hich has ontaining he media 10 air, be c, it will unely, 15 i organic d putrid. will soon distilled is in fact, vessels in re always st which hich have stillation. matter in in a very , be disvater, but nd odour, een more able for a ig, which repeat it. be found ıd odour t will by ir in the will have uspended ated suraints the r not to because pregnate onditions he water , in the

course of about a fortnight becomes putrid and almost undrinkable, because the organic matter which that water contains is undergoing a course of putrefactive fermentation. But about a month or so afterwards the water gradually becomes sweeter and sweeter, until at last it becomes drinkable again; because, eventually, all the organic matter which it contained becomes decomposed, carbonic acid and water being the result, and although the air of the ship's hold is none of the sweetest, the water produced as just said remains for ever afterwards perfectly good and palatable, because it is saturated with pure air, and therefore cannot absorb that of the atmosphere.

Now, Dr. Stenhouse, several years ago, I believe, found that the power which charcoal possesses of purifying tainted air is owing to its burning in an insensible manner the substances to which its bad odour was due; and acting upon that discovery of Dr. Stenhouse, I found that charcoal has the power of destroying the empyreuma of distilled water, when such water is AERATED, that is to say, when it contains atmospheric air, or oxygen. I found by experiments, carried on upon a somewhat extensive scale for many months, that two cubic feet of charcoal are sufficient to remove entirely the empyreumatic odour and taste of distilled water, produced at the rate of 500 gallons per diem, and that the charcoal never wants renewing, because it does not act as a filter, but as a burner, the substance burnt being the empyreumatic product, and the result of the slow combustion thereof being carbonic acid and water. I have every reason to believe, from the length of time during which several of my apparatus have been in operation, that such a filter once made will last for ever, because the charcoal disinfects the water, so to speak, as it does air, not by mechanical separation, but by actual though insensible combustion. The water, as it issues from the apparatus, is perfectly sweet, tasteless, inodorous, and completely saturated with a maximum quantity of pure air; it is of sparkling clearness, and being refrigerated in traversing the coiled pipe surrounded by the cold sea water at the lower part of the apparatus, it is fit for immediate use.

And thus is the second condition, that of aëration, of digestibility, of wholesomeness, accomplished, whereby the water so produced is *at once* drinkable, and so sweet and fresh that it cannot be distinguished from the very best spring water.