

The Colonial Herald,

AND

PRINCE EDWARD ISLAND ADVERTISER.

[Vol. VII.]

CHARLOTTETOWN, SATURDAY, MARCH 30, 1844.

[No. 352.]

THE ATMOSPHERIC RAILWAY.

To describe the new Atmospheric Railway, in all its detail, would occupy more space than we can devote to the subject, nor would such a description suit the general reader: the following particulars must therefore suffice.

Along the entire line, and between the rails, runs a pipe, which, on the Kingstown and Dalkey line, is fifteen inches in diameter. Along the entire length of this pipe is a slit or opening, through which a bar passes, connecting a piston (which moves freely in the pipe,) with the carriage outside. The opening at the top of the pipe is covered with a leathern strap extending the whole length of the pipe, and two inches broader than the opening. Under and over this leathern strap are riveted iron plates, the top ones two inches and a half broader than the opening, the bottom ones narrower than the opening in the pipe, but the same length as those at the top. One edge of the leather is screwed firmly down, like a common bucket valve, and forms a hinge on which it moves. The other edge of the valve falls into a groove; this groove or trough is filled with a composition of bees-wax and tallow, well worked by hand, so as to make it pliable and tough, before spreading it in the groove; this composition being pressed tight against the edge of the leathern valve which rests in the groove, make the valves air tight, or at least sufficiently so for all practical purposes. As the piston is moved along the pipe by the pressure of the atmosphere, that side of the valve resting on the groove is lifted up by an iron roller fixed on the same bar to which the piston is attached; thus clearing an opening for the bar to pass as it moves along.

The opening thus made allows the air to pass freely behind the piston; the disturbance which takes place in the composition by the lifting of the valves, is again smoothed down and rendered air-tight as at first, by a hot iron running on the top of the composition after the valve is shut down. This has actually been done when the piston was travelling at the rate of seventy miles per hour, and was smoothed down air-tight after it by the iron above mentioned. It is contemplated to place a stationary engine along the line, about three miles apart; at each engine or station there is an equilibrium valve fixed in the pipe, so that each three miles or section of pipe can be either exhausted or filled with air independently of the other sections. The equilibrium valve is made to move freely out of the way of the piston by the carriage while passing it; so that the train passes from one section of pipe to another, without any stoppage. It is evident, that as the tractive force is derived from the pressure of the atmosphere on the piston, the amount of the force of pressure will depend upon two cases, i. e., the extent of exhaustion on one side of the piston itself. On the Kingstown and Dalkey line, the diameter of the piston is fifteen inches: the usual working exhaustion is from eighteen to twenty inches, which will propel six carriages filled with passengers (amounting to about thirty-five tons), up an inclined plane, averaging 1 in 12, at the rate of forty-five miles per hour.

Having now given such a description of the Atmospheric Railway as will, we hope, render its operation intelligible to those at all conversant with mechanics, we will proceed to point out its principal advantages over other modes of locomotion.

First. Economy in construction. A single line is sufficient for all purposes, which will convey more trains at a given time than any existing railway with two lines: this immense advantage arises from its velocity, averaging forty-five miles per hour.

Secondly. Economy in working, being propelled by stationary engines, taking about one-fourth of the fuel of a locomotive to do the same work, and saving the transit of the heavy engine and tender, amounting to twenty tons upon the average; and the carriages for the passengers not being subject to jolts and concussions, their weight may with perfect safety be reduced to one half of the present weight; this again reduces the wear and tear of the line, much smaller timber being required for the railway bars to rest on; and the bars themselves only about one-third the weight required for a locomotive engine to travel on.

Thirdly. Safety. By the principle of working by the pressure of the atmosphere, one train cannot by any possibility overtake the one preceding it, however soon it starts after it; for should it get into the same section of pipe as the preceding train, the power which propels the last will cease, until the train which is in advance leaves the same section of pipe; and, from the same cause, trains travelling in an opposite direction cannot come in collision, for directly they enter the same section of pipe, the power which propelled them both ceases, and the trains stand still.

The power which gives the impetus to the train is one undeviating pull, perfectly free from jerks of any kind; and when the rails are properly laid, the sensation of locomotion (except for apparently moving objects outside, and a trifling noise) nearly ceases; so that an invalid, or wearied traveller, may recline on a couch in the carriage with as little fatigue as if lying on his sofa at home, though travelling at the rate of forty-five miles per hour.

Such are the leading features of this delightful mode of travelling; to what it will lead it is impossible to surmise. The velocity for practical purposes is unlimited, and as the first carriage is secured to the rail by its connection with the pipe, it cannot get off the line; moreover, when we take into consideration the curves and bends of the Kingstown and Dalkey line, some of which are 500 feet radius, and that a carriage has actually passed along this line at the rate of eighty miles per hour, what velocity may not be attained when the rail is a tolerable straight line, and the public has become familiar to the idea? Travellers were nervous when they first ventured on a railway where the speed was at the rate of twenty miles per hour, yet now that is considered tediously slow.

There is one remarkable fact which we wish to impress upon the public before concluding, which is, that the expenses of working by locomotive increases as the square of velocity. By the atmospheric traction, the ex-

pense decreases as the velocity increases; therefore to the first mode there is soon a termination; the second is only limited by the speed at which men dare travel.

To the great exertions of Mr. James Pim, jr., of Dublin, the world is indebted for bringing the atmospheric system forward; without his aid years might have elapsed before the public would have been aware of the advantages to be derived from this invention; as, however, it is now before the public, it remains for them to decide how much time shall intervene before the interests involved in the existing railways give place to this new and improved system.

Since the above was in type, we learn that the experiments on the Kingstown and Dalkey line, conducted by General Pasley, R. E., I. Brunel, Esq., and M. Mallet, were most satisfactory. On one occasion a gross load of sixty-seven tons was propelled up the incline of 1 in 12, at the rate of twenty five miles per hour. After the transit of the carriages, the mercury gauge at each end of the pipe was twenty-four and a half inches. Afterwards, a load of thirty-five tons was propelled at a rate of fifty miles per hour.

HYDRO-ELECTRIC MACHINE.—We believe there is now exhibiting in London a new electric apparatus, called Armstrong's Hydro-Electric Machine, the power of which far exceeds anything ever before shown. The production of electricity by steam, like many other important discoveries, was purely accidental. In 1840, a workman at Newcastle happened to thrust his hand into the steam discharged by a common boiler, when he received a severe shock, for which he could not account. This fact being mentioned, Mr. Armstrong applied himself to a series of experiments, which proved that the workman received an electric shock, and that the common steam-boiler was capable of producing a more copious and powerful stream of electricity than any other apparatus. The machine now exhibiting at the Polytechnic Institution is nothing more than an ordinary boiler, with a few metal points added at the top, the more effectually to produce the negative electrical state to which the machine is brought when the steam is discharged. One of the trials of this new machine is thus described in the scientific journals:—"The pressure of ninety pounds on the square inch had been, in practice, found the best for all experimental purposes; and with this pressure the machine produced effects, compared with which the very large electrical machine heretofore exhibited at the institution was powerless. Instead of sixty spontaneous discharges in a minute, the Hydro-Electric Machine produced one hundred and forty, and filled Leyden jars, having eighty square feet of tin-foil, in twelve seconds, whilst the former machine filled them only in fifty seconds. A constant stream to all parts of the boiler was kept up, and with this increased power it may well be supposed that all the former electrical experiments were greatly increased in magnificence. The passage of the electricity over the tin-foil on the tubes was far more brilliant, and the aurora borealis exceeded in intensity and in beauty anything before witnessed; the violet colour was brighter, and at the same time deeper, and the exhausted receiver showed more plainly the progress of the electric spark. Five discharges were taken consecutively from the battery, over beaten metal placed upon paper in a less space of time than could have possibly occurred by the aid of any electric machine hitherto made. Nor were the experiments confined to those already performed, increased though they were in brilliancy. The electricity was passed through, and ignited common wood shavings; and an electric spark easily and immediately ignited loose gunpowder. With such a power yet unworked in experimental philosophy, it is impossible to predict what important results may be brought to light. The common electrical apparatus has been but of limited use in the arts and sciences, principally from the difficulty of attaining sufficient and equable power, a difficulty which is at once obviated by Mr. Armstrong's giant machine."

THE TALKING MACHINE.—Several of the City papers have already noticed a machine now in the city, which actually talks, an achievement hitherto never effected. We saw it, a day or two since, and were certainly greatly surprised by its performances. The tone is not that of a human voice, though it resembles that of some persons in being mainly through the nose. But no one could fail to perceive at once that the sound was produced by some artificial wind instrument. Its outward appearance is very simple. A Turk's head, with turban and long beard, faces the spectator, and words are uttered by the movement of the lips, the tongue, the palate, and all the articulating organs, precisely as in the living person. These movements are produced by machinery concealed beneath a drapery behind the figure and moved by keys at its right. These keys are sixteen in number, each expressing a particular sound. It requires no little skill to use the keys, as a great number of them must be quickly and properly struck to utter even the simplest words. A bellows beneath supplies the breath which the machinery thus manufactures into words. The Turk recited to us the alphabet, counted fifty, gave the Latin titles of several European monarchs, held an edifying conversation with us about the weather, sang a German song, and bade us good day in a very distinct and courteous phrase. The utterance is, of course, very slow, and sometimes difficult and indistinct, but it is easy to perceive that the fault lies in the inability to work the keys with sufficient rapidity, and not in any want of vocal organs. It is certainly very curious, and shows that the inventor, who is an Austrian, is possessed of great skill and ingenuity.—We understand that the instrument has engaged his close attention for above fourteen years! It is impossible to avoid reflecting what so great ingenuity, united with a perseverance so untiring, might have accomplished had it been directed into some productive channel. This talking instrument, we believe, scarcely aspires to be considered a labour-saving machine, nor need the men (including the women), who, up to this age of the world, have monopolised the talking, feel any jealousy of its intrusion into their province. Its rivalry is not formidable, though its performances are highly curious and

interesting. We understand that Mr. Faber, (the inventor,) intends soon to make a public exhibition of it.—*N. Y. Commercial Advertiser.*

GREAT ANTI-TEMPERANCE MEETING.—The *London Comic Almanac*, for 1844, gives us the following report of the proceedings:

"A highly respectable meeting of some of the most influential wines, beers, and spirits, was held for the purpose of considering the best means of opposing the temperance movement. Among those on the platform, we particularly noticed Port, Sherry, and Claret; while at the lower end of the room were Cape, Marsala, and a deputation from the British Wines, who were represented by the Two-and-two-penny sparkling Champagne, more familiarly known as the 'Genuine Walker.' Most of the principals wore the silver collars of the orders to which they respectively belonged; and Port having been unanimously voted into the chair, the business of the meeting was opened by Corkscrew, in a concise but pointed manner. Champagne was the first to rise, in a state of great effervescence. He declared that he was frothing over with pure indignation at the very idea of wine being excluded from the social board; and indeed he found it impossible to preserve the coolness which ought to belong to him. He was not one to keep anything long bottled up ('Hear!' and a laugh); indeed, when he once let loose, out it must all come; and he did say that the temperance movement was playing old gooseberry with him in every direction. (Cries of 'Shame' from the Genuine Walker.) Claret said that he did not often get into a state of fermentation; but on this occasion he did feel his natural smoothness forsaking him. He begged leave to propose the following resolution:—"That the substitution of water for wine is likely to dissolve all social ties, and is calculated to do material injury to the constitution." Rum rose, he said, for the purpose of opposing this resolution, which he thought of too sweeping a character. He (Rum) so far from wishing to get rid of water altogether, was always happy to meet with it on equal terms, and he knew that he (Rum), as well as many of his friends around him, had derived a good deal of their influence from being mixed up with water, and going, as it were, half way, which there could be no objection to. Gin begged leave to differ from the honourable spirit that had just sat down, and who was so unaccustomed to be on his legs at all, that it was not surprising that he should have failed to make a respectable stand on the present occasion. (Cries of 'Order!') He (Gin) had no wish to create confusion. (Ironical cheering from Marsala.) He understood the meaning of that cheer; and would certainly confess that the honourable beverage—for he would not use the stronger term of wine—(a laugh)—was not likely to create confusion in any quarter. No, he, (the honourable beverage), was not strong enough for that. (Renewed laughter.) He (Gin) had perhaps suffered more from water than all the other wines and spirits whom he now saw before him put together. His reputation had been materially hurt by it; and he was strongly of opinion that the only thing to be done with water is to throw it overboard. (Hear, hear.) A French wine, whose name we could not learn, let something drop, but we were unable to catch it. Cape now rose up, but was immediately coughed down in a very unceremonious manner. The thanks of the meeting having been voted to Port for his able conduct in the decenter, the meeting separated; but not until a committee had been chosen, consisting of a dozen of wine and a gallon of beer, with power to add to their number, either by water or otherwise."

THE ENGLISH CORN LAWS.—Temperance men have something to do with politics. No men can speak to better purpose, and they ought to be heard. Amid the hue-and-cry about the Corn Laws in England, the *British National Advocate* says, and says well:

"Then abolish that drinking system—repeal that self-imposed corn-law—compared to the consequences of which, a blight and mildew upon the produce of 3,000,000 acres of our richest land, would be a positive blessing!—God does not curse our country: He fills it with plenty; but when man steps in, and converts fruit and grain to the value of £20,000,000 annually—which would purchase more than four thousand millions of quatern loaves and supply 3,000,000 of persons with more than 2lb. of bread per day, the year round,—not merely into that which cannot feed, but into that which degrades and destroys—the consequence is not only the same, but much worse than that of blight and barrenness were to fall upon the land!—Better, far better, destroy the fertility of the soil! than convert its richest produce into rankst poison! The prevalence of teetotalism, therefore, would directly have all the effect of an increased fertility of soil, to say nothing of the consequences, as regards improved habits of industry; it would be at once equivalent to the addition of an immense territory to the agricultural resources of England. Does the farmer wish for abundance of corn?—The free-trader here meets him on common ground. Let teetotalism prevail in England as it does in Ireland, and corn will be both abundant and cheap. Destroy the self-imposed corn law, and the other becomes a dead letter. It will, *ipso facto*, be repealed. If the leaguer feels called upon to adopt means for the repeal of the parliamentary enactment, again we say, well and good; but while you do this, leave not the other undone."

"Education does not commence with the alphabet. It begins with a mother's look—with a father's nod of approbation; or a sign of reproof—with a sister's gentle pressure of the hand, or a brother's noble act of forbearance—with handfuls of flowers in green and daisy meadows—with bird's nests admired but not touched—with creeping ants, and almost imperceptible emmets—with humming bees and glass bee-hives—with pleasant walks in shady lanes—and with thoughts directed, in sweet and kindly tones and words, to nature, to beauty, to acts of benevolence, to deeds of virtue, and to the sense of all good, to God himself."—*Fraser's Magazine.*

PROVINCIAL PARLIAMENT.

HOUSE OF ASSEMBLY, March 8.

FISHERY RESERVES.

(Debate concluded.)

Mr. THORNTON presumed it was thought that all were expected to state their opinion upon this most important question, therefore he would state his in a very few words; indeed, he (Mr. Thornton) did not think it wise or proper in us to determine whether the tenants should pay rent at all, or to whom they should be amenable; are we to say that those who have been in possession for probably forty years, shall pay to the crown? such in us would be preposterous in the highest degree; rather let us communicate with, and be advised by the crown; in the mean time let it remain open.

The hon. SPEAKER said there were two modes of dealing with the question: one was merely to prescribe rules to say how the Fisheries should be carried on, the other was in what way a fund should be raised to compensate the tenants for any loss or damage that may hereafter be sustained by them from persons carrying on the Fisheries. Surely, if we possess the power to say, they shall not pay rent in future we can also go further into the subject. My statements, said the hon. Speaker, have been misinterpreted. I did not say the proprietor should exact rent for his own benefit, nor upon any other conditions than paying it into the government, to indemnify the small freeholders and others, from loss. If we go to say the proprietor shall not in any way, or for any purpose, collect a rent, it would be a manifest impropriety, and great injustice. How would it then be in the power of the proprietor to collect the rent of the undisputed part of his land, combined in one lease? If the whole tenantry are to be let loose from their engagements, (which no doubt would be pleasing to some hon. members), we had better not attempt to legislate at all upon the subject. He (the Speaker) did not doubt but that the crown would demand rent for the Fishery Reserves, of all who use them for other purposes than that of the carrying on of the Fisheries.

Mr. MACGREGOR said there could be no doubt that where the Government gave a right to all British subjects, it is in the Crown, and he thought it never was the intention to demand rent of the fishermen. The proprietors have hitherto made a profit of the fishery reserves, and treated it in every way as their own, and deceived the occupiers. We do not, said the hon. member, know that the Government ever thought of rent from any party. One thing he hoped most sincerely he should not see attempted, that was, that the tenants should not lose their improvements, which would be a case of extreme hardship.

Mr. COOPER reminded hon. members that the original grants never contemplated the payment of rent for 500 feet from high water mark, from any party whatever; thus it is not most unjust in the Proprietors to exact any rent, even if it be merely nominal? Was it not unlawful in the proprietors leasing the land? What argument then is it, to say we must not interfere with those leases? We ought not to frame laws to hold them harmless, to the injury of others' rights. We can at any time hereafter impose a tax on the fishery reserves. There has never been any hindrance by the tenants to any one inclined to fish; (Hear, hear, and laughter.) Let the interest of the fishermen be placed second to that of the agriculturists, by whose exertions we sit here; they it is who have caused us to possess good roads, bridges, wharfs, &c. &c., and by whom the colony is mainly supported. Let us not then copy from the proprietors, but act justly, and protect them to the utmost of our power.

Mr. DOUSE said, the resolution about to be submitted for the approval of the House would have a very injurious effect; in fact, its aim and substance was to induce the people to withhold the payment of their rents. He thought it a fair sample of legislation with some hon. members in this House. It ought to be known that the tenant is bound under covenant to his landlord, and so long as he remains in the quiet and peaceable possession of that property, is obliged, by his obligations, to pay rent. His (Mr. Douse's) opinion was, that the Crown would not grant away any reserved land while in the possession of another, as the party in possession must first be ejected, before a grant even from the Crown would be valid in law.

Mr. DUNSWELL felt himself bound, in this instance, to differ with his hon. friend who had just sat down. He (Mr. Dunswell) thought it behoved the House, above all, to consider the interest of the fisherman, as he was fully cognizant that numbers now obtain a good living by individual exertion in that line of business, and with proper and wise legislation of protection, had little doubt the benefit to the colony would much increase; thus, any proposition tending to the payment of rent by the fishermen should not have his support, more particularly as it would be contrary to the intentions of the Crown.

Mr. MACINTOSH said, it was well known to every one, that this portion of land was set apart for the purpose of the fishing interest, and that the government had committed a great injustice in allowing the proprietors to lease, and otherwise dispose of these reserves, whereby they had benefited themselves, and imposed on the settlers. To say that anything further in the shape of rent shall be paid by the tenants, would be keeping up the imposition, to which he never would become a party.

Mr. DOUSE laid before the Committee a blank lease, which contained a clause reserving the conditions in the original grant. He said that he did so, with the intention of showing that in many instances, if the reserves were thrown open, the tenant would reap no benefit by it. He regretted to hear such harsh terms made use of against those who were not in the colony, and consequently had no opportunity of reply to such unfounded statements. As to the proprietors willfully disposing of property, which the hon. member (Mr. Dalziel) said was not theirs, he would state, he did not think that the fishery reserve question was either considered of any consequence by them or others until within the last few years.

Mr. MACINTOSH denied the right of the proprietors to grant such a lease, but said, it was only on a par with their other usurpations.

Mr. RAE thought the hon. member (Mr. Douse) could not be serious in thinking he could recover rent under the conditions of a lease for property, which no less authorities than the Attorney and Solicitor General of England had decided the Le sor had no right or title so to lease, unless, indeed, the hon. member is about to defend his own law, against that of those high authorities.

Mr. WIGHTMAN must, for once, go with the opinion of the hon. member (Mr. Cooper), and thought it was imperative on this House to see that undue advantage is not taken of the tenant.

Mr. DALZIEL said, the proprietors could not plead ignorance; they had for some time known the land in question was not theirs; they had acted unjustly in the extreme; it was nothing short of swindling.

The Hon. the SPEAKER said, the hon. member (Mr. Cooper) and some of his hon. friends who used to cry out for the fishermen's rights, and nothing but that, are now completely turned round; they appear now inclined to defend what, heretofore, they have most strenuously opposed, and cried down as unlawful; what other conclusion can the home government come to, than that all the clamour of so many years regarding the fishery reserves? is just nothing at all and the consequence may be, that the tenant may not be relieved, but continue to pay rent, &c. as heretofore. Let us, as I before stated, (said the hon. Speaker,) secure the tenant, freeholders, loyalists, &c., in their present possession, and indemnify them for any damage, when they surrender the lands to the fishermen; at the same time we should guard against the latter committing nuisances or unnecessary damage in the carrying on of their trade.

Mr. RAE said he had heard so much, from time to time, respecting the fishery reserves, that he was weary of the subject; it therefore would be very brief in what he had now to offer; it would seem, from what had fallen from the hon. Speaker, that we cannot pass any laws between landlord and tenant, in any case; we may as well then drop the making of any whatsoever; (the hon. Speaker said the hon. member misunderstood him, he did not say so); perhaps not the very identical words, yet he (Mr. RAE) thought the remarks had that tendency, and might