No. 617,280. Patented Jan. 3, 1899.

H. G. CHILTON.

ROPE MEASURING MACHINE.

(Application filed Feb. 16, 1898.)

(No Model.)

Fig. 1.

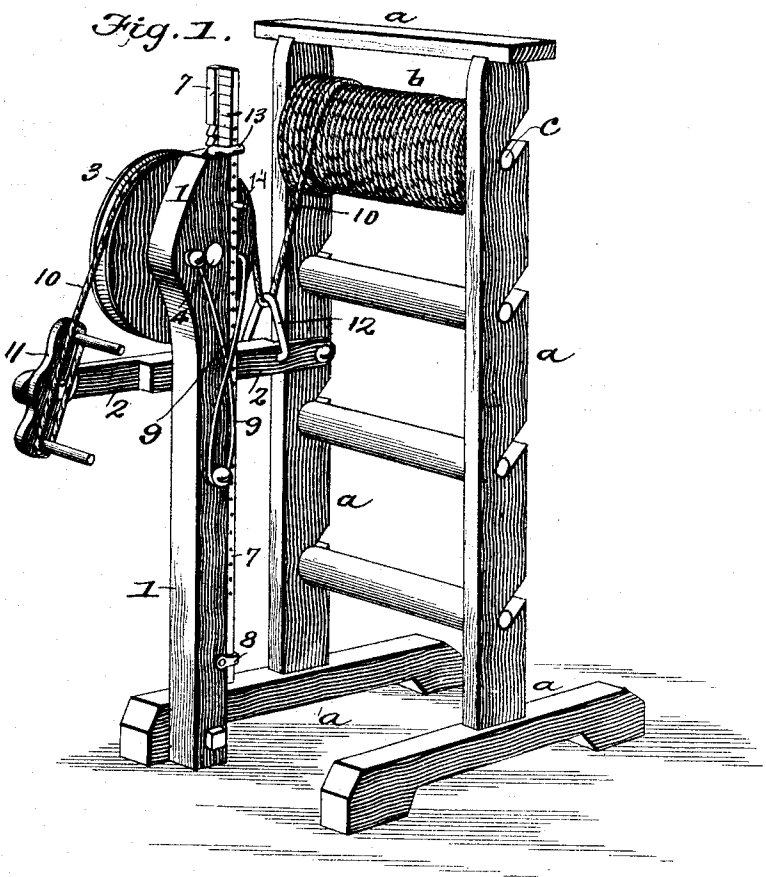


Fig. 2.

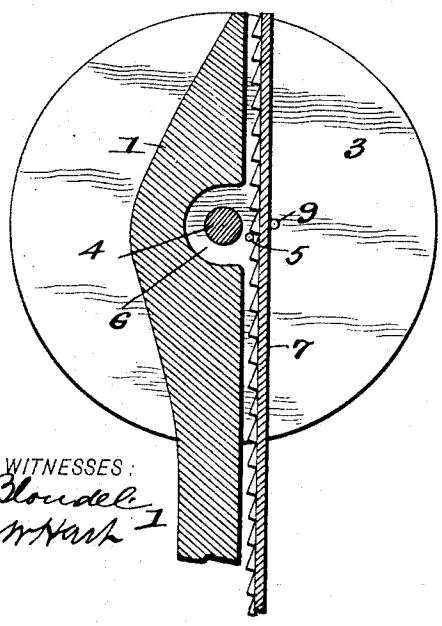


Fig. 3.

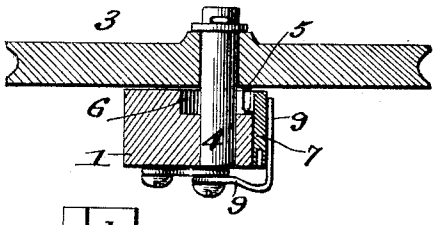
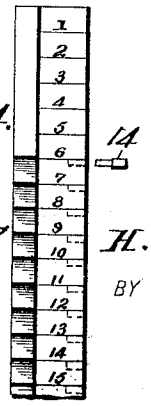


Fig. 4.



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UNITED STATES PATENT OFFICE.

HUDSON GARLAND CHILTON, OF CANTON, MISSISSIPPI.

ROPE-MEASURING MACHINE.

SPECIFICATION forming part of Letters Patent No. 617,280, dated January 3, 1899.

Application filed February 16, 1898. Serial No. 670,499. (No model.)

To all whom it may concern:

Be it known that I, HUDSON GARLAND CHILTON, of Canton, in the county of Madison and State of Mississippi, have invented a new and useful Improvement in Apparatus for Measuring Ropes, &c., of which the following is a specification.

My invention is an apparatus for measuring and indicating the length of rope, cord, wire, &c., automatically as it is run off from a coil.

The invention also includes a means for automatically stopping the operation of the measurer when a given length of rope shall have been run off.

The details of construction, combination, and operation of parts are as hereinafter described, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of my invention in connection with a rope-stand, of which it forms an attachment. Fig. 2 is an enlarged vertical section of a portion of the apparatus. Fig. 3 is a horizontal section of the same, and Fig. 4 is a face view of the measuring-slide.

A standard or stock 1 is bolted at its lower end to the foot of the rope-stand *a*, and its upper portion is secured in an equivalent manner to a horizontal bar or arm 2, whose inner end is rigidly attached to the stand *a*. A grooved measuring-wheel or large pulley 3 is mounted rotatably on a short journal 4, fixed in the broadened upper portion of the standard 1. This arrangement may obviously be reversed, the wheel 3 being keyed on the journal 4 and the latter adapted to rotate in suitable bushed bearings in the standard 1.

A pin 5 is fixed in the inner side of the wheel 3, near its axis, and the standard 1 is provided with a cavity 6 (see Figs. 2 and 3) to allow said pin 5 to rotate freely around the journal 4.

A slide 7, consisting of a slat or thin narrow bar, is arranged on the straight side of the standard 1 and held loosely in suitable fixed guides 8, forming attachments of the standard 1. (See Fig. 1.) The inner side or face of this slide 7 is provided with ratchet-teeth, with which the pin 5 is adapted to engage (see Fig. 2) at each rotation of the wheel 3. The same inner face of the slide 7 is inscribed or marked with numerals from "1" to "15," or more, in regular order, beginning with unity at the top. Each numeral is arranged opposite to and corresponds with one of the ratchet-teeth. The slide 7 is held in any vertical adjustment by friction with the standard 1, which friction is due to the elastic pressure of the wire spring 9. Said spring is secured to the standard at one end and also at the end of its loop, while its bent free end bears on the outer side of the slide 7. Thus when the wheel 3 rotates and its pin 5 engages a tooth of slide 7 the latter will be raised the distance measured by the length of a tooth and will be clamped and held in such position until the wheel 3 makes another rotation or until pushed down to its original starting position. (Shown in Fig. 2.)

The rope 10 to be measured may be run off from a coil *b*, supported on a roller or axis *c* in the stand *a* and wound on a rotary hanking device 11, journaled on the projecting free end of the bar 2. Intermediately of the wheel 3 and coil *b* the rope 10 passes through a guide-loop 12.

It will now be apparent that the length of the periphery of the wheel 3 being known each rotation of said wheel caused by feawing off the rope 10 will be indicated by adjustment of the slide 7 one tooth higher and that the numeral shown on the slide above the top of the standard 1 will indicate the number of rotations, and thereby the length of rope drawn off.

In practice I employ a wheel 3, whose diameter, measured from bottom of groove, is seven and three-fourths inches, and it turns off two feet of rope at each revolution. There are two pins 5 in the wheel, set at diametrically opposite points, and the slide 7 is pushed up twice at each revolution of the wheel. The slide being properly marked, it will indicate that two feet have been drawn off.

It is often desirable that the apparatus may be stopped automatically when a given number of feet of rope shall have been drawn off, and for this purpose I provide the standard 1 with a lateral projection 13 (see Fig. 1) and the slide 7 with a series of holes to receive a pin 14, Fig. 4. It is apparent that if the slide 7 be pushed down to normal or "0" position and the pin 14 be inserted at the point opposite the numeral "6" and the wheel 3 then rotated the result will be that when the slide

7 has been adjusted high enough to bring the pin 14 in contact with the stop 13 the further rotation of the wheel will be impossible, since its pin 5 cannot then raise the slide higher.

The outer side or face of the wheel 3 may be inscribed with numerals to indicate a portion or fraction of a rotation, and thereby a length of rope less than the periphery of said wheel.

What I claim is—

1. A rope-length-measuring apparatus consisting of a frame, a standard secured to said frame in vertical position, a grooved measuring-wheel having a face-pin and journaled and supported on the upper end of the standard, the toothed slide arranged vertically and held movably and elastically in guides on the said standard alongside the wheel, its toothed side being adapted for engagement with the pin of said wheel as the pin revolves around the journal, and the spring for holding the slide in any adjustment, as shown and described.

2. The combination with a rope-stand, of a rope-measuring apparatus consisting of a vertical standard, a horizontal bar or arm connecting said stand and standard, and projecting beyond the latter, a grooved wheel journaled on the standard, and having a pin in its rear face, a ratchet-toothed slide working on and guided by the standard, a wire spring holding the slide in frictional engagement with the standard, a loop arranged between the wheel and stand, and a rotatable hanking device journaled in the projecting end of the aforesaid bar, as shown and described.

HUDSON GARLAND CHILTON.

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