

and bent a quarter turn back or forward in order to be connected with the segments under the brushes at the proper time as the coils revolve. By having the two coils revolving in the magnetic field there will be four pulsations in the external circuit and all in the same direction; also the E. M. F. of each pulsation does not fall to zero in the external circuit, because as the E. M. F. nears its maximum in a coil the commutator segments to which it is connected comes into contact

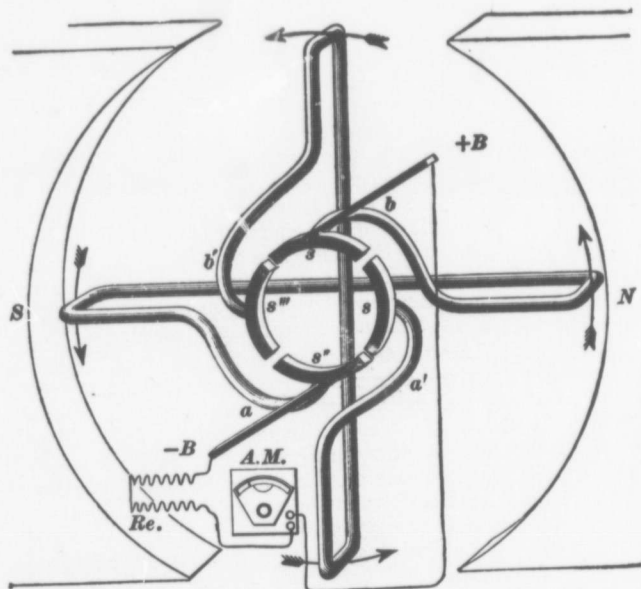


FIG. 2

with the brushes. As the E. M. F. starts to fall in this coil, the E. M. F. in the second coil is rising; and as the segments of the commutator to which the first coil is connected are about to pass from under the brushes, the commutator segments of the second coil are about to come in contact with the brushes, which will raise the E. M. F. in the external circuit up to maximum again. If the coils are placed and connected to the segments and the brushes in the positions as described above, it will be found that the E. M. F. in both coils are about equal, and the current will have no injurious effect on the brushes or commutator segments at the points of making and breaking of