

Now there are seven of those substances, which from their containing oxygen, are called supporters of combustion; and these are oxygen gas, atmospheric air, nitrous oxyd, nitric oxyd, nitric acid, oxyginized muriatic acid, and hyperoxyginized acid, (the nature of which substances we shall endeavour to explain in a future number, under the general term Gas.) From what has been said, it follows, that with a given combustible, the quickness of the decomposition is in proportion to the supply of oxygen, which shows the reason why a fire is increased by blowing common air upon it, and much more by blowing upon it oxygen gas. But *ceteris paribus* with different combustibles; the fire is strongest when the combustible body has the strongest attraction for oxygen. The flame of hydrogen gas urged by oxygen gas is reckoned to produce the most intense heat.

With certain combustible bodies, a peculiar process takes place. It is a remarkably slow process of spontaneous combustion. The body, by attracting oxygen from the atmosphere, becomes thereby gently heated, in consequence of which it is capable of uniting with oxygen; a greater decomposition of the latter ensues, more heat is evolved, and thus the process is gradually accelerated, until flame and visible combustion takes place. Such is sometimes the case with hay and many other substances. The well known mixture of iron filings and sulphur moistened with a little water is an instance of this sort; for if this mixture be buried a little below the surface of the earth, it will of itself, after the lapse of several hours, burst forth into a state of ignition. This experiment has been generally called the artificial volcano.

Though heat is derived, in combustion, from the oxygen gas, the derivation of light is not so evident. It has been for a long time supposed that this

element is also one of the components of oxygen gas; but the observations made respecting the light yielded by several bodies when they are slightly heated, or even spontaneously, and that some of them yield much more light than others, seem to prove that light forms a component principle of most bodies, and that it is evolved from the combustible. It is likely, however, that part of it at least may be derived from oxygen gas. G.

To the Editor of the Belfast Magazine.

SIR,
PRESUMING it may come within the scope of the intended plan of your Magazine to disseminate knowledge of the arts and manufactures, and to encourage inquiries concerning them, and thus draw out information which may be extensively useful, I request to be informed by some one, who may possess the competent knowledge, if any marking-ink has been discovered for linens or calicoes, which will stand the operation of the oxy-muriatic acid, in the new process of bleaching; as the common marking-ink hitherto in use, composed of lunar caustic, [nitrat of silver] dissolved in water, is found not to bear the operation of the new mode, unless the mark be covered with lard, soap, or some oily matter, during the immersion of the piece in the steep, which mode is found very troublesome in practice. I have heard that such a marking-ink as I am inquiring after is in use in Scotland, and to persons acquainted with the modes of bleaching practised in that country, I particularly direct my inquiry.

A LINENDRAPE

To the Editor of the Belfast Magazine.

SIR,
I WILL be much obliged to any of your readers who are conversant