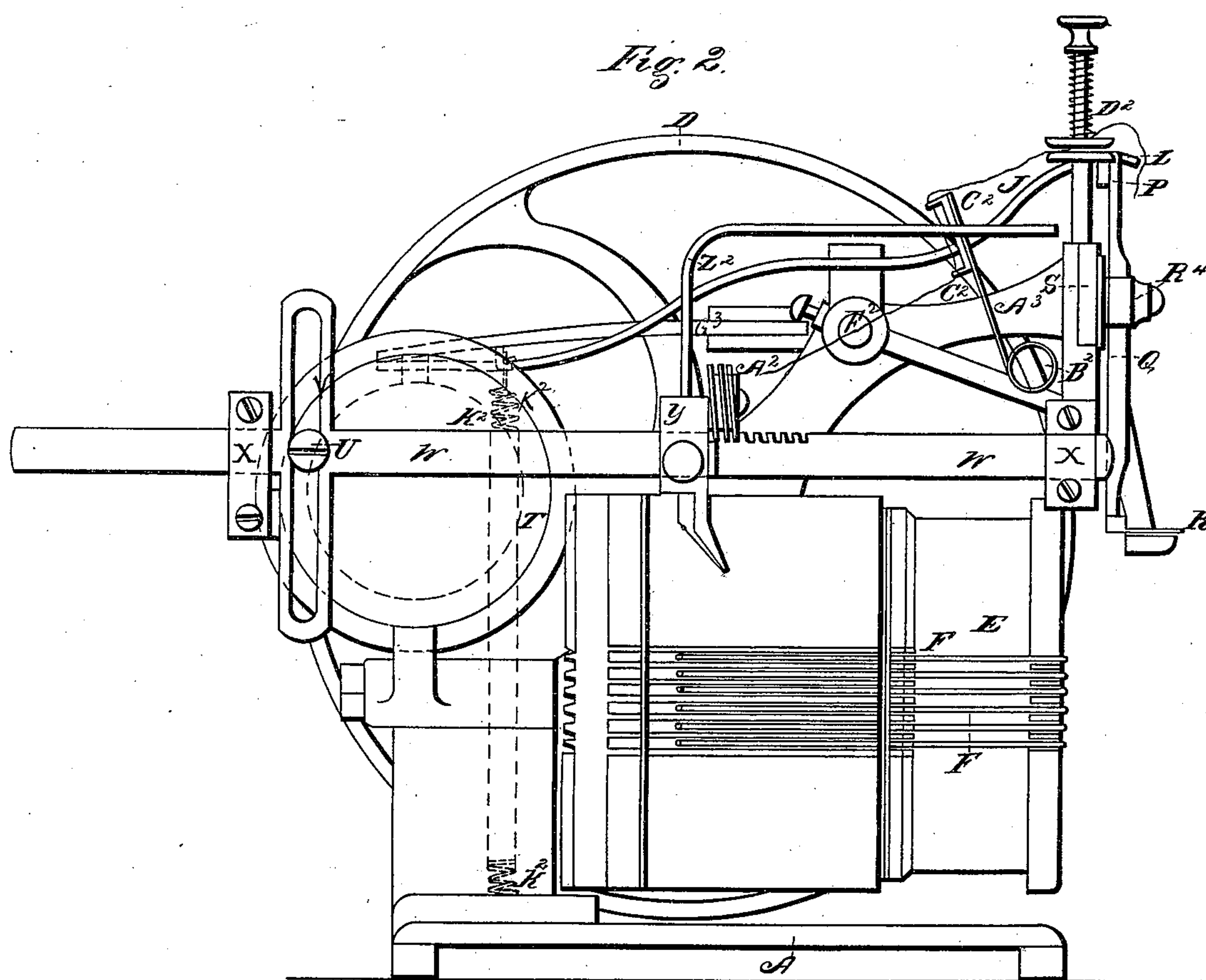


Sheet 2.2 Sheets.

M. L. Roberts.
Knitting Mach.

N^o 64,572.

Patented May 7, 1867.



Witnesses:
Theo. Tusch.
J. A. Service.

Inventor:
M. L. Roberts.

United States Patent Office.

MARK L. ROBERTS, OF CHATSWORTH, ILLINOIS.

Letters Patent No. 64,572, dated May 7, 1867.

IMPROVEMENT IN ROTARY KNITTING 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, MARK L. ROBERTS, of Chatsworth, in the county of Livingston, and State of Illinois, have invented new and useful Improvements in Knitting Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

The present invention consists, first, in a novel manner of moving the device for throwing or operating the needles of the machine; second, in so arranging the needle-operator that its length of stroke and consequently that of the needles of the machine moved or operated thereby can be adjusted and changed at pleasure, according as it is desired to knit loose or close; third, in a novel manner of throwing or operating the thread or yarn-puller of the machine; and fourth, in so operating the yarn-presser of the machine that its movement can be reversed according as the machine is turned forward or backward, this movement being necessary for the knitting of the heel portion of stockings and suspenders, mittens, or anything having a flat web. In the accompanying plate of drawings my improvements in knitting machines are illustrated—

Figure 1 being a plan or top view of the machine.

Figure 2, a side elevation; and

Figure 3, a detail view to be hereinafter referred to.

Similar letters of reference indicate like parts.

A A, in the drawings, represent the supporting framework of the machine. B the driving-shaft, turning in suitable bearings of the framework A, on one end of which shaft is fixed a friction-wheel, C, that through a balance or fly-wheel, D, against the inside periphery of which it is arranged to bear, is revolved, consequently revolving the shaft to which it is secured. E the cylinder, carrying the knitting-needles F, which are arranged to move in suitable grooves or ways of such cylinder. This cylinder is suspended in a horizontal position upon the framework A, so as to freely turn or revolve, it being actuated by the driving-shaft, with which at its inner end it is connected through the series of teeth formed around such end, and the spirally arranged flange F¹ upon the driving-shaft. G a cam-way or groove, around the drum H of driving-shaft B, in which groove moves the friction-roller I of one end of a bent lever, J, hung so as to turn or swing in a horizontal plane upon a fulcrum-pin, K, of the framework A, with its outer end L engaged with the notch M of a cross-bar, N, pivoted at one end to a standard or upright, O, and at its other end to the upper end P of the vertical arm Q, having at its lower end a foot-piece, R, by which the knitting-needles are opened as they pass by and over the same; this arm Q being hung and swinging upon a fulcrum at R¹ of the head-plate S above the needle-cylinder.

The arrangement of the parts as above described is substantially similar to that in all knitting machines of the same class, and forms no part of the invention which is embraced in the present application; the description of such parts being only given herein for the purpose of enabling such parts of the machine as are new to be more fully and plainly understood.

On the end of the shaft B having the spiral-screw flange F¹ is secured a circular disk or plate, T. U, stud or pin, on the outer face of disk T, over which stud plays the vertical slotted arm V, forming a part of the horizontal bar W extending over the needle-cylinder, but above it, and in the direction of its length, and hung at or near each end in fixed hangers or guides X of the framework A, through which it moves and plays in a horizontal plane forward and backward over the needle-cylinder, as the driving-shaft B, to the disk T of which it is connected, as above described, revolves. Through this movement of the bar W the needles of the cylinder are carried forward and backward over the cylinder, they being acted upon in regular order and succession by the arm or carrier Y, attached to the bar W, which carrier is made of an arch or curved shape extending partially around the cylinder, and is provided with a supplementary arm, Z. To enable the carrier Y to be adjusted on the bar W I notch or tooth the upper edge of the said bar W, for a portion of its length, with which teeth engages a spiral-screw nut, A², hung upon one end of the carrier Y, by the turning of which to the right or left the said carrier can be moved along and adjusted upon the bar W, either more or less, toward the front or knitting end of the needle-cylinder, according to the length of stroke or movement which it is desired to impart to the needle upon the cylinder; the said nut holding the carrier at any point at which it may be set upon the bar. On the upper side of the carrier Y is an upright, Z², which at its upper end is

T. Robjohn.

Needle Loom

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Fig. 1.

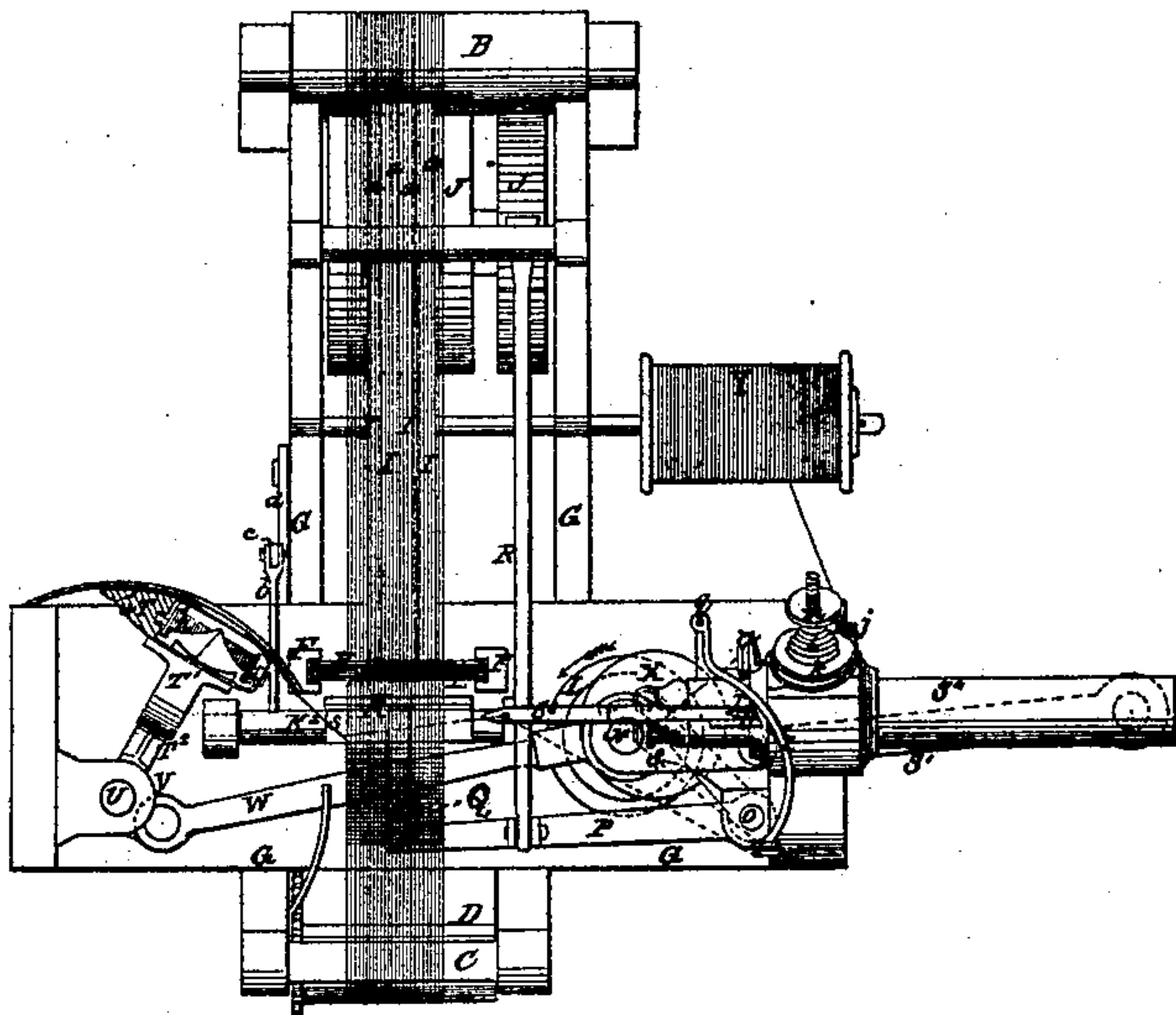
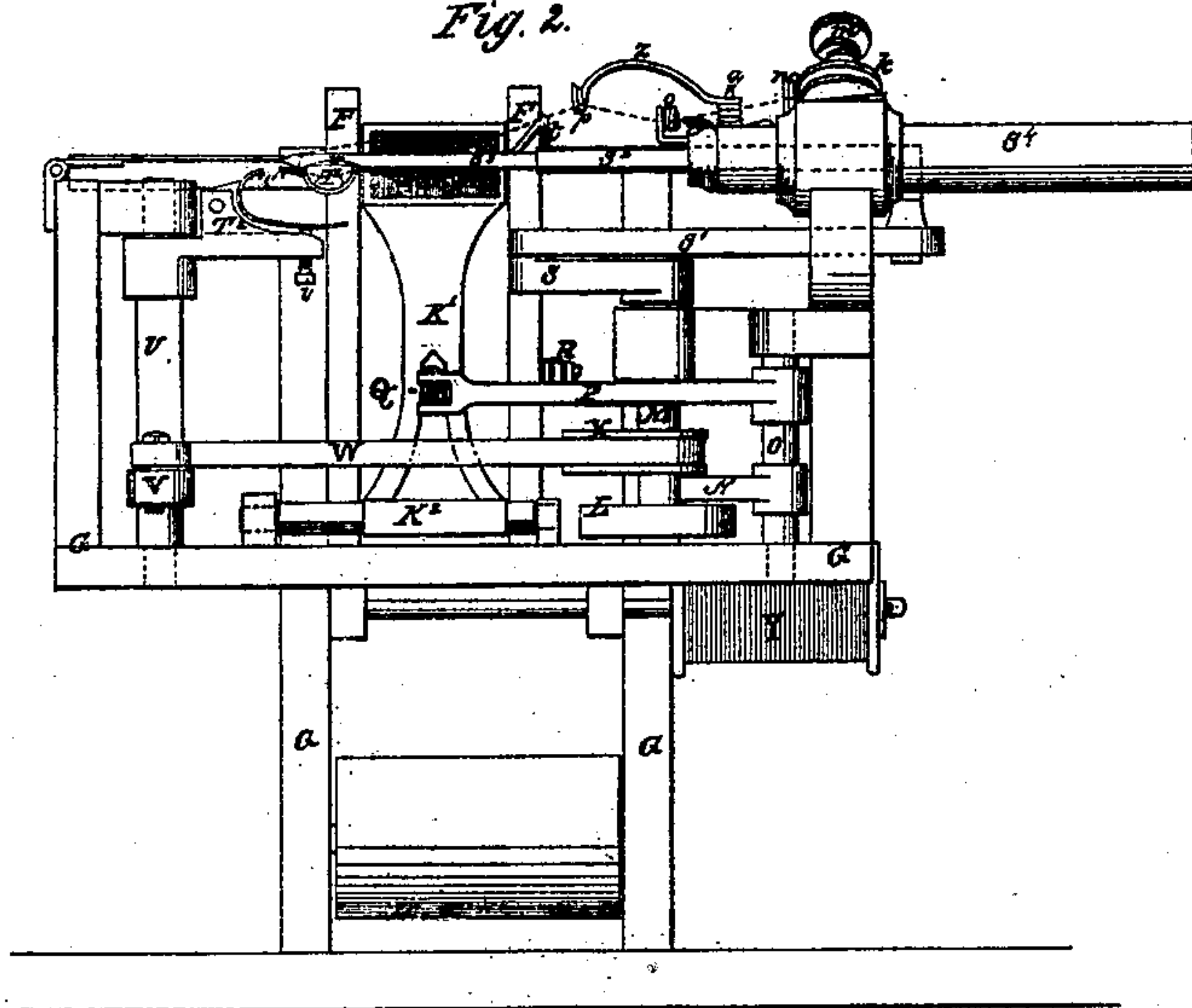


Fig. 2.



Witnesses,

J. W. Coombs
G. W. Reed.

Inventor.

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