mical axes of our molecules. Now these wires, in consequence of the magnetic energies circu-



lating round them, will mutually attract or repel each other, according to their position. If, as in Fig. 8, they are both in the same relative position, they will mutually attract each other; as may be inferred from the position of the needles, M m, M m, the north pole of one of which corresponds with the south pole of the other; but if one of the wires be reversed, as in Fig. 9, they will mutually repel each other, the two similar poles of the needles in this case being contiguous. These relations hold universally, and what is most important, recent observations have shown them to be, under certain slight modifications, reciprocal; that is to say, if the magnetic energies be made to move in straight lines, the galvanic energies are found to circulate round them, nearly according to the laws above described, as happening to magnetism, round electricity. Hence electric sparks, and indeed all the phenomena of electricity, can now be obtained from a common magnet.