

## STEAM ON THE CANALS.

(From the New York Sun.)

The reward of \$100,000 which was offered by the State of New York for the invention of a method of steam towing which should supersede the use of horse power on our canals, has greatly stimulated the ingenuity of inventors, and many plans for attaining the desired result have been brought to the notice of the authorities having the matter in charge. Some of these plans are chimerical, while others have excellent points. It now appears highly probable that before long steam will be the motor in general use on our principal canals.

There are now employed on the canals of this State 6,879 boats, having an aggregate capacity of 1,225,000 tons, and valued at a little over twenty million dollars. Their average speed, towed by horses, is about one and a half miles per hour. If this speed could be increased to three miles an hour it is evident that the capacity of the canals would be doubled, while if the greater speed could be attained without any additional expense it is equally plain that the cost of transportation would be greatly lessened, a matter of moment to every one.

Among the plans offered for the consideration of the authorities have been a great variety of inventions for water traction, and some of these have involved the construction of canal boats on entirely new models, which, it is claimed, would reduce the displacement of water and consequently prevent the wash, so destructive to the canal banks, which would be likely to result from the rapid passage of boats of the ordinary kind. But the authorities determined not to confine the competition entirely to water traction, and last week some experimental trials were made with a land tractor which have excited a great deal of interest among canal men.

The new motor is called Williamson's road steamer, and the experiments took place at Albany, on the section of the canal between that city and Troy. The tractor is a three-wheeled locomotive, weighing about six tons. Its cost is about \$5,000. The wheels, which are twelve and fifteen inches broad, have India rubber tires four and a half inches thick. The steering wheel is in front, and is managed as one manages a velocipede. This engine can ascend the steepest grades, and can turn in its own length. It is also claimed that the rubber tires on the wheels, in addition to giving them the most perfect adhesion, will act as road rollers, rolling the towpath smooth and keeping it in good order. The rubber face on the wheels is protected by a series of steel shields one inch and a half apart, fastened together with an endless chain.

On the occasion of the trial at Albany, which took place on Thursday last in the presence of Canal Commissioners Wright, Fay and Barclay, and other prominent men, at the appointed time the engine ascended the incline from the Troy road to the towpath and hitched on to one of three bull-head barges which were loaded with lumber, and having moved it into position adopted the same course with the second and third until they were arranged as a tow and properly secured. Then the engine started and drew them with the greatest ease, at the rate of three and a half miles an hour, to the lock above the city. The result was attained with ordinary boats on a common towpath.—Various preliminary trials had resulted in an equally satisfactory manner.

It is said that all who witnessed the trial were fully satisfied of the practicability of this plan of steam towage, and it appears that its economical advantages are very great. The pressure of steam required to enable the engine to draw three barges is ten pounds to the square inch, and that pressure can be kept up with a consumption of one hundred and fifty pounds of coal per hour. By a careful comparison of the cost of towing three boats by horse power from Albany to Buffalo, in which interest, wear and tear, and all contingencies are taken into consideration, it is estimated that by the use of the road steamer the expense of towage would be \$132.86 less for each boat than by horse power, while there would be a gain of four days' time. The usual time consumed in a trip between Buffalo and Albany is ten days; the road steamer would easily make it in six.

It may be that some system of water traction may be devised that will give even better results than these; but if not it seems to have been fully demonstrated that the land tractor will do more than has generally been deemed possible. Should it come into general use there can be little doubt that many improvements in its construction will be suggested by experience, and it is also probable that improvements will be introduced in the construction of boats which will reduce the resistance of the water and lessen the wash of the banks. At all events it is safe to assume that horse power on the large canals will eventually be generally superseded by steam, whether land or water traction is adopted as the substitute for the present system.

**PNEUMATIC RAILWAY IN TEXAS.**—Colonel J. H. Simpson, United States Engineers, describes the operation of the cars on the temporary railway now in operation at Matagorda, Texas. The road is used for conveying the materials for the new light-house now in process of erection at that place. He says: "Transportation of material over the railroad at this work has been much facilitated by using a sail on the cars. As great speed as a mile in 2½ minutes was obtained by this means, and the heaviest loads the cars could take were moved along as well almost as if the cars were propelled by steam. It was found that the cars would sail almost as close to the wind as a boat."

**NEW MATERIAL FOR BRICKS.**—During the last few years, experiments have from time to time been made with the view to utilize in some way the mounds of shale (the refuse of the coal mines) which cover an area of several thousands of acres in South Staffordshire, England, by converting them into bricks. Several enterprising firms have already embarked in this novel but profitable business. When properly pulverized, the shale is found to be an excellent material for the purpose, the bricks produced being hard and durable, resembling in colour the fire-clay bricks of the Stourbridge district, although for furnace and such like purposes they are not so valuable. For ordinary building, however, they are found to be of equal practical value to the ordinary red bricks. The material is to be had in any quantity for a mere nominal sum, and there is every reason to believe that this method of utilizing the innumerable dusky hillocks which disfigure the South Staffordshire landscape will gradually develop into an industry of some importance.

**OLD RAGS.**—First and foremost of the many applications of this humble material is the manufacture of paper; for this purpose England alone uses not less than 85,000 tons of rags and waste, representing a money value of about \$3,500,000. The transformation effected by the action of certain chemicals on paper is very striking. A sheet of common white blotting paper, which will scarcely bear its own weight when wetted, is converted in a few seconds, by the action of sulphuric acid, into a substance possessing all the properties of ordinary animal parchment, and so strong that it can be only broken with difficulty. Great as this change is, strange to say no chemical alteration has really taken place; the acid merely produces a molecular change, and is entirely washed away at the end of the process. Rags from wooden materials undergo many peculiar metamorphoses; old clo' criers first collect them; they are then successively converted into mungo, shoddy, and devil's dust, and reappear as ladies' superfine cloth; they then degenerate into druggets, and are finally used for the manufacture of flock paper. After undergoing all these transformations, they are used by the agriculturist as manure, on account of the large amount of nitrogen they contain. The presence of this element makes them of great use, also, to the chemical manufacturer; he boils them down with pearlash, horns and hoofs of cattle, old iron hoops, blood, clippings of leather, and broken horseshoes, and produces the beautiful yellow and red salts known as prussiates of potash. From these, again, the rich and valuable pigment called Prussian blue is made, and thus do our old rags enter upon a fresh career of beauty and usefulness, to form, in their turn, other waste products, which may again be utilized through the power of man's intelligence.

## THE "TIMES" ON THE CANADIAN PRIMA DONNA.

The London *Times* of the 15th ult. speaks in the following high terms of the artistic genius of Mdlle. Emma Albani, the great Canadian *prima donna*, who has been fulfilling an engagement at the Royal Italian Opera in London:—

"That Mdlle. Albani steadily and surely advances each new character she essays affords ample proof. The young Canadian is lucky in having a manager like Mr. Gye, who seems determined to help her on, and allows her such varied opportunities, not only of exhibiting the qualities she already possesses, but of improving and perfecting them by the constant public exercise of her art. Of those opportunities none who have watched her hitherto brief career with interest can fairly deny that Mdlle. Albani with the utmost conscientiousness has availed herself. She is always thoroughly prepared, always earnest, careful and painstaking, always thinking more of the character she is impersonating, and the music she has to sing than of herself—and, therefore, always satisfactory to connoisseurs, who, in uncommon promise, are willing to see before them an uncommon future. Already Mdlle. Albani had convinced us by her *Armina*, her *Lucia*, her *Martha*, and her *Gilda* that there was no ordinary beginner before us; and now her *Linda* has been simply influential in strengthening that conviction. That she has well studied the character, in all its phases, was made evident by her performance the other night—a performance for the greater part as musically correct as it was everywhere systematic. First, Mdlle. Albani looks *Lucia* to the life, her youth and prepossessing unassuming manner lending strength to the illusion. The utter absence of show and pretentiousness in the young lady is of itself an indefinable attraction, and imparts a special interest to each of her performances, an interest only ceasing with the fall of the curtain. That she is not yet a perfect vocalist she knows as well as her critics; but that she has the resolution and the industry eventually to become one is just as apparent. Such young talent as this, so modestly and becomingly exercised, is alone a charm. It is no less evident in the acting of Mdlle. Albani than in her singing. That, both as actress and singer, she will realize her ideal, if she goes on as she is going on now, is our firm conviction. *Linda* is a part of considerable difficulty. Even the opening *caratina*—"O luce di quest' anima"—has been a test for the utmost accomplished sopranos, from *Persiani* downwards. Nevertheless, Mdlle. Albani sang it right well, and executed the florid passages at the end of each section with singular neatness and facility. She was also very happy in her duet with *Carlo* (Signor Nicolini); and, in short, the entire first act was successful. In the second the dramatic powers of a singer are more severely tried. There is the duet with the Marquis de Boisheury (Signor Ciampi,) whose unprincipled advances *Linda* repulses with such vigour; the duet with Antonio (Signor Graziani,) who in his turn rejects the proffered arms of *Linda*; and lastly, the scene of the mental aberration, when *Linda* is informed by *Pierotto* (Mdlle. Scalchi) that her lover is about to become the husband of another. All these are trying and difficult, but Mdlle. Albani showed an intelligent appreciation of each, and in each came favourably forth from the ordeal. There is little for *Linda* to do in the last act, unless she introduces, after the example of Mdlle. Ilma di Murzka, an elaborate air with variation, as *finale*—from which custom Mdlle. Albani, who was frequently applauded and "recalled" throughout the opera, discreetly refrained."

HALIFAX, Feb. 10th, 1872.

MR. JAS. I. FELLOWES—Dear Sir: In order that some other sufferer may be benefited, you are at liberty to give this letter publicity.

In the winter of 1869 I was taken ill with Disease of the Heart, accompanied by violent palpitation, and from that time gradually became weaker, notwithstanding continued professional attendance, up to a few weeks ago, when your Compound Syrup of Hypophosphites was recommended to me. The use of it during a very short time enabled me to resume my usual work, and now I am as well, fat and hearty as I could wish to be. Yours very truly,

W. FRANK COCHRAN.

The Heart being a great muscular organ, requires vigorous nervous force to sustain it. As Fellowes' Hypophosphites restores the nervous element, it will always strengthen the Heart weakness through loss of this element.

THE INVENTOR.

One of the latest importations of the London cooks is cold asparagus served up with ice, and eaten with cold lamb.

## MISCELLANEOUS.

M. de Remusat has notified foreign Powers that the sittings of the International Congress to take into consideration the universal introduction of the metrical system will re-commence on the 24th of September.

A restaurateur of Tours having sued the French Government for the keep of Prince Frederick Charles (the Red Prince) and his staff in February and March, 1871, to the amount of £1,200, has had awarded him one-half of his claim, £600.

The *Record* tells us that among the ornaments which adorn the walls of a tavern in London where the Communist refugees most congregate is a clay pipe well coloured, which was formerly the property of M. Gambetta, and to which, by the orders of Félix Pyat, was attached the following inscription:—"The pipe of a traitor."

The Pittsburg servant girls have struck. They demand among other privileges short hours, free Sundays and free evening, free admission of friends and cousins to the kitchen, free range of pantry and cellar, hospital attendance at the expense of their employers in case of sickness, and increase of wages with the growth of families.

An enterprising Englishman has leased a water lot in Palatka, Fla., for ten years, with the design of putting up a moss and paper factory. The moss will be manipulated into hair-cloth, etc. The paper mill is intended to manufacture paper out of the common saw palmetto. Paper made out of this material is now used by the Bank of England for bank notes.

By the death of Cardinal Clericelli-Paracciani, Bishop of Frascati, that ancient see, held by the late descendant of the Stuarts, the Cardinal of York, falls to the lot of Monsignore Edward Howard, lately consecrated conditor to the deceased Cardinal. A descendant of the Tudors, and not long ago a popular officer in the Queen of England's Life Guards, succeeds to the dignities of the last of the Stuart line.

THE RECOLL.—The Beaver Falls cutlery works in Pennsylvania, having been stopped by the strike, have been replenished by the importation of Chinese. Seventy Celestials have already been set to work, and five hundred more have been contracted for, and are expected the last of the month. They are to get \$20 per month, and be bound in religion—a special clause in the contract stipulating for the furnishing of "joss man" without expense to themselves.

Bishop Whittingham, of Maryland, and two English bishops have been invited by the "Old Catholics" to participate in the Congress at Cologne, which seems to indicate that the "Old Catholics" do not regard the Protestant Episcopal Church as schismatical. Bishop Whittingham now stands fourth on the roll of American P. E. bishops. He was consecrated in 1840. The three who rank next him are Smith, of Kentucky, presiding bishop, McIlvaine, of Ohio, and McCoskry, of Michigan.

The most novel strike of which we have any record in these striking days, is that of the clergymen of Wilmington, Delaware. These gentlemen have regularly formed themselves into a Funeral Trade Union, and adopted the following resolution:—"That only the hour for the beginning of the funeral services be published, and that promptness on the part of all is very desirable; that a carriage be sent for and placed at the service of the minister; that the position of the minister, during the funeral service, be left to his own discretion; that the selection of the Lord's day for funerals be discouraged."

During a recent Sunday-school convention held in Ballston, N. Y., one of the delegates hitched his horse in the street and allowed it to stand there in the hot sun from 8 o'clock in the morning until after 5 in the afternoon (nine long hours) without food or drink. It was a black, small pony with one white hind foot, hitched to a black gold mounted top buggy, in which was a white blanket trimmed with red. During the afternoon some one placed a card on the horse on which was printed: "I belong to a Christian, I have stood here since morning without food or drink."

"It is a fact," says Mr. Scudamore, "that a telegraph clerk in London who was engaged on a wire to Berlin formed an acquaintance with and an attachment for a female clerk who worked on the same wire in Berlin, that he made a proposal to her, and that she accepted him without having seen him. They were married, and the marriage resulting from their electric affinities is supposed to have turned out as well as those in which the senses are more apparently concerned." This is a hint which we hope will not be lost on the telegraph young ladies and gentlemen. Courting by electricity must be a thrill of joy, except one end turns on the electricity too strong.

The ladies attending the anniversary sermons of the Wesleyan Church, Buninyoung, New South Wales, have received something like a rebuke in the matter of dress. The Rev. —, after speaking of the sublime and beautiful in the physical world as the most proper accompaniments to religion, startled his audience by putting a question to them in the form of a conundrum—"Why are ladies like the lilies of the field?" A pause followed. "Because," continued the gentleman, "they toil not, neither do they spin;" and extending forth his arms over the audience, the preacher exclaimed, "yet even Solomon in all his glory was not arrayed like one of these." We should think not; most young men would prefer a young lily of the Wesleyan Church of Buninyoung (horrid name) to Solomon.

The Paris correspondent of the Boston *Globe* relates the following little incident, which he witnessed one evening on the Place du Palais Royal:

A man in a blouse, with his bundle of tools over his shoulder, accompanied by his wife, a coarse-looking woman, was crossing the asphalt. Two ladies dressed in black were coming in the opposite direction, and one of these, who was looking out for an omnibus, accidentally jostled against the woman. She instantly turned and apologized.

"Pardon, madame."

"There is no pardon," was the rough retort; "you did it on purpose."

"But I assure you, madame—"

"No words! Take that, aristocrat!" and a female flat came in contact with the lady's temple. She burst into tears and ran away with her friend. There happened to be no "sergent de ville" at hand, and the two Communards—for such they were, undoubtedly—walked off in triumph.