

## MISCELLANEOUS.

(For the Scientific American.)

## Steam Carriages for Plank Roads.

Two articles have appeared in your journal on Steam Carriages on Common and Plank Roads, the first of which has been consigned to the care of Mr. Fisher; the second, apparently, is from a "Nameless" correspondent at Williamsburgh, to whose generalities, on what he has been "informed," it is not intended to reply in detail. But he may be told that the main reason why Gurney's and other steam carriages were laid aside in England, were, first, that during the period of their trials, the trustees of the turnpike roads, forgetting that horses' feet wore the roads more than wheels, charged such exorbitant tolls on steam carriages as to make their use a losing concern. For proof of this your "Nameless" friend is referred to the Report of a Select Committee of the House of Commons, 1831. Secondly, he may be informed, on the same authority, in No. 7 of their conclusions, "that they will become a speedier and cheaper conveyance than carriages drawn by horses;" and, thirdly, he may be informed, by reference to the Parliamentary Reports, from 1825 to 1833, that the agricultural interest at large, from the owner of the land to the laborer who worked under the farmer, opposed the introduction of both railroads and steam carriages on common roads; believing, in anticipation, that their monopoly of growing horse-feed would be ruined; and during this opposition the patents of Gurney and others ran out, railroads were extensively developed, and it was believed more profitable to invest money in them and in building locomotive and other machinery for them, than to run steam carriages on common roads, without the protection of a patent, under which profit could be made, because competition could be excluded; and yet, on the terms noted above, they could be worked speedier and cheaper than carriages drawn by horses.

There are no such ideas entertained as those assumed by "Nameless": it is not intended to "plow through mud," nor is the "plan" a "scintillation of days gone by;" and it is believed experience will demonstrate the fact that plank roads are not entirely for our farmers. Take the Erie Railroad alone, and there are many points whence plank roads, branching north and south, will both enable the farmer to place his produce on the railroad, on its way to New York, and a competent steam carriage to bring the travelling community to the same point of the railroad, until the wants of the farmers and travellers demand a branch railroad, of which the plank road and steam carriage will be the certain precursors.

"Nameless" does not state that he has examined the proposed plans, and yet he condescends to condemn them wholesale, by the assertion that "no one will pretend to say that the improvements are worth fifty per cent." Is not "Nameless" very near the condition of those who, twenty-five years ago, wrote and published ponderous tomes to prove, by theory, that the traction on iron rails would not enable the locomotive to move a load? Or, like another, who prognosticated that ocean steam navigation could not be practical? The man who, during this century, attempts to assert that any reasonable mechanical object cannot be attained, stands a chance to be contradicted by results.

It may now be due to the public, and to myself, to say, once for all, what induced my consent to be associated with the undertaking which "Nameless" condemns in generalities.

Some months since, Mr. Fisher called on me, and showed me his model and drawings; my general knowledge of what had previously been done, led me to believe that the arrangement of the boiler would admit the use of anthracite coal, which I knew to be better than the coke used by Gurney and others, as it does much more work in proportion to cost and weight; and I considered the simplicity of Mr. Fisher's mechanical arrangements to compare advantageously with any others I had seen. I was then, and not before, informed and shown, that my opinions were supported in detail by such men as H. R. Dunham, C. W. Copeland, James Bogardus, and Mr. James Stone (who was Gurney's machi-

nist)—all sound practical mechanics,—and by Professor Renwick and Henry Meigs, both of whom, if not practical mechanics, are well informed on mechanical matters; and shortly afterwards I consented to act with four gentlemen, who stand favorably before the public, in the organization of a company, by which sufficient funds should be raised, to assist Mr. Fisher in proving the invention, by building one carriage and setting it to work; then report the results to the body of the subscribers, and abide by their decision as to future proceedings, which decision will, of course, be based on the facts practically presented to their judgment; and so far as my influence goes, these proceedings shall be faithfully carried out, by the proper expenditure of a first small installment of five per cent., so that the shareholders shall act understandingly on any further expenditures of their money.

Having stated so much over my name, I now take leave of "Nameless," intending, for the future, not to notice animadversions of any character whatever, that come from behind a screen, as I do not admit the right of any person to an answer who publicly attacks the pending proceedings of others, and stigmatizes them as a "speculation," neither "plausible" nor "payable," who deals in generalities; and who does not state one fact to show that he is acquainted with the subject matter, or the intentions of those he attacks; and who, finally, has not the manliness to sign his name to his lucubrations. Yours respectfully,

W. M. SERRELL.

289 Broadway, N. Y., Jan. 14, 1852.

[Mr. Bennett, of Sandy Hill, also writes an answer to the correspondent of Williamsburgh. It is to confute his assertions about Gurney's experiments having failed to compete with horses. He says the cause of failure was an act of Parliament, passed in 1831, charging double toll for the steam in comparison with horse coaches, since which time, he says, nothing further has been attempted in England on the subject. He also refers to the opinions expressed in the report of a Parliamentary Committee. He believes that much money has been expended on things long since exploded, and all who can should give advice, but such advisers, he says, "should be careful that they understand the cause of past failures." He says, "I do not believe that steam carriages on common roads can ever compete with our railways, but I do honestly believe they can compete with horses even here in the United States."

It is evident that Mr. Bennett is not acquainted with what has been done since 1831. Those who place confidence in the Report of the Parliamentary Committee spoken of, do not judge said Report as we do. Since it was made, steam carriages have been tried in Britain, even so late as 1849. We have no wish to extend the discussion, our opinion has been expressed on the subject already. We will be glad if it prove to be incorrect. It is for those who have expressed other views to prove themselves in the right. This surely will not be hard to do, for the amount required cannot be very great.

## Cure for Deafness.

Mr. S. W. Jewett, writing to the Boston Cultivator, says:—

At about three years of age, a daughter of the Hon. Daniel Baldwin, of Montpelier, became very deaf in both ears. In conversation it was quite difficult to make her hear, and she continued in this wretched state until about eighteen years of age, when an Indian doctor chanced to see her, who told the mother, Mrs. B., that the oil of onion and tobacco would cure her if prepared as follows:—Divide an onion, and from the centre take out a piece the size of a common walnut; fill this cavity with a fresh quid of tobacco, and bind the onion together in its usual shape; roast it, then trim off the outer part until you come to that portion slightly colored or penetrated by the tobacco; mash up the balance of the tobacco; put it into a phial. Three drops of this oil, Mrs. B. informed me, she dropped into the ear after her daughter had retired to bed, which immediately gave her considerable pain which lasted for some time. Before morning however, her hearing was so extremely delicate and sensitive, that she suffered by the sound and noise in common conversation! This she

soon overcame, and for more than three years past her hearing has been entirely restored, to the great joy of her parents and friends!—Having been acquainted with the family for many years, the case is so miraculous and gratifying, that I cannot, in justice to the afflicted, refrain from making this simple and effectual remedy for deafness known.

## Circular Saws.

It was our intention not to present anything more on this subject, but we publish the following letter for the last, and present it because it treats upon points not mentioned in any of the former articles on this subject. The information here presented is very useful and important:

(For the Scientific American.)

SANDUSKY CITY, Ohio.

Having seen several articles recently, in the Scientific American, in relation to Circular Saws, I propose more particularly to answer the inquiry of your first correspondent, viz., how to prevent circular saws from heating.

What I am about to say is the result of some ten years' experience in building and using not only circular saws, but various kinds of machines for working in wood. I think all mechanics of experience will agree with me when I say that practical experience, so far as the minutiae of the matter is concerned, is, alone, far better than theory alone,—but the two combined, and well understood, are of course the best; but give me practical knowledge when real utility is the end to be attained, in preference to the best theory in the world.

The first thing necessary, in constructing a good working circular saw, is to have the arbor to which the saw is attached fitted up with the utmost care; it should be made of cast-steel, and great care taken to have the journals in line and perfectly round; the journals should be in length from 3 to 5 inches, according to circumstances, and as small in diameter as may be, keeping in view sufficient strength; this will hold good in all machinery for great speed. Iron is not fit for saw arbors, nor for shafts for any kind of light machinery having great speed, for the reason that it is almost invariably uneven; that is, it will be hard on one side and soft on the opposite side, the consequence of which is that it is next to impossible to produce a round uniform journal, and if a good journal should be obtained, it is soon worn untrue in consequence of the unevenness of the texture of the material of which it is made. The use of cast-steel obviates this difficulty. In selecting saws, I take the utmost pains to choose such as are straight and not winding, for the collars on the arbor will not straighten a winding saw; if a saw is not true, it presents an inclination from a direct line, upon which the resistance of the atmosphere will have the same effect as that produced by the action of water upon the blades of a screw propeller, the result will be a vibration or shirring of the saw, which causes that ringing sound so often heard when saws are running. In setting a saw, care should be taken to set it so that the surfaces of the saw will not come in contact with the timber through which it is passing.

My plan for setting a saw is to set one tooth at the desired angle, by the eye, then I take a thin piece of hard wood, and tack it on to the saw table, so that it will touch the tooth that I have set, I then set all the teeth on that side of the saw to the stick, and proceed in the same manner with the other side. If the surfaces of the saw come in contact with the wood while passing through it, a hot saw will surely be the result of the friction produced, and I doubt whether your correspondent's jets of cold water could keep it cool. My manner of filing a splitting saw is to file the teeth as hooked as I can without impairing their strength. I bestow all the care of filing upon the forward or cutting side of the tooth, which I file a little angling, so as to have the outer corner of the tooth a little the longest; or, to make it more plain, I find no difficulty in making a saw run straight through hard, cross-grained, wet, or dry timber.

The shop in which I am engaged (which, by-the-way, is not a small affair) has one of Crosby's panel mills in operation, which I file in the same way as described above. I have seen the same kind of mills at work in

the State of New York, but I have never seen one which did its work equal to this one.

I have never been troubled with hot saws since I have followed the manner of filing and setting which I have described above. The journal blocks or boxes, I find, work best when made of a composition of tin and zinc, about equal parts of each. Each has an oil cup of considerable capacity, on top, which I fill with cotton, upon which I pour the oil. This cotton answers a two-fold purpose—it keeps out all gritty substances, and at the same time is a constant lubricator. We use lard oil in this part of the country, which I think far preferable to the best sperm, as there is less of the waxy glutinous substance contained in it, which causes so much trouble in keeping machinery clean when oiled with fish oil. As I remarked at the commencement of this article, the foregoing is the result of years of experience, and if it will be of any use to mechanics they are welcome to it. To many mechanics there is nothing in this article that is new, but to some it may be of use, which is the only apology that I offer for intruding upon your notice. O.

## Hydrogen Gas.

The gas used in lighting cities is hydrogen driven out of coal by heat. It is the lightest of all known substances, and forms the principal ingredient of water.—[True Flag.]

The above is far from correct. The gas used for such purposes is composed of equal parts (by weight) of hydrogen and carbon, and is as distinct from pure hydrogen in its properties as common air and nitric acid (aquafortis), which are the same ingredients combined in different quantities. It is commonly called olefant gas, and has been called hyduret of carbon, bicarbureted or percarbureted hydrogen; bit 2-2 carburet of hydrogen is the proper name for it, according to strict chemical nomenclature. Hydrogen, to be sure, is lightest of all known substances, but olefant gas is but two-hundredths lighter than common air, and compares with hydrogen in the proportion of 980 to 68. Though hydrogen forms two-thirds of water, by measure, it is but one-ninth of it, by weight.—[Pawtucket Advertiser.]

[Right, friends of the Advertiser. If hydrogen alone was the gas driven out of coal, gas would be rather expensive, and a bat-wing burner worse than a rush light.]

The proprietors of the Philadelphia Ledger have contracted with Messrs. R. Hoe & Co. of this city, for the construction of two mammoth eight cylinder printing presses, similar to the one which has been in use in the New York Sun establishment for about two years past. The cost of these presses will be forty thousand dollars. A seemingly large sum for a penny paper to pay for presses. The Philadelphia Ledger has a very large circulation, and is deservedly popular.

The Dollar Weekly newspaper, by the same publishers, is one of the cheapest and best conducted family newspapers now published.

We suppose the Ledger and New York Sun have the largest circulation of any daily papers in the world.

## Star Fish.

Prof. Holmes, of Charleston (S. C.) College, has lately discovered some very interesting specimens of star fishes on the coast of South Carolina.

Professor Agassiz, to whom they have been submitted for examination, and who has studied this group of animals with his usual skill, believes them to be the first and only species that has been found upon the Atlantic coast of the United States.

## Cold Weather.

From all quarters, the news which appears most striking, is the coldness of the winter season. In New Orleans it has been colder than any winter for twenty years, and there have fallen six inches of snow. In many places in New York State, the thermometer has been at 28° below zero—the mercury was frozen.

## Sleeping Fever.

An epidemic disease bearing this singular appellation, has broken out with terrible fatality in Galicia.