

Science Siftings

BY VOLT

Ships With Fish Skin.

A German inventor has been experimenting for years with various preservative paints for the bottoms of ships. Among those used at the present time even the best permit the growth of barnacles and marine vegetation upon the wood or metal sheathing, and the ship has to go into dry dock to have her bottom cleaned of the growths which so materially retard her progress. The inventor in question has devoted his time of late to the determination of the chemical construction of the coating found upon the scales of fishes. He declares that the agility of the fish is due to this coating, which enables it to overcome the resistance of the water, while at the same time it prevents the growth of foreign matter. He asserts that he is now able to produce this coating in a form permitting it to be used for vessels, and that ships thus treated will not only be able to keep clean bottoms but that the paint will materially reduce the resistance of the waves and permit faster time to be made with the same expenditure of power.

How Fireworks are Made.

The most solitary person in the world during working hours (says René Bache in the *Technical World Magazine*), is the maker of Roman candles. He occupies an isolated cell, somewhat like that of an old-time hermit, save that its precincts are more contracted, and nobody comes near him while he is engaged in his patient toil. The wages he gets are high, but not by reason of the loneliness to which he is condemned; he is paid for the risks he is obliged to take. The quarters occupied by this eremite artisan are a tiny house, which might almost be called a hut, with a floor space not more than six feet square. Standing by itself, at least sixty yards from the main structure, the little building is of wood, of the simplest imaginable architecture. If it were to be blown up the financial loss would be almost nil—a point of some importance, inasmuch as its diurnal tenant is obliged to use considerable quantities of explosives in the business which engages his attention. For a Roman candle is a sort of magazine, or repeating gun, with a paper tube for a barrel and balls of fire for projectiles.

An Irish-Victorian Invention.

The principles involved in the Brennan monorail formed the subject of an interesting lecture which was delivered recently by Mr. Kerr Grant at the Hawthorn Town Hall, Melbourne, before the local branch of the Australian Natives' Association. The inventor, Mr. Louis Brennan, C.B., now living in England, is son of a Melbourne photographer, and learned his profession of an engineer in Melbourne. All the Brennan family were natives of the West of Ireland, and migrated to Victoria. Mr. Grant said that locomotives and cars running on a single rail are in practical operation to-day, but to preserve the equilibrium of the train it is necessary to provide the overhead guides. The problem that Mr. Brennan set himself to solve, said the lecturer, was to obviate the necessity of these overhead guides, by making the car balance itself automatically. This he accomplished by enclosing in the vehicles two electrically-driven gyrostats. The gyrostat was a variant of the ordinary spinning top. When a top was spun it maintained itself on a vertical axis, and if it were fixed by suitable attachments to the interior of a vehicle it would maintain the vehicle also in an upright position, even, to use scientific language, 'though the centre of gravity was below the point of support.' The next aspect of gyroscopic action considered was the effect of shifting weights in a car fitted with gyroscopes. At first sight it would appear that if a number of passengers moved to one side the car must capsize, in spite of the gyroscopic effort to keep it upright. The lecturer, however, using an ordinary top to illustrate his point, showed that this was not the case. The practical advantages of the Brennan monorail, supposing it emerged successfully from its present experimental stage, would be a great cheapening in construction of railways; and greater speed would be possible, first, through the reduction of friction, and also because it would be possible to run at very high speeds round curves. Mr. Brennan anticipated speeds up to 200 miles an hour with his monorail system.

The Railway Department notifies that holiday excursion tickets to Dunedin from any station on the Hurunui-Bluff section will be issued in connection with the Dunedin autumn races on February 24, 25, and 27.

Intercolonial

Advice has been received in Sydney of the serious illness of his Lordship Bishop Olier, of Tonga, who recently returned home after a holiday trip to Sydney.

His Grace the Archbishop of Hobart arrived in Melbourne from Europe on February 2, and was welcomed at Port Melbourne by the Very Rev. Dean Phelan, V.G.

His Lordship Dr. Dubig, Bishop of Rockhampton, has issued a circular to the clergy of the diocese, in which it is definitely announced that he will leave for Rome early in May.

The Brigidine nuns have purchased the priory at South Melbourne from the Carmelite Fathers for a convent. They have also houses at Echuca, Wangaratta, Beechworth, and Mentone in Victoria.

The Rev. Brother Culligan, of the Christian Brothers, has arrived in Western Australia to take charge of the Christian Brothers' College, St. George's Terrace, Perth, during the absence of the Rev. Brother Nunan, who takes a much-needed holiday.

The Rev. J. O'Neill, rector (Castlemaine); Rev. T. O'Neill, rector (Casterton); Very Rev. T. F. O'Neill, P.P. (Gawler, S.A.) have returned from a twelve-months' visit to Europe. The rev. gentlemen, who are brothers, have greatly benefited by their travels, and speak in the highest praise of the kindness they experienced.

The Rev. N. Cooney, Inspector of Catholic schools in the diocese of Bathurst, will shortly be leaving Dubbo for a new parish. The change has been decided upon by his Lordship Dr. Dunne, with a view to relieving the Rev. Father Cooney of many of the duties devolving upon him in such a large town as Dubbo.

His Lordship Bishop O'Connor presided at an enthusiastic meeting of Catholics in Armidale on Sunday, January 31, to consider the important question of extending and improving the present cathedral, or erecting a new one. It was decided unanimously to undertake the erection of a new cathedral, at an approximate cost of £15,000, on a site in juxtaposition to the present St. Mary's Cathedral. Over £3300 was subscribed at the meeting. His Lordship Dr. O'Connor donated £1100.

The Sisters of Mercy (says the *Advocate*) will, in a few weeks, take possession of the magnificent building erected on that commanding site on the Flemington hill. Originally, this place was the property of the McCracken family, and the old family mansion, which is in splendid condition, remains there. Previous to the Archbishop's departure for Europe this fine property was purchased, and since then the main wing of the novitiate has been erected.

The archdiocese of Sydney (says the *Advocate*) is to have a junior diocesan seminary, in addition to St. Patrick's College at Manly. The new building, which is being erected on the Blue Mountains, two miles from Springwood, will be known as St. Columba's Missionary College, where priests will be trained for the missions of Australasia, Polynesia, Southern Asia, China, and Japan. It is the second ecclesiastical college his Eminence Cardinal Moran has founded since he assumed charge of the See of Sydney, and on the feast of the Epiphany he blessed the foundation stone. The opening will synchronise with the Third Australasian Catholic Congress, postponed from last year till towards the end of the present year, when it will form one of the series of functions connected with this notable gathering. The builders calculate on having their part of the contract completed before the close of September next. Only little more than half the building is being put up now, but, with the purchase of the land, the cost will probably reach about £15,000.

The Jesuit Order in particular and the Church in general (remarks the *Advocate*) have lost a cultured and fearless champion by the lamented death of the Rev. William Kelly, S.J., who may be said to have died in harness, as when the summons came the rev. gentleman held the chair of Ecclesiastical History in the famous college of his Order at Milltown Park, near Dublin, Ireland. On Sunday, January 31, the Superior of the Jesuit Fathers in Australia received a cable message announcing the death of Father Kelly at the ripe old age of 86 years. Father Kelly was a native of Dublin, and came out to Australia in 1865. For years he labored zealously and fruitfully in Melbourne and Sydney. In the latter city he was wont to deliver two lectures a week on ecclesiastical subjects. He was lecturer on Moral Philosophy at St. John's College within the Sydney University, and he taught at the Jesuit Colleges there. He left Australia in 1889, and labored in Ireland up to the time of his death.

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