

(No Model.)

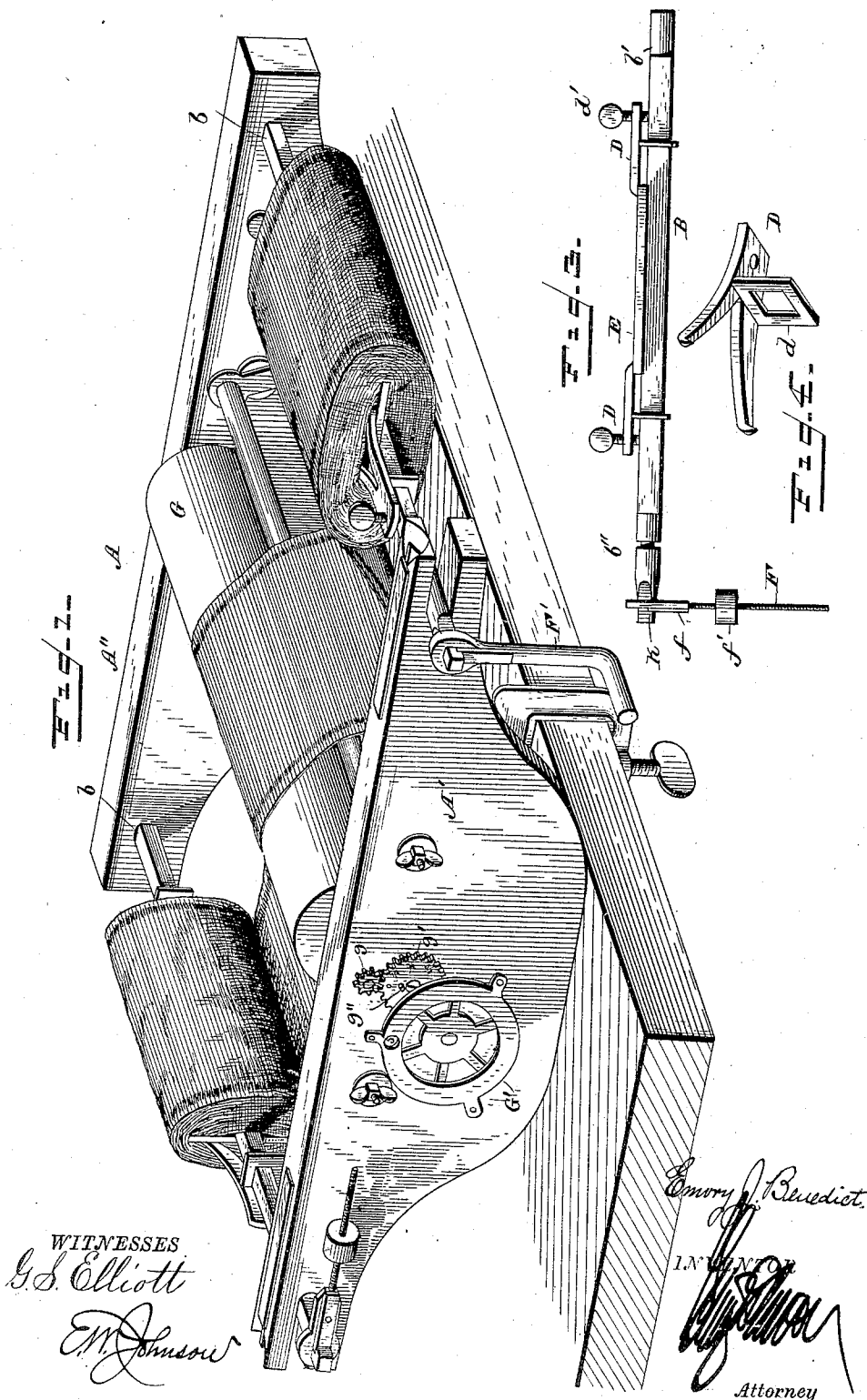
2 Sheets—Sheet 1

E. J. BENEDICT.

MACHINE FOR MEASURING AND WINDING CLOTH.

No. 341,722.

Patented May 11, 1886.



(No Model.)

2 Sheets—Sheet 2.

E. J. BENEDICT.

MACHINE FOR MEASURING AND WINDING CLOTH.

No. 341,722.

Patented May 11, 1886.

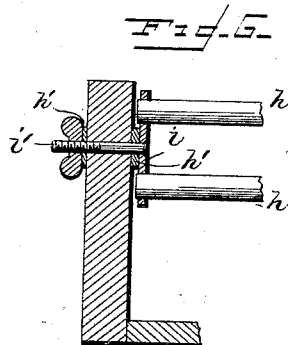
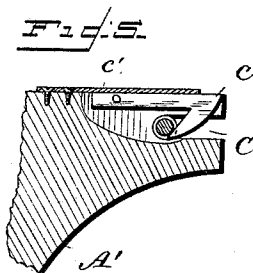
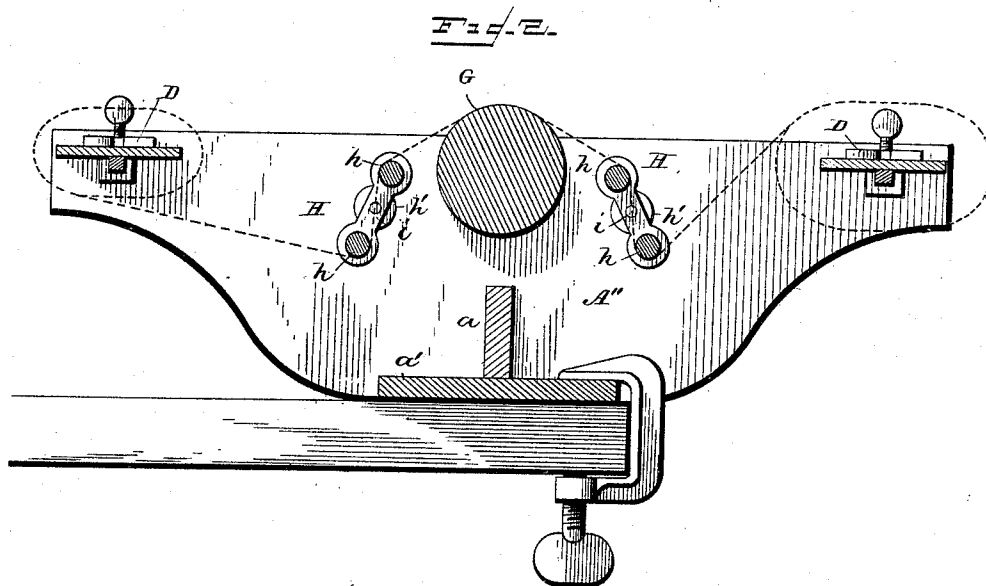
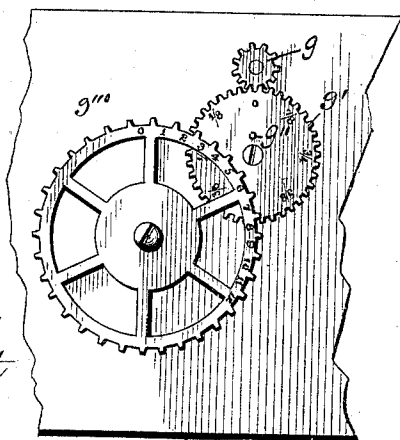


Fig. 7.



WITNESSES
G. S. Elliott
E. M. Johnson

Emory J. Benedict

By

Attorney

UNITED STATES PATENT OFFICE.

EMORY J. BENEDICT, OF DELL RAPIDS, DAKOTA TERRITORY.

MACHINE FOR MEASURING AND WINDING CLOTH.

SPECIFICATION forming part of Letters Patent No. 341,722, dated May 11, 1886.

Application filed February 11, 1886. Serial No. 191,598. (No model.)

To all whom it may concern:

Be it known that I, EMORY J. BENEDICT, a citizen of the United States of America, residing at Dell Rapids, in the county of Minnehaha and Territory of Dakota, have invented certain new and useful Improvements in Devices for Winding and Measuring Cloth; and I do hereby 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 it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in machines for unwinding, measuring, and rewinding fabrics, the object of the same being to provide means whereby fabrics can be taken from a roll, measured, and transferred to another roll; and to this end my invention consists in a winding and measuring machine, the construction of which will be hereinafter fully set forth, and specifically pointed out in the claims.

In the accompanying drawings, which form a part of my specification, Figure 1 is a perspective view of a cloth winding and measuring apparatus constructed in accordance with my improvement. Fig. 2 is a longitudinal sectional view. Fig. 3 is a detailed view of one of the shafts around which the cloth is wound. Fig. 4 is a detail perspective view of a clamp which is employed for holding the boards upon which the fabric is wound on the shafts. Fig. 5 is a detailed sectional view of one of the hooks for retaining the winding-shafts in position. Fig. 6 is a detailed sectional view of a portion of the tension-bars, and Fig. 7 is a side view of the mechanism for indicating the amount of cloth passed over the measuring-roller.

A refers to a suitable frame, which consists of side pieces, A' A'', which are connected to each other at their lower edges by a central transverse board, a, and a horizontal board, a', which are rigidly attached thereto. The horizontal board forms a convenient means for securing the frame adjacent to the edge of the counter or table by clamps. The

side board A'', near its ends, is provided with bearings b, for the reception of the rounded ends b' of the shafts B. Near the opposite ends the shafts B are provided with recesses b'', with which engage hooks c when the ends of said shafts are passed into the recesses C, which are formed in the ends of the side board A'. The hooks c are held in a depressed position by flat springs c', and said hooks may be elevated, so as to bring them out of engagement with the recesses in the shafts B by elevating them, and when elevated the shafts may be removed from the recesses C, and then from the frame.

D D refer to clamps, which have downwardly-projecting members d, with central openings, rigidly attached thereto, through which the shaft B passes. Said clamps are also provided with set-screws d', which pass through screw-threaded holes in one end of the same and bear upon one of the faces of the shaft B, and when said screws are turned they will elevate the end through which they pass, and will depress the opposite end of the clamps, so as to cause them to enter and hold in place the board upon which the fabric is wound. The bifurcated ends of the clamps D are bent at right angles and pointed, so as to enter the board E, and when the set-screws d' are turned they not only hold the board in place, as previously described, but also hold the clamps rigidly in position upon the shaft.

The shaft B at the rear end of the apparatus, which carries the roll of fabric to be measured and rewound, has attached at its projecting end an arm, F, which passes over the rectangular end of the shaft, and is provided with a turn-button, f, which engages with a recess therein, so as to secure the arm F in position. This arm is screw-threaded throughout the greater portion of its length, and carries an adjustable weight, f', which, when adjusted properly, will serve as a counter-balance for the board E and clamps D, thus providing a means for overcoming an intermitting tightening and slackening of the shaft, and causing the same to rotate evenly.

G refers to a measuring-roller, which is journaled centrally between the side boards, A' A'', and the shaft upon which it is located extends

beyond the side board A', and is provided with a pinion, *g*, which meshes with a pinion, *g'*, which has adjacent to its periphery indicating-marks at suitable intervals, which represent the fractions of a yard or other standard gage. The pinion *g'* has near its center a projecting pin, *g''*, which engages once during each rotation of the wheel *g'* with the periphery of the wheel *g'''*, which is provided with teeth and numbers indicative of the unit or combination thereof of the standard gage. The wheel *g'''* is covered by a plate, *G'*, having an opening therein, as shown in Fig. 1. When the fabric is passed over the roller *G*, the fractions of a yard are indicated by the figures on the wheel *g'*, while the total number of yards may be seen through the opening in the covering-plate *G'*.

On the side pieces, between the central measuring-roller and the bars B B, are located tension-bars H H, said tension-bars consisting of parallel rollers *h h*, which are journaled in cross-pieces *i i*, which have rigidly attached thereto stems *i'*, which pass through the side pieces, and are provided with turn-buttons or thumb-screws. Washers *h'* are located under the plates *i* and the thumb-screws or turn-buttons, and the angle of the bars *h h* with respect to the measuring-roller can be varied, so that the tension can be changed so as to secure the proper pressure of the fabric on the measuring-roller. This change of tension is accomplished by adjusting the bars *h h* so that the angle at which the fabric passes over or around the same will be varied.

The machine hereinbefore described provides an easy and convenient, as well as a rapid and effective, means for winding or rolling a web or bolt of cloth or other fabric, when said fabric is either folded or wound upon a board, upon another board with an even and adjustable tension, which can be changed as desired while the apparatus is in motion, and also for measuring the fabric.

The operation of my invention is as follows: The apparatus is first fastened to a counter or other support by means of clamp-screws, and when it is desired to wind the fabric upon a board from a loose or folded bolt and measure at the same time, the gage is first adjusted, and then the front rod or bar B is removed from the apparatus and the goods placed in front of the machine, and the end of the cloth is passed between the first tension-roller, and from thence over the measuring-roller and then through the other tension-roller. The cloth may then be fastened on the shaft B, and by turning said shaft the cloth can be readily wound and measured. After the cloth has been wound upon the board, by raising the catch *c* the shaft can be removed from the machine, and after the clamps are loosened the board, with the cloth thereon, can be readily slipped from the shaft. When it is desired to wind the cloth from one board to another, as in invoicing, one of the shafts is re-

moved from the apparatus, as hereinbefore described, and one of the clamps taken from the shaft. The shaft is then inserted in the center of the bolt of fabric, and is secured to one of the clamps. The opposite clamp is then placed on the shaft and made fast to the board. The end of the fabric is passed between the tension-rollers and over the measuring-roller, as hereinbefore described. After the cloth has been measured, if desirable, it can be again rewound on the original board, and to do this the positions of the crank-handle and counterbalancing-bar F are changed.

If desired, the boards and clamps may be dispensed with and the cloth wound directly upon the shafts B. When the boards are not used, by a few reversed movements of the shafts the cloth will be sufficiently loosened to be slid therefrom.

The shafts B at their ends are each provided with recesses *k*, within which will lie the ends of the turn-buttons *f*, attached to the arm F and the crank-handle F'.

I claim—

1. In an apparatus for winding and measuring cloth, a shaft, B, journaled near one end of the main frame and provided with a removable arm carrying an adjustable weight, a measuring-roller over which the fabric passes, and a shaft adapted to be rotated and receive the fabric after passing over the measuring-roller, substantially as shown, and for the purpose set forth.

2. In a cloth-winding apparatus, a shaft, B, provided with removable clamps D and a recess, *b''*, with which engages the catch for retaining the same in position upon the frame, substantially as shown, and for the purpose set forth.

3. In combination with the shaft B, for the purpose set forth, the removable clamps D D, having depending members *d*, through which the shaft passes, ends adapted to engage with a board and retain the same on the shaft, and set-screws *d'*, for binding the clamps to the shaft and forcing the opposite ends upon the board, substantially as shown, and for the purpose set forth.

4. In a cloth-winding machine, a shaft, B, having clamps for holding a board thereon, and an arm, F, adapted to be removably secured to said shaft, and provided with an adjustable weight for counterbalancing the combined weight of the board and clamps, substantially as and for the purpose set forth.

5. In a cloth-winding apparatus, the shafts B B, having adjustable and removable clamps secured thereto, for holding winding-boards in position thereon, the adjustable tension-bars H H, and a measuring-roller located between the tension-bars and geared to an indicator, the cloth holding and winding shafts being adapted to be removed from the frame, the parts being combined and organized substantially as shown, and for the purpose set forth.

6. The shafts B, provided adjacent to their
ends with recesses *b''* and recesses *k*, with which
turn-buttons attached to a weighted arm and
crank-handle are adapted to engage, so as to
5 make the weighted arm and crank-handle in-
terchangeable, substantially as shown, and for
purpose set forth.

In testimony whereof I affix my signature in
presence of two witnesses.

EMORY J. BENEDICT.

Witnesses:

O. O. SAWYER,
ALBION THORNE.