

## Science Siftings

BY 'VOLT'

### No Sand in Sandpaper.

'There is no sand in sandpaper,' said the manufacturer. 'It is powdered glass that does the business. That's where the broken bottles go to.' He nodded towards a mass of broken bottles in the yard. 'We powder the glass into half a dozen grades,' he said. 'We coat our paper with an even layer of hot glue. Then without loss of time we spread on the glass powder. Finally we run a wooden roller lightly over the sheets to give them a good surface. When in the past they made sandpaper of sand it wouldn't do a quarter of the work that glass paper does.'

### An Immense Telescope.

A citizen of Los Angeles, Cal., has recently given 45,000 dollars for the construction of a 100-inch reflecting telescope, to be used by the Carnegie solar observatory on Mount Wilson. The glass disc from which the mirror will be formed has already been ordered of St. Gobain, in France, but it is expected that about four years will be spent in making the disc and afterward grinding and figuring it. Professor George E. Hale, the director of the solar observatory, thinks that no insuperable difficulty is likely to be encountered in the making and mounting of this enormous instrument, which, in light-gathering power, will immensely exceed all other telescopes now in existence. The mirror for the 60-inch reflecting telescope now being constructed for the same observatory is nearly completed.

### How Sculptors Work in Marble.

The artist makes a model first, not always life-size, but almost none of them actually do the cutting in the marble. This work is entrusted to highly-skilled artisans, who do the work under direction, the sculptors superintending all the finishing touches, and, on occasion, some of the cutting on the face and hands. The actual cutting of the stone is a most difficult process, and requires great expert skill. In case a full-sized model is made the sculptor sends it to a professional marble cutter, who roughly shapes the block. The general shape is often given to the block before it leaves the marble yard, in order that certain costs of freight may be saved. The rough carving is then done by the marble cutter, who so shapes the block as to give it the general outline. He first drills a series of holes in the block, and then chops off the pieces.

### Ingenious Printing Machine.

The German Government has recently adopted a novel device for printing and issuing railway tickets. It comprises a machine about 3ft in length by 4ft high and 20in wide, so that it can be placed conveniently beside the ticket-office window. The machine, which is in operation at Cologne, is designed for use in 1300 stations; but the apparatus can be adapted to any number as required by the exigencies of the railway by which it is used. The machine is very simple in design. It carries as many printing-plates as varieties of tickets required for issue from the station. The names of all stations are arranged in alphabetical order on a scale. On a ticket being demanded, the clerk inserts a blank piece of cardboard of the conventional size into a sliding carriage, which is the printing apparatus. moves it along until it is opposite the name of the station required on the indicator, depresses the handle, and immediately the ticket drops out imprinted with the name of the departure and arrival stations, date, consecutive number, fare, route, class of carriage, and any other fact that may be required. At the same time a duplicate is printed on a continuous sheet, so that no booking operation by the clerk is necessary. No card can possibly be printed by any unauthorised person without being registered on the control sheet, which cannot be altered by the clerk. Misuse is out of the question, and the booking office is proof against theft, since no ticket is of any use until passed through the machine, being merely a blank prior to this last-named operation. Any type of ticket can be issued without delay, including excursion, tourist, privilege, workmen's, season, dog, vehicle, etc. The machine appreciably facilitates the task of the clerk, and tickets can be issued far more quickly than by the existing method, one official at Cologne station having issued 500 tickets in an hour by this machine.

A certain old dame, who is well known to fame  
For preferring a shoe for a cottage,  
Her children would spank and to by-bye would yank,  
If they ever complained of their pottage!  
Now this shows she was wise, and it's safe to surmise  
In a household so strict and housewifely,  
If a child had a cough it was treated right off,  
With Woods' Peppermint Cure—quick and lively.

## Intercolonial

Nearly £6000 has been subscribed in the Armidale diocese towards the cost of the new Cathedral.

Mr. J. J. Green, C.E., an ex-student of St. Patrick's College, Ballarat, who is only 24 years of age, has been appointed shire engineer of Walgett, New South Wales.

The Right Rev. Dr. Higgins, Bishop of Ballarat, dedicated a new church at Pirron Yallock recently. The church was erected at a cost of £1000, and the collection at the ceremony amounted to over £900.

Among the passengers from Bremen by the German mail steamer Gneisenau, which arrived in Sydney on July 1, were nine German Catholic priests and five Sisters, who are on their way to the various mission stations in German New Guinea and New Britain.

Of the twenty-one prelates and priests who assisted at the consecration of the Most Rev. Dr. Dunne in St. Stephen's Cathedral, Brisbane, twenty-seven years ago, only the Rev. Fathers A. Horan, D. Fouhy, T. O'Connell, J. B. Breen, and P. Corrigan are living.

The death is reported of Mr. J. H. B. Curtis, who for the past thirty years was secretary to the Melbourne Athenæum. He was a man of considerable literary attainments, and was a frequent contributor to the *Austral Light* and the *Sydney Freeman's Journal*.

At the Mother House of the Sisters of Mercy in the Maitland diocese 108 nuns, from all the branch convents, were assembled during the midwinter vacation. They held their retreat, and during their visit the triennial election of Mother Superior took place, and the Rev. Mother Stanislaus, the first Mother Superior of the Order on its establishment in Singleton from Ennis, Clare, Ireland, in 1875, was elected.

The Rev. Brother Hughes, who is on a collecting tour in Queensland in connection with the new training institute and novitiate of the Order near Sydney, was stricken down with serious illness at Muttaborra (says the *Brisbane Age*). At one time his life was despaired of, and Father Lane travelled 80 miles over a bad road to administer the Last Sacraments. His many friends in Brisbane will be pleased to hear that he is now on the road to recovery.

The following clerical changes have been made in the archdiocese of Sydney:—The Ven. Archdeacon Murphy has been appointed as parish priest of St. Joseph's, Newtown. Rev. James Furlong has been appointed to the charge of the newly-created district of Enmore. The Rev. John J. Byrne has been transferred to St. Benedict's as administrator. The Rev. John M. Kelly has gone from St. Patrick's College, Manly, to administer the parish of St. Francis, Haymarket.

Rev. Brother Emilian, of the teaching staff of St. Patrick's School, Churchhill, left Sydney on July 7 for the Sacred Heart College, Auckland. While at St. Patrick's School, Brother Emilian specially interested himself in the advancement of the Sodality of the Most Holy Sacrament attached to the church, as well as in the encouragement of the Old Boys' Union. As a mark of their appreciation (says the *Freeman's Journal*), the members of the Sodality entertained Brother Emilian in the school hall, and presented him with a handsome travelling bag, while the members of the Old Boys' Union tendered Brother Emilian a farewell on the wharf prior to his departure, and asked his acceptance of a silver-mounted umbrella, suitably inscribed. Brother Emilian was also the recipient of numerous gifts from private sources.

At the blessing of the Marist Fathers' new missionary schooner, Joan of Arc, on Sunday, July 4, speeches were made in English, French, and Maori. Though no collection was made, a large number of voluntary offerings were put in the boxes on board. His Eminence Cardinal Moran, who performed the ceremony, gave £50 towards the cost of building the vessel. Dean Grogan, of Wanganui, gave £5, and Mr. Valentine Heaton £2 2s. Among those who delivered addresses was the Right Rev. Mgr. O'Reilly (Thames), who spoke in a language strange to most of those present. On many faces there were blank expressions, but the Cardinal and some of the priests apparently were not mystified. In the crowd there were various conjectures as to what language the Monsignor was speaking. Some whispered that he was speaking in Greek, others had different opinions. 'I think,' said Monsignor O'Reilly, 'that I will conclude in English. You don't seem to understand Maori. When visiting your schools in and around Sydney, I spoke in Maori to the children,' he continued, 'and when I dropped back into English they looked quite surprised, and said to one another: "Why, he can speak English as well as we can!"'

**DEAR ME!** Forgotten that SYMINGTON'S COFFEE ESSENCE! - Whatever shall I do? Call at the nearest Store and ask. They all keep it.