

L. DIMOCK.

Silk and Thread-Measuring Apparatus.

No. 114,114.

Patented April 25, 1871.

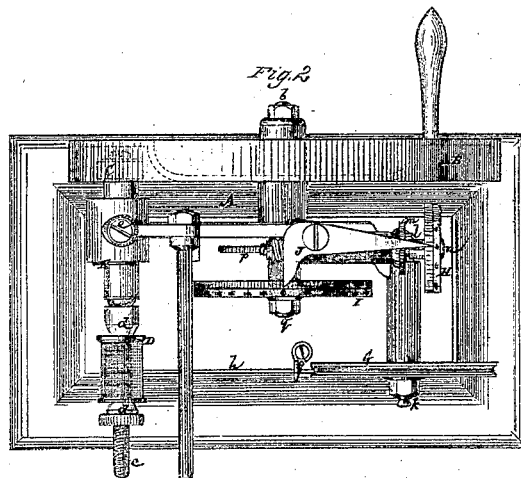
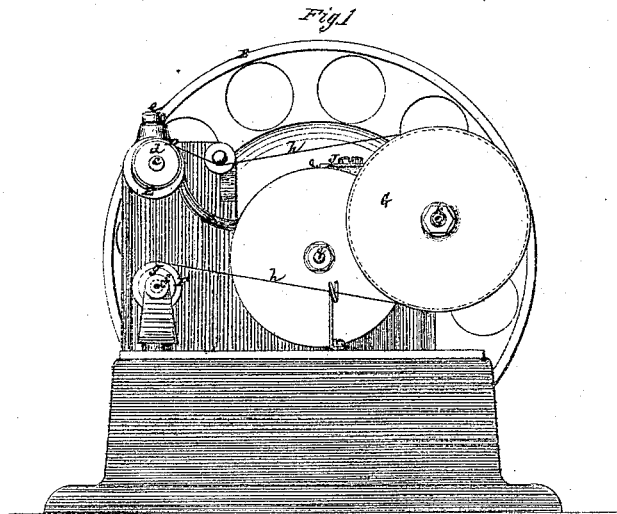


Fig. 3

Lucius Dimock  
per Brown Combs  
Attorneys

Witnesses  
Fred Haynes  
R. H. K. H. H.

# UNITED STATES PATENT OFFICE.

LUCIUS DIMOCK, OF LEEDS, MASSACHUSETTS.

## IMPROVEMENT IN SILK AND THREAD MEASURING APPARATUS.

Specification forming part of Letters Patent No. 114,114, dated April 25, 1871.

*To all whom it may concern:*

Be it known that I, LUCIUS DIMOCK, of Leeds, in the county of Hampshire and State of Massachusetts, have invented a new and useful Improvement in Machines for Measuring Silk and other Threads; and I do hereby declare that the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification, and in which—

Figure 1 represents a side elevation, and Fig. 2 a plan, of a machine constructed in accordance with my improvement. Fig. 3 is a view of certain portions of the driving devices detached, in illustration of an adjustable eccentric-bearing for keeping the driven wheel or pulley of the winding-spool in frictional contact with the driving-wheel.

Similar letters of reference indicate corresponding parts.

My invention consists in a certain arrangement of spool-spindles with a measuring-wheel, round which the silk or thread is passed as it is unwound from one spool onto another, registering or counting wheels operated by screws and worm-wheels from the measuring-wheel, as a driver, and adjustable on their shafts to set them in any required relation to their index, and certain driving mechanism for setting in motion the winding-spool, and which consists of a main or band wheel and inner pulley or wheel operating by frictional contact, preferably under an eccentric adjustment of its bearing, with the rim or band of the main wheel, the whole forming a compact and advantageous arrangement of devices, which, combined, constitute a machine useful alike to the dealer and manufacturer, for testing or measuring the amount of silk or thread wound upon a spool or spools.

Referring to the accompanying drawing, A represents the frame of the machine, which frame may be of any suitable construction. B is the main or band driving-wheel, arranged at the back or one side of the machine, and turning on a horizontal pivot or shaft, *b*. The band or rim of this wheel is made to project in front, and receives within it, at the one end of the machine, a small friction wheel or pulley, C, mounted on a spool-winding spindle, *c*, that is fitted with loose or adjustable centering

friction-cones *d d*, for holding the winding-spool D in between them, and which is rotated by the frictional contact of the pulley C with the band-wheel D. To regulate the driving-friction, as wear or other circumstances may require, the spindle *c* is supported in an adjustable eccentric-bearing, E, that may be turned, on slackening a set-screw, *e*, to bear the pulley C with more or less force up against the interior of the rim of the wheel B. Arranged below the spindle *c*, and parallel with it, is the spindle *f*, which carries, between adjustable friction or clamping and centering cones *g*, the spool F, the amount of silk or thread on which it is required to measure. Said spindle *f* is retained in its place or centers by spring clip or hold, so as to admit of its ready removal and insertion for the placing of the spool on it to be tested. Such spool F, when adjusted to its place, lies directly under the winding-spool D.

G is the measuring-wheel, round a groove in which the silk or thread *h* from the spool F, running through a guide, *i*, is passed, and the outer end of such silk or thread made fast to the winding-spool D, so that by rotating the latter through the band-wheel B and friction-pulley C said silk or thread is unwound from the spool F and wound on the spool D, and by its tension the measuring-wheel G kept revolving with a velocity due to the travel of the thread, and its rotations or extent of travel made identical with the quantity or length of thread passing over it; consequently its measuring capacity is in no way affected by the size or varying diameter of the spool or body of thread thereon to be measured. This measuring-wheel G is made fast to an independent spindle, *k*, arranged to occupy a parallel position with the spindles *c* and *f* at the opposite end of the machine, which spindle *k* has a screw, *l*, on its inner end, that serves, as the measuring-wheel G is rotated by the passage of the thread over it, to give motion to a worm-wheel, *m*, on a spindle, *n*, arranged to lie at right angles to the spindle *k*, and running crosswise of the driving-wheel B in front of it. Said spindle *n* carries a counting or registering wheel, H, and serves, by a screw, *o*, on its end, and a worm-wheel, *p*, on a spindle, *q*, that lies in the same axial line, or thereabout, as the

main wheel B, to give motion to another registering wheel or disk, I. These registering-wheels are held by friction on their respective spindles *n* and *g*, so that while they are rotated by said spindles they are adjustable or capable of being independently turned thereon to set them as required relatively to each other and to a double index or pointer, J. Said wheels are divided and numbered to express quantities as required, running from 0 upward—the one (registering-wheel H) counting units in yards, and the other (registering-wheel I) tens, or such other relative divisions as the measuring of the silk or thread may require.

What is here claimed, and desired to be secured by Letters Patent, is—

The arrangement of the friction driving-wheel B, the friction-pulley C, adjustable in relation to said wheel, the spool-spindles *c* and *f*, the measuring-wheel G, and registering disks or wheels H and I, together with their pointer or pointers, and mechanism by which motion is communicated from the measuring-wheel, all as shown and described.

LUCIUS DIMOCK.

Witnesses:

WM. W. BONNETT,

NELSON J. WELTON.