

Calendar of Patent Records.

July 14, 1730.—On July 14, 1730, a patent was granted to Captain Robert Hamblin, a shipowner of Lynn, for "a new method for distinguishing of lights, whereby one light erected for the guidance of shipping may be perfectly known from another, and consequently every ship's crew be informed what coast they are off". The invention was, however, held to be an infringement of the powers of Trinity House, and the patent was revoked. Hamblin also financed the first light-ship, which was established at the Nore in 1732 by David Avery, and again brought him into conflict with Trinity House. The Admiralty agreed, however, that tolls might be levied although the ship itself should become the property of Trinity House.

July 14, 1808.—The bobbin-lace machine, the foundation of a large industry, was invented by John Heathcoat, whose first patent for the invention was sealed on July 14, 1808. The first factory was set up by Heathcoat at Loughborough, but this was attacked and the machinery destroyed by the Luddites in 1816, and the manufacture was transferred to Tiverton, where the firm is still operating.

July 15, 1846.—An early example of the 'pedrail' system of locomotion is shown in the specification of Edmund Leahy's English patent, which was enrolled on July 15, 1846. The invention is described as for the purpose of easing the motion and reducing the friction of wheels of carriages while passing over irregular surfaces, and consists in the "adaptation of a series of short rails to the wheels, which rails are linked together in a manner resembling an endless chain, arranged on rollers round the peripheries of the wheels".

July 15, 1869.—Margarine was the invention of the French chemist, Hippolyte Mège, and was patented in France on July 15, 1869, and in England the same year. The manufacture received a great impetus during the Franco-Prussian war, and was rapidly developed.

July 16, 1867.—One of the earliest systems of reinforced concrete was due to Joseph Monier, a gardener of Paris, who was the first to make extensive use of reinforced concrete and was mainly responsible for its general adoption. His French patent was granted on July 16, 1867, and the new method of construction was firmly established by the German firm of Freytag und Heidschuch, which purchased the German and Austrian rights.

July 17, 1790.—The English patent granted to Thomas Saint, a cabinetmaker of London, on July 17, 1790, contains the earliest description of a sewing machine. The machine, which is for sewing leather for boots and shoes, makes a chain-stitch, and has a perpendicular action, automatic feed for the material, and an eye-pointed needle.

July 18, 1783.—John Broadwood's piano patent, which is dated July 18, 1783, revolutionised the construction of the early square piano and represents an important step in the history of the instrument. Broadwood placed the tuning pins at the back of the case instead of as usual at the right-hand side, and added dampers and pedals. The construction was copied by all the leading makers, including those of Germany.

July 18, 1833.—On July 18, 1833, a patent was granted to Francis Maceroni for his steam-carriage, which had a multi-tubular boiler with fan-draught behind the carriage, and a horizontal two-cylinder engine below the body. A carriage was built in 1833 and ran between Edgware and Paddington for some time, attaining an average speed of 10 miles an hour. Carriages were also sent to Paris and Brussels, where they were received favourably.

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Societies and Academies.

LONDON.

Geological Society, May 29.—K. S. Sandford: The Pliocene and Pleistocene deposits of Wadi Qena and of the Nile Valley between Luxor and Assiut (Qau). Wadi Qena is a broad and deep dry valley which joins the Nile from the north at Qena, about 40 miles north of Luxor. The oldest beds visible within the walls of the valley system are of Pliocene age, deposited in a gulf of the Mediterranean. This had been cut by river erosion during the elevation of the Egyptian plateaux in Miocene and (in the south) partly in Oligocene times, and it was then flooded to a height of at least 550 feet above present sea-level. A non-fossiliferous series of strata was deposited in it. Great thicknesses of travertine are locally present in the series. Re-elevation carried the flooded valley system back to fluvial conditions in Plio-Pleistocene times, accompanied by the irruption of enormous quantities of detritus from the Red Sea Hills. In Pleistocene times an ordered succession of river terraces was laid down in the Nile valley and in all the major wadis. Thereafter (in Upper Palaeolithic times) desert conditions began to assert themselves, and the Nile alone survived. At about the same time the Nile carved a deep channel and re-excavated the deeper parts of the Pliocene-filled Miocene gorge. The process of filling this up still continues.

Mineralogical Society, June 11.—E. J. Wayland and L. J. Spencer: Bismutotantalite, a new mineral from Uganda. This was found in a pegmatite vein at Gamba Hill, about 35 miles north-west of Entebbe. The large rough crystals, weighing up to a kilogram or more, are orthorhombic with a habit and axial ratios similar to those of columbite. Analyses made by Mr. W. O. R. Wynn at the Imperial Institute give the formula $\text{Bi}_2\text{O}_3 \cdot \text{Ta}_2\text{O}_5$, analogous to stibiotantalite ($\text{Sb}_2\text{O}_3 \cdot \text{Ta}_2\text{O}_5$).—L. Hawkes: On a partially fused quartz-felspar rock and on glomero-granular texture. In a partially melted granite, fusion began at the quartz-felspar contacts. It is suggested that the temperature was raised above the eutectic point but not to the melting-point of any of the constituent minerals, and that a granite of quartz-orthoclase-albite eutectic composition will melt completely in the dry state below 950° C. Coarse-grained granites may exhibit a segregation of quartz and felspar, revealed in section by monomineralic areas of several grains in anhedral intergrowth. The name 'glomero-granular' is proposed for this texture, which may result from the normal undisturbed crystallisation of the magma.—P. Marshall: The occurrence of a mineral hitherto unrecognised in the phonolites of Dunedin, New Zealand. A mineral with low birefringence and low refractive index, hitherto taken to be either nepheline or sodalite, is distinct from these and nearer microsomite or davyne. It is usually allotriomorphic but also occurs as very small (0.15 mm.) hexagonal prisms. Analyses of hydrochloric acid solution of phonolites containing this mineral to the exclusion of other soluble silicates, indicate that it is a sodium aluminosilicate loosely combined with sodium chloride. The mineral stains dark violet when treated with silver nitrate. The name proposed for the mineral is ameletite.—G. T. Prior: The meteoric stone of Lake Brown, Western Australia. The stone, weighing when found 4.75 kgm., has been known since 1919. Chemical analysis and microscopic examination prove it to be an intermediate hypersthene-chondrite of Baroti type.—I. de Finály and Sándor Koch: Fülöppite, a new Hungarian mineral of the plagiogonite-