Calendar of Discovery and Invention.

April 25, 1839.—Many objections were raised against building ships of iron, but the two real difficulties arose through the disturbance of the compass and the fouling of the hulls. Airy did more than any one to solve the compass problem, but in his autobiography is the entry, "I had in this year (1839) a great deal of troublesome and on the whole unpleasant correspondence with the Admiralty about the correction of the compass in iron ships. I naturally expected some acknowledgment of an important service rendered to Navigation: but the Admiralty peremptorily refused it. . . . The general success of the undertaking soon became notorious, and (as I understand) led immediately to extensive building of iron ships." The vessels Airy used in his experiments were the *Rainbow* and *Ironsides*, and his results were published in a paper to the Royal Society on April 25, 1839.

April 25, 1848.—So far back as 1746 the Government offered a reward of £20,000 for the discovery of a passage by sea between the Atlantic and Pacific north of 52° N., and many explorers sought for the route. Among these was the heroic Franklin. He left England with the *Erebus* and *Terror* in 1845 with 129 men, but none survived. In 1859 relics of the expedition were discovered, and among them this entry, "April 25, 1848: the ships were deserted on April 22nd, having been in the ice since September 12th, 1846. Sir John Franklin died June 11th, 1847, and the total loss to this date has been nine officers and fifteen men. The rest (105 in number) landed here and start to-morrow for the Great Fish River."

April 27, 1857.—The earliest photographs of stars were obtained by Whipple at Cambridge, Mass., in 1850, but double-star photography was inaugurated by G. P. Bond, who on April 27, 1857, with an exposure of eight seconds, obtained an impression of Mizar, the middle star in the handle of the Plough.

April 27, 1888.—In a lecture at the Royal Institution on this day, Wimshurst described his famous influence machine. Of this machine it was said it "completely revolutionised the science of static electricity, for there had never been before its introduction a machine for the production of static charges which was not the subservient slave of the hygrometric condition of the atmosphere." Wimshurst constructed more than ninety such machines.

April 27, 1893.—Thirty-four years ago, Rudolph Diesel explained at Augsburg his ideas on the famous heat engine now bearing his name. The Diesel engine was the result of theoretical inquiries which he published under the title, "The Theory and Construction of a Rational Heat Motor."

April 29, 1820.—The founder of the rubber industry in England, Thomas Hancock, took out his first patent on April 29, 1820, for "an improvement on the application of a certain material to certain articles of dress and other articles that the same may be rendered more elastic." It was, however, not until twenty-three years later, on Nov. 21, 1843, that he patented 'vulcanised' rubber, the term 'vulcanisation' being suggested by his partner Brockedon, Vulcan, of mythology, being considered representative of the sulphur and heat required by the process.

April 30, 1799.—A century ago the most important chemical factory in the world was that of Charles Tennant and Co. at St. Rollox, Glasgow. In 1788, Tennant had discovered a method of controlling chlorine by the admixture of lime, and on April 30, 1799, he patented his method of producing chloride of lime or bleaching powder, a substance for which at first he obtained £140 a ton. E. C. S.

Societies and Academies.

LONDON.

Linnean Society, Mar. 17.—E. M. **Marsden-Jones** and W. B. **Turrill**: An improved herbarium method for geneticists, ecologists, and taxonomists. The method has been used at Kew for some years, and, with minor modifications, is capable of very wide application. The process consists in the sticking down of the specimens in the living condition. The best results have been obtained with paste, not with gum or glue, 'Gloy' being the best so far tested. A sheet of paper or card is brushed over with a thin layer of the paste, and the specimens placed on this. They are dabbed down and the sheet is placed in a press and considerable pressure applied. It is advisable to look at the preparations within a few hours, and remove any excess paste. After a few days the specimens are dried; they retain their shape, and sometimes their colour, indefinitely. With some plants, ironing through blotting-paper with a hot iron gives excellent results.—Miss F. **Haworth**: Lichen dyes. *Parmelia saxatilis* (gathered preferably after a wet day) and *P. omphalodes* are used in the preparation of Harris tweed, and give a characteristic smell to the cloth. Three methods of dyeing are used: (1) Boiling the lichen and wool together; (2) soaking in ammonia for a week; (3) boiling with ammonia for about two hours until mucilaginous, folding dye and cloth alternately and covering with rain water with a little alum, boiling for twenty minutes, and then washing the cloth in cold water. Generally the best results are obtained where numerous soredia are present. Rock lichens give the best dyes, those species with a large flat thallus rarely producing a permanent dye, though *Peltigera canina* gives a yellow colour with cotton.—F. E. **Fritch**: Heath-association on Hindhead Common. The relative grouping of the different species varies considerably with the time since the last fire, with the aspect, and with soil features. The character of the vegetation shortly after a fire depends upon the size of the growth that was burned, but ultimately Calluna becomes completely dominant and more or less completely hides the codominant, but largely prostrate, *Ulex nanus*. On slopes facing south *Erica cinerea* may become a temporary dominant for some years. Fires cause little ultimate change. Plants like Pteridium and Molinia may exhibit a limited increase of area in the first year after a fire, but do not advance after the vegetation has closed up.

Geological Society, Mar. 23.—E. S. **Cobbold**: The stratigraphy and geological structure of the Cambrian area of Comley (Shropshire). The exact positions of the excavations made by the author since 1906 are recorded, and the stratigraphy and tectonics as revealed by them and by the surface-features described. The folding and faulting of the Cambrian fall naturally into four groups: (1) post-Mesonacidian and pre-Paradoxidean, general direction unknown; (2) post-Paradoxidean and pre-Caradocian, general direction north-north-west to south-south-east; (3) post-Caradocian and pre-Silurian, general direction north-east to south-west, all the result of compressive forces; and (4) post-Silurian, tensional stresses responsible for the Church Stretton Fault. The facts detailed indicate seven diastrophic phases of various intensities. Special attention is given to the complicated Dairy Hill area, where recent work has fully substantiated the inference previously drawn from the Comley breccia-bed, that a peak or promontory of Lower Cambrian sandstone remained above water during the accumulations of some 300 feet or more of strata of the Paradoxidesgroomi zone.