

(No Model.)

J. BOND, Jr., Dec'd.

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TENSION DEVICE FOR SEWING MACHINES.

No. 361,127.

Patented Apr. 12, 1887.

FIG. 1.

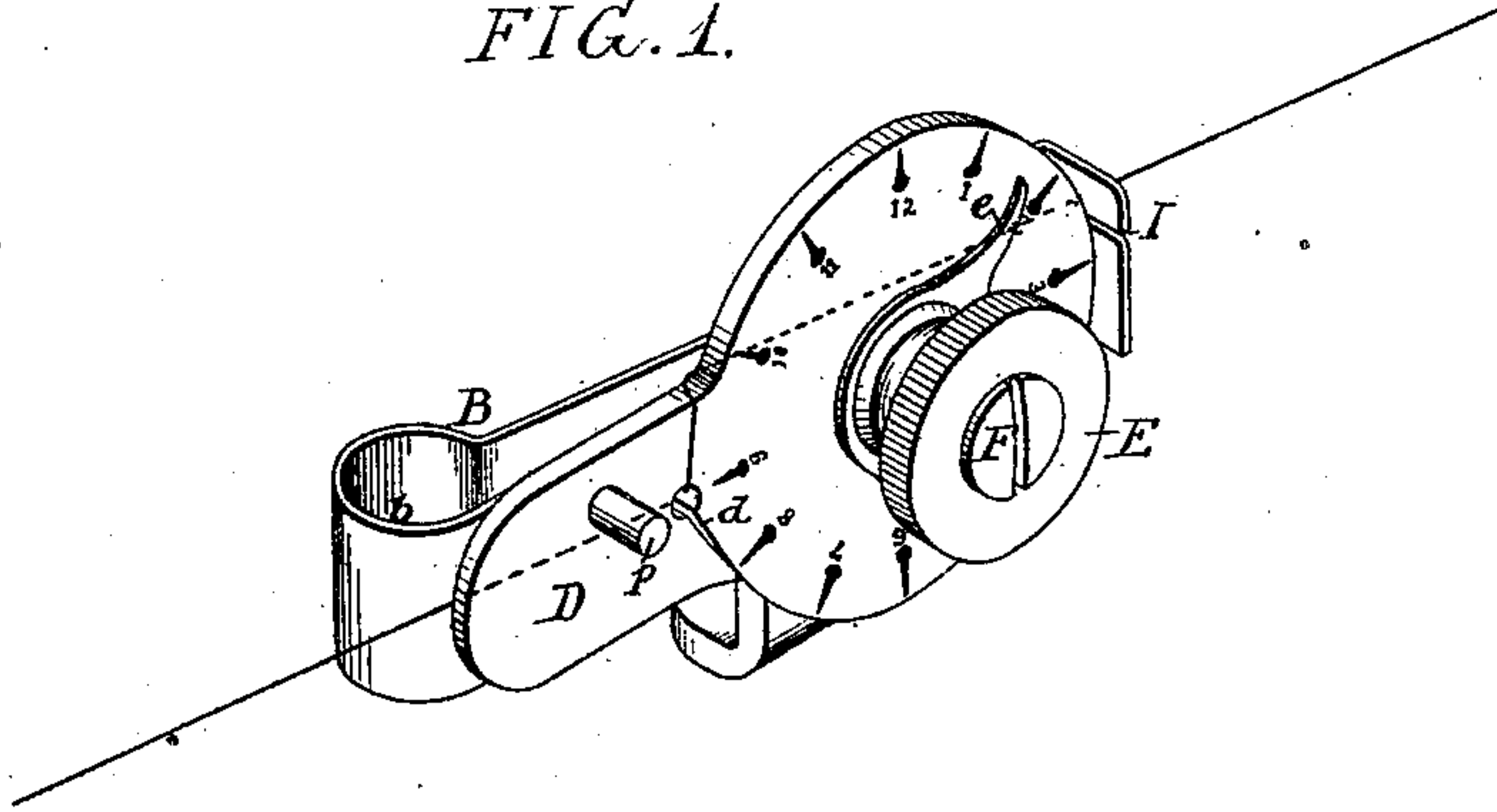


FIG. 2.

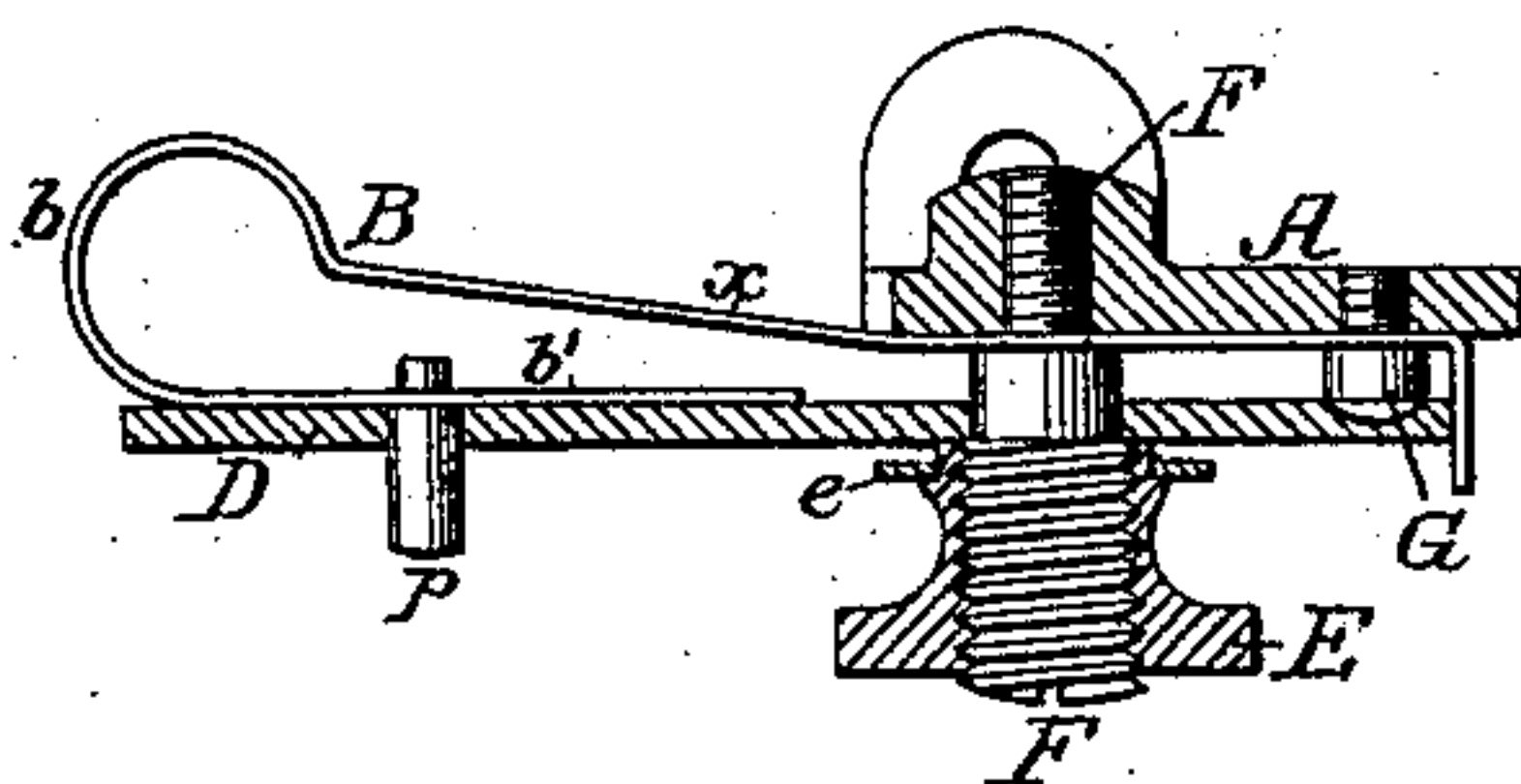


FIG. 3.

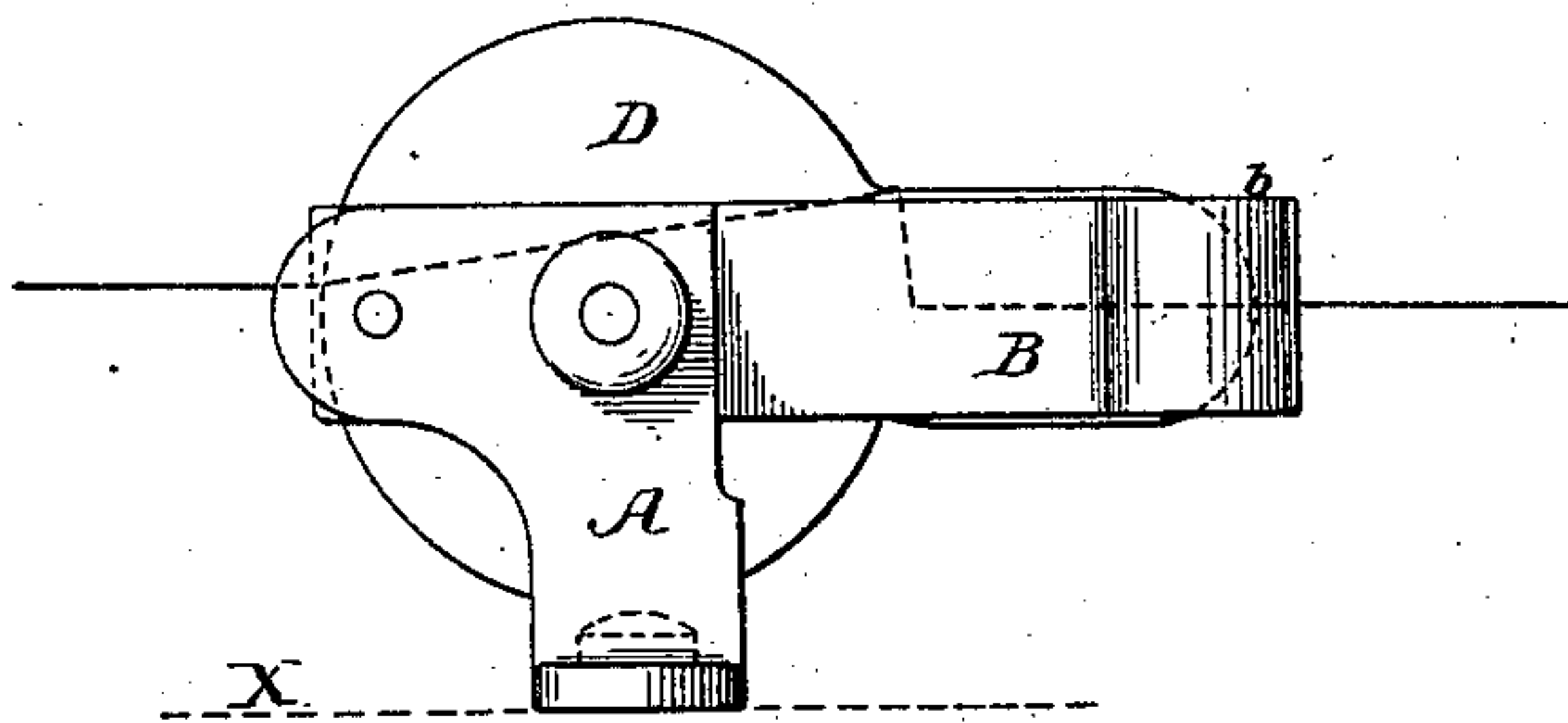
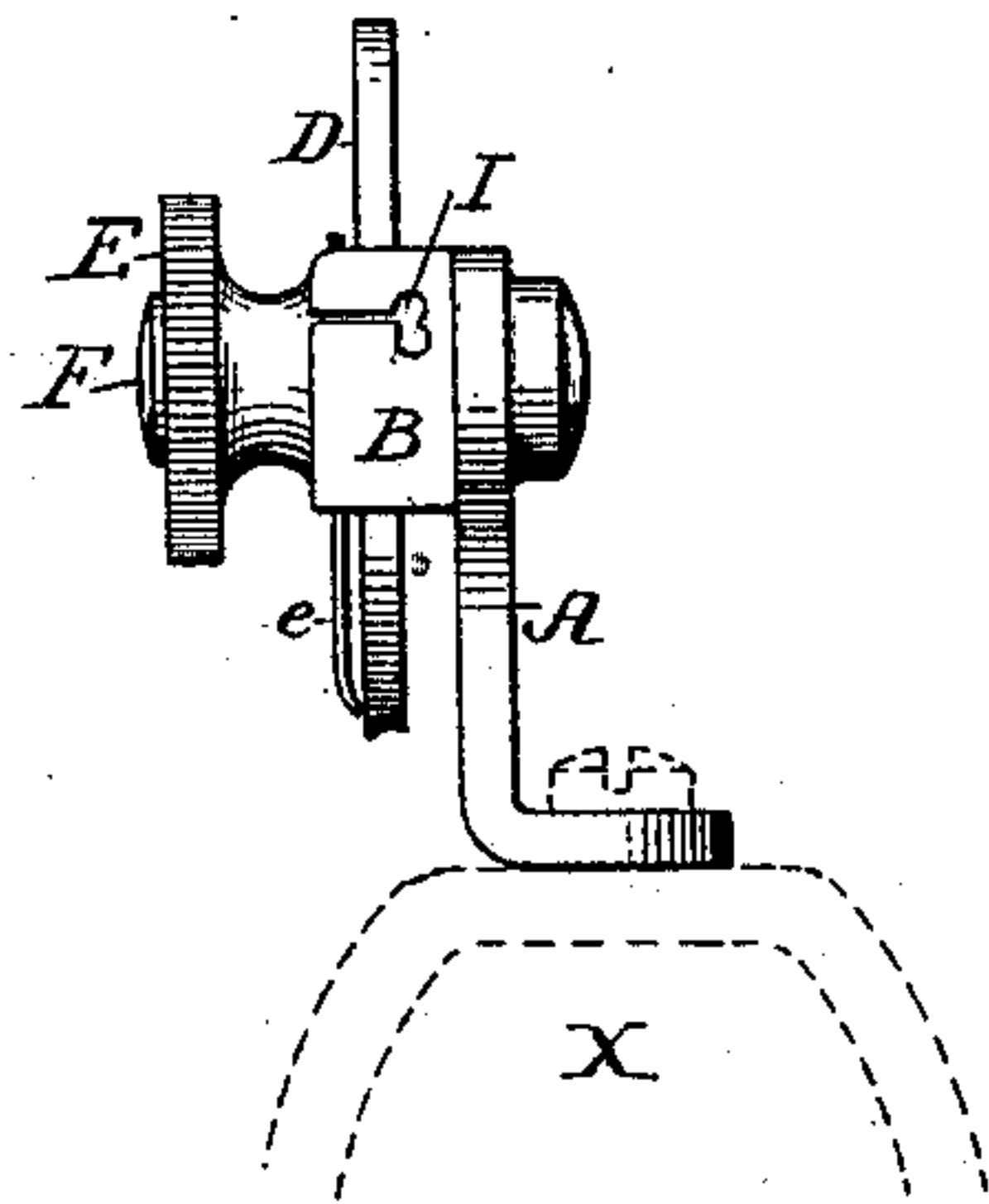


FIG. 4.



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JOSEPH BOND, JR., OF PHILADELPHIA, PENNSYLVANIA; GEORGE BOND
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TENSION DEVICE FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 361,127, dated April 12, 1887.

Application filed April 23, 1886. Serial No. 199,924. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH BOND, Jr., a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented an Improved Tension Device for Sewing-Machines, of which the following is a specification.

The object of my invention is to so construct a tension device for sewing-machines that it can be easily manipulated, and that the operator may always know the amount of tension put upon the thread. This object I attain in the manner which I will now proceed to describe.

In the accompanying drawings, Figure 1 is a perspective view of my improved tension device for sewing-machines. Fig. 2 is a sectional plan view of the same. Fig. 3 is a rear view, and Fig. 4 is an end view.

The tension device is intended to be applied in any convenient position on the head of a sewing-machine—as, for instance, on the top of the arm X—as indicated by dotted lines in Figs. 3 and 4. In the construction shown in the drawings, a supporting-bracket, A, carries the tension-spring B, pressure-plate D, and adjusting-nut E, having an indicating-pointer, *e*, to be used in connection with the graduated dial on the plate D.

The spring B is secured to the bracket by the shouldered bolt F, and projects laterally from the bracket, and is bent into a loop at *b* to give a return-bend, *b'*, to bear against the rear of the pressure-plate D. The thread passes between the two, and the tension is produced at that point. There are two points of elasticity in the spring-plate B—namely, at *b* and at *x*, Fig. 2. The plate B, at the opposite end from the loop *b*, is bent to form a guide-flange with a slit notch, I, as shown in Fig. 4, for the passage and guidance of the thread, as indicated in Figs. 1 and 3.

The pressure-plate D fits freely over the plain portion of the bolt F, and at the end distant from the elastic portion of the plate B the plate D finds its fulcrum-point on a pin, G, carried by the bracket A, Fig. 2.

On the face of this plate D bears the threaded nut E, adapted to the threaded portion of the bolt F, so that by screwing down this nut the outer end of the plate D may be made to bear with greater or less pressure on the elastic portion of the plate B, as indicated in Fig. 2. The face of the plate D is graduated, as indicated in Fig. 1, to form a dial, and the nut E

carries a finger or pointer, *e*, to act in connection with the graduations on the dial.

The plate D has a guide-notch, *d*, as shown in Fig. 1, for the passage of the thread, which, as indicated in Fig. 1, is brought from behind the plate D, over the front thereof, through this notch, and thence between the plate D and spring B.

I prefer to form the threads of the nut E and bolt F of such a coarseness that one complete revolution of the nut will give a complete adjustment of the tension on the thread, from the lightest to the heaviest which the strongest sewing-thread will stand, so that a very slight turn of the nut will suffice to give the varying tensions ordinarily needed, and by means of the pointer and graduation-marks the operator can always know, after a little practice, what degree of tension is applied.

The bend *b'* of the spring B, I prefer to provide with a pin, *p*, projecting through an opening in the plate D, so that by pressing the finger or thumb on this pin the spring will be pressed back from the plate D to release the thread.

I am aware that sewing-machine tension devices have heretofore been made with dials and pointers which indicate the amount of tension, and I therefore do not claim this, broadly.

I claim as my invention—

1. The combination of the bracket and a laterally-projecting spring thereon having a spring-loop at the end with a threaded bolt carried by the bracket, a pressure-plate having a dial and bearing on the spring-loop, a fulcrum-pin on the bracket, and a nut to bear on the pressure-plate and having a pointer, all substantially as described.

2. The combination of the bracket and a laterally-projecting spring thereon having a spring-loop at one side of the bracket and having a guide-eye at the other side with a pressure-plate to bear on the spring-loop and having a notch, *d*, and a pressure-nut, E, to bear on the plate, all substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

Witnesses: JOSEPH BOND, JR.
WILLIAM D. CONNER,
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