No. 864,442. PATENTED AUG. 27, 1907.

J. ALEXANDER.

REGISTERING MECHANISM.

APPLICATION FILED JUNE 12, 1905. RENEWED JULY 23, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

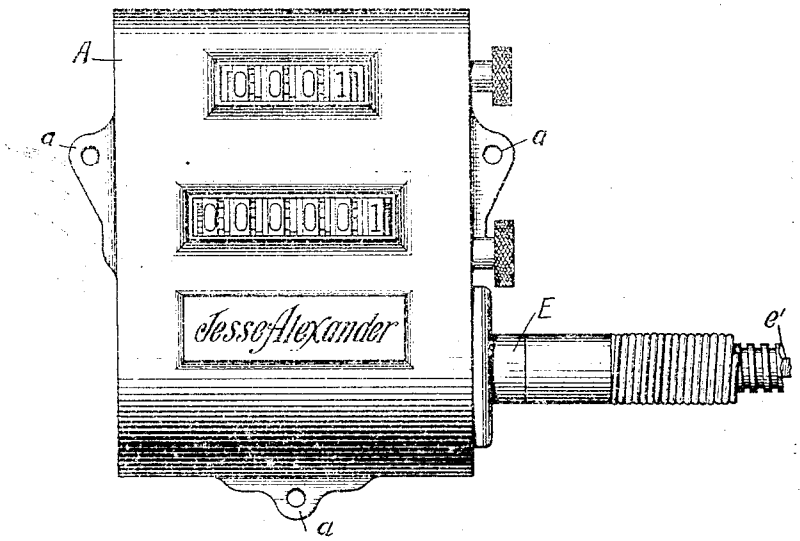
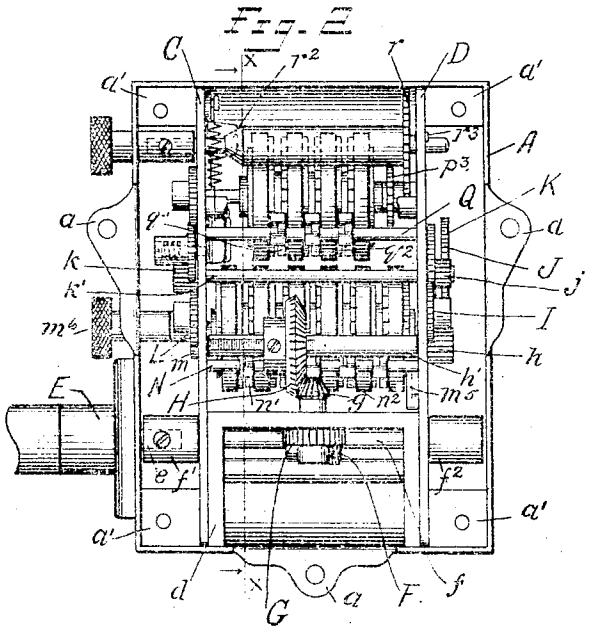


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

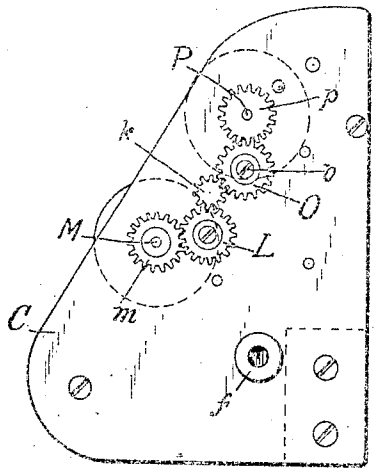


Fig. 4.

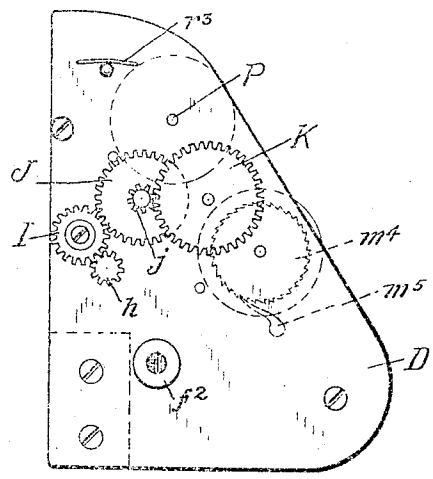


Fig. 5.

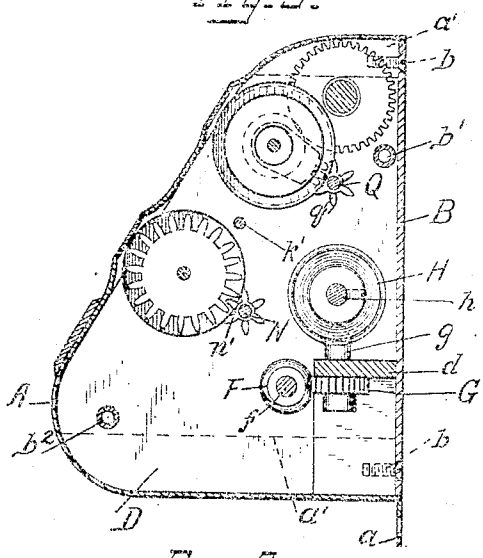


Fig. 7.

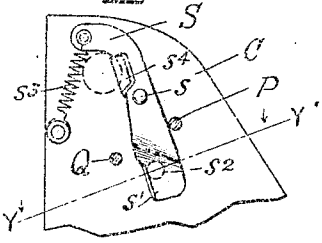


Fig. 8.

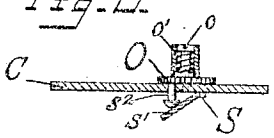
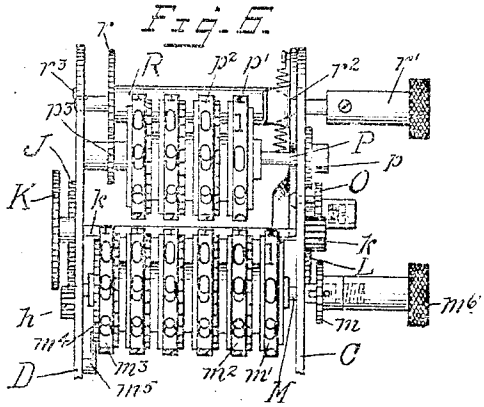


Fig. 6.



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REGISTERING MECHANISM.

No. 864,442. Specification of Letters Patent. Patented Aug. 27, 1907.

Application filed June 12, 1906, Serial No. 264,783. Renewed July 23, 1907. Serial No. 385,138.

To all whom it may concern:

Be it known that I, JESSE ALEXANDER, a citizen of the United States, residing at New York, N. Y., have invented certain new and useful Improvements in Registering Mechanism, of which the following is a full, clear, and exact description.

My invention relates to improvements in registering mechanism, and particularly to a mile recorder for automobiles, motor vehicles, cycles, and the like.

The object of the invention is to provide a simple and reliable device for registering the distance traveled by a vehicle.

The invention consists in improvements, the principles of which are illustrated in the accompanying two sheets of drawings.

Briefly, it may be said to comprise a casing, a removable frame contained within the casing, two sets of indicating wheels or drums, mechanism for operating the drums, and mechanism for releasing the gear train and re-setting the drums, all so constructed that the parts may be readily adjusted and so that the mechanism may be adapted to vehicles having different running gear.

Figure 1 is a front view of mechanism embodying the improvements of my invention. Fig. 2 is a rear view of the same, the back of the casing being removed. Fig. 3 is a view of the right side of the mechanism frame removed from the casing. Fig. 4 is a similar view of the other side of the frame. Fig. 5 is a vertical section on the plane of the line X X of Fig. 2, looking in the direction of the arrows. Fig. 6 is a front view of the mechanism frame removed from the casing, with the drums released preparatory to re-setting. Fig. 7 is a fragmentary detail of part of the mechanism for releasing one set of drums. Fig. 8 is a detail section of the same, on the plane of the line Y Y of Fig. 7.

A is the casing, having openings in the front for display of the indicating drums.

a a a are lugs for attaching the casing to the dashboard or other part of the vehicle.

a' a' a' a' are lugs on the inside of the casing for attachment of the back plate B by means of screws *b b*.

C D are the side frames for carrying all the operating parts of the mechanism. These are connected together by bracket *d* and the tubular rods b' b^2, and are guided into the casing and held in place therein by the lugs *a'*. When the back of the casing is removed, however, the mechanism may be taken out.

E is a journal for attachment of the transmitting mechanism.

e is a rod attached to the end of a flexible shaft *e'*.

The journal E may be attached to the casing in any suitable manner so that it may be removed when desired.

F is a worm mounted on the shaft *f*.

f' f^2 are sockets carried by the ends of the shaft *f*, into either one of which the rod *e* of the transmitting shaft may be removably secured.

G is a gear carried by the bracket *d* and meshing with the worm F.

g is a bevel pinion rotatable with gear G.

H is a bevel pinion for transmitting rotation to pinion *h*, both being mounted on the shaft *h'*, the wheel H being removable.

I is a gear carried by the frame plate D and meshing with pinion *h*.

J is a gear carried by frame plate D and meshing with gear I and having pinion *j* rotatable with it.

K is a gear wheel meshing with pinion *j* and transmitting rotation to the pinion *k* at the opposite side of the frame through the shaft *k'*. From this pinion *k* the rotation of the flexible shaft is transmitted to two series of indicating drums.

L is a gear carried by the frame plate C meshing with the pinion *k*.

M is the shaft for the lower series of drums m' m^2 &c. The first drum is fast on the shaft, the others being loosely mounted thereon.

m is a gear rotatable with shaft M but longitudinally movable thereon, and normally in mesh with the gear L.

N is a shaft mounted in the frame, carrying a series of star wheels n' n^2 &c., for transmitting rotation from one drum to the other by addition.

The first drum carries numerals indicating tenths of a mile, the second drum indicates units of miles, &c., to the left. The last drum m^3 has a ratchet m^4 engaged by a spring pawl m^5, which prevents it from rotating backward.

m^6 is a handle connected by a socket and screw-thread to the hub of the pinion *m*, by which the pinion may be disengaged from the gear L and the entire series of drums rotated for re-setting, if desired.

O is a gear in mesh with pinion *k* rotatably mounted on the screw post *o*, and normally held in position by the pressure of the spring *o'*, located within the hub of the gear and interposed beneath the head of the screw.

P is a shaft for the upper series of drums p' p^2 &c., the first drum being rotatable with the shaft and the others being loosely mounted thereon. *p* is a gear carried by this shaft P normally in mesh with gear O.

Q is a shaft or rod mounted in the frame carrying a series of star wheels q' q^2 &c., which serve to transmit movement from one drum to the next adjacent one. During the operation of the mechanism, rotation of the flexible shaft causes rotation of both series of drums and proper indication of the distance traveled by the numerals on the drums.

The upper series of drums is intended to be re-set after each trip, and is therefore adapted to indicate a smaller number of miles than the other series of drums, for instance, 999 9/10. After a trip the upper series may be readily re-set.

R is a countershaft carrying gear wheel r, having a removable handle r', which when the mechanism is assembled, extends outside of the casing.

S is a lever pivoted to the frame-plate C and having a cam surface s' adapted to engage a pin s^2, which is slidable laterally in the frame-plate C. s^3 is a spring holding this lever in its normal position pressing against the shaft P.

r^2 is a shoulder formed on the shaft R which is adapted to engage with a cam face s^4 carried by the lever S when the shaft R is moved to the right, as viewed in Fig. 6. This movement tilts the lever to the position shown in full lines Fig. 7, so that the pin s^2 is pushed out and moves the gear O out of engagement with the teeth of the gear p. At the same time the gear r is brought into mesh with the teeth of the pinion p^3, which is fast on the shaft P, and the drums p' p^2 &c. may then be re-set in either direction as desired.

r^3 is a spring wire serving to frictionally hold the end of the shaft R either in the position shown in Fig. 2 or the position shown in Fig. 6.

It will thus be seen that while both sets of drums are driven through the worm gear and are consequently normally locked against backward rotation, either set of drums may be disengaged from the train and re-set by its own single handle. The advantages of such a construction will be apparent to those skilled in the art.

What I claim is:

1. In a registering mechanism, a series of indicating drums, a train of gears for rotating the first drum of the series, means for transmitting motion between the drums, and a single handle movable longitudinally for disconnecting the transmitting gears without affecting said drums and rotatable for resetting said drums.

2. In a registering mechanism, a rotatable shaft, a series of registering drums mounted thereon, one of said drums being rotatable with said shaft, a train of gears for driving said latter drum, means for transmitting motion between the drums, a longitudinally movable shifting shaft, means controlled thereby for disconnecting one of the gears of the train, and a geared connection between said shifting shaft and one of said drums.

3. In a registering mechanism, a series of indicating drums, a train of gears for driving the first drum of the series, means for transmitting motion between the drums, a longitudinally movable shaft for disconnecting one of the gears of the train, a multiplying gear connection between said shaft and the first drum of said series for re-setting, and means of connection between said shaft and said longitudinally movable gear for simultaneously disengaging said gear and throwing said multiplying gear into operative position.

4. In a registering mechanism, the combination of two series of indicating drums, a train of gears for transmitting motion to said drums, and independently operable means for each of said series of drums for disconnecting said train and re-setting said drums.

5. In a registering mechanism, the combination of a frame, a shaft mounted therein, a worm carried by said shaft, a series of indicating drums carried by said frame, a train of gears for transmitting motion from said worm to said drums, and a single handle with means for connecting and disconnecting said drums and said train, for re-setting said drums when desired.

6. In a registering mechanism, the combination of two series of indicating drums, a train of gears for transmitting motion to both series of drums, and manually controlled means for disconnecting and re-setting one of said series of drums without affecting or interrupting the operation of the other series of drums.

7. In a registering mechanism, the combination of a casing having a sight opening in the front thereof, a frame adapted to be removably secured in said casing, a series of indicating drums carried by said frame, a shaft rotatably mounted in said frame, a train of gears connecting said shaft and said drums, and means for removably connecting a flexible shaft to said rotatable shaft through one side of said casing.

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