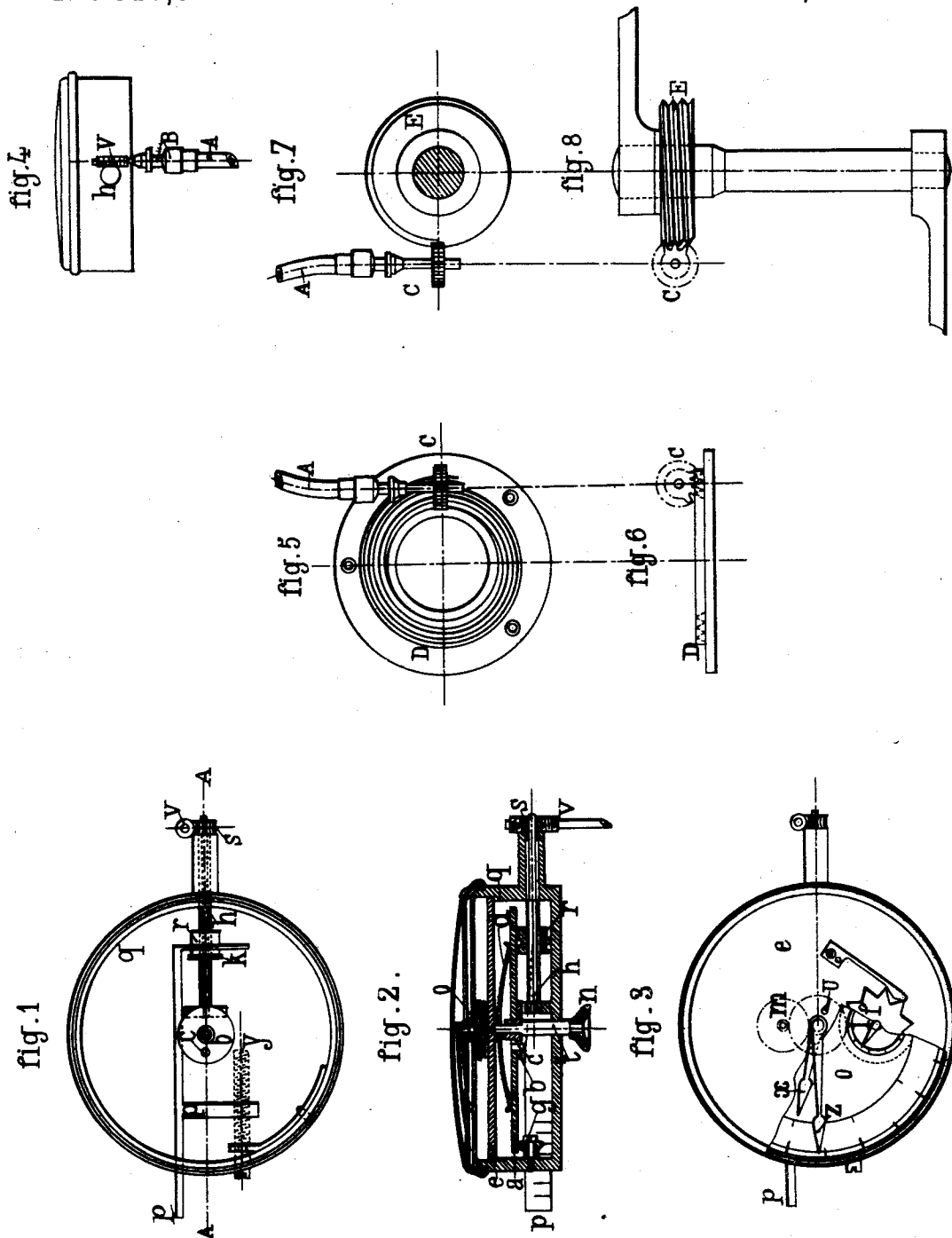


(No Model.)

C. COULERN-MEURI.
ADJUSTABLE CYCLOMETER.

No. 510,328.

Patented Dec. 5, 1893.



WITNESSES:

Robert Emmett
Thomas A. Green

INVENTOR:

Charles Coulern-Meuri.

By

James L. Norris.

Atty.

UNITED STATES PATENT OFFICE.

CHARLES COULERN-MEURI, OF CHAUX-DE-FONDS, SWITZERLAND.

ADJUSTABLE CYCLOMETER.

SPECIFICATION forming part of Letters Patent No. 510,328, dated December 5, 1893.

Application filed May 12, 1893. Serial No. 474,021. (No model.)

To all whom it may concern:

Be it known that I, CHARLES COULERN-MEURI, a citizen of Switzerland, and a resident of Chaux-de-Fonds, Switzerland, have
5 invented a new and useful Improvement in Apparatus for Registering the Distance Traveled Over by Vehicles, of which the following is a specification.

My invention relates to a new or improved
10 apparatus or meter for measuring and registering on a dial the number of itinerary units such as miles, kilometers, &c., traveled over either by a velocipede or wheel vehicles; and in order that my said invention may be fully
15 understood, I have illustrated an apparatus constructed according to the same in the accompanying drawings, in which—

Figure 1 is a plan view of my improved meter, the dial and pallet-plate *e* being removed.
20 Fig. 2 is an axial section made upon line A A Fig. 1 of the meter. Fig. 3 is a plan view of the meter, the dial *o* being broken away for showing the pallet plate *e*. Fig. 4 is a side elevation of the meter showing the end of the connecting cable. Figs. 5 and 6 are respectively a plan view and a side elevation of the coil threaded plate. Figs. 7 and 8 are respectively a side elevation and a plan view of the
25 endless screw threaded disk.

30 A disk *a* is secured by a pin *c* to a plate *b* clamped on a spindle *t*. This spindle which carries the great hand *Z* is fitted loosely in the bottom of the metallic box *q* which is the casing of the meter, and also in the pallet-plate *e*. The disk *a* is thus connected with a
35 hand *Z* and is rotated by a roller *r*. This roller is fitted on a horizontal grooved shaft *h* and may, by means of the adjusting screw *y* acting on the double square *p*, be brought
40 nearer to or farther from the center of the disk *a*, in order to change the ratio of the relative speed of the spindles *t* and *h*.

A spring *d* Fig. 2 keeps constantly in contact the disk *a* and the roller *r* and secures
45 their adherence. A small roller *g*, located opposite the roller *r* prevents an excessive bending and keeps the disk *a* perpendicular to its spindle Fig. 2.

In Fig. 3, the hand *Z* indicates for each turn
50 of the dial *a* ten itinerary units (kilometers or miles) and the hand *x*, one hundred units. The difference of speeds between the two

hands is obtained by means of a set of gears
m like the minute-wheels in a watch. A small
dial recording thousand units, or more, if necessary, may also be provided, in which case
55 it should be arranged as shown at *i* Fig. 3. A small cam *U*, secured on the wheel carrying the hand *x*, rotates at each turn of the latter, of one tooth a ten teeth-star-wheel carrying the hand of the small dial *I*. The return of the hands to zero, is effected by pressing on the knob *n* Fig. 2. The adherence between the roller *r* and disk *a* is thus interrupted and the hands may be easily rotated.
60 When the pressure is released, the spring *d* is pulled back to its first position.

It will readily be understood that I may also apply to my improved meter the system known as "handless watch system," in which the
70 hands are replaced by disks carrying figures which appear in wickets provided in the dial.

The shaft *h* is rotated by means of an endless screw *V* acting on a worm wheel *s*, the said endless screw being connected by a flexible
75 cable *A* Figs. 4, 5, and 7 by means of a nipper or coupling *B* or any other suitable connecting device. This cable has for its object to connect the screw *V* of the meter with a toothed wheel *C* Figs. 5 to 8, gearing with a
80 coil-threaded plate *D* mounted on the axle of the vehicle wheel.

In some cases the wheel *c* gears with an endless screw threaded disk *E* Figs. 7 and 8, mounted on the axle of a vehicle or velocipede.
85

The double square *p* Figs. 1 and 2, is graduated on a part which may project out of the box, this graduation corresponding to the several diameters of wheels. It is then sufficient, when setting the meter to its place, to put by
90 means of the adjusting screw *y* the double square *p* on the division corresponding to the diameter of the driving-wheel.

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

1. The combination with a casing or box *q*, a dial, and pointers, of a center spindle *t*, a disk *a* connected with the spindle, a shaft *h* having a worm-wheel *s* at its outer end, a friction-roller *r* keyed to the said shaft, adjustable along the length thereof and rotating therewith, a rectilinearly-moving graduated square *p* connected with the friction-roller
100

and having its graduated portion extending through the case or box, and a screw *V* engaging the worm-wheel, substantially as described.

- 5 2. The combination with a casing or box *q* having a pallet-plate *e*, a dial, and pointers, of a center spindle *t*, a disk *a* connected with the spindle, a shaft *h*, a friction-roller *r* keyed to the said shaft, adjustable along the length
10 thereof and rotating therewith, a rectilinearly-moving square *p* connected with said friction-roller and having its graduated portion extending through the casing or box, means

for rotating the said friction-roller-carrying shaft, and a spring *d* interposed between the 15 said pallet-plate of the casing or box and the said disk for pressing the latter against the friction-roller, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscrib- 20 ing witnesses.

CHARLES COULERN-MEURI.

Witnesses:

W. PIERREHUMBERT,
J. HERSCHY.