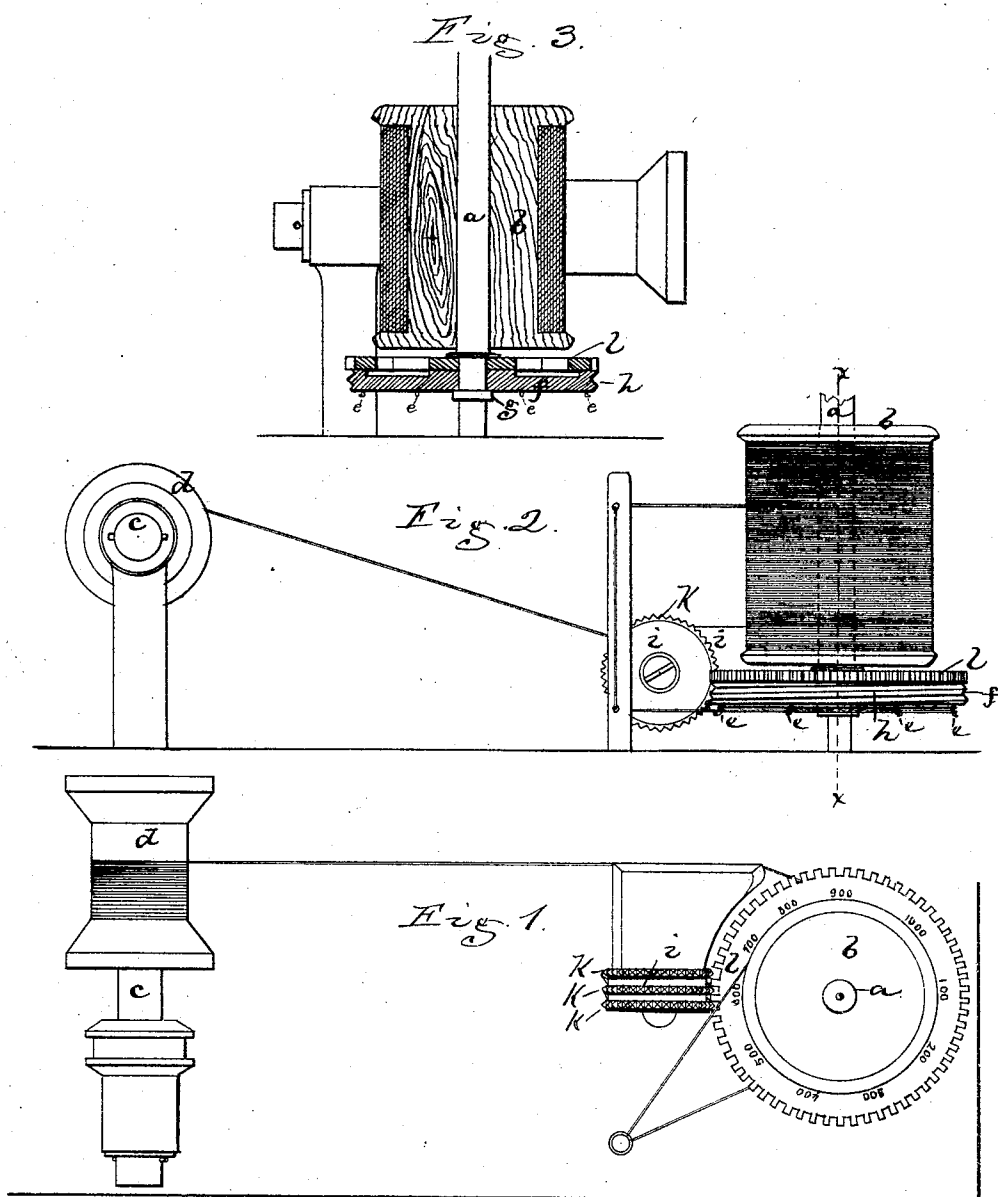


T. K. KEITH & A. SEAYER.

Measuring Devices for Spooling-Machines.

No. 144,985.

Patented Nov. 25, 1873.



Witnesses,
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UNITED STATES PATENT OFFICE.

THOMAS K. KEITH, OF HAVERHILL, AND AUGUSTUS SEAVER, OF MILFORD,
MASSACHUSETTS.

IMPROVEMENT IN MEASURING DEVICES FOR SPOOLING-MACHINES.

Specification forming part of Letters Patent No. **144,985**, dated November 25, 1873; application filed
July 10, 1873.

To all whom it may concern:

Be it known that we, THOMAS K. KEITH, of Haverhill, Essex county, and AUGUSTUS SEAVER, of Milford, Worcester county, all in the State of Massachusetts, have invented an Improvement in Measuring Thread Wound upon Spools; and we do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of our invention sufficient to enable those skilled in the art to practice it.

In winding thread upon spools from bobbins, in the manufacture of thread, it is desirable to measure the length of thread so wound; and our invention relates to an improved organization of mechanism hereinafter described, designed to insure such measurement in a very simple manner.

The drawing represents a bobbin and spool, and an intervening measuring mechanism, arranged in accordance with our invention.

Figure 1 shows the mechanism in plan. Fig. 2 is a side elevation. Fig. 3 is a section on the line *x x*.

a denotes the spindle for containing the bobbin *b*, from which the thread is to be taken. *c* denotes the spindle for supporting the spool *d*, upon which the thread is to be wound. From the bobbin to the spool the thread is shown as passing through suitable stationary guides or eyes, and thence around hooks *e*, extending from a wheel, *f*, on the spindle *a*. This wheel is loose upon the spindle and rests upon a flange, *g*, and, as the thread is drawn

by the spool *d* in the rotation of the spool, the wheel is thereby turned. The peripheral edge of the wheel is formed with a screw-thread, *h*, which meshes into the teeth of a worm-wheel, *i*, and drives said wheel, and the teeth *k* of this worm-wheel are formed in a screw or helical line, said screw meshing into the teeth of a gear-wheel, *l*, which is also loose upon the spindle. A single rotation of the wheel *f* imparts a slight rotative movement to the wheel *i*, and a complete rotation of the wheel *i* imparts a fractional rotative movement to the wheel *l*, and, by suitable regular divisions and numbers upon the wheel *l*, the extent of thread passing to the spool may be measured, each rotation of the wheel *l* delivering a certain amount of thread, and, by these rotations, the index-wheel is rotated and the consequent amount of thread measured.

It will be seen that not only may the thread be accurately measured by these means, but that the same wheel *i* being used, both to be rotated by the driving-wheel *f* and to impart rotation to the index-wheel *l*, an exceedingly simple and inexpensive mechanism is provided for effecting the measurement.

We claim—

The combination, with the screw-wheel *f* and gear-wheel *l*, of the toothed and screw-wheel *v* engaging with both these parts, being arranged and operating substantially as described.

THOS. K. KEITH.

Witnesses:

A. SEAVER.

FRANCIS GOULD,
M. W. FROTHINGHAM.