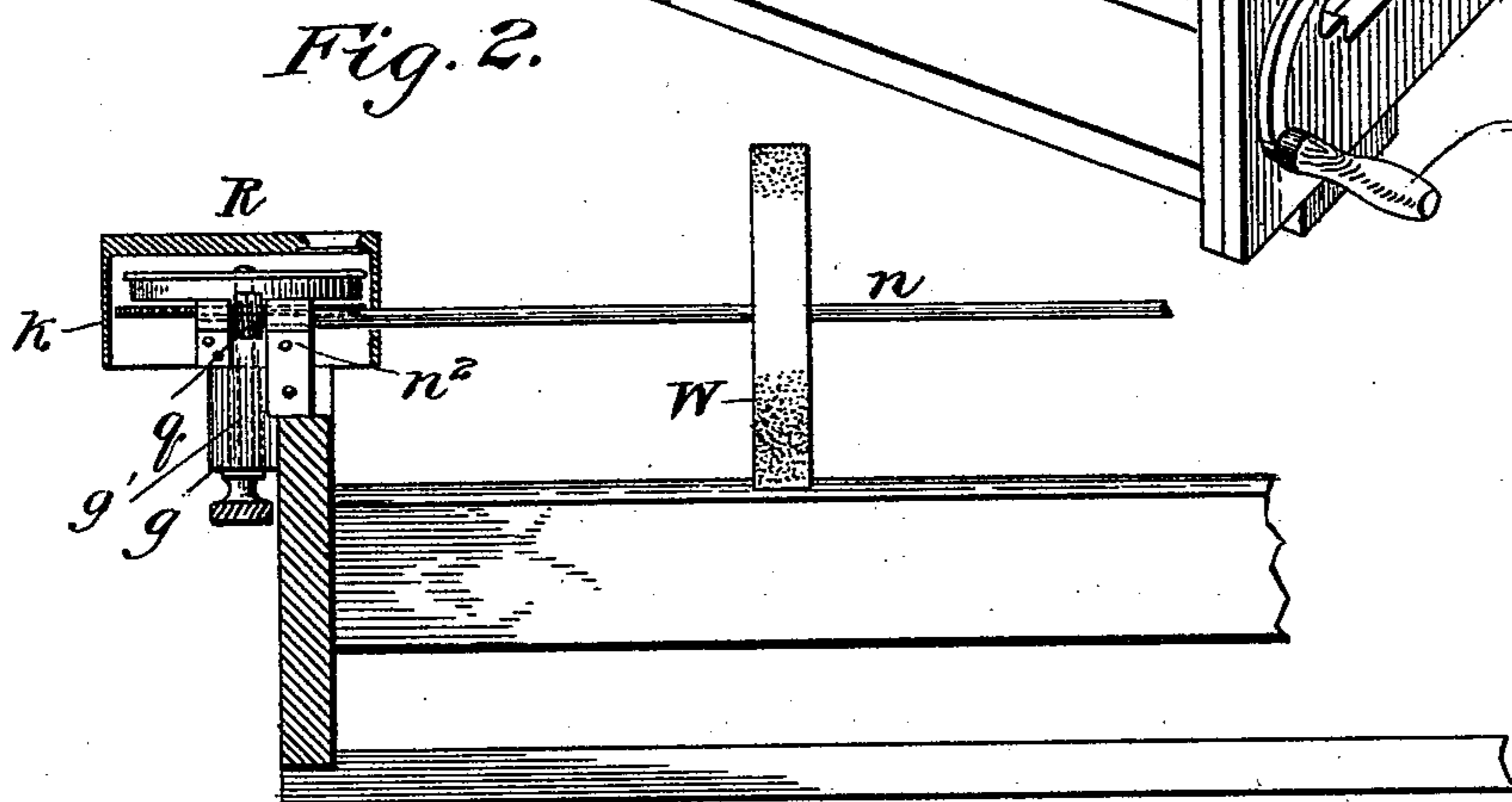
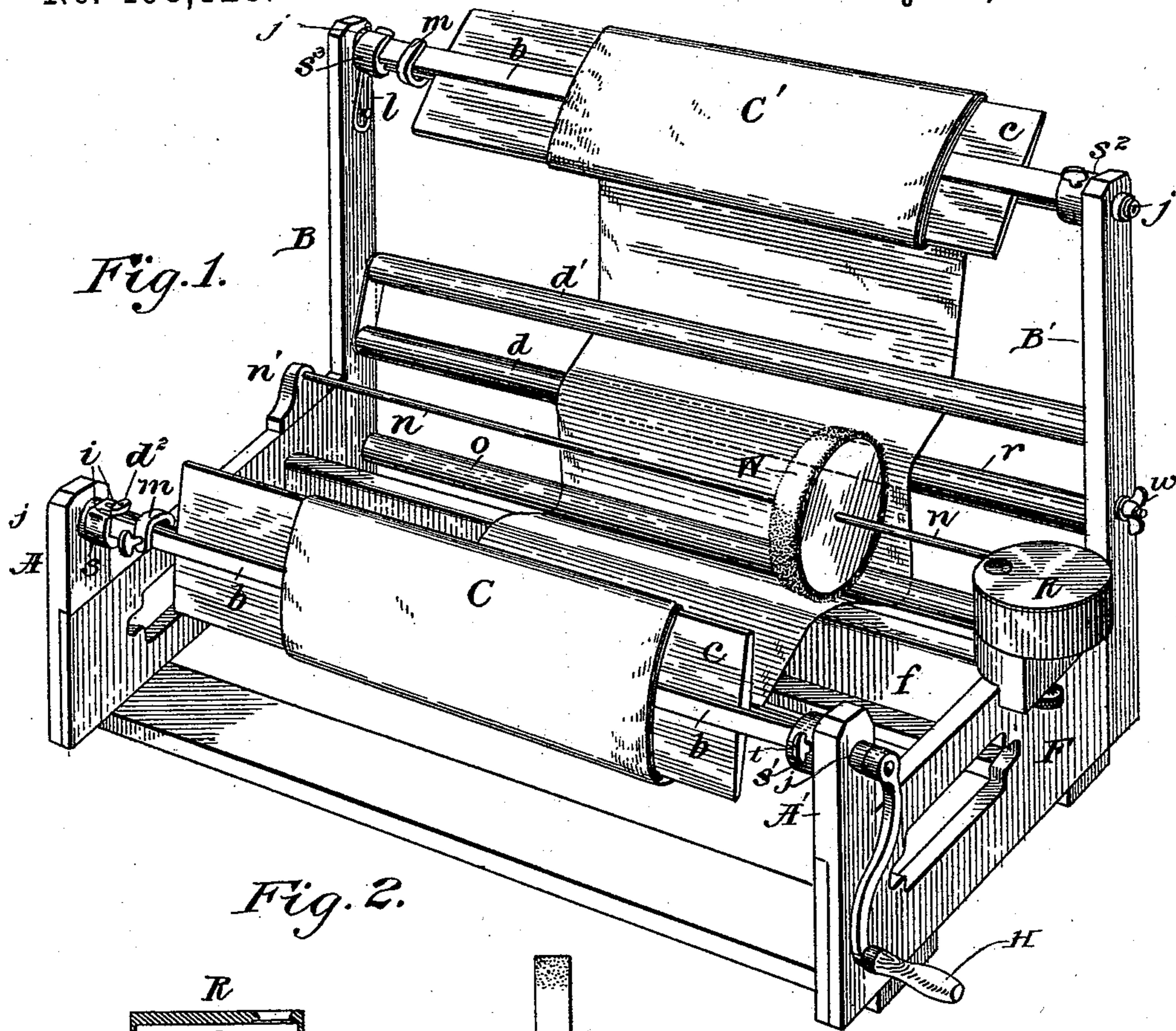


(No Model.)

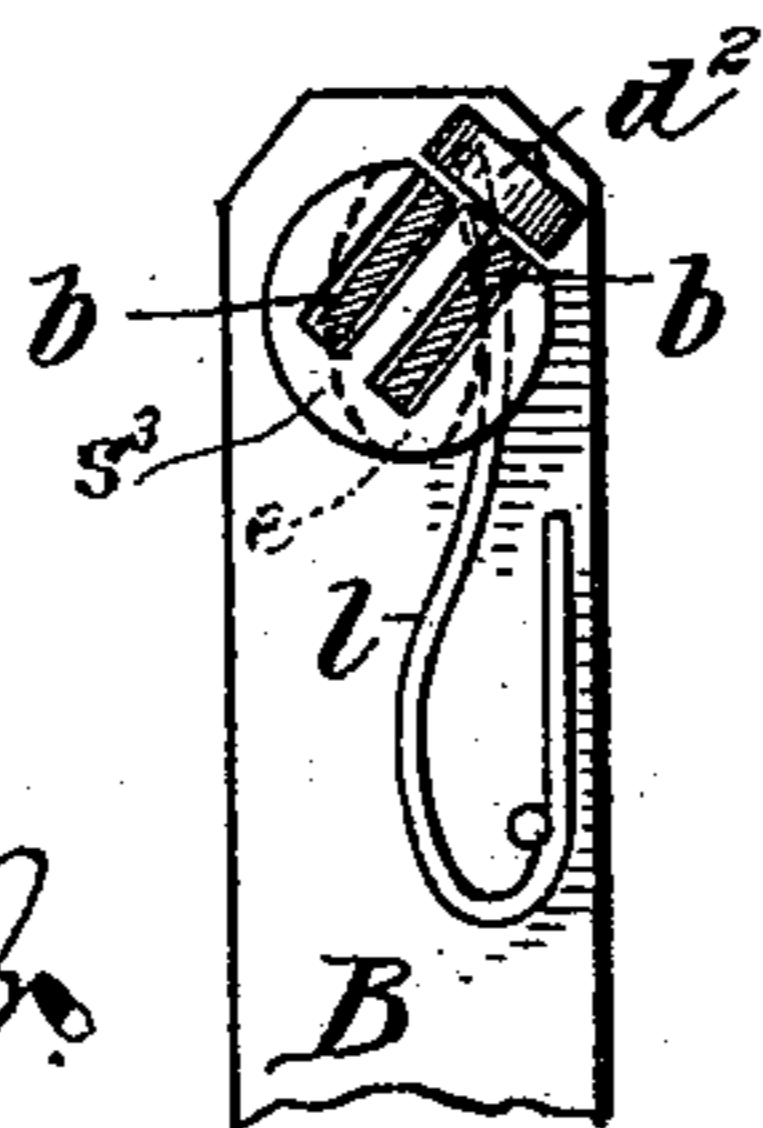
S. LOVEMAN, G. W. McCRARY & T. W. LIVINGSTON.  
CLOTH MEASURING MACHINE.

No. 498,128.

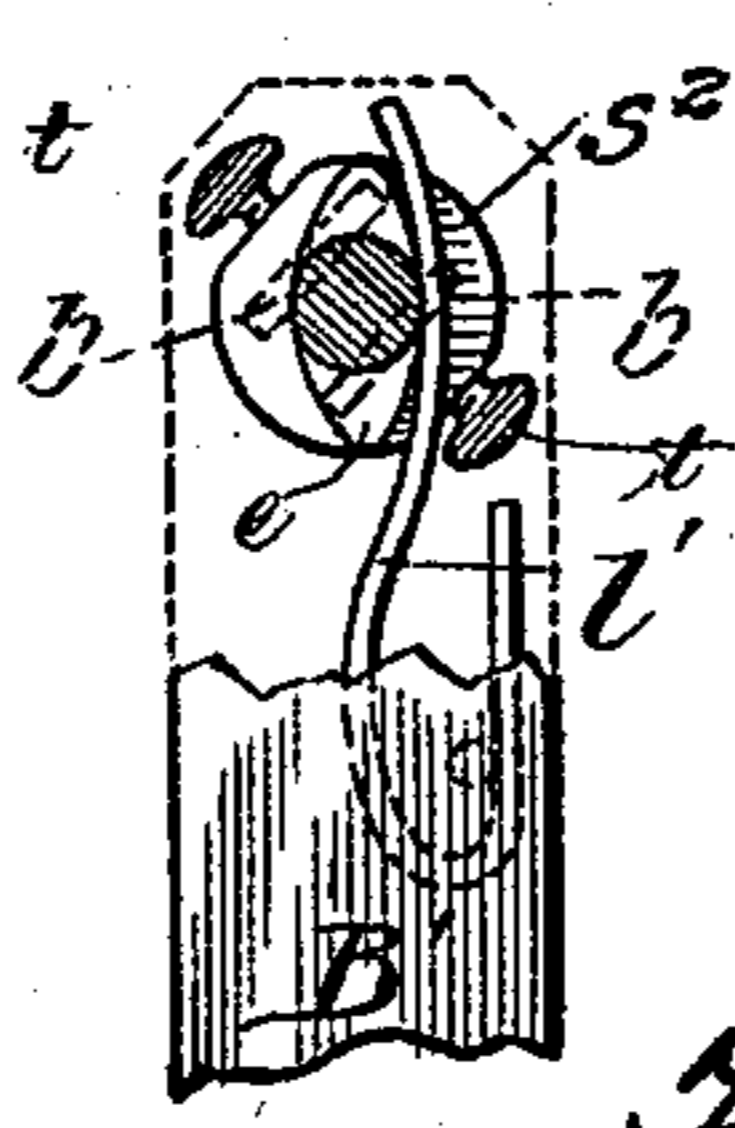
Patented May 23, 1893.



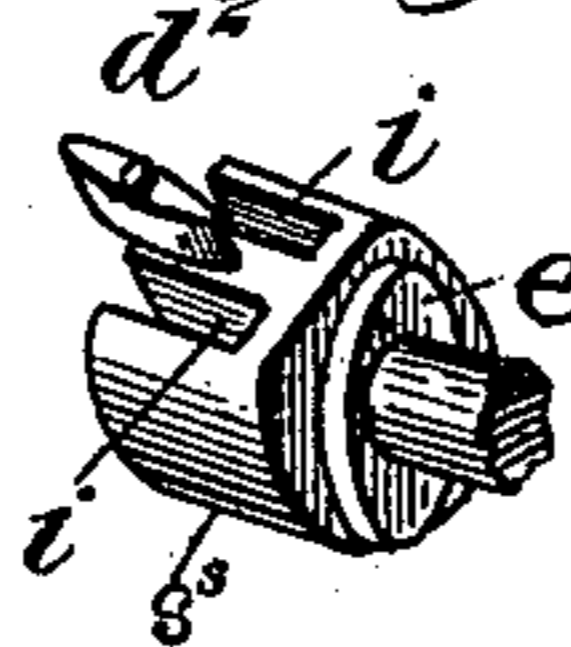
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



Witnesses

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# UNITED STATES PATENT OFFICE.

SAM LOVEMAN, GEORGE W. MCCRARY, AND THOMAS W. LIVINGSTON, OF  
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## CLOTH-MEASURING MACHINE.

SPECIFICATION forming part of Letters Patent No. 498,128, dated May 23, 1893.

Application filed June 15, 1892. Serial No. 436,777. (No model.)

*To all whom it may concern:*

Be it known that we, SAM LOVEMAN, GEORGE W. MCCRARY, and THOMAS W. LIVINGSTON, citizens of the United States, residing at Dalton, in the county of Whitfield and State of Georgia, have invented certain new and useful Improvements in Cloth-Measuring Machines, of which the following is a description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Our invention consists in certain improvements in the construction of cloth measuring and winding machines whereby they are rendered more easy and simple in operation, and perfectly accurate.

The object of our invention is to furnish merchants with a ready means of measuring, as in invoicing, bolts or rolls of cloth with accuracy and dispatch, the material measured being unwound from the original roll or bolt, measured and rewound as at first at one continuous operation, as hereinafter explained.

Heretofore much difficulty has been experienced in continuously unwinding flat bolts of cloth where no means of rotation was attached directly to the axis thereof, on account of the liability of dead centering caused by the fact that the direction of pull in the act of unwinding was, at every half turn of the bolt, nearly coincident with the central line of the greatest diameter thereof. In consequence the greatest strain was at right angles to the supporting axis instead of in the direction of rotation. This gave a jerky, spasmodic, and racking movement to the whole machine.

One feature of our invention consists in a simple and effective means for preventing this centering and making the rotation practically continuous.

In the drawings:—Figure 1 is a perspective view of the complete machine. Fig. 2 is a view of the recording, measuring device, the register being in section. Figs. 3, 4, and 5 are detail views of the clamps for holding the bars *b*, and the device for preventing centering.

The construction of our device is as follows:—To a main frame *F*, are attached at

the front two posts *A*, *A'*, and to the back two, *B*, *B'*. The tops of these posts are provided with journals *j*, of any simple and well-known constructions. In the journal in post *A*, is rotatably mounted a retaining socket *s*, provided with slots *i*, open at the top for the reception of the ends of the bars *b*, which pass through the bolt of cloth *C*, at each side of the board *c*, upon which the cloth is wound. A rotatable button *d*<sup>2</sup>, is mounted between the slots and serves to secure the bars therein. This socket is exactly like that shown in Fig. 5, with exception of the double eccentric there shown. The opposite ends of the bars are secured in a socket *s'*, open at its face only, the bars being thrust into the slots therein and secured there by thumb screws *t*. The bars are further provided with clamps *m*, which serve to draw them together to firmly clasp the board *c*. The shank of this socket *s'*, projects through the journal *j*, in post *A'*, and a handle *H*, is attached to it by means of which the bars and bolt held thereby are rotated. The socket *s*<sup>2</sup>, in post *B'*, see Fig. 4, is similar to the socket *s'*, with exception of the extension and handle attached thereto and the addition of the double eccentric *e*.

Fig. 4 is an end view of this device with the top of post *B'*, cut away and shown in dotted lines, the ends of the bars *b*, also shown in dotted lines. The socket *s*<sup>3</sup>, mounted in the journal *j*, in post *B*, is shown in Figs. 3 and 5. This socket is similar to the one in post *A*, with the addition of the double eccentric *e*.

As seen in Figs. 3, 4, and 5, the eccentric is placed at an oblique angle to the slots *i*, and is in consequence at the same angle to the bars *b*, and bolt *C'*. Springs *l*, *l'*, are fixed to the posts *B*, *B'*, and their ends rest upon the double eccentrics *e*. These springs will tend at all times to hold the eccentrics *e*, in a vertical line to the posts *B*, *B'*, and the bars *b*, being held in sockets which are at an oblique angle to the eccentrics, they and the bolt of cloth *C'*, upon its being unwound, will be rotated past a vertical line to said posts *B*, *B'*, by the resiliency of the springs. The pull of the cloth, being straight down as shown, will, therefore, be tangential to the circle described by the greatest diameter of the bolt thus mak-

ing centering impossible and the unwinding continuous and easy. Upon rotation of the handle H, the cloth is unwound from the bolt C', and passes between two friction bars  $d, d'$ , 5 connected at their ends and mounted between the posts B, B', upon a rod  $r$ , which passes through the lower bar  $d$ , and which is provided with a set screw  $w$ , for jamming the bars endwise, and securing them at any desired angle, thus regulating the tension upon 10 the cloth. From between these bars  $d, d'$ , the unwinding cloth passes around the roller  $o$ , over the stationary bar  $f$ , and around the bolt C. Mounted upon a shaft  $n$ , is a friction 15 wheel W, which rests upon the cloth as it passes over the stationary bar  $f$ , bearing upon it with sufficient force to be positively rotated thereby. The shaft  $n$ , is mounted at one end in a bearing  $n'$ , upon the main frame and above 20 the bar  $f$ , and at its other end in a bearing  $n^2$ , upon the register R. The end of the shaft  $n$ , upon the register is provided with a worm  $g$ , which meshes with a worm wheel  $k$ , which is mounted upon a small hollow vertical shaft  $g$ . 25 Upon the upper end of a shaft  $g'$  is fixed a dial and upon the lower end is a thumb piece by which the shaft and dial can be rotated irrespective of the worm wheel which is held stationary by the worm  $g$ , on shaft  $n$ . The 30 dial can thus be brought round to zero after a bolt of cloth has been measured. An orifice is provided in the cap of the register R, through which readings can be taken and the register adjusted.

35 We do not restrict ourselves to the exact details herein shown and described, as many minor modifications of construction might be made without departing from the spirit of our invention.

40 Having described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a cloth measuring machine a bolt supporting mechanism comprising a pair of parallel bars passing through the bolt upon opposite sides of the bolt board, and journaled 45 sockets supported in the frame of the machine engaging the ends of the bars, and from which the bars are removable.

50 2. In a cloth measuring machine, a means for rotatably supporting the bolt consisting of

a suitably supported journaled socket having parallel slots engaging the ends of the bars at one end and set screws for securing the bars therein and clamping them upon the bolt 55 board, a suitably supported journaled socket at the other ends of the bars having parallel slots open at one side and a button for retaining the ends of the bars therein, and a clamp 60 upon the bars between the bolt board and the last named socket clamping the bars upon said board.

3. The combination with the bolt supporting axis of a cloth measuring machine of a cam placed at an angle to the bolt thereon and a 65 spring operating said cam preventing centering of the bolt during unwinding.

4. In a cloth measuring machine and in combination with the axis of the unwinding bolt, a cam upon said axis at an angle to the great- 70 est diameter thereof and a spring upon the periphery of said cam preventing centering of the bolt during the process of unwinding.

5. In a cloth measuring machine and in combination with the axis of the bolt to be un- 75 wound, parallel bars retaining the bolt in operative position, journaled sockets supporting the ends of said bars, a cam or cams upon one or both of said sockets at an angle to the parallel bars, a spring for the cam or each of them 80 throwing the bolt beyond the vertical, whereby centering of the bolt in the process of unwinding is prevented.

6. The combination in a cloth measuring machine of a tension device consisting of two 85 parallel bars between which the cloth passes, said bars being united at their ends to each other, a rod passing from end to end of one of the bars and through the frame of the machine supporting the bars in operative position, and 90 a set screw at one end of the said rod whereby the bars may be fixed at any desired angle to the direction of travel of the cloth and the desired tension obtained.

In testimony whereof we affix our signatures 95 in presence of two witnesses.

SAM LOVEMAN.

GEORGE W. McCRARY.

THOS. W. LIVINGSTON.

Witnesses:

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D. K. McKAMY.