

Science Siftings

BY 'VOLT'

Steel Passenger Cars.

The Pennsylvania Railroad has now in actual service or in process of manufacture nearly 2000 steel passenger cars. They are non-collapsible, the brunt of a collision being borne by a central box girder that extends the entire length of the coach from coupling to coupling.

A New Gas.

Blau gas is coming prominently into use in Germany. It may be carried in steel bottles as easily as oil, and can be used where ordinary illuminating gas can not be supplied. It is invaluable for ear heating and lighting, for welding and for soldering. It is non-poisonous and practically non-explosive, and is cheaper to produce than acetylene.

Railway Travelling.

The French railroads have long stood at the head as regards speed. This summer the Northern Railway has put on a day express from Berlin to Paris, which covers the distance from Paris to St. Quentin (96½ miles) in 33 minutes, a speed of 62.1 miles an hour; and the 53½ miles to the Belgian frontier is covered in 51 minutes at a speed of 58½ miles an hour. The Eastern Railway Company has scheduled an afternoon express from Paris to Basle, which runs the first 104.37 miles in 107 minutes—a speed of 58.5 miles an hour.

A Combination Automobile.

A German engineer has invented a combination war automobile and war motor boat for the use of the army. The transformation can be quickly effected and the motor instantly connected with a screw propeller. The armor allows free locomotion, even on difficult land, and can be removed and changed to shield the crew from all sides. The conductor is able to drive and steer the car in every position—even lying on the floor—and in both directions, forward and backward, without being obliged to turn. The car shows many advantages, the principal one being the possibility of crossing rivers and lakes independent of bridges. Trials are being made by experts.

To Guard Against Lightning.

An electrical engineer in an article about thunder and lightning claims that there is little danger of lightning striking the side of a house and entering an open window. For that reason he can see no sense in putting down the windows and closing the doors as soon as a storm approaches, as many people do who are afraid of thunder and lightning. On the other hand, he claims that some of these people show good judgment in seeking the comforting folds of a feather bed during a thunder storm, as dry feathers are excellent insulating material. He further claims that concrete building reinforced with a network of steel rods offer the very best protection against lightning.

Utilising Waste Milk.

In rural Ireland one of the chief difficulties of the creamery system has been to get rid of the waste milk or 'wash.' Many methods which have been tried to get rid of this 'wash' have proved unsuccessful. A method which seems decidedly promising has, however, been discovered; one, moreover, which not only removes the waste, with all its attendant disadvantages, but apparently transforms it into a valuable fertiliser, thus conferring a double advantage. The efficiency of the method, in addition, is only equalled by its simplicity. On a barn floor is placed a heap of phosphate of lime coarsely ground; this heap is hollowed out as a mason would arrange his heap of sand when preparing to make mortar, and into the hollow is tipped the wash from the creamery. A shovelful of yeast is added, and after a few days the whole material is mixed and turned as in the making of mortar. The amount of wash available from the creamery at Ballyduff, where an experiment was made, was close on 100 gallons per day. The result was a greyish mass of damp material not unlike superphosphate in appearance. The effluent is neutral, and it might in all probability be safely run into a stream without causing any pollution. So far as could be seen the question of the removal of a nuisance had been solved, for there was no nuisance of any kind. Of course, in active constant work at the creamery the process would be carried on in a proper system of filter beds. Experiments prove that here is a material which, from its analysis, should form a suitable fertiliser for turnips and which is capable of returning to the soil the phosphate of lime already removed in the milk, while at the same time the process of its manufacture transforms an evil-smelling, injurious waste product into something innocuous and possibly valuable.

The Very Rev. Dean Guerrini, O.S.F.C., celebrated the golden jubilee of his priesthood on October 19 at Bundarra. He was ordained in the year 1860, and since that time has labored zealously and well for the spiritual and temporal welfare of all those among whom his lot was cast.

Intercolonial

The Roll of Honor in connection with the building fund of St. Mary's Cathedral, Sydney, now amounts to over £25,000.

Out of a dozen Australians who are at present studying for the priesthood at All Hallows Seminary, Dublin, no fewer than seven hail from the Christian Brothers' College, Nudgee.

A highly successful bazaar was held recently in the Malvern Town Hall in aid of the Vincentian Fathers' beautiful church in Stanhope street. The mantle of the late Very Rev. M. J. Maher, C.M., has fallen on worthy shoulders, in the person of the Very Rev. Father Hegarty, C.M., by whose efforts the fine new church adjoining the residence of the Vincentian Fathers has been built.

We (*Freeman's Journal*) are informed that the following bequests provided for in the will of the late F. B. Freehill, who died March 12, 1908, have been paid by his executors:—St. John's College bursary, £1000; St. Patrick's College, Manly, bursary for ecclesiastical students, £400; Lewisham Hospital, £100; Westmead Boys' Home, £100; St. Martha's Home, Leichhardt, £100; Industrial School, Manly, £100; total, £1800.

Once again (says the *Brisbane Age*) we congratulate the Christian Brothers, of Gregory terrace, on the highly successful year they are having. Last week we conveyed the astonishing news of their securing five out of the first six places in the Federal Civil Service, and to-day we offer our sincerest congratulations on their securing ten places in the State Civil Service examination. In both Professional and Ordinary divisions they have secured places—five in each. Such continued success speaks for itself and their achievements are their best friends and flatterers.

Cotton-growing for the time being (writes the *Brisbane correspondent* of the *Catholic Press*) is confined to the Capella district. The total area under crop is 96 acres, divided among eight or ten farmers. The yield last year averaged 1000lb per acre, and was sold, delivered on trucks at Capella, for 1½d per lb. Everybody has seen kapok, or, at least, rested his head upon it. Most of our pillows are filled with it. Australia uses annually from 10,000 to 12,000 bales of kapok, which is imported principally from Java. In so far as soil and climate is concerned, there is no reason why Queensland should be dependent upon a foreign country for its supplies of silk cotton. The plant thrives everywhere in tropical Queensland, and bears heavy crops.

By special request (says the *Freeman's Journal*) his Eminence Cardinal Moran postponed all celebrations of the Jubilee of the Cardinalate until the close of St. Mary's Fair. The autograph letter from his Holiness the Pope intended for that occasion has already reached his Eminence. It is understood that the Bishops of the provinces have intimated their intention of being present in Sydney on Sunday, October 23, in order to join with the Cardinal on that festive occasion. Owing to the excitement of election times the matter of another lay celebration must be deferred for some future date, probably when the work of his Eminence's appeal for funds for the completion of St. Mary's Cathedral, in all the parishes, shall have been more advanced.

His Eminence Cardinal Moran made an appeal for funds for the completion of St. Mary's Cathedral at Woolahra on Sunday, October 9, when a sum of £1029 was subscribed. In announcing the result of the collection, Rev. Father Kennedy said: 'These figures say everything I could wish to say to your Eminence, and I ask you to receive these subscriptions, which are the united efforts of each and every one of us, and which give expression to our loyalty, devotion, and affection. We are grateful to you for coming here to-day, and congratulate you on the attainment of your 80th year; also on the fact that you are about to celebrate your Cardinalatial Silver Jubilee. When Pope Leo XIII. elevated you to the Cardinalate, I do not know exactly whether he had in his mind's eye at the time that you would be about the grandest support of Catholicity in this Australian land. There are no more wonderful labors than yours, and your name will go down in history. We wish you many, many years of life, and, God grant, that your days will be prolonged to see St. Mary's completed.'

A new Samaritan Convent was blessed and opened at Gawler on Sunday, October 2, by his Grace the Archbishop of Adelaide. The collection taken up at the ceremony amounted to £240. His Grace the Archbishop, in his address, said when it was considered that the Catholic population consisted of only one-seventh of the total population of the State, they should be proud to think that over £338,000 had been subscribed during the past fifteen years on the building of churches, convents, and schools and charitable institutions. This was leaving out of consideration altogether the fact of the upkeep of 60 priests and 300 nuns. The subscribing of this great sum was a stupendous undertaking, and had entailed much self-sacrifice, as it was well known that the Catholic community was not a financially strong one. However, they were willing to make any sacrifices in the cause of education, only the children must be given religious instruction in the day schools.