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The Morality of Public Carriers.

No people in the world travel so much as we do in America; a greater regard for the safety of life, therefore, and better appliances and modes of protecting it, should exist among us than among any other people. Instead, however, of a sacred regard for life, and well arranged means to protect it, by those who are the carriers of our travelling people, we behold on every hand the most daring recklessness and the most reprehensible want of judicious and safe arrangements for the security of life and property. A few weeks ago the dreadful intelligence was conveyed to us that one of our steamships on the Pacific had struck a ledge of rock, near a desert island, and then took fire, by which sad calamity more than one hundred of our citizens lost their lives. The cause of this accident may have been carelessness, and it may not; we cannot tell; but at present we believe that more care would have prevented it. On the night of the 25th ult. two railroad trains met at a crossing on the Michigan Central and the Southern Railroad, near Chicago, by which more than twenty persons were killed and nearly one hundred severely wounded. The Central and Southern Railroads cross one another at a place about ten miles from Chicago, and it seems a bad feeling or misunderstanding has existed between the two companies. There are no definite arrangements between them, as to the time for the trains of each to cross the point of intersection: the engineer of one train must look before him in fear and doubt, to see that no train is approaching. On the night mentioned, the train of the Southern road was two hours behind time when it left Chicago at 9½ o'clock; on thundered the engineer with his train, to make up for lost time, at the rate of 40 miles per hour, when at the solitary spot—the only intersecting one on the road, he met the central train without a lamp, going at the rate of five miles per hour. The casualty could not be called a collision; the fast train crushed through part of the central train, strewing its path with the mangled bodies of the dead and dying. The accident, we believe, is one of the most horrible and culpable that has occurred on a railroad in our country. A Coroner's Jury in Chicago found the conductors and engineers of both trains guilty of gross carelessness. But what of this? Whoever heard of a guilty public carrier being punished in our country? It seems to us that there is not enough of morality in our laws to do it; if there is, why is it never done?

On the night of the 29th ult., the steamboat "Ocean Wave" took fire from her furnaces, on Lake Ontario, about fifty miles from Kingston, C. W., by which 28 persons lost their lives. There can be no doubt that gross carelessness was manifested in the construction of the fire-rooms of the boat, or this accident would not have taken place. When we consider that so much of American life and property is intrusted to the care of commanders of vessels and steamboat engineers; to conductors of railroad trains and their engineers, these men should form the most solid, careful, able, cautious, and moral men in our whole country. We do not say that they are less moral than the generality of our fellow citizens, nay, they are far above many, but they should *all*, as we have stated, rank high for moral qualities. The different systems of public carrying has a tendency to deaden moral perception and feeling. The continual attention, day and night, Sunday as well as Saturday, required of those who carry passengers on rivers, lakes, seas, and by land, operates injuriously upon their consciences. Engineers of railroad trains and steamboats are generally careful men; they know they are the most liable to suffer the evil consequences of any neglect on their part—their employers are most to blame, for they, in too many cases, demand too much from them. The state of our railroads,—their construction in reference to numerous crossings, &c., tends to distract the attention of locomotive engineers—they have too much to look after at once. Can any person doubt that the construction of the two railroads, crossing one another where the foregoing accident took place, was not the real cause of such a sacrifice of human life. Would the accident ever have taken place had these opposing roads not stupidly and wickedly intersected one another? It would not. Let us look well, then, to our systems of public carrying—on land and sea—and see if the moral evil is not in them. We believe it is; and as an evil tree cannot bring forth good fruit, neither can conductors of trains nor engineers prevent accidents when they are themselves but the instruments of bad systems.

While we say this much in respect to bad systems, let us also say that unless proper persons—moral conductors and engineers—are employed on our railroads, the most perfect systems will not prevent accidents. Of this we have had sad evidence by another and more horrible railroad accident than the one referred to. An account of this accident will be found on another page, and from the evidence presented, it appears to us that the real cause of it was extreme recklessness on the part of the conductor and engineer—a fearful exhibition of the want of morality in public carriers.

Lightning Conductors.

At this season of the year we generally have some inquiries about lightning conductors, such as their best form, the best substance, its thickness, and how to erect them. What a change has taken place in the minds of men respecting lightning, since the discovery of its identity with electricity by the philosophical Franklin. A bead of amber was, at one time looked upon as possessing a mysterious relation with the spirit world, hence the old oriental stories of magic rings, &c. The Roman soldiers looked with awe upon the lights that were often seen dancing on the points of their spears; and sailors looked on with wonder at the gleaming fires—their "Castor and Pollux,"—which oftentimes played around the "main truck."

The discovery of electricity by Stephen Gray, in 1720, a little over a century ago, marks an important era in physical science; but the most important discovery connected with our text, was that made by Franklin to which we have alluded. This discovery was one of the most romantic with which we are acquainted in the whole history of philosophy. How grand the noble old philosopher printer looms up before the mind's eye, standing in his sober brown coat, gazing with his calm contemplative face, upward to the tiny kite which he had raised to lure the lightning bolt from the dark thunder chariot, and lock it to the floor of mother earth. At that moment a new science was born—that of lightning conductors; Franklin was the modern Prometheus, who stole fire from heaven. Further researches proved that the earth and the air were equally under the influence of electricity, and that it was an all-pervading element. It was shown that no body existed in nature through which this subtle principle was not diffused,—that changes were constantly being produced by the interference of other physical powers, and thus, in the efforts made to restore equilibrium, we have manifestations of electrical phenomenon—lightning. During every stage of animal and vegetable growth, electricity is either absorbed or given off, and no change can take place in the form of matter without affecting a change in its electrical conditions. When water is converted into vapor by intense solar influence, electrical equilibrium is disturbed, and in nature's efforts to restore the lost balance between earth, and air, we have thunder storms. Electricity accumulates and floats in clouds, and unless it is quietly discharged or conducted back again to earth when the cloud becomes overcharged with its artillery, it bursts forth in fury, and sometimes proves very destructive to the persons and property of the children of men. When lightning strikes a tree, in passing to the earth from a cloud, it oftentimes splinters it in pieces; it never passes by the solid matter upon which it falls; it endeavors to find its way to the earth by the interstical spaces between the particles composing the solid object; when these channels are insufficient to convey it, they are thrown apart, and the tree, house, or other object struck, is split in all directions.

There are certain bodies which, by their peculiar molecular construction, have the property of allowing this fluid to pass through them freely, and any of these bodies, of sufficient size to convey all the electricity of a thunder cloud to the earth, if placed in proximity to it, will pass the same as quietly and conveniently, and harmlessly, to the earth, as a pipe conveys rain water from the roof of a building. These bodies are called lightning conductors; Franklin was the first to apply them—his practical mind always looked to the useful, and this was one of his most useful discoveries.

A copper or iron rod, erected to project above the highest point of a building, and conducted down to some moist part of the earth, performs, as we have stated, the same office for lightning that a gutter does for rain water in conducting it to a cistern from the roof a house. Copper makes the best lightning conductor—there is no fear of having it too thick: Faraday says, "the solid section is the grand object." It has hitherto been held by many to be a scientific fact, that the surface was everything in a lightning conductor, hence twisted iron rods and flattened strips have been erroneously employed in place of thick rods of uniform diameter throughout. If we take a wire, and form a galvanic circuit with a strong battery, if one part of the wire is thinned out, or is made of a different metal, such as an iron link in a copper chain, the thin part will be intensely heated, and so will the iron link. A lightning conductor, therefore, should be of a uniform thickness below the upper point, and should be made of one kind of metal from top to bottom. An iron rod may be tipped at the point with silver or copper. The principle of constructing and putting up lightning conductors, is very simple; any person can do so, or give directions to do so, who pays the least attention to the principles we have laid down. The thickness of an iron one, we believe, should at least be half an inch in diameter, but rather let it be a thick wire, than to have none at all. The stays to bind the conductor to a chimney or the side of a house, should be non-conductors, such as thin strips of metal driven into dry varnished pegs of wood, and the conductor should always present the greatest amount of metal surface and section; and it should terminate in some moist part of the earth, such as a well or cistern. A good system of lightning conductors might protect any extent of country from thunder storms. Science is correct on this point, and in the South of France the vine growers now protect their vines from devastating hail storms produced by the sudden congelation of the water of the rain cloud when robbed of its latent heat by sudden electrical discharges. This they do by raising lightning conductors over their gardens; where these are plentifully distributed, hail storms are now scarcely known in places where, at one time, they were quite frequent. So much has man gained by the flight of a kite from the hands of an American philosopher.

Where is the Ericsson?

We have received a number of letters making inquiries about the Ericsson, such as "where is she?" "when is she going to sea, and to what place?" "what is the matter with her?" &c. We do not like saying so much as we have done upon this subject, and were it not for the numerous letters we receive respecting it—showing how interested a great number of our readers are—we would not say another word on the subject at present. It has already been mentioned in our columns, that the Ericsson was to get in furnace crown plates of cast-iron in place of those first put which were of plate wrought-iron.

We quote the following extract from the "New York Tribune," the paper which said, after her second trial trip—"Watt and Fulton belong to the past—Ericsson is the ruling genius of the present and future—the days of steam are numbered."

"This ship is now lying at her dock in Williamsburgh, just above the Grand street Ferry. Important alterations are going on in her machinery at Hogg & Delamater's foundry, which the owners are confident will considerably increase her speed. She is to be ready to sail for London, on her first passenger trip soon after the first of July, at which time the improvements now going on will be completed, and she will be in order throughout. Capt. Ericsson and some of the principal owners will go out in her to Europe. She can accommodate about two hundred passengers."

It is nearly two years since the Ericsson was commenced; and yet, not one penny has she earned for her owners. We are really sorry that she has not done better so far; the loss of interest on the aggregate cost of her hull and machinery for one month, must be a large amount of itself.

We also quote the following from the "New York Evening Post," of the 3rd inst.:

"We have received the following note from Capt. Ericsson, in relation to the caloric engine, which he has been constructing for the Evening Post:'

NEW YORK, May 2nd, 1853.

Dear Sir—I have just received information from my agent in France, that unless a caloric engine shall be in actual operation there before the 20th of June next, my patent-right for that country will be forfeited. The patent laws of [illegible] all the countries of Europe require that [illegible]milar cases, model engines shall be [illegible]thin a given period. Such we have [illegible]red to forward in due time; but [illegible]ons in France in relation to foreign [illegible] it appears, demand imperatively that the machine shall be in practical operation, as stated. Under these circumstances, it becomes indispensable to forward an engine to France by the Humboldt this week, and as the caloric engine we have constructed for your printing establishment is the only one completed, I am compelled, most reluctantly, to solicit your permitting me to employ the same for the purpose stated.

If you will kindly grant this request, I will lose not a moment in constructing another engine to take the place of the one now ready.

I am, dear sir, respectfully, your obedient servant, J. ERICSSON.

Of course, we cannot hesitate to comply with Captain Ericsson's request. Much as we regret the inconvenience and disappointment to which it will subject us, they will not deserve to be weighed a moment against the consequences of a forfeiture of the patent for this engine in France, which would be the inevitable consequence of our refusal."

There is something which we cannot account for in the above letter, as it stands, in contradiction to our understanding of the French Patent Law, which we shall quote:

"Sec. 32. A patentee will be deprived of his rights under the following circumstances:—(1) If he should fail to pay the annual payment before the commencement of each year of the term of the patent; (2.) if he shall not put his invention or discovery into execution within two years from the date of the signature of the patent, or if he shall cease for the space of two consecutive years to work the patent—unless, in either case, he can justify his inaction; (3.) *if he introduces into France objects made in a foreign country, similar to those protected by his own patent.* Models of machines, the introduction of which is authorized by the Minister of Agriculture and Commerce, are excepted from the operation of the preceding paragraph."

By this very law, as it appears to us, Capt. Ericsson, instead of protecting his patent in France, by sending the engine there which was made for the "Post," actually comes up to the very letter and conditions of forfeiture.

We have noticed an editorial article, this week, in a magazine professedly scientific, on the Caloric Engine, which exhibits such an utter want of scientific knowledge, that we cannot pass it by without comment, but we have not room to do so in this number.

There is a curious ordeal in India, which shows the action of fear on the salivary glands. If a wrong is committed, the suspected persons are got together, and each is required to keep a quantity of rice in his mouth for a certain time, and then put it out again; and, with the greatest certainty, the man who had done the deed puts it out almost dry, in consequence of the fear of his mind keeping back the saliva.

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