

Science Siftings

BY 'VOLT'

Much in Little.

A lilliputian electric dynamo, perfect in every detail but weighing only a quarter of an ounce, was shown at work at a session of the Paris Academy of Science. Its constructor is a French mechanic named Trevet.

Carrageen, or Irish Moss.

The carrageen, or Irish moss weed, is well worth seeking. In shape it somewhat resembles a crumpled fern frond, varying in color from a yellowish green to a livid purple or olive brown. At one time a fashionable remedy for consumption, it was collected by the peasantry of the west coast of Ireland, and whilst in repute sold for as much as half-a-crown a pound.

To Develop Electricity.

The artesian wells of South Dakota are used to develop electricity as well as to irrigate the prairie. The water comes from a strata nearly 1000 feet deep, which extends under the upper Missouri and Yellowstone Rivers to the base of the Rocky Mountains. Some of the wells throw a jet of water 15 feet high. The power of water is transformed into electricity for industrial purposes by means of a hydraulic wheel of the Pelton type, which drives a dynamo.

The Feet of the Horse.

A horse's foot is a wonderful piece of workmanship, more delicate than a watch, and contains a multitude of intricate springs, levers, and exquisitely fitted joints, all packed for safety into the outer case which we call the hoof. One moment's consideration of the size and weight of the animal will show that, in running or leaping, a severe shock would be felt by the creature's brain every time his feet touched the ground if the fall were not broken in some way.

Needle Dust.

In factories where needles are made the grindstones throw off great quantities of minute steel particles, with which the air becomes heavily charged, although the dust is too fine to be perceptible to the eye. Breathing the dust shows no immediate effect, but gradually sets up irritation, usually ending in pulmonary consumption. Ineffective efforts were made to screen the air by gauze or linen guards for nose or mouth. At last the use of the magnet was suggested, and now masks of magnetised steel wire are worn by workmen and effectually remove the metal dust before the air is breathed.

A Wireless Record.

The Marconi Wireless Telegraph Company, Ltd., has issued the following Marconigram for publication:—'Marconigram from Italian Lloyd steamship Principessa Mafalda states that Mr. Marconi, on board, was successful in obtaining wireless messages from Clifden, Ireland, and Glace Bay, Canada, stations up to a distance of 3500 miles, in broad daylight. A kite was used for the support of the aerial wire on board, and except for encountering high wind, which stopped kite-flying, Marconi is confident that a greater distance would have been achieved. Distance easily beats all records for reception of wireless messages on board ship in day time. Previous best, 1750 miles.'

Modern Shipbuilding.

The White Star Line's giant steamer Olympic was launched successfully on October 20 at Belfast. Thousands of spectators watched the monster hull glide swiftly down the ways. The Olympic is the largest steamer now afloat. The Olympic exceeds by nearly 100ft in length and 13,000 tons any other ship afloat. Her principal dimensions are: Length over all, 882½ft; breadth over all, 92½ft; height from bottom of keel to top of captain's house, 105½ft; distance from top of funnel to keel, 175ft; number of steel decks, 11. The Olympic and her sister steamer, the Titanic, will each accommodate 2500 passengers, carrying a crew of 860, and because of the enormous size of the ships the accommodations, both as regards the several public apartments and the passenger staterooms, will be exceptionally spacious, while the beauty and luxury of the appointments will surpass anything hitherto attempted. Special attractions, such as Turkish and electric bath establishments, swimming pools, tennis courts, sun parlors, sports decks and palm courts, will be provided, in addition to restaurants, dining saloons, lounges, smoking apartments, elevators, etc., all of which will add much to the pleasure of a voyage on these marvels of marine achievement. The Olympic and Titanic will be propelled by a unique combination of reciprocating engines with a low-pressure turbine, such as the White Star Line has employed so successfully on its Canadian service steamer Laurentic. By this ingenious system vibration is eliminated and seasickness conquered. A speed of 22 knots per hour will be maintained.

Intercolonial

The total subscriptions up to December 1 towards the completion of St. Mary's Cathedral, Sydney, amount to £66,404.

As the result of an appeal on behalf of the building fund of St. Mary's Cathedral by his Eminence Cardinal Moran on Sunday, November 27, at Pymble, a sum of £1028 was subscribed. His Grace Archbishop Kelly made an appeal on the same day at Newtown, when the subscriptions amounted to over £700.

His Eminence Cardinal Moran has received the following telegram from Father Bischofs, Broome, W.A., the scene of the disastrous cyclone:—'Mission schooner total wreck, Cape Boskerville. Rudder and anchors carried away. Whole night helpless, beaten about by storm. One father, two Brothers, and crew—trying time. All safe, mission. Great distress. Loss, £700.'

The Right Rev. Dr. Olier, S.M., Vicar-Apostolic of Central Oceania, arrived in Sydney by the *Tofua* the other day, after a diocesan visitation of the islands of Wallis and Futuna. The disasters brought about by the cyclone in Futuna, when churches, convents, the presbytery, and other mission buildings were levelled to the ground, were extremely serious. Even stone walls were destroyed by the fury of the elements. In Wallis, in the short space of two months, the natives have built a stone seminary, 102ft by 30ft, and 24ft high. But women and children helped unceasingly in the work.

An impressive ceremony (says the *Wagga Wagga* correspondent of the *Catholic Press*) took place in St. Eugene's Chapel, when Sister M. Veronica (Miss Phelan, Melbourne), pronounced the solemn vows of her holy profession, and Sister M. Helen (Miss Griffin, Nightcaps, N.Z.) received the habit of the Presentation Order. The Rev. Father Shannon was the celebrant of the Mass, and Rev. Father Mulligan performed the ceremony in the unavoidable absence of the Right Rev. Monsignor Buckley.

On the feast of St. Andrew his Eminence Cardinal Moran held an ordination at St. Mary's Cathedral. The following students from St. Patrick's College were raised to the priesthood:—Revs. R. Darby, Sydney; J. J. Kelly, Brisbane; G. Herlihy, Sydney; J. Cusack, Sydney; J. Roche, Sydney; P. Smyth, Adelaide; T. O'Brien, Melbourne; J. Harrington, Armidale; and L. O'Reilly, Armidale. Besides these, the Revs. James and John Kelly were ordained priests at Maitland on December 8, and the Rev. Martin Gleeson at Ballarat on the same date.

It will be heard with regret throughout the archdiocese of Melbourne, and far beyond it (says the *Melbourne Advocate*), that his Grace the Archbishop has suffered a family bereavement in the death of his sister (Rev. Mother Teresa), who may be said to have spent nearly the whole of her life of 74 years in an Ursuline convent. The Church in Ireland has suffered a severe loss, as well as the Archbishop personally. But the loss carries with it its own recompense—the saintly nun who has just passed from the ranks of her distinguished Order in Ireland has assuredly gone to a great and everlasting reward. Rev. Mother Teresa was Superioress of the Ursuline convent, Sligo, and was two years the senior of his Grace the Archbishop of Melbourne.

The success of St. Patrick's College, Ballarat, in winning two Ormond exhibitions, valued respectively at £300 and £125, was a topic of discussion in the scholastic circles in Ballarat (says the *Melbourne Argus*). For many years the college has been remarkably successful at intermediate and University examinations, but this is the first time in its history that it has carried off two Ormond exhibitions at the same examination, and at which it also headed the list of the provincial colleges. The successful students are A. McKean, of Hobart, aged 16, who is intended for the legal profession, and G. Hickey, of Nathalia, 18 years of age, who will take up the medical course at the University. The achievement of the last-named in securing senior honors is remarkable in view of the fact that his performance in the chemistry subject was the result of only a single year's studies in the laboratory at St. Patrick's College.

At the annual reunion of the friends and supporters of St. Vincent de Paul's Industrial Home, Westmead, Sydney, it was stated that at the close of the financial year, June 30 last, there were exactly 100 boys in the institution, this being a record. The admissions during the year totalled 26, while several had gone out to places which had been procured for them. The health of the boys had been remarkably good. The report continues: 'The all-important work of the industrial training of the boys has been carried out on progressive lines, and expansion has to be recorded on all sides. Of this no better proof could be afforded than the fact that the fine workshops, erected a few years ago at a cost of about £1200, are now being found too small for the home's requirements, and it is only a matter of the near future when the question of finding additional accommodation for the trade schools must receive consideration. The importance of giving the boys a sound and practical industrial training has been insisted on year after year in the annual report, and both committee and Brothers are determined to make the system of industrial training at Westmead as perfect as it is possible to be. The wisdom of this policy is obvious.'