A. M. WISWELL.

ROPE MEASURER.

APPLICATION FILED JUNE 6, 1911.

**1,039,468.** **Patented Sept. 24, 1912.**

2 SHEETS—SHEET 1.

Fig. 1.

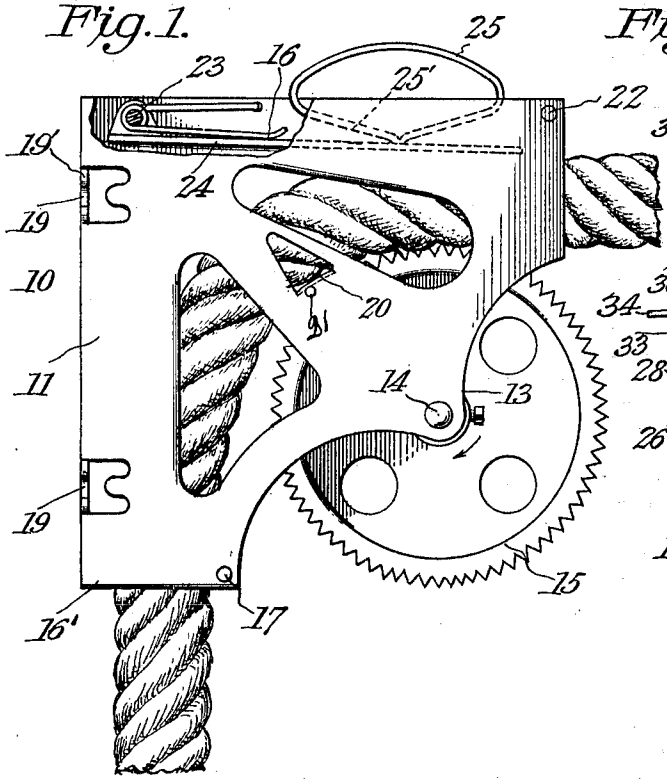



Fig. 3.

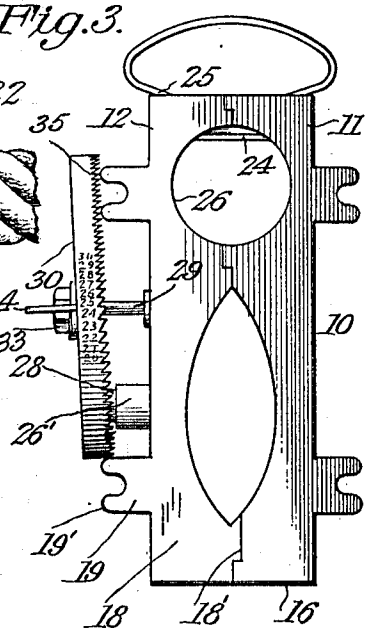



Fig. 5.

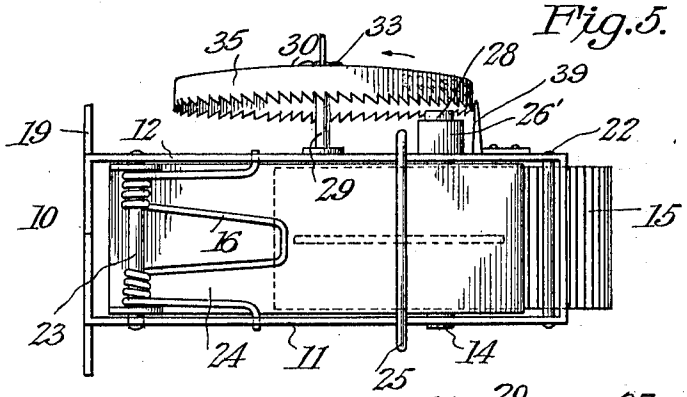



Fig. 10.

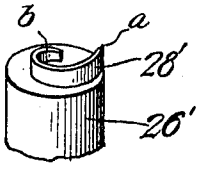
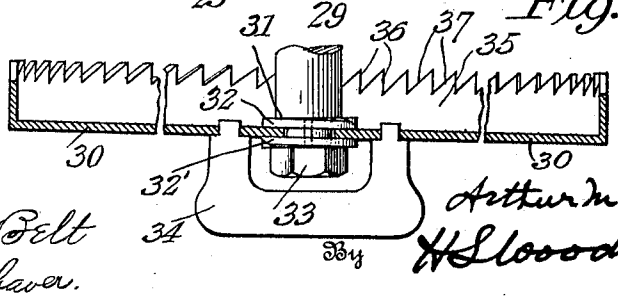



Fig. 7.




Witnesses

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2 SHEETS—SHEET 2.

Fig. 4.

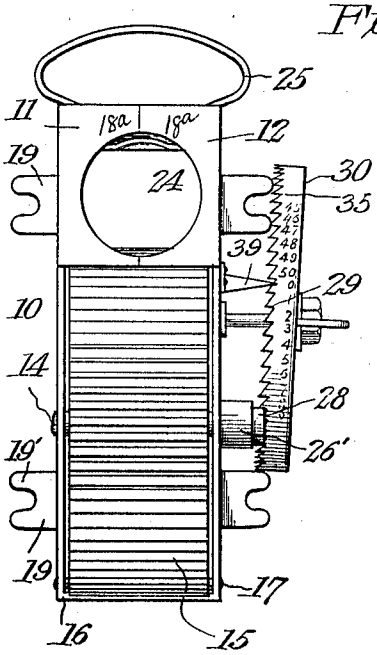



Fig. 2.

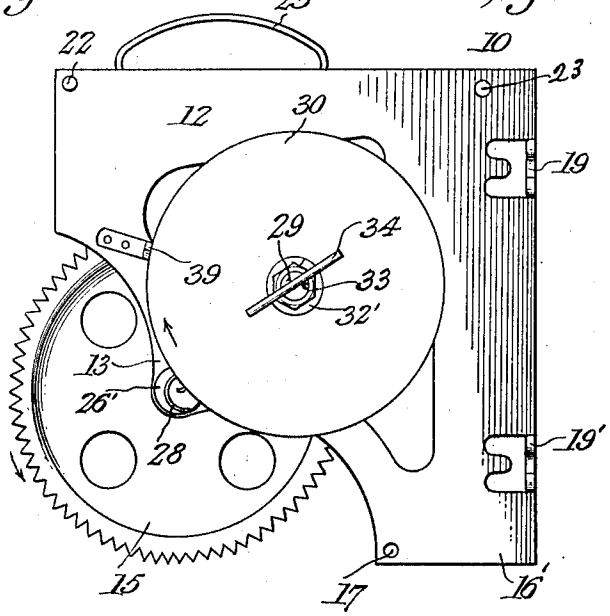



Fig. 9.

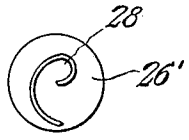



Fig. 6.

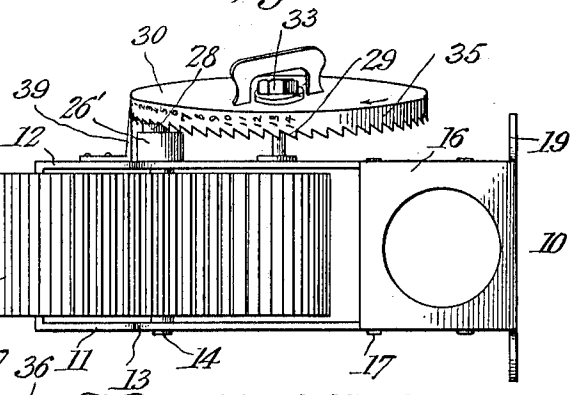
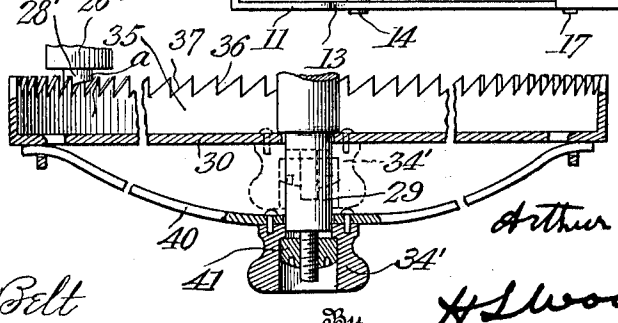



Fig. 8.

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# UNITED STATES PATENT OFFICE.

ARTHUR M. WISWELL, OF HUTCHINSON, KANSAS.

## ROPE-MEASURER.

1,039,468. Specification of Letters Patent. Patented Sept. 24, 1912.

Application filed June 6, 1911. Serial No. 631,520.

*To all whom it may concern:*

Be it known that I, ARTHUR M. WISWELL, a citizen of the United States, residing at Hutchinson, in the county of Reno and State of Kansas, have invented new and useful Improvements in Rope-Measurers, of which the following is a specification.

This invention relates to rope measuring instruments, and has for its object to provide a device for measuring rope and the like having a simple registering mechanism which will be positive in operation and not liable to derangement easily, and which may be cheaply manufactured.

Another object is to provide a supporting frame of a simple form to manufacture and assemble.

A further object is to provide an efficient device for holding rope and the like in positive engagement with a measuring wheel, which may be easily thrown out of engaged position to allow introduction of a strand therethrough.

An important object is to produce a device of this character arranged to receive a strand to be measured from either below or from the rear thereof without requiring a modification of its mounting or position.

A further object of importance is to provide a casing adapted to be stamped from sheet material, although if desired its equivalent may be cast.

Additional objects and advantages may be apparent from the following description and from the drawings, in which,

Figure 1 is a left side view of the device in operative position, Fig. 2 is a similar view from the opposite side of the device, Fig. 3 is a rear view of the device detached, Fig. 4 is a front view thereof, Fig. 5 is a top plan of the measurer, Fig. 6 is a bottom view thereof, Fig. 7 is a detail sectional view of the dial, Fig. 8 is a similar view of a modified construction thereof, Fig. 9 is a detail of the dial actuating screw, Fig. 10 is a detail perspective view of the screw, modified.

Referring to the drawings, there is shown a casing 10, comprising opposed sections 11 and 12 of substantially triangular shape, stamped from sheet material, the top and rear edges being at right angles to each other. The sides are provided with central bracket extensions 13 in which is journaled the shaft 14 to which the drive wheel 15 is splined, between the sides, its periphery being suitably serrated or roughened to be positively engaged by rope and the like passing through the instrument for rotation of the wheel. The circumference of the wheel is preferably one foot. The sections are each formed with a broadened lower end portion 16′, whereby a rivet 17 may be co-engaged therewith spaced from the rear edge for the passage of the rope outwardly thereof. The respective sections are provided with inturned portions 18 on their rear edges meeting midway therebetween, having interlocking shoulders and angles as at 18′. The portions $18^a$ having rope apertures therethrough are similarly formed at the front and bottom edges. Also, supporting lugs 19 are stamped outward from the sides of the sections into a plane coincident with the rear edge of the casing, whereby it may be secured to a support by means of screws or bolts engaged between the tongues 19′ formed on each lug.

It is desired that material being measured shall engage the wheel only over a limited portion of its periphery at the upper side, and to prevent previous contact by a rope fed from below a fender 20 Fig. 1, is stamped from the bracket portion of one section, over which the rope may slide. If the sheet metal of which the device may be formed is not of sufficient weight to support the pressure of the rope when rapidly pulled through the device, a rivet 21 may be engaged between the sections immediately under and supporting the fender 20. At the front edge of the casing another rivet 22 is engaged between the sections. At the inner upper corner there is a rivet 23 holding the corner portions together, upon which is pivoted a pressure arm 24, slightly concave on its under side, and borne forcibly downward toward the wheel 15 by the loop arm 16 of a double spiral spring revoluble on the rivet 23, and having its opposite extremities extended tangentially with relation to the spiral and engaged in suitable apertures in respective sides of the casing, whereby the loop 16 is caused to bear against the arm 24. A lifting handle 25, formed of wire is swiveled in the arm 24 adjacent its outer end, and has a wide lower portion 25′ extending abruptly in a lateral direction from the point of attachment to the plate 24, by means of which the arm may be lifted,

and by turning the handle transversely of the casing it will engage the upper edges thereof to retain the arm in elevated position. The casing is of course open at the top for a great part of its extent.

The casing is provided with an enlarged rope receiving opening 26 in its rear portion adjacent the top, whereby rope may be fed thereto through the front of a counter, partition, or other surface to which it may be secured.

The shaft 14 is provided on the right hand side of the casing with a head 26′ Figs. 4 and 9 having a scroll thread, or worm screw on its outer face, at 28, the screw being in the form of an outstanding fin-like rib having one convolution. Mounted on the bracket portion of the section 12 inwardly of the shaft 14 there is a stub shaft 29, on which there is revolubly mounted the dial plate 30, a shoulder 31 Fig. 7 being formed on the shaft 29 inwardly thereof, and a resilient washer 32 being confined between this shoulder and the plate and secured against rotation, whereby the plate may be inclined as shown in Fig. 7, and slightly oscillated in operation, as will be explained. The extremity of the shaft 29 is threaded and a washer 32′ similar to the one 32 engaged thereover, non-revoluble and held by a nut 33 to retain the plate 30. A suitable re-setting knob 34 is secured to the plate for rotation thereof when desired to reset. The periphery of the plate 30 intersects the axis of the shaft 14, and is provided with an inturned flange 35 at right angles thereto, and having a uniformly toothed lower edge all inclined in a common direction with respect to the adjacent periphery of the dial. Each tooth has an approximately vertical edge 36 and an inclined edge 37, the vertical edge being disposed for engagement by the inner side of the screw rib 28, while the inclined portion may slide over the rib. On rotation, the screw will engage the teeth and draw them inwardly toward its axis, and it will be noted that the plate is inclined upwardly in the direction of movement of the teeth past the screw, so that they may readily pass over the rib at the far side of the screw. In order to preserve the dial at the proper inclination the guard 38 may be disposed thereover. It will be observed that the opening through the plate 30 is so shaped that its inclination may be changed freely as it rotates.

A pointer 39 is located on the casing closely adjacent the dial, and a consecutive series of ordinals indicating units of length are arranged in any suitable manner on the outer side of the flange to indicate the length of material passing over the wheel 15 when in use. It will be apparent that if the circumference of the wheel measures one foot, each tooth on the dial will represent the same unit, and fractions of the unit may be indicated by the position of the pointer between the ordinals of the dial.

In Fig. 8 there is illustrated a modified construction of dial and screw for its rotation, in which the necessity for the inclination of the dial is obviated by inclining the outer edge of the rib 28′ from a point of maximum height at its inner extremity as indicated at *a* and *b* respectively. The dial in this form of the device may be held yieldably against the shoulder of the stub shaft 29 by means of a bow spring 40 having its opposite extremities secured to the plate 30, being centrally apertured and confined in spaced relation with the plate by a nut 41 engaged with the extremity of the shaft 29, a turning knob 34′ being carried thereby.

In the use of the device, it being secured in a proper situation as described, the pressure arm 24 is lifted into and secured in inoperative position as before described, and the rope or other material threaded through the instrument as shown. When it projects to the distance at which it is desired to make the cut—usually about one inch—the pressure arm is released to bear thereagainst forcing it into firm engagement with the wheel 15 and offering just sufficient friction to prevent loose play of the rope, and to prevent its being drawn backwardly through the device by the weight of that which may be suspended beneath. If the dial is not then set at zero, the turning knob 34, or 34′, as the case may be, is operated to rotate the dial in a forwardly direction—the inclined portions of the teeth readily permitting this—until it is properly set, when the rope is simply pulled or drawn from the instrument by hand or machinery until the desired length is obtained.

In dotted lines in Fig. 8 the turning knob 34′ is secured direct to the dial plate 30, which is itself engaged directly by a securing nut 41 holding it firmly against the shoulder of the stub shaft, and the resilience of the plate 30 itself depended upon to allow the necessary rise of the dial teeth over the screw rib when necessary.

It will be apparent that this device may be used to measure rubber hose, wire, metal rods, etc., by use of proper friction surface on the wheel 15.

By the provision of the fender 20, the material being measured is straightened before engaging the wheel 15, and short measure of such material thereby avoided.

It should be understood that the washers 32 and 32′ should be so formed as to maintain the inclination of the plate 30, and the retaining nut 33 so adjusted that by the resilience of the washers the flange 35 will bear yieldably upon the worm device.

What is claimed is:

1. A device of the class described compris-

ing a casing including opposed sections having inturned edge portions provided with support portions, a wheel supported therebetween a rivet member coengaged between the sections as a tie and disposed to fend material from engagement with the wheel adjacent one extremity of the casing, a similar member coengaged between the sections adjacent another extremity and adapted to fend material from lateral movement outwardly of the casing, and a third rivet member spaced laterally of a line between the first two and coengaged with the sections, a pressure arm pivoted on the last named rivet, and resilient means engaged therewith bearing the arm toward the wheel.

2. As an improved article of manufacture, a casing comprising opposed sections stamped from sheet material having inturned abutting edge portions, and having bifurcated lugs pressed outwardly therefrom in a common plane with one side portion of the casing for engagement with a supporting surface, said sections having bracket portions adapted for the support of a shaft therebetween, and a fender member stamped integrally from one of the sections to lie adjacent the periphery of a wheel carried by the casing, whereby material will be fended from the wheel.

3. A device of the class described comprising a casing, a wheel revoluble therein, an indicating means operable by the wheel, an arm pivoted a spaced distance from the wheel and adapted to lie thereagainst, resilient means tending to force the arm against the wheel, said casing having an oblong opening adjacent the arm, and a member broader in one transverse dimension than another swiveled in the plate and adapted for raising thereof and to rest upon the casing when disposed transversely of said opening for support of the arm.

4. A device of the class described comprising a support, a wheel revoluble therein, an indicating means operable by the wheel a transverse pivot member spaced from the wheel an arm pivoted thereon and adapted to lie against the wheel, and a spring member comprising two helices revolubly engaged on the pivot member and having a projecting portion adapted to bear against the arm, and having opposite portions secured to the support.

5. A device of the class described comprising a support, a revoluble shaft thereon, a wheel carried thereby and adapted to be rotated by friction with a strand member, a head member on the shaft, a volute thread thereon and a dial member having uniformly spaced portions engaged by the thread.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ARTHUR M. WISWELL.

Witnesses:
MOSES C. BEASLEY,
ROSE L. MOODY.