

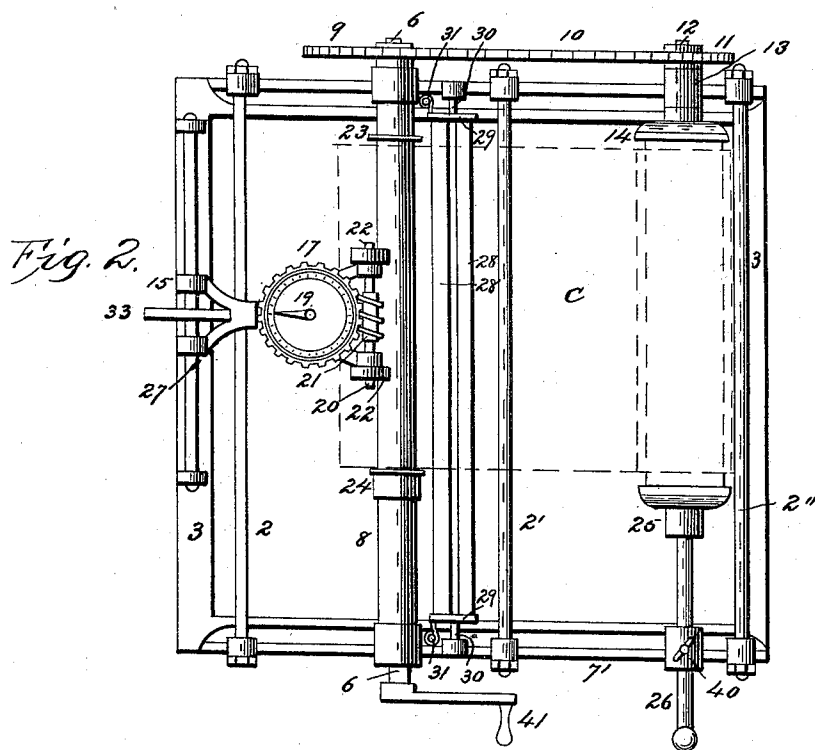
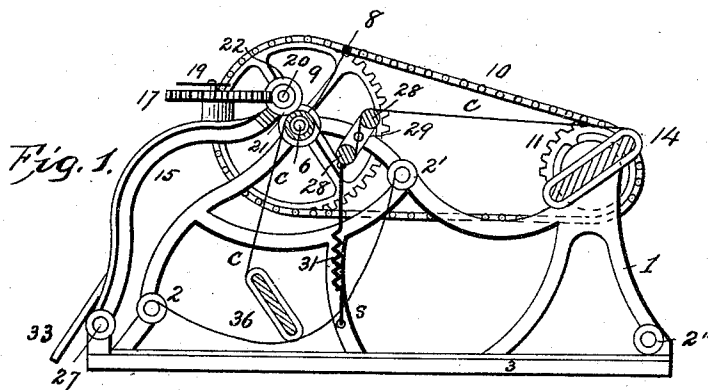
(No Model.)

2 Sheets—Sheet 1.

C. H. WEAVER.
CLOTH MEASURING AND WINDING MACHINE.

No. 534,933.

Patented Feb. 26, 1895.



Witnesses:

E. C. Duffy

Chas. H. Auld

Inventor
Curtis H. Weaver
per *E. C. Duffy*
Attorney

(No Model.)

2 Sheets—Sheet 2

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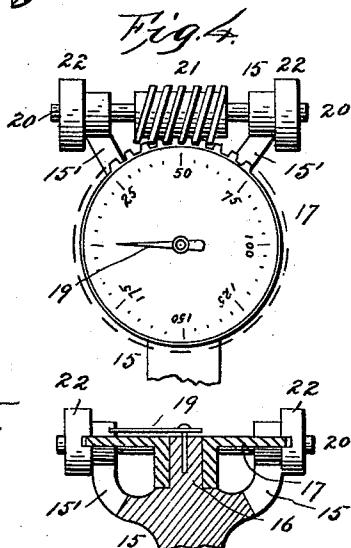
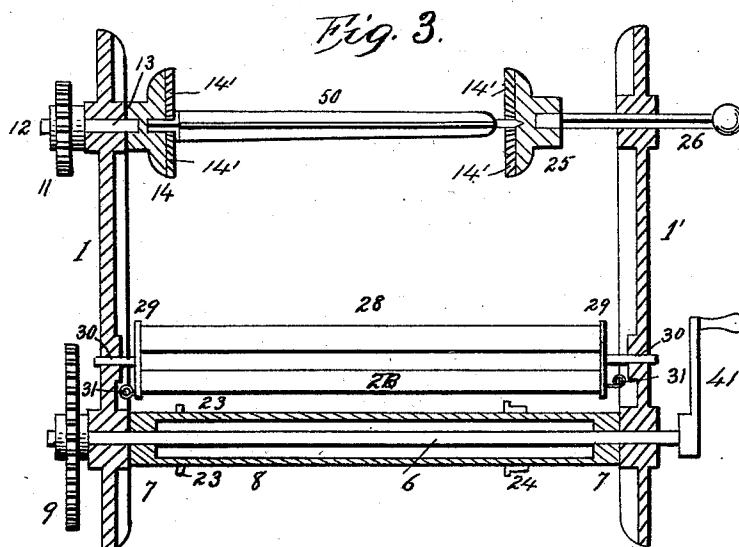


Fig. 5.

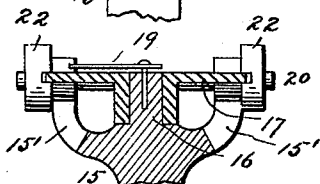
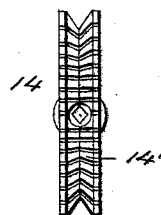


Fig. 6.



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UNITED STATES PATENT OFFICE.

CURTIS H. WEAVER, OF OIL CITY, PENNSYLVANIA.

CLOTH MEASURING AND WINDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 534,933, dated February 26, 1895.

Application filed May 15, 1894. Serial No. 511,382. (No model.)

To all whom it may concern:

Be it known that I, CURTIS H. WEAVER, a citizen of the United States, residing at Oil City, in the county of Venango and State of Pennsylvania, have invented a new and useful Cloth Measuring and Winding Machine, of which the following is a specification.

This invention relates to certain improvements in cloth measuring and winding machines, particularly intended for use in taking inventory of stock in dry goods stores or the like.

The object of the invention is to provide an improved cloth measuring machine, simple, durable and effective in construction, and composed of a minimum number of parts, and wherein the cloth can be easily started through the machine, and will be accurately measured, and evenly and uniformly wound.

A further object of the invention is to provide an improved arrangement and construction of tension device for the cloth between the winder, and the cloth measuring device and the roll from which the cloth is being unwound.

The invention consists in certain novel features of construction and in combinations of parts more fully and particularly described and pointed out hereinafter.

Referring to the accompanying drawings:— Figure 1 is a longitudinal vertical section of the machine, showing the parts in operative adjustment with the cloth in the position it assumes when traveling through the machine, and the measurer in position. Fig. 2 is a top plan of the machine, the cloth being shown in dotted lines. Fig. 3 is a horizontal sectional view through the bearing cylinder, tension device and winder. Fig. 4 is a detail plan of the measuring mechanism. Fig. 5 is a sectional view thereof. Fig. 6 is a detail end view of a driving head to receive the winding board or core.

In the drawings, 3 is a base board having the iron frame sides 1, 1', secured thereto. These metal frame sides are secured together by suitable tie rods 2, 2', 2".

6, is the main drive shaft mounted in suitable bearings in the frame, and provided with driving means, as a crank 41 at one end. The opposite end of the shaft is provided with sprocket wheel 9.

8, is a bearing cylinder or roller loose on the shaft 6, and fitting thereon between the frame sides. The cylinder can turn on the shaft, independently thereof. Near one end this cylinder has the fixed exterior cloth guide 23, and the cylinder is also provided with the longitudinally adjustable guide 24, for the opposite edge of the cloth.

36, is a trough or support for the bolt or roll of cloth to be unwound. This trough is preferably arranged directly beneath the guiding and bearing cylinder 8, and is composed of heavy cloth or other suitable material at its ends secured to the tie rods 2, 2'.

The cloth winding mechanism is arranged at the opposite end of the machine, and comprises the short shaft 13, journaled in a frame side and having the sprocket wheel 11, driven from the shaft 6, by chain 10 fitting gears 9 and 11. The inner end of the shaft 13, has the head 14, rigidly attached thereto. This head has a central squared opening in its engaging face, and is laterally elongated and formed with a V shaped groove 14', the engaging surfaces of which are serrated. A similar head 25 is arranged opposite head 14, and is mounted to turn on the inner end of a rod 26, movable longitudinally through, but not rotatable in, the opposite frame side. This rod is clamped in the desired longitudinal position by set screw 40.

The board on which the cloth is to be wound has its ends fitted in the grooves 14' of the two heads, the rod 26 being pressed in so that the heads tightly clamp the board. The set screw 40 is then tightened to lock the rod.

If it is not desired to wind the cloth on a board, a spindle 50 is employed having its ends squared to fit in the squared openings in the heads 14 and 25 so that the spindle turns with the heads. This spindle can have side flanges and is usually tapered so that it can be readily withdrawn from the bolt.

A suitable tension device is arranged between the winding mechanism and the guiding cylinder 8, and this tension device preferably consists of a swinging frame comprising heads 29 having approximately central pivots 30 journaled in the frame sides and the plurality of tension bars 28, between said heads. Suitable retracting springs, as 31, are at their lower ends secured to the frame at s,

in the same vertical plane with the pivots 30, 30, and at their upper ends are secured to one of the bars 28, of the tension device so as to constantly draw the same downwardly below a straight line from cylinder 8, to the winding mechanism. The springs and pivots of the winding mechanism are so arranged that when the tension bar 28 is raised to the highest point possible, the spring s, will be thrown beyond the dead center and the tension device will remain in such position, until released, with the opening between bars 28, directly between, or in line with, the cylinder 8, and the winding mechanism so that in starting the machine the cloth can by hand be drawn over the cylinder 8, and between the bars 28, and onto the winder. When this has been done the bar 28 to which the springs are attached is pressed toward cylinder 8. Thereupon the tension device assumes the position shown in Fig. 1, exerting a constant tension on the cloth which travels around the tension bars and is deflected by the same.

15 is an upwardly extending swinging bracket at its lower end turning and movable longitudinally on the horizontal rod 27 secured on the base 3, parallel with the cylinder 8. The upper end of this bracket extends inwardly over the cylinder 8, and carries the measuring mechanism resting thereon.

The lower end of the bracket 15 has the arm 33, arranged to engage the base 3, and hold the bracket up when it has been swung up and back from the cloth. The upper end of the bracket has the two forwardly extending arms 15' in which the horizontal shaft 20 is journaled. This shaft is provided with the friction wheels 22, arranged to bear down on the cylinder 8, and travel on the cloth and be rotated thereby.

Between the bearings 15' the shaft 20 is provided with worm 21, meshing with the horizontal or approximately horizontal gear 17 journaled on the upper side of the bracket 15. The upper side of the bracket 15 has the vertical boss or stud 16, on which the hub of the gear 17 rotates. The boss has a vertical opening in which the shaft of a pointer 19 fits. The pointer is arranged over the gear 17, which on its upper face is properly graduated to form a scale for the pointer.

In operating the device, the bolt to be measured is placed in the trough 36, in the lower part of the machine, and the guide 24 is shifted according to the width of the cloth so that the cloth will be confined in the proper position on the cylinder 8. The bracket 15 is swung back from the cylinder 8, and the disk or gear 17 is moved back to zero. The tension device is also held up as before described. The cloth is then carried up over the cylinder

8, between guides 23, 24, and then between the bars of the tension device to the winder on which it is confined. The bracket 15 is then swung down so that the rollers 22, 22, rest on the cloth and will be rotated thereby. The tension device is then thrown to operative position and the machine started by the drive shaft 6.

The measuring device accurately records the length of material passing beneath the rollers 22, and the winding device, in connection with the tension device, uniformly and evenly winds the cloth on the board or spindle.

It is evident that various changes might be made in the forms, constructions, and arrangements of the parts described without departing from the spirit and scope of my invention. Hence I do not wish to limit myself to the exact construction herein set forth, but consider myself entitled to all such changes as fall within the spirit and scope of my invention.

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

1. The combination with a frame, and driving mechanism, of a tension device arranged between the bolt of cloth and the winder and comprising heads pivoted in the frame and tension bars between the heads around which the cloth passes, and a spring secured to the tension device and secured to the frame so that the tension device can be swung up and throw the spring to the dead center and hence hold the tension device so that the cloth can be easily started through it, substantially as set forth.

2. The combination of a base, the elevated frame thereon, a winding device in the frame, a drive shaft near one end of the frame connected to drive the winding device, the guiding cylinder between the frame sides and turning loosely on said shaft and having the exterior guides, a tension device mounted in the frame between said cylinder and the winder and comprising the bars arranged to swing so that the space between the bars will be in line between the winder and cylinder, a spring yieldingly holding the bars from such position and arranged to hold the bars in such position when swung beyond the dead center, the laterally adjustable swinging arm extending upwardly and inwardly with its inner end supported by the cylinder and shaft, an indicator on said arm, and a rotary shaft geared to the indicator and having a roller bearing on the cloth on the cylinder, substantially as described.

CURTIS H. WEAVER.

Witnesses:

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JOSEPH REID.