

(No Model.)

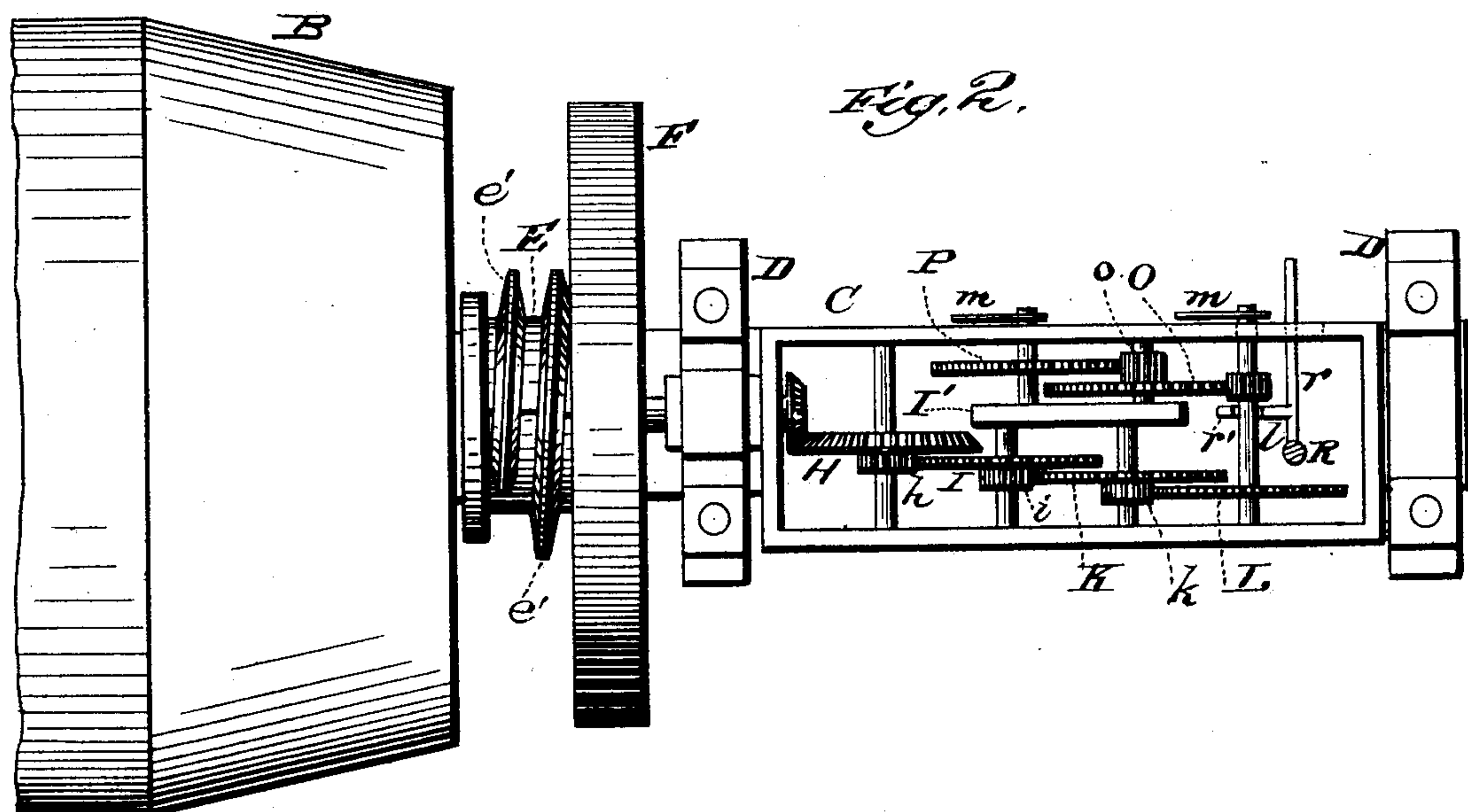
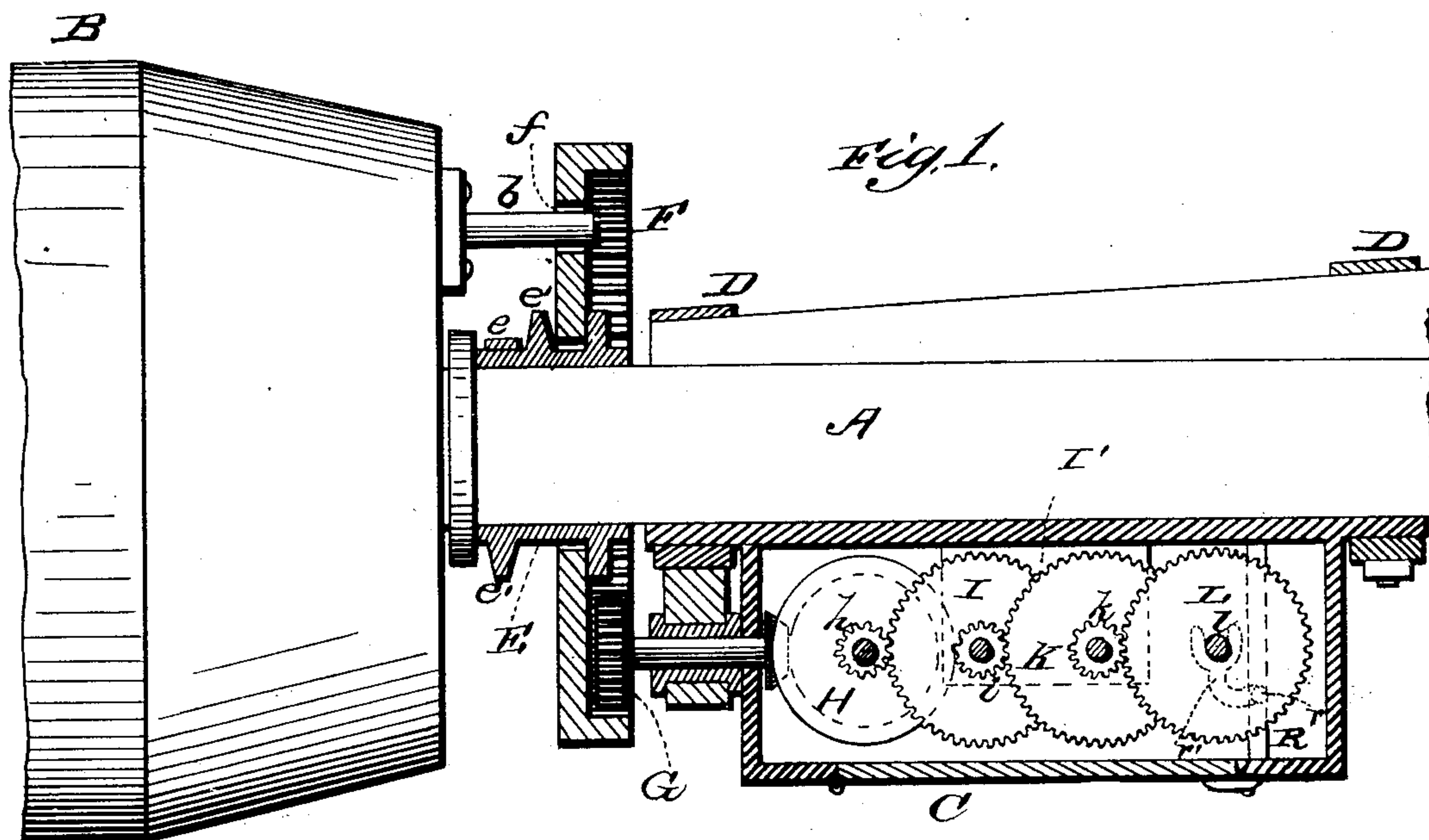
2 Sheets—Sheet 1.

J. B. THOMAS.

ODOMETER.

No. 273,638.

Patented Mar. 6, 1883.



WITNESSES

Emory H. Bates;  
Philip C. Masi.

INVENTOR

John B. Thomas,  
by Anderson & Smith  
his ATTORNEYS

(No Model.)

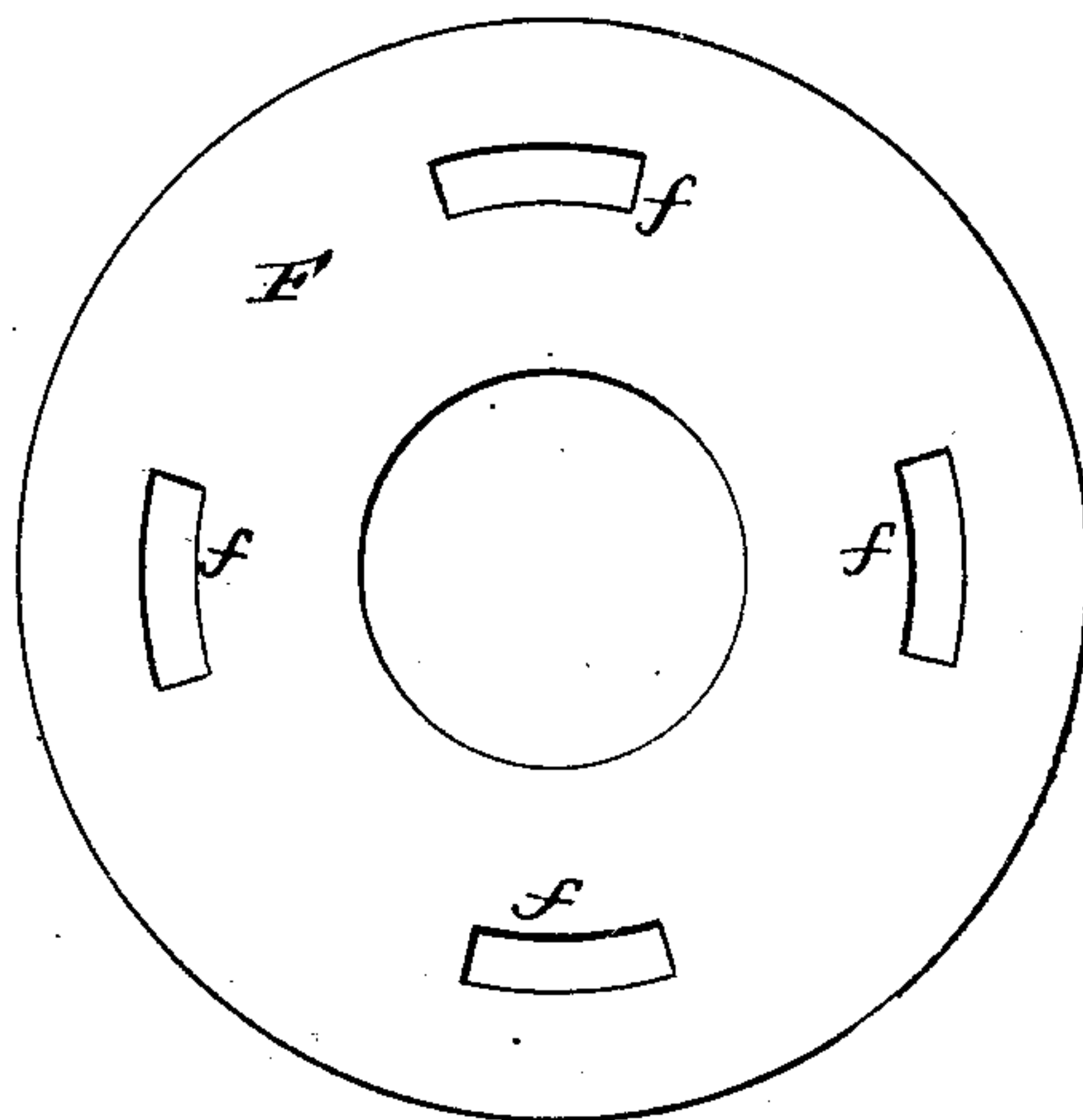
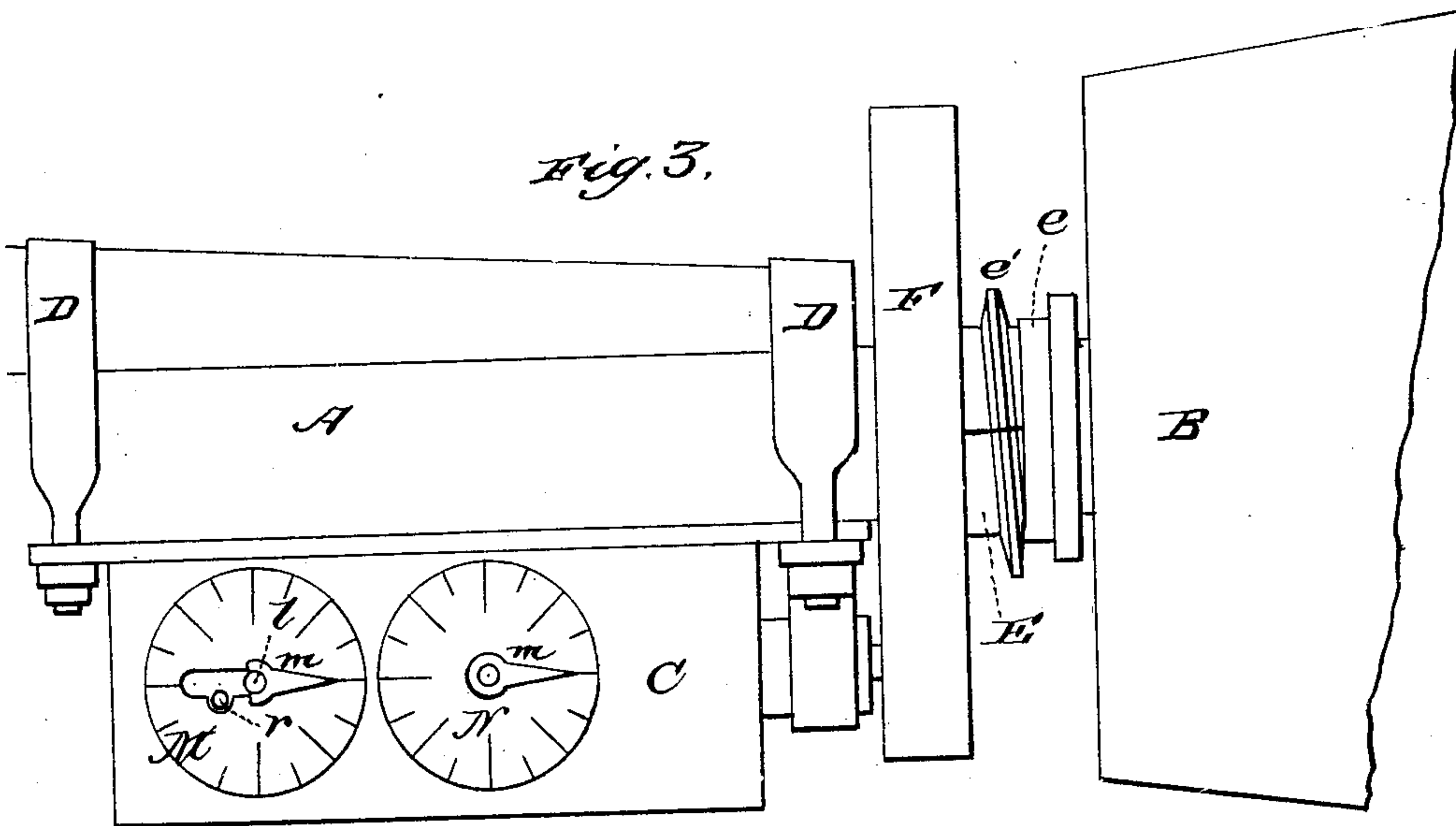
2 Sheets—Sheet 2.

J. B. THOMAS.

ODOMETER.

No. 273,638.

Patented Mar. 6, 1883.



WITNESSES  
*Emory H. Bates,*  
*Philip C. Mason.*

INVENTOR  
*John B. Thomas.*  
*by Anderson & Smith.*  
*his* ATTORNEYS



# UNITED STATES PATENT OFFICE.

JOHN B. THOMAS, OF INDIANA, PENNSYLVANIA.

## ODOMETER.

SPECIFICATION forming part of Letters Patent No. 273,638, dated March 6, 1883.

Application filed September 23, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN B. THOMAS, a citizen of the United States, and a resident of Indiana, in the county of Indiana and State of Pennsylvania, have invented a new and valuable 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 annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a vertical longitudinal section. Fig. 2 is a view of the mechanism exposed. Fig. 3 is a side view, showing the dials. Fig. 4 is a face view of the wheel, showing the slots.

The object of this invention is to provide an odometer in which the main actuating-wheel for the registering mechanism shall be thrown out of connection with the supporting-wheel of the vehicle and run loose when the vehicle carrying the odometer is pushed backward, and which shall be automatically brought into connection with the supporting-wheel when the vehicle is drawn forward; also, to provide means for allowing the registering mechanism to be turned backward when necessary; and, further, to provide certain improved details of construction, as hereinafter described and claimed, and illustrated in the drawings.

Letter A indicates the axle of any ordinary or suitable vehicle, and B the wheels, which have their hubs fitted upon the axle, as usual. C indicates the case containing the train of wheels of the registering mechanism. This case is suitably secured to the axle—as, for example, by means of clips D—and will in practice be of the same width as the axle, so that in backing the vehicle against any object the case will not be subjected to injury.

A two-part thimble, E, is secured upon the axle by means of bands *e* near one of the wheels B, and upon this thimble is arranged the loose internally-toothed wheel F, which constitutes the main actuating-wheel for the registering mechanism. The thimble is provided with a spiral thread, *e'*, which extends once around its perimeter, and the wheel F is threaded on the interior of its bearing-surface, so that when the wheel is turned forward the threaded portions will cause it to be shifted inwardly or to-

ward the middle of the axle and to gear with a pinion, G, so as to drive the train of gearing within the casing. When, however, the wheel F is turned backward it will be shifted away from said pinion toward the outer end of the axle, and hence be disconnected from the pinion, whereby the registering mechanism will not be turned backward. The wheel F is driven by one of the supporting-wheels B of the vehicle, the hub of said wheel being provided with an arm or pin, *b*, which is secured to said hub and received in one of a series of slots, *f*, formed in said wheel. The shaft of pinion G passes into the case C, and is provided upon its inner end with a set of teeth, which mesh with the teeth upon a lantern-gear, H. The teeth *h* on the pinion-wheel of this lantern-gear mesh with a gear-wheel, I, the shaft of which is journaled in the case, and a support, I', which gear in turn drives a gear, K, through the medium of teeth on a pinion, *i*, and this gear-wheel K drives a fourth gear-wheel, L, by means of the teeth on the pinion *k*.

Upon one side of the case are two dials, M and N, the hands *m* being fixed upon the shafts of the gears O and P, which said shafts extend through the side of the casing. By this arrangement, as the wheel F engages and rotates the pinion G, motion will be transmitted to said train of gear-wheels and the hands caused to move around the dials, thereby indicating the distance traveled. The manner in which distances are registered will be readily comprehended from the following: Let it be supposed that the wheel F has forty teeth and the pinion G ten, the pinion will then travel four times as fast as the wheel F. The first wheel, H, within the case has forty teeth, and the teeth of the pinion which turns it are five in number. It will then move eight times slower than the pinion, or it will rotate once while the wheel F makes two revolutions. The second wheel, I, has forty-eight teeth, and is rotated by four cogs or teeth, *h*, on the shaft of wheel H, whereby wheel I will move twenty-four times slower than the wheel F—that is to say, the wheel F will make twenty-four revolutions to one of wheel I. The third wheel, K, has fifty teeth, and is turned by the five teeth *i* on shaft of wheel I, and hence while the wheel F makes two hundred and forty revolutions the wheel K will make but one. The



fourth wheel, L, has fifty teeth, and is turned by five teeth, *k*, on the shaft of wheel K, which is journaled in the case and in support I'. This fourth wheel will make but one revolution to  
 5 two thousand four hundred revolutions of the wheel F, and hence the speed of this wheel in the train of gearing will be very slow. The wheel O has forty cogs, and is turned by five cogs or teeth on the shaft *l* of gear L, and moves  
 10 with one-tenth the rate of speed of gear L. The wheel P has forty teeth, and is turned by eight cogs on the shaft *o* of the gear O, so that it will move with one-fifth the rate of speed of gear O. Dials Q Q are located on one side of  
 15 the case, and pointers for these dials fixed on the shafts of gears O and P, which extend through the case. To prevent the pointers from being turned when desired, or to allow the pointers to be turned back, I provide in  
 20 the case a fixed post, R, extending from top to bottom thereof. A rod, *r*, is arranged parallel with the shaft *l* of gear L, and extends through the dial Q. This rod has an arm, *r'*, which has in its upper end a fork or eye, through which  
 25 the shaft *l* passes. The shaft *l* has its bearing in an oblong socket, so that by shifting rod *r* the shaft can be thrown out of gear from gear O. It will be seen from the above that the pointers indicate on the dial the distance traveled.  
 30 To construct the odometer for vehicles having wheels of different diameters, find out how many times the circumference of the wheel is contained in a mile and take one-tenth of this number for the number of cogs on wheel H.  
 35 The explanation and the illustration herein given show that the diameter of the wheel B

is such that four hundred revolutions of the wheel are made in one mile. Hence the wheel H is provided with forty teeth.

The case can be provided with a suitable 40 door, and then covered by cloth, canvas, leather, or other covering attached to supports connected to the axle, or arranged in any suitable way whatsoever. Finally, the dials and pointers can be made to indicate a greater or 45 less number of miles traveled by increasing or decreasing the number of cogs on shaft *o*.

Having thus described my invention, what I claim is—

1. The combination, in an odometer, of the 50 wheel F, actuated by one of the supporting-wheels, with the thimble secured upon the axle, and having upon its perimeter a thread, which, when the vehicle is backed, shifts the wheel F toward the end of the axle, and which, when 55 the vehicle is drawn forward, shifts the wheel F toward the middle of the axle and brings it into engagement with a pinion of the registering mechanism, substantially as described.

2. The combination, with the herein-described 60 train of gear wheels and the dials and pointers, of the rod *r*, for shifting the shaft of gear L, which is mounted in an oblong socket, as set forth.

In testimony that I claim the above I have 65 hereunto subscribed my name in the presence of two witnesses.

JOHN BENTON THOMAS.

Witnesses:

STEPHEN G. THOMAS,  
 HUGH S. THOMPSON.