2 Sheets—Sheet 1.

W. H. WOODWORTH.

Cloth Measure.

No. 9,496. Patented Dec. 21, 1852.

Fig: 1.

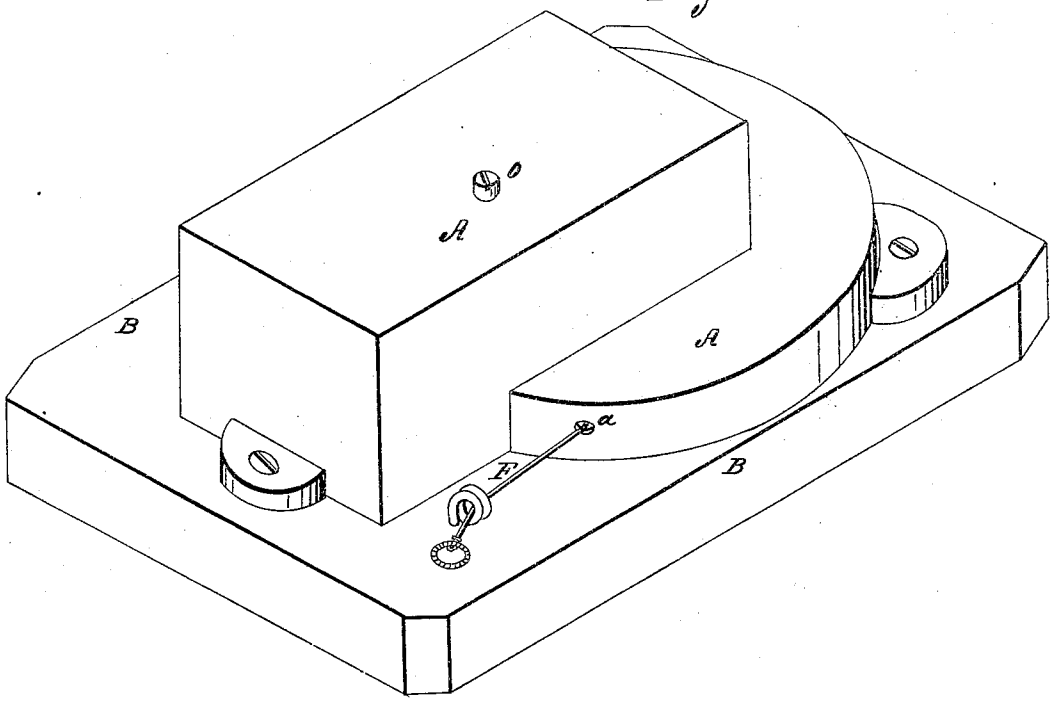
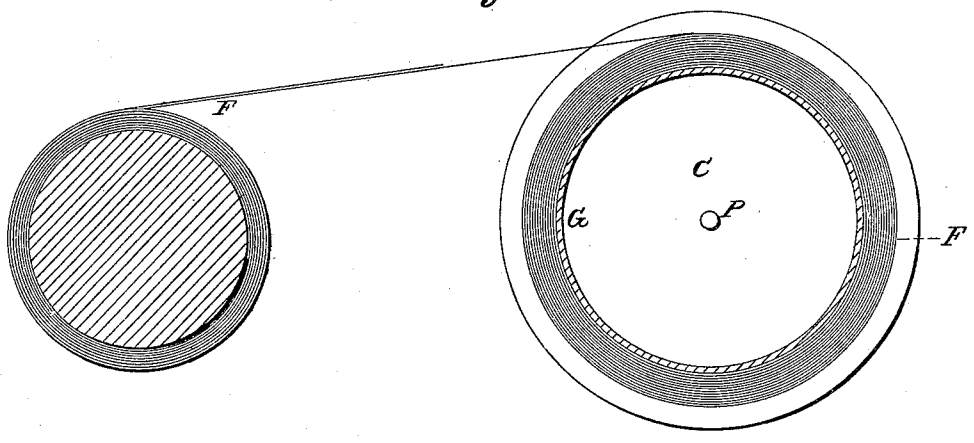


Fig: 4.



2 Sheets—Sheet 2.

W. H. WOODWORTH.

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Fig: 3.

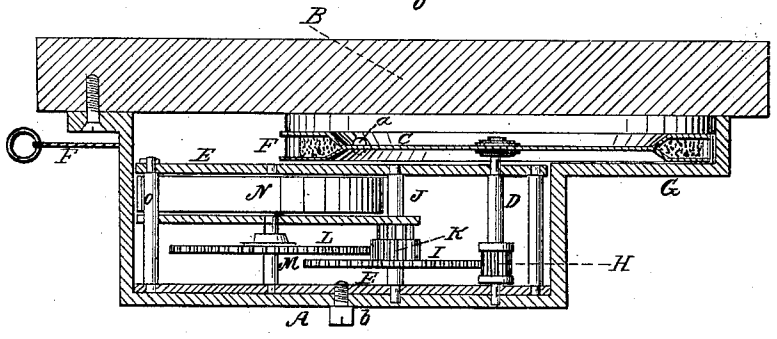
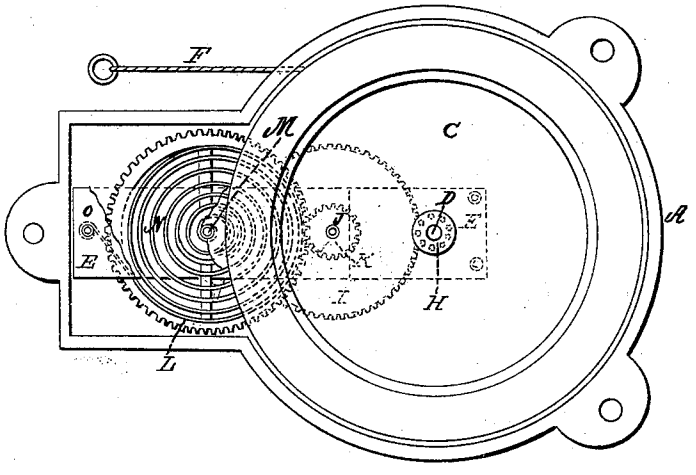


Fig: 2.



UNITED STATES PATENT OFFICE.

WM. H. WOODWORTH, OF SALMON FALLS, NEW HAMPSHIRE.

METHOD OF MEASURING CLOTH ON THE CLOTH-BEAM.

Specification of Letters Patent No. 9,496, dated December 21, 1852.

To all whom it may concern:

Be it known that I, WM. H. WOODWORTH, of Salmon Falls, in the county of Strafford and State of New Hampshire, have invented a new and useful Method of Measuring Cloth as It is Woven; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, is an inverted isometrical perspective view of the case containing the mechanism for keeping the indicating and measuring cords taut as they are being unwound from the reel and also winding them up again as the cloth is taken off the cloth roll. This view also shows the breast beam to which the case is attached, and the measuring cord. Fig. 2, is a plan or bird's-eye view of the entire machine, detached from the breast beam. Fig. 3, represents a vertical longitudinal section of the machine as it appears when attached to the breast beam of the loom. This view shows the manner in which the different colored cords are wound around the reel, and also the mechanism for operating the reel when necessary. Fig. 4 is a diagram showing a horizontal section of the reel as it appears when the different colored cords are wound around it, and a roller with cloth wound on it, and the indicating or measuring cord wound in between the cloth.

The same letters of reference in each of the several figures indicate corresponding parts.

My invention relates to a novel and useful method of measuring cloth in suitable lengths or "cuts" as fast as it is woven; and consists in attaching or tying together two measuring and indicating cords or strings of different colors, either blue and red, or white and yellow or of any other appropriate light colors, and attaching one end of the same to, and winding it around a reel or spool which is secured fast on a revolving shaft, carrying a small barrel pinion, said pinion being set in operation by means of a spring and other suitable mechanism which is placed within a cast iron box secured fast to and underneath the breast beam of a loom. The said cords serving in the most effectual manner to indicate the place at which it is desired to cut the cloth, for it will be seen that if the end of the blue cord or string be attached to the end of the cloth it must necessarily wind in with the cloth on the roller or cloth beam, and consequently all unwind from the reel or spool (if the blue cord be just forty yards long) and when forty yards of cloth have been woven and wound around the cloth beam, the red colored indicating cord or string will appear and begin to unwind; as soon as this takes place the operator cuts off the forty yards measured, at the end of the blue colored string, and unwinds the cloth from the cloth beam, when which operation takes place the blue colored string is again wound around the reel, by means of suitable mechanism operated by a spring. The said spring also serving to keep the indicating string or cord taut while it unwinds from the reel.

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

A represents the cast iron box or case in which the mechanism is placed. This box may be of the form represented in the drawing or of any other more suitable: and is attached to, and underneath the breast beam of a loom. B, is intended to indicate the breast beam.

C, is the reel or spool on which the different colored cords are wound. D, is the vertical revolving shaft on which it is attached and with which it revolves—this shaft turns in suitable steps or bearings in the frame E, which sustains all the mechanism for operating the reel or spool.

F, G, indicate the different colored cords wound on the reel or spool C; that F serving as the measurer and that G, the indicator, for it will be understood that if it be desired to have the "cuts" just forty yards long, which is the common length for cloths when sold in the China market, and the blue cord be just forty yards long it must necessarily all unwind from the reel or spool and wind in with the cloth in the manner shown in Fig. 4, and consequently one end of the rod indicating cord will appear, as soon as this takes place the forty yards of cloth must be cut off at the point indicated by the red cord, and then unwound from the cloth beam, which operation of unwinding the cloth, causes the strain of the cord on the mechanism in the case A, to be taken off, and thereby admit the spring to operate; which winds the blue cord again around the reel or spool C, in the manner shown in Figs. 3 and 4. *a* is an opening

in the side of the box or case A, through which the cord passes as it is unwound from the reel.

H, is the barrel pinion, secured fast on the shaft D, this pinion gears into the spur wheel I secured fast on the revolving shaft J. On this shaft another pinion K, is secured fast and which gears into another spur wheel L, secured on a revolving shaft M, to which one end of the spiral spring N, for winding up the cord is attached in the manner shown in Fig. 2; the other end of the spring is secured around a stationary shaft O.

It will be seen that when the cord E, is unwound the spring N, will be wound up, and that when the cord is being wound around the spool or reel it then begins to unwind.

b, is a screw for keeping the mechanism firm in its place in the box or case A.

By my improved method of measuring cloth, the manufacturer gets rid of the difficulty usually experienced in getting all the cuts to come out right or of an equal length, said difficulty resulting from the very imperfect method now adopted in measuring cloth &c. Owing to these difficulties considerable loss is also experienced, for suppose the cloths are to be sent to the China market, for which market the "cuts" must be just forty yards in length, and to get them all of this length by the ordinery method of measuring is almost impossible except they be measured after they are taken from the cloth beam, and when this last measuring takes place, it is generally necessary to cut off small remnants, from a half to a yard and a half long, from each piece, which remnants are of but little use to the manufacturer.

What I claim as my invention and desire to secure by Letters Patent, is—

Connecting or attaching a measuring cord (constructed as described) to the cloth so as to be wound on the cloth beam with it in order to indicate the length of the "cut" required.

WILLIAM H. WOODWORTH.

Witnesses:

J. D. WATSON,

T. H. HARTSHORN.