J. I. BENHAM.

Cloth Measure.

No. 52,378. Patented Feb. 6, 1866.

Fig. 1,

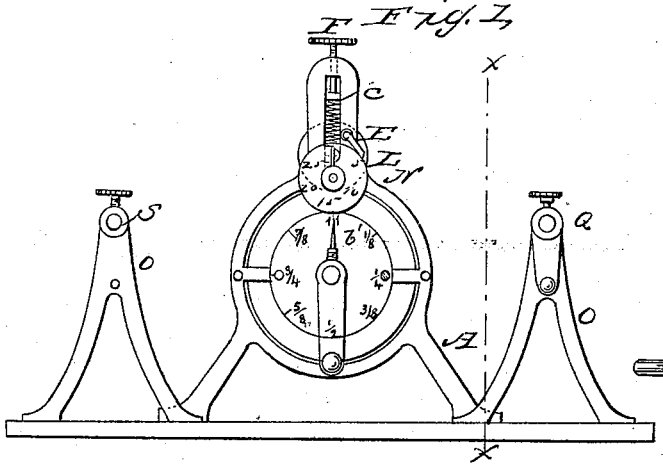


Fig. 2,

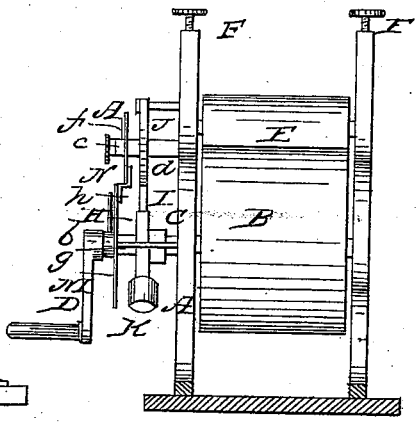


Fig. 3,

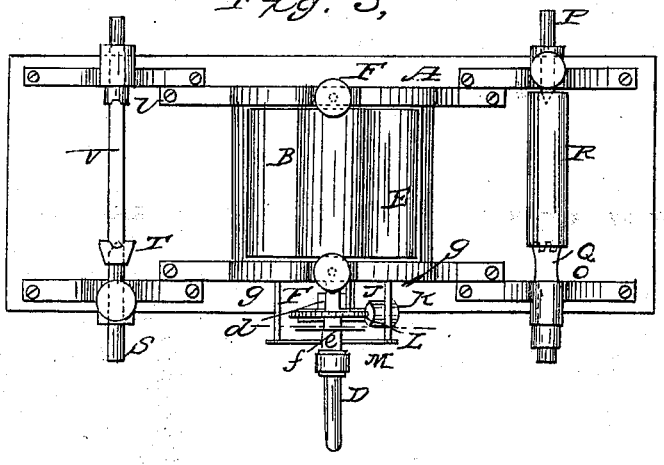
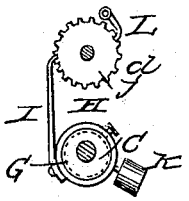


Fig. 4,



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UNITED STATES PATENT OFFICE.

JAMES I. BENHAM, OF NEW LONDON, CONNECTICUT.

IMPROVEMENT IN CLOTH-MEASURING MACHINES.

Specification forming part of Letters Patent No. **52,378**, dated February 6, 1866.

To all whom it may concern:

Be it known that I, JAMES I. BENHAM, of New London, in the county of New London and State of Connecticut, have invented a new and Improved Device for Measuring Cloth, Carpeting, &c.; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view of my invention; Fig. 2, a transverse vertical section of the same, taken in the line *x x*, Fig. 1; Fig. 3, a plan or top view of the same; Fig. 4, a view of detached parts pertaining to the same.

Similar letters of reference indicate corresponding parts.

This invention relates to a new and improved machine for measuring cloth, carpeting, ribbons, and dry goods generally.

The object of the invention is to obtain a device for the purpose specified which will be simple in construction, measure accurately and with rapidity.

A represents a framing, which may be of cast metal, and has a cylinder, B, fitted horizontally in it, one end of the shaft C of said cylinder extending through the side of the framing A and having a crank, D, upon it, to the socket *a* of which an index, *b*, is attached.

E represents a cylinder, which is considerably smaller in diameter than B, but is placed directly over it in the same axial plane, the cylinder E being made to bear upon the cylinder B by means of springs *c*, which rest upon the bearings of the shaft of cylinder E, and have their pressure graduated by set-screws F.

On the shaft C of the cylinder B there is placed an eccentric, G, having a metal strap, H, upon it, to which a pawl, I, is attached, which is kept engaged with a ratchet, J, by means of a weight, K, secured to the strap H. (See Fig. 4.)

The ratchet J works upon a fixed axis, *d*, which projects horizontally from one side of the framing A, and has a hub, *e*, to which an index, *f*, is attached.

L is a holding or retaining pawl, which prevents the ratchet J from turning in the wrong direction.

M represents a circular plate, attached to the outer ends of arms *g*, which project horizontally from the framing A. This plate M is graduated into any desired number of equal parts—eight divisions are shown in Fig. 1. The shaft C of the cylinder B passes through the center of this graduated plate or dial M, the crank D being at the outer side of the same, and the index *b* being close to and directly in front of it.

N is a dial, which is graduated into as many divisions as there are teeth in ratchet J. This dial is directly above the dial M, and is attached to it by a bar, *h*. The hub *e* of the ratchet J passes centrally through the dial N, the index *f* being in front of the latter.

The operation is as follows: The cloth or other material to be measured is passed between the cylinders B E, and the ratchet J is moved the distance of one tooth during each revolution of the cylinder B by means of the pawl I, operated through the medium of the eccentric G. Hence it will be seen that when a piece of goods is passed between the cylinders B E its length will be indicated by the index *f* on dial N; for if, for instance, the cylinder B be one foot in diameter it will be about a yard in circumference, and hence the number of yards will be shown by the index *f*. The fraction of a yard will be indicated by the index *b* on the dial M. In starting the device both indexes are set at the zero (0) point at the tops of the dials.

This machine, with a very simple addition, may be used for rolling up the goods either in cylindrical or flat form, a small frame, O, being at each side of the framing A which contains the cylinders B E, one frame being provided at one end with an adjustable center pin, P, and with a rotating arbor, Q, at the opposite end, between which a roller, R, is centered and secured. The other frame, O, is provided at one end with an adjustable arbor, S, on which a revolving socket, T, is fitted, and the opposite end of said frame provided with a revolving arbor, U, having a notched inner end, a flat board, V, being fitted between the

socket T and the arbor U to wind the goods upon when flat pieces of the same are required, round pieces being wound on the roller R.

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

1. The two cylinders B E, in combination with the dials M N, ratchet J, pawl I, eccentric G, and indexes *b f*, all arranged to operate in the manner substantially as and for the purpose set forth.

2. The roller R and flat board V, fitted in frames O O, when arranged in relation to and used in combination with the cylinders B E, substantially as and for the purpose specified.

Witnesses: JAMES I. BENHAM.

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