

## A GREAT ENGINEERING WORK.

A BRIDGE of such proportions as the world has never yet seen is proposed by Sir Joseph Bazalgette for the purpose of connecting the two banks of the Thames in the vicinity of the Tower, and the plan has received the approval of the Metropolitan Board.

The operation contemplated by the Board consists in building up a structure of steel crossing the Thames in one tremendous span, clearing the water at such an altitude that three-fourths of the masted ships which require to do so will be able to pass under the elevated roadway without any hindrance, while the remaining fourth will merely have to lower their topmasts, which they may very well afford to do, as topsails are not carried in the Thames above Gravesend. The case now before us affords a striking instance of the great practical results which are apt to follow from improved processes in the arts. Steel, when perfect in its composition, is capable of bearing a much more severe strain than iron, but the difficulty has been to insure uniformity of quality in the superior metal. Sir J. Bazalgette observes that, until a recent date, the costliness of steel and the uncertainty as to its quality have prevented its use in large structural works. But the improvements which have been effected by Dr. Siemens and others in the manufacture of this metal have rendered it more thoroughly trustworthy, and have enabled it to be produced, at a moderate cost, with nearly double the strength of iron. Hence it is now possible to construct such a bridge as would have been practically out of the question a few years ago.

One bold span of eight hundred and fifty feet will carry the proposed highway across the river from the Irongate stairs to Horselydown. Of course the approaches extend farther inland. The bridge is designed in the form of an immense span, and is composed of two immense girders, the arch springing from the foot of that which appears to be a flanking tower on each side of the river. The roadway passes almost in a level line very near the top of these towers, and intersects the arch at a short distance from the shore, the greater part of the roadway being suspended from the parallel girders between which it passes. The design is, in fact, a simple one, and if it does not strike the eye at once as possessing any degree of elegance, it cannot be called altogether ugly.—*London Standard.*

## THE SIBERIAN M. NES.

*The Pall Mall Gazette* gives the following particulars relating to the dreadful mines of Siberia:—"The exiles who live in the mines are convicts of the worst type, and political offenders of the best. The murderer for his villainy, the intelligent and honest Polish rebel for his patriotism, are deemed equally worthy of the punishment of slow death. They never see the light of day, but work and sleep all the year round in the depths of the earth, extracting silver or quicksilver under the eyes of taskmasters, who have orders not to spare them. Iron gates, guarded by sentries, close the lodges, or streets, at the bottom of the shafts, and the miners are railed off from one another in gangs of twenty. They sleep within recesses hewn out of the rock—very kennels—into which they must creep on all-fours. Prince Joseph Lubomirski, who was authorised to visit one of the mines of the Oural, at a time when it was not suspected he would ever publish an account of his explorations in French, has given an appalling account of what he saw. Convicts racked with the joint-pains which quicksilver produces; men whose hair and eyebrows had fallen off, and who were as gaunt as skeletons, were kept to hard labour under the lash. They have only two holidays a year, Christmas and Easter; and all other days, Sundays included, they must toil until exhausted nature robs them of the use of their limbs, when they are hauled up to die in the infirmary. Five years in the quicksilver pits are enough to turn a man of thirty into an apparent sexagenarian, but some have been known to struggle on for ten years. No man who has served in the mines is ever allowed to return home; the most he can obtain in the way of grace is leave to come up and work in the road-gangs, and it is the promise of this favour as a reward for industry which operates even more than the lash to maintain discipline. Women are employed in the mines as sifters, and get no better treatment than the men. Polish ladies by dozens have been sent down to rot and die, while the St Petersburg journals were declaring that they were living as free as colonists; and, more recently, ladies connected with the Nihilist conspiracies have been consigned to the mines in pursuance of a sentence of hard labour. It must always be understood that a sentence of Siberian hard labour means death. The Russian Government well knows that to live for years in the atrocious tortures of the mines is humanly impossible, and, consequently, the use of an euphemism to replace the term 'capital punishment' is merely of a piece with the hypocrisy of all official statements in Russia. Once a week a Pope, himself an exile, goes down into the mines, to bear the consolations of religion, under the form of a sermon enjoining patience. By the same occasion he drives a little trade in vodka, an intoxicating liquor. The miners, who live habitually on tshi and black bread, are allowed a copeck for a good day's work, and this sum invariably goes in drink. Perhaps the raw, rancid spirit serves to keep up their strength; any how, the intoxication it brings on affords the unfortunate the only drop of comfort they can expect on this earth. One shudders to think of the state of the better educated men who refuse the consolation of occasionally drowning their sorrows in liquor. What must be the plight of professors, journalists, land owners, who have been condemned to die by inches for the crime of emitting liberal opinions, which in England bring a man to great honour and comfort on every side? Perhaps those English liberals who feel kindly towards Russian humanitarianism would pick up a notion or two if they could interview some of their Muscovite colleagues earning the reward for their progressive theories underground, with a drunken priest to whine them homilies.

THE Waipori River was very much swollen by the late rains. Considerable damage was done by the flood at the Horse Mills.

## A GREAT ENGLISHMAN ON IRELAND.

THE Rome correspondent of the *Dublin Freeman* writes as follows of Cardinal Manning's sermon in that city on St. Patrick's Day:—

Shortly before twelve o'clock his Eminence Cardinal Manning entered the pulpit. Every eye was instantly turned towards the venerable, emaciated figure around which such an amount of interest has centered ever since his connection with the Catholic Church. Strange to say, that as often as his Eminence found himself in Rome at this time of the year, he has always accepted the invitation to preach on this day at St. Isadore's, as he himself says, in honor of St. Patrick and St. Francis. There is something more than consistency in this. However, we understand it immediately when we recollect that his Eminence is very Irish and very Franciscan.

As he slowly rises from his knees one can see he is familiar with all the arrangement of the Church. He sees the tall, dark figures in the choir, the multitudes hidden away in the side chapels, the crowds blocking all the doors, and he knows there are anxious ears set at all the windows over his head. All those came to hear, and although his voice is weak he knows how to reach them all.

He raises his emphatic finger, and commences a panegyric, which I believe to be one of the most thoughtful and impressive ever heard in St. Isadore's. He continued to speak for more than an hour and during the entire time, although all were more or less inconvenienced in consequence of the crush, the heat, or the impossibility of procuring chairs, still there was scarcely a movement on the part of any member of the congregation. You will already have received a summary of the discourse, and I am consequently relieved of the duty of presenting you even with an outline. It suffices to say that now, as always, he lauded the glorious heroism of our forefathers, their fidelity to God and religion, and their willingness to surrender even life rather than their faith. Shortly after the conclusion of the sermon, his Eminence, together with Cardinals McCloskey and Howard, with a large company, were entertained at dinner in the beautiful refectory of the College, whence his Eminence returned to the English College during the course of the evening.

## THE VATICAN.

(From the *London Times*.)

LEO XIII., in his Encyclical, published this morning, April 25, distinctly endorses the policy and acts of his predecessor. He insists on the necessity for the restoration of the Temporal Power, condemns civil marriages, deplors the rejection of the authority of the Church, and proclaims that to be the cause of all existing evils, but in language of consummate calmness and dignity, devoid throughout of that tone of offence and violence which characterised the majority of Pius IX.'s utterances. [This our readers will perceive is a calumny on the great and Holy Pontiff referred to.—*Ed. N. Z. Tablet*] It is noteworthy that the Encyclical contains no attack whatever upon the civil government of Italy, nor any mention, direct or indirect, of the House of Savoy.

Leo XIII. commences by deploring the accumulation of evils with which, from the first day of his Pontificate, he beheld mankind afflicted. The chief cause of so much evil lies, he is convinced, in the denial of the holy and august authority of the Church, and the contempt in which it is held. No sooner was this fact recognised by the enemies of public order than they perceived their best means was to carry on a continued attack against the Church and overthrow the supreme power of the Roman Pontiff. Hence, those laws subversive of the Constitution of the Catholic Church, the dispersion of religious Orders, the confiscation of Church property, and the like. He did not refer to this accumulation of evil to add to the sorrow of his venerable brethren, but to indicate the serious condition to which those things had come which were the objects of his Ministry, and what pains it would be necessary for him to take to defend the Church of Christ. The dignity of the Roman Pontificate was especially assailed in these calamitous times by unworthy calumnies. It was evident civilization wanted a solid basis if not founded on the eternal principles of truth, rectitude, and justice. No one could deny that the Church had carried the light of truth among barbarous and superstitious nations, spread the flag of redemption, introduced or protected Science and Art, and founded or took under its protection charitable institutions.

SOME of the monasteries of Italy and France will send curious inventions to the Paris Exhibition. A Florentine friar has constructed a watch only a quarter of inch in diameter. It has not only a third hand to mark the seconds, but a microscopic dial which indicates the days of the week and month, and the proper dates. It also contains an alarm, and on its front cover an ingeniously cut figure of St. Francis. On the back cover two verses of *Te Deum* are distinctly cut. A monastery in Brittany, France, will contribute a plain-looking mahogany table, with an inlaid draught or chess-board on the surface. The inventor sets the pieces for a game of chess, and sits alone at one side of the board. He plays cautiously, and the opposite pieces move automatically and sometimes checkmate him. There is no mechanism apparent beneath the table-top, which seems to be a solid mahogany board.

THE coffee of commerce comes chiefly from Brazil, Venezuela, Hayti, the British and Dutch East Indies, the West Indies, and Mexico. The plant growing in these countries—*Coffea arabica*—is a tree from eight to twelve feet in height, sometimes attaining a height of twenty and thirty feet. When cultivated, its upward growth is checked by topping for convenience of gathering the fruit. The plants are grown from seed in nurseries, and when a year old are set out. They are in full bearing the third year, and continue so for twenty years, or longer, if properly attended to. The plant is an evergreen. While it is cultivated in the tropics, it is a native of the mountainous regions of Abyssinia, whence it was introduced into Arabia, which for a long time supplied all the coffee then used. Some time in the seventeenth century it was introduced into Batavia and Surinam, and thence into the western hemisphere.