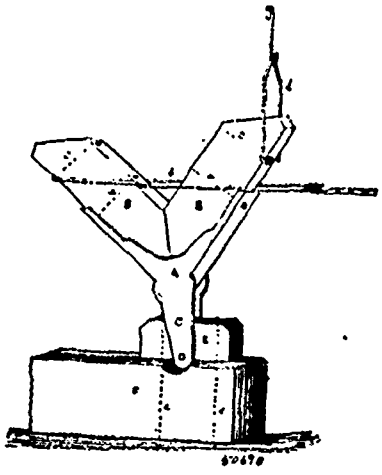
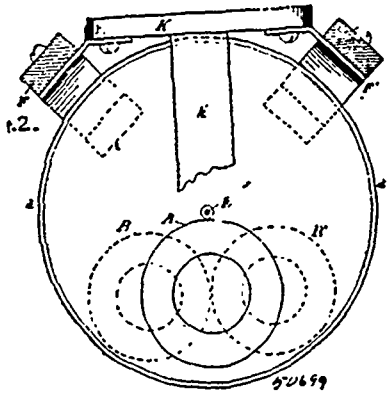
No. 50,698. Triangle for Operating Oil and Water Wells. (*Triangle pour actionner les puits à l'huile ou à eau.*)



Peter Babcock, Petrolia, Ontario, Canada, 2nd December, 1895; 6 years.

Claim.—1st. The construction of the casting A, and the mode of attachment of the same to the sill F, substantially as and for the purpose set forth. 2nd. The combination of the casting A, with extension blocks B, B, and clevises *a*, *b*, substantially as and for the purpose hereinbefore set forth.

No. 50,699. Method of and Means for Measuring the Energy of Alternating Electric Currents. (*Méthode et moyen de mesurer l'energie de courant électrique alternatif.*)



Oliver B. Shallenberger, Rochester, Pennsylvania, U.S.A., 2nd December, 1895; 6 years.

Claim.—1st. The method of measuring the energy of multiphase alternating currents, which consists in the creation to two magnetic fields, one of which is proportional to and in phase with the current in one of the circuits, and the other proportional to and in phase with an electromotive force in quadrature with that of the said circuit, establishing thereby a resultant inductive influence, and producing thereby mechanical effects of definite value. 2nd. The method of measuring the energy transmitted by alternating currents which consists in establishing two alternating magnetic fields which are respectively proportional in strength to the current and to the electromotive force, and which differ in phase by the complement of the angle of current lag in the work-circuit, producing thereby a resultant inductive influence, subjecting a movable conductor to said inductive influence, and indicating the resulting motion against a definite opposing force. 3rd. The method of measuring the energy transmitted by alternating currents, which consists in subjecting a movable conductor to two opposing forces, one approximately proportional to the product of current, electromotive force and the sine of the phase angle between them, and the other proportional to the resulting motion, and indicating the amount of such motion. 4th. The method of measuring the energy transmitted by alternating currents, which consists in subjecting a movable conductor to two opposing forces, one force approximately proportional to the product of the work-current, an electromotive force in quadrature with that of the work-circuit and proportional thereto, and the sine of the phase angle between said electromotive force and said current, and the other force proportional to the resulting movement or speed, and indicating, registering or recording the total movement. 5th. The method of measuring the energy transmitted by alternating currents which consists in producing an alternating magnetic field proportional to the strength of the current in the work-circuit, producing a second alternating magnetic field proportional to an electromotive force of known value with reference to that of the work-circuit and differing in phase from the first-named field by the complement of the angle of current lag in the work-circuit, establishing by said two fields a resultant inductive influence, subjecting a movable conductor thereto and indicating the resulting motion against a definite opposing force. 6th. The method of measuring the energy transmitted by multiphase alternating currents over three or more conductors, which consists in establishing a magnet field proportional in strength to the current delivered over one conductor to the work-circuit, deriving a current from two other conductors between which the electromotive force is in quadrature with that impressed upon the first-named conductor, and establishing by such current a second field, producing a resultant shifting field by these two component fields, and by inductive influence of the shifting field producing mechanical motion against a retarding force directly proportional to the rate of motion, and registering the amount of such motion. 7th. The method of obtaining an electromotive force in quadrature with that impressed upon a given conductor in a multiphase system of distribution, which consists in combining in series the electromotive forces of two circuits in which the phases af electromotive force differ by equal angles of opposite sine from the electromotive force impressed upon the first-named conductor. 8th. The method of measuring the energy transmitted by alternating currents which consists in creating a magnetic field by the resultant of two component currents differing in phase and creating a second field by currents due to the algebraic sum of the electromotive forces producing said component currents, producing a resultant shifting field by said two fields, and by said shifting field producing motion proportional to the energy transmitted. 9th. The method of impressing upon the shunt circuit of an electric meter for multiphase currents, an electromotive force in quadrature with that impressed upon the series circuit, which consists in combining in series the electromotive forces of two circuits in which the phases of electromotive force differ by equal and opposite angles from that impressed upon said series circuit, and applying the resultant electromotive force to said shunt circuit. 10th. The method of measuring energy transmitted over a multiphase alternating current system, which consists in producing an alternating magnetic field proportional to the resultant of two component currents of the system, producing a second magnetic field proportional to and in phase with the electromotive force obtained by the addition of the electromotive forces to which the component currents are due, establishing thereby a resultant shifting magnetic field, subjecting a rotary armature to the inductive action thereof and recording, registering or indicating the movement of such armature against an opposing force. 11th. The method of measuring the energy of multiphase alternating currents, which consists in inducing in a movable closed conductor currents caused by the combined inductive effect of a work-current and a shunted current which, when no lag exists in said work-current, is in quadrature therewith, and indicating the resulting motion against a known opposing force. 12th. In an electric meter for alternating currents, the combination of a rotating disc, two coils or sets of coils having their axes directed toward said disc and located in different circumferential positions, one of said coils being wound with relatively small wire adapted for shunt circuit connection, and the other coil or set of coils being wound with thick wire adapted for series connection, a non-inductive resistance included in series with the shunt-connected coil, and a retarding device consisting of a magnet whose poles embrace said disc and are directed toward opposite sides of said disc. 13th. An electric meter consisting of the combination of a disc of conducting material, a shaft carrying the same, a counting train driven by said shaft, means for producing two magnetic fields differing in phase and the axes of which traverse said disc at points so located that the two fields combine to form a resultant shifting field, and a retarding device opposing to the rotation of the shaft, a force proportional to the speed. 14th. In an electric meter for alternating currents, the combination of a disc of conducting material, a shaft carrying the same, a solenoid having its axis approximately perpendicular to the plane of the disc, a second solenoid or set of solenoids having their axes directed toward said disc at another point or points, than the first, and means for adjusting the relative positions of said solenoids, substantially as described. 15th. In a meter for measuring alternating electric currents, the combination with the frame having horizontal arms k^1, k^2, of the coils A, B, and B^1, supported from said arms, and the clamping devices for securing them to said arms, substantially as described. 16th. In an electric meter for alternating currents, the combination of a supporting frame, having a horizontal arm k^2, and the coils B, and B^1, carried thereby and the adjustable support for said coils carried upon said arm, substantially as described. 17th. In a meter for alternating currents, the combination of actuating coils and an armature subjected to the influence of said coils consisting of a disc of conducting material, the dimensions of which, parallel to its axis, are greater than the thickness of the metal from which it is formed, whereby vibration in a direction