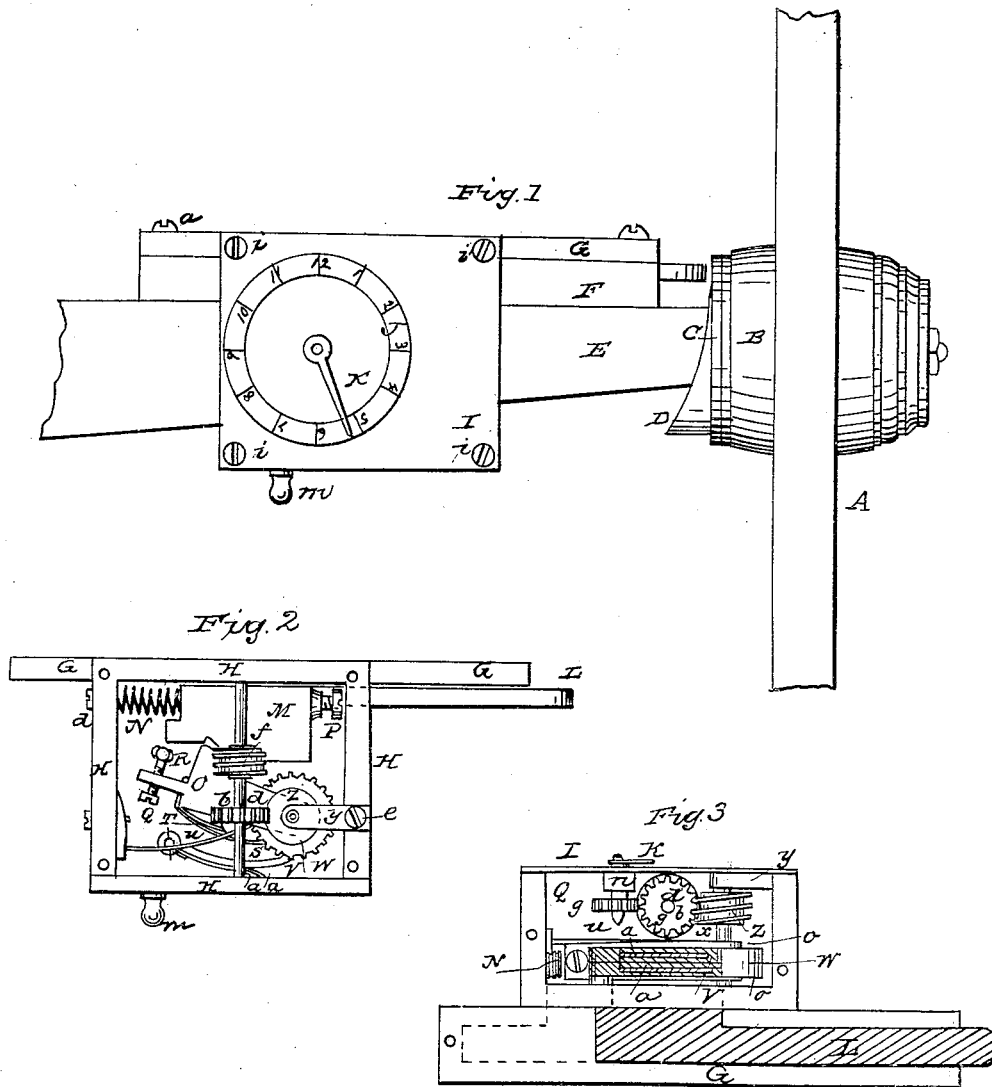


H. R. COBURN.

Odometer.

No. 50,456.

Patented Oct. 17, 1865.



WITNESSES

Per B Jones
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H. R. COBURN, OF LOWELL, MASSACHUSETTS.

IMPROVEMENT IN ODOMETERS.

Specification forming part of Letters Patent No. **50,456**, dated October 17, 1865.

To all whom it may concern:

Be it known that I, H. R. COBURN, of Lowell, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Odometers; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a front elevation applied to the axle of a carriage. Fig. 2 is a plan with the graduated face-plate removed, and Fig. 3 is a plan with the bottom of the box removed.

Like parts are indicated by the same letters in all the drawings.

The nature of my improvement consists, first, in actuating the clock-work with which the index is connected by means of a cam on the side of the carriage-wheel hub and an intermediate sliding arm, whose inner end is provided with an incline or cam to operate a pawl and ratchet-wheel, by means of which arrangement and combination of devices a progressive motion always in the same direction is imparted to the index, whether the carriage-wheel be turned forward or backward, thus rendering it impossible for the user of the carriage (unless he has the key to the odometer) to turn the index back by reversing the motion of the wheel, and thereby give a false representation of the distance passed over by the carriage; and second, in adjusting the motion of the pawl-carrying lever so as to increase or diminish the motion of the index in relation to that of the carriage-wheel, as may be required.

To enable others skilled in art to make and use my improvement, I will now proceed to describe the construction and operation of the same.

A represents one of the wheels of a carriage attached to the axle E in the usual manner.

C is a cast metallic ring confined to the inner end of the hub B, as shown in Fig. 1, by means of screws or in any other obvious manner. Formed upon this ring is a side cam, D.

F is a metallic bed-piece confined to the axle E by means of screws, and provided with a longitudinal slot to receive the sliding arm L.

H is a metallic box in which the mechanism actuating the index K is contained. The front

side, I, of this box is removable, being confined by means of the screws *b'*, and provided with a graduated circle or dial, J, as represented in Fig. 1. The bottom of the box is also removable and confined by means of screws.

G is a continuation of the top of the box H, each side of and back of the same forming a flange by means of which and the screws *a* the box is securely attached to the bed-piece F, as represented in Fig. 1.

L is a metallic arm sliding freely in the longitudinal groove in the bed-piece F, and against the inner side of the continuation G. The outer end of this arm L extends to the ring C and cam D, as shown in Fig. 1, the inner end being provided with an extension which plays freely in a slot through the whole length of the upper part of the back side of the box.

M is a flat metallic wing or extension of the arm L at right angles to the same, and sliding against the top and back of the box, one edge of the said extension having a cam or incline *e*, as clearly shown in Fig. 2.

P is a set-screw to regulate the length of the stroke of the arm L.

N is a spiral spring, one end of which enters a hole in the wing M, the other resting against the end of the box and encircling the projecting point of the screw *d*, by which it is kept in place, the design of this spring being to press the wing M and arm L toward the wheel A, said wing and arm being forced in the opposite direction at each revolution of the wheel by means of the cam D.

O is a lever vibrating freely on the shaft X, one end of which turns in a suitable bearing in the back of the box, and the other in the arm Y, which is fastened to one end of the box by means of a mortise and screw, *e*. An arm of this lever O comes in contact with the side of the extension M of the arm L, as shown in Fig. 2, being forced against the same by means of the spring U.

Q is an adjustable set-screw passing through the end of the lever O, and so as to strike against the fixed stud R, by means of which the space passed over by the lever O, as acted upon by the incline *e*, can be regulated as circumstances may require.

W is a ratchet-wheel fast to the axle X, and S S are two pawls pivoted in a slot in the lever

O and pressed upon said wheel by means of the straight springs, V V being dogs forced against the wheel W by the springs *a a*, as shown in Fig. 2. A pair of pawls and a pair of dogs are used instead of single ones, so as to act alternately on the teeth of the ratchet-wheel when required, or both at a time, according to the amount of motion given to the lever O, as regulated by the adjustable set-screw Q, by which means the speed of the index K may be doubled or diminished one-half at pleasure. For short distances the greater speed may be given to the index, while for more than usually long ones the lesser speed may be given to the index, thereby doubling the number of miles which the latter is capable of indicating on the dial J.

m is a plug, which, being removed, a screw-driver may be inserted to adjust the set-screw Q for the purpose specified.

Z is an endless screw fast to the axle X and engaging with the cog-wheel *b* fast to the axle *d*, which latter turns in suitable bearings in the top and bottom of the box, as represented in Fig. 2. *f* is another endless screw fast to the axle *d* and engaging with the cog-wheel *g*, whose axle *i* passes through a boss, *n*, and the removable face-plate I, as clearly shown in Fig. 3.

K is the index fast to the outer end of the axle *i*. This index and the face-plate I should be protected by a glass cover. The index as well as the working parts inclosed in the box may also be secured by a lock and key, so as to be come at only by the person having the key; but as these device are old and form no part of my invention, I have not shown them in the drawings, nor need they be more fully described.

My odometer is simple, cheap, and easily applied and adjusted to carriage-wheels of any kind or size, and as it is impossible to reverse the motion of the index by raising the wheel from the ground and turning it backward, I consider my invention a very great improvement over any other instrument for a similar purpose known or used before.

Having thus described the nature of my invention, what I claim as new and desire to secure by Letters Patent, is—

Rendering the space passed over by the pawl-carrier lever O adjustable, substantially as set forth, and for the purpose described.

H. R. COBURN.

Witnesses:

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