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## INVENTIONS PATENTED.

NOTE.-Patents are granted for 18 years. The term of years for Which the fee has been paid, is given after the date of the patent.

## No. 57,250. Cyclometer and Register Mechanism.

(Mćcanisme de cyclomètre et régistre.)


Leo Jerod Burdick, Sturgis, Michigan, U.S.A., 1st September, 1897 ; 6 years. (Filed 16 th June, 1897.)
Claim. - -1 st. The combination of a cylindrical case $A$, having a fixed head $A^{2}$, and removable head $A^{1}$; the shaft $E$, riveted to the fixed head $\mathrm{A}^{2}$, containing longitudinal grooves $\mathrm{E}^{1}$ and $\mathrm{E}^{2}$, corresponding to the number of treth or steps of the movement of the wheel; number wheels F , supported thereon, made of sheet inetal having internal gear teeth $\mathrm{F}^{1}$, and a projecting hub $\mathrm{F}^{2}$, with slot $\mathbf{F}^{3}$, and projection $P$ 'to the rear; a spring $G$ with tooth ' $G$ projecting into said slot to contact with the shaft and out to engage the gear teeth $\mathrm{F}^{1}$ of the next higher ; an internal gear wheel I), consisting of a ring with perforations revoluble on shaft $\mathbf{E}$; an external gear wheel $\mathrm{C}^{1}$ on shaft C , meshing with a hunting tooth gear with wheel I), carrying said wheel $\mathrm{C}^{\mathbf{1}}$, and an actuating star wheel B revoluble on the shaft, with a ratchet for engaging the same; a spring (1) ${ }^{1}$ surrounding the gear 1), having an outwardly-projecting tooth $\mathrm{D}^{2}$; a projecting tooth $\mathrm{C}^{2}$ on gear $\mathrm{C}^{1}$, to lift the gear tooth up and engage the first number wheel to actuate the same a single step, all co-acting substantially as described for the purpose specified. 2nd. In a cyclometer or register mechanism, the combination of a casing; a shaft containing longitudinal grooves corresponding to the steps of the movement, one of which grooves is shallow; number wheels containing internal gear teeth mounted revolubly on said shaft; a spring with an inwardly projecting tooth to engage in the grooves of the shaft, and an outwardly-projecting tooth to engage the next number wheel when passing the shallow depression carried by each of the lower said number wheels; and means for actuating the lower number wheels, for the purpose specified. 3rd. In a
cyclometer or register mechanism, the combination of a shaft containing longitudinal, continuous cam-grooves; gear number wheels mounted thereon; a radially-movable tooth carried by each of the lower number wheels, and guided by the cam-grooves to engage the next higher number wheels at intervals of its rotation to operate the same, for the purpose specified. 4th. In a cyclometer or register mechanism, the combination of a tixed shaft E, containing longitudinal cam-grooves $\mathrm{E}^{1}$, sheet metal number wheels having internal gears and projecting hubs $\mathrm{F}^{2}$; a spring $G$ on said hub with one end projecting within the hub and the other without, co-acting as specified. 5th. In a cyclometer or register mechanism, the combination of a fixed shaft containing longitudinal cam-grooves; number wheels mounted thereon containing internal gear teeth; a spring with an outwardly and an inwardly-projecting tooth carried by each of the lower number wheels in contact with said shaft to serve as a brake, and to actuate the next higher wheel of the series, for the purpose specified. 6th. In a cyclometer or register mechanism, the combination of a fixed shaft containing continuous, longitudinal cam-grooves; gear number wheels mounted thereon ; a spring with a tooth thereon carried by each of the lower wheels to be actuated by the cam-grooves toengage at intervals of its rotation the next higher wheel, for the purpose specified. 7th. In a cyclometer or register mechanism, the combination of a fixed shaft with cams formed therein; gear number wheels mounted on said shaft; a movable tooth carried by each of the lower number wheels to be actuated by the cam of the shaft, to actuate at intervals of its rotation the next higher number wheel. 8th. In a cyclometer or register mechanism, the combination of a fixed shaft; number wheels carried by said shaft ; an internal gear consisting of a perforated ring carried on said shaft; a spring embracing the same and covering one of the perforations, a tooth on said spring to engage the lowest number wheel normally out of engagement therewith; an extemal gear wheel carried on a pivot or shaft on the end of the main shaft meshing therewith, having a projecting tooth to raise the spring and cause the tooth to engage the number wheel at intervals of its rotation, for the purpose specified. 9th. In a cyclometer or register mechanism, the combination of an internal gear ; an external gear, having projecting hunting tooth; a tooth on a suitable spring crrried by the internal gear to be actuated by the projecting tooth at intervals of its rotation to actuate the number wheel, as specified. 10th. In a cyclometer or register mechanism, the combination of a series of number wheels, having internal gear teeth; a movable tooth carried by each of the lower number wheels; a shaft to support said nuinber wheels, containing cam depressions therein of sufficient depth to allow the movable tooth on each lower wheel to pass the gear teeth upon the next higher number wheel, except at transferring points, where each said movable tooth is carried to engage with and actuate the number wheel adjacent thereto; and means for retaining the said movable teeth in contact with said shaft. 11 th. In a cyclometer or registering mechanism, the combination of a series of geared number wheels; a movable tooth carried by each of the lower number of wheels; a cam-formed shaft to support said number wheels, and guide said movable teeth past the gear teeth of said number wheels; except at transferring points where said movable teeth engage with and actuate the number whee's adjacent therewith, and means of retaining said movable teeth in contact with said cam-formed shaft. 12th. In a cyclometer or register mechanism, the combination of a series of geared number wheels; a movable tooth carried by each lower number wheel; a cam for each lower number wheel, containing depressions to guide the movable tooth thereof past the gear teeth of the next higher number, except at transferring points where said movable teeth engage and actuate the higher number of wheels adjacent thereto; means of retaining the movable teeth in contact with their respective cams, for the purpose specified. 13th. In a cyclometer or register mechanism,

