foot. Supposing, therefore, we were in possession of an unlimited number of 772-pound weights, and were to employ in the most judicious manner the force thus evolved in their downward progress, we should have an unlimited reservoir of power which could be converted at will into light, heat, electricity, or chemi-cal affinity, and could be made to toil for human benefit without any corresponding expenditure of human labour so long as the weights continued their downward progress unarrested. If, however, any good were to be gained by such a r achine, it must be managed so that the motive force-gravitation-should always remain on the pull, and this is, and always will be, the obstacle to the attainment of perpetual motion ; the act of overcoming the force of gravity to re-raise the weights, requiring the expenditure of exactly the same amount of power as has been generated during their downward fall ;'and so, before we can seriously discuss the feasibility of such a machine, we must find a -perpetual flow of gravitating force always at hand, craving to be satisfied, and yet inexhaustible. In other words, we must construct a clock which will wind itself up when the weight has run down, without any expenditure of human power.

Sitting by the sea shore a few days since, we could not help noticing the large reservoir of mechanical power existing in the ocean. We do not refer to the noisy dash of the waves as they break upon the beach, but to the infinitely mightier, although silent and progressive, energy exerted in the gradual rise and fall of the tides. Compared with the stupendous power capable of being utilised for man's benefit, and present in the rise or fall of millions upon millions of tons of water through a space of ten or twenty feet four times a-day, all the steam, water, or wind power in the world, together with the united muscular force of every living being, human and animal, sink into utter insignifi--cance. We will try to form some idea of this power. Let us suppose that by the action of the tides the difference of level of the surface of the ocean at a certain spot, is 21 feet between high and low water; omitting for the present all consideration of the power of the subjacent liquid, what is the mechanical value of a space of 100 yards square of this water ? 100 yards square by - 21 feet deep' equals 70,000 cubic yards of water, which are lifted to a height of '21 feet, or to 1,470,000 cubic yards lifted to a height of 1 foot. Now, since one cubic yard of water weighs about 1683 pounds, 1,470,000 cubic yards weighs 2,474,010,000