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Ocean Telegraph.

No project of the present day is of more importance than the union of the Old and New Worlds by the lightning railroad. That such an event will be consummated some day not many years hence, we have not the least doubt, and all honor, as their just due, will be awarded to those men who had the courage and the means to plan and accomplish this grand enterprise. We understand that a company, having this object in view, has been organized in this city, and from the high standing, wealth, and experience of some of its members, we expect that the word *fail*, will form no part of their vocabulary. Peter Cooper, Esq., is President, and Professor Morse is Vice President; T. P. Shaffner, of Washington, Secretary of the American Telegraph Association, being one of the most active directors. Dr. Turnbull, of Philadelphia, author of an excellent work on the telegraph, in an article in the last number of the "Journal of the Franklin Institute," discusses the practicability of an Atlantic telegraph, and comes to the conclusion that there are no difficulties in its construction and operation which may not be overcome. The difficulty consists principally of three parts. First, the depth of water in the ocean, and the form of its bottom. Second, the laying down a marine cable of such a great length; and finally, the working of such a long line. The distance between Newfoundland and Ireland, on the projected line, is about 1600 miles, and there has been discovered an ocean plateau, between the two places, the surface of which is very level, and disturbed by no ocean current, consequently, this is very favorable to laying down a marine cable and preserving it from injurious action when it is laid. Two or three steamships could lay down the cable in three or four weeks and a perfectly insulated wire can be worked the whole distance with a "Grove battery" of 480 cups. There does not, therefore, seem to be any very serious difficulty to the accomplishment of this scheme; the greatest we suppose, will be the money, for the cost cannot be less than between two and three millions, but this amount will eventually be obtained. If the bed of the ocean between every point of America and Europe had been formed of sub-marine hills and valleys, with abrupt precipices and deep rolling currents, we would have concluded that it was impracticable to lay down and work a marine cable of such a length; but since it has been discovered that nature has provided such a favorable ocean route for the lightning railway, we now look forward with hope to the speedy accomplishment of this grand project.

The Beard of Man.

Allusion to this physiognomic appendage a few years ago, by any solid periodical in our language, would almost have been considered sacrilege, or only have provoked a smile; but now we find the grave old heavy quarterlies discussing the point of "beard or no beard," with as much gravity and seriousness as the Farmers' Club of the American Institute when debating the claims of the latest improvement in poudrette or superphosphate of lime. Persons who two years ago turned up their noses at those who paraded beards, as being somewhat akin to savages, or nothing better than ignorant foreigners, are now to be seen parading our streets "bearded like pard," and fierce looking as hyenas. Thus it is, fashion is king; he rules in the court, the camp, the promenade, and the busy mart.

The last number of the "Westminster Review," discusses this question in all its length and breadth, and while it favors the beard as an excellent respirator, it leaves the matter in the most hopeless case of indecision, by concluding, that while it is a very fine face appendage for some men, "in a vast number of cases its assumption should be forbid, as certain dresses do not become diminutive women, and must be worn to display their effect by those of noble stature." This is certainly a sublime argument in favor of the beard, by one of your

solid Dons of literature, namely, beards are only for tall men, but forbid to small men. The only argument in favor of wearing the beard with us, is the saving of time spent in shaving, and the infliction from dull razors. We think the majority of men look better without than with beards, and so far as it relates to health—the beard being a respirator—we think there is much moonshine in such an argument. Some men say that nature gave man a beard for some purpose, and it is a violation of her laws to denude the moustache and annihilate the whisker. "Nature's chief motive," says the "Westminster Review," "for investing man with the beard may consist in her love of exhaustless variety." But as females have no beards, and as nature "first tried her prentice hand on man," and then made woman, it may be suggested that the unbearded type is the most perfect, and that the moustache is but a useless and unornamental appendage. Thus arguments might be advanced for and against the beard, consequently every man will just apply the one that suits himself best in this free country.

Baker's Boiler Furnace and the Fire Annihilator.

From a copy of the Boston "Advertiser" sent to us marked, we find the account of two experiments made at the Navy Yard, Charlestown, in the presence of deputations from the municipal governments of Boston, Cambridge, Lowell, Charlestown, and Providence, R. I., with the above named inventions. The account of the experiments is of the most vague and unsatisfactory character. Indeed, we learn from the "Advertiser" that they were made for the purpose of showing that carbonic gas is heavier than air, and especially "hot air." The following letter from the "Advertiser" will show this:

"One feature of the operation of these furnaces is that the carbonic acid gas which is generated in the fire, being heavier than air, and especially heavier than hot air, falls into a portion of the flue provided for it—instead of being confined with the fire, and tending to put it out, as is the case in ordinary furnaces.

The importance of this feature of the invention was made to appear by an exhibition of the Fire Annihilator in the Square, in Charlestown, after the party had returned from the Navy Yard. A pile of tar barrels was ignited, and while brilliantly burning, two Annihilators, not of the largest size, were applied, and the fire was instantly extinguished. The complete success of this experiment will not surprise our readers before whom we have repeatedly laid similar accounts. As a principal element of the stream which issues from the Annihilator, and proves so potent in extinguishing the flames, is carbonic acid gas; the success of the experiment showed the value of that feature of Baker's Furnace, which excludes this gas from the fire under the boiler."

This is a very confused and miserable account of the matter. The product of perfect coal combustion is carbonic acid gas, which never can form part of the flame, nor be retained in a furnace having a good draught for it is equally hot with the hot air mentioned above. In fact, hot air in any furnace, shows that more than the amount requisite to produce perfect combustion has been taken in, and so far is a loss. In equal volumes, air and carbonic acid have the same capacity for heat; in equal weights, the carbonic acid is to air as 0.6557 to 1, according to Haycraft, and therefore more sensitive to heat than air. We cannot conceive how the Annihilator afforded any satisfactory data for the carbonic acid in Baker's Furnace falling down into its hollow arched flues, because the stream generated in the Annihilator consists of carbonic acid, and carbonic oxyd gases, and some sulphur nitrous oxyd, and besides these, a great quantity of steam. How in the name of science the "Advertiser" came to lug in such a comparison as proof for any kind of useful action claimed for Baker's Furnaces, is more than we can imagine. Such wrong and incongruous comparisons do no good, but evil, as it may lead those capable of judging of such matters, to look upon the affair with suspicion.

Stame and Steam.

MESSRS. EDITORS—In your article on "improvements in the use of steam," in the last number of the "Scientific American," you have been led by previous articles on the same subject, in the daily papers, into some unintentional errors respecting our invention for increasing the power of steam.

It may be inferred from your remarks that we are using "stame" as a motive power, and ordinary steam merely as a lubricator. What we have patented is the combination of saturated steam and super-heated steam as a motive power, &c. The result of our experiments proves conclusively "combined steam" to be greatly superior to either steam or stame, the latter has always failed for the reasons given by you, "the licking up of oil, and injury of packing." The combination acts not only as a lubricator, but adds enormously to the power, by the great expansibility imparted to the ordinary steam, by the conversion of the watery particles which go over from the boiler mechanically mixed with it into steam, besides rarefying the steam itself by means of the additional heat imparted to it by the super-heated steam.

Steam as generally used contains a larger portion of water than is supposed. A commission, appointed by the French Government, have lately made an exceedingly interesting report on this subject, which fully agrees with the results of our experiments, for we have ascertained that only about one half the quantity of water required for ordinary steam is necessary, while using the combined steam, for the performance of the same amount of work.

WETHERED BROS.

Baltimore, Md.

[In the article referred to—page 365—we distinctly stated that Messrs. Wethered had obtained a patent for stame and steam combined "for actuating engines." No one we think, could infer that the saturated steam was used as a lubricator by the patentee, but it may be inferred from our remarks that this was the important office it performed, as we believe it is. It is indeed true that when the super-heated steam and the common steam are united, that the latter is greatly expanded, for the reasons stated by our correspondent; but does it become more expanded than if it were all converted into stame? We trow not. Mr. Isherwood, in his article on the subject in the "Franklin Journal," did not give an opinion on this point; he left that to his readers, as if it were inexplicable to him. We will adhere to our theory until a better one is presented.

So far as it relates to common steam containing a large portion of water, in minute globules, we were well aware of this fact—every engineer is—as was the great improver of the steam engine—James Watt—forty years before the French Commission was appointed, and it is not a little remarkable that he has left on record the admission, that his very best engines used double the amount of steam required by calculation, thus corroborating the recent experiments of Messrs. Wethered.

Our own opinion respecting stame is simply that it is common steam deprived of its watery particles—anhydrous steam. We believe that some moisture in steam enables it to move the piston of a steam engine more sweetly—a partial lubricator—than if it were perfectly dry, and this is the only good feature which appears to us, is embraced in using stame and steam combined.

The Cholera—its Causes and Treatment.

We have received a letter from Henry Kenyon, of Roxbury, Mass., in which he states that the total suspension of the action of the liver is the cause of Cholera. To allay vomiting he recommends, first, drinking a weak solution of the super-carbonate of soda, then a weak solution of tartaric acid—the quantities of the several papers composing common seidleitz powders—so as to generate the carbonic acid gas in the stomach. He says he has found this method allay the most severe vomitings, with one or two doses. After this he gives for an adult ten grains of calomel and $\frac{1}{2}$ a grain of opium made into a pill. The pill being retained, administer two table spoonful—every two

hours—of the following mixture:—Chalk mixture 5 ounces, tincture of catechu $\frac{1}{2}$ ounce, tincture of opium thirty drops, carbonate of soda one scruple, each alternate hour administering a pill, composed of calomel six grains, opium one grain—formed into six pills—allowing the patient to drink as much cold spring water as choice may dictate.

In Hall's "Journal of Health," issued after we received the letter from Mr. Kenyon, we find a striking similarity of views expressed in the causes and treatment of the Cholera. The causes of the disease is held to be the same by both, but the treatment is a little different.—He says:

"Cholera being a disease in which the bowels move too much, the object should be to lessen that motion, and as every step a man takes increases intestinal motion, the very first thing to be done in case of cholera is to secure quietude.

Perfect quietude, then, on the back, is the first, the imperative, the essential step towards the cure of any severe case of cholera. To this, art may also lend her aid towards making that quietude more perfect, by binding a cloth around the belly pretty firmly. This bandage should be about a foot broad, and long enough to double over the body; pieces of tape should be sewn to one end of the flannel, and a corresponding number to another part, being a safer and more effectual fastening than pins.—When the Asiatic scourge first broke out among the German soldiery, immense numbers perished; but an imperative order was issued, in the hottest weather, that each soldier wear a stout woollen flannel abdominal compress, and immediately the fatality diminished more than fifty per cent. If the reader will try it, even in cases of common looseness of the bowels, he will generally find the most grateful and instantaneous relief.

The first step, then, to be taken where cholera prevails and its symptoms are present, is:

- 1st. To lie down on a bed.
- 2d. Bind the abdomen tightly with woollen flannel.
- 3d. Swallow pellets of ice to the fullest extent practicable.
- 4th. Send for an established, resident, regular physician. Touch not an atom of the thousand things proposed by brains as 'simple' as the remedies are represented to be, but wait quietly and patiently until the arrival of your medical attendant."

If a physician cannot readily be obtained, he says, "obtain ten grains of calomel and make it into a pill with a few drops of water, dry it a little at the fire, and swallow it down, and if the passages do not cease in two hours, swallow two more such pills." The calomel pill sinks to the bottom of the stomach, like a bullet, and cannot be vomited. He also asserts, that eating fruits, or a heavy supper before going to bed, is a frequent cause of cholera.—His article on the subject contains a great amount of sound, and as we consider, perfectly reliable information on the subject, and this he has derived from a very extensive experience. The cholera has been somewhat prevalent in this city, during the past few weeks, but the mortality has not been one-third as great as in 1849.

Sawing Machinery.

Just as much importance is attached to improvements in the feeding operations of saw mills, as in the sawing or cutting devices and any arrangement, for a perfect machine, is not so in part, but as a whole. To render the feeding arrangements of saw mills more perfect, Loren J. Wicks, of this city, has made the feed clamps and guide rollers self-adjustable, by means of racks and pinions, and for this improvement he has taken measures to secure a patent.

Solid Headed Pins.

E. Lowe, a practical pin maker, now residing at Providence, R. I., informs us by letter, that pins with solid heads were made in England 50 years ago, by D. F. Taylor, and that his brother in Birmingham, England, now manufactures solid headed pins, having seven machines in operation, each turning out 200 per minute.