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False Lights.

Great as the fame of this age is for new and useful discoveries, it is not a little distinguished for the propagation of many chimerical ideas, and the trumpeting up as new, useful, and wonderful discoveries, many things which prove to be as opposite to their assumed character as darkness is to light. Two years ago our whole country was excited with the expectation of seeing a balloon start some fine morning from New York City with a cargo of miners for the gold regions of the Rio Sacramento. Pamphlets were printed, lectures were delivered, and models were exhibited to demonstrate the practicability of journeying to California in four days; and so infatuated were numbers with the plausibility of the scheme, that there was a perfect rush for passage tickets when the books were opened. It was dangerous to doubt in those days, without being prepared to be called a blockhead, a learned egotist, or some such name. It is a common practice with the projectors of all such schemes, in order to render them popular, to herald their discoveries with attacks upon philosophy. They soon place themselves on the top of their own Parnassus by extinguishing all the former lights of science, and demolishing all its strong embattlements, and after having banished it out of the world, they stand forth as "the greatest, mightiest of mankind." The balloon project has "come and gone," but for all this, we have no doubt that the same thing will be revived again not many years hence. These things, like the fashions, revolve in cycles.

Three years ago there was nothing heard of in England but "Staite's Electric Light." It was patented, published, and puffed from one end of the world, we may say, to the other. It was to send all the gas companies into Egyptian darkness in short order, and so potent was the sympathetic influence of the excitement, (for the shrewdest and wisest are subject to such influences), that the stocks of gas companies were, for a period, at a very low discount. Well, we have seen the end of this project: a few weeks ago this Electric Light became insolvent, it was executed by a number of indignant creditors, and its body consigned to that place where it had threatened to send all its old but sturdy opponents.

Three years ago a great light was discovered in our own country; it was produced from water, and it was alleged that the amount of common gas light which would cost \$58,400 for 4,000 bat's-wing burners in one year, could be produced for two dollars. We stoutly asserted the impossibility of producing such a result, but we were informed that the secret would be kept for one year for rival claimants to file their bills, after which it would be given to the public, to astonish all the dwellers in Salem. Three years have nearly passed away since then, and, like Staite's Light, it has made some noise in the world, and has received the impress of Queen Victoria's Royal Turnip Seal: it has been presented to the world; we have illustrated it in our columns, —and have not cavalierly, as has been untruly asserted, but candidly expressed the opinion, that it was of no economical value whatever; and we do hereby assert that, for all practical beneficial purposes, it is extinguished now and forever.

The people of all nations are subject, at times, to what may be termed "sympathetic mania," and as artificial light is a subject of such vast importance to all, it is no wonder that new and wonderful lights have been discovered everywhere since the key-note was struck by the leader of this opera.

Whenever a new *savant* gets up a new light, although he deems it politic to annihilate all pre-existing science, he as shrewdly deems it prudent to array his discovery in the flowing garb of "academic lore." Thus it was asserted that hydrogen gas, which burns with but a faint flame, would, by passing it through turpentine, change its nature, and come out a bright white light, without any extra expense

—without any change in the character or quantity of the turpentine. This was called "catalyzing the gas." Catalysis is a phenomenon in chemical science, and is termed the "Action of Presence." There is more than one opinion respecting its nature: all that we know about it is the power possessed by some bodies of resolving compounds into new forms without undergoing any change themselves: thus powdered platinum becomes red hot when moistened with the compound alcohol,—the spirit is fired and is converted into vinegar, without any change being produced in the metal. All catalytic changes are demonstrated by analysis—there must be a constitutional change of the elements, induced by the chemical affinity (for that it must be) produced by the silent unchanged or catalyzing body. In no instance can one body, without undergoing a change itself, produce a change in a simple body—such as hydrogen gas—the thing is preposterous.

The passing of hydrogen through a volatile hydro-carbon like naphtha, although pretended to be new, is quite old. The passage of gases through hydro-carbon fluids, to render them more luminous, is an old story. The process renders the gas more luminous, but not by catalyzing it, and there is always an attendant extra expense. A patent was taken out in London, on the 24th of May, 1815, by John Constable for rendering water gas luminous, by passing it through turpentine,—he never thought about calling the process catalyzing—but he claimed the process for "lighting and heating,"—the same claim now set up for the new light. This process, like Staite's, we suppose, is in the hands of the Constable.

There is nothing more common than to seize on the curiosities of science, to make what is commonly but tritely termed "a handle of;" but certainly it is an ambiguous position to sit perched among the clouds and ambiguities of science.

As it respects the production of artificial light, chemistry teaches us that it requires the incandescence of solid bodies to produce a good light. The best artificial lights are produced by the hydro-carbons; but the presence of carbon is not essential to all such lights. The Drummond Light—that artificial sun—is produced by burning a jet of oxygen and hydrogen on a piece of lime (calcium), but it is too expensive and troublesome to be used for common purposes. The most common gas light is indebted to the ignition of solid particles for its luminosity; these particles are coal, and can easily be detected by observation.

We have prolonged our remarks about false lights, as a matter of duty at the present time, to put our readers on their guard against them. It has been our fortune to dabble in practical chemistry since we could crawl, and we say that it has long been known to chemists, that hydrogen gas could be rendered luminous by passing it through naphtha; we have documentary evidence of the fact being ten years old at least.

Another false light, we see, has been set before the public—we allude to the rendering of the atmosphere luminous by a legerdmain process. It has been known to us for twelve years that, by blowing common air through naphtha, a very beautiful flame could be obtained. It has been pretended that the oxygen of the atmosphere can be made to burn in oxygen; this is like making coal gas burn in coal gas—a thing as impossible as the construction of a perpetual motion. The way to test the merits of such lights is to publish and explain them; they are very fine while they are kept secret, but soon after they are explained and spread before the public they slink away into outer darkness, but not always, and we regret to say it, without leaving evidences behind them of having proven, to many, like false and alluring beacons, placed upon the dangerous coast of some tempestuous ocean.

Splendid Engravings of a New Patent.

Next week we shall publish the specification of the patent granted two weeks ago to Mr. St. John, of this city, for measuring the ship's way at sea. It will be splendidly illustrated with a number of fine engravings.

Prevention of Explosions on our Western Rivers.

A correspondent writing to us from Memphis, Tenn., proposes a new plan for the prevention of explosions, which, if carried out, (and certainly there is a great necessity for it) would, in our opinion prevent such calamities. The plan is to have a second safety valve on each boiler, placed entirely out of the reach of the engineer, and to have government inspectors placed at different places, whose business shall be to examine every boat as she comes into the dock,—these men to be selected for capacity and fidelity. These men are to see that the boilers are good and in proper condition and that every one of them has a safety plug of lead in the bottom. Our correspondent is an engineer, has built engines, and is acquainted with western steamboat navigation from its very origin. He has seen many deplorable accidents, the majority of which, he says, have been caused by recklessness. He asserts it is quite common for the western engineers to tie down their safety-valves, and that many of them are quite incapable of performing their duties intelligently, owing to their ignorance of engineering. It is really deplorable, when we think how many of our fellow mortals are murdered every year by the explosion of steam boilers. Our aged correspondent lost a nephew by the explosion of the Louisiana, and he feels deeply on the subject: he was one of the first pilots on the western waters, and was in the prime of life. He asserts that the number of explosions has increased, is increasing, and will increase unless something positive and effectual be done quickly to remove the causes of them. He says by the number of steamboats increasing, competition is keener, this leads to the employment of indifferent engineers, for cheapness (dear in the long run), and consequently a greater number of such heartrending calamities. We would like it if Congress would take hold of this matter with honest zeal for the public good; but we scarcely expect this, we therefore say to the people of the West, "adopt measures in every State, for the prevention of such calamities."

Patent Law Case of an American Invention in Britain.

In the Northern Circuit, Liverpool, April 7, 1851; before Baron Platt and a Special Jury.—*Newton vs. Vaucher*—The action was for an infringement by J. Ulric Vaucher of a patent granted on the 15th of May, 1843, to the plaintiff, Mr. Newton, of London, on behalf of Isaac Babbett, of Boston, Mass., for improvements in the construction of boxes for the axles of locomotives and carriages, and for the bearings of shafting in general. Before Mr. Babbett's invention the bearings of locomotive axles and of railway carriages were invariably made of gun metal. The castings were bored and fitted for the journals. Owing to the gun metal being so hard, the journals and bearings oftentimes became red hot, and there was a necessity for cooling with cold water, and at all times the amount of oil for lubricating was very great on this account. The bearings did not wear equally, they required to be changed often, and when once worn they were useless. To remedy these evils Mr. Babbett invented his new bearing, which is so well known among us as "Babbett's Anti-Friction Metal Boxes." It consists of a hard shell of brass or gun metal with a lining of soft metal composed mostly of tin. The hard shell is provided with rims for confining the soft metal and for preventing it spreading under pressure. The inside of the shell is first thinly coated with tin; the shell is then placed on an even surface over a mandril the exact size of the journal, and the space between the turned surface of the shell and the mandril is filled in with the white soft metal through a hole bored in the top of the shell. The bearing is then complete for use and requires no more fitting. For this invention Mr. Babbett took out a patent for England, Scotland, and Ireland through Mr. Newton, the nominal plaintiff. Its advantages were admitted; the combination of the hard shell with the soft metal was just what was required, it prevented all abrasion and required but little lubricating material, and when worn out the shell

merely requires re-lining and it is as good as ever. A bearing of the locomotive "Hercules," belonging to the Great Western Railway, which had run 80,000 miles was exhibited in the court, and showed no signs of wear on its surface. In 1845 the Grand Junction Railway Company tried to pirate this invention, but in a suit brought by Mr. Newton he obtained damages of £1,000 (\$5,000). It is now employed on the most of the English Railroads and on some of the steamships. The defendant tried to trump up an old patent for using soft metal packing in the piston of a pump, for which he obtained a patent in 1838, but the Attorney General, Mr. Knowles, who acted for the plaintiff, destroyed the whole defence in a very short time, by exhibiting the very pump of the defendant with brass bearings only, and the jury decided at once for the plaintiff.

Thunder and Lightning—New Way of Making Gas.

Mr. M. Appleby, in a communication to the East Boston Ledger, says he has discovered a new way of making gas from water, which is thus described:—He uses no helices of copper, brass, or zinc. He fills a proof bottle "with water from the pipe, carburets it in the same bottle, and then by adding (we use his own words) the necessary chemicals, separates the hydrogen from the oxygen. I now attach a tube, made upon the principle of the safety lamp, to the mouth of the bottle. To prevent an explosion, a certain quantity of the gas is allowed to pass over, thus removing what atmospheric air may remain in the bottle. A lighted match now applied to the tube produces a pure, bright and beautiful flame. I have exhibited this light in my shop for the last four months, to the entire satisfaction of a number of intelligent gentlemen who have seen it.

In the course of my experiments with the water gas, an idea struck my mind which seems to me to explain more fully than has ever been done before the phenomena of thunder and lightning. It was not till after several explosions that I succeeded in producing the light. When a number of these had occurred, the idea flashed across my mind, that the explosion of the cloud is caused in the same way through the ignition of the hydrogen it contains by the contact of electricity. Electricity the most powerful chemical agent known, and the only one which will decompose water, separates the hydrogen from the oxygen, and in combination with atmospheric air, explodes the former, and produces that sublime phenomena which we witness every summer in the clouds above us.

I submit to the scientific world whether the above is not a clear explanation of the phenomena.

M. APPLEBY.

[This is not proof positive of the phenomena of thunder, nor can proof positive be furnished against it. There are gases which explode when ignited, as well as the two mentioned, but the absence of the tremendous quick but huge flame, which should accompany such a phenomena, if explainable on the principle above set forth, is never seen. The loudest thunder is always accompanied with the bluest, and, as it were, the sharpest lightning. There are two theories respecting the cause of that noise we denominate thunder. The one is that the sound proceeds from the closing up of the vacuum in the atmosphere formed by the passage of the electricity through it. The other, and the general received opinion is that thunder is the sound of the vibratory action of the electricity when passing between two clouds or between two points.

Artificial Coal.

In the French Academy of Sciences, some interesting experiments have been made in producing mineral coal by an artificial process, which is expected will throw much light on the subject of geology. Wood is put into an iron or glass cylinder, and closed against any escape of air, and applied to a heat of 660°. The result has been, that the wood was melted and reduced to mineral coal. Old wood of dry fibre produced dry coal; but young wood, or that which was put in wet, produced a glutinous coal.