

Thomas M. Brintnall.

Cloth Measuring Machine.

No. 119,303.

Patented Sep. 26, 1871.

Fig. 1.

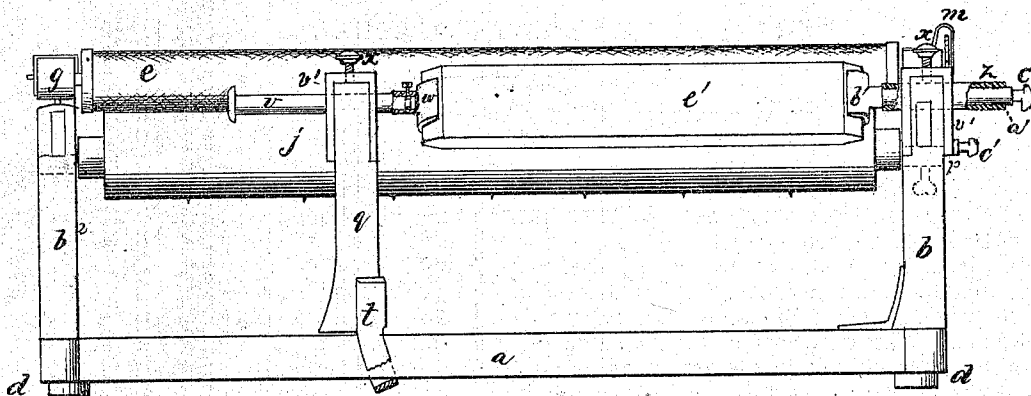


Fig. 2.

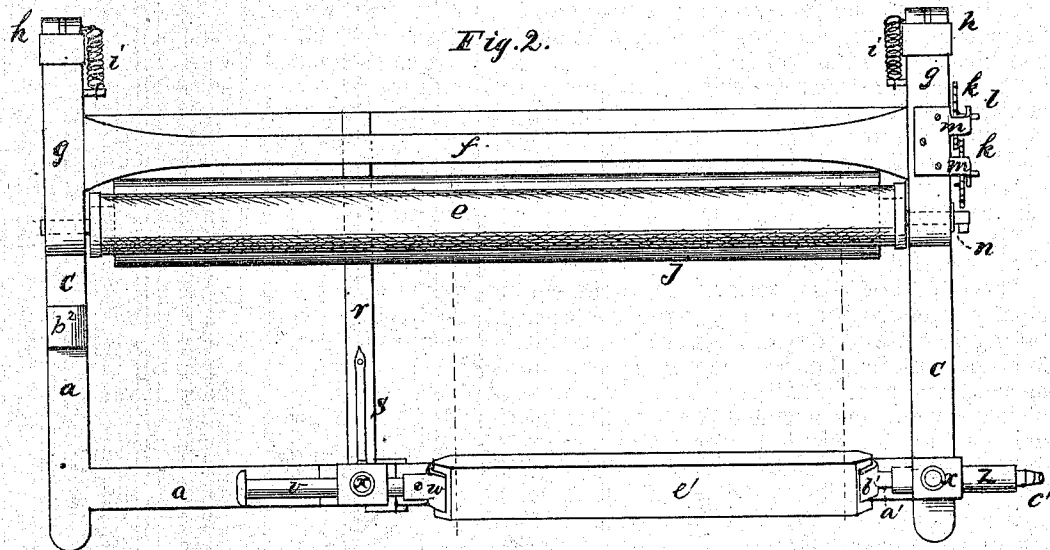


Fig. 3.

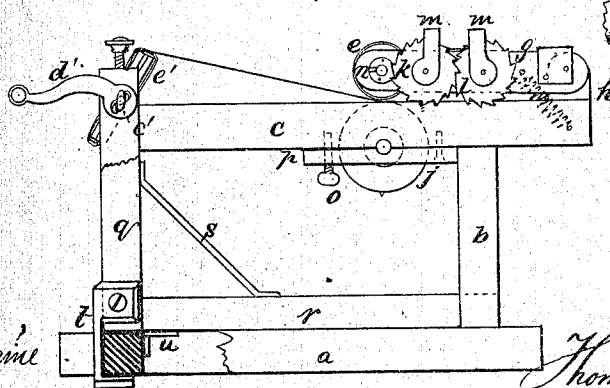
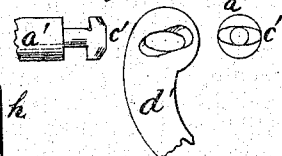


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

THOMAS M. BRINTNALL, OF MEDINA, OHIO.

IMPROVEMENT IN CLOTH-MEASURING MACHINES.

Specification forming part of Letters Patent No. 119,303, dated September 26, 1871.

To all whom it may concern:

Be it known that I, THOMAS M. BRINTNALL, of Medina, in the county of Medina and State of Ohio, have invented certain new and useful Improvements in Cloth-Measuring Machines; and I do hereby declare the following to be a full, clear, and exact description thereof, sufficient to enable those skilled in the art to which my invention appertains to fully understand and to make and use the same, reference being had to the accompanying drawing forming part of this specification, and in which—

Figure 1 is a front elevation of an apparatus constructed according to my invention. Fig. 2 is a plan or top view of the same. Fig. 3 is an end elevation, partly in section; and Fig. 4 is a detail view, to be hereinafter more particularly referred to.

Similar letters of reference indicate like parts in the several figures.

The subject of this invention is a machine principally intended for use in dry-goods houses in taking inventory of stock. It is also useful in factories, and in all cases where fabrics are to be measured in large quantities. The invention embodies several improvements on a cloth-measuring machine for which Letters Patent bearing date April 19, 1870, and numbered 101,979, were issued to me, my object being to render the apparatus more useful and convenient and more capable of general use and application. My present improvements consist, first, in mounting the measuring-roller and registering devices in an independent frame, hinged to the main frame so that it can be thrown up out of the way of attaching the cloth to the winding-drum or roller, and then let down so that the measuring-roller will bear upon the winding-roller by a uniform pressure, by which means the machine is made capable of measuring very thin and glossy fabrics; and, second, in a peculiar clutch for securing the adjustable standard *q* to the rail of the machine on which it stands, so that it may be moved back and forth on said rail, and be made firm or loosened at any point thereon without turning any screw or operating any other fastening device.

The main frame of the machine consists of a lower rectangular portion, *a a*, with vertical posts *b b*, across the tops of which, at the ends of the machine, are secured cross-pieces *c c*. To the

under side of the frame, at the corners, I apply pads of rubber *d* to prevent injury to the counter or other surface on which it stands. *j* is the receiving and transferring-roller, having its journal-bearings in cross-pieces *c c*. To regulate the tension, this roller is provided with a friction-brake, *p*, which, by means of a set-screw, *o*, may be pressed against one of its journals, so that more or less strain will be required to rotate said roller as the tension is required to be increased or diminished. *e'* is the folding-board, on which the cloth is usually wound at the factory, a cylindrical bolt, however, being sometimes used instead. This folding-board (or bolt, as the case may be) is held between the posts *b* and *q* by means of two clutches, *b'* and *w*, on the inner ends of spindles *a'* and *v*. I prefer to provide said standards *b* and *q* with metallic caps *v'*. Standard *q* has a solid spindle, *v*, passing loosely through its upper end, and adjustable therein by means of a set-screw, *x*. On the inner end of this spindle is swiveled a clutch, *w*, which is held in place by means of a small set-screw, the end of which enters an annular groove in the end of the spindle. This permits a ready detachment and exchange of the clutch when it is desired to substitute a cylindrical bolt for a flat folding-board, or vice versa. The post *b* has an adjustable tube, *z*, passing through its upper end, and adjustable by means of a set-screw, *x*, like the spindle *v* in standard *q*. Through this tube runs a spindle, *a'*, provided on its inner end with a clutch, *b'*, rigidly fixed so that it will not rotate independently of the spindle. The end of this shaft, at *c'*, is formed to receive a detachable crank. To adjust the machine to receive bolts of cloth of varying widths the standard *q* is movable along the rail *a*, on which it stands. To facilitate this adjustment I have devised a fastening or clutch, by means of which said standard may be instantly fixed firmly and securely at any point on said rail without turning any screw or operating any equivalent fastening device, and may as easily be released when it is desired to move it along the rail. This fastening device or clutch consists of a metal stirrup-plate, *t*, attached to the outer side of the lower end of said standard, extending down on the outer side of the rail *a* to the bottom of said rail, where it is bent at a right angle under the same, as shown in Fig. 1. From the inner side of the lower end of said standard *q* an arm,

r, extends across the frame of the machine, resting on the back rail thereof. To the lower side of this arm *r*, at the end next to the standard *q*, is attached a metallic angle-plate, *u*, the vertical flange of which fits up close to the rail *a*. *s* is a brace extending from the standard *q* to the arm *r*. When the folding-board *e'* is clamped between the clutches *w* and *b'* it prevents the standard *q* from moving inward toward the post *b*, while the stirrup or clutch *t* prevents it from moving in the contrary direction, and the arm *r* and angle-plate *u* hold it as steadily in place as if it were firmly framed into the rail *a*. When the folding-board *e'* is taken out, by inclining the standard toward post *b* it instantly becomes free to move along the rail in either direction; and by inserting another folding-board or bolt it may as speedily and easily be fixed firmly in its proper position on the rail. *g g f* is the hinged frame which carries the cloth-covered measuring-roller *e* and the registering-devices. This frame is hinged to the main frame at *h h*, and is provided with two springs, *i i*, which are attached to it and also to the main frame, and give a uniform spring-pressure of the measuring-roller *e* upon the receiving and transferring-roller *j*. The registering mechanism consists of two toothed wheels, *k l*, turning loosely on pins fixed in the hinged frame, and retained in place by spring-arms *m m* attached to said frame. The wheel *k* is rotated by means of a tappet on the journal of the measuring-roller *e*, which moves said wheel *k* the extent of one tooth at each revolution of said roller; and the wheel *l* receives its motion from the wheel *k* by means of a tappet on the latter, which engages with the teeth of the former, moving it the extent of one tooth at each revolution of the wheel *k*. *n* is a graduated disk rigidly secured to the hinged frame, and marked to indicate fractions of less than one-fourth of a yard. The said wheels are provided with twenty teeth each. The wheel *k* registers yards and quarters up to five yards; the wheel *l* is graduated for one hundred yards, each tooth representing five yards. Of course the graduation of these wheels may be varied as desired.

The operation of the machine is as follows: The flat folding-board *e'*, (or cylindrical bolt, as the case may be,) on which the fabric to be meas-

ured is wound, is mounted in the clutches on the spindles *b'* and *v*, the same, with the standard *q*, being properly adjusted. The hinged frame carrying the measuring-roller and registering devices is now raised to an upright position, the loose end of the fabric is carried to the winding-roller *j* and secured thereto on pins fixed in its periphery, and said roller *j* is rotated by means of a crank until all the piece of cloth is unwound from the folding-board or bolt *e'* and transferred to said roller *j*. The hinged frame is then turned down again, so that the measuring-roller *e* will rest upon the roller *j* and upon the cloth wound thereon, and the registering devices set at zero. A crank is then applied to the end of spindle *a'*, and the folding-board or bolt rotated till the whole piece of cloth is again wound thereon. The measuring-roller *e* being exactly one-fourth of a yard in circumference, and said roller turning uniformly with the movement of the cloth as it is being unwound from roller *j*, each revolution of said roller *e* measures with accuracy one-fourth of a yard of cloth, which measurement is registered, as hereinbefore described. The springs *i i* cause the measuring-roller *e* to press upon the roller *j* with such a uniform pressure that the thinnest glazed fabrics may be accurately measured by this machine.

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

1. The combination of the main frame and the receiving and transferring-roller *j*, and mechanism for supporting and rotating the folding-board or bolt *e'* on said frame, with the hinged frame and the measuring-roller and registering devices on the same, all constructed and arranged to operate substantially as and for the purpose described.

2. In combination with the movable standard *q* and the rail *a* on which it stands, the stirrup or clutch *t*, the cross-bar *r*, and angle-plate *u*, constructed and arranged to operate substantially as and for the purpose described.

THOMAS M. BRINTNALL.

Witnesses:

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