No. 871,849. PATENTED NOV. 26, 1907.

F. L. WOLFE.

RECORDING COUNTER.

APPLICATION FILED JULY 28, 1905.

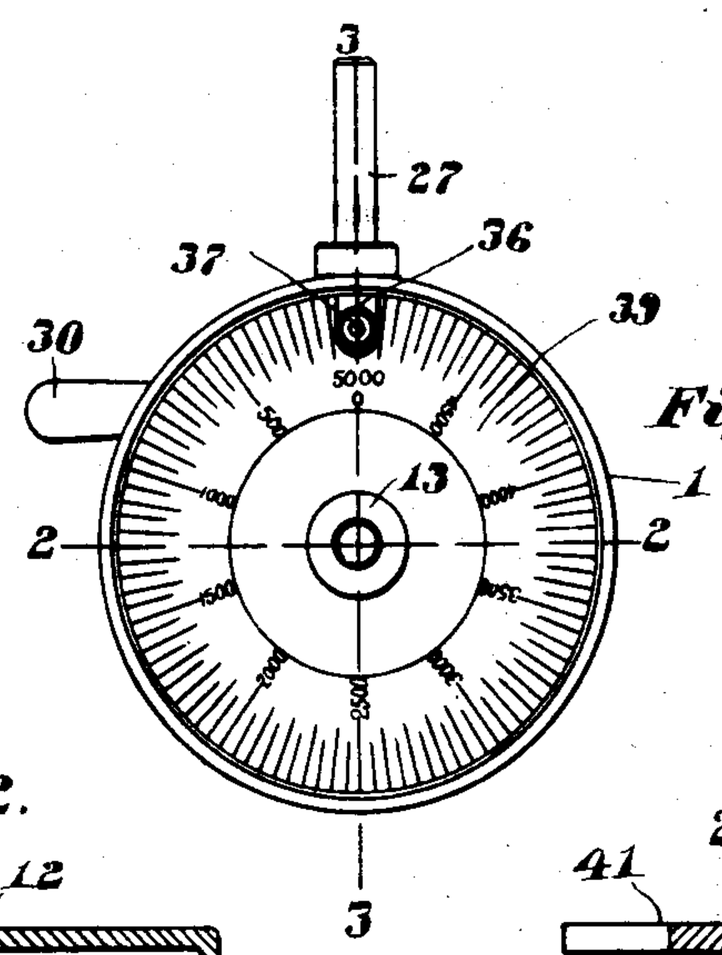


Fig. 1.

Fig. 2.

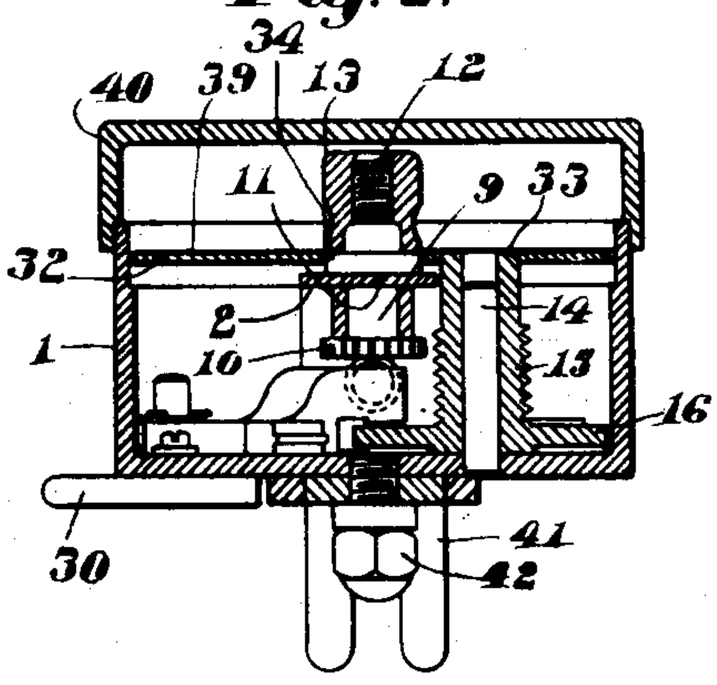


Fig. 3.

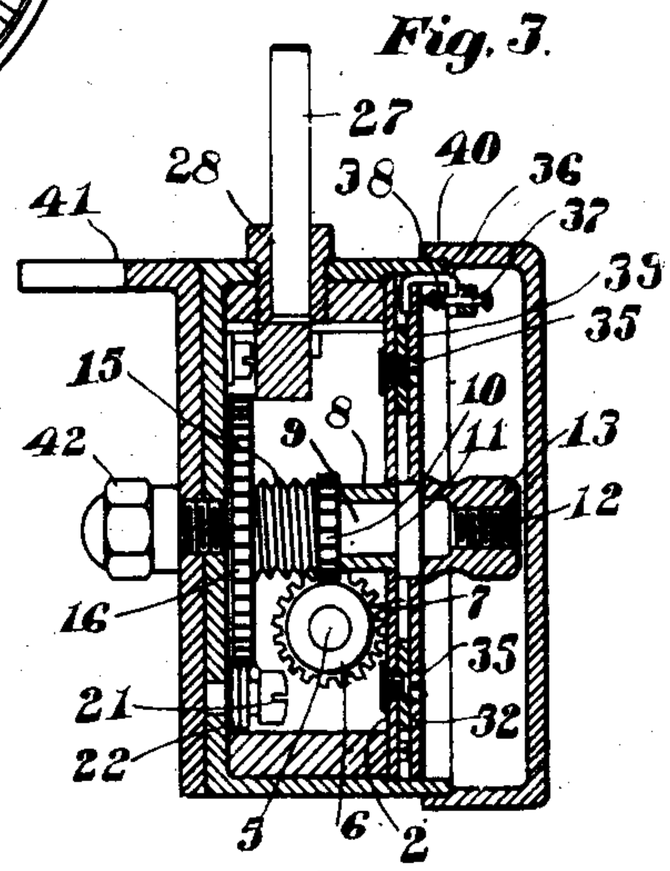


Fig. 4.

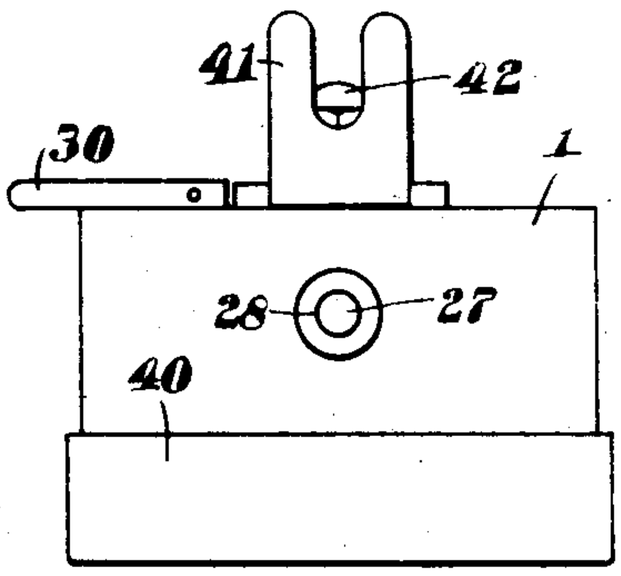


Fig. 5

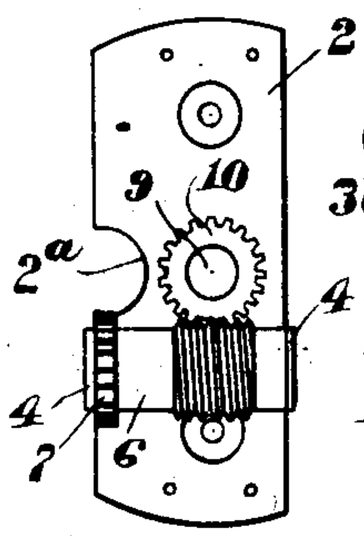
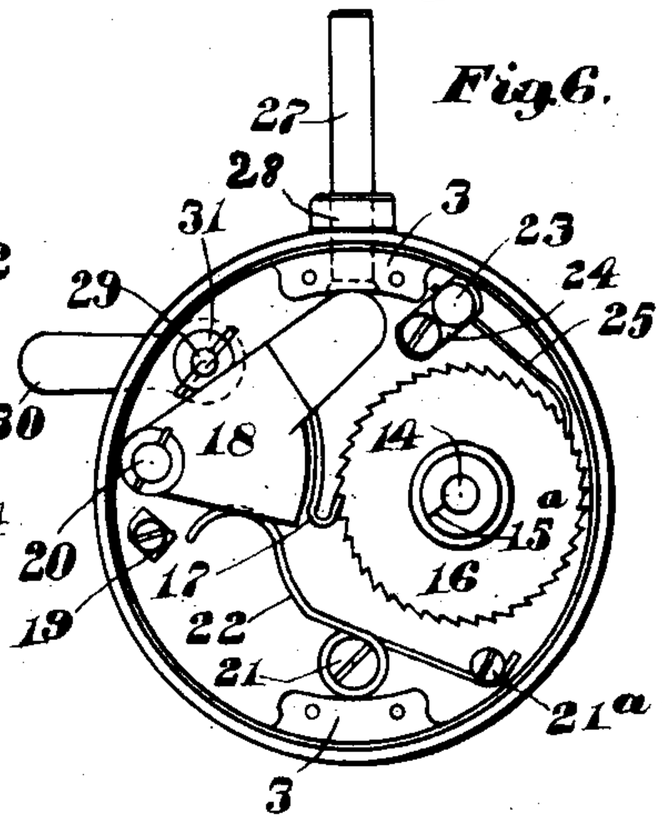


Fig. 6.



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Inventor:
Frank L. Wolfe
by Ralph W. Toth Atty.

UNITED STATES PATENT OFFICE.

FRANK L. WOLFE, OF MEDFORD, MASSACHUSETTS, ASSIGNOR TO CROSBY STEAM GAGE AND VALVE COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

RECORDING-COUNTER.

No. 871,849. Specification of Letters Patent. Patented Nov. 26, 1907.

Application filed July 28, 1905. Serial No. 271,587.

To all whom it may concern:

Be it known that I, FRANK L. WOLFE, a citizen of the United States, and a resident of Medford, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Recording-Counters, of which the following is a specification.

My invention relates to recording counters, and its object is to provide a simple means for accurately recording the number of revolutions, reciprocations, or similar operations, made by the machine to which the counter may be attached, in any given time.

It is illustrated by the accompanying drawings, in which—

Figure 1 is a plan view of the front of the recorder with the cap removed showing the dial. Fig. 2 is a section on the line 2—2 Fig. 1. Fig. 3 is a section on the line 3—3 Fig. 1. Fig. 4 is a plan view of the case. Fig. 5 is a plan view of the plate 2 with the parts fixed thereto. Fig. 6 is a plan view of the case proper with the parts fixed thereto.

Similar characters refer to similar parts in the several drawings.

The frame, or support, consists of the case 1 and the plate 2 secured to lugs 3 in said case. This plate 2 is furnished with ears 4 in which is fixed the nonrotary axis 5 on which is revolubly mounted the exteriorly threaded sleeve 6 carrying at one end the gear 7. Journaled in the hub 8 fixed to this plate 2 is the shaft 9 carrying at its inner end the gear 10 adapted to engage the threaded sleeve 6, and furnished with the shoulder 11 adapted to rest against the outer side of the plate 2. Its outer end 12 is threaded to engage the nut 13. Fixed to the case is the spindle 14, whereon is revolubly mounted the exteriorly threaded hub 15 carrying the ratchet wheel 16, which hub engages the gear 7. This ratchet wheel is rotated by the spring-pallet 17, fixed to the radius arm 18 pivoted to the stud 20 on the case. On the outer end of the hub 15 is the radial line 15^a, which serves to indicate whether or not the ratchet wheel is operating, when the disk 32 is in place.

Arranged within the case on the studs 21 and 21^a is the spring 22 adapted to be compressed by the downward movement of the arm 18 and to react to raise said arm. Arranged on the stud 23 on the plate 24 adjustably fixed to the case is the spring pawl 25. Adjustably fixed to the case is the stop 19 adapted to limit the downward movement of the arm 18, the upward movement of which is limited by the end of the reciprocating rod 27 which extends upward through an opening 28 in the case in sliding contact therewith and whose lower end is enlarged to prevent its sliding out. Journaled in the case is the shaft 29 having fixed to its outer end the arm 30 and to its inner end the cam 31.

The disk 32 with perforations 33 and 34 adapted to fit over the outer end of the hub 15 and the shoulder 11 on the shaft 9 is fastened to the plate 2 by screws 35 and on an upwardly and inwardly projecting arm 36 fixed to the disk near its periphery, is mounted the pencil 37 actuated by the spring 38. Upon this disk rests the chart 39 securely held in place by the nut 13. The cap 40 fits over the case. Outside the case is mounted the adjustable means 41, 42, for attaching the case to a machine.

The operation of the machine is as follows:—The ratchet wheel 16 is rotated by the spring-pallet 17 carried by the radius arm 18 which is given its downward movement by the reciprocating rod 27 and its upward movement by the spring 22. The spring pawl 25 prevents back motion of the ratchet wheel. The ratchet wheel actuates the worm (hub) 15, which engages the gear 7, which actuates the worm (sleeve) 6, which engages the gear 10, which rotates the shaft 9 and the chart 39 held against the shoulder 11 by the nut 13. The cam 31 is employed to lower the arm 18 when it is desired that the spring-pallet should not rotate the ratchet wheel; and the cam may itself be employed to rotate the ratchet wheel by operating the arm 30. The fixed pencil draws a curved line upon the moving chart, and the numbers in the chart indicate the number of strokes of the reciprocating rod 27. The plate 2 has a cut out portion 2^a to permit the passage of the hub 15.

Having described my invention, what I claim and desire to secure by Letters Patent is—

1. A recording counter comprising a case, a reciprocating rod extending through said case and operative from without, a spring controlled arm pivoted in said case in the form of a sector with an extended portion

engaged by said reciprocating rod, such controlling spring suitably mounted, a ratchet wheel mounted in said case, a retaining pawl suitably mounted, a driving pawl with its outer end rigidly fixed to the perimeter or arc of such sector, or to such extended portion of said sector, the axes of said pivoted arm and said ratchet wheel and the inner end of said driving pawl being substantially in the same vertical plane, gears driven by said ratchet wheel and means for recording the movement of said gears; substantially as described.

2. A recording counter comprising a case, a ratchet wheel mounted in said case, a driving pawl rigidly fixed to the perimeter or arc of a spring controlled sector, such sector pivoted in said case, such controlling spring, means operative from without such case for reciprocating said sector and thereby rotating such ratchet wheel, gears driven by such ratchet wheel and means for recording the movement of said gears; substantially as described.

In testimony whereof I have affixed my signature, in presence of two witnesses.

FRANK L. WOLFE.

Witnesses:

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