

same kind as that afforded of the intrinsic *tensile strength* of a wire or thread of any material by the statement of how much in length *of itself* it can bear without breaking. It frees us from the necessity of any mental reference to the actual weight or specific gravity of the material, which in this case is the more necessary, as, though we suppose the ethereal molecules to possess *inertia*, we cannot suppose them affected by the force of gravitation.

(67.) There is yet another theory of light which might be proposed, in which, still retaining the idea of an ethereal medium, its constitution should be conceived as an indefinite number of regularly arranged equidistant points (mathematical localities) *absolutely fixed and immovable in space*, upon which, as on central pivots, the molecules of the ether, supposed *polar* in their constitution, like little magnets (but each with *three pairs of poles*, at the extremities of three axes at right angles to each other), should be capable of oscillating freely, as a compass-needle on its centre, but *in all directions*. Any one who will be at the trouble of arranging half a dozen small magnetic bars on pivots in the *linear* arrangement of the annexed figure, will at once perceive how any

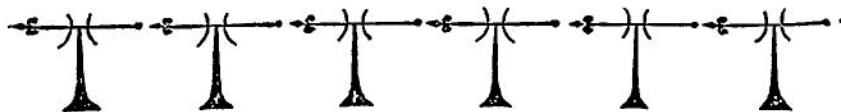


Fig. 5.

vibratory movement given to one, at any point of the chain, will run on, wave-fashion, both ways through its whole length. And he will not fail to notice that the