2 Sheets—Sheet 1.

L. C. PERKINS.

Odometer.

No. 203,070. Patented April 30, 1878.

Fig: 1.

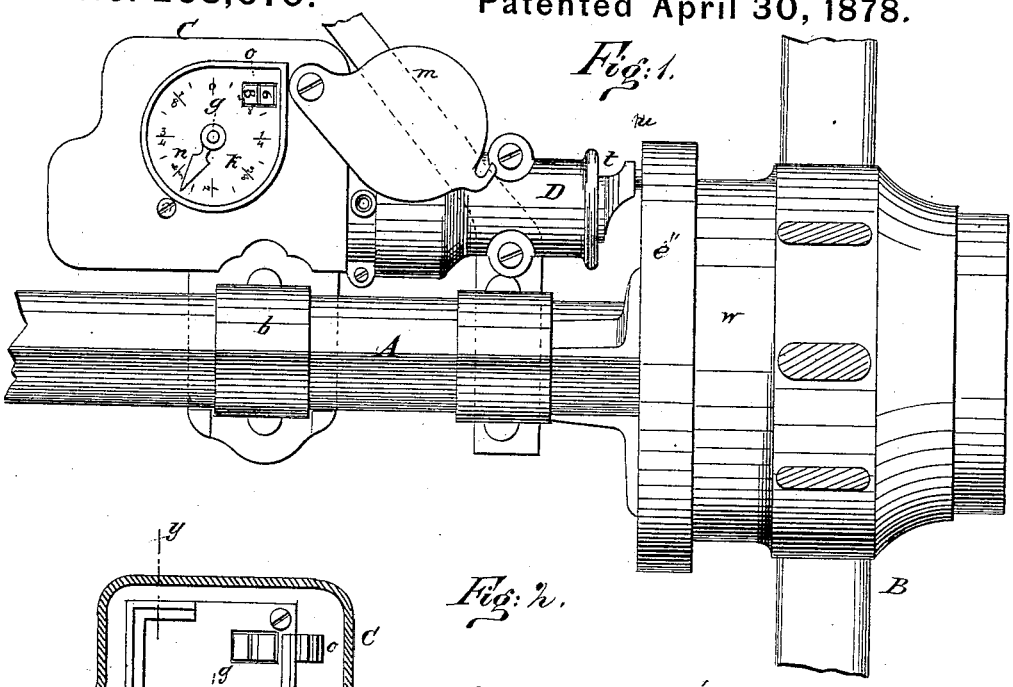


Fig: 2.

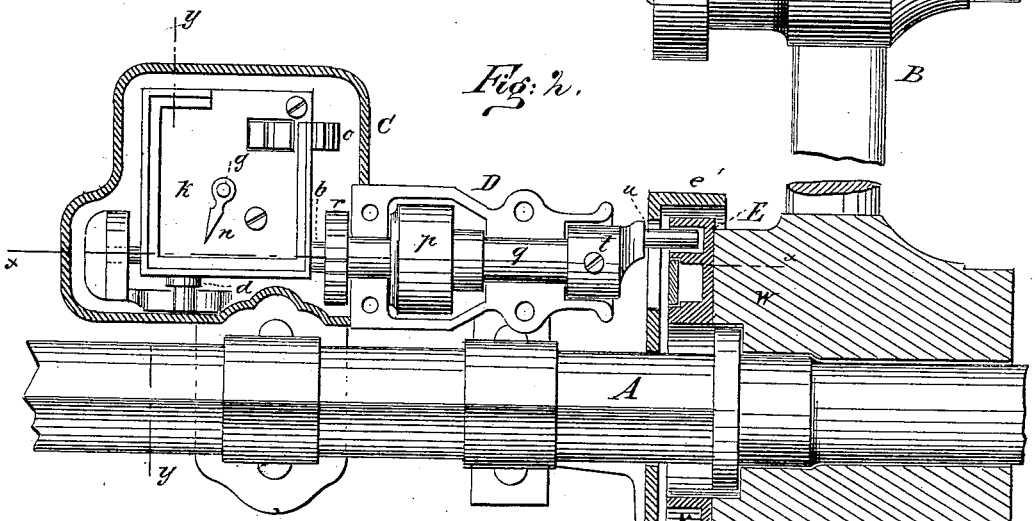
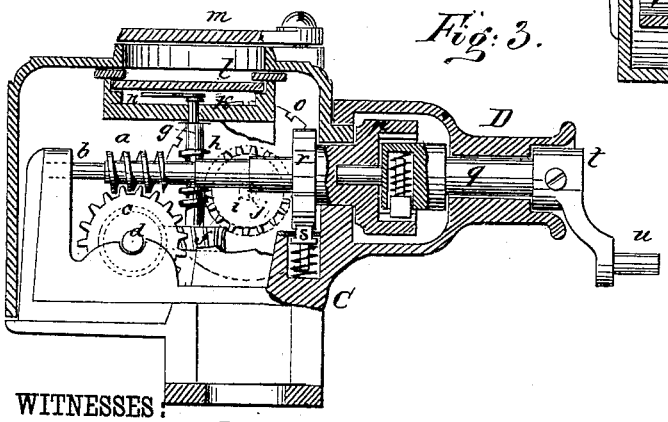


Fig: 3.



WITNESSES:

Chas. Nida.

C. Sedgwick

INVENTOR:

L. C. Perkins

BY Munn & Co

ATTORNEYS.

2 Sheets—Sheet 2.

L. C. PERKINS.

Odometer.

No. 203,070. Patented April 30, 1878.

Fig: 4.

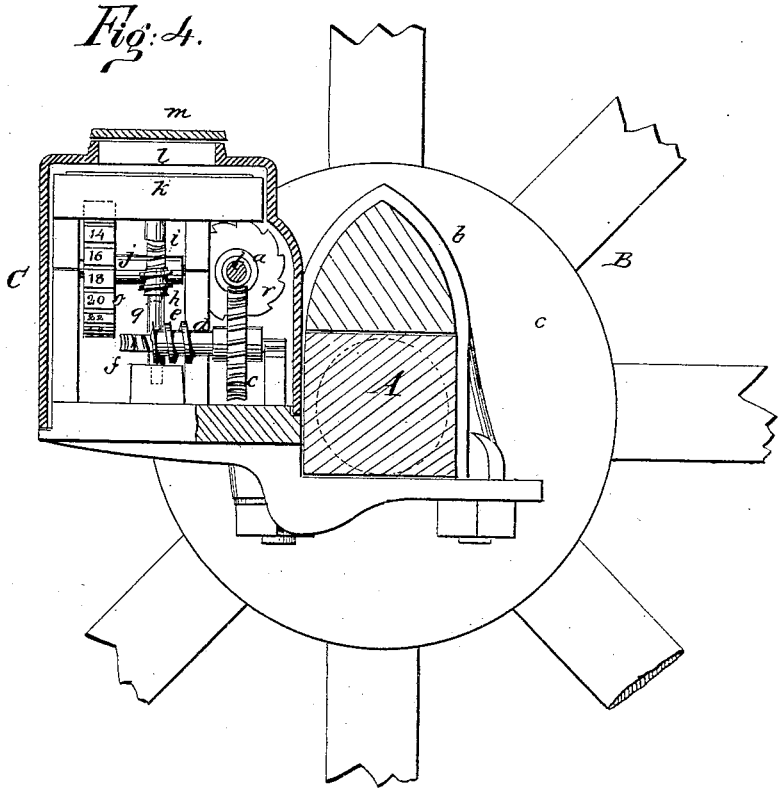
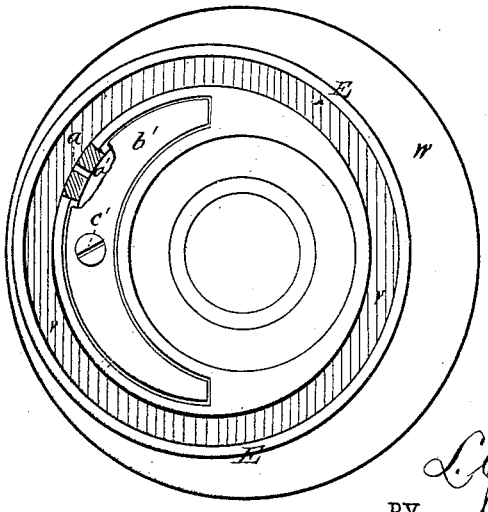


Fig: 5.



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UNITED STATES PATENT OFFICE.

LYMAN C. PERKINS, OF WEBSTER, MASSACHUSETTS.

IMPROVEMENT IN ODOMETERS.

Specification forming part of Letters Patent No. **203,070**, dated April 30, 1878; application filed March 15, 1878.

To all whom it may concern:

Be it known that I, LYMAN C. PERKINS, of Webster, in the county of Worcester and State of Massachusetts, have invented a new and Improved Odometer, of which the following is a specification:

Figure 1 is a plan view of my improved odometer. Fig. 2 is a plan view, partly in section. Fig. 3 is a longitudinal section, taken on line *x x* in Fig. 2. Fig. 4 is a transverse section, taken on line *y y* in Fig. 2. Fig. 5 is a detail view of the cam for operating the odometer.

Similar letters of reference indicate corresponding parts.

The object of my improvement is to provide an odometer which may be readily attached to any carriage, and will accurately indicate the distance traveled by the carriage.

Referring to the drawing, A is a carriage-axle, and B is one of the carriage-wheels that revolves on the axle A.

A casing, C, is secured to the axle A by a clip, and contains a train of gearing consisting of a worm, *a*, on the spindle *b*, which is journaled in the casing C, parallel with the carriage-axle A, the worm-wheel *c*, which is secured to the transverse arbor *d*, and a worm, *e*, secured to said arbor and meshing into the worm-wheel *f* on the index-spindle *g*. The index-spindle *g* carries a worm, *h*, that engages a worm-wheel, *i*, on the arbor *j*.

The casing C has in its upper side a recessed dial, *k*, which is covered by a glass, *l*, and the glass is protected by an iron cover, *m*, which is pivoted to casing C. The index-spindle *g* extends through the dial *k*, and is provided with an index, *n*.

Upon the arbor *j* there is a wheel, *o*, whose periphery projects through an aperture in the dial, and is divided into equal spaces and numbered.

The spindle *b* projects through the side of the casing C into a sleeve, D, and is provided with an internal ratchet-wheel, *p*, which is engaged by a pawl carried by a rock-shaft, *q*, which is journaled in the sleeve, and also in the end of the spindle *b*, which is drilled axially to receive it. A ratchet-wheel, *r*, is placed on the spindle *b* inside of the casing C, and is engaged by a spring-pawl, *s*, which projects from a recess in the side of the casing.

Upon the outer end of the rock-shaft *q* there is a rocker-arm, *t*, having a pin, *u*, that is engaged by an eccentric-slot, *v*, in the cam E, which is secured to the inner end of the hub *w* of the carriage-wheel B.

In the larger side of the cam there is a recess, *a'*, for containing oil. The said recess is closed by a cap, *b'*, which is held in place by a screw, *c'*, which also assists in holding the cam on the hub. The recess *a'* contains cotton waste or wicking.

As the carriage-wheel rotates on its axle, the cam E oscillates, the rock-shaft *q* is oscillated by the action of the cam E, and the internal ratchet *p* is moved one notch for every revolution of the wheel. The spindle *b* is prevented from retrograde motion by the engagement of the pawl *s* with the ratchet *r*.

The gearing is arranged to indicate on the dial *k* the number of revolutions of the carriage-wheel, or it may be arranged to show the number of miles traveled by the carriage. The wheel indicates the number of revolutions of the index *n* or the total number of miles traveled. The cover *m* is sealed when the carriage starts out, and remains so until it returns. If the seal should be broken it would indicate that the odometer had been tampered with.

The odometer is principally intended for the use of liveries, where it is desirable to know the exact distance traveled by a horse during its absence from the stable.

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

The combination, in an odometer, of the cam E, having the eccentric-slot *v*, the rock-shaft *q*, having the rock-arm *t*, the spindle *b*, having the ratchet *p*, and the index-spindle *g*, and gearing intermediate between the index-spindle and the spindle *b*, substantially as herein shown and described.

LYMAN C. PERKINS.

Witnesses:
JOHN A. HAVEN,
J. CLINTON NICHOLS.