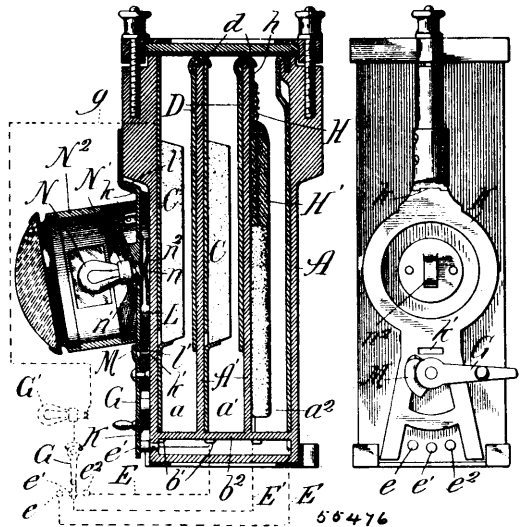


rotating the points of greatest difference of potential in the secondary coils relatively to the terminals of the motor circuits, whereby waves of electrical energy are sent successively through said motor circuits, substantially as described. 5th. In combination, a primary inducing ring or member, a single-phase alternating current circuit connected to opposite points of said primary member, a secondary ring or member in parallel inductive relation to said primary member, a circuit through which the induced current of the secondary member passes, the terminals of said circuit being connected to opposite points of the secondary ring or member, and means for moving or rotating said terminals or points of connection relatively to the points of greatest difference of potential in said secondary ring, substantially as described. 6th. In combination, a primary or inducing ring or member included in a single-phase alternating current circuit, a secondary ring or member in inductive relation to said primary member, a circuit having its terminals connected to opposite points of said secondary member, and means for mechanically moving the points of greatest difference of potential in said secondary member, substantially as described. 7th. An induction director for single-phase alternating currents, consisting of two rings or coils in parallel inductive relation, brushes constantly in direct contact with one of said rings and movable relatively thereto, the single-phase alternating line circuit being connected through the brushes and the ring in contact with said brushes, and a circuit having its terminals connected to opposite points of the other ring, or vice versa, substantially as described. 8th. In induction director for single-phase alternating currents having a closed primary ring or coil, brushes movable relatively to and constantly in direct contact with said ring at opposite points, a secondary ring or coil in parallel inductive relation to said primary ring, and a circuit having its terminals connected to said secondary ring or coil, the relative movement of said primary ring and brushes varying the induced current in said circuit, substantially as described. 9th. An induction director having a closed primary ring or coil, relatively movable brushes constantly in direct contact with said ring at opposite points, a series of secondary rings or coils in parallel inductive relation to said primary ring, and a corresponding series of motor circuits having their terminals connected to the respected secondary rings at opposite points, substantially as described. 10th. An induction director having a closed primary ring or coil, relatively movable brushes constantly in direct contact with said ring at opposite points, a series of secondary rings in parallel inductive relation to said primary ring, a laminated core in which said rings are embedded, and a series of motor circuits corresponding in number to and having their terminals connected with said secondary rings at opposite points, substantially as described. 11th. An induction director having a series of closed primary rings or coils, a series of relatively movable brushes constantly in direct contact with said rings at opposite points, a series of secondary rings respectively in parallel inductive relation to said primary rings, and a corresponding series of closed motor circuits including secondary rings, substantially as described. 12th. An induction director having a series of closed primary rings or coils, a corresponding series of movable brushes constantly in direct contact with said rings at opposite points, a series of secondary rings or coils in inductive relation to said primary rings, a laminated core in which all of said rings are embedded, connections to the brushes whereby the current is passed through adjacent rings in opposite directions, and motor circuits connected to said secondary rings, substantially as described. 13th. An induction director for single-phase alternating currents, consisting of a frame carrying fixed primary and secondary rings or coils in parallel inductive relation, a shaft mounted in the frame, brushes carried by the shaft and constantly in direct contact with the primary rings, means for rotating the shaft, and internal circuits whereby the current may be passed through the brushes and the primary rings, substantially as described. 14th. An induction director consisting of the frame or drum E provided with the laminated core G, the primary rings H, and secondary rings  $h, h^1$ , etc., in combination with the shaft D mounted in bearings in the frame, the cylinder F carried by the shaft, the core I and the brushes carried by the cylinder, the insulated rings upon the shaft, the fixed brushes on the drum, and the electrical connection between the insulated rings and the brushes of the primary rings, substantially as described. 15th. The combination with an alternating current motor having a series of independent circuits, of an induction director having a corresponding series of secondary rings or coils to which the terminals of said motor circuits are connected, primary rings or coils in parallel inductive relation to said secondary coils, a single-phase alternating circuit connected to opposite points of said primary coils, and mechanical connections between the movable member of the motor and the movable member of the induction director, substantially as described. 16th. The combination with a motor having a series of field circuits, of an induction director having a corresponding series of secondary rings or coils, the terminals of each field circuit being connected to opposite points of its respective coil, a primary ring or coil in parallel inductive relation to the secondary coils, a pair of movable brushes connected to a single-phase alternating circuit and in constant contact with the primary ring or coil, and mechanical connections from the armature of the motor for rotating the brushes of the induction director, substantially as described.

**No. 55,476. Electric Lamp for Vehicles.***(Lampe électrique pour voitures.)*

John Zimmerman, assignee of Walter Ambrose Crowders, both of Chicago, Illinois, U.S.A., 1st April, 1897; 6 years. (Filed 25th February, 1896.)

*Claim.*—1st. A primary battery having two or more cells, partitions dividing such cells, a metallic conducting piece hanging from and extending lengthwise with the dividing partition, a negative element supported thereon, and a positive element hooked over and supported by the negative support to electrically connect such cells in series, substantially as described. 2nd. In a primary battery having two or more cells, a partition dividing the cells, a metallic conducting support for the negative element attached to, extending lengthwise with and forming a part of the dividing partition, a negative element removably secured in the metallic support, and a positive element in the adjacent cell hooked over and suspended from the negative element support to electrically connect such cells in series, substantially as described. 3rd. In a primary battery provided with a false bottom having two or more cells electrically connected in series, a switch located on and secured to the case, and means disposed beneath the false bottom by which the flow of current is increased or diminished by the movements of the switch, substantially as described. 4th. In a primary battery having two or more cells, positive and negative elements of adjacent cells joined together across the dividing partition to electrically connect such cells in series, a switch located on and secured to the case, and the wire or set of wires connecting the switch with the negative element of each cell individually and arranged by the switch movements to cut one or more of the cells into and out of action, substantially as described. 5th. In a primary battery having two or more cells, elements of the adjacent cells supported and joined on and across the dividing partitions to electrically connect such cells in series, an incandescent lamp located on and secured to the battery case, a switch located on and secured to the case, and a wire or set of wires connecting the switch with the negative element of each cell individually and arranged by the switch movements to cut one or more of the cells into and out of the electrical connection with the lamp, substantially as described. 6th. In a primary battery, a metallic conducting support provided with a spring pocket for holding the negative element in position and permitting its free insertion or removal, substantially as described. 7th. In a primary battery, a negative element of carbon and oxide of copper pressed or moulded into desired shape, substantially as described. 8th. As a new article of manufacture in primary batteries, a porous negative element of carbon and oxide of copper pressed or moulded into desired shape, substantially as described. 9th. A negative element for primary batteries consisting of a reticulated supporting conducting plate provided with a porous coating or baked copper oxide and a carbonized binder, substantially as described. 10th. A negative element for primary batteries consisting of a wire mesh supporting conducting plate provided with a porous coating or baked copper oxide and a binder of resinous oil, substantially as described. 11th. In combination with a battery cell having a metallic supporting piece, an electric incandescent lamp having a metallic back portion, one of such portions provided with a projecting hinge and the other with a hinging perforation and means for positioning and locking the lamp on its supporting piece, substantially as described. 12th. In combination with a battery cell having a metallic supporting conducting piece provided with a hinging perforation and electric incandescent lamp having a back portion provided with a projecting hinge adapted to enter the hinging perforation of the supporting piece and means for positioning and locking the lamp on its supporting piece so that the parts may be readily coupled or uncoupled, substantially as described.