University and Educational Intelligence.

CAMBRIDGE.—The Adams Prize for 1927–28 has been awarded to Prof. Sydney Chapman, professor of mathematics in the Imperial College of Science and Technology, London. The value of the prize is about £246. The subject set was "The Variations in the Earth's Magnetic Field in Relation to Electric Phenomena in the Upper Atmosphere and on the Earth."

DR. R. P. RAUP, professor of the philosophy of education in Teachers College, Columbia University, New York City, will deliver a lecture on May 8 at 6 P.M., on "The Psychological Basis of the 'Project Method,'" in the Library of the Central Hall, Westminster, S.W.1. Tickets (price 1*s.*) can be obtained from the secretary, New Education Fellowship, 11 Tavistock Square, W.C.1.

A SUMMER tour to Norway, leaving Newcastle on July 27, is being arranged by the Educational Travel Association. Shore excursions under competent guidance will be made for studies in the fiord region, and an extension overland will be made to the subarctic area of the tableland, and to Oslo for the ethnological exhibits of Eskimo life collected by Amundsen, and the geological, botanical, and archæological collections there. Particulars may be obtained by sending a 2*d.* stamp to the honorary secretary, E.T.A., c/o the Cheshire Training College, Crewe.

A SUMMER school of biology, under the direction of Prof. F. A. E. Crew, is being organised by the Education Committee for the County Borough of Brighton, to be held at the Municipal Training College on Aug. 2–16. Courses will be given on biology and the school curriculum (Prof. A. D. Peacock, University of St. Andrews, and Mr. G. B. Walsh, High School for Boys, Scarborough), on the theory of the cell, the gene, and organic inheritance in man (Prof. F. A. E. Crew), and there will be single lectures on special topics. Practical and field work is being arranged. Particulars can be obtained from the secretary to the Brighton Education Committee, Mr. F. H. Toyne, 54 Old Steine, Brighton.

PARTICULARS of vacation courses to be held in Great Britain in 1929 are given in a pamphlet recently issued by the Board of Education. There will be courses in science subjects in England and Wales as follows: arranged by the Board for teachers only—in physics at Cambridge and Harrow, in chemistry at Oxford, in biology at Cambridge, in engineering at Oxford, and in gas technology at Leeds; arranged by local education authorities—in chemistry at Nantwich, in biology at Brighton, Nantwich, and Bingley, in rural science at Barry (South Wales), in mining and engineering at Swansea, and in regional survey at Folkestone; organised by university bodies—in biology at Cambridge, Great Ayton (Yorks), and at or near Birmingham, in psychology at Cambridge, Oxford, Bristol, Rocester (Staffs), Chester, Bangor, and Harlech; organised by other bodies—in mine survey and economic geology at Camborne, in regional survey at Stratford-on-Avon, and in psychology of handwork at Chester. A novel course in mothercraft, organised by the Board for teachers in elementary schools, will be held in London on July 22–Aug. 2. Only three courses for foreigners are announced, to be held at Cambridge, London, and at Exeter. The Board has this year, for the first time, included in the pamphlet particulars of vacation courses in Scotland, namely, courses for teachers arranged by the National Committee for the Training of Teachers, and courses, planned to be completed in two summers, of the ordinary university degree standard, to be held at Edinburgh in mathematics, physics, geography, and biology.

Calendar of Patent Records.

May 6, 1845.—The introduction of the electric telegraph and its rapid progress were mainly due to the united efforts of Sir Charles Wheatstone and Sir William Fothergill Cooke, who, approaching the subject one from the scientific and the other from the business point of view, were brought together at a time when many attempts were being made to devise a practical system. Their first patent was taken out in 1837. But complete success was not achieved until they produced the single needle telegraph, which was patented by them on May 6, 1845. A special Act of Parliament was passed to permit the formation of a company of more than twelve persons (the maximum number allowed under the various grants) to work this and all the earlier patents of the two inventors.

May 7, 1794.—The first real gas engine was the invention of Robert Street, who patented it on May 7, 1794, under the title "A new invented method to produce an inflammable vapour-force by means of liquid, air, fire, and flame, for communicating motion to engines and machinery." In Street's engine, a few drops of spirit of turpentine are introduced into the cylinder, the bottom of which is kept heated so that the spirit is instantly converted into vapour. The piston is at the same time moved upwards, and a quantity of air thereby sucked into the cylinder, which mixes with the vapour and forms an explosive mixture which is ignited by a flame applied to a touch-hole.

May 7, 1802.—The corkscrew now in common use in which the prong is fixed to the end of a right-handed screw which works in a hollow quick left-handed screw working in a hollow cylinder shaped to fit over the bottle mouth, so that the cork is pierced and extracted by one continuous right-handed turning of the handle, was patented by Sir Edward Thomason of Birmingham on May 7, 1802. During the term of the patent more than 130,000 corkscrews of this type were made at prices ranging from one guinea to four shillings.

May 9, 1807.—Sir William Cubitt's invention for automatically varying the area of sail in a windmill according to the strength of the wind was patented on May 9, 1807. Cubitt substituted movable shutters for the sail fabric, and geared the shutters to a rod running through the centre of the wind-shaft, so that the opening and closing movements of the shutters were communicated to the rod. A hanging weight attached to the end of the rod was adjusted to keep the shutters at the most suitable angle, but allowed them to open to present less effective surface to the wind when this became stronger than normal. This mechanism and the earlier invention of Andrew Meikle for automatically keeping the sails into the wind were extensively adopted and are still in use in England, but were not taken up on the Continent.

May 9, 1865.—The first application of hydraulic power for the operation of tools was Ralph Hart Tweddell's invention for fixing or tightening the ends of boiler tubes by means of expanding dies operated by hydraulic or other fluid pressure, which was patented on May 9, 1865. The invention was immediately successful and resulted in a reduction of more than one-fourth in the cost of riveting.

May 10, 1837.—The manufacture of galvanised iron is due to two Frenchmen, Ledru and Sorel, of Paris, who were granted a French patent for their invention on May 10, 1837, and followed this with twenty-three patents of improvement between that date and 1846. The English patent was sealed in the name of Craufurd in April 1837.