The work is divided into 20 chapters, some of them condensed to essentials only, while others go into considerable detail such, for instance, as the sections devoted to infringement, and practice in infringement cases.

The whole question of patent law seems to have been very thoroughly investigated, and although written primarily for the patent lawyer, engineers and manufacturers who are interested in inventions should acquaint themselves of Canadian practice as considered in this book.

An important feature is an appendix by W. J. Lynch, Chief of the Canadian Patent Office, who discusses in detail Canadian Patent Office Practice. The volume also contains copies of standard forms for petitions, specifications, assignments, disclaimers, etc.

The Gyroscope.—By F. J. B. Cordeiro, published by Spon and Chamberlain, New York; 104 pp., illustrated; 5½ x 8½ in.; cloth; price, $1.50.

(Reviewed by A. S. L. Barnes, Hydro-Electric Power Commission of Ontario).

This book is divided into two parts,—"Theory" and "Applications."

The author has a way of making positive statements which arouse in the reader a desire to refute them if possible, and several of them are certainly open to argument. For example, when we are told that the word "torque" is engineering "slang" for "couple," it seems time to raise a protest since the two words are not inter-changeable, the former being the cause and the latter the effect.

Again, it is argued that rotation from right to left should be taken as the positive, or +, direction instead of, as is more usual, the reverse or "clockwise" direction; the reason given being that "in the Northern Hemisphere . . . . practically all the motions of nature are to the left—cyclones, heavenly bodies, etc." This question of direction, however, surely depends on the location of the observer; for example, in looking down on the solar system, from an astronomer's point of view, that is, from outside, while considering the North Pole as the top, the author's statement is true, but we are not all astronomers, and it is at least probable that man's universal predilection for what we call right-handed rotation has been due to the fact the apparent direction of rotation of the "heavenly bodies" is in that sense, so that, instead of our clocks and our screws having been made right-handed "by accident," it is much more likely to be traceable to man having had an example of "right-handed" rotation before his eyes throughout the whole period of his existence on this planet—the accident, if there be one, is due to the Creator having arranged, not only the directions of rotations as they are, but also to his having allowed "the greatest population and the highest civilization" to exist on the Northern Hemisphere—had astronomy had its birth in the Southern Hemisphere Mr. Cordeiro would have argued in the opposite sense to what he does now, as then his viewpoint would have been changed and he would have declared that the motions of the heavenly bodies were from left to right.

A considerable portion of the theoretical part of the book is not of direct interest to engineers, as it is devoted to problems of an astronomical nature; in the earlier pages there are, however, several interesting cases of gyroscopic motion treated mathematically which could be readily applied to many engineering problems. In the second part of the book, the writer points out that a train in rounding a curve has two forces tending to de-rail it, the centrifugal action, which is guarded against by raising the outer rail, and also the gyroscopic action of the rapidly revolving, heavy masses of the wheels, which, as is well-known, tends to prevent their being turned out of the plane of rotation. It is asserted that engineers neglect this latter point; if so, they should consider it at once, as the force thus exerted on a long train running at a high speed must be very far from negligible.

Aviation comes in for some remarks, and here it is stated that two motions and two propellers revolving in opposite directions would have the effect of neutralizing the gyroscopic action which is present when only one motion is employed. Makers of aeroplanes might well look into this point as tending to greater flying efficiency.

Following this are descriptions of several practical applications of the gyroscope, such as the Brennan Mono-rail car and the Gyro-compass, etc., which have been described in the technical journals.

Although some little criticism is here given, the book is really interesting, and to anyone dealing with any bodies in which rotational motion plays a part, whether he be an engineer, an astronomer, meteorologist, a designer of guns and projectiles, or even a "sky pilot," in the latest accepted meaning of this term, there are points which, especially if he have a liking for mathematics, will take his attention.

Egyptian Irrigation.—By Sir W. Willcocks, K.C.M.G., F.R.G.S., and J. I. Craig, M.A. (Edin.), B.A. (Cantab.), F.R.S.E., F.R.Met.S., with an introduction by Sir Handbury Brown, K.C.M.G. Published by E. and F. N. Spon, Limited, London, and Spon and Chamberlain, New York. Third edition in 2 volumes; 884 pages, 81 plates and 188 illustrations; cloth. Price, $10.50 net.

To engineers having to do with irrigation, reclamation work and water storage, Egyptian Irrigation presents a very valuable compilation of statistics and details covering the extensive development of the Nile region. The Aswan dam and the Delta Assint, Zifta and Esna barrages, to which Egypt is indebted for its transformation, are known throughout the world for the engineering skill, which their construction has entailed. That "the Egyptian question was the Irrigation question," has been for years a well-known saying, as the influence of irrigation pervades Egyptian economics, politics, social life, agriculture, legislation and even religion.

The work includes the fullest information obtainable of the Nile and its tributaries; together with minute presentations of the problems and their solution, covering some of the most interesting hydraulic questions ever encountered.

Sir William Willcocks, whose engineering work in Egypt dates from 1883, was the author of the first two editions of this treatise. The first was published in 1889, just about the time, according to Milner's "England in Egypt" he, while on an exploration trip for the Minister of Public Works, into Upper Egypt, had occasion to join, and take part in, a Mohammedan thanksgiving service in a mosque at Tahta. Later, as Director-General of Reservoirs, he drew up the designs and estimates of the Aswan dam and Assint barrage. Subsequently he prepared the Cairo drainage project. From 1908 to 1911 he acted as consulting engineer to the Turkish Government and prepared projects for irrigating 3,000,000 acres, and controlling the Euphrates and Tigris. (In connection with this work he is at present in America at the Savannah drainage convention as announced in last week's issue of *The Canadian Engineer*.

His collaborator, Mr. J. I. Craig, has spent 12 years in Egyptian engineering. He is now Controller of Statistics for the Egyptian Government, and is a distinguished mathematician and meteorologist.

Since the publication of the second edition of Egyptian Irrigation in 1899, all the above-mentioned regulating works, and others both in Upper and Lower Egypt, have been con-