## AMERICAN NOTES.

THE ENGLISH MAIL.

Interesting Summary of News.

WHY THE TAY BRIDGE FELL.

WHY THE TAY ERIDGE FRIL. Some of the evidence given on Saturday, the 28th ult., at the Board of Trade In-quiry respecting the Tay Bridge disaster was of an important and even startling character. The supporting columns of the bridge were cast in a small temporary foundry, erected by the contractor at the south end of the structure, and three of the moulders—all experienced men—de-sorihed the character of the work they had aggisted in turning out. The iron was from

scrined the character of the work they had assisted in turning out. The iron was from Cleveland, and was inferior to Scotch metal. Two of the witnesses went so far

as to say that " it was the worst they ever

saw." A loam core was used in casting the columns; but against this nothing

could be said, as it is an approved method

of executing such work. But the columns were badly cast. The speci-fied diameter of the pipe was fif-teen inches, and the specified thick-ness one inch. It is obvious that all the

columns ought to have been of uniform

substance. But the workmen examined assert that this was not so. Not only were some of them under the specified thickness

of metal, but they even varied in this re-spect. "One side might have been be-

tween three-eights and a quarter of an inch, and the other between one and

querter and ene and three-eights inch.' The columns, it was stated by these wit-nesses, were also full of cracks and holes, some of the latter half an inch in depth.

These cavities were puttied over with Roman cement, in its turn concealed by

cost of paint. Some of the columns used in lifting the girders to the top of the columns were cast without the "lugs."

columns were cast without the "lugs." In such cases the lugs were subsequently burned on; but from the peculiar position of the lugs on the column—it "was almost impossible that with the materials used the lugs could be solidly burned on, as in cooling the lugs came away from the flanges and adhered only to the column." This took

place frequently. Nor was the quality of the metal used better than the casting made of it. One of the ordinary risks of

mode of it. One of the ordinary has of moulding is what is technically known as "scabbing." This is the rising of the sand from the under surface of the mould dur-

ing the time that the molten metal is run-ning into it. The sand being thus mixed with the metal, of course produces an in-

equality of strength on the opposite sides of the column. This, we are told, often

occurred in casting the Tay Bridge celumis. Salt water was also, as a rule,

employed in cooling the moulds, conse

quently "impurities were introduced which should not have been there," Some

of the columns that fell in 1877 were of nequal length, and some of these were also of unequal thickness. The witnesses

considered that these facts must have

been known to those who overlooked the work. Some "base plates" were sent from

work. Some "base plates" were sent from Bathgate, but, according to the witness McGowan, the manager objected to them being mixed with the English iron, "for they could get pig from Middlesborough, and then they could at the close of the job sell the Scotch plates at a good price." A

diver who had also been employed appenin-tending the painting of the bridge, looked for empty bolt holes, or bolts slack, but-it

is satisfactory to note-found only two

one of the witnesses declared were not only

cracked in the body, but also in the flanges, are still standing, and can be put in evidence as to the veracity of the statements

made. Some of the others, it was declared

were used in the portion of the bridge that

fell. It is imperative that the statement should be thoroughly investigated, for i

A GALLANT RESCUE.

Fortunately, some of the colurans

Deacon Kirkham, of Lackawanna, Pa ... as eloped with a neighbour's wife. Bishop Hare, of the Episcopal Church, onfirmed 130 Indians last year ; 73 others

were baptized. The Chinese Government has determined to establish consulates in Boston, Phila-delphia and New York, for the better proction of its subjects.

The London Journal of Science asserts that the one thing lacking to make the beauty of American women perfect-increase of fat -is now supplied.

Three million acres of fall wheat have een sown in California, the early and abundant rains enabling farmers to put in a full crop, which is said to be a very unusual thing.

An old lady walked out of a car on the Union Pacific railroad while she was fast-asleep, stepped off the platform, and was not much hurt, though the train was going twenty-five miles an hour.

George Augustus Sala told a San Francisco Chronicle reporter that, for a comprehensive, cosmopolitan presentation of news, the New York newspapers struck him as the best in the world

After a spiritual séance in Boston, there was found in the hall a curious iron harness. This was, by unbelievers, associated, with a certain materialized form that had been shown floating in the air.

In Burlington, Vt., the other day, a pair of horses, attached to a carriage containing five persons, ran off a bridge, and fell nearly orty feet without seriously injuring the or upants of the carriage or the horses.

The Lewiston Water Power Company is building a tremendans dam at the foot of Richardson Lake, Me. It will be 500 feet long, 20 feet high, with 13 gates, and will make a lake with an area of 40 square miles. The charge on which the Rev. J. W. Reid is to be tried before a church tribunal at Greenville, Mich., is "unministerial and unchristian conduct," and the specification asserts that he deals in options.

There are 64 secret societies in the colleges of the United States, with a member-ship of 66,256, and divided into 487 chapters. These societies have 35 chap houses, the most expensive of which cost \$40.000.

The fastest time ever made by a freight train between St. Louis and Texas has just the been accomplished. There were twenty cars, with a thousand kegs of lager beer. Galveston and other Texas cities had run out of beer, and were thirsty ; hence the hurry.

Samuel Edgar Williard, aged 15, son of a Professor in the Chicago High School, was reproved by his mother for going to a was reproved by his mother for going to a theatre. He thereupon went away from his home, declaring that he would never return; but he did come back, after several days, and committed suicide with a pistol

A St. Louis barkeeper stuck a split cork on the nose of a sleeping burner, stuck into it a number of lighted matches, and rolled in the sawdust with delight with the terror of the awakened victum. The diversion cost only a dollar, that being the fine imposed on the joker by the Police Justice.

The windows of the Cincinnati Chamber of Commerce building overlook the yard of the First Presbyterian church. The of the First Presbyterian church. The church officers demanded, and until lately received, \$800 a year for the privilege of taking light. The Chamber voted not to pay any more, and now a tight board fer overs the windows.

The heirs of Stephen Girard have been besten again in litigation to get a part of the fund which he left to Girard College. He bequeathed \$2,000,000 outright, and set half as much more aside for the same pur-pose, if needed ; but the \$2,000,000 proved sufficient for the maintenance of the col-lege, and the rest applied by the city of

Philadelphia to certain

## THE WEEKLY MAIL, TORONTO, FRIDAY, MARCH 26, 1880.

dering of life. The total number of men

that our Post Office affords no machinery analogous to the German system, and it is also clear that its introduction or adoption would be a great public boon. Possibly the scheme at present under consideration at Berne might lead to this result. It is proposed to have a uniform charge for the postage of all parcels of or under 6lbs, weight within the countries included in the union. If this measure were adouted shepherd bore a great resemblance to this latter. The unfortunate wretch, who had no one to speak a word for him, either did not know, or was so dazed that he could not remember his birthplace, and, in the end, was sentenced to transportation to the Ile des Pins. Amiot, as the man is named, the union. If this measure were adopted a Londoner could receive a parcel posted in Vienna which the Post Office would not accept had it been despatched from Wind-sor. The absurdity of such a state of things would soon be felt, and we might des Pins. Amiot, as the man is named, was accordingly sent, and, by August, 1879, he had not been pardoned. One of his fellow-conwicts lately wrote to say that "Amiot was awaiting the termination of a punishment which he did not understand, and was explaiting a orime which he had had no thought of com-mitting." Unluckily he was condemned for life, and whether since pardoned or net we are ignorant. He may possibly be con-sidered a dangerous character. Porhaps his very imbecility is taken for dissimula-tion. Be this as it may, his story, while hope in time to have it corrected. But the Berne scheme has met with dissentients. It will be remembered that France hung back for two years from signing the Con-vention of 1874; and she still opposes difficulties in the way of a uniform tariff. difficulties in the way of a uniform tariff. Her influence is great, but it would be bet-ter to forego the advantage of her co-operation than that the scheme of a uniform parcels post should utterly fall through. GERMANY AND RUSSIA.

his very imbecility is taken for dissimula-tion. Be this as it may, his story, while it has undoubtedly a ludicrous side, is at bottom horribly sad and grave, and ap-pears to us calculated to cause reflection to those who insist on the justice of re-pression and the necessity of refusing an average *Ramed* It appears to be the opinion in Berlin should be thoroughly investigated, for if they are only half true the wonder would be not that the Tay bridge fell, but that it stood even so long as it did. vicinity to the Prussian frontier, which had aroused serious disquietude in amnesty.-Rappel.

terrible lane, seemed greatly relieved to stand at last upon firm ground. His pure white feet were, however, deeply stained with the blood and gore of his victims. These fanatics submit themselves to this ordeal with the belief that Allah will pre-vent them from receiving any harm from the horse bearing the holy shelk. I have witnessed this annual ceremony several times; but on this occasion I was luoky enough to secure a position so near the sheik that I could almost touch him with my outstretched arm. I noticed five victims who received injuries which I deemed fatal. Many others were wounded, but at the very instant of receiving any injury, they were most skilfully and quickly concealed by men standing at hand for the purpose. There are many other incidents to this fete, such as eating live makes, swallowing glass, &c.; but the great event of the day is the scene which I have just described, and which took place in the presence of the Khedive, the Sheik-ul-Islam, Mufti and all the princes, minis-ters and functionaries, both native and Eu-ropean, as well as by many hundreds of women of the princely and other harems. The Khedive is a good Mussulman, and is much more observant of his religious du-ties than his father. Ismail Pacha. His Highness, is, however, also a wise Mussul-man, and all these manifestations of fan-aticism are most repugnant to him ; and I have the best authority for saying that the Khedive would gladly absent himself from a'l such ceremonies, and would even pro-hibit them were it not that it would be un-safe to commence his reign by giving um-brage to a large portion of his subjects. have just described, and which took place in the presence of the Khedive, the Shek-ul-Ialam, Mufti and all the princes, minist tors and functionaries, both native and En-ropean, as well as by many hundreds of women of the princely and other harroms. The Khedive is a good Mussulman, and is much more observant of his religious kinet the torse of the local Landwehr, ties than his father. Ismail Pacha. His Highness, is, however, also a wise Mussul-stoins are most repugnant to him ; and I have the best authority for saying that the Khedive would gledy absent himself from Gosehenen ran into a'l such corremonies, and would even pro-hibit them were it not that it would be un-strage to a large portion of his subjects. The Khedive is by no means a fasatic and The Khedive is by no means a fasatic and

EUROPEAN JOTTINGS.

Swiss journals estimate that the use of as St Gothard tunnel will take annually \$150,000,000 worth of freight business from the French railways. At Porchester, Hants, the other day, a roll of bank notes, confined by an elastic band, amounting to £225, was found among the seaweed washed up by the re-cent gales.

In a will case tried the other day in Dublin, it appeared that on the marriage of the testatrix she described herself as being 32 years of age, whereas, in reality, she was close on 70.

A Rome despatch says that "the Pope field has been carefully inquiring into the real condition of Ireland, with the view of as-certaining how far it is true that the Catholics nourish hopes of dispossessing Protestant landowners." The monument to the memory of

Schumann has been erected in the cemetery at Bonn, and will be unveiled on the 2nd of May next. In the evening of the same day a grand vocal and instrumental con-cert will be held in the Beethoven Hall, in which a number of the leading German performers will take part.

Mr. J. B. Hannay, the discoverer of artificial diamond making, writes to a Lon-don jaweller : -- "I do not in the least expect that my discovery will have any effect upon your business, as the cost of producing very small quantities of sub-stance like boart is so great as to relegate the process to a mere laboratory experi-

A court-martial sitting in Paris has just sentenced to five years' penal servitude a man named Charles Drouhin, who was conman named Charles Drouhin, who was con-victed nine years ago of having given in-formation to the Germans during the slege, and who, having escaped from prison during the Communists insurrection, was recaptured under very peculiar cir-

"The 'French of Paris,' and of other Gallic towns of any interest, are beginning to complain bitterly of the 'Boston,'" says the London World. "Wherever there is anything to see or do, America will be also; and will insist on dancing its national dance to every tune, valse, polka, mazurka, galop, or even quadrille, with the effect of clearing the floor of those who are keeping to the programme. Strasburg is excited over the exploits of

Strasburg is excited over the exploits of a mysterious stranger who goes about stabbing women. As soon as he perceives an "unprotected female," he saunters up to her in a leisurely way, and strikes her on the right breast with his weapon, in-flicting a slight wound of from half to three-quarters of an inch deep. He has succeeded in stabbing no fewer than fifteen women and girls in this manner.

It is not generally known, says London Truth, that Mr. J. Russell Lowell, the newly-appointed American Minister to London, is a lineal descendant of one Per-cival Lowell, an English merchant, who emigrated from Bristol in the year 1639. Several of Mr. Lowell's ancestors have of the engineers as to the direction of the galleries are thus fully verified, but they were out by 80 mètres in their estimate of the length to be pierced. At noon yester-day it was computed that there were still a very considerable number of mètres to bore, and that the meeting from both ends would occur 40 hours later, but in the course of last night, on sounding with a long drill, it was found that the thickness of the intervening rock was only 13 mètres. The news of this unlooked-for consumma-tion became speedily known, and at 10 been prominent in the history of New Eng-land, and all have been renowned for their intellect, scholarship and integrity. A London lady on her way to Bond street was accosted by a middle-aged, well-dressed man, who, after some conversa-tion, requested the lady to come and dine with him at a café which he named. She

SCIENCE NOTES.

Dr. Sydney Marsden, says the Nature, has discovered a substance in which carbon is soluble sud from which it crystallizes out partly in graphitoidal and partly in adamantine forms. The adamantine crys-tals exhibit beautiful octahedral shapes under the microscope and scratch sapphire readily readily.

Dr. Kasman finds that zinc, introduced into steam-boilers for preventing incrusta-tion, effects the purpose where the waters are selenitic; but where the waters conare selenitic ; but where the waters con-tain carbonates of lime, magnesis, and iron, zine does not prevent incrustation. The zine first becomes brittle and percus, and is then rapidly reduced to powder.

When the St. Gothard tunnel was completed, a medal was presented to all the men engaged in the work. The medal, men engages in the work. The menal, which was struck at Geneva, has on one side the arms of Germania, Italia, and Helvetia, with the motto Viribus Unitis, and on the other side an inscription in German and Italia 1-" To the Men of the Gothard Tunnel

The Millers' International Exhibition will be opened at Cincinnati on May 31, and will be closed a fortnight later. The exhibits will be divided into 11 classesexhibits will be divided into 11 classes-motive power, steam boiler and engine fittings, milling machinery and millers' supplies, grain, products of the mill, bread and crackers, baking powder and yeast, bags and bagging, scales, barrel labels, and miscellaneous articles and apparatus.

The result of the experiments with heavy guns and test targets at Spezzia in the autumn of 1876 has been the production of compound armour-plates for ships of war. These plates consist of steel having an iron backing. Liquid steel is poured on the heated iron plates, and the latter becoming partially fused, a most intimate weld is of-fected, the steel running into the fibrous iron and the iron into the steel. All the new iron-clads are to be protected with this cription of plate.

description or plate. Fisitmann has discovered that by adding one eighth of 1 per cent. of magnesium to fused nickel or cobalt, these metals, whether cold or hot, are capable of being easily forged or rolled into sheets. Cobalt alloyed with magnesium becomes very hard, and when polished, surpasses nickel in lustre and whiteness. Both the cobalt and the nickel treated a shore very and the nickel, treated as above, remain untarnished when exposed to the atmos phere, and when cast in moulds have the

same properties as cast steel. Major Sharrat says that the prevailing Major Sharrat says that the prevailing ignorance of the proper way to burn il-luminating gas results in great injury to health and comfort, as well as in heavy pecuniary loss. He estimates that of all the gas which passes through a meter, from 30 to 50 per cent. is wasted. The principal causes of this enormous waste are bad burners, excessive pressure, and unsuitable arrangements of case clobes and Stime. To arrangements of gas globes and fittings. To insure the best results with the greatest economy, it is essential to burn gas under low or very moderate pressure, with the aid of good burners and efficient regulators.

A scientific explanation is asked by Mr. A scientific explanation is asked by Mr. S. J. Capper of certain facts observed by him during the time the Lake of Con-stance was frozen over last winter —an occurrence which happened only twice during the past 185 years. When the air was perfectly still and the frost in-tense, the ice broke away in the middle of the lake and corshing upon that pear the

Miss Moore gave recitations in Portland, Me., and the Argus said :- " She is at times very forcible in her delivery, and towers in her dignity in a way that sometimes almost degenerates in a strut," but what it meant to say, according to a subsequent explanation, was that "she towers in her dignity in a way that sometimes elevates and instructs.

The Rev. J. McDade, of Cleveland, was ued by Lucy Jane Chumblin, a member of is church, for breach of promise to marry; but she failed to appear on the day ap-pointed for the trial. The case was dis-missed, and the pastor received a vote of onfidence and the congratulations of his congregation. Now she comes out with a statement that he hired her to keep out of the way, and he has been arrested agair.

Miss Roseberry wanted to marry Mr. Deputy, at Seymour, Ind., but her father commanded her to marry Mr. Bowers, and appointed a day for the wedding. On the evening before she secretly became Mrs. Deputy. She was on hand for the other

ceremony, however, and it proceeded smoothly as far as the question whether anybody objected, when Mr., Deputy re-marked that he had an objection—a trifling one, which he had some reluctance about nentioning-the lady was his wife.

Col. Reuben Allen Steere and Rebecca Col. Reuben Allen Steere and Rebecca Ann Meyers, whose united height is only five feet and a half, were married at Rochester a few days ago. They belong to the Liliputian Opera Company, and had been lovers, in mimicry and reality, for several years. The bridegroom was fault-lessly attired, exceedingly dignified, and wore a rather fierce moustache. The bride was clad in pale blue silk and pink satin, and she bluebed and more in a main the was chain pale blue alk and pink satin, and she blushed and wept in a captivating style. Two couples of small people from the company stood up with the pair, and the ceremony was witnessed by as many guests as a hotel parlour would hold. The Colonel is 33 years old; his wife 27.

George Kochler was believed to have murdered a man at Cairo, III., but there was not a scrap of evidence against him, and for some time he was not even arrest-ed. It was at length decided to entice him into inculpating himself. He was put into gaol, in the same cell with a detec-tive, who pretended to be a oriminal, and confessed many imaginary crimes to his companion under a solemn pledge of secresy. He argued that almost any crime could be concealed, and thus gave the im-pression that he was wonderfully shrewd. Koehler fell into the trap, asked his ad-vice, and gave him a circumstantial acnurdered a man at Cairo, Ill., but there vice, and gave him a circumstantial ac-count of the murder. The missing body was found where he said he had buried it, and it seems certain that he will be hanged on the evidence that he has himself provided.

vided. According to the St. Louis Times, a painter named Gutherz has been uniting the beautiful and the useful by decorating a dress for a lady of New York :---"'The front of the dress-a marvel of 'robin's-egg blue' silk and gauze, trimmed with wonderful lace-was ornamented by Mr. Gutherz in the highest style of decorative art, with figures painted in all the colcum on the palette. One piece of satin, shaped by painting the front of the corase, in decorated with forget-me-nots, arranged around the central figure of a Capid's bow to with bees on the lower border. The wais with bees on the lower border. The with laced back and forward with a wreat is laced back and forward with a wreath of gold cord, the interstices filled in with butterflies. On the skirt proper is painted a creacent moon, in which are seated two Capids, holding in their clasped hands a chain, which crosses to the left of the skirt, and is caught by the hands of two similar Cupids, also seated in a crescent moon. In the place where the scarf is ordinarily worn are painted all the colours of the rainbow, from which to the lower left-hand corner the space is filled in with representations in oil of shells and ooral around the central figure of a gold-fish."

When the Prince of Wales' son when the frince of wales son a rdered aloft by the captain, he mentally smarks:--" This is my grandmother's hip, and if it makes my back sone to limb that pole, and I ain't going to do it not this one."

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