

Miscellaneous.

Foreign Correspondence.

GLASGOW, Jan. 30, 1851.

THE ATLANTIC—SCREW STEAMERS—FLAX AND COTTON, &c.—We have little news connected with your department that is not confined to and connected with the Great Exhibition, which you will find in the ordinary newspapers. My opinion is, that the London people exaggerate the probable influx of strangers. One calculation says, that there will be two millions of visitors from foreign countries and five millions from the provinces. Divide the first number by four and the latter by two, and I think the reality will be realized.

As much anxiety has been felt in New York, and your side generally, regarding the Atlantic, I may state that the accident was very serious in the circumstances, but the ship seems to have sailed well to eastward in a very heavy sea. As a kind of rivalry exists regarding these steamers, I may mention that some people here always represented your machinery as not strong enough for the work. That was the point at which they stickled; I take notice of it without any personal knowledge of your steamers, never having seen them. On the other hand, the screw principle seems getting into favor, and orders for new steamers, with screw propellers, fitted for sailing purposes are abundant. These new lines from this country are Plymouth to the Cape of Good Hope, with the intention of extending them to Australia, Madras, probably Bombay and Calcutta; the line to Rio de Janeiro; that from Singapore to Sydney, falling into the Overland Mail route from the East. The line through the gut of Gibraltar to the Mediterranean ports, giving a splendid summer tour by Genoa, Malá, Naples, Palermo, Constantinople, Smyrna, and home, for the cost of good living on shore. Two other lines, viz., to Charleston and New Orleans.

The greatest works out of the country, talked over here, are the adaptation of railways to the improvement of the British North American Provinces and Hindostan, and the reopening of the old great canal of Egypt from the Mediterranean to the Red Sea. That last work would be a splendid enterprise for us. I think it will be done ere many years pass over.

As you are interested in the patented improvements in spinning and weaving flax with cotton and flax with wool, I assure you they are quite successful in proportions of one-third flax. Two-thirds flax are being tried, but I don't know the results of that.

New gas works for an Irish town are to be built on the gas from water principle. They expect the gas at one shilling per thousand cubic feet; I pay five shillings, in Glasgow, for a large burner. I am told not to despair of an opportunity, in 1851 or 1852, of erecting a small machine and producing gas on the premises, from water, for one shilling or less per thousand feet. *

(For the Scientific American.)

Hydrogen---Benzole.

Noticing that the press continues to publish statements corroborating Paine's declaration that hydrogen can be catalyzed by passing it through turpentine, and noticing that a large proportion of the community give full credence to his alleged discovery, while another portion are utterly incredulous, and many others know not what to think, I feel desirous of aiding in the settlement of the question, by calling attention to a few facts.

And, first, in regard to the catalysis of hydrogen; any one of ordinary ingenuity can satisfy himself with but little trouble and expense, that it is all a mistake.

Your scientific correspondents, Mathiot and Foster, must have been unpardonably careless in conducting their experiments, or they would have noticed that the whole illuminating power of hydrogen, treated as above, depended on the presence and combustion of turpentine vapor. All that is necessary to convince any one of this, is to note the odor of the gas as it issues from the burning tube before ignition. In every case, where there is increased luminosity, there is present the unmistakable odor

of turpentine. And although Mr. Mathiot alleges that the result is the same, whether you cool down the turpentine by a freezing mixture, or heat it with a lamp, it is not the same. To produce anything like brilliant illumination, it must be quite hot. If it be at all cool the flame will differ but slightly from that of pure hydrogen. By substituting a liquid of a more volatile nature, as phosgene, the result is, with the same degree of heat, a much more brilliant light. These facts I have fully tested by experiment. The trial is easy—let doubters satisfy themselves. The turpentine, moreover, does lose weight in the operation. Nothing but carelessness or want of accuracy would lead to a different conclusion.

A Mr. Mansfield, constructed, last year, an arrangement for simply forcing atmospheric air through an exceedingly volatile hydro-carbon, known by the name of Benzole. He succeeded in producing, by this means, a brilliant gas light, due, of course, to the vapor of benzole. Doubtless, if hydrogen were used instead of air, the light would be still more intense. Perhaps Mr. Paine shily uses some such liquid instead of turpentine, or in connection with it. Or, possibly, those mysterious hollow wires could unfold the mystery, by leading to the hiding place of veritable carburetted hydrogen.

J. T.

Railway Car Wheels.

Messrs. Editors—I believe that the speed of a train of cars is more or less arrested in passing over curves of different degrees of abruptness, and this is no doubt owing to the axles of the passenger or freight cars, and those of the bearing-wheels of the locomotive being immovably fixed in their respective wheels. In turning a bend, the outer wheels of a train have the greater space to go over, and the inner ones the lesser; but at present the inner wheels are compelled to revolve as often as the outer ones; and thus the inner wheels, in the course of rounding a turn, are dragged over the rails the difference of space. It follows, then, in addition to the loss of speed under these circumstances, that railway axles are much strained, and probably somewhat twisted, daily; and thus passenger-cars may be continually liable to break down—as lately happened to a running car on the Western Railroad.

Would it not be an improvement to have at least one wheel on each axle revolvable on the axle? The inner wheels would then, on curved parts of the road, have liberty to partially "mark time," while the outer ones were making the longer detour.

I have not learned whether it is considered dangerous to have railway axles attached to the cars in the same stationary manner as the hind axle of a common wagon, with independent wheels. W. B.

Old Cambridge, Mass., Feb. 14, 1851.

[We do not see how a separate axle for each wheel could mend the matter—we believe that it would increase the tendency to run off the track. A separate axle for each wheel was patented by Robt. Stephenson, in 1825, but never came into use after locomotives commenced running. Wheels revolving on their axles would not answer at all.—[Ed.]

Write Plain.

Correspondents should write in a plain clear hand, so that every letter may be known by headmark. No blurred letter should ever be sent to an editor. When the author is not present to read the proof, the copy is the only guide, and a single misshapen letter often spoils the correctness of a good article. It is not likely that any one can know so well, what is correct as the author, he therefore should be careful. We dread making blunders, and like to have everything correct.

The worst piece of handwriting that we have ever seen, is an official copy of a patent now before us from the Patent Office. It should not have been allowed to go beyond the precincts of its walls—we would not have paid for it for our use. A young man from this city sought the office of a copyist in the Patent Office this winter—one of the plainest and best penmen in the world—he was received in a very unbecoming manner. Incompetency is sometimes a passport to office, but we hold it

to be the fundamental democratic principle to employ the best and ablest men in public offices.

To our correspondents, we say, "write plain," take time. It is not beautiful writing, but plain we want.

Prussic Acid, Hydrocyanic Acid.

This occurs in the kernels of most stone fruits, the peach, plum, and almond, and also in the leaves of the laurel and some other trees. It is known at once by that peculiar taste and smell which the kernels of these stone fruits have when bruised. The quantity which exists in these substances however, is not sufficient to render them poisonous, unless we eat or drink more than we would choose to do. The acid in its pure state is extremely volatile, so that there is almost equal danger in smelling a phial of the acid, as in taking a small quantity of the contents. Its action upon the system is immediately to paralyze the nerves, and thereby to occasion death as rapidly; no pain however attends its exhibition, as it does not kill by corroding the coats of the stomach, as is the case with the acrid poisons. Its volatility however is so great, that if it do not occasion death within a few minutes, it does not act at all, but is entirely evaporated. Its antidote is ammonia, though sudden and violent effusion of cold water over the head and back is considered preferable. Cyanogen and hydrogen have no direct mutual action, but by the action of certain acids on the metallic cyanurets, hydrocyanic acid is formed by double decomposition.

Cannelton Cotton Mill.

At Cannelton, Indiana, on the Ohio river, there has recently been erected a large cotton factory, built of hewn sandstone, taken from a quarry a few yards distant from the site of the mill. The building is 200 feet long, 60 feet wide, and five stories high. It has two beautiful towers in front, 100 feet high, and it has a stone chimney 100 feet high. The machinery consists of 10,000 spindles, with preparatory carding and cleaning machinery, and there are 400 looms. The building, we believe, was erected under the superintendance of C. T. T. James, Esq., now elected Senator from Rhode Island. The operatives have been selected from the best factory hands in the Eastern States. No difficulty has been experienced in getting plenty of them. It is believed that goods can be manufactured far cheaper in the West and South than in the Eastern States. The eastern manufacturers must depend upon improved machinery to keep their own. Two other factories are projected at Cannelton.

Errata---Steam Engine.

In No. 14, this Vol. Sci. Am., there are engravings and a description of "Milner's Patent Cut-Off." An error was committed in the description. It is this: F is a rock shaft with "a crank at both ends." Now, were it so constructed, the cut-off and exhaust motion would be firmly united by the two small cranks and connecting link, L, and a breakage must necessarily ensue. Now F and F' are rock shafts. They look like one shaft, only as they both work in one bearing in the centre of the cylinder, but F' is worked by rock shaft D and exhausts, and F is worked on the other side by rod V, to operate steam valves. Readers will please bear this in mind.

A remarkable fine piece of glassware has been manufactured at Paris, for the great exhibition. It is a very large decanter, blown from very pure and clear material, and sufficiently capacious to allow three persons of a moderate size to sit inside, round a table three feet four inches in diameter, the height of the decanter from the bottom of the level of the mouth is ten feet, and the circumference at the widest part 30 feet. The stopper weighs thirty-two pounds, and the whole decanter 1,358.

Mustard.

Prior to the year 1720, there was no such luxury as mustard in its present form at our tables. At that time the seed was coarsely pounded in a mortar, as coarsely separated from the integument, and in that rough state prepared for use.

The Atlantic is Safe.

The Africa arrived on Saturday evening, and brought news that the Atlantic was safe. We feared otherwise, and cannot express our gladness for the safety of her passengers and officers and crew. The news flew through the city quick as the electric spark, and there was a universal burst of rejoicing. The Atlantic broke her shaft, when she was half way on her voyage and only 800 miles from Halifax. She put back to Britain and arrived at Cork, Ireland, on the 22nd of January. She was only out 24 days altogether.

Messrs. Editors—The article on Ocean Steamers and their Boilers, in your last paper is well timed, particularly that part relating to the prevailing custom of indulging in censorious strictures on the qualities of steamers of home construction, by those whose ignorance finds a parallel only in their pretensions. For the benefit of all such, perhaps your benevolence will prompt you to give publicity to the letter found on page 93 of my Treatise on Marine and Naval Architecture, from an eminent ship builder of this city, it would be well for the commercial world if it were embossed in letters of fire on a horn of the moon, that the world might know the reason why American steamers average 12 days in crossing the Atlantic instead of ten. It is not my purpose to enter upon a disquisition of American steamers (particularly at this time) having already given a synopsis of the subject in the 10th chapter of the work referred to. Yours truly,

JOHN W. GRIFFITHS.

[We will publish the letter referred to by Mr. W. Griffiths, next week, and also present from time to time with his consent, extracts from his splendid work.—[Ed.]

The Volcano at Salt Lake.

"This volcano is a plain of mud, and on the borders of the lake. It is composed of mud, covers several acres, steam and water escaping from half-a-dozen apertures. The mud is raised up into cones, the highest not five feet from the general surface. They are terminated by tubes, some hardened and lined with crystals of sulphur and other substances. One of the cones throws steam and water ten or fifteen feet into the air. It escapes rapidly, and with a sound resembling the escape of steam from the pipe of a small steam engine; and it ejects hot and cold water at intervals. One cauldron, some four feet across, boils up until it overflows, then sinks several feet, and again overflows. Nothing is seen but a mass of foam; the water is strongly impregnated with sal-ammonia.

Silvered Glassware.

The Boston Transcript states that Messrs. Sumner, of that city, have recently received from London a new style of silvered glassware, which promises to take precedence of the Bohemian and other fancy glasses. The silvering is indestructible, being coated over with glass, and is of a vivid brilliancy, that can never be tarnished or impaired. Dishes, vases, and pitchers of this ware make a more brilliant display than the same articles of pure silver, however highly polished.

Height of Men.

Professor Forbes states the Irish to be taller on the average than either the English or the Scotch. Having measured a thousand of each nation—English, Irish and Scotch,—he gives the following as an average height of each:—English, 68½ inches; Scotch, 64½; Irish, 70; and the age of each twenty-one years.

[We have seen the above in no less than ten different papers. It shows how people grab without examining. The Scotch are 6 inches shorter than the Irish by the above—all nonsense, and Prof. Forbes, never made any such statement, and we can prove it.

Georgia.

The Athens Mechanic contains the call for a mass meeting of mechanics, to be held at that place, July 4, for the perfection of an organization throughout the state.

The State Library of New York contains over 25,000 volumes, nearly half of which are law books of great value. The collection is valued at \$10,000.