

Science Siftings

The First Steamboat.

The first steamship appeared on the Hudson in 1807, when Robert Fulton proved the possibility of steam navigation with the famous little Clermont. Ten years later the first steamboat appeared on the Ohio and Mississippi, and in 1827 the 'Chancellor Livingston' made her first run through Long Island Sound, from New York to Providence. In those days the ordinary steamboat was about as large as a good-sized modern tugboat, and among them was 'Chancellor Livingston,' 157 feet long and 33 feet wide, was a veritable giant. All these vessels were propelled by paddle wheels.

The Arthur's Pass Tunnel.

The Arthur's Pass Tunnel, the work on which was formally commenced last week, will be the fifth largest in the world, and compares with other long tunnels as follows:—Simplon (Swiss Alps), 12½ miles; St. Gothard (Swiss Alps), 9¾ miles; Mont Cenis (Swiss Alps), 7¾ miles; Aarberg (Swiss Alps), 6½ miles; Tarnen (Austrian Alps), 5½ miles; Arthur's Pass, 5¼ miles. The upper end of the tunnel in Bealey Valley will be about 2400 feet, and the summit of Arthur's Pass about 3000 feet above sea level. The greatest depth from the surface of the ground to the tunnel is 1150 feet, which occurs at a spur off Warnock's Knob.

The First Elevators.

The idea involved in our modern 'lift' or 'elevator' was anticipated in the middle of the seventeenth century by Velager, who also established the first letter boxes in Paris in 1653. Velager's lift was in demand until a mishap occurred to the king's daughter at Versailles. The mechanism failed to work when she was half-way up, and there she stuck for three long hours until the servants could break away the wall to release her. His 'flying chairs' then fell into disrepute. The apparatus was simple in the extreme, just a chair attached to a rope which was passed over a pulley, with a weight as a counterbalance at its other end. In 1860 someone brought out as a new invention an imitation of this primitive lift, which has developed into our hydraulic or electric apparatus.

Aluminum in Machinery.

Aluminum is increasingly used in machine construction, as in crank cases and gear boxes for motor cars, for panelling inside of underground railway cars, for electric wire, and for new alloys, pigments, and 'metal plating, and the aluminum cell as a lightning arrester has proved to be a valuable addition to lightning protecting devices. During recent years the price of tin has been very high, and since adequate new supplies of ore have not been discovered, substitutes for tin must be used in manufactures. Aluminum is regarded as probably the most available substitute for tin in the great majority of uses to which that metal tin is put, owing to the diminution in the price of aluminum, the practically limitless supply of the raw material, and the favorable physical properties of the metal. As the production of aluminum is cheapened, so will the uses for it increase. The demand steadily keeps ahead of the supply.

Windmills.

It is supposed that the Crusaders brought the idea of using the wind to grind corn or raise water back with them from the East. Early writers record their widespread employment in Europe in the twelfth century. Beckmann gives an instance of one at Pipewell Abbey, Northamptonshire, in 1143, and we also read of one, about 1190, at Haberdon, in Suffolk. Another early instance of an English windmill is that in which Richard, Earl of Cornwall, took refuge after the battle of Lewis in 1264. In the famous song connected with that event the 'sayles' and the 'mule' are mentioned, showing that it really was a windmill. The oldest windmill in Belgium, and probably the oldest in Europe, the historic 'Grand Moulin de Silly,' was totally destroyed by the great storm at the end of January, 1900, after a continuous existence since the eleventh century. It is said to have been built by Otto von Trazegnies the crusading lord of Silly, in 1011.

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Intercolonial

The St. Patrick's Day festival at Ballarat resulted in a profit of £540.

His Eminence Cardinal Moran blessed and opened a new church at Wyong on Sunday, April 26.

The first government small-arms factory in Australia will be located at Lithgow, where the Government has bought the land.

A number of Marist Fathers arrived in Sydney recently from France, en route to the missionary fields in the South Seas.

Death has been busy of late in the ranks of the Jesuit Fathers, (says the 'Freeman's Journal') three members of the Order having gone to their reward within the last six or eight weeks, viz., Rev. Fathers Flinn, S.J., Leahy, S.J., and Cahill, S.J.

Master James Vincent Duhig, nephew of Dr. Duhig (Bishop of Rockhampton), who made such a brilliant pass in last year's Sydney Senior University Examination, has succeeded in winning the St. John's College Classical Scholarship—the most coveted honor in the bestowal of the college authorities.

The silver jubilee of the foundation of the Sacred Heart Convent, conducted by the Sisters of St. Joseph at Goulburn, was celebrated on April 23. His Lordship Bishop Gallagher presided at High Mass and the occasional sermon was preached by the Rev. Father Patrick Lynch, C.S.S.R.

The Rev. Fathers O'Connor and O'Sullivan who are at present collecting in the Archdiocese of Sydney, on behalf of the Killarney Cathedral, have received a donation of £50 from Mr. T. Loughlin of Ballarat.

The Very Rev. W. E. O'Reilly, Merriwa, who recently celebrated the silver jubilee of his ordination to the priesthood, has not had a vacation for twenty-two years. Father O'Reilly intends taking a trip to Ireland. At Cassilis he was presented with £124; at Merriwa £45 from the ladies, and £214 from the congregation.

Rev. Brother Hennessy, of Dublin, Assistant Superior General of the Christian Brothers has arrived in Sydney from Capetown, on a visit to Australia. During his stay, which will extend over the remainder of the year, Brother Hennessy will make a visitation of all the houses of the Order in Australia.

In opening the new church at Wyong, his Eminence Cardinal Moran was presented by Father Power, on behalf of Mrs. M. J. Woodbury, with a silver chalice two hundred years old, which had been a family heirloom, and had been used in the Wyong district for fifty years. The establishment of a church at Wyong is largely due to the noble efforts of this Catholic family.

His Lordship Dr. Duhig (Bishop of Rockhampton) has received from his Holiness Pope Pius X. magnificent oil painting of the Virgin and Child by a Roman painter for the Mount Morgan Art Union. The painting is copied from an ancient picture in the Oratory of the Irish College at Rome, where Bishop Duhig himself studied.

On Sunday, April 26, not only at St. Patrick's Cathedral, Melbourne, but in most of the Catholic churches, prayers were offered up for the souls of those who perished, and for the speedy recovery of the injured in the recent Victorian railway accident, whilst in some cases the special prayers of the faithful were asked for those amongst the list of killed, whose names were read out. The Very Rev. Dr. Kelly of St. Brigid's Church, North Fitzroy, made a touching reference to the death of Miss Alice Laffan, who, with her deceased sister, took a great interest in the bazaar that was being held in connection with the church.

There was a large and representative gathering of the Catholic laity on the evening of April 24, at the palace in Sturt-street, Ballarat, in connection with presentation of illuminated addresses to His Lordship Bishop Higgins, prior to his departure for Rome. It had been arranged that the Bishop should be entertained at a public farewell social and concert at St. Patrick's Hall, but he specially requested that the function, in connection with which, lavish preparations had been made, should be abandoned as a mark of respect to the memory of the large number of persons who had been killed in the railway disaster at Sunshine.

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