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Western Enterprise—Railroads.

During a recent hasty journey through the northern portion of the Great West, we saw much to instruct and gratify the mind upon all matters pertaining to the general progress of the nation; and while the East—the seaboard—maintains the supremacy in many important particulars, yet, with the rapidly opening facilities for transit, the Western World must soon outstrip us in all the elements of substantial greatness.

There is no country which so much demands the influence of the railway, as that which lies beyond the eastern shore of Lake Erie and its southerly line, dividing the States of Pennsylvania with Ohio, Virginia, and Kentucky. This fact is now well understood, and the eastern capitalist is turning his attention to this important subject. Although comparatively an uncultivated wild, especially beyond the western line of Ohio, inviting only to those fond of the rugged but substantial realities of life, yet withal there is an increasing pressure westward, and an internal channel through Indiana and Illinois, to the Mississippi, would command an immense business both in passengers and freight. The inhabitants of the West are alive to this truth, and an animated struggle is going on in the more important western towns in this respect. The Michigan Central Line of railroad, which passes through the State to the Lake, constitutes an important link, connecting us with Chicago and the northern country in a most easy and rapid manner. The stock in this market commands its par value. This, however, did not fully answer the public demands, and to complete a more easy access to Chicago, a road has just opened from Toledo, Ohio, to Chicago, a distance of 246 miles, passing through a country abounding in unsurpassed agricultural richness. The stock of this road commands, in this market, from \$15 to \$18 per share above par, and we think justly so, for the road must, of necessity, constitute the terminating link in the great chain stretching from New York and Philadelphia northwest. The cost of building and keeping in repair all western roads, must be a great deal less than eastern roads, as the grading is comparatively easy and timber plenty, convenient, and almost costless, while, at the present price of real estate, the right of way can be negotiated upon very favorable terms.

People are getting tired of canal and steamboat travelling, they are too slow for the progressive spirit of the age, and must soon be forgotten in the great rush. We had, in our journey, an opportunity of testing the three systems: leaving New York by the Hudson River road for Albany, via the Great Central Line for Buffalo, we were compelled to cross the angry Lake, and, not feeling satisfied with what we had experienced, we journeyed down from Toledo to Fort Wayne, Ind., a distance of 104 miles, on the Wabash and Erie Canal. This latter place is a very important growing town, and the people, for a while, remained satisfied to reach the lake in from twenty-four to forty-eight hours, but a new spirit is infused into them, and they are actively engaged in building a railway, east, to Crestline, 131 miles into Ohio, connecting with other roads from the East, and a survey is, we understand, going forward for a road to Toledo, somewhere in the vicinity of the canal. At first it would seem that it would not pay,—locally it would not at present,—but the travel is immense, and considering how cheap a road can be constructed, we think it must soon become remunerative, for it cannot stop here, but must find its way to Lafayette and end at St. Louis.

We speak of these localities from personal observation, but the remarks are applicable to the West generally, where villages are springing up under the influence of the surplus emigration, which must overflow from the Atlantic cities, and it is indeed surprising how able and robust men can hang about this city, drinking the very dregs of poverty, when such a rich field for independent labor is open at the West.

Fire-Proof Houses.

Almost every day we hear of the destruction by fire of some factory, store, or important public building, in some part of our country. In the newspaper accounts, it is generally stated, "so much was covered by insurance," in such and such an Insurance Company. No property can be covered by insurance in the real sense of the term; that which is lost by fire may be covered to the owners by insurance, but it is lost to the country and the world forever. Here is a large building which cost the labor of a hundred men working for a hundred days to erect; if that building be burned down, although insured, can it restore the labor which was expended upon it? No; that which is lost by fire—that is, good property—is a loss to the whole country, for houses and buildings are but stored up labor, and when they are consumed by fire, the whole labor must be performed over again. In very many cases no money, toil, nor skill can restore that which is consumed. When a valuable library is burned up by fire, like the one recently destroyed in Washington, it is impossible to estimate the loss, for much that is sacred, and of the greatest importance to posterity, perishes beyond the possibility of restoration. If the Library of the New York Historical Society were to be burned down now, all the wealth in our country could not restore it to the same condition again. Since the destruction by fire of every valuable building, or property, is a loss to our country and the world, it well becomes every city, every company, and every property owner, to look well to the prevention and protection of houses from being consumed by fire. Insurance is a tax,—it is nothing more nor less, and is not a light one by any means. The best insurance on property is a fire-proof structure, and the attention of all corporations and associations, should be directed to encourage the construction of more thorough fire-proof buildings in our cities. We know that more attention is now devoted to the erection of such buildings than there were some years ago; we rejoice at this, still there is not enough of general attention paid to the subject yet, or we should not be receiving intelligence, almost every morning, of a destructive conflagration in some city or village of our land. It is not the outside walls of brick or stone, with iron shutters, which make a building fire-proof; many such buildings are anything but fire-proof inside. Every part of a building should be constructed upon fire-proof principles: the joists, &c., should be made of iron, and every part should be effectually guarded against fire, and nothing left to conjecture upon that penny-wise and pound-foolish principle, of paying an insurance tax for conflagrations.

The Wheeling Bridge Case.

On Thursday, last week (27th ult.), the U. S. Supreme Court, at Washington, rendered its final decision on the Wheeling Bridge Case, and the report of Wm. J. McAlpine, Chief Engineer of New York State, to whom was referred the important question of examining the Bridge and giving his opinion in reference to the mode of removing what the Court had decided to be a nuisance, viz., the bridge, as constructed, which obstructed the passing of steamboats. Judge McLean, of Ohio, announced the decision of the Court to be, first—that no change will be allowed in the decree of the court, unless it will provide a safe and convenient passage, at all times, for the boats having chimneys eighty feet from the water. Second—the court will not sanction either of the plans proposed, but if the defendants can make a draw not less than two hundred feet wide in the Western bridge, and make the channel equally safe and convenient as the Eastern channel was before the erection of the suspension bridge, and remove all other obstructions from it, they may try the experiment at their own risk and responsibility. The decree heretofore rendered shall be recorded, and unless the obstruction to navigation be removed or adequately remedied on or before the first of February next, the bridge shall be abated.

The defendants are ordered to pay costs, amounting to about \$15,000.

Chief Justice Tanney and Justices Daniel and Wayne dissented; the dissent of the for-

mer is based on the ground of want of authority in the Court to make any decision in the matter; the reasons of dissent of the other two Justices we do not know yet. There is no remedy, therefore, for the people of Wheeling but to comply with the decision, or get a relief bill passed by Congress, or take down the bridge. It is our opinion that no relief can be obtained from Congress, and that the bridge must, to the great regret of the people of Wheeling, come down. We have had the report of Chief Engineer McAlpine for some time, but chose not to say anything about it till now. It is an able one, and every person who knows that gentleman, will give him credit for candor and impartiality. He presents eight different plans for modifying the present suspension bridge, which, he says, is totally unfit for railroad purposes. All of these plans involve great expense, the best costing no less than \$156,243 50. Owing to the peculiar nature of the navigation, and the principles upon which the steamboats running on the Ohio River are built, the bridge as at present constructed, offers great obstructions; there can be no doubt of this. The lowering of part of the chimneys is troublesome and expensive; still, we cannot but believe that these boats might be built to run equally well with lower chimneys. If this were done, there would be no necessity for altering or removing the present bridge. The time will come when these boats must have engines differently constructed,—have larger boilers, and not be under the necessity of wasting so much coal, and carrying so high steam. In that case, the chimneys will be made lower, like the boats at the North, which are as swift, and certainly far safer.

Great Improvement in the Manufacture of Salt.

It is well known that the salt brine obtained from the borings at Salina and Syracuse, N. Y., contains other matters—impurities—than the pure chloride of sodium—table salt: iron, plaster of Paris, and carbonate of lime are the impurities. The methods heretofore practiced for obtaining the salt, were evaporating by solar influence, to produce the purest kind in large clear crystals; and boiling down in kettles, to obtain an impure but rapidly formed salt. By neither of these processes was the salt obtained pure, and the boiling plan was an expensive one. A new process has been introduced into the salt manufacture by the discoverer, Samuel B. Howd, of Syracuse, N. Y., the inventor of the well-known "Howd Wheel." His plan is entirely different from all others. It consists in forcing the brine directly from the State Reservoirs into heaters, and from thence to an upper steam chamber, from which it descends to a receiver, then up into a main evaporating boiler, and from it into open or crystallizing vessels, where the salt is deposited. While the brine is going through these separate processes, the iron and plaster are thrown down in the heaters, and the brine is concentrated in the upper steam chamber, where the weak brine is mixed with the strong, and when it passes into the receiver it settles, after which the brine that is left, is pure, containing the chloride of soda only, and is passed into the evaporating boiler, where the surplus water is removed by evaporation until the brine is very strong—about one half beyond saturation, in which state it is blown out into the crystallizing vessels, and the complete evaporation is then accomplished by the heat of waste steam. The impurities are thus removed, by the principles involved, of their greater gravity, when thus mechanically suspended in the liquid. The new process is a scientific one,—the salt produced is like driven snow, and the crystals are exceedingly beautiful. The discovery is of great importance to the State of New York, and we are told the process economizes much fuel in comparison with the boiling process, for producing the common impure salt.

The Great American Lock in England.

In No. 36 of our paper we published an extract from a Quebec paper, stating that the Newell or Hobbs Lock had been picked by a celebrated English mechanic, in London, but we doubted it at the time, and have since learned that this story has no foundation in truth; the Yankee lock still, as we hope it

ever will, remains impenetrable to the skill of the whole world, Mr. Hobbs having had, for the last six months, no less than seven of these locks in the hands of different experimenters in England, for the purpose of picking, but, up to the present time, it has proved invulnerable to all their attempts.

"Who Reads an American Book?"

"Thirty years ago it was asked, 'who reads an American book?' It may now be asked, 'What intelligent man in all Europe does not read an American book?' (Applause.) Sam Rogers reads them; Henry Hallam reads them; Macauley reads them; McCulloch reads them; Lord Mahon reads them, and sometimes finds himself answered when he comments on them. (Laughter.) And there is not an intelligent man in England who does not read American authors, and especially our legal and historical works. And in France, Thiers and Guizot read them, and throughout the vast population of France, there is no doubt that there is a greater devotion paid to the study of our popular institutions, to the principles which have raised us to the point at which we now stand, than there is paid to the monarchical institutions and principles of government of every part of Europe."

[The above extract is from the late speech of Daniel Webster, delivered in Faneuil Hall, Boston. We were sorry to see the remark about 'Who reads an American book?' for it has become hackneyed, and it grates a little upon our ears to hear anything common-place coming from Webster. We do not know what foreigner made the remark—it was no doubt some flaunting reviewer; but the original expression and the remarks of Mr. Webster are not correct: sixty years ago the works of Jonathan Edwards were fireside books in tens of thousands of families in England, Scotland, and part of Ireland. "Dwight's Theology" has also been a household book among the same people, ever since it came from the pen of its gifted author. The people who have read these books—who have made them their study—understand better than any other people, and better than "Thiers," the principles which have raised us to the point on which we now stand.

Anthracite Coal for Naval Steamers.

The Engineer in-Chief of the Navy (Mr. Stuart), has made a report to the Navy Department, in which he recommends the use of anthracite coal for naval steamers fitted with iron boilers, being more economical, and entirely free from smoke and accident by spontaneous combustion. His conclusions are founded upon actual experiments in our war steamers; and he intends, with the permission of the Department, to continue these experiments, to see whether anthracite may not be used advantageously under copper boilers, bituminous coal being generally considered less injurious to such boilers, and therefore used in service in preference. He further recommends to the Bureau of Yards and Docks the use of anthracite in the several Navy Yards, and especially for the engines of the Dry-dock at the Brooklyn Navy-yard. This opinion is entirely different from the one we entertain respecting the two kinds of coal.

Woodworth's Machine in Philadelphia.

The Pennsylvania Enquirer of last Saturday, the 29th, publishes the opinion of Judge Kane in respect to four motions for injunctions to restrain the parties from using machines claimed to be infringements of Woodworth's patent. Injunctions were granted in all the cases, and it is stated that Wilson owns Barnum's patent something very singular, is it not? Judge Kane decided it to be a complete infringement of the Woodworth patent; we said it was not; and so thought Mr. Wilson, for he has purchased it. We may say a few more words on this subject next week.

Railroad Safety.

A bill has been reported in the Massachusetts House of Representatives to promote the security of railroad travel. It provides that the flooring of bridges shall be three inches thick, and that every switch shall be provided with an index, which shall so render its changes of position as to be distinctly visible to the engineer at the distance of not less than half a mile.