

No. 680,640.

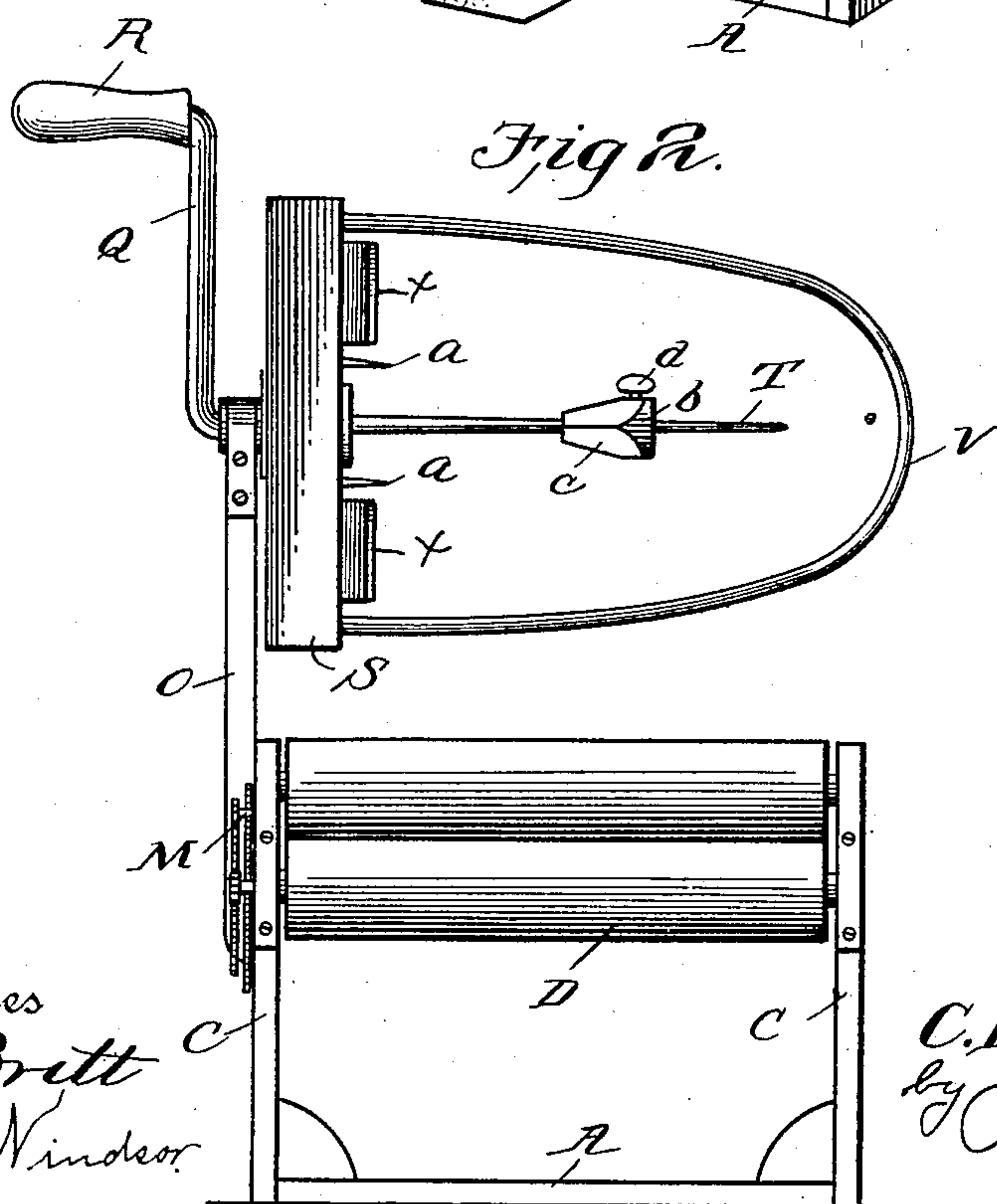
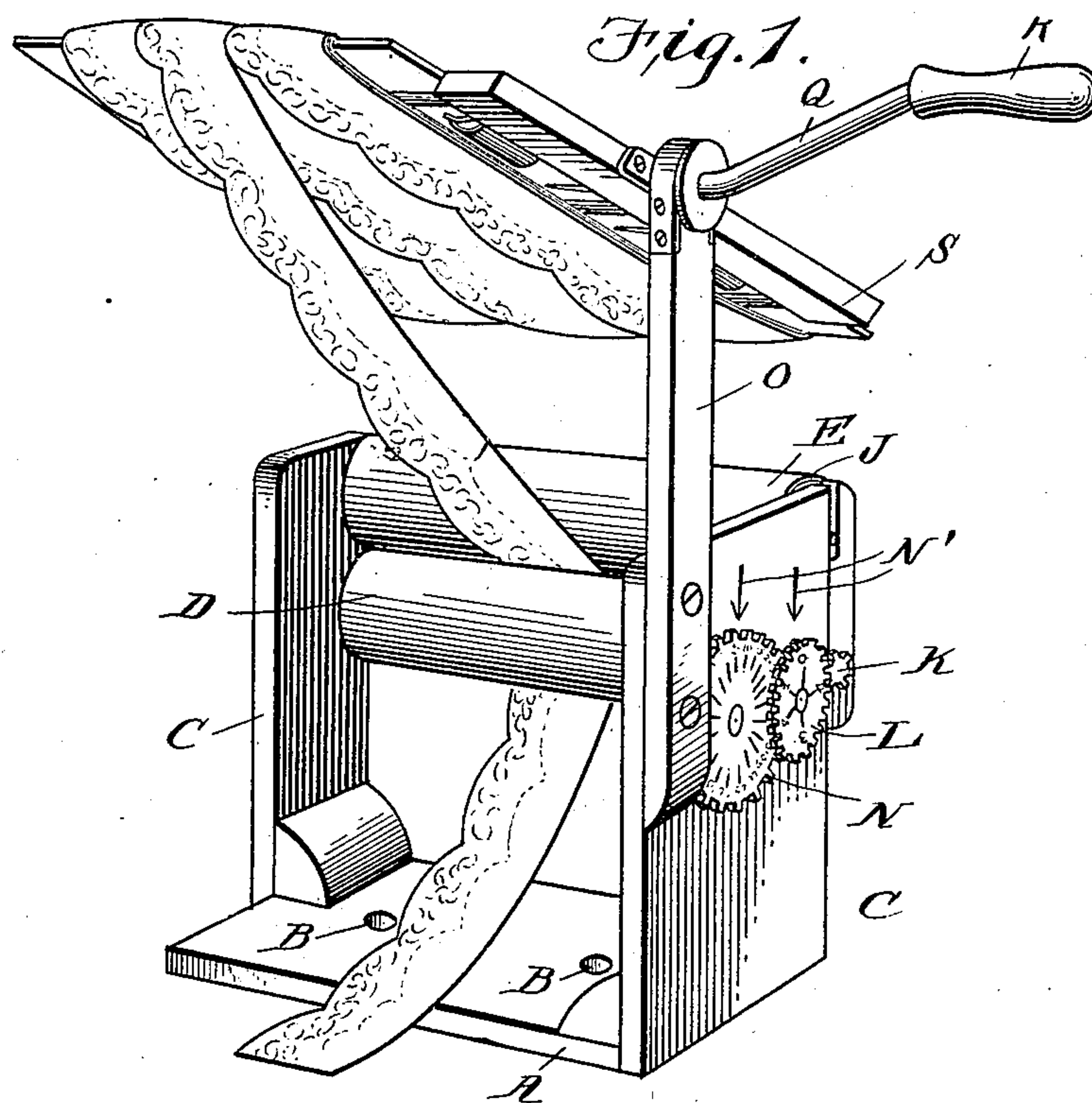
Patented Aug. 13, 1901.

C. B. CARVER.
MEASURING MACHINE.

(Application filed Feb. 12, 1901.)

(No Model.)

2 Sheets—Sheet 1.



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2 Sheets—Sheet 2.

Fig. 3.

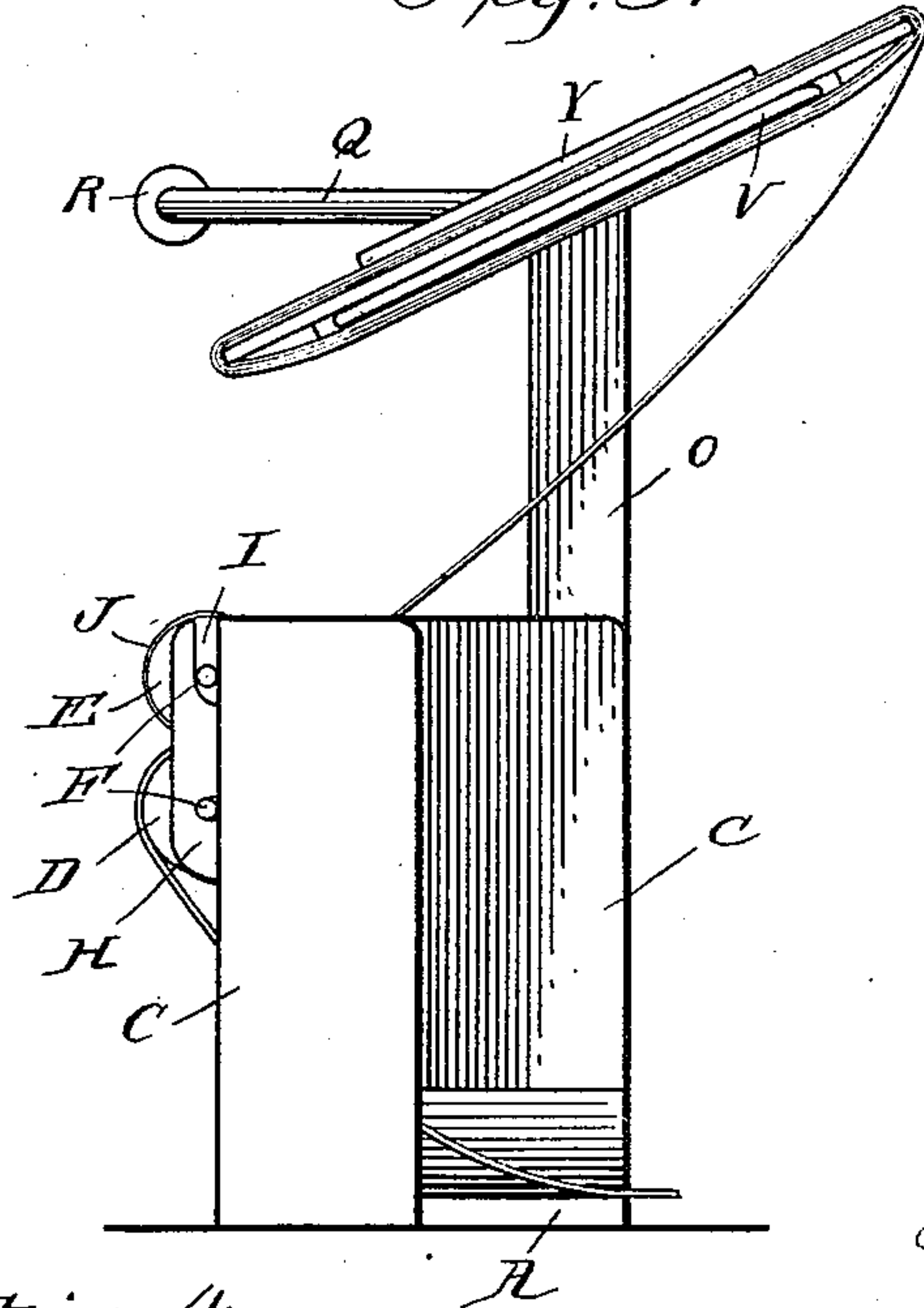


Fig. 4.

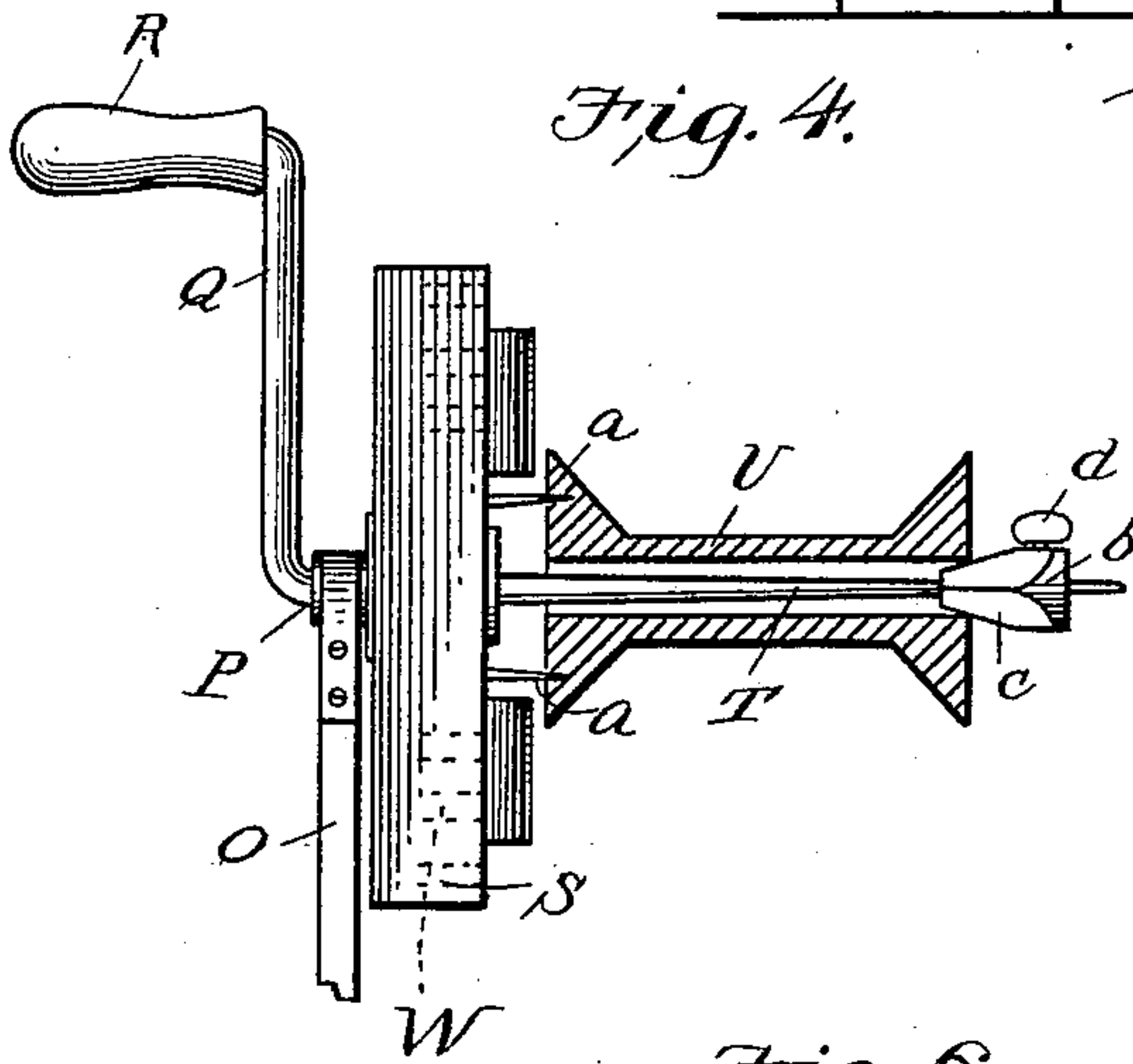


Fig. 5.

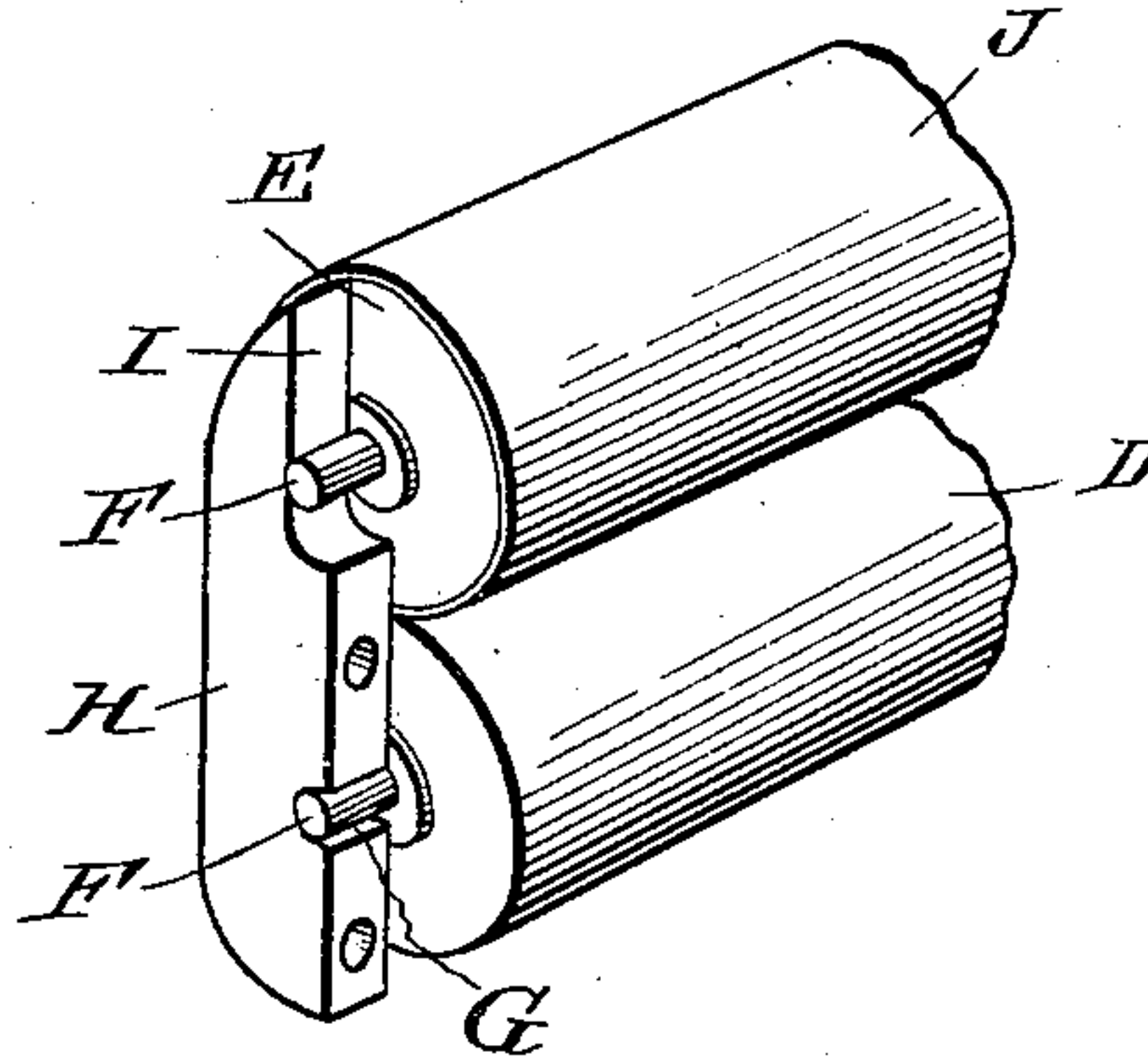
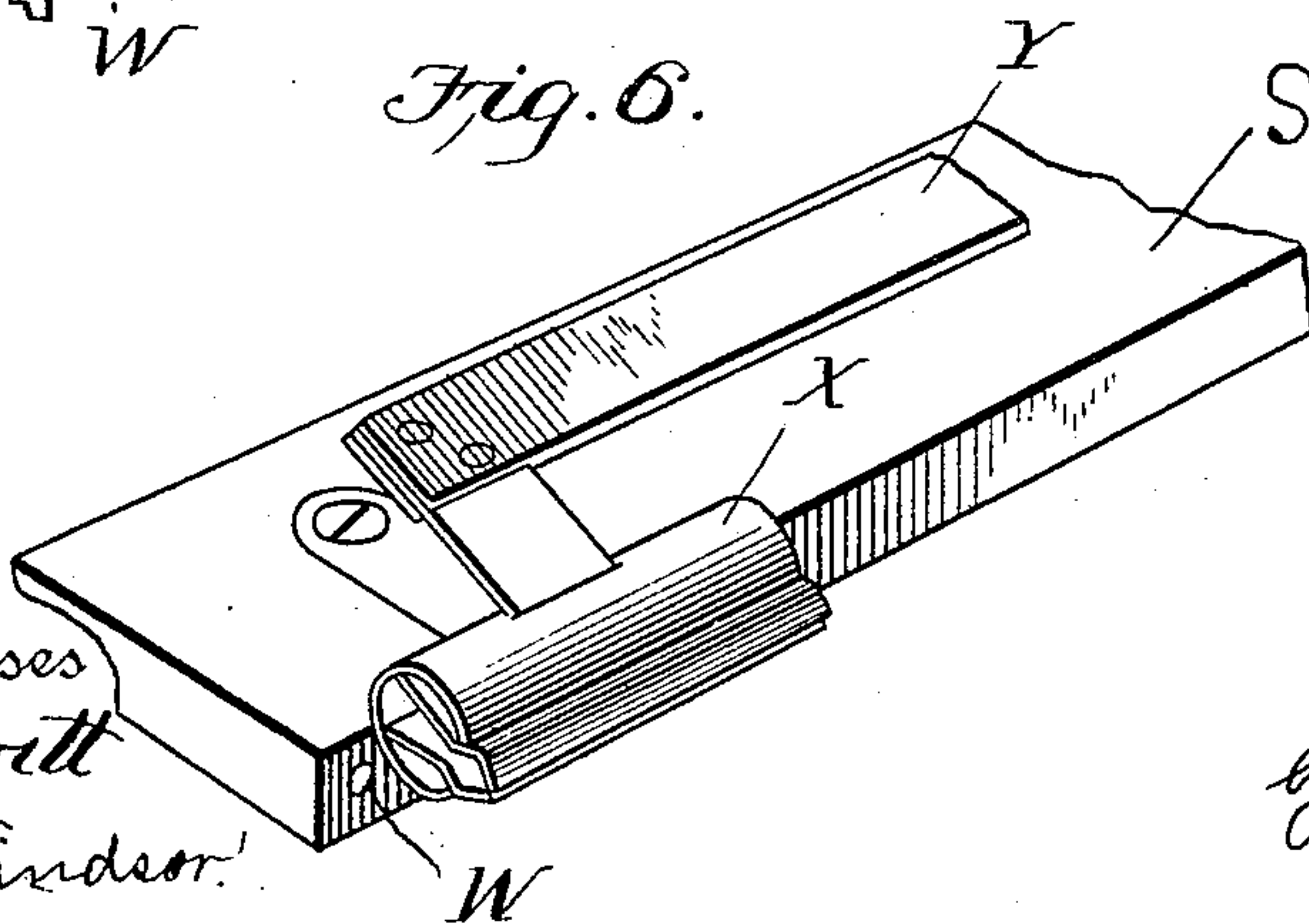


Fig. 6.



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UNITED STATES PATENT OFFICE.

CHARLES B. CARVER, OF ELK RAPIDS, MICHIGAN.

MEASURING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 680,640, dated August 13, 1901.

Application filed February 12, 1901. Serial No. 47,043. (No model.)

To all whom it may concern:

Be it known that I, CHARLES B. CARVER, a citizen of the United States, residing at Elk Rapids, in the county of Antrim and State of Michigan, have invented a new and useful Measuring-Machine, of which the following is a specification.

This invention relates to improvements in measuring-machines; and one object is to provide a simple and conveniently-operated machine for unwinding, measuring, and rewinding lace and other materials of like nature.

Another object is to provide such a machine with means for securely holding the board upon which the material is wound, said means being so constructed and arranged as to permit of the ready and convenient positioning of the board upon the machine or removal of the same therefrom.

A further object is to provide the machine with means for clamping a spool, said means being capable of quick and convenient manipulation to engage or release the spool.

With the above objects in view the invention consists of the novel features of construction hereinafter fully described, particularly pointed out in the claims, and clearly illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a machine constructed in accordance with my invention, showing a board in position with the lace being wound thereon. Fig. 2 is a side elevation, the board of lace being removed and the spool-clamp illustrated in position. Fig. 3 is an end elevation of Fig. 1. Fig. 4 is an enlarged detail view of the winding means, showing a spool clamped in position, the wire loop being removed. Fig. 5 is a detail view showing in perspective the ends of the two rollers and illustrating the manner of supporting the same; and Fig. 6 is a perspective view showing one of the spring-clamps and the portion of the bar connecting the movable jaws of the clamps for holding the board upon which the goods are wound.

Referring now more particularly to the accompanying drawings, A designates the base of the machine, which is formed with perforations B B to receive securing devices by means of which it is secured to the top of the counter, at the edge thereof, or to some other

convenient support. Raised from the ends of the base are supports C C, which at their lower ends are suitably braced, and mounted at one edge of the supports, between their upper ends, is a measuring-roller D and a pressure-roller E, the latter being disposed above the former and having its periphery normally in contact with the periphery thereof. These rollers have journals F F, the journals of the measuring-roller fitting in bearings G, formed in brackets H, removably secured to the edges of the supports, while the journals of the pressure-roller are movable in elongated bearings I. This pressure-roller is free to yield upwardly, its journals moving in the elongated bearings, and it normally rests against the periphery of the measuring-roller by gravity. The lace is fed between these rollers, and to provide suitable friction for accomplishing said feeding and to prevent sliding the pressure-roller has its periphery covered with flexible material J. One of the journals of the measuring-roller projects through its bearings and carries a pinion K, which meshes with a toothed indicating-disk L, mounted upon one of the supports C. Said disk L has projecting from its inner face a pin or projection M, which engages the teeth of a second indicating-disk N and effects the rotation of the latter a distance equal to one tooth when the former has made a complete revolution. Thus the amount indicated by the disk L is carried forward to the disk N. Each of the disks is graduated upon its outer face, said graduations being designated as yards and fractions thereof, and as the disks revolve the graduations come into coincidence with pointers N', printed, painted, or otherwise placed upon the support C above the upper edges of said disks.

Secured to the same support C which carries the indicating-disks is an arm O. This arm extends beyond the upper end of the support and is provided at its upper end with a transversely-extending bearing, in which a shaft P is mounted, said shaft having upon its outer end a crank Q, carrying a handle R, by means of which it may be rotated. Said shaft extends in line with the longitudinal extent of the rollers and constitutes a spindle T to receive the spool U of such materials as are wound upon spools, as

illustrated in Fig. 4 and as will be more fully described hereinafter. Secured intermediately of its ends upon said shaft is a transversely-extending head or arm S, which is disposed
 5 near the inner end of the shaft and on the opposite side of the supporting-arm thereof to the crank-handle. Removably secured to said head by having its legs inserted at their free ends in perforations formed in the head
 10 near its respective ends is a substantially U-shaped wire loop V, which is disposed in line with the longitudinal extent of the rollers, as clearly illustrated. This loop may be removed and a loop of a smaller or larger size
 15 inserted, according as the work in hand may require, the arm S being formed with a number of perforations W to permit of the attachment of said loops of different sizes. The loop constitutes a supporting-frame for the
 20 boards of ribbon or lace, as will appear hereinafter.

Secured to the head S, near its respective ends, are spring-clasps, the movable jaws X of which are connected by a bar Y, which
 25 extends longitudinally of the head and is secured at its respective ends to the finger portions of the movable jaws, so that the jaws of the two clasps may be operated simultaneously.

30 In operation a board of lace or ribbon is placed in the machine, said board having its inner edge engaged and held by the clasps. In positioning the board of lace the board is bent slightly in the center by drawing its opposite edges slightly toward each other by
 35 the fingers, so as to separate the lace therefrom. The board is then slipped upon the spring-loop, with said loop projecting between the board and the lace carried thereby, as
 40 clearly illustrated in Fig. 3. As soon as released the board regains its normal position, and thus tightly draws the lace about the loop. The board of lace is not only firmly clamped at its inner edge to said clasps, but
 45 is supported throughout its length by the wire loop and held firmly thereto by the lace. The lace may then be unwound from the board, it falling upon a paper or in a receptacle placed to receive the same. The lace
 50 is then rewound upon its original board, be-

ing measured as it is rewound, the operator guiding the lace with his left hand and operating the crank-handle with his right hand and at the same time having the indicating-disks under observation.

55 Projecting from the head S, on opposite sides of the spindle T and between the two clasps, are two studs *a*, which are pointed at their ends. In measuring goods which are wound upon spools the spool is positioned upon the
 60 spindle, with its inner flange pressed against said pointed studs. A clamp *b* is then placed upon the outer end of the spindle, said clamp consisting of a block which is formed with a tapered end *c* to enter the opening of the
 65 spool and wedge therein and with a securing-screw *d*, by means of which it may be firmly clamped to the shaft or spindle T. By this construction the spool is firmly held upon
 70 the spindle from any rotation independently thereof.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a measuring-machine, the combination of a support, a measuring-roller mounted therein, a yieldingly-mounted pressure-roller normally in contact with the measuring-roller, an indicator actuated by the measuring-roller, a shaft mounted in said support
 75 and having a handle and a transversely-extending head, a loop having its legs positioned in said head, and a clamp carried by said head, substantially as described.

2. In a measuring-machine, the combination of a support, a measuring-roller mounted therein, an indicator actuated by said measuring-roller, a pressure-roller mounted in said support and normally in contact with the measuring-roller, a shaft mounted in said
 85 support and provided with a crank-handle and a transversely-extending head, and spring-clasps carried by said head, having the movable jaws thereof connected to move simultaneously, substantially as described.

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