suggests that in periodic changes in the refraction may be found in part the explanation of the discrepancy between the values of the aberration constant derived from the solar parallax and that given by Talcott's method. Further work can alone elucidate the point.

Engineering for July 18 gives an account of investigations made by the United States Bureau of Mines on the ignition of mine-gas by glow-lamps. That all types of glow-lamps are not equally liable to cause ignition of explosive gas was known from previous experiments, conducted chiefly in Belgium, France, and Germany. The American investigators come to the following chief conclusions:—The naked carbon filaments of standard types of lamps, burning at rated voltages, will invariably ignite explosive gaseous mixtures. If the gas can reach those filaments without breaking them, or without producing partial combustion within the bulbs, the gas is sure to be ignited. Several, but not all, sizes of standard lamps (carbon and metallic filaments) and of miniature lamps (small lamps for miners) will ignite the gas when smashed while burning at rated voltages; those lamps which do not cause ignition usually, may do so if the broken pieces of the filament produce a short circuit when the lamps are smashed. Reviewing the results, all the lamps tested must be considered unsafe, though some specimens of a class might not cause ignition. Alternating or direct current, and coupling in series or parallel, made little difference.

MESSRS. J. and A. CHURCHILL have nearly ready for publication the seventh edition of "The Microtomist's Vade-Mecum," by A. B. Lee; the sixth edition of the late Prof. J. Campbell Brown's "Practical Chemistry," edited by Dr. Bengough; and the third edition of "A Text-book of Physics," edited by A. Wilmer Duff.

THE publication of a new series of books, entitled "The Cambridge Technical Series," and edited by Mr. P. Abbott, is being undertaken by the Cambridge University Press. The series will be comprehensive and will include the whole sphere of technical work in the widest sense. Among the subjects arranged for are:—Automobile engineering, electro-technical measurements, chemistry and technology of oils and fats, mining geology, and domestic science.

A COPY of their new list of wireless apparatus and accessories has been sent to us by Messrs. F. Darton and Co., 142 St. John Street, Clerkenwell, London, E.C. This firm has a long-distance installation at work at its factory, and makes a practice of explaining the most efficient methods of using the apparatus supplied to customers. The list is well illustrated, and full particulars of many forms of transmitting and receiving apparatus are supplied.

OUR ASTRONOMICAL COLUMN.

PERIODIC SPECTRUM OF α CANUM VENATICORUM.—Prof. A. Belopolsky publishes in *Astronomische Nachrichten*, No. 4664, the epochs of maximum intensity of the dark line $\lambda=412{\cdot}993\ \mu\mu$ in the spectrum of α Canum Venaticorum. Fifty hours is stated to be the length of time of the visibility of this line, and the periodicity very near 5·50 days. Other lines become faint at these epochs.

1913	July	24·96	G.M.T.	Aug.	15·96	G.M.T.
	,,	30·46	,,	,,	21·46	,,
	Aug.	4·96	,,	,,	26·96	,,
	,,	10·46	,,	Sept.	1·46	,,
				,,	6·96	,,

STARS HAVING PECULIAR SPECTRA.—The observations carried out by Miss Cannon for the Revised Draper Catalogue have added already ten stars to those known to have bright lines in their spectra, and twenty-four new composite spectra. Details of these are given in Harvard Circular 178. The bright-line stars have spectra belonging to classes ranging between B3 and Oe. The latter shows the bands λλ4633 and 4688 bright, whilst Hβ is seen bright in the rest, one also showing Hγ as a bright line. Of the twenty-four stars showing composite spectra only four are included in Burnham's General Catalogue of Double Stars.

In the same circular it is remarked that a photograph of the spectrum of Nova Geminorum No. 2 secured on April 5, 1913, shows only slight changes since November 9, 1912, when the brightest band was at λ4363. Between λλ4686–5007 the spectrum resembles that of the prevailing type of gaseous nebulæ, but differences occur in other portions of the spectrum.

THE ORIGIN OF THE PLANETS.—In a memoir communicated to the American Academy of Arts and Sciences (vol. xiv., No. 1) Prof. P. Lowell arrives at some interesting conclusions regarding the genesis of the solar system. Inquiring into the causes of a striking commensurability exhibited between the mean motions of adjacent planets some of the deductions he makes are:—(1) The planets grew out of scattered material; (2) each brought the next one into being by the perturbation it induced; (3) Jupiter was the starting point, and is the only one of the planets that could have had a nucleus at the start.

Prof. Lowell enunciates the following law:—"Each planet has formed the next in the series at one of the adjacent commensurable-period points, corresponding to $\frac{1}{2}$, $\frac{2}{3}$, $\frac{1}{3}$, and in one instance $\frac{3}{5}$ of its mean motion, each then displacing the other slightly sunward, thus making of the solar system an articulated whole, an inorganic organism, which not only evolved but evolved in a definite order, the steps of which celestial mechanics enables us to retrace."

On the basis of this law he makes some predictions regarding "the nearest trans-Neptunian planet"; thus it should have a major axis of 47·5 astronomical units, and a mass comparable with Neptune, though probably less.

THE HULL MEETING OF THE MUSEUMS ASSOCIATION.

THE annual conference of the Museums Association was held at Hull last week, under the presidency of Mr. E. Howarth. There was a large attendance, including representatives from abroad, as well as from numerous places in the British Isles.

As his presidential address, Mr. Howarth gave a helpful and suggestive discourse on the scope, function, and development of museums, using the word in its most comprehensive sense. He pointed out that though the universe could not be represented in a museum, yet even the provincial institution was doing work of a national character. It would be foolish to attempt to reproduce the British Museum in every town, but the principles dominating it were applicable to the smallest village museum. Museums should