2 Sheets—Sheet 1.

A. W. BARKER.

CLOTH-MEASURING MACHINE.

No. 193,592. Patented July 31, 1877.

Fig. 1.

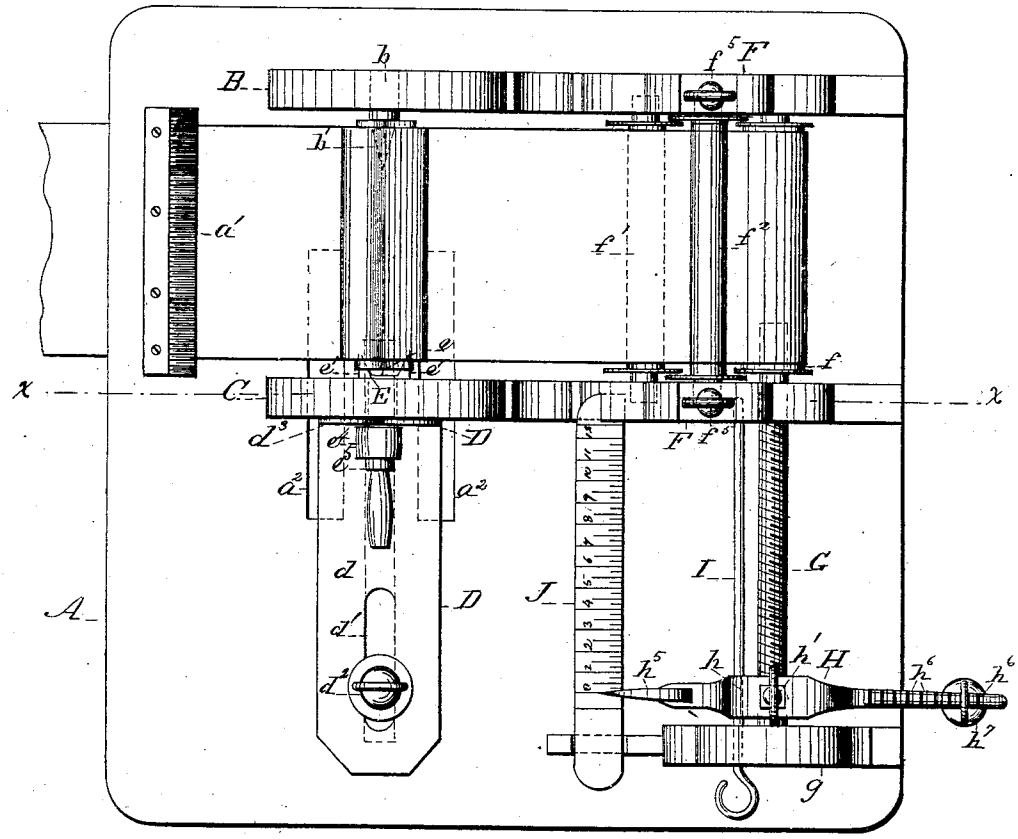
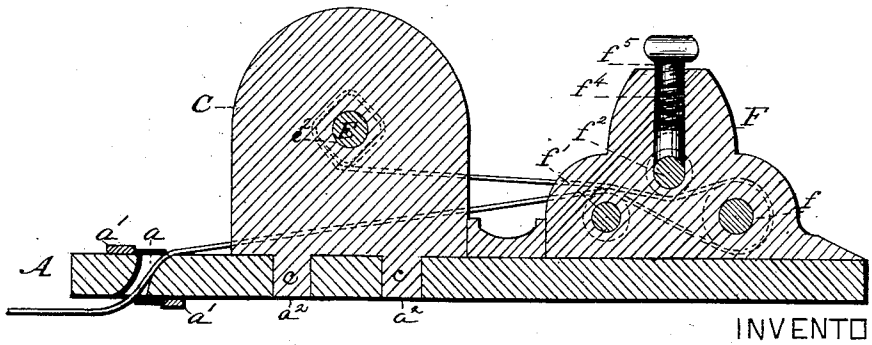


Fig. 2.



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INVENTOR:

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2 Sheets—Sheet 2.

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Fig. 3.

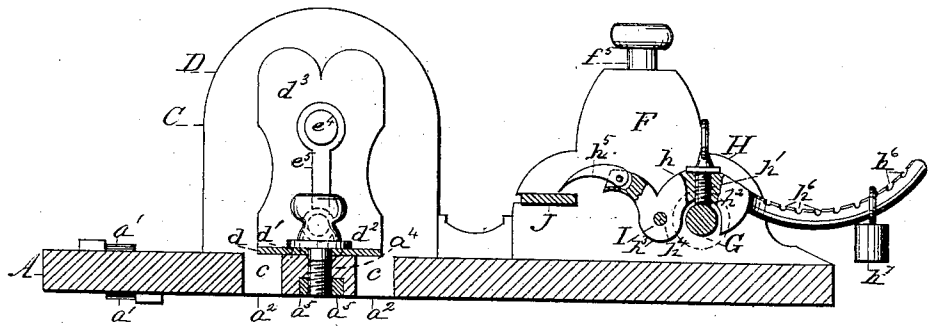


Fig. 4.

Fig. 5.

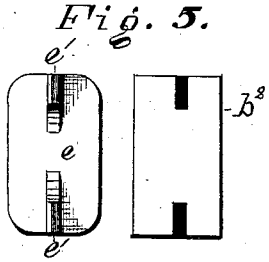


Fig. 5 a



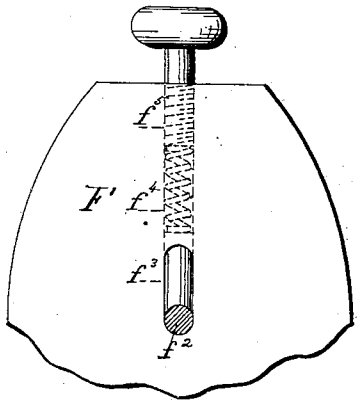


Fig. 6.

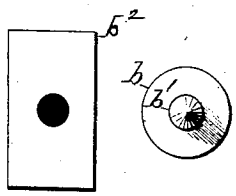
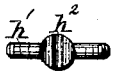


Fig. 7.



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UNITED STATES PATENT OFFICE.

ARTHUR W. BARKER, OF GIRARD, KANSAS.

IMPROVEMENT IN CLOTH-MEASURING MACHINES.

Specification forming part of Letters Patent No. **193,592**, dated July 31, 1877; application filed April 11, 1877.

To all whom it may concern:

Be it known that I, ARTHUR W. BARKER, of Girard, in the county of Crawford and State of Kansas, have invented a new and useful Improvement in Cloth-Measuring Machines; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention consists, mainly, in the peculiar construction of the mechanism for indicating the number of yards measured by the machine.

It further consists, also, in certain specific details of construction, all of which will be fully described hereinafter.

In the drawings, Figure 1 represents a plan view of my improved machine; Fig. 2, a section through the line *x x* of Fig. 1; Fig. 3, a vertical longitudinal section, showing the indicator H and screw d^2 at their nearest point to the standards C F; Fig. 4, a detail view of the mechanism for adjusting the pressure-roller; Figs. 5, 5^a, and 6, end views of the winding-pins and winding-board; and Fig. 7, a plan view of the screw h^1 reversed.

To enable others skilled in the art to make and use my invention, I will now proceed to describe fully its construction and manner of operation.

A represents the base or foundation piece of the machine, constructed generally in any proper manner, and of any suitable material and size, which is provided with the slit or opening *a*, Fig. 2, having the brushes a^1 a^1, of any proper kind, guiding-slots a^2 a^2, Fig. 3, and set-screw slot a^4, having flanges or ways a^5, as shown.

B, Fig. 1, represents a fixed standard, of any proper form, rising from the base, as shown.

b, Figs. 1 and 6, represents an iron of any proper form, secured to the standard in any suitable manner, which is provided with a conical pin, b^1, adapted to hold one end of the block or board b^2, upon which the cloth is wound, as shown.

C also represents a standard rising from the base, which is provided below with the studs *c c*, Fig. 2, resting in the guiding-slots a^2, and above with proper bearings adapted to support the winding shaft or pin hereinafter described.

D, Figs. 1 and 3, represents an angle iron or plate, the horizontal portion *d* of which is provided with a slot, d^1, by means of which and the screw d^2, held in the slot a^4, it is adjustably secured to the base.

d^3 represents the vertical portion, rigidly secured to the standard C, for the purpose of supporting the same, and making it capable of adjustment for varying width of cloth.

E, Figs. 1, 5, and 5^a, represents the winding pin or shaft, consisting of the face *e*, having flat pins or blades e^1 e^1, adapted to hold one end of the board or block b^2, upon which the cloth is wound, journal-bearing e^2, Fig. 2, and extended portion e^4, having the crank e^5, as shown.

F F represent standards rising from the base, which are furnished with suitable bearings for the measuring-roller *f* and the guiding-rollers f^1 f^2, the latter of which is held in slotted bearings f^3, Fig. 4, adapted to permit vertical movement, as shown.

f^4 f^4 represent pressure-springs, and f^5 set-screws, by means of which the amount of pressure may be determined at will.

G, Fig. 1, represents a screw-shaft, rigidly attached to one end of the shaft of the measuring-roller, or forming a part of the same, the outer end of which is supported in any proper standard *g*, as shown.

H, Figs. 1 and 3, represents the traveling index or indicator, consisting of a block or saddle, *h*, having an adjustable pin, h^1, with recess or groove h^2, Fig. 7, adapted to fit the thread of the screw-shaft, as shown, an ear, h^3, with pivot-opening h^4, pivoted index-finger h^5, and extended arm or bar, having the series of notches h^6, adapted to hold the weight h^7, as shown.

I represents a rod or shaft, extending between the standards F *g*, which is adapted to support and guide the saddle in its movement upon the screw-shaft.

J represents a stationary measure or scale, over which the index-finger travels.

The operation will be readily understood. One end of the piece to be measured is brought up through the opening *a* in the base,

carried over the lower guiding-roller, under and around the measuring-roller, under the upper guiding-roller to the winding-board, upon which it is wound. The measuring-roller, if desired, may be covered with cloth, or be otherwise roughened to prevent slipping. The crank of the winding-shaft being revolved, the cloth will be drawn up through the opening *a* between the brushes, which serve to cleanse and brighten the same, and around the measuring-roller to the winding-board.

By means of the pressure-roller f^2 the cloth is held close to the measuring-roller to prevent the same from slipping. The yielding springs also permit cloths of different thickness to pass readily, and also rough and imperfect places, which might otherwise clog the machine.

The diameter of the measuring-roller bears some fixed relation to a yard or other unit of measure, a foot being preferred, in order that each revolution may measure one yard.

The revolutions of the measuring-roller are communicated to the screw-shaft, and by means of this the saddle, the groove of which serves as a nut, is caused to move upon the rod I.

A fixed relation must exist between the pitch of the thread and the measuring-scale, so that the index at one revolution of the measuring-roller and screw-shaft will be moved upon the scale the proper distance to indicate one yard.

When the saddle has reached, in its movement, the end of the shaft, it may be carried back to the other end for a new measurement by simply elevating the rear end of the same, by tilting it upon the shaft I as a pivot, until its groove is free from the screw-shaft, when it may be moved laterally on the shaft I to the desired point. To permit this change of position, and permit also the index-finger when in action to lie close to the scale, the finger is pivoted, as shown.

By means of the weight on the series of notches upon the rear arm of the saddle, the tension may be varied at will, and the cloth, consequently, be more or less tightly wound, as may be desired.

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

1. In combination with a measuring-roller, screw-shaft, and index-saddle, means, substantially as described, for determining the pressure upon the shaft for regulating the tension, substantially as described.

2. In combination with the saddle, the notched arm and adjustable weight, substantially as described.

3. In combination with the screw-shaft and rod I, the saddle having the pivoted index-finger and adjustable weight, substantially as described.

4. In combination with the saddle and shaft, the pivot and guiding-rod I, as described.

5. The combination of the following elements: a winding roller or board, a pressure-roller, f^2, and a tension device, substantially as described, adapted to determine the power required to turn the measuring-roller.

This specification signed and witnessed this 19th day of March, 1877.

ARTHUR W. BARKER.

Witnesses:
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J. T. LEONARD.