

Science Siftings

BY VOLT

Petroleum and Paraffin.

Petroleum is a mineral oil—a dark brown or greenish inflammable liquid which, at certain points, exists in the upper strata of the earth, from which it is pumped or forced by pressure of the gas attending it. It consists of a complex mixture of various hydrocarbons, largely of the methane series, but may vary much in appearance, composition, and properties. It is refined by distillation, and the products include benzoline, benzine, and paraffin. Paraffin, therefore, is petroleum refined by distillation.

Fireproof Wood.

Fireproof wood is a new product of France. At an exhibition in Bordeaux, it is reported, pine shavings, wood, paper, and cotton were treated with a protective preparation and then exposed to fire. A pile of shavings, pine kindlings, and wood was set on fire, and in the blaze were thrown shavings and sticks of wood impregnated with ignifuge, so called. When the fire had exhausted itself the impregnated shavings and wood were found to be simply blackened and charred; they gave out no flame. Paper and cotton fibre treated with the same solution when exposed to the flames were consumed slowly without a blaze. The formula for ignifuge consists of sulphate of ammonia, 27oz avoirdupois; borate of soda, 3oz; boric acid, 1oz; water, 12.5lb, or 1gal.

Triumphs of Ancient Builders.

The building operations of the ancients were often conducted on a vast scale, and the methods they used to bring about their results are practically unknown in many instances. These operations were often on a scale that surpasses anything in modern times, and are in many cases almost inconceivable.

The Great Pyramid is 543ft high, 636ft on the sides, and the base covers 11 acres. It is built of 208 layers of stone. Many of the stones are more than 30ft long, 4ft broad, and 3ft thick.

From Thebes the French removed a red granite column 95ft high and weighing 210 tons, and carried it to Paris. Many of the ruins of Thebes are on a very great scale and built of exceedingly costly materials.

Babel, now called Birs Nimroud, built at Babylon by Belus, was used as an observatory and as a temple of the sun. It was composed of eight square towers, one over the other, in all 670ft high, and the same dimensions on each side of the ground.

Eight aqueducts supplied the ancient city of Rome with water, delivering 40,000,000 cubic feet daily. The aqueduct of Claudia was 47 miles long and 100ft high, so as to furnish the hills. That of Martia was 41 miles long, of which 37 miles were supported on 7000 arches 70ft high. These would never have been built had the Romans known that water will always rise to the level of its surface.

Moving and Talking Pictures.

Pictures that both move and talk were promised us as soon as the phonograph and the cinematograph became accomplished facts. It has not been an easy matter, however, to combine the two machines successfully, and the combination has not been exhibited publicly until the present year. Even now it falls far short of the rosiest schemes of old, which contemplated the production of whole operas upon the moving picture screen. A monologue or a very brief dramatic episode is all that we can have yet. This is due to several facts. First, every speaker must be directly in front of the phonograph to get the proper effect. A phonograph would be necessary for each performer, and no one of them could alter his position, which would be absurd. Secondly, the length of the performance is limited by the size of the phonograph records to about three minutes.

The principal difficulty, however, has been in getting the two instruments to work precisely together, so that word and action will correspond. The slightest variation may produce a laughable result. Owing to the use of modern synchronous electric motors, with regulating mechanism, which have now been brought to a high degree of perfection, this trouble has been obviated. The method usually followed is for the actor to speak his part before the phonograph, and then to act it before the cinematograph, while the phonograph speaks his words for him, the two devices being coupled as they are to be during the actual performance. This necessitates a long training of the actor beforehand, in order that he shall be able to fit the gestures to the words very exactly. During the performance the phonograph is placed, of course, near the screen, so that the voice may appear to come from the pictured actor. The operator, who is too far away to hear clearly, is connected with the phonograph by telephone, so that he may be sure that all is going correctly. In case of accident, a differential gear, controlled by the operator, enables him to bring the two instruments back into exact correspondence at once.

Intercolonial

On Sunday afternoon, August 29, the Very Rev. Dean Phelan, V.G., laid the memorial stone of the new priory, now in course of erection for the Carmelite Fathers at Port Melbourne. The building will cost about £2100.

On Sunday evening, August 29 (says the *Melbourne Tribune*), the Right Rev. Dr. Corbett administered the Sacrament of Confirmation in the Archbishop's private chapel to about 30 adults, nearly all of whom were converts.

A solemn ceremony recently took place at the Presentation Convent, Geraldton (W.A.), when thirteen young ladies who arrived some months ago from Ireland took the first step towards their admission to the Order of the Presentation Nuns.

His Grace the Archbishop of Melbourne has made the following clerical changes:—Rev. N. O'Ryan, from the Cathedral to Kyneton; Rev. M. J. Norris, from Kyneton to Oakleigh.

The Rev. F. Gatzemeyer, who was recently ordained in Ireland for the Adelaide archdiocese, is expected to arrive in October. After spending a few days in London, he left with his parents on a visit to Germany and Austria.

On Sunday, September 5 (says the *Brisbane Age*), his Grace the Most Rev. Dr. Dunne, Archbishop of Brisbane, will attain the seventy-ninth year of his age. His Grace has now the distinction of being the oldest prelate in the Commonwealth.

In the course of a pastoral letter to his people, the Bishop of Maitland, Right Rev. Dr. Dwyer, says: 'In the orphanage which we shall establish on Campbell's Hill, we shall have a most becoming memorial of the episcopate of Dr. Murray; and it is also becoming that it shall stand in sight of the spot where his mortal remains rest in the midst of those of his people. In order to adorn that hallowed grave, I intend to erect over it at my own expense a memorial cross.'

His Grace the Archbishop of Melbourne (says the *Advocate* of September 4) has made such progress towards complete recovery during the past week that his medical advisers allowed him to go to Bendigo. His Grace was accompanied by his private secretary (Rev. J. McCarthy). The Bishop of Sale (Most Rev. Dr. Corbett) and the Very Rev. Dean Phelan, V.G., were at Spencer street station to see him off. Under the influence of the genial spring weather of Bendigo, the Archbishop will doubtless regain health and strength. The doctors insist on his Grace abstaining from his ordinary duties till the end of October.

Mr. T. J. Fitzpatrick, formerly inspector of agencies for the Pearl Life Assurance Company in London, and lately on the staff of the A.M.P. Society in New South Wales, has been appointed inspector of agents for the A.M.P. Society in Adelaide. The *Mutual Provident Messenger* for August, in announcing the appointment, says: 'If Mr. Fitzpatrick succeeds in imparting to the agents under his direction some measure of the skill and energy for which he is himself conspicuous, we may anticipate a boom in new business from that quarter as soon as he gets his forces organised.' Mr. Fitzpatrick has become a member of the Adelaide Catholic Club, to which he will doubtless be a great acquisition.

Among the bequests made by the late Rev. Dr. Macmanamy, of Pinegrove, Oakleigh, but formerly of Ballarat, were the following:—£100 for the Catholic clergy of Ballarat, £100 for the Catholic Bishop of Ballarat for the decoration and improvement of St. Patrick's Church, £100 to the Sisters of Nazareth, Ballarat; £100 to the Sisters of St. Brigid's, Maryborough; £100 to the clerical sustentation fund for sick priests in the diocese of Ballarat; £100 to the St. Vincent de Paul's Society and the Catholic Ladies of Charity, Ballarat, for distribution amongst the poor of the city; £50 to the Sisters of the Little Company's Hospital, North Adelaide; and £25 to the Rev. T. Guilfoyle (who pre-deceased the testator).

Speaking at St. Mary's, Concord, Sydney, on the occasion of the laying of a foundation-stone for a new day school on Sunday, August 29, his Eminence Cardinal Moran incidentally referred to Australian defence. His Eminence said that a controversy had ranged round the Dreadnoughts. In this, Australian patriots seemed to have won a victory. Australia would own her own fleet, and he was glad of it. The argument had resolved itself into a dispute between Imperialists and patriots. It was the duty of Australian patriots who sought to strengthen the Empire to attend to their own country, and he rejoiced that they had won such a signal victory. What amused him during the controversy—and he claimed to be as loyal as anybody—was the statement made by Imperialists that the establishment of an Australian fleet would mean cutting the painter. Now, these ardent extremists had found, and acknowledged it, that the beginning of the Australian navy would strengthen the Empire, as of course it would. The rumors and charges of disloyalty to the Empire were so much empty sound.

DEAR ME!

Forgotten that SYMINGTON'S COFFEE ESSENCE! What ever shall I do? Call at the nearest Store and ask. They all keep it.