No. 619,726. Patented Feb. 21, 1899.

J. T. DARBY.

CLOTH MEASURING MACHINE.

(Application filed Mar. 22, 1898.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

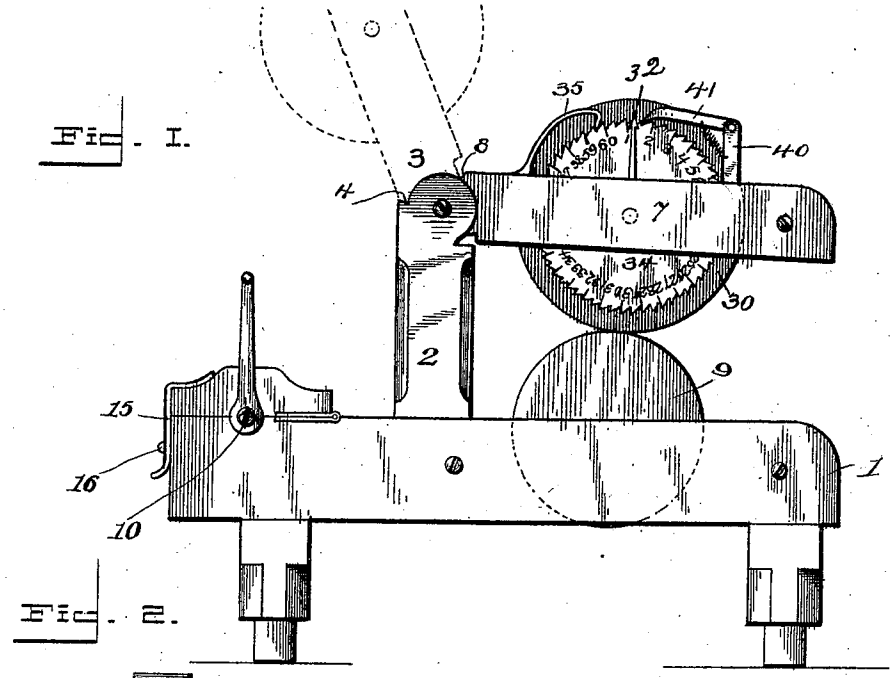
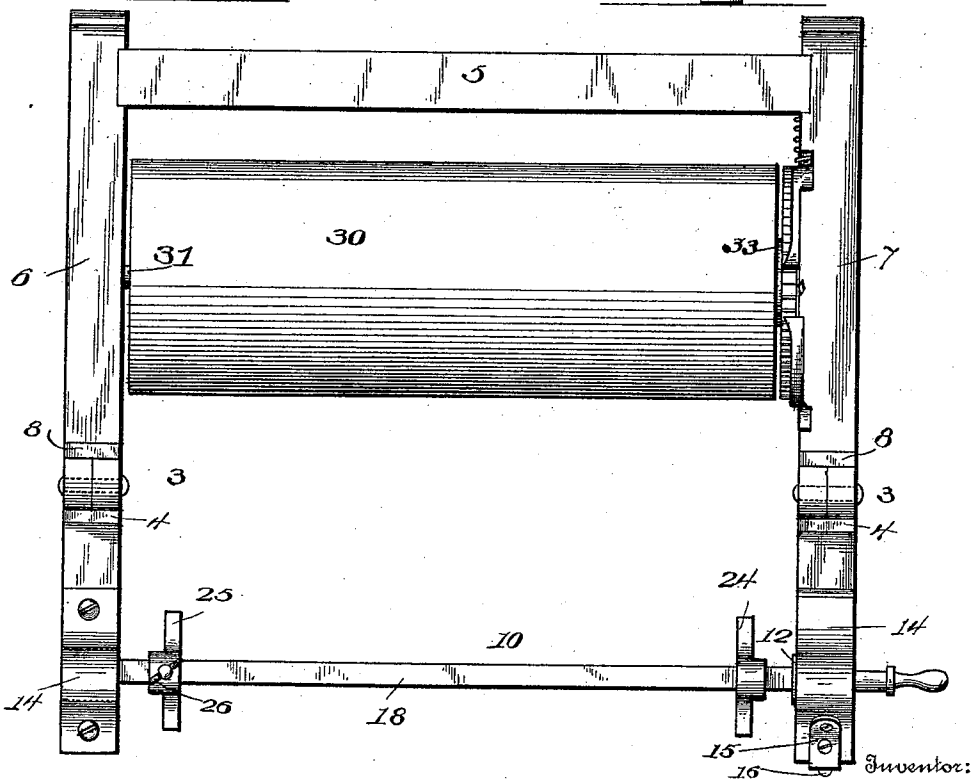


Fig. 2.



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Fig. 3.

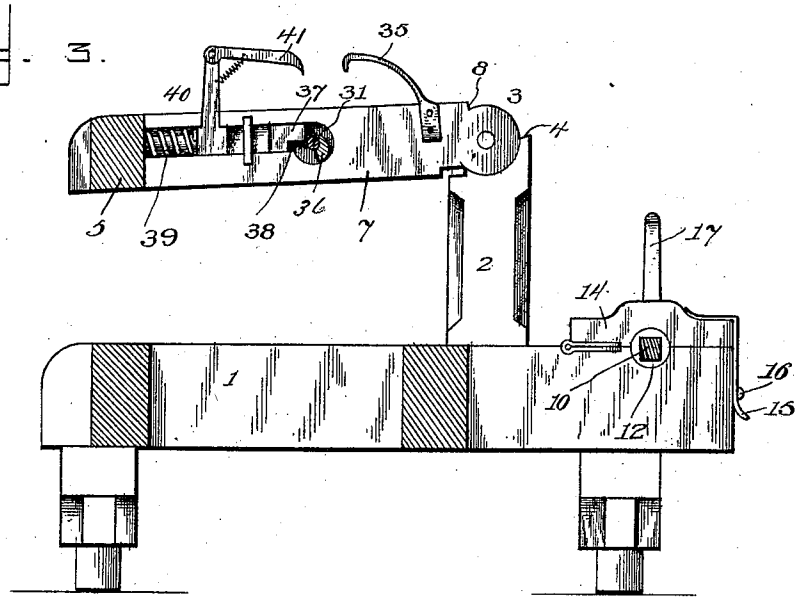


Fig. 4.

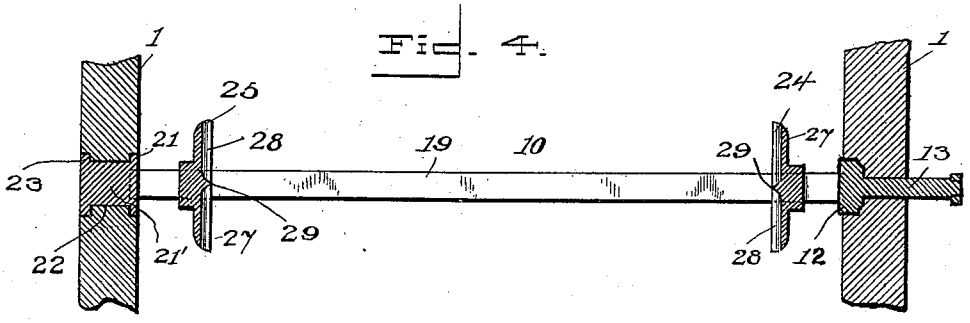
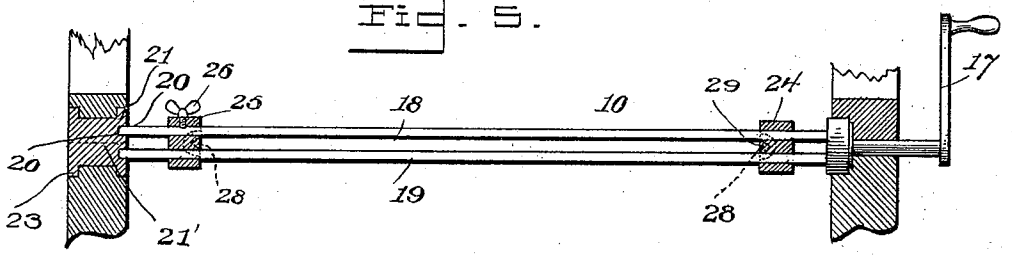


Fig. 5.



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UNITED STATES PATENT OFFICE.

JAMES TERRY DARBY, OF LEE COUNTY, ARKANSAS.

CLOTH-MEASURING MACHINE.

SPECIFICATION forming part of Letters Patent No. 619,726, dated February 21, 1899.

Application filed March 22, 1898. Serial No. 674,795. (No model.)

To all whom it may concern:

Be it known that I, JAMES TERRY DARBY, a citizen of the United States, residing in the county of Lee, in the State of Arkansas, have invented certain new and useful Improvements in Cloth-Measuring Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which its appertains to make and use the same.

My invention relates to certain novel improvements in cloth-measuring machines; and the object is to provide a simple, inexpensive, and effective device for accurately ascertaining the exact measurement of the number of yards and fractions of a yard contained in a piece or bolt of cloth or similar textile goods.

To this end the invention consists in the construction, combination, and arrangement of the device, as will be hereinafter more fully described, and particularly pointed out in the claims.

The accompanying drawings show my invention in the best form now known to me; but many changes in the details might be made within the skill of a good mechanic without departing from the spirit of my invention as set forth in the claims at the end of this specification.

The same reference characters indicate the same parts of the device in the several figures.

Figure 1 is an end view of my improved cloth-measuring machine. Fig. 2 is a top plan view. Fig. 3 is a transverse section on the line of the ratchet-wheel. Fig. 4 is a horizontal section of the winding-shaft, and Fig. 5 a similar view taken at a right angle to that shown in Fig. 4.

1 denotes the stationary frame, and 2 2 vertical parallel standards arising from said frame, their upper ends terminating in hinge-joints 3 3, which are formed with transverse radial shoulders 4 4. A rectangular frame, comprising the bar 5 and the parallel cross-pieces 6 7, has the inner ends of said cross-pieces pivoted to the upper ends of said standards, so that said frame may assume a horizontal position, as shown in full lines in Fig. 1 or as shown in the dotted lines. It may be supported in an elevated position by reason of the shoulders 8 8 on the cross-pieces 6 7 resting against the abutting shoulders 4 4 on the standards, so as to retain said frame in the position shown when desired.

9 denotes a bearing-roller loosely journaled in the stationary frame 1, and 10 a winding-shaft removably journaled in said frame parallel with and in the same horizontal plane with the roller 9. This shaft 10 is formed at one end with a collar 12 and a cylindrical journal 13, which has a bearing in the frame, the hinged cap 14 of which is formed with a spring-clip 15, which engages a stud 16 on the frame and locks said cap in position, and by releasing said clip the cap may be thrown back to remove the shaft from the bearing. The outer end of said shaft is provided with a crank-handle 17 for conveniently manipulating it.

The shaft proper consists of two rectangular bars 18 19, arranged parallel with each other, fixed at one end to the collar 12 and separated for their entire length a sufficient distance to permit the insertion of the flat board on which a bolt of cloth is rolled, and the opposite free ends of said bars engage the corresponding recesses 20 20 in the collar 21, formed on the inner end of the journal 21′, mounted in the bearing 22, and the outer end of said journal is also provided with a collar 23, the two collars serving to prevent end play of the journal, though offering no impediment to its rotation on its axis.

24 denotes a clamp which encompasses the shaft 10 and rests against the collar 12, and 25 denotes a corresponding clamp which is adjustably secured on the opposite end of said shaft by means of its thumb-screw 26. Both of these dogs are similar in construction, and each is formed with a transverse arm 27, the inner face of which is provided with a longitudinal V-shaped groove 28 to receive the end of the cloth-board.

29 denotes a V-shaped spur or tooth projecting midway of the groove and which enters the end of the board and prevents it slipping laterally when in place.

30 denotes the measuring roll or drum, fixed on the axial shaft 31, journaled in the cross-pieces 6 and 7. This drum revolves freely

and is of sufficient weight that it will be rotated by the cloth, which passes between it and the lower parallel roller 9.

In practice I make the drum 30 with a perimeter of eighteen inches or one-half yard in circumference, and, as shown in Fig. 1, the end of the drum is divided into inches, so that the fractions of a yard may be indicated by means of the pointer 32, fixed in the cross-piece 7.

The shaft 31 is provided with a concentric collar 33, on which is journaled the ratchet-wheel 34, the periphery of which is divided into one hundred and twenty teeth, and 35 denotes a retaining-pawl fixed to the cross-piece 7 and engaging said ratchet-wheel.

36, Fig. 3, represents a cam-shaped lug formed on the side of the collar 33, and its free end projects into the path of the inner end of a slide-bar 37, having a reciprocating movement in a groove 38, formed on the inside face of the cross-piece 7, and its rear end is encompassed by a spiral spring 39, the tension of which is exerted to hold the bar against the shaft 31.

40 denotes a vertical arm fixed to the bar 37, and 41 represents a pawl pivoted to the upper end of said vertical arm, and its free end is held in engagement with the ratchet-wheel 34, so that one complete revolution of the measuring-drum 30 will actuate the ratchet-wheel one tooth.

Every other tooth on the ratchet-wheel is consecutively numbered, as shown, the numbered teeth indicating yards and the intermediate unnumbered teeth indicating half-yards, the capacity of the machine, as above indicated, being limited to sixty yards, though, of course, I do not desire to limit myself to these proportions, as it is evident that the diameter of the drum 30 may be increased or diminished at will like the proportions of the ratchet-wheel 34, varied to correspond to the capacity of the machine.

The operation of the machine will be readily understood from the foregoing description, taken in connection with the drawings.

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

1. In a cloth-measuring machine, the winding-shaft 10 comprising the spaced parallel bars 18 19, the collar 12, journal 13 and crank-handle 17 fixed to one end of said shaft, the journal 21′ formed with the collars 21 and 23 the latter having the recesses 20 20 to receive the free ends of the bars 18 and 19, the clamp 24 encompassing said bars contiguous to the collar 12 and the clamp 25, adjustably encompassing said bars contiguous to the collar 21, substantially as shown and described.

2. In a cloth-measuring machine, the combination with the measuring-roller 30, of the winding-shaft 10 comprising the spaced parallel bars 18 19, the collar 12, journal 13 and crank-handle 17 fixed to one end of said shaft, the journal 21′ formed with the collars 21 and 23, the latter having the recesses 20 20 to receive the free ends of the bars 18 and 19, the clamp 24 encompassing said bars contiguous to the collar 12, and the clamp 25 adjustably encompassing said bars contiguous to the collar 21, substantially as shown and described.

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

JAMES TERRY DARBY.

Witnesses:
LEON PAYNE,
A. SCHMITT.