J. THOMPSON.

Odometer.

No. 11,878. Patented Oct. 31, 1854.

Fig. 1

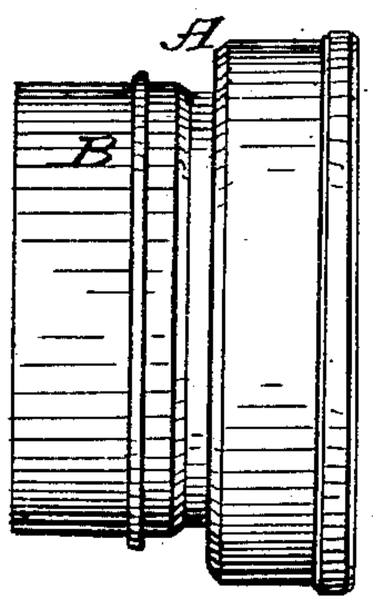


Fig. 2

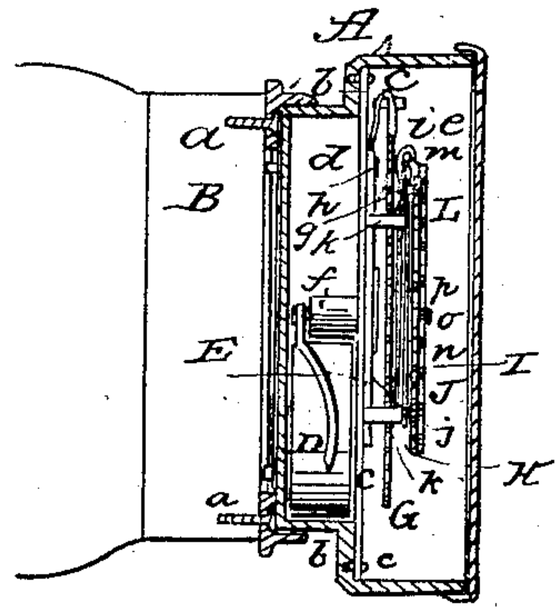


Fig. 3

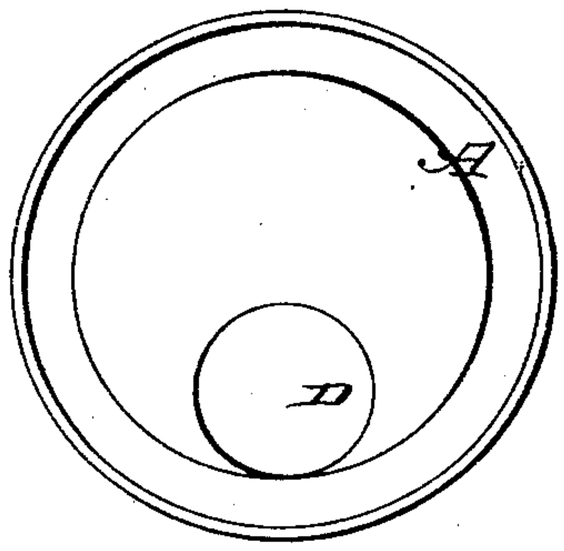


Fig. 4

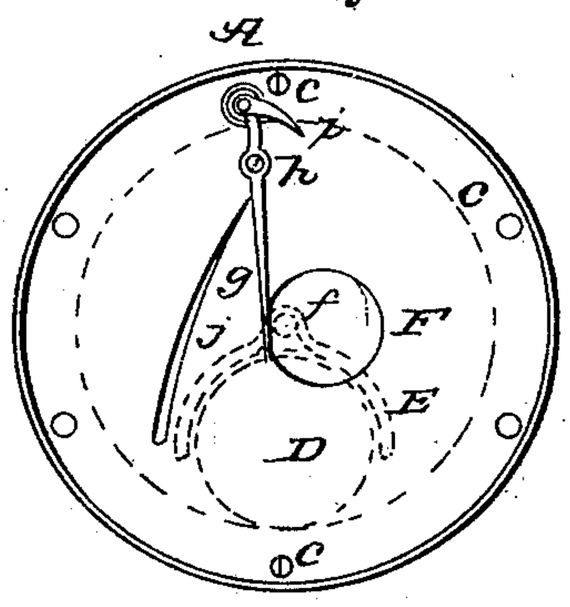
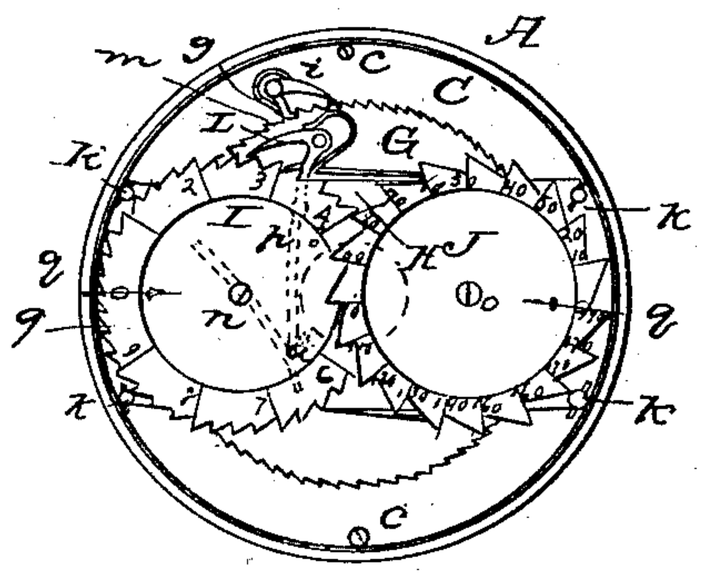


Fig 5



UNITED STATES PATENT OFFICE.

JULIUS THOMPSON, OF MIDDLEBORO, MASSACHUSETTS.

ODOMETER.

Specification of Letters Patent No. 11,878, dated October 31, 1854.

To all whom it may concern:

Be it known that I, JULIUS THOMPSON, of Middleboro, in the county of Plymouth and State of Massachusetts, have invented a new and Improved Odometer; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a side or edge view of my improved odometer, applied to the hub of a wheel. Fig. 2 is a transverse vertical section of the case of ditto. Fig. 3 is an internal view of the case of ditto, all the working parts being removed with the exception of the weight which is represented in its proper position or place within the case. Fig. 4 is also an internal view of the case, showing the stationary, circular plate which covers the weight and also the eccentric and pawl, by which motion is given a ratchet wheel. Fig. 5 is a front view of the odometer with the outer plate removed, showing the dials and other portions of the working parts.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to a new and improved implement or device which is attached to the hub of a carriage wheel to measure distance in traveling, and is termed an odometer.

The nature of the invention consists in the peculiar means employed for communicating motion from the wheel of the vehicle to the working parts of the implement, viz: by having a cylindrical weight placed within the case of the implement, said weight being detached, and by its own gravity remaining stationary or not revolving with the wheel, and causing, as the wheel rotates, motion to be communicated to the working parts of the implement as will be presently shown.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A, represents a cylindrical case constructed of metal, and secured to the outer face of one of the hubs B, of a carriage wheel, by means of screws (*a*), (*a*), as shown in Fig. 2, or in any proper manner. One portion of the case A, is larger in diameter than the other portion, and consequently a shoulder (*b*), is formed at about the center of the case. Against this shoulder (*b*), a circular plate C, is secured by screws (*c*), (*c*), as shown in Figs. 2, 4, and 5, the plate C, dividing the case A, into two compartments, (*d*), (*e*). Within the compartment (*d*), a cylindrical weight or wheel D, is placed, said weight or wheel being detached and resting upon the lower end or side of the case A, as shown in Figs. 2 and 3, and by dotted lines in Fig. 4. The weight or wheel D, is much smaller in diameter than the compartment (*d*), less than one half, as shown in the figures above referred to. Through the center of the plate C, there is an opening in which a small shaft or arbor (*f*), fits, said shaft or arbor having on one end a fork E, which embraces or fits over the weight or wheel D, see Figs. 2 and 4, and on the opposite end there is an eccentric F, which acts against a lever (*g*), secured by a pivot (*h*), to the plate C, the upper end of said lever (*g*), having a pawl (*i*), attached to it which catches into the teeth of a ratchet wheel G. The lever (*g*), and pawl (*i*), are fully shown in Fig. 4, and the ratchet wheel in Fig. 5. The lever (*g*), is acted upon by a spring (*j*), which keeps the lower end of said lever at all times against the periphery of the eccentric F, see Fig. 4.

The ratchet wheel G, has its axis secured to a plate H, which is connected by small braces or arms (*k*), to the plate C, some space being thereby allowed between the two plates C, H, as clearly shown in Fig. 2, the ratchet wheel G, being on the inner side of the plate H, and some space allowed between the ratchet wheel and plate H, as also shown in Fig. 2, on the outer side of the ratchet wheel G, there is a pin (*a'*), see Fig. 5. On the inner side of the plate H, there is a lever L, precisely similar to the lever (*g*), on plate C. This lever L, is also provided with a pawl (*m*), at its upper end which catches into teeth formed in the periphery of a dial plate I, said dial plate working on a pivot (*n*), as a center, see Fig. 5.

J, is a dial plate by the side of the dial plate I, and working on a pivot (*o*), as a center, the dial plate J, overlaps the plate I, as shown in Fig. 5, and is also provided with teeth at its periphery. On the dial plate I, there is a pin (*p*), which, as the dial plate I, rotates, comes in contact with the teeth of the dial plate J, and causes it to rotate a certain distance—one twentieth of a revolution, during every revolution of the

dial plate I. The dial plate I, is graduated or divided into ten equal parts, and the dial plate J, into twenty equal parts.

Operation: The implement is secured to the outer end of one of the hubs B, as before stated, and the dial plates are set so as to bring the zero marks or points opposite notches (*q*), cut on the edge of the case, see Fig. 5. When the carriage is drawn along, the cylindrical weight or wheel D, being detached, will not rotate with the case but will remain at all times in the position as shown in Figs. 2, 3 and 4, viz: at the lower part of the case A, the weight or wheel merely rotating on the bottom of the case, and the fork E, and eccentric F, will also remain stationary, and the plate C, rotates of course, as it is secured to the case A. The lower end of the lever (*g*), consequently moves around the edge or periphery of the eccentric F, and the lever (*g*), is vibrated, and the pawl (*i*), at its upper end moves the ratchet wheel G. As the ratchet wheel G, rotates, the pin (*a'*), operates the lever L, and its pawl (*m*), rotates the dial plate I, and the pin (*p*), on the dial plate I, turns the dial plate J, a certain distance at every entire revolution of the dial plate I, and in the implement represented by the drawings, the relative size of the wheel of the carriage to which the implement is attached, and the ratchet wheel G, and dial plates are such, that one revolution of the dial plate I, indicates a distance of ten miles, and one revolution of the dial plate J, a distance of two hundred miles. The relative size of the ratchet wheel and dial plates may be varied as occasion may require.

The advantages of the above invention is, that the working parts are perfectly protected from dust and moisture, and the operation is sure. The device is simple, not liable to get out of repair, and may be applied to any vehicle in use.

I do not confine myself to any particular mode of gearing, for obtaining the necessary motions from the ratchet wheel to the dial plates, for various ways may be adopted to effect the same purpose—instead of pawls, as herein shown, gear wheels may be used.

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

Communicating motion from the wheel of the vehicle to the working parts of the odometer, by means of a cylindrical weight or wheel D, placed within the case of the implement and detached therefrom, so that said weight or wheel, will, by its own gravity remain at the lower part of the case and in one position, and by the arrangement herein shown, viz:—the fork E, and eccentric F, or other suitable device, communicate the necessary motion to the working parts of the implement as the case A, rotates.

JULIUS THOMPSON.

Witnesses:
J. W. Hamilton,
J. W. Coombs.