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## INVENTIONS PATENTED.

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

No. $\mathbf{5 7 , 6 \% 0}$. Electric Meter. (Electromètre.)


The Canadian General Electric Co., Toronto, Ontario, C:anada, assignee of Frank P. Cox, Lynn, Massachusetts, U.S.A., 1st October, 1897; 6 years. (Filed 8th July, 1896.)
Claim.-1st. The combination of a constant current circuit, with a meter motor having a field winding in the main line, and its armature shunting the field through a resistance, so graduated in amount as to give a starting torque sufficient to overcome friction. 2 nd . The combination of a constant current circuit, having a resistance in shunt to the translating devices, or any desired portion of them, and a meter with a stationary inducing winding in the main line, and an armature winding shunting the inducing winding and connected at one trrminal to an intermediate point in the resistance. 3rd. The combination of a constant current circuit with a meter motor coupled in circuit, with the field winding and translating devices forming one side of a Wheatstone bridge, the armature and a resistance the second side of the bridge, and a resistance corresponding to the bridge wire adjusted to give a starting torque to the motor, as set forth. 4th. The combination of a constant current circuit, with a meter motor having a main field winding in the main line, an armature shunting the field winding and the translating devices through a resistance, and an auxiliary field winding wound so as to enhance the starting torque of the motor, and connected between the main field winding and the translating devices as set forth. 5th. The method of operating an electric meter, consisting in establishing an initial starting torque for overcoming the friction of the moving element of the meter and gradually diminishing, or removing, said torque as the load comes on. 6th. The method of operating an electric meter, consisting in establishing, besides the normal operating torque of the neter, an extra torque for overcoming the friction of the moving element thereof under
light load conditions, removing said compensating torque, and afterward establishing a torque opposing the motion of the moving element of the meter.

No. 5 , $\boldsymbol{6} 21$. Motor Reversing switch.
(Moteur a aiguille de reuversement.)


The Canadian General Electric Co., Toronto, Ontario, Canada assignee of Frank E. Case, Schenectady, New York, U.S.A., 1st October, 1897; 6 years. (Filed 8th July, 1896.)
Claim. -1st. The combination in a reversing switch, of a row of contacts adapted to be connected to line in either position of the switch, and two or more rows of contacts and brushes, each one leading to and adapted to reverse one or more motors. 2nd. As an article of manufacture, a four motor reversing switch cylinder having three rows of contacts, the middle row being cross-connected relative to each other, the other contacts being wide enough to engage with two brushes, the middle contacts with one. 3rd. In a four motor reversing switch, the combination of three rows of contacts mounted on a cylinder, with two sets of brushes, one set leading to one pair of motors, and the second set to the second pair of motors, engaging with the contacts, ne row of contacts bieng common to both sets of brushes. 4th. In a four motor reversing switch, the combination of the three rows of contacts mounted on a cylinder, with two sets of brushes making contact therewith, the middle and one set of outer contacts being connected so as to cause the motors to revolve in one direction, and the middle and remaining outer contacts causing them to revolve in the opposite direction. 5th. In a four motor reversing switch, the combination of three rows contacts mounted on a cylinder, two sets of brushes engaging therewith, the outer contacts engaging with two brushes, the inner contracts with one, the inner contacts being arranged in an upper and lower series, each series consisting of pairs of contacts crossconnected, the said series of contacts being common to both sets of brushes. Gth. In a four motor reversing switch, with the motors connected in pairs, the combination of three rows of contacts, brushes making contact therewith, the inner contacts being arranged in an upper and lower series, the contacts in the series being arranged to

