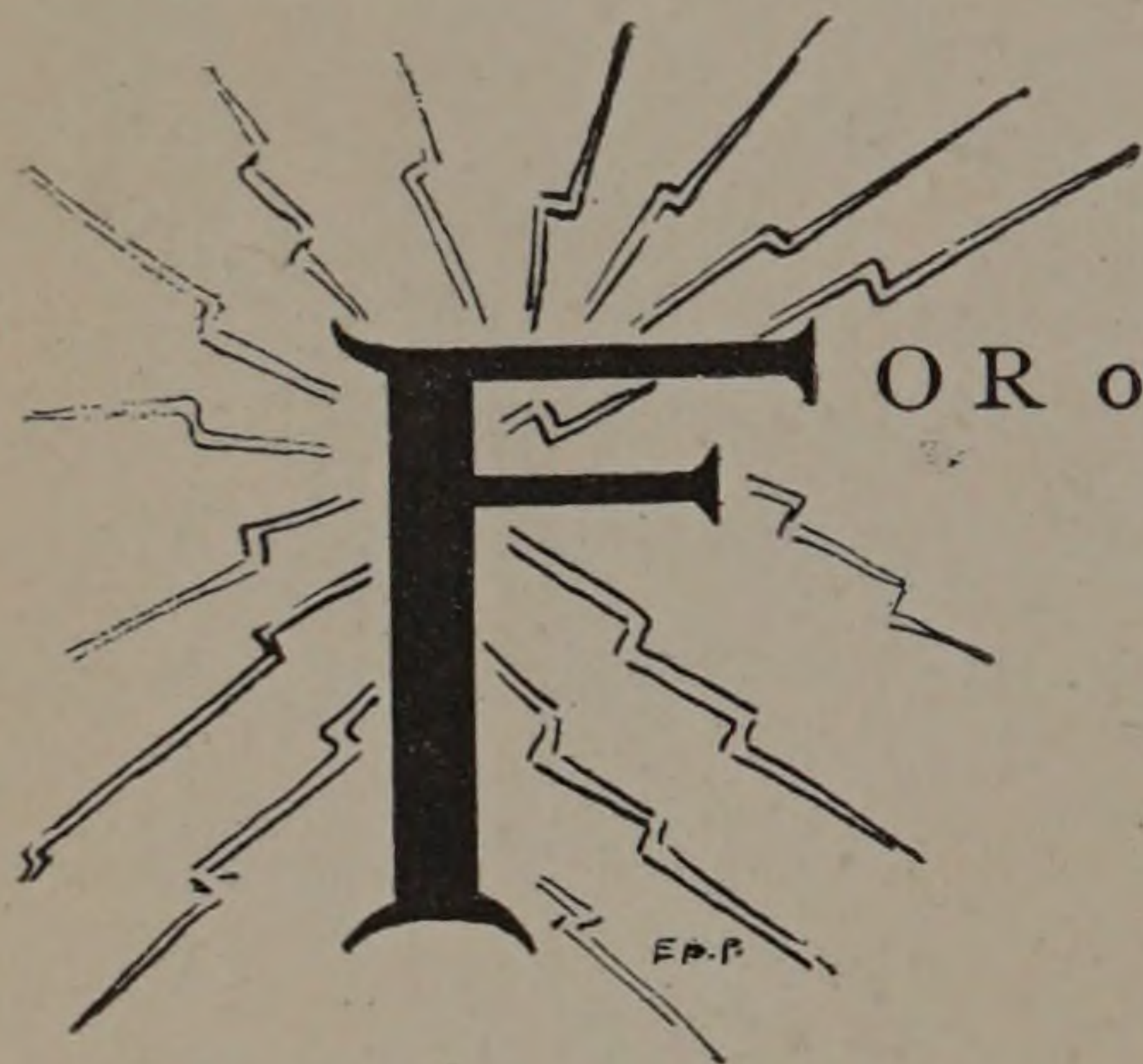


The Department of Electrical Engineering



FOR our own profit in the present times of rapid advancement we may pause occasionally and dwell on the historical development of the newer conditions which are so constantly forced upon the attention of the public. Within the sphere of organized intelligent activities, the profession of the electrical engineer and the manner of his educational preparation, are clouded in almost total obscurity in the minds of the general public.

It is within the past decade that the profession has been recognized, and there is still much uncertainty whether electrical, along with that of mechanical, architectural, chemical or sanitary engineering, are entitled to be classed with the so-called learned professions of law, medicine and theology. This is scarcely the place to enter upon an argumentative discussion of such a subject, but the endeavor will be made to show the historical and present status of the professional side of electrical engineering, the ideals which govern it in practice, and general educational training, believing that the intelligent reader can come to but one conclusion when the contrast is instituted with the professions of law, medicine and theology.

The successful completion of the Atlantic Cable some thirty years ago, was an event destined to call into existence a new branch of professional activity. Before the cable became a working success the scientific labors of the greatest of modern mathematical physicists, the present Lord Kelvin, were needed. He may, in this sense, be regarded as the originator of the profession. The extension of submarine and aerial telegraphy led to a still wider application of experimental and mathematical physics and chemistry, reaching also into what are now known as civil and mechanical engineering. Almost contemporaneously with the completion of the Atlantic Cable was made the discovery of the modern dynamo. Then followed the advent of the arc light, the telephone and the incandescent lamp. Succeeding these was the application, in 1887, of electricity for the propulsion of street cars. Next came the development of what has taxed all the resources of mathematical analysis, the alternating current and its multi-phase applications. Within the last few years hydraulic engineering has contributed to the utilization of water powers to such an extent that already there are signs of great economic changes to result from this. Little by little electrical traction has been invading the domain of the steam locomotive, until today we are entering an era of rapid transit by electricity.

This, in brief, is a partial survey of the field open to the labors of an electrical engineer. What, may now be asked, is the definition of engineering, and what is its leading and controlling idea? A brief and rather unsatisfactory reply is that the engineer seeks to utilize natural forces, materials, and conditions, for economic purposes. The engineer is no scientific worker of miracles; on the contrary, his possibilities are always limited by economic conditions, and as these change, more and more of the scientific possibilities will become legitimate subjects to engage the attention of the engineer.