

Science Siftings

By 'VOLR.'

Smallest of Screws.

The smallest screws in the world are made in a watch factory. They are cut from a steel wire by a machine, but as the chips fall from the knife it seems as though the operator were simply cutting up the wire for his own amusement. No screws can be seen, and yet a screw is made at every third operation. The fourth jewel screw is next to invisible, and to the naked eye it looks like a grain of dust. With a magnifying glass, however, it is seen to be a screw with 260 threads to the inch, and with a very fine glass the threads may be seen quite clearly. These little screws are four one-thousandths of an inch in diameter. It is estimated that an ordinary thimble would hold 100,000 of them. About a million are made in a month, but no attempt is ever made to count them. In determining the number, 100 of them are placed on a very delicate balance, and the number of the whole amount calculated from the weight. All the small parts of the watch are counted in this way, probably 50 out of the 120. After being cut the screws are hardened and put in frames, about 100 to the frame, heads up. This is done very rapidly, but entirely by the sense of touch instead of by sight, so that a blind man could do it as well as the owner of the sharpest eye. The heads are then polished in an automatic machine, 10,000 at a time. The plate on which they are polished is covered with oil and a grinding compound, and on this the machine moves them very rapidly by a reversing motion until the polish is perfect.

Aerial Flights.

A cable message states that the *Daily Mail* is attacking the Government for neglecting aeroplanes. It says that Britain has only six officers flying regularly, and only one thoroughly up-to-date aeroplane, as compared with 500 aviators in France and hundreds in Germany. The strength of the nations' aerial fleets at the end of 1911 was as follows:—France, 9 steering balloons, 192 aeroplanes; Germany, 17 and 16; England, 4 and 21; Austria, 2 and 4; Russia, 3 and 8; Italy, 3 and 14; United States, 8 and 52. Germany alone has a greater number of dirigible balloons than of aeroplanes, its balloons numbering nearly twice that of France. France has 21 times as many aeroplanes as steerable, and its aeroplanes are twelve times as many as Germany's. England's aeroplanes are five in excess of Germany's, and those of the United States are four times the number in Germany. Experiments in Germany (remarks the *Freeman's Journal*) show that infantry fire, even of gatling guns, is insufficient against a balloon. A hole of two-fifths of an inch causes a loss of only eight pints of gas per second, which is infinitesimal, and the small hole caused by a rifle bullet appears to close of itself under the pressure of the gas. Experiments on captive balloons show that after 7600 shots had been fired in seven minutes the balloon showed no apparent loss of floating power. A hole of four inches, caused by a cannon-ball, appears necessary to cause a balloon to descend; but even then its descent is not rapid, and artillery fire is considered impossible against aerial fleets. It is believed that a war between two powerful nations will begin with a battle in the air. The flying machine that will rise higher than its adversary has an easy victory. It may drop combustibles on a balloon, or, flying above an aeroplane, will so disturb the air that the machine will lose its equilibrium and drop instantly to the ground.

In the days of old when knights caught cold,
And barons had to sneeze,
No warrior bold, with spurs of gold,
Knew how to get some ease;
But nowadays one's glad to say
Catarrh and coughs are fewer;
When nights are cold and microbes bold
Take Woods' Great Peppermint Cure.

Intercolonial

Right Rev. Mgr. Ahearn, of Casino (Lismore), has notified his intention of retiring from active work, and the people of the district are making arrangements to present him with a testimonial.

St. Patrick's Day was celebrated in Perth by a very fine procession, and a grand national concert on Monday evening. His Lordship Bishop Clune drove at the head of the procession, and he also delivered an address at the concert.

At a large and representative meeting in Cairns, diocese of Rockhampton, it was decided to proceed immediately with the erection of a new convent at a cost of £5000. The subscriptions received at the meeting amounted to over £800.

The panegyric on St. Patrick at the church celebration of the national festival in Charters Towers was delivered by the Very Rev. Father O'Sullivan, of the Society of African Missions. Father O'Sullivan will be leaving on April 25 for the Old Country in company with Right Rev. Mgr. Beechinor, of Tasmania.

Rev. Father Donogher, of Coolgardie, who has been a warm favorite not only with his brother priests and the members of his own flock, but also with all classes of the community, left on a trip to Ireland on March 18. Prior to his departure he was given a hearty send-off, which included a purse of £100, in the Council Chambers at Coolgardie.

A meeting of the clergy of Sydney and suburbs was held in the Chapter Hall on March 25, at which it was decided to present a congratulatory address and testimonial to his Grace the Archbishop on the occasion of the conferring of the pallium in the Cathedral on April 21. The ceremony will be performed by his Grace the Archbishop of Melbourne.

The first Catholic school in Victoria under the Order of the Brothers de la Salle was opened and blessed at Malvern on Sunday, March 31, in the presence of a large gathering, by his Grace the Archbishop of Melbourne. A new Catholic school, which has been built at Yarraville, was also blessed and declared open on the same day by Monsignor Phelan, V.G. The new school is of brick, and cost about £2000.

Sister Sebastian Ryan died at All Hallows' Convent, Brisbane, on March 30, after a brief illness. She was a native of Milltown, County Tipperary, Ireland, and soon after arriving in Australia she joined the Sisters of Mercy, and was at the time of her death 23 years in religion. She was a sister of Sister Joachim, of Holy Cross Retreat, Brisbane; Sister Aquinas, of the Good Samaritan Convent, Rozelle, Sydney; and Mr. Tighe Ryan, editor of the *Catholic Press*.

The receipts from the St. Patrick's Day celebrations in Sydney totalled £1114 18s 6d, including a balance from last year. After paying all expenses, the committee, according to the usual custom, distributed the balance amongst eight orphanages, which received £100 each. These were Westmead, Baulkham Hills, Ryde, Liverpool, Narellan, Waitara, Kincumber, and Gore Hill. In addition, £63 was carried forward as reserve for musical competitions, and £10 as a credit for next year's celebrations.

'Englishman,' in a letter to the *Adelaide Advertiser*, says:—'Please permit me to say, in reply to the caustic critics of Archbishop O'Reilly's utterances, that his Grace, who, even unto this day is affectionately known in Western Australia as "Father John of Fremantle," has done more towards helping young men, irrespective of creed, with their preliminary studies, than anyone in Australia. Archbishop O'Reilly is not the bogey some of his critics would have your readers to believe, and I would add that his Grace is a hero. Others who suffer less physical ills than he would have "thrown up the sponge," and retired to the peaceful calm of a monastery long ago.'

For Children's Hacking Cough at night,
Woods' Great Peppermint Cure, 1/6, 2/6.