

(No Model.)

2 Sheets—Sheet 1.

E. M. THOMAS.
MEASURING REEL.

No. 379,743.

Patented Mar. 20, 1888.

Fig. 1

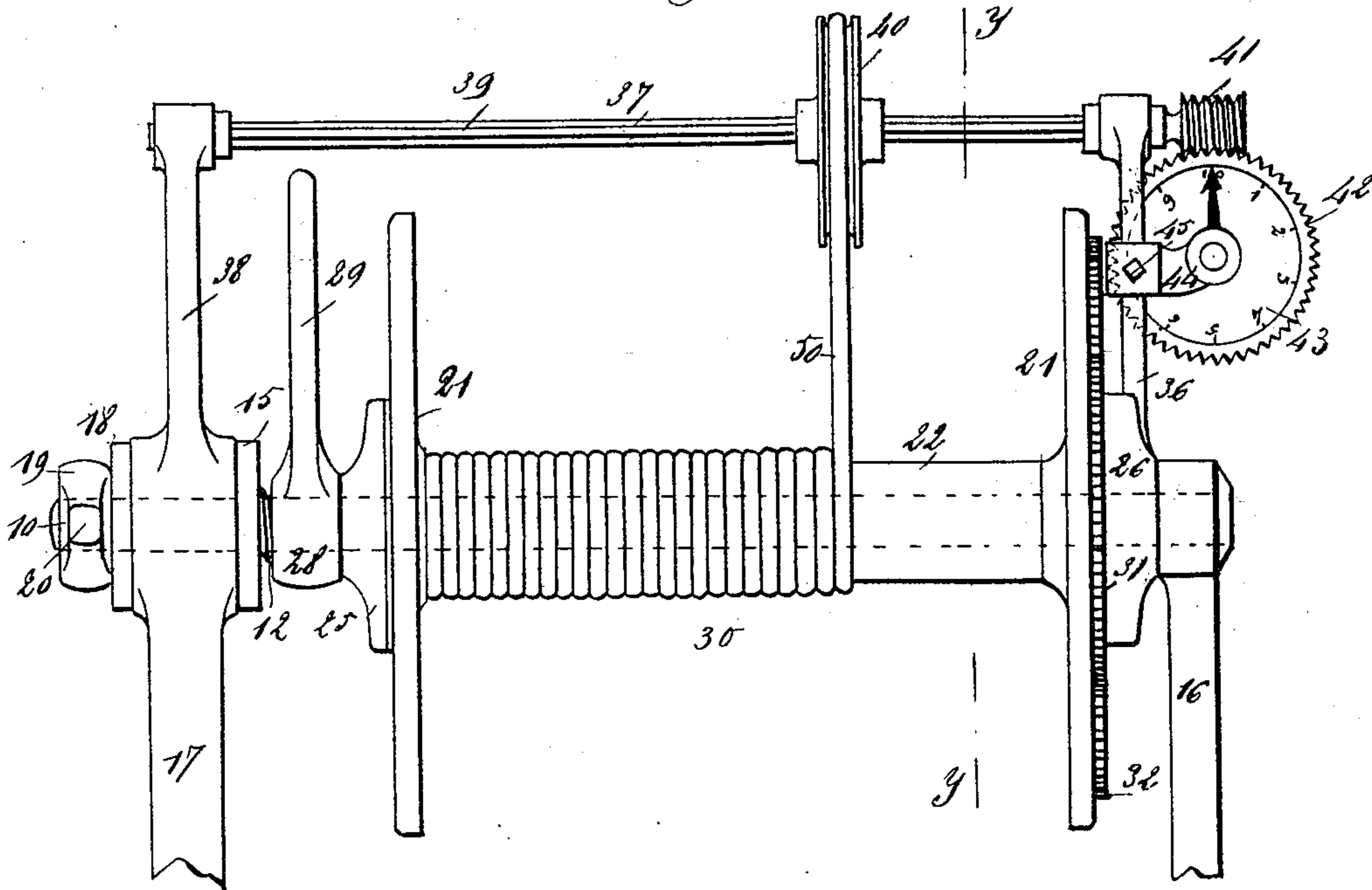
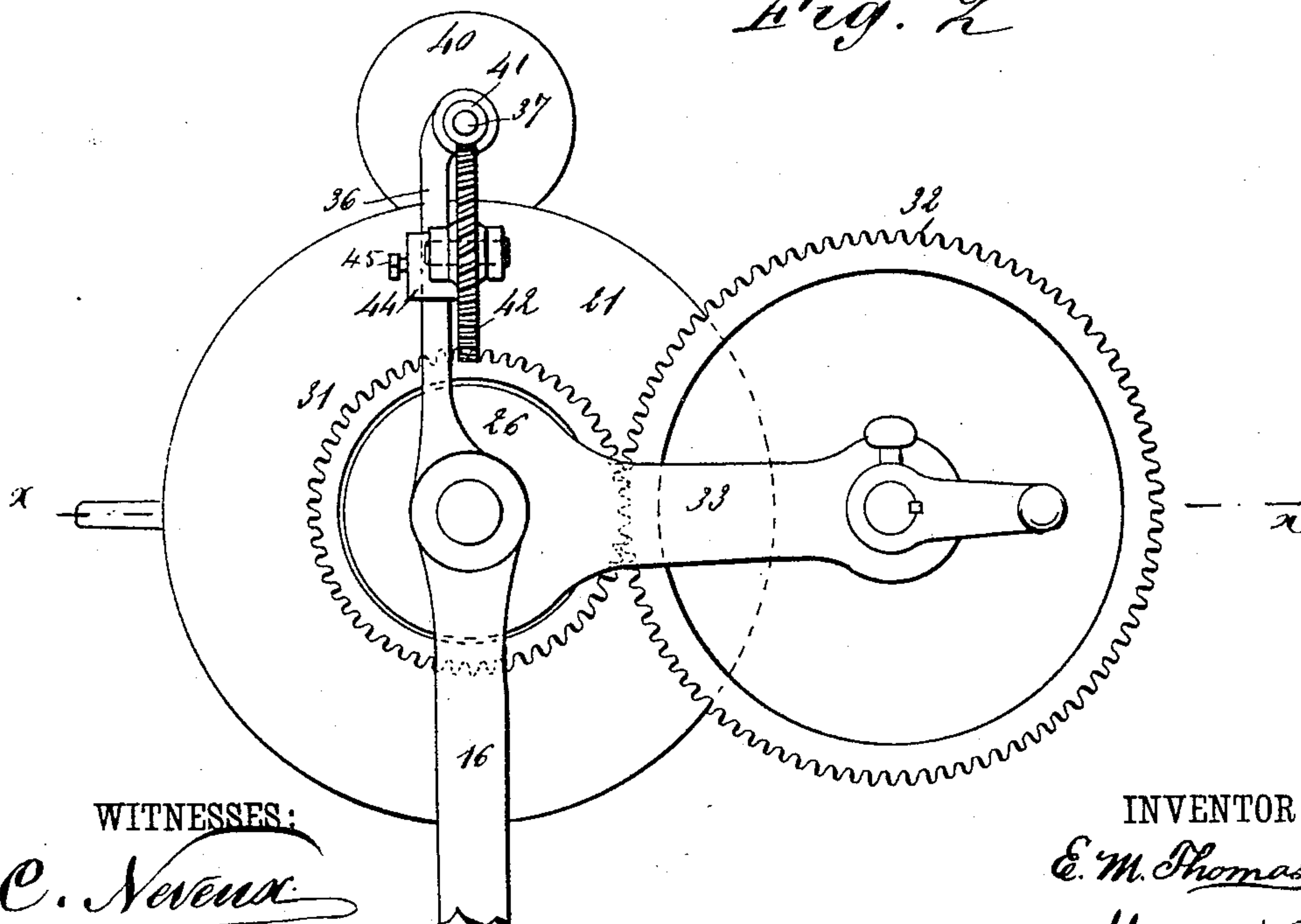


Fig. 2



WITNESSES:

C. Neven
C. Sedgwick

INVENTOR:

E. M. Thomas

BY

Munn & Co.
ATTORNEYS.

(No Model.)

2 Sheets—Sheet 2.

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MEASURING REEL.

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Fig. 3

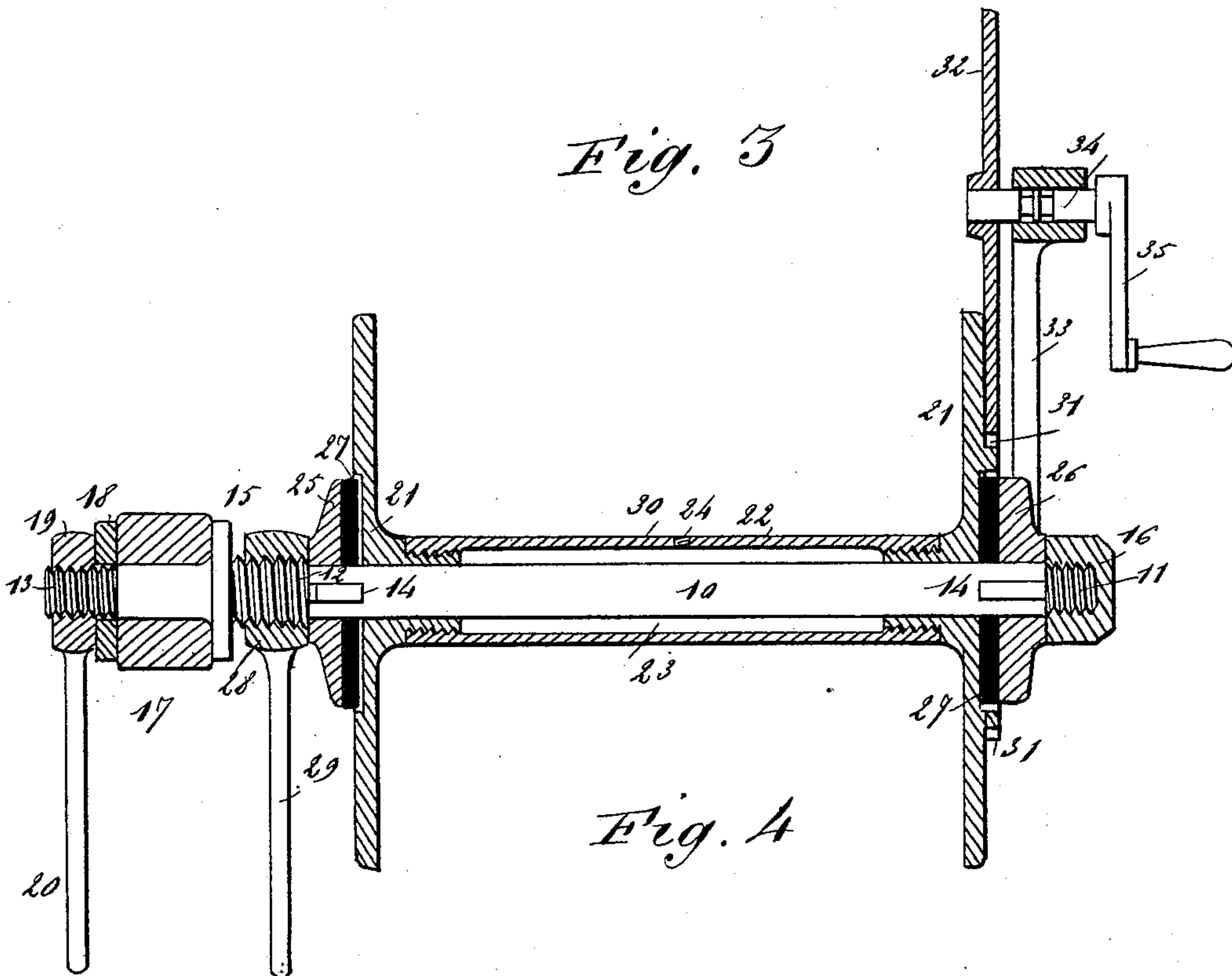
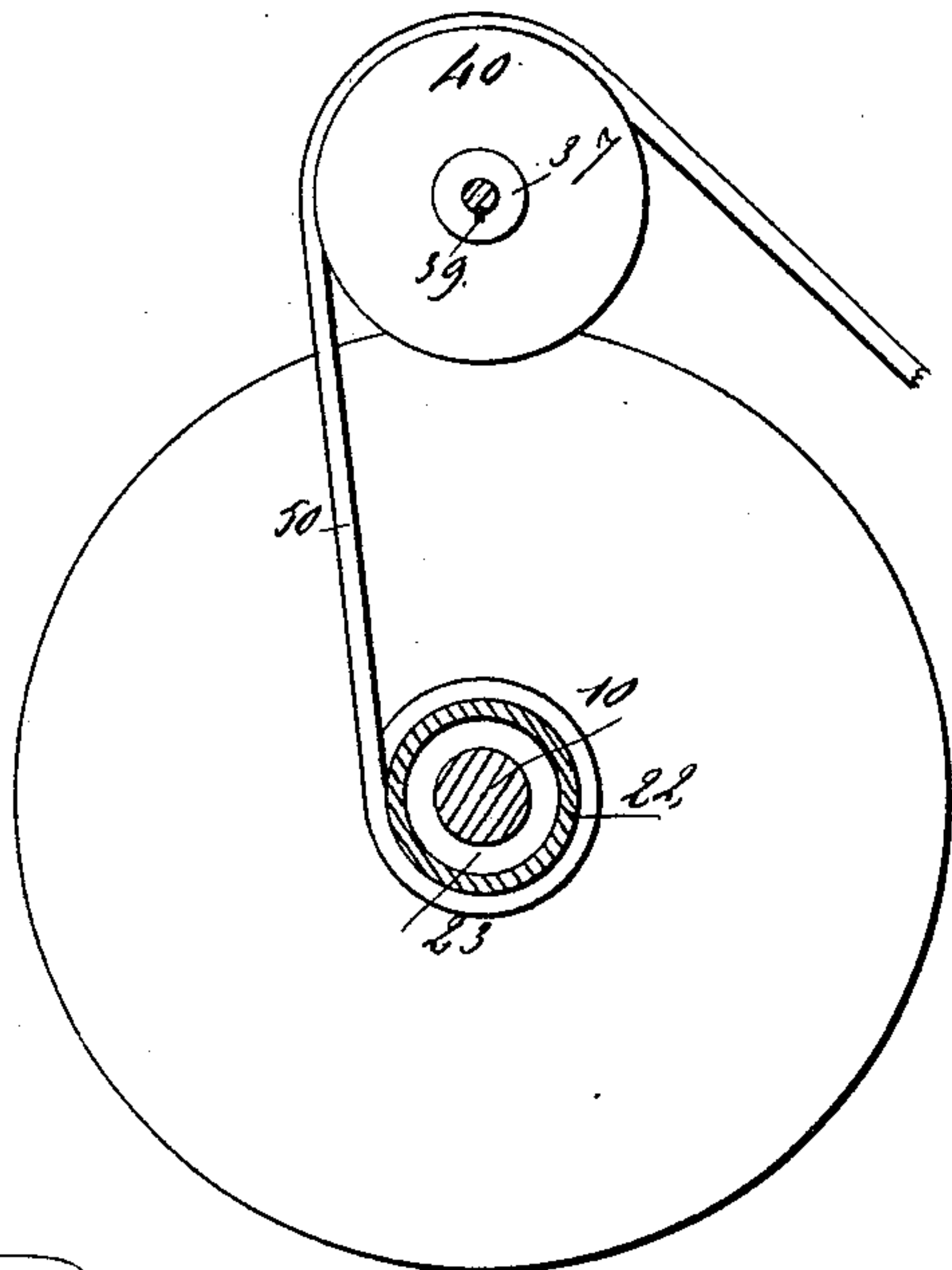


Fig. 4



WITNESSES:

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UNITED STATES PATENT OFFICE.

ENOS MILLER THOMAS, OF CHERRY GROVE, PENNSYLVANIA, ASSIGNOR TO
HIMSELF AND CHARLES G. THOMAS, OF SAME PLACE.

MEASURING-REEL.

SPECIFICATION forming part of Letters Patent No. 379,743, dated March 20, 1888.

Application filed June 2, 1887. Serial No. 240,103. (No model.)

To all whom it may concern:

Be it known that I, ENOS MILLER THOMAS, of Cherry Grove, in the county of Warren and State of Pennsylvania, have invented a
5 new and Improved Reel for Lowering Torpedoes into Oil and Artesian Wells and for Measuring the Depth of the Same, of which the following is a full, clear, and exact description.

10 This invention relates to a novel form of reel and to a registering attachment arranged in connection therewith, the apparatus being applicable for use in many ways, but being more especially designed for use in the lower-
15 ing of torpedoes into oil-wells.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

20 Figure 1 is a side view of my improved form of reel. Fig. 2 is an end view of the same. Fig. 3 is a sectional plan view taken on line *x x* of Fig. 2, and Fig. 4 is a cross-sectional view taken on line *y y* of Fig. 1.

25 In the drawings, 10 represents a shaft, that is formed with threaded sections 11, 12, and 13, splines or feathers 14, and a collar, 15. The threaded section 11 of the shaft 10 engages with a threaded socket that is formed
30 at the upper end of a post or standard, 16, the other end of the shaft being supported by a post or standard, 17, against which the collar 15 abuts, a washer, 18, being arranged upon the outer face of the standard 17 and a tight-
35 ening-nut, 19, being arranged to engage with the threaded section 13, this clamping-nut being provided with a handle, 20, by means of which the nut may be turned so as to clamp the shaft firmly to its post or standard.

40 The shaft 10 supports a reel, 30, of which the heads 21 bear upon the shaft, the spool proper, which is shown at 22, being threaded to engage with the hubs of the heads 21. The main body of the sleeve 22, which forms the
45 spool proper, does not bear closely against the shaft 10, so that there is a chamber, 23, between the shaft and the inner face of the spool, which chamber is used as a receptacle for oil or any other proper lubricant, the lubricating ma-
50 terial being introduced through an opening,

24, that is formed in the sleeve 22, said opening being normally closed by a plug.

Disks 25 and 26 are mounted upon the feathers 14, and between said disks and the reel-heads 21 there are arranged friction-wash- 55
ers 27, which may be made of leather, brass, or any other proper material. In order that the frictional contact between the heads 21 and the washers 27 may be varied and a proper
frictional contact obtained, I provide a nut, 50
28, that is mounted on the threaded section 12, said nut being made integral with or rigidly connected to a handle, 29, which is used in turning the nut, so that it will act to increase
or diminish the pressure upon the washers. 65

Upon the outer face of one of the heads 21 there is formed a gear, 31, that is engaged by a larger gear, 32, which is supported by an arm, 33, which extends outward from the disk 26, the gear 32 being directly supported by a 70
shaft, 34, which is provided with a crank arm or handle, 35. In addition to the arm 33, the disk 26 is provided with an arm, 36, which serves as the support for one end of a shaft, 37, the other end of said shaft being supported 75
by an arm, 38, which extends upward from the post or standard 17. This shaft 37 is provided with a longitudinal feather, 39, and upon the shaft and its feather there is mounted a
traveler, 40. 80

A worm, 41, is formed upon one end of the shaft 37, and this worm engages with the teeth 42 of an indicator-disk, 43, said disk being supported by a bracket, 44, which is carried by the arm 36, the bracket being clamped to 85
the arm by a set-screw, 45. In connection with the disk 43, I arrange a pointer, 46, which pointer is carried by the bracket 44.

The cord or cable which is to be paid off from the reel is shown at 50, one end of this 90
cord being secured to the sleeve 22, the cord being carried from the reel over the traveler 40. Then as the cord or cable is drawn from the reel the traveler will be revolved, and in revolving will carry forward the shaft 37, which 95
movement of the shaft will cause a forward movement of the disk 43, and as the disk so moves the length of cord or cable delivered from the reel will be indicated by the pointer 46.

By constructing the reel as above described, 100

I am able to provide for the automatic lubrication of the reel proper, and at the same time to so control the frictional contact between the reel and the washers 27 that the cable
5 may be delivered at such speed as may be required.

In winding up the reel the movement of the spool is accelerated by the action of the large gear 32 upon the gear 31.

10 Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with a reel, of a traveler mounted upon a feathered shaft relatively
15 fixed to the reel, said traveler being arranged to receive the cord or cable from the reel, a worm formed upon the feathered shaft, an indicator-disk provided with teeth that are engaged by the worm, and a pointer arranged
20 in connection with the disk, substantially as described.

2. The combination, with a fixed shaft, of a reel mounted to turn thereon, friction-washers arranged in connection with the reel, disks
25 feathered upon said shaft, and a handled nut, substantially as described.

3. The combination, with a reel, of a shaft, 37, formed with a feather, 39, a traveler, 40, mounted upon said shaft and feather, a worm, 41, formed upon the shaft 37, a disk, 43, formed
30 with teeth 42, that are engaged by the worm, a supporting-bracket, 44, and a pointer, 46, arranged in connection with the disk and carried by the bracket, substantially as described.

4. The combination, with a reel provided
35 with a gear, 31, of a shaft, 10, upon which the reel is mounted, a gear, 32, which is provided with a crank-arm, 35, and arranged to engage the gear 31, a shaft, 37, formed with a feather, 39, a traveler, 40, mounted upon said shaft and
40 feather, a worm, 41, formed upon the shaft 37, a disk, 43, formed with teeth 42, engaged by said worm, and a pointer, 46, arranged in connection with the disk, substantially as described.

ENOS MILLER THOMAS.

Witnesses:

C. McLAUGHLIN,
J. H. THOMAS.