

Science Siftings

By 'VOLT.'

The Biggest Gun.

The biggest gun in the world—unless the German army has larger ones not known to other nations—was shipped from the Watervliet arsenal, New York, recently, where it had been sent to be rebored, to the arsenal at Watertown, Massachusetts, to be remounted for coast defence service at the Pacific Ocean end of the Panama Canal. The gun is the big 16in. rifle built at Watervliet in 1896 and placed in service at Sandy Hook. It was 49ft 4in in length, and weighs 284,500 lb. The diameter at its breech is 5ft, and at the muzzle 2ft 5½in. It fires a projectile weighing 1400lb a distance of twenty miles, and it costs Uncle Sam in the neighborhood of £200 every time the big piece of ordnance is fired. It requires 600lb of gunpowder every time it is discharged.

The Sun and Earth.

The abnormally inclement spring weather experienced in Europe gives practical importance to the statement by the *Pall Mall Gazette* that during the last days of March great things were happening on the side of the sun hidden from our view, the occurrence of which was made known by the appearance at the sun's eastern limb of one of the most imposing collection of sunspots seen for many years. The leaders of this group reached the centre of the sun during the Easter week, and from this vantage ground (so argue those who trace to them our weather troubles) sunspots are potential to bring their biggest meteorological guns, so to speak, to bear on our unfortunate planet. A theory of sunspots, enunciated last year by Professor H. H. Turner, ascribes them to the Leonid meteors and the rings of Saturn. A thorough grasp of this theory needs an expert mathematical mind; but, simply put, the idea is that now and again the meteors, rushing through space, bump into Saturn's rings, and fragments from the satellites, of which the rings are composed, are, as a result, hurled with tremendous violence into the glowing atmosphere of the sun. The cavities thus produced in the photosphere are the sunspots we see.

The Vision of Submarines.

The *Standard* says that the 'sight' of the submarine has been greatly improved, and the modern periscope is fitted with a compass by means of which it is possible for a helmsman to steer to fractions of a degree instead of, as hitherto, to quarter-points only. By this the accuracy with which a torpedo can be fired is greatly enhanced, and in the newest boats it is possible to obtain the bearings of an enemy ship from a distance of some miles away and set a course which, without it being necessary to use the periscope again, will bring the boat to a point from which a torpedo may be fired with an absolute certainty of its mark. The earlier forms of periscopes were frail and leaky, and a constant source of trouble. The new types are not only robust, but the glasses have no tendency to become cloudy, and, no matter in what position the object viewed may be, the image thrown is always erect, and not at times inverted, as in the older instruments. The bearing of the object viewed is indicated by a movable pointer on a fixed dial. The new pattern of periscope is also arranged that if desired a magnifier can be brought into operation whereby a vessel invisible to the naked eye can be seen and its exact position calculated with mathematical precision. Once this has been worked out, the submarine, as has already been mentioned, can be submerged and her periscope drawn in and an underwater course pursued until the exact position at which the torpedo should be fired is arrived at. It may be added that in all modern vessels the firing can be done 'from the periscope'—i.e., the officer who is watching the periscope and telltale when they are in use can himself fire the torpedoes without leaving his post.

Intercolonial

The Rev. Father E. McAuliffe, Catholic chaplain with the N.S.W. first Expeditionary Force, has left Egypt for the firing line.

It has been learned with general regret that the illness from which his Grace the Archbishop of Adelaide has long been suffering has again assumed a serious phase, and grave fears as to the result are entertained.

A few Sundays ago his Grace the Archbishop of Melbourne blessed and opened the new novitiate of the Sisters of St. Brigid, at Mentone. His Grace paid a warm tribute to the Order, which is faithful to the best traditions of the institution founded by St. Brigid.

The Right Rev. Dr. S. Reville, O.S.A., Bishop of Sandhurst, celebrated his 71st birthday on the 7th ult., and a number of congratulatory messages were received at the Palace from all parts of the State. Dr. Reville was born in Wexford in 1844, and came out to Bendigo with the Right Rev. Dr. Crane in 1875. In 1885 he was appointed Coadjutor-Bishop. Dr. Reville succeeded Dr. Crane as Bishop in 1901, and during the past fourteen years his skilful guidance of the affairs of the Church has won him the golden opinions of all.

The ceremony of opening the St. John's Hospital, established by the Nursing Sisterhood of St. John of God at Ballarat, was performed on a recent Sunday by the Right Rev. Dr. Higgins, Bishop of Ballarat. The hospital building is what has been hitherto known as Bailey's mansion. The sum of £4000 was paid for the property, and half as much more has been expended in adapting the building for hospital purposes and to furnishing. When the whole is completed the total cost will approximate £8000.

The Rev. Father J. O'Gorman (Adm., St. Mary's Cathedral, Sydney), has received a cable message to the effect that the Right Rev. Monsignor O'Haran, with the Rev. Fathers W. Barry, J. J. O'Driscoll, and J. Rohan, had arrived safe in Glasgow after an exciting voyage.

News is just to hand from Europe (says the *Catholic Press*) that Brother Clement (Director of the Sacred Heart College, Auckland), has been appointed to succeed Brother Alphonsus as Provincial Superior of the Marist Brothers of Australasia. Before going to New Zealand, Brother Clement, who is a native of West Maitland, was for a number of years director of St. Joseph's College, Hunters Hill. Both at Hunters Hill and in Auckland he has shown that he is a man of progressive ideas; and that, moreover, he has the necessary initiative and practical business capacity for carrying out those ideas. The Marist Brothers are fortunate in having so able a man to lead and guide them in their noble work.

At a meeting held to celebrate the opening of the new Catholic tent, erected by the St. Vincent de Paul Society at the Liverpool Camp, his Grace the Archbishop of Sydney addressed several hundred Catholic troops on the subject of drink, and asked them to pledge themselves to abstinence. 'I would exhort you not to be deceived,' said his Grace. 'I do not speak to you as men addicted to drink, but upon what is now a great public question. Abstinence on your part will be for your profit, and help to make you enjoy your service in the army. It will make you doubly, and trebly, useful, and strengthen you in your duty to your commanding officers and your country. Touch no intoxicating drink during the war. If you want to perish in the cold, take spirits. If you want to preserve your warmth, take only wholesome drinks. Now, you men who take alcohol, do without it, and you will find yourselves different and better men within three months. That has been the experience in warfare, both in hot and cold climates. If you want to keep your health and bodily comfort in this great game—for war is a great game—content yourself with natural, wholesome drink.'

Lampware is going to be very dear buying. Hadn't you better make a selection from Smith and Laing's stock, Invercargill, before they go up in price?