

## Science Siftings

BY 'VOLT'

### New Gas for Balloons.

Hitherto coal-gas has been used for filling balloons, in spite of its drawbacks, but recently a method has been invented (says the *University Correspondent*) for converting ordinary coal-gas containing more than 80 per cent. of hydrogen, and only half as heavy as ordinary coal-gas. The buoyancy or lifting power of the new gas is about an ounce avoirdupois per cubic foot; that of coal-gas is 0.7 ounce, that of commercial hydrogen 1.1 ounce.

### The Gyroscope.

Since Mr. Brennan's successful application of the gyroscope as a stabiliser, attempts are being made to apply the same principle to the steadying of aeroplanes in flight. Reynard, a member of the French Academy of Sciences, has designed an automatic device of this type, using a gyrost of a comparatively small mass. The gyroscope establishes electrical contact with the frame which carries it, thus energising small motors which operate the steering of the plane, whose function it is to restore the axis to its original position, when the system is tilted. The practicability of this device is yet to be proved.

### Paper Car Wheels.

We naturally think of paper as something lacking in strength and of a paper article as being fragile, so are somewhat alarmed when an encyclopedic friend remarks that the wheels of the car on which we are slipping along at the rate of a mile a minute are made of paper. This opportunity to be alarmed occurs, however, on only the best of railways, as paper car wheels, though safer and longer lived than any others, are also more expensive. The principal advantage of wheels made from this unpromising material is found in the fact that they are not injured by the violent vibrations to which car wheels are subjected.

### Aeroplaning to the North Pole.

Last week we were informed by cable that Count Zeppelin's Arctic expedition, the members of which were aboard the *Mainzat Tromsøe*, had to abandon the voyage to Greenland owing to the ice. Theodore Lerner, a recognised authority in aeroplaning, declares the proposed Zeppelin-Hergesell Arctic expedition to be a waste of time and money. He points out that the journey from Germany to Cross Bay, the proposed base on Spitzbergen, would take over eight days, and would mean a consumption of 10,000 cubic meters of gas, the equivalent of 2000 gas bottles, and also of 21,600 kilograms of benzine and lubricants. This weight, he says, is far in excess of the carrying capacity of the Zeppelin airship and its consort.

### Making the Sea Safer.

Trial of the new invention, called the 'Compas Azimutal Hertzienne,' which enables the commander of a vessel to ascertain to a degree his bearing with any ship or land station sending wireless messages, has proved successful in the trip of the French liner *La Provence* from Havre to New York. All steamers of the French Line now are to be equipped with the device. It is asserted that the new invention is of particular value in fogs, and Captain Poncelet, of *La Provence*, says that he was able to ascertain the exact location of his ship with relation to other steamers and the land by the aid of the device. As an adjunct to the wireless machine, this latest product of mechanical genius will doubtless become one of the greatest life-savers in existence. Fogs have always been the terror of seamen. The most expert mariner has been helpless in their grasp. Horns and lights have not always been effective in preventing collisions; nor has the wireless alone been effective. Ships might communicate with each other in a fog, but they have been unable to ascertain their distance from the other. The 'Compas Azimutal Hertzienne' supplies this deficiency. Joined to the wireless machine, it records the exact distance of the ship or land station that is replying to the messages. When it comes into general use, it should minimise accidents resulting from fog on the sea. It would seem that it will not be long before travel on sea will be safer than travel on land.

Yankee Doodle went to town  
Upon a little pony,  
He felt a little hoarse, of course,  
And said so to a crony.  
The crony said: 'I'm certain sure  
The remedy is plain;  
You take some Woods' Great Peppermint Cure,  
And you'll be right as rain!'

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## Intercolonial

Dr. Lalor, grandson of Peter Lalor, the hero of Eureka Stockade, has been appointed to the residential staff of St. Vincent's Hospital, Victoria parade, Melbourne.

Sunday, July 24, was a day of great rejoicing for the parishioners of Redfern, the occasion being the celebration of the silver jubilee of St. Vincent de Paul's Church.

Rev. Father L. O'Keefe, of Orange, has been appointed to the charge of the Carcoar parish. The Rev. Father J. A. Dunne, of Wellington, has been transferred to Orange.

Rev. Father T. O'Connell, of Tumut, was on July 20 presented by the Tumut parishioners with an address and a purse of sovereigns. Father O'Connell is leaving the parish, having been transferred to Albury. In his reply he thanked the good people of Tumut for their generous gift.

The annual report of St. Augustine's Orphanage, Geelong, shows that during the year ended June 30, 1910, the daily average of boys in the institution was 237. The expenditure totalled £3973 10s 7d, including £91 3s 7d for buildings, and the cost of management and maintenance averaged £13 5s 8d per head per annum, one of the lowest in the State. The fact that only £4 4s 4d was expended on medicine is evidence that the boys have enjoyed good health.

His Eminence Cardinal Moran (says the *Freeman's Journal*) celebrated the silver jubilee of his creation as Cardinal on July 27. He was elevated to the Cardinalate of the title of St. Susanna on July 27, 1885. His spiritual reign has glittered with wondrous works of religious activity, in which an adorning feature has been his justifiable zeal in the work of finishing the Cathedral, now entering on the stage of completion.

The *Leinster Times* writes:—'The Rev. Dr. Brophy, who is spending a few months with his friends after 20 years in Australia, complimented the people of Leighlin-bridge last Sunday morning on their magnificent marble altar—the gift of the greatest living Irishman to his native place. He also congratulated the congregation on the early introduction of the Sisters of Mercy to their midst, which is likewise due to the thoughtfulness and generosity of the Cardinal-Archbishop of Sydney. The feelings of his hearers were visibly touched when the speaker announced that before going aboard his ship in Sydney on February 16 his Eminence commissioned him to "carry his love and affection to every shanrock in Leighlinbridge."'

The primary schools at Enmore (says the *Catholic Press*), in which there are nearly 300 children, are conducted by the Sisters of Mercy (of the Parramatta community), who were without a convent of their own until recently. But not long ago they secured a fine property, right opposite St. Pius' Church-school, in Edgeware road, and had it remodelled to suit their purposes. It is a commodious building, and was formerly known as Frankfort House. Both the convent and grounds were decorated on Sunday afternoon, July 24, when the blessing and opening ceremony was performed by his Eminence Cardinal Moran. The purchase of the property ran into £1680, for improvements and repairs £205 17s 2d was paid, and for furniture £159 15s 10d, making in all £2045 13s.

Speaking at the opening of the new Convent of Mercy, Enmore, on Sunday, July 24, his Eminence Cardinal Moran said that the work of arranging for the completion of St. Mary's was progressing most satisfactorily. It had been hoped by one of the speakers that the rich people of Sydney and of Australia would assist in the work. Whatever the rich might do, the poor people of Australia had done their duty in the past, and were doing it at the present time. A great many names had appeared on the roll of honor. He was confident that the roll would bring in £50,000 by January. If that were so, then they would commence the foundations of the completion of the Cathedral. The contributions promised by the clergy already amount to £7000. The total up to July 25 stood at £9400.

The Perth (W.A.) correspondent of the *Age* thus wires to that journal:—The Colonial Secretary has issued a reply to the Rev. Mr. Tregear's statement at the Orange demonstration that the Catholic Mission at Beagle Bay is a big cattle station, run under the cloak of religion, and to his challenge to Labor members to move in Parliament for the mission's balance sheet. The last two balance sheets for 1908 and 1909 the Colonial Secretary says are available to anyone at his office. The former shows receipts from stock, £49; from pearling boat, £567; Government grant for feeding, clothing, and educating 109 native children and supporting a number of infirm blacks, £768; donations, £450. The expenditure is—General, including staff, £403; interest on overdraft, etc., £189; working pearling boat, £443; feeding and clothing aborigines, £1062; outstanding debts, £969; debit balance, £1132. The second balance sheet shows a debit of £500 for 1909. The mission received a subsidy of 5d per day for native children, against 10d per head of Anglican and Salvation Army institutions in the south-west. The mission holds as an aboriginal trust 10,000 acres, but without the £500 a year granted by the religious Order in other parts of the world the mission could not be maintained. Money had to be borrowed in order to obtain the stock.