

Science Siftings

BY 'VOLT'

A Ton of Coal.

As an illustration of the resources of modern chemistry, it may be mentioned that from one ton of ordinary gas coal may be produced 1500 pounds of coke, 20 gallons of ammonia water, and 140 pounds of coal-tar. By destructive distillation the coal-tar will yield 69.6 pounds of pitch, 17 pounds of creosote, 14 pounds heavy oils, 9.5 pounds naphtha (yellow), 6.3 pounds naphthaline, 4.75 pounds naphthol, 2.25 pounds alazarin, 2.4 pounds solvent naphtha, 1.5 pounds phenol, 1.2 pounds aurine, 1.1 pounds benzine, 1.1 pounds aniline, 0.77 of a pound toluidine, 0.46 of a pound anthracene, and 0.9 of a pound toluene. From the latter is obtained the new substance known as saccharine, which is 230 times as sweet as the best cane sugar, one part of it giving a very sweet taste to 1000 parts of water.

The Useful Sunflower.

The most remarkable use to which the sunflower has been put is in the construction of battleships. The stalk of the plant is very pithy, and even when compressed into blocks this pith is capable of absorbing a tremendous quantity of water. These blocks, in which the pith retains some of its flexibility, have been employed with much success in the solution of the vexed problem of the lining of a battleship's sides. They are placed between two walls of steel, and the substance is so resilient that it completely closes up the hole made by a projectile, keeping out the water for a long time. Another little known use of the sunflower is in the manufacture of cigars. There is not a part of the plant that is without commercial value. The seed, which is raised by hundreds of millions of pounds every year in Russia, makes a palatable edible oil, with a residue of seed cake for cattle; or it may be fed in the kernel to poultry. The blossoms furnish honey first and then an excellent yellow dye. As for the stalks, the Chinese are clever enough to get a sort of silky fibre from them, and they are also good for fuel and for the production of potash. In New England it is believed that the blossoms follow the sun in its daily course, but that is not true.

Making Rice Paper.

The so-called rice-paper is not made from rice, as its name implies, but from the snow-white pith of a small tree belonging to the genus *Aralia*. The tree grows in Formosa, and, so far as is known, nowhere else. The stems are transported to China, and there the rice paper is made. It is used, aside from a number of other purposes, by the native artists for water-color drawings, and sometimes it is dyed in various colors and made into artificial flowers. The tools of the pith worker comprise a smooth stone, about a foot square, and a large knife or hatchet, with a short wooden handle. The blade is about a foot long, two inches broad, and nearly half an inch thick at the back, and it is as sharp as a razor. Placing a piece of the cylindrical pith on the stone, and his left hand on the top, the pith worker will roll the pith backward and forward for a moment until he gets it in the required position. Then, seizing the knife with his right hand, he will hold the edge of the blade, after a feint or two, close to the pith, which he will keep rolling to the left with his left hand until nothing remains to unroll; for the pith has, by the application of the knife, been pared into a square white sheet of uniform thickness. All that remains to be done is to square the edges. If one will roll up a sheet of paper, lay it on a table, place the left hand on top, and gently unroll it to the left he will have a good idea of how the feat is accomplished.

In Place of Wool.

Referring to the efforts which are being made to find a substitute for wool, the *Sydney Daily Telegraph* says:— 'On this side of the world the bed of the ocean is to be exploited to secure a fibre which, it is fondly hoped, will fill the bill in some directions. It is somewhat strange that the scheme which bids fair to supply the greatest bulk of material—we say nothing for or against its adaptability, which has to be proved by experience—should have originated so near to the seat of wool-production. It is not generally known that wood-pulp has for some years been used for the production of cloth. This is, however, the case in several factories in England. In one factory alone no fewer than 2000 tons annually are spun into yarn. Experiments of an important nature are being carried on elsewhere with a view to still further extending the use of wood-pulp in the same direction, and in all likelihood the near future will see wood-pulp largely used, more particularly in some of the cotton factories. In some parts of Austria there are mills making cloth from grass. It is poor stuff at best, unhealthy, and, though of considerable thickness, gives comparatively little warmth. The danger from fire with most of these substitutes is excessive, sufficient really to warrant the prohibition of their use. Cloth made from the coarsest or cheapest wool would at all times be preferable to the most attractive fabrics made either from most similar substitutes.'

Intercolonial

The City Council, Sydney, intends to spend £600 in decorations and illuminations on Coronation Day.

St. Patrick's Day demonstration in Ballarat gave a net profit of £750 10s.

Rev. Father Barrett, O.P., of St. Saviour's Priory, Dublin, is visiting Australia. He is staying at the Dominican Priory, North Adelaide.

The Hon. L. F. Heydon, M.L.C., president of the Superior Council of the Society of St. Vincent de Paul in Australasia, will visit Western Australia early next month to establish branches of the society in Perth, and in other large centres throughout the diocese.

The Rev. Father Gerald Doyle, who had been on a tour round the world, returned to his parish of St. Arnaud, Victoria, a few days ago. He was given a great reception, and replied in an eloquent address, in which he told of his travels.

Master Alan Steele, of Gympie, a student of the De la Salle College, Armidale, at the recent entrance examination to the Military College of Australia, secured second place in Queensland and fourth in the Commonwealth. He is just sixteen years of age, and was probably the youngest candidate who sat for the examination.

Bishop Clune entertained over 300 people at an at home the other day. Mrs. J. D. Connolly, wife of the Colonial Secretary, at his Lordship's request, acted as hostess. The numerous presents received by his Lordship in connection with his consecration were on view.

The Bishop of Lismore (the Right Rev. Dr. Carroll) has made the following appointments:—Rev. R. Williams, from Ballina to Wardell; Rev. P. Kiely, Coff's Harbor, to Coraki; Rev. C. Callinan, Coraki to Cowper; Rev. M. J. Battle, Wardell, to Ballina; Rev. C. Griffin, from Murwillumbah, to Coff's Harbor.

Mr. Percy Jones, formerly conductor of St. Augustine's Orphanage Band, Geelong, who is known to Sydney audiences, has returned to Geelong after three years' study in Europe. He was given a magnificent welcome, which included a civic reception at the Town Hall. Thousands of people were at the station to meet him. At the orphanage he was warmly welcomed by the Christian Brothers and boys.

Since Dr. Clune's consecration (says the *W.A. Record*) an exquisite address in album shape arrived from the men's Confraternity of the Holy Family attached to St. Gerard's Church, Wellington, New Zealand. The Bishop values the present most highly, as he was the founder of the society in Wellington, and the builder of the church, which, occupying a superb site overlooking the harbor—is considered to be an architectural gem.

Messrs. Hazleton, M.P., W. A. Redmond, M.P., and J. Donovan, who are on their way to the Dominion of New Zealand as delegates from the Irish National Party, will be accorded a welcome on their arrival in Hobart on the 27th inst. (says the *Tasmanian Monitor*). His Grace the Archbishop recently received a cablegram from Mr. John Redmond announcing the fact that the delegates would call at Hobart *en route*, and preliminary steps have already been taken to give the distinguished visitors a fitting reception.

The final meeting of the general committee of the recent St. Patrick's Day celebration was held at the Chapter Hall, St. Mary's Cathedral, Sydney, on April 10, under the presidency of his Eminence the Cardinal. The balance sheet was read and adopted. The profits of the sports and concert amounted to £634 10s 9d, as against £638 last year, and it was decided to give £80 each to the following orphanages: St. Vincent's Industrial Home, Westmead; St. Joseph's, Gore Hill; St. Anne's, Liverpool; St. Michael's, Baulkham Hills; St. Brigid's, Ryde; Mater Dei, Narellan (Sisters of the Good Samaritan, late of Manly); and the Foundling Home, Waitara.

One of Bishop Clune's first acts after receiving Cardinal Gotti's cable announcing his appointment as Bishop of Perth was to communicate with the secretary of the Catholic Boys' Brigade, London, asking for full particulars, with a view to establishing companies of the brigade in Perth and the principal centres of the diocese. The information, together with samples of uniforms, has reached his Lordship, who has had it submitted to the local military commandant, who has expressed himself confident that companies of the brigade could be formed in connection with the compulsory training scheme.

Very Rev. Father Francis Kelly, who was Rector of the Passionist Monastery at Glen Osmond, Adelaide, for almost nine years, sailed from Sydney the other day for Vancouver, en route to England, where he will attend the General Chapter of the Passionist Order, at which he will represent Australia. Before leaving Adelaide, Father Francis was farewelled by the parishioners of Parkside, Eastwood, Glen Osmond, and Mitcham—the district of which the Passionists have charge—and presented with a cheque. The gathering was large and representative. He also received a presentation from the pupils of the Convent of Mercy School, Parkside.