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## Rail-Road News.

### Locomotion the Test of Civilization.

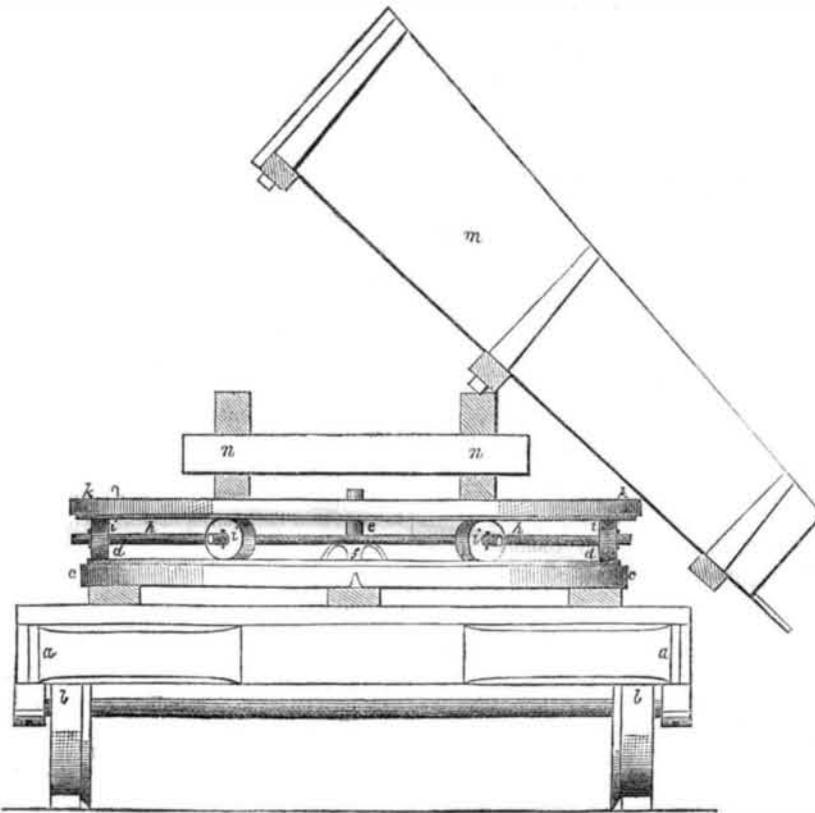
Our good friends and allies, the French, are admitted to be more philosophical than practical, in their views of society, and in the course of the animated discussions which are constantly occurring among their journals, upon theoretical questions, curious reflections and ideas are frequently elicited. The *Courrier du Havre*, in a recent article upon the reduction of railroad fares, throws out the idea that the condition of locomotion in any country is a simple and infallible means by which to judge of its advancement in civilization and in doing so, makes some candid admissions, which would scarcely have been expected from a Gallic source. "He is the most useful citizen," says, "who gives the greatest impulse to the production of wealth, and multiplies exchanges with the greatest zeal. The lowest round of the social ladder is occupied by the negro and Indian; living on little or nothing, producing little, reposing listlessly at the foot of the palm or cocoa tree which waved over them at birth; while, at the summit of that ladder, appear the opulent Englishman, the indefatigable American, great consumers, great producers, and expenders; always in motion, always on the road, never arriving but to start, never buying but to sell, never gaining money but to invest it again. Between these two extremities, but more closely approaching the latter, are the nations of Latin origin, the Italians, the Spanish, the French, nations laborious but economical, contemplative and sedentary by taste, travelers by occasion or by necessity, considering labor merely as a means of arriving at repose, aspiring to become independent rather than millionaires."

### Pacific Railroad.

It is well known that Mr. Whitney, of New York, who projected what is known by the name of Whitney's Railroad—a railroad to the Pacific—after having met with much opposition in the Senate, at Washington, went to London the last spring, and brought the subject before the English public. He proposed the erection of his railroad through the British possessions of North America to the Pacific. His plan has met with the strongest objections on account of its impracticable nature and the absence of any benefit it might confer on the capitalists of that country. The plan has found no favor with the engineers there.

The New Bedford Mercury publishes a letter telling how a lady of that place, by drawing a rocking chair along the carpet, received a tremendous electric shock, and at the same time her husband saw a blue ball of electricity float through the room. Wonderful, truly.

PALMER'S PATENT DUMPING CAR.—Fig. 1.

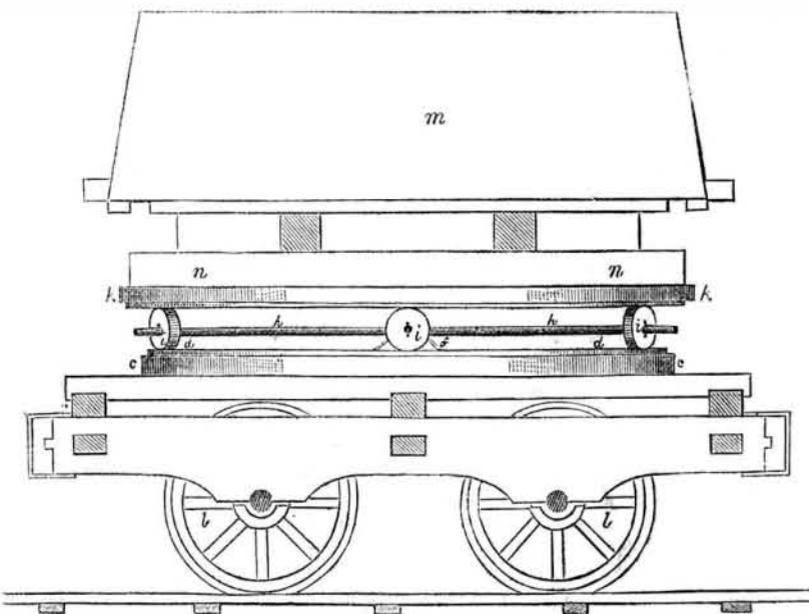


The accompanying engravings represent improvements in Dumping Cars for railroads, invented and patented by Mr. Granville Palmer, of Greenbush, N. Y., but who has assigned all his right, title, and interest to Mr. R. E. Finch, of Peekskill, N. Y.

Figure 1 is a side elevation, and figure 2 is an end elevation. The same letters refer to like parts. The improvement consists in applying between the box or receptacle for the earth, &c., of the car, and the body or carriage frame of the same, a turning table or apparatus to permit the free turning of the box in any direction, so that the earth, gravel, &c., may be deposited on any desired part of the road.

*a a a a* is the body or carriage frame of the car, constructed in the usual manner, and having wheels, *b b b b*, connected to it in the ordinary way. *c c* is a circular railway arranged on the top of the body, and having an iron rail, *d d*, secured on its upper face by screws, nails, or otherwise; *e* is a vertical or upright metallic shaft, firmly attached at its lower end to the body of the car, said shaft being held firm, or sustained in its position, by the metallic bracing shoulder, *f*, figure 2, which is likewise secured to the body of the car. The shaft, *e*, passes through a suitable lever in the centre of the spider or axletree frame, *g*, (so that said spider or frame may turn freely on said shaft), the arms, *h h h h*, of

Figure 2.



which, at their ends, serve as axletrees for the friction wheels or rollers, *i i i i*, which rest and move on the rail, *d d*. A circular plate, *k k*, somewhat larger in diameter than the railway, *c c*, is arranged above the spider or frame, *g*, so as to turn easily on the shaft, which passes through a suitable hole in the centre of said plate. A circular metallic rail

or bar is attached to the under-side of this plate, *k k*, so as to rest upon the rollers, and on the top of said plate the usual frame-work, *n n*, for elevating the box, *m*, of the car, is firmly attached, said car box being hung on the same in the usual manner.

It will readily be perceived that, by the above specified arrangement of machinery, the

car box may be turned to any desired position on the body or carriage frame, and the contents be deposited at any part or point of the road.

The following is the claim of the patent:—  
"I claim arranging a turning apparatus between the body or carriage frame of a railroad dirt car and the box of the same, substantially as above set forth, so that said box (or mouth of the same), may be turned to any particular part of the road, and the contents deposited thereon."

Mr. Finch offers to sell rights of States, &c., and more information can be obtained about the same by letter.

### Diving for Shells.

The following extract from "Roivings in the Pacific, a new work, relates the manner of diving for shells at the "Bow Island," so named by Cook:

"On arriving at the reef or knoll, the boat was secured by its painter to a projecting branch: and the divers proceeded to dive from it in all directions and, as they brought up the shells, so they threw them into the shallow water on the knoll until the shells became scarce; or they became tired and wanted to pull into another station. Shell-fish of various descriptions are attached to and wedged in the coral branches, apparently having grown with their growth. On a still calm day you may see to the bottom at ten or twelve fathoms, and the shell-fish when feeding reflects tints of the most brilliant and beautiful hue; and fish of every conceivable form and color may be seen sporting in the interstices of the coral branches.

It is a curious sight to watch the divers; with scarcely a movement they will dart to the bottom like an arrow, examine beneath every protruding rock, and on continuing their investigations, by a simple movement of the arm will propel themselves horizontally through the water, and this at the depth of seven or eight fathoms. I timed several by the watch; and the longest period I knew any of them to keep beneath the water was a minute and a quarter, and there were only two who accomplished this feat. One of them from his great skill, was nick-named by his companions the "Ofat," (stone.) Rather less than a minute was the usual duration. In fine weather they can see the shells, when, if the water is deep, they dive at an angle for them; and as the shells adhere firmly to the coral by strong beards, it requires no little force to detach them. I was astonished on one occasion at witnessing a diver, after one or two ineffectual attempts to tear away a large oyster, sink his legs beneath him, and getting a purchase with his feet against the coral, use both his hands and fairly drag it off. When they dive in very deep water, they complain of pains in the ears, and they sometimes come up with their noses bleeding; but it is rarely that you can get them to attempt such diving, let the shells be ever so abundant, they will come up and swear there are none; the exertion, from the great pressure, is too painfully distressing. It has frequently happened, after a set of worn-out divers have sworn that no more shells could be obtained, that a fresh set has come and procured from fifty to sixty tons, without difficulty."

### Chloroform a Propelling Power.

Experiments with chloroform as a propelling power, in the place of steam, are now making in the port of L'Orient, and there is reason to hope, from the success which has already attended them, that they will result in causing a considerable saving to be effected in cost and in space.—[Galignani.

[Mr. Galignani, chloroform is 300 sleepy a gas to compare with steam.

## Miscellaneous.

Special Correspondence of the Scientific American.  
London Firemen, Fire Engines, &c.

LONDON, June 27th 1851.

There has been a display of Fire Engines at the Crystal Palace, and a very interesting trial of the merits of some of them took place last week on the north side of the Serpentine. A large body of the London Fire Brigade, and a company of Foot Guards were selected to work them. There is one Canadian Fire Engine, built in Montreal, which was compared with the London Engines, and proved superior. It is built in the same style, exactly, as the old New York Engines. This engine was tried against two of the English Engines combined, and discharged not only a greater quantity of water, but threw it to a greater distance. How I wished that some of the New York or Philadelphia Engines had been here: I think it is a shame that they are not. In Fire Engines the United States excel, but who knows about that here? People think the Canadians are ahead of us. I am confident that a New York Fire Engine would have come off bearing the bell. I should state here that the Canadian engine was much larger, being 16 inches stroke, or double that of the London ones. In the streets of London, the small compact English engines, answer well, as they take up but little room, and they do wonders for their size. The London Fire Department, or Brigade, as it is called, is very differently managed from that of New York. It is under the superintendence of a Mr. Braidwood, a Scotchman, who planned the system. He is employed by the London Insurance Companies under contract, he furnishing the engines and men, and keeping up the system, they paying so much according to the property they ensure. The men have uniforms—a black leather Roman helmet, and trim blue frock coat with standing collar. In undress they wear caps. There are six men, I think, employed for each engine—they do nothing else but wait upon and manage it: some of them always sleep in the engine houses, and are "ever ready." They do not drag the engine to a fire—two horses, day and night, stand ready at a moment's warning to be hitched to the machine, and their evolutions are exceedingly rapid and well directed. The men are a fine set of fellows, trim, irony, and active: they are paid very good wages, and have mostly been London watermen. They do not work the engines—the crowd at the fires do this; the men from the crowd are selected and paid one shilling sterling per hour for their labor; they are managed and directed by the regular firemen, and plenty of stout fellows can be selected at every fire. The regular firemen of the Brigade mount the ladders and manage the hose. They are very daring and supple; they run along roofs and climb along from window to window like cats. The Fire Brigade is a medel one, certainly,—the Scotch superintendent is an engineer, keen, wiry, Paul Jones looking chap. There are other companies in London, such as the "West of England Brigade," but it cannot compare with the London Brigade. There is a Fire Engine in every barrack; the soldiers turn out at the fires, and are a very efficient set of firemen, especially the "Sappers and Miners." They are very intelligent soldiers, being generally selected for their mechanical qualities. The small London engines are said to be better adapted for this city than larger ones, as they take up only about one-third the room of a common New York engine. They say, "we can get two streams quicker on the fire than one large one. This is true; but a large ten-inch New York cylinder, or one of Agnew's Philadelphia cylinders, can send a stream of water 80 feet higher. I am partial to the large engine, but they say the large ones have been tried in London, and were not so useful as the small ones. There are two huge floating engines kept on the Thames, by Braidwood: each one will take more than a hundred men to work it; they are but seldom used. The London Corporation has not to pay the expense of the Fire Department—it is borne

by the gentlemen of the "Fire Insurance Companies," who, by a very sensible policy of John Bull, are made to do something for their own property. In the trial which took place between the London and Canadian Engines, the men did their work well and systematically. At fires there is no confusion and no noise; the Superintendent is always on hand, and is a man who appears to be everywhere at once.

I do not know whether the same system exists out of London, or not, but probably will find out by-and-by, if I wander further over this Isle. What I have said will no doubt be new to many of the readers of the Scientific American, as the Fire Brigade system here is so different from the one in which, for a number of years, I did good service as high private, corporal, sergeant, &c., &c.

EXCELSIOR.

The Electric Telegraph in the East Indies.

The "Friend of India" says:—"The local papers have just announced that intelligence has been received from Diamond Harbour by means of the electric telegraph. The direct communication was opened between that station and Calcutta on the 3rd inst., and it is found to have succeeded most completely and satisfactorily. It is as superior in precision as it is in speed, to the old semaphore; besides which it possesses the advantage of being available in all weathers. The half-educated boys who have been trained in the novel science of signalling have sent up the names of French vessels, of their commanders, of the port, and the date of departure, with singular accuracy, though most of the words were in French. In the infancy of our operations it is found more advisable to adopt the system of spelling, because though very slow and difficult, it is far more certain than the use of numbers. We have now to wait the effect which may be produced by the heavy rains of the next rainy season upon the experiment, before any confidence can be placed in its success. Should the result correspond with our wishes the question may be considered ripe for decision, and it will then be for Government to decide whether the sum of seven lakhs and a half of rupees shall be expended for two successive years in the establishment of a line embracing Calcutta, Agra, Bombay, Simlah, and Lahore. All that appears at present to be required to give these stations news from London within the month, and to render the supreme Government ubiquitous, is £150,000, or the amount of two days gross revenue of this empire. Indeed, as the last intelligence from England—that of the 7th of March—reached Bombay in 27 days, it would have reached Calcutta by means of the telegraph in the same period. There is every reason to believe that the telegraph here will prove successful. The simple composition which Dr. O'Shaughnessy has used as coating for the wire appears little affected by damp. It has apparently triumphed over our two greatest enemies—the heat and humidity of the climate. It is formed simply by boiling one-fourth of resin with three-fourths of fine sand. As soon as the compound is cool it becomes as hard as a stone. It is adapted for roofs. We have exposed it on a piece of wood for three days to the burning glistening sun of April, and have buried it in water for two days together, without the slightest deterioration of its consistency."

[We wish to direct attention to Dr. O'Shaughnessy's composition for coating wires. It appears to us that this same composition would make excellent pavements around houses, such as for the courtyards, alley and garden walks. It is well worthy the trial by some of our enterprising people. We know that roofs have been covered with pitch, and gravel and sand padded in on the surface—we like this new method better, and have no doubt of its good qualities.

Some years ago, a person requested permission of the Bishop of Salisbury, in England, to fly from the spire of the church. The good bishop, with an anxious concern for the man's spiritual, as well as temporal safety, told him he was very welcome to fly to the church, but he would encourage no one to fly from it.

Deafness Successfully Treated by Musical Sounds.

A very singular letter has appeared in the London Medical Gazette, from Dr. Turnbull, detailing his experiments in the treatment of deafness by musical sounds. He says:—

"No disease to which the human frame is subject has remained in greater mystery than that connected with the organ of hearing. This may be one of the reasons why medical men have deserted this branch of the profession, and almost left it in the hands of the empiric.

The greater number of diseases to which the ear is subject arise from exposure to cold, obstructing or altering the quality of the secretion of the wax, and thereby exposing the tympanum to the atmosphere, producing torpor of the auditory nerves, more especially in the nerves connected with the membrane tympani, which may be compared to a musical instrument of the first order, capable, when in health, of receiving the highest or lowest notes produced by the undulation of the air.

I have found no difficulty in producing a healthy ceruminous secretion, by taking off pressure by means of the pneumatic extractor. When the wax is re-produced, the hardness of hearing is greatly mitigated, but still there remains a sensible imperfection of hearing, called by the patients muffling, and often accompanied by the most distressing sounds. This led me to institute various trials to remove this morbid condition, and I am enabled to state that the hearing may be perfectly restored by introducing into one ear an Æolian pitch-pipe, or other properly-adapted musical instrument, and containing the vibrations within the ear, which must be well closed. It will then be necessary to proceed in a similar manner with the other ear. This plan of treatment ought to be continued a week or two after the patient's recovery, and left off with the lowest note. It may be well to state that no good effects can be derived from this method unless the vibrations be confined chiefly within the ear, so as to localise their effects.

It is right also to presume that the vibratory mode of treatment will fail to be permanent in its effects unless the healthy secretions be first restored. The cases in which success is greatest are those in which the ticking of a watch can be heard when pressed upon the temple bones, and those in which hearing is temporarily increased during the bustle and noise that prevail more or less in the open air, or in carriage or railway travelling as long as the vibration is kept up.

This plan of treatment generally removes disagreeable noises in the ears and head in chronic and nervous deafness.

The Dells of the Wisconsin.

The Dells of the Wisconsin are a narrow passage of the river through high and perpendicular rocks above Arena. The narrowest and most rapid place is near what is known to the raftsmen as "The Elbow." It is a little over fifty feet in width. The depth is variously stated by those acquainted with the river, at from 50 to 100 feet. The river is, at high water very rapid, and rafts are sometimes stoven; but in low water it is perfectly safe for rafts and steamboats. The chasm has doubtless been formed by some mighty convulsion of the earth. The strata of rock, which is composed of sand, exactly correspond on the two sides of the river. Many similar chasms are found in the vicinity, their edges lined with pines, oaks, and white cedars. Near the dells are found traces of cultivation, which correspond with the French method of farming—the earth being thrown up in straight parallel ridges, four or five feet apart, and now covered with oak trees of more than a century's growth. Four or five miles below the dells are antiquities of a still more ancient date, consisting of those mounds or embankments which so much puzzle the student of American antiquities. They are regular in shape and vary in height from four to eight feet.

American Flour.

The "American Miller," in answer to our interrogation about the character of American flour, some of which could not be sold for \$4

less than the Trieste kind, says there are two barrels of it consumed in England for one from any other country, but there is no country in the world that manufactures so many different qualities of flour, owing to the great improvements in machinery, which is not the case in other countries. This is undoubtedly the truth of the whole matter.

Scientific Memoranda.

FRENCH AND ENGLISH SKILL.—The Bulletin de Paris says—"M. Thiers has returned to Paris from London full of admiration of the wonders at the exhibition, of which, he says, none of the writers in the French Journals have succeeded in giving anything like an adequate idea of its grandeur and magnificence. He spent nine days there, amongst the most eminent manufacturers and professional men, who, pleased to meet with so superior an intellect, gladly gave him every explanation. M. Thiers asserts there can be no dispute as to the high position France holds at the exhibition, especially in her silk manufactures. He was struck with the fact that France is pre-eminent in all the articles of luxury, which none but the wealthiest can buy; whereas England excels in the productions usually consumed by the middle or poor classes. Thus democratic France works for the rich, and aristocratic England works for the poor. Since his return, M. Thiers has frequently expressed to his friends his admiration of the exhibition, and he expatiates on the importance of this great page of industrial history as a means of showing the progress of civilization and giving it a fresh impulse

IRISH SPINNING.—A remarkable specimen of what can be done by the human hand, in producing linen yarn of wonderful fineness, on a common wheel, is now to be seen at the Northern Whig office, Belfast. The sample consists of two cuts and five threads, and is spun to the fineness of eighty-six hanks to the pound. It is very even in the threads. The spinner has executed this wonderful specimen since the opening of the London exhibition; and she is now eighty-six years of age!

PLANETARY INFLUENCE ON EPIDEMICS.—John S. Bowron, M. D., late Hospital Commissioner in the State of New York, has written a pamphlet to prove that the motions of the planets and other celestial bodies exercise an influence on the production of epidemics, and affect the nature and treatment of diseases. This was the doctrine of the astrologers of the last century *et ante*; but Dr. Bowron calls in the lights of modern science to sustain this theory.

Discovery in Egypt.

A most interesting discovery has been made in Egypt. It is known that there exists in Mount Zabarah, situated on an island in the Red Sea, a mine of emeralds, which was formerly worked by the pachas of Egypt, but was abandoned in the last years of the reign of Mehemet Ali. An English company have solicited and recently obtained authority to resume the working of this mine, which is believed to be still rich with precious stones. The engineer of the company, while directing some important excavations in this place, has discovered, at a great depth, traces of an ancient gallery, which must evidently be referred to the most remote antiquity. Upon removing the rubbish, they found tools and ancient utensils, a stone upon which is engraved a hieroglyphic inscription, now partially defaced. This circumstance proves the truth of opinion expressed by Belzoni, on the strength of other indications, that this mine was worked in ancient times.

The nature and form of the implements discovered, and the configuration of the gallery, the plan of which has been readily traced, prove most conclusively that the ancient Egyptians were skilful engineers. It seems from the examination of the stone which has been discovered, that the first labors in the mine of Sesostria the Great or Ramses Sesostria, who lived about the year 1650 before Christ, and who is celebrated by his immense conquests, as well as by the innumerable monuments with which he covered Egypt.