

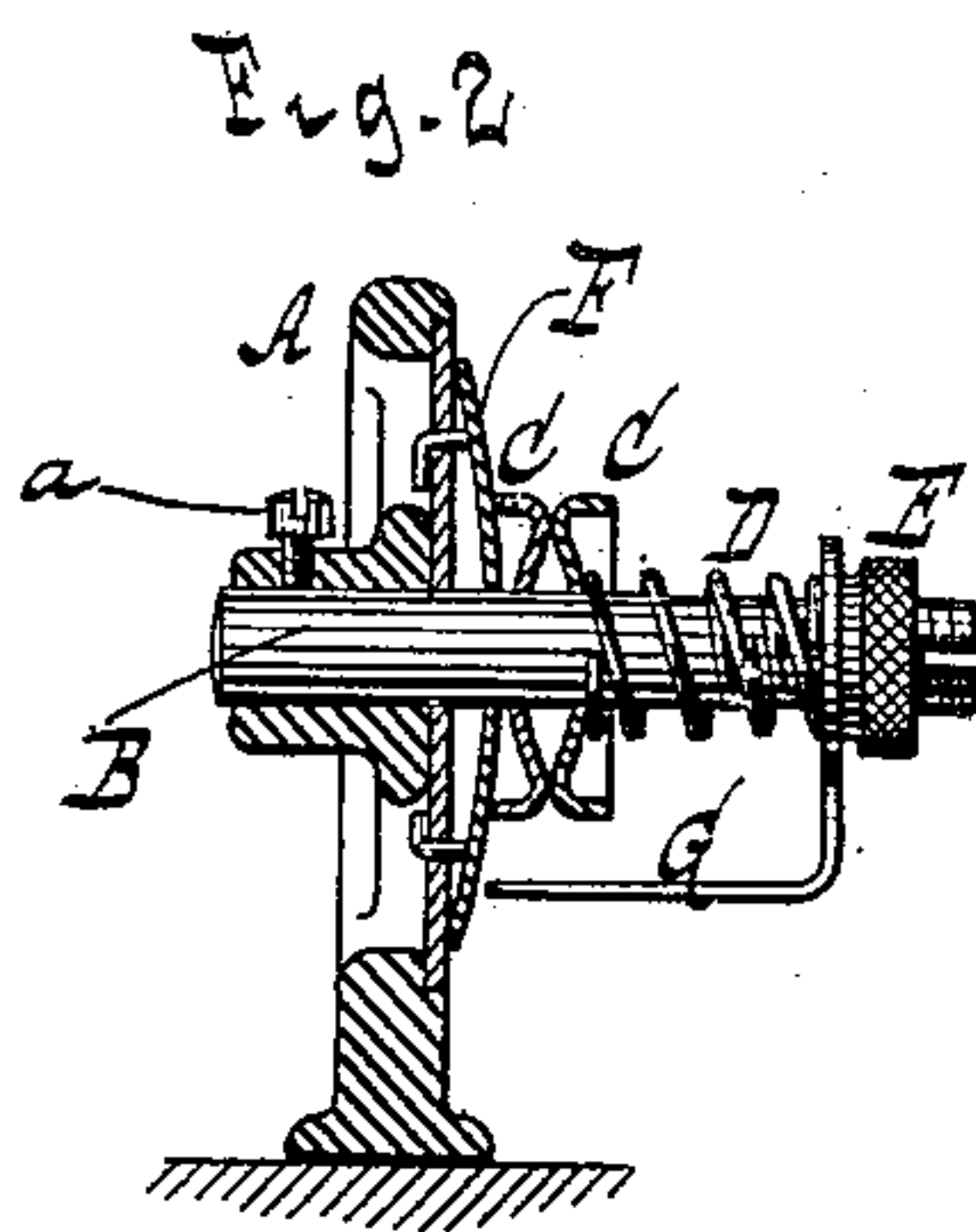
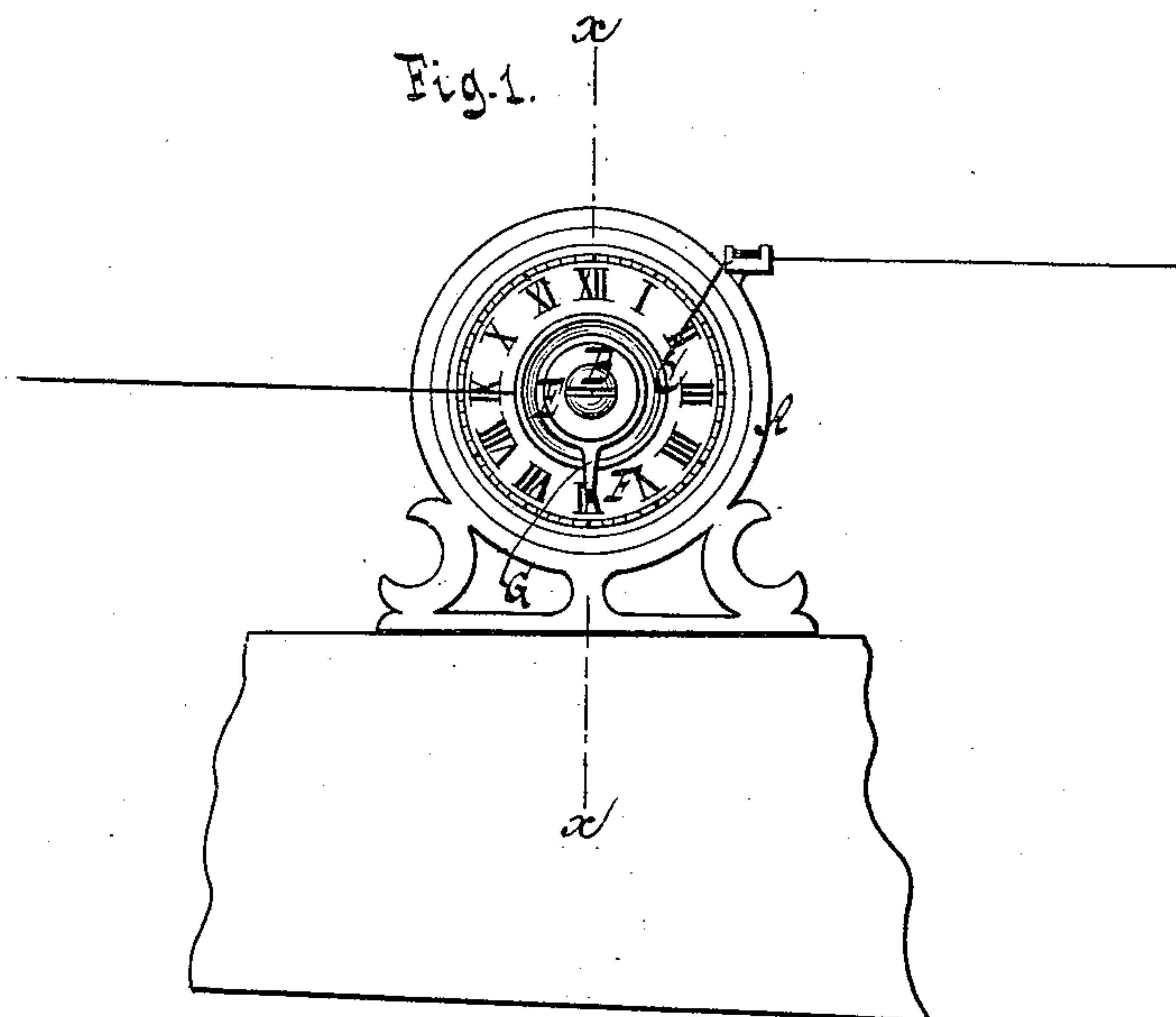
(No Model.)

R. L. MITCHELL.

TENSION INDICATOR FOR SEWING MACHINES.

No. 267,563.

Patented Nov. 14, 1882.



WITNESSES:

Otto Hufeland
William Miller

INVENTOR

Robert L. Mitchell

BY *Van Gantvoord & Hauff*

ATTORNEYS

UNITED STATES PATENT OFFICE.

ROBERT L. MITCHELL, OF NEW YORK, N. Y.

TENSION-INDICATOR FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 267,563, dated November 14, 1882.

Application filed August 30, 1882. (No model.)

To all whom it may concern:

Be it known that I, ROBERT L. MITCHELL, a citizen of the United States, residing at New York, in the county and State of New York, have invented new and useful Improvements in Tension-Indicators for Sewing-Machines, of which the following is a specification.

This invention relates to improvements in tension-indicators for sewing-machines; and it consists in the combination of tension disks or jaws, a spindle supporting the same and capable of moving in its bearing in the direction of its axis, suitable means for securing the spindle in its adjusted position, a spring and nut for adjusting the tension, and an index and dial or scale for indicating the tension, all of which will be fully hereinafter described.

In the accompanying drawings, Figure 1 represents a face view of my tension-indicator. Fig. 2 is a transverse vertical section in the plane $x x$, Fig. 1.

Similar letters indicate corresponding parts.

In the drawings, the letter A designates the frame, which forms the bearing for the spindle B. This spindle is fitted in its bearing in such a manner that it can be moved therein in the direction of its axis, and it is secured in the required position by a set-screw, a . On said spindle are mounted the tension disks or jaws CC, which are exposed to the action of a spring, D, the pressure of which is adjusted by a nut, E, which fits a screw-thread formed on the outer end of the spindle B. On the face of the frame A is firmly secured a dial-plate, F, or instead of this dial-plate suitable marks may be used, which can be engraved in the face of the frame, or otherwise applied thereto, and from the nut E extends a pointer or index, G, so that by turning said nut the index can be made to point on either of the marks on the dial-plate or scale F. The tension of the sewing-thread is adjusted by the pressure exerted by the spring D upon the friction disks or jaws CC. If the tension is set for No. 60 thread and the thread is to be changed to No. 80 thread, the usual practice is that the person operating the sewing-machine turns the nut E, and after having made a few stitches he turns the nut again, repeating the operation until the proper tension for No. 80 thread is attained.

This operation requires skill and experience, and it cannot be performed, even by the most skillful operator, without some loss of time. This disadvantage is avoided by my tension-indicator. At the beginning I turn the nut E so that the index points, for instance, to No. VI on the scale, and then I move the spindle in or out in its bearing until I attain the proper tension for No. 60 thread. At that point the spindle is fastened by the set-screw a . If the tension is to be changed for No. 80 thread, all I have to do is to turn the nut until the index points to No. VIII on the scale; or, if the tension is to be changed for No. 40 thread, I turn the index to No. IV on the scale, and so on, and by these means I am enabled to adjust the tension without the least difficulty to the exact point required. Of course the position of the spindle is adjusted by the manufacturer of the machine, and the figures or marks on the dial or scale are placed in the sewing-machine factory by actual tests with the various sizes of thread, so that the person operating the sewing-machine has nothing to do but to turn the index to the required figure or mark in order to obtain the requisite tension, as above stated.

Different scales may be marked on the dial for threads of different materials, and, if desired, the index can be so arranged that it can be adjusted on the nut E, and in this case the spindle may be permanently secured in its bearing.

What I claim as new, and desire to secure by Letters Patent, is—

The combination, substantially as hereinbefore described, of the tension disks or jaws C, the spindle which supports said jaws and is movable in its bearing in the direction of its axis, suitable means for securing the spindle in its bearing, the spring and nut which serve to adjust the tension, the index, and the dial or scale provided with suitable marks or figures.

In testimony whereof I have hereunto set my hand and seal in the presence of two subscribing witnesses.

ROBERT L. MITCHELL. [L. S.]

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.