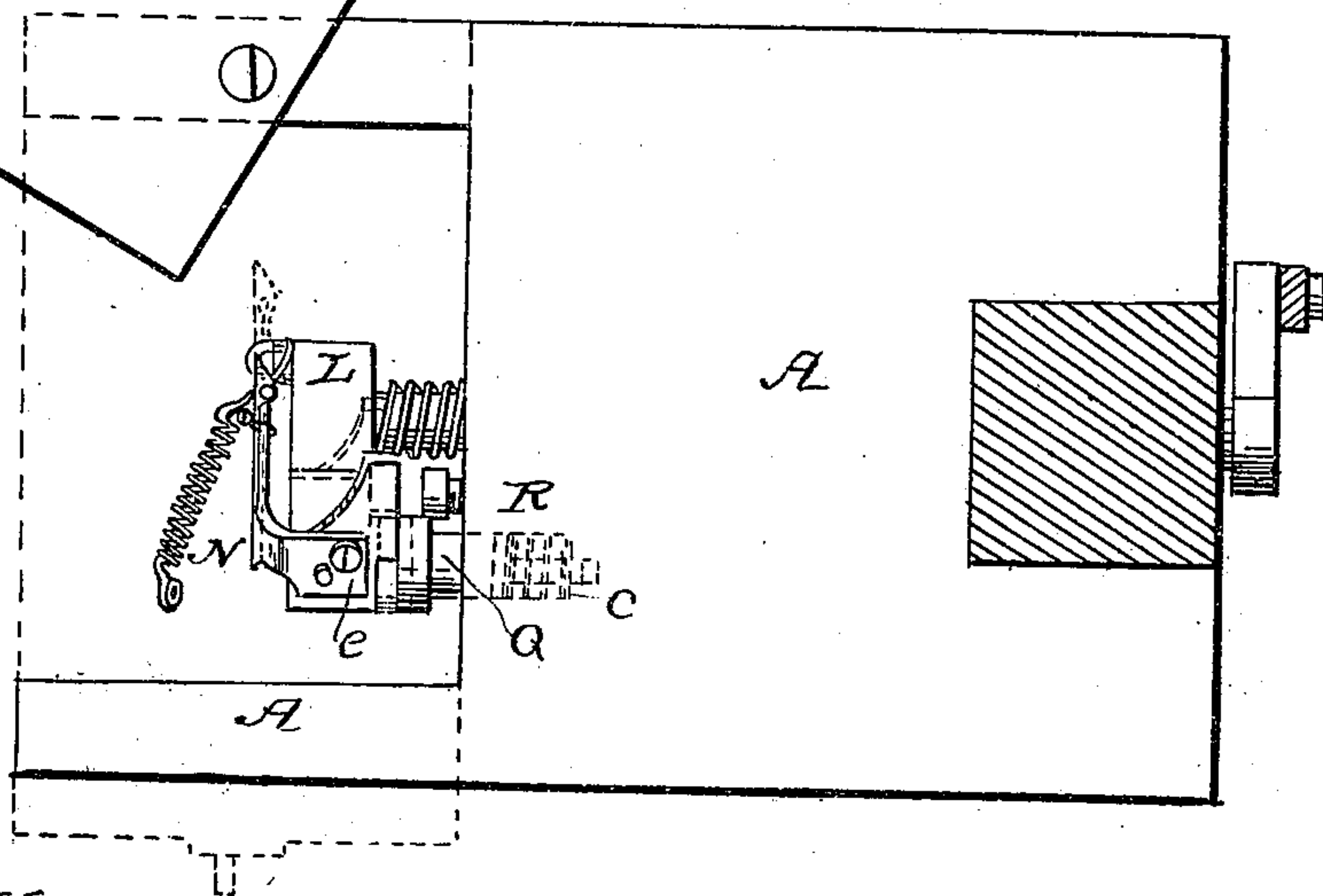


Fig. 3



WITNESSES
N. Zusch
& Wolff

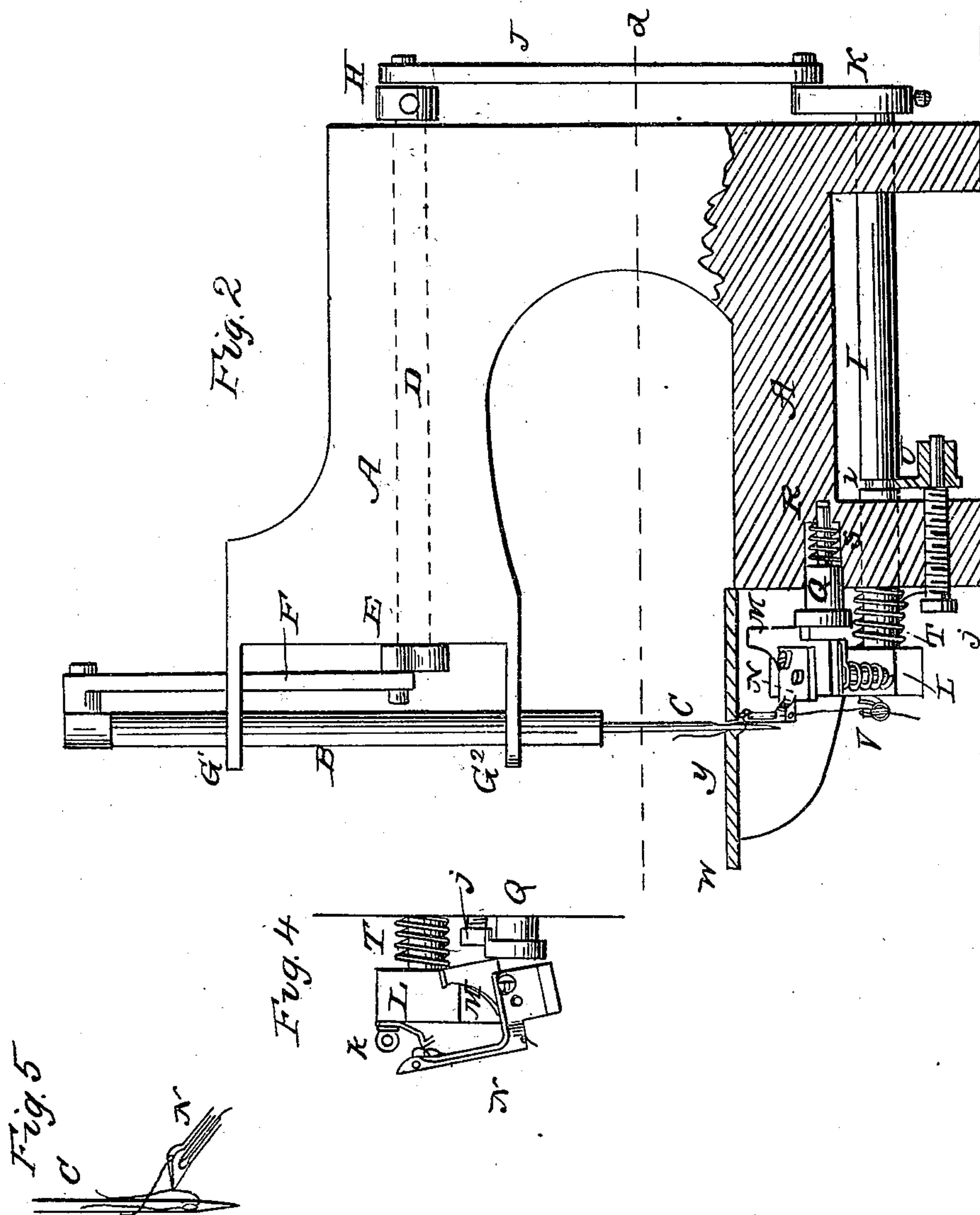
INVENTOR
T. J. W. Robertson

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Wm. Zisch
E. Wolff

INVENTOR
T. J. W. Robertson

UNITED STATES PATENT OFFICE.

T. J. W. ROBERTSON, OF NEW YORK, N. Y.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 25,913, dated October 25, 1859.

To all whom it may concern:

Be it known that I, T. J. W. ROBERTSON, of the city, county, and State of New York, have invented certain new and useful Improvements in Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a front view of my improvement. Fig. 2 is a side view with part of the frame removed, as shown by the dotted line *a b* in Fig. 1. Fig. 3 is a plan of that part of the machine below the line *c d* in Fig. 2. Fig. 4 is a plan showing the under needle in a different position to that in the last figure. Fig. 5 is a magnified view of part of the two needles used.

Similar letters of reference indicate corresponding parts in the several figures.

To enable others skilled in the art to which this pertains to make and use my invention, I will proceed to describe its construction and operation.

A A A is the frame of the machine, which may be made in any fanciful or convenient form.

B is the vertical needle holder or slide, working in guides *G' G²*, attached to the frame A, carrying the needle C, and receiving motion from the main shaft D through the crank E and pitman F. Attached to the other end of the shaft D is another crank, H, which gives motion to the rock-shaft I through the pitman J and vibrating arm K.

L is another vibrating arm, also attached to rock-shaft I, carrying a peculiarly - formed piece of steel, M, whose precise shape will be understood by reference to Figs. 2 and 4 in the annexed drawings. This piece M may be called a "needle-carrier," as the under needle, N, is attached to it by the screw *e*, (or, if preferred, the said needle N and carrier M may be made in one piece.)

O is a small rock-shaft working in bearings *f g* in arm L, and is screwed into the needle-carrier M, allowing said needle-carrier and needle to have a vibratory motion.

Q is a plug inserted into a socket, R, in the frame A, having a spring, S, around it, said spring having a tendency to press the plug Q out of the socket and against the side of the needle-carrier M.

T is another spiral spring on rock-shaft I, exerting its force in such a manner as to carry the said rock-shaft I in the direction of the path of the vertical needle C. To limit its motion in this direction I use a guide, U, which fits into a groove, *i*, turned in the rock-shaft I. This guide U is governed and held in its place by a screw, *j*. The object of this device is the easy adjustment of the under needle, N, so that by simply turning the screw *j* the said under needle may be placed nearer to or farther from the vertical needle C.

V is a spring take-up for keeping the under thread taut, so that the vertical needle will be sure to take a loop from the under needle, N. This take-up is formed by winding the wire of which it is made in a spiral form. This enables me to make a more flexible take-up than can be constructed in any other manner. It is attached to the vibrating arm L by a screw, *k*, which serves also as a thread-guide for the under thread.

W is the table or platform of the machine, which is loosely fastened to one side of the frame A by a screw, *l*, allowing it to turn easily, so that it may be removed in the manner shown in Fig. 3 for threading the needle and other purposes. The table is kept in its proper place, when required, by the pin X, which passes through a lug, *m*, on the under side of the table W into the frame A, as seen in Fig. 1. The thread of the vertical needle is represented in blue, and that of the under needle in red.

The operation of the parts in interlooping the two threads together may be described as follows: The cloth Y having been placed on the table W, the needle C is caused to descend, carrying with it a loop of thread. As it begins its return motion the under needle, N, advances toward it and enters the loop formed in the thread of needle C, carrying with it a loop of its own thread, and the two needles assume the various relative positions shown in Figs. 1, 3, and 5. When the under needle has reached the position shown in red outline in Fig. 3, the plug Q advances, as seen (also in red) in the same figure. As the needle C again descends the under needle, N, retreats, and the projection *o* on the carrier M, coming in contact with the plug Q, causes the needle N to cross the path of the vertical needle C, so as to open the loop of the under thread, as

seen in Fig. 4. As the needle N continues to recede the carrier M slips off the plug Q, (the vertical needle C having taken the loop,) and is carried back to its original position by the spring P. Thus it will be seen that each needle takes a loop from the other needle, and if the fabric to be sewed is moved the necessary distance to form a stitch by any suitable means between each movement of the needles, a line of stitching will be formed like that known as the "two-thread chain" or "double lock" stitch.

Should it be necessary to use foot or other power to operate the machine, a pulley may be substituted for the crank H.

By a slight change in the form of the nee-

dle N it may be used as a looper to make the single-thread chain-stitch.

I am aware that it is nothing new to give the under needle or looper of a sewing-machine a sidewise motion to open the loop; but

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

The arrangement and combination of the carrier M, spring-plug Q, and vibrating arm L, substantially as and for the purposes herein shown and described.

June 1, 1859.

T. J. W. ROBERTSON.

Witnesses:

W. TUSCH,

E. WOLFE.