

Calendar of Patent Records.

November 11, 1847.—The discovery that coal-tar contained benzene was made by A. W. Hofmann, but the production of benzene from coal-tar on a commercial scale was due to Charles Blackford Mansfield, a pupil of Hofmann's, and dates from the patent granted to him on Nov. 11, 1847, for "An improvement in the manufacture and purification of spirituous substances and oils applicable to the purposes of artificial light and various useful arts". Mansfield died as a result of burns received whilst he was carrying out some of his experiments on tar.

November 11, 1896.—The Bowden wire method of transmitting motion, so widely used in connexion with the operation of brakes and other parts of bicycles, was the invention of E. M. Bowden and was patented by him on Nov. 11, 1896.

November 12, 1673.—The patent granted to William Chamberlayne on Nov. 12, 1673, for his "new art or mystery of plating and tynninge of iron, copper, steele, and brasse, and for the compressing and platinge of all other mettalls; hee never yett useing or putting them in practize by reason of his long imprisonment and troubles in the late intestine wars and since", was a confirmation of a previous grant made in 1661 to Chamberlayne and Dud Dudley. Chamberlayne did not put his invention into practice, and the patent is referred to by Andrew Yarranton in his "England's Improvement" as one which obstructed the introduction of the tin-plate industry into England from Saxony, which he had visited to obtain knowledge of the process of manufacture employed there. The industry was not established here until the beginning of the eighteenth century.

November 12, 1723.—On Nov. 12, 1723, a patent was granted to Ambrose Godfrey, a chemist at one time employed by Robert Boyle, for a new method of extinguishing fires. He used "a small portion of gunpowder closely confined; which when animated by fire acts by its elastic force upon a proper medium and not only divideth it into the minutest atoms but disperseth it also in every direction so as immediately to extinguish any fire within a certain distance. This medium is a liquor strongly impregnated with a preparation of antiphlogistic principles." A test of Godfrey's invention was successfully made before the Society of Arts on a house built for the purpose in Tottenham Court Road.

November 13, 1800.—The method of making cast steel by melting malleable iron with charcoal or other carbonaceous material in a crucible was first used in Sheffield by David Mushet, who patented the process on Nov. 13, 1800. Mushet was the first practical man in England to write on the manufacture of iron and steel.

November 14, 1835. Joseph von Hohenblum was granted an Austrian patent on Nov. 14, 1835, for a system of pneumatic dispatch for postal packets, the letters being placed in small cylinders which were to be carried through long tubes by compressed air. The first successful installation of such a system was, however, first made in London about 1853.

November 15, 1747.—The famous fever powders of Dr. Robert James, "sold, wholesale and retail by John Newberry, bookseller, at the Bible and Sun, in St. Paul's Churchyard", were patented by James on Nov. 15, 1747. Patronised by Royalty, recommended by Horace Walpole, and its praises sung by the poets, nearly three million doses, Dr. James tells us, of the powder had been sold or distributed by 1764. In 1753 the Privy Council were petitioned to vacate the patent on the ground that the invention had been obtained from a Baron Schwanberg, but the petition was refused.

No. 3132, Vol. 124]

Societies and Academies.

LONDON.

Geological Society, Oct. 23.—R. D. Oldham: Historic changes of level in the delta of the Rhone. (1) At the opening of the Pleistocene period the whole area was covered by a deposit of gravel and well-rounded boulders, over which the Rhone and its tributaries wandered, with no fixed bed and with a velocity of current that gave them a torrential character. (2) A period of subsidence followed, the gradient and the speed of current were diminished, and an alluvial delta built up, which was at least as extensive as that of the present day. Two stages can be recognised in this deposit. (3) A period of uplift then set in, and the land rose, not less than 14 metres, above the level to which it had sunk, the deposits laid down were exposed to denudation, and an undulating surface of erosion was developed. On this weathered surface the settlements and structures of the Romans were erected. (4) Finally came another period of subsidence, which took place at intervals. One of these periods of subsidence probably took place between the years 1000 and 1500 B.C. The next change took place in the course of the eighth and ninth centuries; it amounted to about 5 metres of vertical displacement. Finally, there was a fresh movement of subsidence, practically completed during the later half of the eighteenth century. The total amount of these movements of subsidence was about 10 metres, and at the end of them the land still stands about 4 metres, or more, above the lowest level reached before the period of uplift set in.—R. W. Pocock: The *Petalocrinus* Limestone horizon at Woolhope (Herefordshire). The crinoid *Petalocrinus* has been recorded from Sweden and North America, but not hitherto from Britain. Its most striking peculiarity is the fusion of the arms into five solid arm-fans or petals, which radiate from the dorsal cup. The arm-fans are usually found detached in the limestone, throughout which they are profusely scattered. A bed of large tabulate corals on which the *Petalocrinus* band rests is found in this association throughout the outcrop. The combined thickness of the crinoid and coral-beds varies between 3 in. and 6 in. Llandovery rather than Wenlock affinities are indicated by the fauna of the transition-beds. The area appears to have been subjected to pressure, mainly along a north-west and south-east axis, developing thrust-faulting approximately at right angles to that axis; a late Coal Measure age is suggested for the principal movements. At May Hill and at Malvern the *Petalocrinus* Limestone with its associated coral-beds has been detected at the same horizon as at Woolhope.—P. K. Ghosh: The Carnmenellis granite: its petrology, metamorphism, and tectonics. This granite, which occupies an area of some 50 square miles between Falmouth and Camborne (Cornwall), was divided by the Geological Survey into (1) an earlier coarse variety and (2) a later fine variety. The coarse granite of the Survey has been subdivided into three types, which prove to be three distinct intrusions. The petrological characters of the granites and their differentiates are described. Analyses have also been made of the associated metamorphic rocks; these consist of 'green-stones', slates, and schists of various types, as well as inclusions of country-rock within the granite.

PARIS.

Academy of Sciences, Sept. 9.—E. Fichot: The waves of Poincaré in a winding canal.—Paul Vuillemin: Mycoses of the epidermis. The author distinguishes