A. YOUNT.

Odometer.

No. 221,652. Patented Nov. 11, 1879.

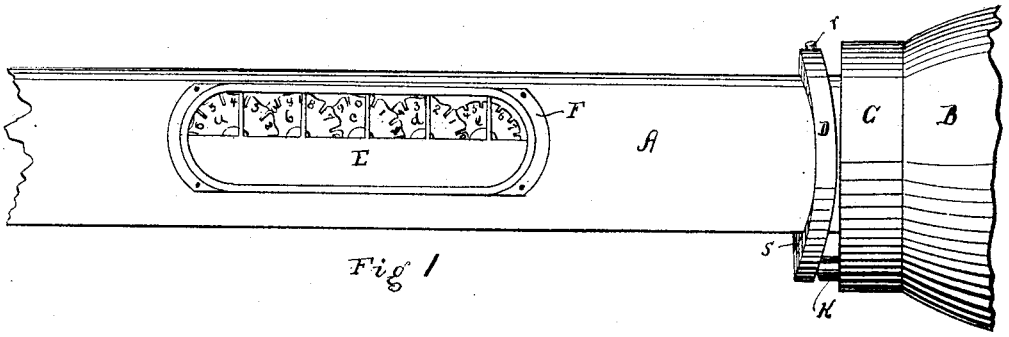

Fig 1

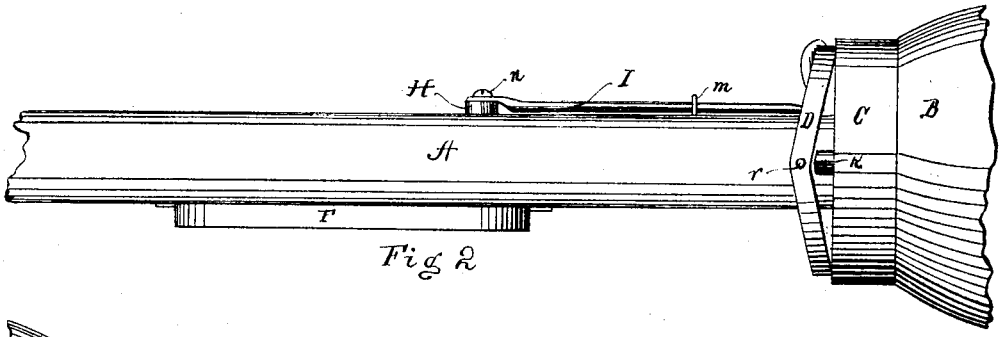

Fig 2

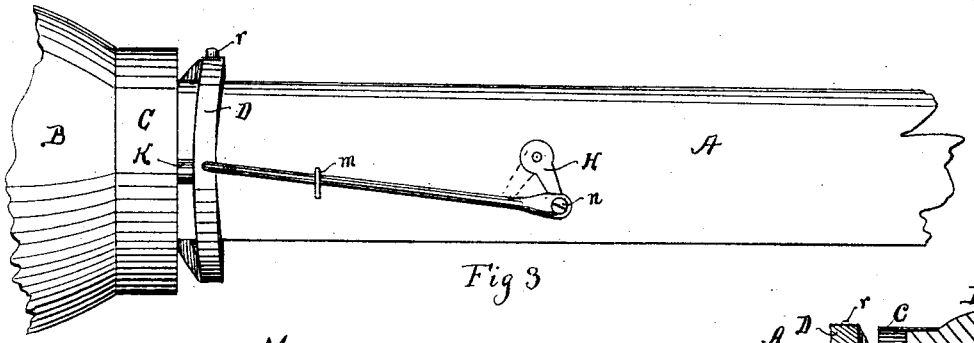

Fig 3

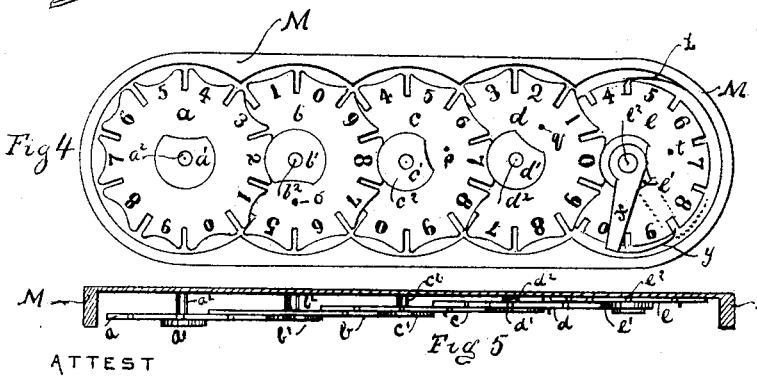

Fig 4

Fig 5

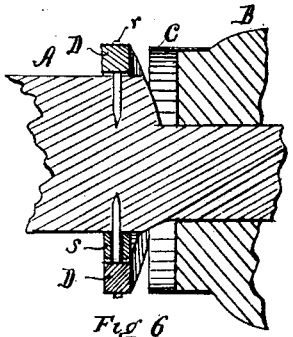

Fig 6

ATTEST

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ANDREW YOUNT, OF KOKOMO, ASSIGNOR TO WILLIAM R. BRECKENRIDGE, OF BUNKER HILL, INDIANA.

IMPROVEMENT IN ODOMETERS.

Specification forming part of Letters Patent No. **221,652**, dated November 11, 1879; application filed April 1, 1879.

To all whom it may concern:

Be it known that I, ANDREW YOUNT, of Kokomo, Howard county, Indiana, have invented an Improvement in Odometers, of which the following is a specification.

My invention relates to instruments used for measuring the distance traveled by vehicles; and it consists in an improved construction of a registering apparatus, and also in an improved construction of devices for transmitting motion from the wheel of the vehicle to the said registering apparatus.

The particular features which constitute my invention are described in connection with other parts necessary to show the operation, and are specifically indicated in the claims.

In the drawings hereunto attached and forming part of this specification, Figure 1 represents a side elevation of the apparatus as applied to the axle of the wheel. Fig. 2 is a view of the upper part of the same. Fig. 3 is a view of the side opposite that shown in Fig. 1. Fig. 4 is a view of the face of the dials with the plate removed. Fig. 5 is a transverse central section of the same; and Fig. 6 is a vertical longitudinal central section of the axle and part of the hub, showing the connection of the devices for transmitting motion from the wheel.

This device (marked D in the drawings) consists of a ring bent, as shown more clearly in Fig. 2, to form a double cam upon the sides thereof. It is pivoted at the angles, as shown at *r* and *s*, by pins or screws, which pass into the axle and hold the ring securely in place, permitting the required oscillation. Upon the end of the hub, within the shell C, is a pin, K, which projects, as shown more clearly in Fig. 2, nearly to the pivoted part of the ring D, and is so arranged in relation to the said ring that the revolution of the wheel in either direction causes the pin K to move along the inclined face of the ring D and push one side of it back away from the inner end of the hub. The other side of the ring, being thrown in the opposite direction, may move under and within the shell C, and the further rotation of the wheel, or one complete revolution, will throw that side in its turn backward away from the inner face of the hub. Thus the rotary motion of the hub imparts an oscillating movement to the cam-shaped ring. This motion is transmitted to the recording apparatus by means of the connecting-rod I, attached on one side of the axle to a point on the ring D midway between the two pivots of the said ring. This rod I is pivoted at the other end, at *n*, to a crank, H, upon the end of a shaft, e^2, which passes centrally through the first wheel of the recording apparatus.

The first wheel of this recording apparatus revolves upon the shaft thus described; and fixed to this shaft, on the face side of the recording apparatus, is an arm, *x*, which carries a spring-pawl, *y*, having its end bent inwardly toward the wheel.

Notches upon this wheel, which is marked *e*, are arranged in the edge at distances corresponding to the stroke imparted to the rod I by the motion of the ring D, so that the inwardly-bent end of the pawl *y* travels at each stroke from one notch to the next, the wheel being held while the operating-pawl is moving backward by the stationary spring-pawl L. A disk, *e'*, on the wheel *e* bears against the face of each section of the next wheel, hollowed between the notches to fit it. This disk *e'* is cut away upon one side, and opposite the side so cut away is a small pin, *t*, set in the face of the wheel, and at such a point that as the wheel *e* revolves the pin *t* shall enter one of the slots or notches in the face of the next wheel. As the space between the said notches or slots in the next wheel is hollowed to fit the edge of the disk *e'*, it is obvious that the succeeding wheel cannot move until in the revolution of the preceding wheel the notch opposite the pin *t* is brought round to face the said contiguous wheel. The pin, then entering the notch, moves the wheel next in order, and the points next the notches are free to move in the space left by the nick in the disk *e'*. Thus the complete revolution of the first wheel moves the second wheel one notch.

The construction of the succeeding wheels is precisely the same as the second wheel, as will appear plainly from Fig. 4 of the drawings, and the operation is the same.

The pin *q* upon the wheel *d*, opposite the notch in the disk *d'*, moves in the slot or notch

in the wheel *c*, the disk *d'* holding the wheel last named until the pin *q* opposite the nicked side of *d'* comes around to its place in the notch.

The figures upon the first wheel represent units, the second tens, the third hundreds, and so on, so that one hundred thousand revolutions of the wheel of the carriage may be registered. Any number of these registering-wheels may be used, according to the requirements of the case. These wheels are set in a metallic plate, M, cast in the form shown in Figs. 4 and 5, and fitted to receive the wheels. Over this is placed a metallic plate, F, Figs. 1 and 2, into which and under the slot at the end is slid a cover, and underneath the cover a glass plate, the cover being clearly shown in Fig. 1. The openings in the plate E allow the figures to be read, which show the number of revolutions of the wheel in any given time.

Manifestly the registering-wheels may be covered by any convenient form of case which will allow easy inspection, and will permit the registering-wheels to be secured against unauthorized intrusion and tampering with by unauthorized parties.

The use of wheels having figures on the face, which may be arranged, as shown, from one to ten, permits a simplification of the parts and dispenses with under figures. The succession of small wheels can be placed conveniently along the side of an ordinary axle, where larger wheels would be exposed. The ring and operating devices are located in a protected position, and out of the way of the mud and dust.

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

1. A combination of the ring D, the pin K, and the rod I, communicating motion to the registering-wheels, as and for the purpose set forth.

2. The combination of the rod I, the crank H upon the pivot or shaft *e'*, the arm *x*, the spring-pawl *y*, and the wheel *e*, as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ANDREW YOUNT.

Witnesses:
D. A. WOODS,
WESLEY S. KING.