

## Science Siftings

BY 'VOLT'

### A Bomb Cannon.

Krupp's latest engine of war is designated as a 'bomb cannon.' Its function is to hurl a blast of stifling smoke and fire, eliminating every possibility of life within its immediate vicinity at the instant of explosion. The bomb itself is quite large and is fitted with a metal cover just stout enough to hold the charge. The action of the fragments are of little consideration when compared with the effect of the smoke, fire, and pressure of concussion.

### A Rust-proof Steel.

An English firm has succeeded in manufacturing a steel proof against the corroding influence of smokeless powder and rust. During trial 5000 cartridges containing 43.21 grains, Troy, were discharged through a rifle barrel made of this product without a trace of any deleterious action on the metal. The intervals between the firing covered a period of some fifty days, during which time the gun was purposely kept uncleaned and in a damp locality.

### How a Priest Invented the Deaf and Dumb Alphabet.

A French priest, the Abbe de l'Epee, once saw two sisters whose eyes looked up into his very intelligently, but whose tongues could not speak, nor could their ears hear. They were deaf-mutes. He wondered if it were possible to help them. If, later on, we could have peeped into the rooms of this good priest, we might have seen him twisting his fingers about. We might have noticed that the gestures made by his fingers were in the form of letters—something like letters. We could easily tell O or T or V. He was inventing the deaf-and-dumb alphabet. The next thing was to teach it. Ah, what a labor it was to teach the deaf! But the kind priest was very anxious to help the poor children—the two sisters were his first pupils—and so it was what we call a 'labor of love'; and of course the Abbe succeeded in it. Before he died in 1789, at the age of 77, very many young people had learned the alphabet—'finger talk'—in his classes. Of course, as you may know, this finger language is not so much used now, because the deaf-mutes are taught to speak with their lips; but for a long time the only way they could speak was by means of the Abbe's alphabet.

### Comets not Self-luminous.

After a careful study of the observations made on Halley's comet by the various observatories of the world, Dr. Eginitis, of the observatory of Athens, draws the interesting conclusion that comets are not self-luminous bodies, but rather shine by reflecting the sun's rays. During its last visit it was observed that as it approached the earth the tail became more dim, and just before its conjunction on May 18, it grew even dull, as if composed of smoke, which disappeared at the first light of dawn. However, after its passage to the other side of the earth, on the 19th, the portions seen in the west suddenly took on an intense brightness, which made them easily visible to the naked eye, even at twilight. This was not a difference due to the varying angle at which the tail was observed, but was a sudden transition through five magnitudes. After May 21 the tail, according to the usual law, grew dim, as is always the case with a reflector receding from the sun and from the eye. A similar phenomenon, though not so marked, was observed with regard to the head. It grew bright as it approached the sun until April 1, remained invariable for about a month before inferior conjunction, increased to first magnitude by May 21, then grew dim. Theoretically, its brightness should have been fifteen times as great as actually observed, and the same is true of the nucleus.

### To Make Cement Waterproof.

Concrete and cement mortar are being used more and more as construction materials on the farm. Whatever simple devices are brought forward for increasing water-proof qualities of these materials are welcomed. In order to make concrete and mortar more impervious to water it is customary to add some foreign material, as, for instance, clay. The clay must be pure—that is, not intermingled with vegetable matter. Besides being pure, it must be finely powdered. Of course, it is difficult, well-nigh impossible, in fact, to lay down a set rule, for amounts added vary with the mixture. But add from 3 to 4 per cent. of the weight of the sand used in the mixture you are dealing with. Mix the clay dry with the cement. In the case of cement mortar, an addition of soap and alum gives good results along this line of water tightness. Suppose the mixture is one part of cement to two and a half of sand. Then add three-quarters of a pound of powdered alum for every cubic foot of sand. Mix them dry and add to this mixture water in which soap has been dissolved—laundry soap may be used—three-quarters of a pound to a gallon of water. The resulting mortar, while having gained in water tightness, has lost something in strength. Walls which extend below the ground level are often damp. To prevent moisture passing through, apply two coats of good tar. The coating should extend above the ground surface. This is a simple and effective device.

## Intercolonial

The New Sacred Heart Hospital at Young, which is being erected at a cost of about £7000, will be opened in November by his Eminence Cardinal Moran.

The Very Rev. Dr. Jules Vandell, M.S.H., and the Rev. Dr. C. Lynch, M.S.H., of the Sacred Heart Missionary College, Kensington, are to represent the Australian province of the Order at the General Chapter to be held early next month in Rome.

The ceremony of laying the foundation stone of the new brick convent at Picton, which is being erected at a cost of £835, was performed before a large gathering on Sunday, June 4, by Monsignor O'Brien. A subscription list was opened, and about £430 was subscribed, which, with the money in hand, makes a total of about £640.

The foundation stone of the new episcopal residence of the Bishop of Rockhampton was laid on June 4. The ceremony was performed by the Right Rev. Dr. Duhig, Bishop of Rockhampton, in the presence of some thousands of spectators. Short addresses were given by Bishop Duhig, Mayor H. Medcalf, Father Ryan (of Stanthorpe), and Mr. D. Keogh, M.L.A. for Rosewood. The day's offertories totalled £1400.

Sister Mary Juliana Donaldson, one of the oldest Sisters of Mercy connected with the Newtown Convent, Geelong, died on Sunday, May 28. She had been 48 years a nun, and was a sister of the late Hon. J. Donaldson, who, in the eighties, was Postmaster-General and Minister of Education in the Mollwraith Ministry in Queensland, and State Treasurer, Minister for Education, and Postmaster-General in the succeeding Moorhead Ministry.

The third series of appeals on behalf of the completion of St. Mary's Cathedral, Sydney, was begun on Sunday, June 4, at Leichhardt, by the Cardinal. It was a good beginning, for Leichhardt, a working-man's suburb, subscribed and promised no less than £945 to assist his Eminence in perfecting what he considers the crowning work of his episcopate. The position of the fund at the present time is—Roll of Honor to date, £41,688 12s 6d; other contributions and fair to date, £14,504 0s 5d; cash already in hand, £16,000. Grand total to date, £72,192, 12s 11d.

The Catholic authorities in Ballarat decided to organise a bazaar, under the title of the 'Coronation Fair,' reports the *Age*. It was subsequently ascertained that the Young Men's Christian Association was also about to organise a sale of gifts under a similar title, whereupon Bishop Higgins, in order to avoid clashing with the association, suggested that the name of the Catholic movement should be altered to 'Empire Fair.' This action has greatly pleased the authorities of the Young Men's Christian Association, the president of which (Mr. F. E. Sides), who is a Methodist, has donated £1 to the funds of the Catholic fair. In forwarding the donation, Mr. Sides expressed the hope that the good feeling between the Catholic ladies of Ballarat and the Y.M.C. Association would long continue.

By the death of the Very Rev. Father Francis Huault, S.M., which took place at St. Vincent's Hospital on Tuesday evening, June 6, after a three-weeks' illness, the Society of Mary in Australasia has lost a devoted member (says the *Catholic Press*). Father Huault was a son of France. He was born in Brittany, that land of genuine Catholicity, on September 1, 1853. After his ordination he spent a few years in New Caledonia, and came to Australia over sixteen years ago. He was stationed at St. Michael's Cumberland street, and later at St. Patrick's, Harrington street. Shortly afterwards he was appointed Procurator of the Society's missions in Australia, New Zealand, and the Islands of the Pacific. His position he filled with great ability for some years, subsequently being appointed chaplain to the Marist Brothers at their novitiate at Mittagong, where he spent the last six years of his life. Three members of the Huault family joined the Society of Mary. Father Placid Huault, a cultured and distinguished priest, died at Villa Maria, a couple of years ago, and the third brother, Father Julien Huault, has been working at Villa Maria for some years.

His Eminence Cardinal Moran issued the following directions to the clergy with regard to the observance of Coronation Day:—The clergy will be pleased to add the Collect *Pro Civitatum Actione* in each Holy Mass on the 22nd instant, and the two following days. At the invitation of the State Government, five thousand of the parochial school children will attend the children's feast at the Agricultural Grounds, under the care of their teachers. Should the military authorities be able to arrange, there will be church parade for the Irish Rifles and other Catholic military representatives in St. Mary's Cathedral at 10 a.m. The St. Patrick's College students will attend. There will be an address. The 'Benedictus' will be sung by the college choir, and the ceremony will close with Benediction of the Blessed Sacrament. The Cathedral tower will be illuminated with the electric light Southern Cross. In the country districts the clergy are requested to have a children's feast, and, where feasible, there may be a bonfire at each school.