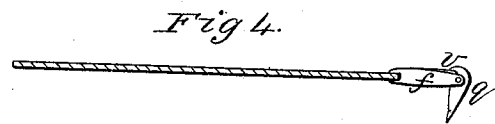
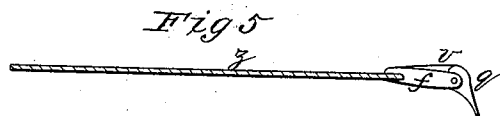
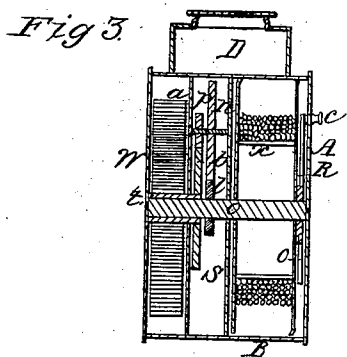
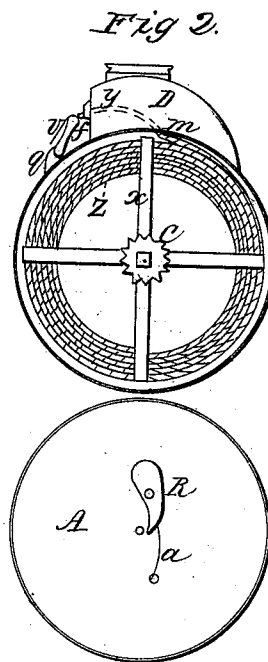
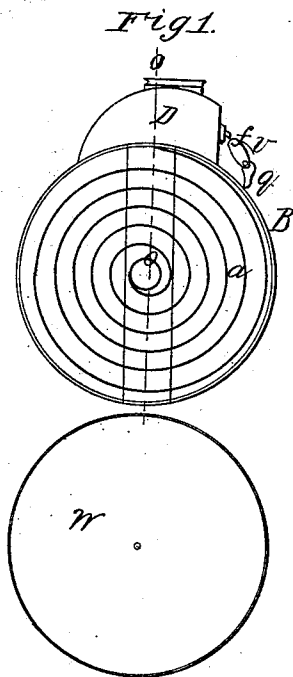


M. V. B. Knowles,

Chalk Line Holder.

No 84,554.

Patented Dec. 1, 1868



Witnesses:
J M Church

Abd Steadman

Inventor:

Martin V. B. Knowles

United States Patent Office.

MARTIN V. B. KNOWLES, OF WAKEFIELD, RHODE ISLAND.

Letters Patent No. 84,554, dated December 1, 1868.

IMPROVEMENT IN CHALK-LINE REELS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, MARTIN V. B. KNOWLES, of Wakefield, in the county of Washington, and State of Rhode Island, have invented certain new and useful Improvements in Chalk-Line Reels; and do hereby declare the following to be a full and correct description thereof, reference being had to the accompanying drawings, making part of this specification, and to the letters and numbers of reference marked thereon.

Similar letters and numbers are used in all the figures to denote the same part.

In these drawings—

Figure 1 shows a view of one side, with the cover removed.

Figure 2 shows a view of the other side, with its cover removed.

Figure 3 is a cross-section, taken through in the direction of red line *o*, fig. 1.

Figure 4 shows the hook engaged.

Figure 5 shows the same released.

The nature of my invention consists in making a chalk-line reel with a spring, to wind the line up when it has been drawn out, and providing a chalk-receptacle, through which the chalk-line shall pass, for the purpose of chalking it, as it is unwound and wound up.

The construction is as follows:

B is a circular case, divided into two parts by the partition *S*, fig. 3. In one of these parts, shown in fig. 1, is a coiled spring, *a*, the outer end of which is fastened to the case, and the inner end to a sleeve, *t*, on the shaft *o*, which shaft passes through the centre of both parts of the case.

A gear-wheel, *b*, is secured on the inner end of the sleeve *t*, and meshes into a small spur-gear, *p*, which is fast to the gear-wheel *n*, which gears into the spur-wheel *l*, which is secured to the shaft *o*, all forming a train of wheels, to increase the number of turns the reel *x* makes.

This reel *x*, which holds the chalk-line *z*, is seen in fig. 2, which shows the other part of case.

The reel is fast to the centre-shaft *o*, and has a ratchet-wheel, *C*, secured to it, in which a pawl, *R*, works.

The pawl is pivoted to the cover A, and has a knob, *c*, attached to its outer end, and projecting through the cover, to operate the pawl by on the outside.

d is a spring, to keep the pawl in the wheel.

D is a small box, placed on the side of the case, to hold the pulverized chalk, the line from the reel passing through it, through the holes *y* and *m*.

The hook, fig. 4, which is self-releasing, consists of a tongue, *q*, hung in the end of the forked bar *f*, on the back of which a spring, *v*, is fastened, the end of the spring catching into a notch in the back end of the tongue when in use.

w is the cover that belongs on that end of the case.

The operation is as follows:

The point of the tongue *q* is pressed into the board, and the spring *v* is pressed down to the bar *f*, so as to catch into the recess in the end of the tongue. At the same time, a little strain is kept on the line, to hold the spring in, and, as the line is drawn out, it coils or winds up the spring *a*, at the same time being well chalked by passing through the pulverized chalk in the box D.

When the line is snapped, by easing up or slacking the line, the spring *v* is released, and the tongue *q* will trip over, (see fig. 5,) and be released from the board, when by pushing the knob *c*, the pawl *R* will leave the wheel *C*, and the spring *a* will draw the line into the case again.

Having thus described my improved chalk-line reel,

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

1. The combination of the spring *a*, reel *x*, chalk-line *z*, and chalk-box D, through which the line passes, substantially as and for the purpose set forth.

2. The hook, composed of the forked bar *f*, tongue *q*, and spring *v*, substantially as described, and for the purpose set forth.

MARTIN V. B. KNOWLES.

Witnesses:

J. M. CHURCH,
ASA STEADMAN.