



American Institute of Electrical Engineers,

APPLICATION FOR TRANSFER FROM ASSOCIATE TO FULL MEMBERSHIP

Extracts from the Constitution, as Amended May 21st, 1901.

ARTICLE II. MEMBERSHIP.

1. The corporate members of the INSTITUTE shall be designated as Members and Associates. Members and Associates shall be equally entitled to all of the rights and privileges of the INSTITUTE, except eligibility to the offices of President and Vice-President, which shall be limited to Members; and Members only shall be entitled to a diploma. There shall also be Honorary Members, who shall be entitled to all the rights and privileges of the INSTITUTE, except the right to vote for officers and hold office.

2. A Member shall have been an Associate, and at the time of his transfer to membership he shall be not less than twenty-seven years of age, and shall be:

- a. A Professional Electrical Engineer; or
- b. A Professor of Electrical Engineering; or
- c. A person who has done important original work of recognized value to electrical science.

3. To be eligible to membership as a professional Electrical Engineer, the applicant shall have been in the active practice of his profession for at least five years; he shall have had responsible charge of work for at least two years, and shall be qualified to design as well as direct electrical engineering works. Graduation from a School of Engineering of recognized standing shall be considered the equivalent of one year's active practice.

4. To be eligible to membership as Professor of Electrical Engineering, the applicant shall have been in responsible charge of a course of Electrical Engineering at a college or technical school of recognized standing, for a period of at least two years.

5. An Associate shall be a person who is interested in or connected with the study or application of electricity.

ARTICLE III.

3. An application for transfer from the grade of Associate to that of Member shall be made in a form prescribed by the Board of Directors, and shall embody a full record of the general technical education of the candidate and of his professional career. It shall be signed by the applicant, and shall refer to at least five members by whom he is personally known. Each of these references shall be requested by the Secretary to fill out a prescribed confidential form, to be addressed to the Board of Directors. No such application for transfer shall be considered until at least five favorable replies have been received. The Board of Directors, or the Board of Examiners, in the event of failure of replies, or receipt of unfavorable replies, may call upon the applicant to furnish additional names. Should an applicant for transfer certify that he is not personally known by five members, the Board of Examiners may accept references for the deficiency, to professional engineers of standing.

ARTICLE IV.

DUES.

1. The entrance fee, payable on admission to the INSTITUTE, shall be five (5) dollars. A fee of ten (10) dollars shall be paid on transfer to the grade of Member, which shall include the fee for a diploma.

2. The annual dues shall be fifteen (15) dollars for members and ten (10) dollars for Associates.

3. The annual dues of Members and Associates residing in foreign countries other than Canada and Mexico, shall be ten (10) and five (5) dollars, respectively.

SPECIAL INSTRUCTIONS TO APPLICANT.

Statements of fact responsive to the following inquiries, are desired for the information of the Board of Directors and Board of Examiners.

These statements may be required to be verified by the oath of the applicant.

When required to give references to "Professional Engineers of Standing," preference should be given to full members of the American Institute of Civil Engineers, the American Society of Mechanical Engineers, American Institute of Mining Engineers, the Society of Naval Architects and Marine Engineers the Institution of Civil Engineers, or the Institution of Electrical Engineers

1. What is your full name? Give date and place of birth.
2. Please state under which one or more of clauses a, b, c of Section 2 Article II, quoted above, in your opinion, you are eligible for transfer to membership.
3. What is your general and technical education; where and how acquired?
4. (a) State in full the nature of the work done by you as a professional electrical engineer, during a period of five years or more, noting especially the work of which you have had responsible charge. Or,
 - (b) State in what college or technical school of recognized standing you have had responsible charge for two years or more of a course of electrical engineering. Or,
 - (c) State fully, instances of important original work of recognized value to electrical science which you have done.

State fully any facts you may deem likely to assist in determining the question or questions here under inquiry.

REFERENCES.

Article III. Section 3.

As references occasionally fail to reply to inquiries, thus delaying action, applicants are requested to send names of more than five full members if possible.

- Mr. Thomas D. Lockwood.
119 Milk St. Boston Mass
- Dr. Louis Duncan.
Mass Inst. Tech. Boston Mass
- Prof. Morgan Brooks.
Union Ill. Urbana
- Mr. W. J. Jenks.
Scovill Pat. Control. 120 B. way.
- Mr. George A. Hamilton.
463 West St. N. Y. City
- Mr. William B. Vansize.
Sol. of Patents 253 B. way. N. Y. City

Present Address, 18 Cortlandt Street, New York.
 Occupation, Chief Engineer, New York Telephone Company.

1. John Joseph Carty, born at Cambridge, Mass., on April 14, 1861.
2. Qualified under clause A and clause C, Section 2, Article II, of the Constitution.
3. Took at the Cambridge High School, Cambridge, Mass., a classical and scientific course, which included most of the usual preparatory college studies in French, Greek, Latin and English, as well as physics, chemistry, geometry, algebra and astronomy. Further education has been obtained by original research, practical experience, scientific reading and asking questions.
- 4.(a) Since 1889 I have had responsible charge of the design, construction and reconstruction of the plant of the New York Telephone Company, of which company I am the Chief Engineer.
For two years prior to 1889 I was with the Western Electric Company at New York, first in charge of their cable department for the east, and later, in addition to this, had charge of their switchboard department for the east. During those two years I had responsible charge of the laying of underground telephone systems at New York, Buffalo, Brooklyn, Boston, Philadelphia, Washington and elsewhere. I also had responsible charge of the installation of large telephone central office plants at New York, Brooklyn, Buffalo, Rochester, Providence and elsewhere.
For about seven years prior to 1887 I was with the New England Telephone & Telegraph Company and its predecessor, the Telephone Despatch Company, at Boston. During that seven years I had responsible charge of the design, construction, installation and operation of electrical installations, and supervised the installation of the first multiple board installed at Boston, which was the largest installation made up to that time.
Prior to my connection with the Telephone Despatch Company, and after I left school, I was employed for a short time in the establishment of a manufacturer of chemical, electrical and philosophical apparatus.
A number of improvements introduced into telephone apparatus by me while at Boston have since become standard practice and still persist in the art. Many of the methods employed in my practice at New York have become universally adopted and are now standard throughout the world.
Among these I specifically mention two: First:- the plan now universally employed of operating telephone party lines on the multiple arc plan, which was introduced into telephone practice by me, and which has displaced the series plan formerly universally employed: Second:- the successful working of two or more telephone transmitters from a common battery. The first practical demonstration of the feasibility of common battery working was made by me at New York, and its first introduction was the result of my practical demonstration of the feasibility of common battery working.

In addition to these, in the matter of cable design and construction and switchboard design and construction and in the matter of the adoption of standard materials, I have made numerous contributions to the art which have been generally adopted. Details concerning a number of the matters above referred to may be found in various United States patents issued to me. Other references to these matters are to be found in text books on telephone engineering, and in the records of the various companies hereinbefore mentioned.

- 4.(c) Instances of my original research are to be found in the paper read by me before the Electric Club at New York on November 21st, 1889, entitled "A New View of Telephone Induction", and in the paper read by me before the American Institute of Electrical Engineers on March 17th, 1891, entitled "Inductive Disturbances in Telephone Circuits".
In the first of these papers I described a number of original experiments demonstrating the preponderance of electrostatic over electromagnetic induction as a factor in producing telephone crosstalk. I also described experiments original with me demonstrating the existence of a neutral point or point of no current flow in telephone circuits subjected to inductive disturbances from neighboring telephone circuits.
In the second of these papers, that before the American Institute of Electrical Engineers, I explained for the first time the true theory of transpositions; that is, I described experiments original with me which showed precisely how it is that transposing circuits exposed to telephonic induction removes the inductive noise from the transposed circuit. These experiments of mine demonstrated that the theory of transpositions theretofore generally accepted was erroneous. This paper not only described the inductive effects which take place in transposed circuits, but also explained the nature of the inductive effects in twisted circuits, differentiating them from those taking place in transposed circuits. In this paper I also explained the action taking place in a typical system of three wires, consisting of a metallic circuit with a third or disturbing wire equally distant from the two sides of the metallic circuit, and showed that the nature of the inductive action taking place in such a system was different from the other two cases mentioned.

APPLICANT'S RECORD.

The above experiments were checked up by other investigators, and a great deal of literature on the subject in Europe and in this country was printed, all of which confirmed the views which I put forth, and which are now adopted in the standard text books dealing with the subject.

John Joseph Carty

Sept 1, 1903.
October
1897