

# Government of Madras.

## EDUCATIONAL DEPARTMENT.

*Recd.*

*Regd.*

} 1915

*Enclosures*

*Spare copies*

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G.O. No. 1052, 24th September 1915.

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### College of Engineering, Madras.

Informing the Director of Public Instruction that the Secretary of State has sanctioned the addition to the Indian Educational Service of a professorship of higher electrical engineering in the — and the appointment of Mr. H. B. Matthews to the post on an initial salary of Rs. 750 per mensem and sanctioning the employment of a laboratory assistant on a salary of Rupees 200—40—400 per mensem.

28  
Government of Madras.

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GOVERNMENT OF MADRAS.  
EDUCATIONAL DEPARTMENT.

READ—the following papers:—

I

G.O. Nos. 607, 608, Educational, dated 30th June 1913.

ABSTRACT.—Approving generally the proposals submitted by the Director of Public Instruction for the provision of facilities for the teaching of higher electrical engineering at the College of Engineering, Madras, and addressing the Government of India on the subject.

II

G.O. No. 770, Educational, dated 14th July 1915.

ABSTRACT.—Confirming the despatch of a telegram to the Secretary of State for India regarding the appointment of Mr. H. B. Mathews as Professor of Electrical Engineering in the College of Engineering, Madras.

ENCLOSURE.

|                                                                                        |                                                                                                                                                                                                                                                                                                         |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Name in full .. .. .                                                                | Harry Bryant Mathews.                                                                                                                                                                                                                                                                                   |
| 2. Address .. .. .                                                                     | Indian Institute of Science, Bangalore, India.                                                                                                                                                                                                                                                          |
| 3. Age, last birthday, with date and place of birth.                                   | Thirty-eight years. August 8th, 1876, Lincoln, England.                                                                                                                                                                                                                                                 |
| 4. Married or single ( <i>Number and ages of children, if any</i> ).                   | Married. Two children, five years and one year old respectively.                                                                                                                                                                                                                                        |
| 5. Health ( <i>past and present</i> ) .. .. .                                          | Very good. Medical Officer has recently certified me a first class life for insurance.                                                                                                                                                                                                                  |
| 6. Father's name, nationality, and occupation ( <i>State whether living or dead</i> ). | Rev. Amos Baker Matthews, British non-conformist minister. Dead.                                                                                                                                                                                                                                        |
| 7. Post and approximate salary desired ..                                              | Professor of Engineering (Electrical), College of Engineering, Madras, Rs. 1,000 per mensem.                                                                                                                                                                                                            |
| 8. Duration of visits or residence abroad. ..                                          | Two and half years in Bangalore, India.                                                                                                                                                                                                                                                                 |
| 9. Names of districts abroad of which the applicant has special knowledge.             | Associate Head of Department of Electrical Engineering at the Northampton Polytechnic Institute, Clerkenwell, E. C. Salary £400 per annum. Responsible for running of Generating Plant, Laboratories, Lectures, etc. I was one of four finally selected candidates in succession to Dr. C. V. Drysdale. |

|                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10. Particulars and dates of any important appointments, <i>e.g.</i> , Headmasterships, or Principalships, Administrative posts, University Professorships, Lectureships, or the like, for which the applicant has stood or is standing. | I was one of three candidates nominated for interview by Mr. Runciman, Minister for Education, for an appointment as Inspector of the Board of Education, Technological Branch, Salary £400-20-500 per annum. Dr. Lea obtained the appointment, February 21st, 1911. |
| 11. Athletics—(a) experience in organizing games; (b) proficiency in athletics.                                                                                                                                                          | (a) No experience in organising games, (b) I play tennis a little.                                                                                                                                                                                                   |
| 12. Date of application .. .. .                                                                                                                                                                                                          | June 29th, 1915.                                                                                                                                                                                                                                                     |

|                                                                        | Name of School or College.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Name of Principal.        |
|------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| 13. School education—<br>Central Higher Grade School, Sheffield.       | 1889 to 1892.—Attended a three years' course at the Central Higher Grade Science School, Sheffield, and obtained Elementary First Class (S. & A.) Certificates in eight Science subjects and Advanced Second Class in Machine Drawing, spending considerable time in the workshops, having charge of Gas Engine and Dynamo and gaining experience in Wiring. Mr. W. H. Watkinson who is now Harrison Professor of Engineering at the University of Liverpool was in charge of the Engineering section.                                                                                                                                                                                                                                                                                                                                                                                                                                                 | J. E. Taylor, M.A., B.Sc. |
| 14. University education, if any—<br>University of Sheffield, 5 years. | 1892 to 1895.—Attended a three years' course in Electrical and Mechanical Engineering at the Technical Department, University College, Sheffield, gaining a free Studentship and subsequently a Scholarship value £50 a year for three years, being awarded the Mappin medal and Premium for Honours in Engineering and the Associateship of the Sheffield Technical School.<br>1895 to 1896.—Assisted Professor Ripper, D. Eng., M. Inst. C. E., Principal of Technical Department, in about 70 six-hour Superheated Steam Engine trials (Proc. Inst. C. E., 1907) and subsequently in working these out and preparing the Theta-Phi diagrams.<br>Attended courses in Mathematics, Bridge Construction and Surveying (Practical).<br>1896 to 1897.—In the workshops (Pattern making chiefly) and Laboratories of the above College and attended courses in Physics and Mathematics by Principal Hicks, M.A., D.Sc., F.R.S., and Professor Leahy, M.A. | Dr. Hicks.                |

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No. 1052, EDUCATIONAL, 24TH SEPTEMBER 1915.

|                                                                                                                                                                                                                                            | Name of School or College.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Name of Principal.                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| 14. University education, if any— <i>cont.</i><br>University of Birmingham, 2 years.                                                                                                                                                       | 1901 to 1903.—Was engaged on Research work at the University of Birmingham as Rowen Research Scholar under Professor J. H. Poynting, Professor F. W. Burstall and Dr. D. K. Morris. Chief work was investigation upon Flux Distribution in the air gaps, and inter-polar spaces of continuous current machines under varying conditions of load. Values of magnetic leakage were obtained and actual displacement of magnetic lines due to load, hysteresis, etc., shown. Results throw light on conditions necessary to obtain sparkless commutation.<br>Effect of armature slots on Flux Distribution was measured directly and effective air gaps deduced and compared with empirical constants used by designers (Proc. I. E. E., Vol. 40, page 572).<br>The candidate carried out a small investigation on the Nodon Valve for Sir Oliver Lodge, Principal. | Sir Oliver Lodge.                                                            |
| 15. Professional training as a teacher, if any.<br>(If a holder of the Board of Education's parchment certificate, the date of the examination and class in which the applicant was placed in each part of the examination must be shown.) | No professional training as a teacher.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                              |
| 16. Teaching employment—14 years.                                                                                                                                                                                                          | 1913 to 1915.—Three years' experience in lecturing on Electrical Engineering subjects at the Indian Institute of Science, and arranging and supervising Laboratory Courses for first and second year students. Indian Institute of Science.<br>1903 to 1912.—Nine years' experience of teaching in Electrical Engineering subjects Senior, Advanced and some Elementary work at the Birmingham Municipal Technical School. As Chief Lecturer and Demonstrator in the Department of Electrical Engineering, the candidate had charge of all lectures, demonstrations and laboratory work, and of classes in design of Electrical Machinery. He was also responsible to the Principal for the Design, Equipment, and Organization of the Electrical Engineering Laboratories. Birmingham Municipal Technical School.                                               | Dr. Morris Travers and Dr. Alfred Hay.<br><br>Dr. W. E. Sumpner.<br>M.I.E.E. |

|                                                                              | Name of school or place where employed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Name of Principal or employer.                                                                                                                             |
|------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 16. Teaching employment—14 years— <i>cont.</i>                               | 1900 to 1901.—One year teaching and organisation experience at the Municipal Technical School, Storey Institute, Lancaster. Subjects:—Steam, Applied Mechanics and Theoretical Mechanics, including laboratory and lecture work. Storey Institute, Lancaster.<br>1898.—One year teaching experience in Practical Plane and Solid Geometry and Machine Drawing at the Technical Evening Department, University College, Sheffield. University College, Sheffield.<br>1904.—Two terms Lecture and Laboratory work, teaching fourth year Electrical Engineering students at the University of Birmingham. University of Birmingham. | Dr. Schlosser, F.C.S., F.I.C.<br><br>Professor Ripper, D. Eng. M. Inst. C.E.<br><br>Sir Oliver Lodge.                                                      |
| 17. Other employment—<br>(All employment to be entered in order of time).    | (a) 1897—1899.—Works of F. H. Stacey & Co. (now Charles Ross), Heeley, Sheffield.<br>(b) 1899—1900.—Works of Moorwood & Sons, Attercliffe, Sheffield.<br>(c) 1900.—Ganwood Brothers, Sheffield.<br>(d) 1900.—Walsend Slipway and Engineering Company, Walsend, Newcastle-on-Tyne.<br>(e) 1901.—J. H. Holmes & Co., Newcastle-on-Tyne.                                                                                                                                                                                                                                                                                            | F. Harvard Stacey.<br><br>Thos. Moorwood.                                                                                                                  |
| Dates of joining and leaving.                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Scholarships, certificates, degrees and other honours.                                                                                                     |
| I hold the following South Kensington Certificates:—                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                            |
| Honours, Practical Plane and Solid Geometry (Medal) .. 1898—1900             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1892.—A Free Studentship at University College, Sheffield (held one year).                                                                                 |
| Honours, Steam .. .. 1898                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1893.—Scholarship value £50 a year for three years at University College, Sheffield (held three years).                                                    |
| 2nd Class, 5th Stage Mathematics .. .. 1900                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1900.—Whitworth Exhibition and National Free Studentship (tenable at Royal College of Science) also Exhibition value £80 at University College, Sheffield. |
| 1st Class, 3rd Stage Mathematics .. .. 1899                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1901.—A Bowen Research Scholarship value £96 a year tenable at the University of Birmingham held for two years.                                            |
| 1st Class, Advanced Stage Applied Mechanics .. 1893                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Whitworth Exhibitioner 10th place 1900 Associate of Sheffield Technical School (Mapping Medalist), 1896; Bronze Medalist, South Kensington, 1898.          |
| 1st Class, Advanced Stage Magnetism and Electricity. 1893                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Full Member of the Institution of Electrical Engineers, 1912.                                                                                              |
| 1st Class, Advanced Stage Machine Drawing .. 1893                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Honorary Local Secretary of the Institution of Electrical Engineers (Birmingham), 1905 to 1912.                                                            |
| 1st Class, Advanced Stage Theor. Mechanics (Solids). 1896                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                            |
| 1st Class, Advanced Stage Heat .. .. 1900                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                            |
| 1st Class, Advanced Stage Freehand Drawing .. 1900                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                            |
| 2nd Class, Advanced Stage Light .. .. 1900                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                            |
| 2nd Class, Advanced Stage Theoretical Mech. (Fluids). 1900                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                            |
| 1st Class, Elementary Stage Inorg. Chemistry (Theor.). 1891                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                            |
| 1st Class, Elementary Stage Inorg. Chemistry (Pract.). 1891                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                            |
| City & Guilds:—<br>2nd Class, Ordinary Grade, Electrical Engineering .. 1893 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                            |



| Dates of joining and leaving.      | Position and character of work done, also salary received.                                       |
|------------------------------------|--------------------------------------------------------------------------------------------------|
| (a) August 1897—March 1899 .. ..   | Improver in Fitting and Turning, also two months in Drawing Office, wages 10 shillings per week. |
| (b) April 1899—February 1900 .. .. | Improver Turner and Planer, worked Lathe and Planing Machines, wages 15 shillings per week.      |
| (c) March 1900—June 1900 .. ..     | Improver Turner, worked Lathe, wages 25 shillings per week.                                      |
| (d) July 1900—October 1900 .. ..   | Improver Fitter, Erecting large Marine Engines, wages 25 shillings per week.                     |
| (e) August 1901—October 1901 .. .. | Draughtsman, Electrical Motors, etc., wages 25 shillings per week.                               |

## 18. References—

- (1) Name,  
Address,  
Occupation or position.
- (2) Name,  
Address,  
Occupation or position.

Sir John F. G. SNELL,  
President,  
Institution of Electrical Engineers  
Victoria Embankment, London W.C.

Morris W. TRAVERS, Esq., D.Sc., F.R.S.,  
43, Warwick Gardens, London W.,  
Late Director, Indian Institute  
of Science, Bangalore.

(These should be persons resident in the United Kingdom, who have known the applicant intimately, and are in a position to answer any enquiries that may be made of them. They should not be relations, and should be holders of responsible positions who are acquainted with the applicant's character and work in recent years. The names of Officers of the Board of Education should not be given.)

## 19. Copies of testimonials from—

W. E. SUMPNER, Esq., D. Sc., (London), M.I.E.E., Principal, Birmingham Municipal Technical School, Past-Chairman of the Birmingham Local Section of the Institution of Electrical Engineers.

Professor ALFRED HAY, D. Sc., M.I.E.E., Professor of Electrical Engineering, Indian Institute of Science, Bangalore.

Professor GISEBERT KAPP, D. Eng., M. Inst., C. E., M.I.E.E., Professor of Electrical Engineering at the University of Birmingham, Past President of the Institution of Electrical Engineers.

The late Professor J. H. POYNTING, M. Sc., Sc. D., (Cantab.), F.R.S., late Dean of the Faculty of Physics, Birmingham University.

Professor W. RIPPER, D. Eng., M. Inst. C.E., Dean of the Faculty of Applied Science, University of Sheffield.

M. RATLING, Esq., Director, General Electric Company, Past Chairman of the Birmingham Local Section of the Institution of Electrical Engineers.

Original testimonials may be required, should the applicant be selected for interview. Copies of testimonials should be submitted in duplicate.

20. Observations.—My present salary is Rs. 625—750+10 per cent. of this retiring allowance+Rs. 100 house allowance (or house free).

(Subjects the applicant is prepared to teach and any special qualifications or experience (e.g., music and singing, commercial subjects, languages, literary work, organization or inspection) not mentioned under heads 13-17 above should be given here.

## Electrical Engineering and Cognate Subjects—

1903 to 1912.—During this period the candidate held the position of Senior Lecturer and Demonstrator in Electrical Engineering at the Birmingham Municipal Technical School. In this capacity he had full control of all classes in Electrical Engineering, and gave Senior and Advanced Lectures.

In addition he was responsible to the Principal for the organization, equipment and development of the Electrical Engineering Laboratories and Workshops. This work involved the design, preparation of drawings, drafting of specifications, erecting, arrangement for laboratory works of six switch-boards, 50 Machines and

Special experience in organisation.

Transformers (total 200 K. W.), 120 measuring instruments at a cost of about £3,000. The plant is capable of employing 50 students simultaneously on Machine Testing.

The candidate developed an original scheme of testing, whereby every student received on each attendance full written individual instructions how to carry out his test on a particular machine and to work out and to plot the results.

The students dealt with ranged from the ordinary artisan youth to works' managers, engineers to large firms and the Corporation, members of their technical staffs, graduates of London and other Universities, some of whom obtained their degrees from the School.

Afternoon Apprentice Courses in Electrical Engineering were organised and conducted by the candidates.

Copy of Testimonial received from W. E. Sumpner, Esq., D.Sc., M.I.E.E., Principal, Birmingham Municipal Technical School.

Mr. H. B. Matthews has been on my staff for nine years. During his tenure of office here Mr. Matthews has acted as Chief Lecturer and Demonstrator in the Department of Electrical Engineering. He has also been instructor in the classes in Electrical Design, and he has had charge of the dynamo room and laboratories. Although I am officially the Head of the Department, my duties as Principal have compelled me to leave most of the management of the department to Mr. Matthews. I cannot speak too highly of the value of his services. He has shown great initiative in the development of the laboratory appliances and has organised the work in an able, original and efficient manner. The chief dynamo room has been constructed and developed while Mr. Matthews has been on my staff. The arrangement of the machines and switching appliances, the organisation of the system of instruction, and the drafting of the various instruction papers have all been carried out by him.

Mr. Matthews is popular with his students, both in the lecture room and the laboratory. He is a thorough gentleman and is on the best of terms with all the staff. I have a high opinion of his teaching ability.

He has undergone a long training in colleges of University rank, first at Sheffield, and afterwards as Research Scholarship Student of the Birmingham University. Full particulars of his training and works' experience will, of course, be given in his application, so that I need only add that I consider him as ranking with honours University men, although he has not actually taken a degree.

He is a man of great activity and energy. He had acted for some years as Secretary to the Local Section of the Institution of the Electrical Engineers, of which he is an Associate Member. Three years ago he was made Officer Commanding the Wireless Telegraphy Company Engineer Units, Southern Army, and the majority of men in this Corps are old students of his electrical classes. In this connection he has had practical experience of the Wireless Telegraphy systems now being introduced into the Army.

Mr. Matthews' services have been of the greatest value to the Electrical Department here, and his loss would be severely felt, but he thoroughly deserves promotion, and I cordially wish him success in his present application.

W. E. SUMPNER,  
Principal, Birmingham Municipal Technical School.

Copy of Testimonial received from Professor Alfred Hay, D.Sc., M.I.E.E., Professor of Electrical Engineering, Indian Institute of Science.

Professor Alfred Hay, D.Sc., M.I.E.E.

BANGALORE,  
DEPARTMENT OF ELECTRICAL TECHNOLOGY,  
14th July 1914.

Mr. H. B. Matthews, M.I.E.E., informs me that he intends applying for the chair of Electrical Engineering at the College of Engineering, Madras. Mr. Matthews joined the staff of the Indian Institute of Science as Assistant Professor of Electrical Engineering in January 1913, and I have had ample opportunities of forming an opinion regarding his capabilities as an Electrical Engineer and a teacher. He has a thorough knowledge of his subject, is very energetic, and has the knack of interesting students in their work. From my own observation, as well as conversation with students, I know that he is a great favourite with them, and has entirely won their confidence. Mr. Matthews has had a very wide experience in the organisation of both lecture courses and laboratory work, and his experience would render him exceptionally well-qualified to deal with the design and equipment of a new Electrical Engineering Laboratory. I have found Mr. Matthews a very pleasant colleague, and I have every confidence in strongly urging his claims in connection with the appointment of the chair of Electrical Engineering at Madras.

ALFRED HAY.

*Copy of Testimonial received from Professor Gisbert Kapp, D. Eng., M. Inst. C. E., M.I.E.E., Professor of Electrical Engineering at the Birmingham University, Past President of the Institution of Electrical Engineers.*

I have known Mr. Matthews since the autumn, 1905, more especially in connection with the Institution of Electrical Engineers, of which he is the Honorary Local Secretary. During the two years of my Chairmanship I had many opportunities of coming into personal contact with him. His close attention to the work of the Local Section and the tactful manner of doing it made him a general favourite with the members, and was to a large extent the reason why the section has of late years been so flourishing, not only as regards attendance at meetings, but also as regards the character of the papers read.

I am also acquainted with the personal work of Mr. Matthews, since I have repeatedly visited the laboratories at the Municipal Technical School, for the design and equipment of which he is in part responsible. I consider the arrangements very well adapted for the particular kind of instruction required from this school. In addition to this teaching work, I also have knowledge of his original research work. This was done at the Birmingham University before I came to occupy the chair of Electrical Engineering, but I have seen the records. It was an investigation of the Flux Distribution in Dynamos, a subject of considerable practical importance; the work done by Mr. Matthews shows originality and experimental ability, and I consider it quite up to the standard required for the degree of M.Sc.

From my personal knowledge of the candidate I have full confidence in recommending him for the appointment.

GISBERT KAPP.

*Copy of Testimonial received from the late Professor J. H. Poynting, M.Sc., Sc.D. (Cant.) F.R.S., late Dean of the Faculty of Science, Birmingham University.*

I first knew Mr. Matthews when in 1901 he came to the University to work as a Bowen Research Scholar in the Electro-technical Laboratory. He impressed us as able and enthusiastic, and he carried on the research on which he was engaged in an excellent way.

On leaving the University he became a teacher at the Municipal Technical School, Birmingham. I have had frequent opportunities of meeting him, and of hearing of his success with his classes. He has carried on his work with the ability and enthusiasm which he displayed as a student, and I know that he is regarded as an excellent teacher.

I have every reason to believe that his personal qualities as well as his abilities fit him for the post which he is now seeking, and I have very much pleasure in recommending him for it.

J. H. POYNTING,  
Professor of Physics,  
Dean of the Faculty of Science.

*Copy of Testimonial received from Professor W. Ripper, D. Eng., M. Inst. C. E., Dean of the Faculty of Applied Science, Professor of Engineering at the Sheffield University.*

Mr. H. B. Matthews has been known to me for nearly twenty years, first as a student, and during that time I have followed his career with the greatest interest. The work he did here as an Engineering student during his three years' course was similar in kind and quality to that for which our Institution is now able to confer a University degree. He was the top student of his year in the final examinations, and was awarded the Associateship of the Sheffield Technical School, and the Mappin Medal and Premium and his work was of honours degree standard.

During his stay here he rendered me very great assistance in connection with a research on Superheated Steam, which was afterwards published in the Proceedings of the Institution of Civil Engineers.

Mr. Matthews has, since leaving us, had considerable experience and success as a teacher, and acquired a wide personal experience of Technological Institutions in this country. He has specialized particularly in the direction of Electrical Engineering during the last nine years, having been engaged both in research work and in the design and organization of large Electrical Engineering Laboratories.

Mr. Matthews is a gentleman in every sense of the word. He is also genial and tactful, as is shown by the successful way in which he has held responsible positions in various local societies.

W. RIPPER.

*Copy of Testimonial received from M. Railing, Esq., Director, General Electric Co., Ltd., England.*

I have known Mr. Matthews for some years. Most of the better class Apprentices at these works are his students either from the beginning or after attending junior courses at other local technical schools.

We find that the scheme of training devised by Mr. Matthews at his classes, is eminently suited for the purpose of preparing these students for their future work.

This is shown by the fact that we have had many pupils of his who are now occupying important positions of responsibility at home and abroad.

We have personal knowledge of the courses provided by Mr. Matthews as he has from time to time consulted us with reference to them.

He has also arranged a special higher course of demonstrations and testing, which was attended by members of our design department, Engineers of the Corporation and others engaged in the practical work in the Industry.

Mr. Matthews has, with the consent of Dr. Sumpner, carried out in his laboratory on our behalf several important investigations in connection with raw materials used by us and experimental machines which could not be investigated at our work. We should like to mention particularly he has made a thorough and exhaustive investigation in connection with the Fynn single phase Motor, previous to this machine being put on the market by us.

Mr. Matthews has also been connected indirectly with this Firm as Officer Commanding the Wireless Telegraph Corps of the Southern Army, of which unit several men in our employ are members.

I have been associated with Mr. Matthews as Chairman of the local section of the Institution of Electrical Engineers, the affairs of which he has conducted always in an able and business-like manner as Honorary Local Secretary and Treasurer.

I would very much miss Mr. Matthews' work both at the Technical School and the Local Section, but I still wish to heartily support his application for the position he now seeks.

M. RAILING,  
Director.

### III

*Letter*—from H. B. MATTHEWS, Esq., M.I.E.E., Indian Institute of Science, Bangalore.

*To*—the Director of Public Instruction, Madras.

*Dated*—the 8th July 1915.

*Ref. on C. No. 4901-15, dated 5th July 1915.*

I have the honour to acknowledge receipt of your letter as above enclosing copy of G.O. No. 1037, Educational, which I have perused and herewith return.

As requested, I have pleasure in stating that I am prepared to accept the conditions mentioned therein with the exception of clause 5, page 4 which indicates a commencing salary of Rs. 500 per mensem. This seems hardly sufficient in view of my age, present salary, and experience which has specially qualified me for the proper performance of the exceptional duties of this position at this time, namely, the design and equipment of large modern electrical engineering laboratories.

N. Ref. on Cr. No. 4901/15, dated 14th July 1915.

Submitted to Government together with a copy of Mr. Matthew's letter dated 8th July, and recommended that in the circumstances stated by him he may be offered an initial salary of Rs. 750 or Rs. 800 with the usual increments up to Rs. 1,000.

H. S. DUNCAN,  
Ag. Director of Public Instructions.

### IV

*Telegram*—from His Majesty's Secretary of State for India.

*To*—His Excellency the Governor of Madras.

*Dated*—London, the 19th July 1915.

Your telegram dated 14th July. I sanction appointment of Matthews to Indian Educational Service as Professor of Electrical Engineering provided that Medical Board report him fit. Initial salary not exceeding Rs. 750 may be offered. Please arrange for medical examination. Agreement should be executed in India. See my Public Despatch No. 130, dated 23rd May 1913, to Government of India.

## V

## Memorandum No. 2465-1, Educational, dated 23rd July 1915.

With reference to his endorsement read above forwarding the application from Mr. H. B. Matthews for the Post of Professor of Electrical Engineering in the College of Engineering, Madras, the Director of Public Instruction is informed that the Secretary of State has authorized this Government to offer Mr. Matthews an initial salary not exceeding Rs. 750 a month provided the Medical Board report him fit. The Director is requested to ascertain and report the lowest salary within the above limit, which Mr. Matthews is willing to accept. After this point has been satisfactorily settled Mr. Matthews' examination by a Medical Board may be arranged for.

C. G. TODHUNTER,  
Ag. Secretary to Government.

To the Director of Public Instruction.

## VI

## No. 1327, dated 4th August 1915.

A copy of the undermentioned papers is forwarded to the Government of Madras, for information, in continuation of this department letter No. 797, dated the 30th April 1915.

(By Order.)

G. ANDERSON,  
Asst. Secy. to the Govt. of India,  
Dept. of Education (Education).

## ENCLOSURES.

(i)

Despatch—from the Government of India, Finance Department (Salaries, Establishments, etc.,—Education).  
To—His Majesty's Secretary of State for India.  
Dated—Simla, the 22nd April 1915.  
No.—143.

We have the honour to forward for your Lordship's orders a copy of the correspondence noted in the schedule regarding the teaching of higher electrical engineering in the College of Engineering, Madras.

2. The facilities for teaching this subject which it is proposed to provide are, in our opinion essential to the completeness of the institution. We hesitated, however in the first instance to support the Madras Government's scheme to your Lordship because we thought it not unlikely that the Indian Institute of Science at Bangalore, the affairs of which were at that time under enquiry, might be willing to transfer to the city of Madras the staff and appliances of its Electro-Technics department. The Council of the Institute have decided that such a course would not be desirable, and we accordingly request your Lordship's sanction to this scheme for the development of the College of Engineering. The non-recurring cost is Rs. 32,768 and the recurring cost, which includes provision for the pay of a professor in the Indian Educational Service, slightly over Rs. 15,000 a year. The local Government, which had at first proposed to meet only half of the recurring cost, now declare their ability to meet the whole and have made budget provision in the estimates for 1915-16 for the employment of the professor and his assistant.

3. We also request that, if our proposals meet with your Lordship's approval, you will take steps to recruit a professor in the Indian Educational Service. The necessary information regarding the qualifications required of the professor and the nature of his duties is provided in the letter from the local Government, dated the 10th February 1915. It is understood that the Madras Government are anxious to introduce the scheme at an early date.

(ii)

Despatch—from His Majesty's Secretary of State for India.  
To—His Excellency the Right Honourable the Governor-General of India in Council.  
Dated—India Office, London, the 25th June 1915.  
No.—112, Public.

I have considered in Council the letter of your Excellency's Government in the Finance Department, No. 143, dated 22nd April, in which you recommend for my sanction a scheme submitted by the Government of Madras for providing facilities for the teaching of higher electrical engineering in the College of Engineering at Madras.

2. The Government of Madras refer to the existence in the Presidency of a pressing demand for up-to-date instruction in electrical engineering, and your Excellency's Government are of opinion that the facilities for teaching this subject, which the scheme now submitted will provide, are essential to the completeness of the College of Engineering. I accept this view, and sanction the scheme accordingly, including the creation of an appointment in the Indian Educational Service of Professor of Electrical Engineering.

3. I will take steps with a view to the selection of a suitable candidate for the post, but as regards the salary to be offered I would invite attention to my predecessor's Despatch No. 94 (Public), dated 11th April 1913, regarding the professorship of Mechanical Engineering at the Civil Engineering College at Sibpur. It is doubtful whether the ordinary initial salary of the Indian Educational Service (viz., Rs. 500 a month) will be sufficient to secure the services of an officer possessing the required qualifications. On this point the Board of Education is being consulted, and a higher initial salary not exceeding Rs. 750 a month, will be offered, if necessary, as in the case of Mr. C. A. King, who was appointed to the post at Sibpur, as intimated in my predecessor's Despatch to the Government of Bengal, No. 1 (Public), dated 20th March 1914.

## VII

Letter—from the Hon'ble Mr. H. S. DUNCAN, M.A., Acting Director of Public Instruction.

To—the Secretary to Government, Educational Department.

Dated—Madras, the 10th August 1915.

No.—R.C. 4901.

With reference to Government Memorandum No. 2465-1, Educational, dated 23rd July 1915, I have the honour to report that Mr. Matthews is willing to accept an initial salary of Rs. 750 a month in the post of Professor of Electrical Engineering in the College of Engineering, Madras.

## VIII

## Memorandum No. 2777-1, Educational, dated 18th August 1915.

The Director of Public Instruction is informed that the Government agree to give Mr. Matthews an initial salary of Rs. 750 a month. He is requested to arrange for Mr. Matthews' examination by a Medical Board and to report the result to Government.

C. G. TODHUNTER,  
Ag. Secretary to Government.

To the Director of Public Instruction.

## IX

Letter—from G. ANDERSON, Esq., M.A., Assistant Secretary to the Government of India, Department of Education (Education).

To—the Secretary to the Government of Madras, Educational Department.

Dated—Simla, the 23rd August 1915.

No.—1460.

In compliance with the request contained in your telegram dated the 18th August 1915, I am directed to forward herewith a copy of the Despatch from the Secretary of State No. 130, Public, dated the 23rd May 1913.

## ENCLOSURE.

Despatch—from His Majesty's Secretary of State for India.

To—His Excellency the Right Honourable the Governor-General of India in Council.

Dated—India Office, London, the 23rd May 1913.

No.—130 Public.

With reference to my telegram of 8th April sanctioning the appointment of Mr. T. C. Orgill to the Indian Educational Service, subject to his being found medically fit, I request that in the event of this condition being satisfied an agreement may be executed in triplicate with Mr. Orgill on my behalf, one part to be sent for record in this office, one part handed to him, and one part retained, as directed in the case of Mr. R. MacCombe in my Public Despatch No. 49, dated 21st February 1913.

2. A similar procedure should be followed on future occasions in which candidates already residing in India are appointed to the Indian Educational Service.

3. A copy of the form of agreement \* used when officers are appointed in this country is enclosed for information and guidance.

\* Not reprinted.



## X

Letter—from J. H. STONE, Esq., M.A., F.R.H.S., C.I.E., Director of Public Instruction.

To—the Secretary to Government, Educational Department.

Dated—Madras, the 7th September 1915.

No.—Cl. 47-2.

With reference to Government Memorandum No. 2777-1, Educational, dated 18th August 1915, I have the honour to state that Mr. Matthews was examined by the Medical Board on the 28th ultimo and that the Board have found him fit. I submit herewith a copy of the proceedings of the Medical Board for the information of Government.

## ENCLOSURE.

*Proceedings of the Civil Medical Board held at the General Hospital, Madras, on Saturday the 28th August 1915.*

We do hereby certify that we have examined Mr. H. B. Matthews, Assistant Professor of Electrical Engineering, a candidate for employment in the Indian Educational Service department, and cannot discover that he has any disease, constitutional affection or bodily infirmity.

His age is, according to his own statement, 39 years, and, by appearance, about 39 years. He has marks of vaccination.

Personal marks of identification—black specks, outer margin, right iris.

W. J. NIBLOCK, Major, I.M.S., *President*.  
J. M. SKINNER, Captain, I.M.S., *Members*.  
A. J. H. RUSSELL, Captain, I.M.S.

## Order—No. 1052, Educational, dated 24th September 1915.

The Director of Public Instruction will be informed that the Secretary of State has sanctioned the addition to the Indian Educational Service of a professorship of higher electrical engineering in the College of Engineering, Madras.

2. The Government also sanction the employment of a laboratory assistant on a salary of Rs. 200—40 (biennial)—400 per mensem. This appointment will be outside the Provincial Educational Service.

3. This sanction has been registered as No. 109 of 1915-16.

4. The Secretary of State has also sanctioned the appointment of Mr. H. B. Matthews, Assistant Professor of Electrical Engineering at the Indian Institute of Science, Bangalore, to the Indian Educational Service, as Professor of higher electrical engineering, on probation for two years. Mr. Matthews will, as a special case, be paid an initial salary of Rs. 750 per mensem in the grade of Rs. 500—50—1,000.

5. The Director will be requested to obtain from Mr. Matthews an agreement in triplicate, with the necessary modifications, in the first of the two forms printed in G.O. No. 1037, Educational, dated the 13th November 1913, as revised with reference to G.Os. No. 597, Educational, dated the 2nd May 1914, and No. 667, Educational, dated the 19th June 1915, the Director signing on behalf of the Secretary of State. One of the agreements may be furnished to Mr. Matthews and the other two should be submitted to the Government.

(True Extract.)

C. G. TODHUNTER,  
*Ag. Secretary to Government.*

To the Director of Public Instruction.  
" Accountant-General.  
" Financial Department.

## EDUCATIONAL DEPARTMENT.

NOTES CONNECTED WITH G.O. No. 1052, EDUCATIONAL, DATED  
24TH SEPTEMBER 1915.

[SUBJECT.—Appointment of Mr. H. B. Matthews as Professor of Electrical Engineering in the College of Engineering, Madras.]

| Previous papers : |                   |                |       |
|-------------------|-------------------|----------------|-------|
| G.O.              | 607, Educational, | 30th June      | 1913. |
| "                 | 1037              | 13th November  | "     |
| "                 | 607               | 2nd May        | 1914. |
| "                 | 110               | 24th September | "     |
| "                 | 1133              | 2nd October    | "     |
| "                 | 1192              | 23rd "         | "     |
| "                 | 89                | 20th January   | 1915. |
| "                 | 140               | 10th February  | "     |
| "                 | 142               | 11th "         | "     |
| "                 | 667               | 19th June      | "     |
| "                 | 770               | 14th July      | "     |

From the Director of Public Instruction, dated 14th July 1915, No. 4901.

From the Private Secretary to His Excellency the Governor, dated 20th July 1915, No. 223 P.

Please see the telegram in G.O. No. 770, Educational, dated the 14th instant, in which sanction of the Secretary of State was solicited for offering Mr. Matthews an initial salary up to Rs. 800 as Professor of Electrical Engineering in the College of Engineering, Madras. The Secretary of State's reply has been received and he states that an initial salary not exceeding Rs. 750 may be offered. From the formal application received from Mr. Matthews in the meanwhile, it is observed that he desires a salary of Rs. 1,000 per mensem. The Director of Public Instruction in forwarding the application suggests that an initial salary of Rs. 750 or Rs. 800 with the usual increments up to Rs. 1,000 may be offered. In his note, dated the 14th instant, the Chief Secretary has remarked that it is His Excellency's instruction that we shall find out the lowest figure at which Mr. Matthews can be got.

A draft memorandum to the Director telling him that the Secretary of State has sanctioned an initial salary of Rs. 750 and asking him to ascertain the lowest pay (within this limit) which Mr. Matthews would accept is submitted for approval.

S.A.—23-7-15.

C.R.—23-7-15.

C. G. TODHUNTER—23-7-15.

[Memorandum No. 2465-1, Educational, dated 23rd July 1915.]

From the Government of India, dated 4th August 1915, No. 1327.

From the Director of Public Instruction, dated 10th August 1915, No. 4901.

The Director reports that Mr. Matthews is willing to accept an initial salary of Rs. 750 a month. This is the maximum limit of initial salary which the Director was asked to offer to Mr. Matthews; and presumably the lowest that he will accept. Submitted that the Government may agree to start Mr. Matthews on Rs. 750. The Director may now be asked to arrange for Mr. Matthews' examination by a Medical Board and to report the result. A draft memorandum is submitted for approval.



2. Despatch No. 130, dated 23rd May 1913, from the Secretary of State to the Government of India referred to in the former's telegram of the 19th July is not traceable in this department. The Public and Financial Departments are also unable to trace it. It is therefore submitted that the Government of India may be requested by wire to send a copy thereof. The following draft telegram is for approval:—

“Secretary of State in telegram, 19th July, regarding appointment Matthews as Professor, Electrical Engineering, refers to his Public Despatch to Government of India No. 130, dated 23rd May 1913. Transmission of copy of despatch for reference solicited.”

S.A.—17-8-15.

C.R.—18-8-15.

C. G. TODHUNTER—18-8-15.

[Memorandum No. 2777-1, Educational, dated 18th August 1915.]

From the Government of India, dated 23rd August 1915, No. 1460.

From the Director of Public Instruction, dated 7th September 1915, No. 47-2.

The Director of Public Instruction reports that Mr. Matthews has been examined by the Medical Board and found fit.

2. In the case of persons appointed in England to permanent vacancies, it is usual to appoint them on probation in the first instance for two years. It is presumed that this procedure will have to be followed in the present case, as the Secretary of State, while sanctioning the appointment of Mr. Matthews, refers to his Despatch No. 130, dated 23rd May 1913, for the execution of agreement and as the agreement forwarded with this despatch makes mention of the probationary period of two years.

3. The form of agreement referred to above has been further modified in G.Os. No. 1037, Educational, dated the 13th November 1913, No. 507, Educational, dated the 2nd May 1914, and No. 667, Educational, dated the 19th June 1915. The Director of Public Instruction may be requested to obtain from Mr. Matthews an agreement in triplicate in the form as revised up to date.

4. With reference to paragraph 1 of G.O. No. 607, Educational, dated the 30th June 1913, sanction has also to be accorded for the employment of a Laboratory Assistant on Rs. 200—20 (biennial)—400.

5. A draft order is submitted for approval. It may be sent to Financial for noting the number of sanction.

S.A.—11-9-15.

C.R.—11-9-15.

C.G.T.—12-9-15.

To the Financial Department.

#### FINANCIAL DEPARTMENT.

The appointment of a Laboratory Assistant on Rs. 200—400 referred to in paragraph 2 of the draft follows the decision of Government in 1913, which was accepted in this department. The proposal to start Mr. H. B. Matthews on an initial salary of Rs. 750 in the Rs. 500—50—1,000 scale (paragraph 3 of draft) calls for no remarks, as this department has already accepted the offer to him of a salary up to Rs. 800 per mensem.

2. The draft may, it is submitted, be accepted in Financial, the sanction being registered as No. 109 of 1915-16.

L.E.K.

Financial Department notes on pages 8 and 11 of notes to G.O. 142, Educational, 11th February 1915.

|                                                  | Rs.   |
|--------------------------------------------------|-------|
| Professor (8 months' charges at Rs. 500) .. .. . | 4,000 |
| Extra conveyance allowance .. .. .               | 250   |
| Laboratory Assistant (8 × 200) .. .. .           | 1,600 |
| Europe stores .. .. .                            | 1,550 |
| Laboratory charges .. .. .                       | 1,000 |

Total .. 8,400  
or 8,000  
L.E.K.

3. *Provision of funds.*—A provision of Rs. 8,000 has been entered in the current year's budget for the Professor of Electrical Engineering, his Assistant and connected charges. As it is not known from what date Mr. Matthews will be able to join his duty, the actual expenditure that will be incurred in 1915-16 cannot be estimated; the Director of Public Instruction may be left to apply for extra funds, if any, that may be required. The draft may be accepted in Financial.

A.S.—17-9-15.

L. E. KERSHAW—19-9-15.

A. BUTTERWORTH—20-9-15.

To the Educational Department.

EDUCATIONAL DEPARTMENT.

Submitted for orders.

Draft for approval.

C. G. TODHUNTER—22-9-15.

P[ENTLAND]—23-9-15.

[G.O. 1052, No. Educational, dated 24th September 1915.]

TESTIMONIALS

IN FAVOUR OF

HARRY BRYANT MATTHEWS,

MEMBER OF THE INSTITUTION OF ELECTRICAL ENGINEERS,

ASSISTANT PROFESSOR OF ELECTRICAL ENGINEERING

AT THE

INDIAN INSTITUTE OF SCIENCE,

BANGALORE, INDIA.

APPLICANT

FOR THE POST OF

PROFESSOR OF ELECTRICAL ENGINEERING

AT THE

COLLEGE OF ENGINEERING,

MADRAS.

# LIST OF TESTIMONIALS.

W. E. SUMPNER, Esq., D. Sc., M. I. E. E., Principal, Birmingham Municipal Technical School, Past-Chairman of the Birmingham Local Section of the Institution of Electrical Engineers.

PROFESSOR ALFRED HAY, D. Sc., M. I. E. E., Professor of Electrical Engineering, Indian Institute of Science, Bangalore.

PROFESSOR GIBBERT KAPP, D. Eng., M. Inst. C. E., M. I. E. E., Professor of Electrical Engineering at the University of Birmingham, Past-President of the Institution of Electrical Engineers.

The late PROFESSOR J. H. POYNTING, M. Sc., Sc. D., (Cantab.), F. R. S., late Dean of the Faculty of Physics, Birmingham University.

PROFESSOR W. RIPPER, D. Eng., M. Inst. C. E., Dean of the Faculty of Applied Science, University of Sheffield.

M. RAILING, Esq., Director, General Electric Co., Past Chairman of the Birmingham Local Section of the Institution of Electrical Engineers.

Copy of Testimonial received from W. E. SUMPNER, Esq., D. Sc., M. I. E. E., Principal,  
Birmingham Municipal Technical School.

Sir,

Mr. H. B. Matthews has been on my staff for nine years. During his tenure of office here Mr. Matthews has acted as Chief Lecturer and Demonstrator in the Department of Electrical Engineering. He has also been instructor in the classes in Electrical Design, and he has had charge of the dynamo room and laboratories. Although I am officially the Head of the Department, my duties as Principal have compelled me to leave most of the management of the department to Mr. Matthews. I cannot speak too highly of the value of his services. He has shown great initiative in the development of the laboratory appliances and has organised the work in an able, original and efficient manner. The chief dynamo room has been constructed and developed while Mr. Matthews has been on my staff. The arrangement of the machines and switching appliances, the organisation of the system of instruction, and the drafting of the various instruction papers have all been carried out by him.

Mr. Matthews is popular with his students, both in the lecture room and the laboratory. He is a thorough gentleman and is on the best of terms with all the staff. I have a high opinion of his teaching ability.

He has undergone a long training in colleges of University rank, first at Sheffield, and afterwards as Research Scholarship Student of the Birmingham University. Full particulars of his training and works' experience will, of course, be given in his application, so that I need only add that I consider him as ranking with honours University men, although he has not actually taken a degree.

He is a man of great activity and energy. He had acted for some years as Secretary to the Local Section of the Institution of the Electrical Engineers, of which he is an Associate Member. Three years ago he was made Officer Commanding the Wireless Telegraphy Company Engineer Units, Southern Army, and the majority of men in this Corps are old students of his electrical classes. In this connection he has had practical experience of the Wireless Telegraphy systems now being introduced into the Army.

Mr. Matthews' services have been of the greatest value to the Electrical Department here, and his loss would be severely felt, but he thoroughly deserves promotion, and I cordially wish him success in his present application.

(Signed) W. E. SUMPNER,

Principal, Birmingham Municipal Technical School.

Copy of Testimonial received from Professor ALFRED HAY, D. Sc., M. I. E. E., Professor of Electrical Engineering, Indian Institute of Science.

Professor ALFRED HAY, D. Sc., M. I. E. E.

Bangalore,

Department of Electrical Technology.

14th July, 1914.

Mr. H. B. Matthews, M. I. E. E., informs me that he intends applying for the chair of Electrical Engineering at the College of Engineering, Madras. Mr. Matthews joined the staff of the Indian Institute of Science as Assistant Professor of Electrical Engineering in January, 1913, and I have had ample opportunities of forming an opinion regarding his capabilities as an Electrical Engineer and a teacher. He has a thorough knowledge of his subject, is very energetic, and has the knack of interesting students in their work. From my own observation, as well as conversation with students, I know that he is a great favourite with them, and has entirely won their confidence. Mr. Matthews has had a very wide experience in the organisation of both lecture courses and laboratory work, and his experience would render him exceptionally well qualified to deal with the design and equipment of a new Electrical Engineering Laboratory. I have found Mr. Matthews a very pleasant colleague, and I have every confidence in strongly urging his claims in connection with the appointment of the chair of Electrical Engineering at Madras.

(Signed) ALFRED HAY.



Copy of Testimonial received from Professor GISEBERT KAPP, D. Eng., M. Inst. C. E., M. I. E. E.  
Professor of Electrical Engineering at the Birmingham University, Past President of the  
Institution of Electrical Engineers.

I have known Mr. Matthews since the autumn, 1905, more especially in connection with the Institution of Electrical Engineers, of which he is the Honorary Local Secretary. During the two years of my Chairmanship I had many opportunities of coming into personal contact with him. His close attention to the work of the Local Section and the tactful manner of doing it made him a general favourite with the members, and was to a large extent the reason why the Section has of late years been so flourishing, not only as regards attendance at meetings, but also as regards the character of the papers read.

I am also acquainted with the personal work of Mr. Matthews, since I have repeatedly visited the Laboratories at the Municipal Technical School, for the design and equipment of which he is in part responsible. I consider the arrangements very well adapted for the particular kind of instruction required from this School. In addition to this teaching work, I also have knowledge of his original research work. This was done at the Birmingham University before I came to occupy the Chair of Electrical Engineering, but I have seen the records. It was an investigation of the Flow Distribution in a network, a subject of considerable practical importance. The work done by Mr. Matthews shows originality and experimental ability, and I consider it quite up to the standard required for the degree of M. Sc.

From my personal knowledge of the candidate I have full confidence in recommending him for the appointment.

(Signed) GISBERT KAPP.

Copy of Testimonial received from the late PROFESSOR J. H. POYNTING, M. Sc., Sc. D. (Cant).  
F. R. S., late Dean of the Faculty of Science, Birmingham University.

I first knew Mr. Matthews when in 1901 he came to the University to work as a Bowen Research Scholar in the Electro-technical Laboratory. He impressed us as able and enthusiastic, and he carried on the research on which he was engaged in an excellent way.

On leaving the University he became a teacher at the Municipal Technical School, Birmingham. I have had frequent opportunities of meeting him, and of hearing of his success with his classes. He has carried on his work with the ability and enthusiasm which he displayed as a student, and I know that he is regarded as an excellent teacher.

I have every reason to believe that his personal qualities as well as his abilities fit him for the post which he is now seeking, and I have very much pleasure in recommending him for it.

(Signed) J. H. POYNTING,

*Professor of Physics,  
Dean of the Faculty of Science.*

15  
16<sup>13</sup>  
Copy of Testimonial received from Professor W. RIPPER, D. Eng., M. Inst. C. E., Dean of the Faculty of Applied Science, Professor of Engineering at the Sheffield University.

SIR,

Mr. H. B. Matthews has been known to me for nearly twenty years, first as a student, and during that time I have followed his career with the greatest interest. The work he did here as an Engineering student during his three years' course was similar in kind and quality to that for which our Institution is now able to confer a University Degree. He was the top student of his year in the final examinations, and was awarded the Associateship of the Sheffield Technical School, and the Mappin Medal and Premium and his work was of honours degree standard.

During his stay here he rendered me very great assistance in connection with a research on Super-heated Steam, which was afterwards published in the Proceedings of the Institution of Civil Engineers.

Mr. Matthews has, since leaving us, had considerable experience and success as a teacher, and acquired a wide personal experience of Technological Institutions in this country. He has specialized particularly in the direction of Electrical Engineering during the last nine years, having been engaged both in research work and in the design and organization of large Electrical Engineering Laboratories.

Mr. Matthews is a gentleman in every sense of the word. He is also genial and tactful, as is shown by the successful way in which he has held responsible positions in various local Societies.

(Signed) W. RIPPER.

Copy of Testimonial received from M. RAILING, Esq., Director, General Electric Co., Ltd., England.

SIR,

I have known Mr. Matthews for some years. Most of the better class Apprentices at these works are his students either from the beginning or after attending junior courses at other local technical schools.

We find that the scheme of training devised by Mr. Matthews at his classes, is eminently suited for the purpose of preparing these students for their future work.

This is shown by the fact that we have had many pupils of his who are now occupying important positions of responsibility at home and abroad.

We have personal knowledge of the courses provided by Mr. Matthews as he has from time to time consulted us with reference to them.

He has also arranged a special higher course of demonstrations and testing, which was attended by members of our design department, Engineers of the Corporation and others engaged in the practical work in the Industry.

Mr. Matthews has, with the consent of Dr. Sumpner, carried out in his laboratory on our behalf several important investigations in connection with raw materials used by us and experimental machines which could not be investigated at our works. We should like to mention particularly he has made a thorough and exhaustive investigation in connection with the Fynn single phase Motor, previous to this machine being put on the market by us.

Mr. Matthews has also been connected indirectly with this Firm as Officer Commanding the wireless telegraph Corps of the Southern Army, of which unit several men in our employ are members.

I have been associated with Mr. Matthews as Chairman of the local section of the Institution of Electrical Engineers, the affairs of which he has conducted always in an able and business-like manner as Honorary Local Secretary and Treasurer.

I would very much miss Mr. Matthews' work both at the Technical School and the Local Section, but I still wish to heartily support his application for the position he now seeks.

(Signed) M. RAILING,  
Director.

C.

## INDIAN TELEGRAPHS.

## NOTICE.

This form must accompany any inquiry made respecting this Telegram.

Charges to pay.

Re. As.



|                                  |                         |      |        |                      |               |
|----------------------------------|-------------------------|------|--------|----------------------|---------------|
| Handed in at (Office of Origin). | Date                    | Hour | Minute | Service Instructions | Words.        |
| London                           | 19                      | 14   | 10     | Easton Paston. 30.   | -den          |
| TO                               | Resurgidas              |      |        |                      | Recd. here at |
|                                  | Madras Madras Governors |      |        |                      | Port 72 M.    |
|                                  |                         |      |        |                      | camp          |

Sofritos aliquod matthews  
to emersibus as parcit  
electrical enitescens perbasior  
lanisciarum zabumba  
etymon rectorem  
metraglia Xantholite  
lanista agreement  
evergunt haesiniora  
See devinctus 130 labefeci  
viridueris to ferrumen

B. B.—The name of the Sender, if telegraphed, is written after the text



18  
~~TELEGRAM.~~

19.15  
From Secretary of State for India to Governor of Madras  
Educational, Legislative and <sup>Local</sup> Municipal Departments  
dated London the 19th July 1915.

Y  
wfs 770 Sol  
19.7.15  
Your telegram dated July 14th. I sanction appointment of Matthews to Indian Educational Service as Professor of Electric <sup>al</sup> Engineering, provided that Medical Board report him fit. Initial salary not exceeding 750 Rs. may be offered. Please arrange for Medical Examination. Agreement should be executed in India. See my Public Despatch No. 130 23rd May 1913 to Government of India.

not traceable.  
at present  
Business and keep  
make out the Public  
+ the despatch. Before  
the ref. from the 20-9  
is received the Govt.  
may perhaps be done.  
is not immediate  
ref.

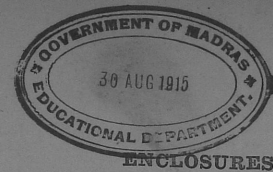
W. order Public Fund sent

on 27.7.15 - Copy sent

obtained from India -

pages 3 to 35 infra

\*\*\*\*\*  
B



ENCLOSURES.

AGREEMENT, made the  
BETWEEN

day of

19

of the first part, and THE SECRETARY OF STATE FOR INDIA IN COUNCIL of the second part.

WHEREAS the Secretary of State for India in Council has engaged the party of the first part to serve His Majesty in India as in the Indian Educational Service for the term of two years from the date of his reporting his arrival at as herein-after mentioned and subject to the conditions and agreements herein-after contained.

NOW THESE PRESENTS WITNESS and the said parties hereto respectively agree as follows:—

1. That the party of the first part will, on being provided with a first-class passage to , proceed thither within such time as may be prescribed by the Secretary of State for India in Council,

2. That the party of the first part will, on arrival at and report himself to the Officers of Government there, and will submit himself to the orders of the Government and of the Officers and authorities under whom he may from time to time be placed by the Government, and that he will at all times obey the rules prescribed for the time being in the memorandum of information furnished to Candidates or otherwise for the regulation of the branch of the public service to which he may belong, and will, when required by the Government, proceed to any other part of the province within which he may be serving, or to any other province in India, and there perform the duties of any specified office in the cadre of the Indian Educational Service.

3. That the party of the first part will devote his whole time to the duties of the service, and will not engage, directly or indirectly, in any trade, business, or occupation on his own account, and that he will not (except in case of accident or sickness certified by competent medical authority) absent himself from his said duties without having first obtained permission from the Government or its authorised Officer.

4. That if the party of the first part shall during the said term of two years, or if the service shall continue beyond such terms, during the next succeeding three years, relinquish the service of the Government (whether after having given notice or otherwise) he shall forthwith on demand pay the Secretary of State for India in Council the cost of his passage to

5. That from the date of the party of the first part reporting his arrival at , the Government will pay him, so long as he shall remain in the said service and actually perform his duties, a salary at the rate of

6. That the Government may at any time during the said term of two years, or, if the service shall continue beyond such term, at any time thereafter, dispense with the service of the party of the first part without notice in the event of misconduct on his part or of a breach by him of any of the conditions herein specified.

7. That on the determination of the service at the expiration of the said term of two years, but not upon any subsequent determination, or if prior to the expiration of the said term of two years, the service shall be determined by the Secretary of State for India in Council or by the Government in India under the provisions of Clause 8 of these presents, and if the party of the first part shall quit the same in India, the Government will provide him with a first class passage back to England at the public expense, provided he claims

Encl 2  
No. 2907-EP/5

such passage within three months from any such determination of the service as is mentioned in this clause, and leave India on his return to England within such time as he may be directed.

8. That it shall be lawful for the Secretary of State for India in Council or for the Government prior to the expiration of the said term of two years, if satisfied on the report of the duly constituted advisory Medical Board that the party of the first part is unfit and is likely for a considerable period to continue unfit by reason of ill-health for the discharge of his duties in India, to determine the service under these presents (the decision of the Secretary of State for India in Council or the Government being conclusive), and thereupon his service shall be terminated.

9. That the party of the first part shall, within the period or periods prescribed by the rules and regulations relating to examinations in vernacular languages for the time being in force in the province within which he may be serving, and generally in accordance with, and subject to, such rules and regulations, pass an examination or examinations in such vernacular language or languages as may be required by the Government, and on failure to pass such an examination or examinations shall be liable to the penalties prescribed by the said rules and regulations. Provided that if the party of the first part shall fail to pass an examination in such one of the prescribed vernacular languages as may be required within the said term of two years, the Government may, notwithstanding anything in the next clause or the said rules and regulations contained, dispense with his services.

10. That unless he, the party of the first part, shall receive notice in writing from some authorised Officer of the Government three calendar months before the expiration of the said term of two years that Government no longer require his service, or unless he shall give notice in writing to the Government three calendar months before the expiration of the said term of two years that he is desirous to put an end to his service under these presents, he will continue in the service of Government upon the like terms and conditions as are herein contained, so far as the same are applicable, except that he shall not be entitled to receive or required to give notice of termination of his service under Government otherwise than as provided in the Civil Service Regulations for the time being in force or any other rules to which he may be made subject.

11. The party of the first part will, during his continuance in the service, pay such subscriptions to the General Provident Fund as shall be payable under the rules for the time being in force (by which rules he agrees to be bound); and it shall be lawful for the Government to deduct the said subscriptions from any money that may be payable to the party of the first part under these presents or otherwise.

12. That if the party of the first part shall continue to serve Government under these presents after the said term of two years his service (commencing from the date of his entering on the performance of his duties as aforesaid) shall count as service towards leave and pension under such rules as regards leave and pension as may for the time being be applicable to his case. PROVIDED ALWAYS that in case of any dispute as to the interpretation of any of the said rules, or otherwise relating in any way to them, the decision of the Secretary of State for India in Council shall be conclusive.

13. That in any payments which may be made in Great Britain under these presents the rate of exchange between England and India fixed from time to time by the Secretary of State for India in Council in communication with the Lords Commissioners of the Treasury shall be observed.

14. That the proceedings, letters, and reports of the Governor General of India in Council, or of any of the local Governments, and of all others the Officers and Agents of Government, or any copies thereof or extracts therefrom, which shall be sent officially to the Secretary of State for India in Council, or to any officers or servants in the Indian Service of His Majesty in England or elsewhere in any way relating to the sums of money to be paid or allowed to the party of the first part, or to his conduct, or in any way relating to the premises

shall be received as conclusive evidence of any matter therein contained in any action or in any legal proceedings by or between the parties to these presents or in any way relating thereto.

In witness whereof the party of the first part and

being two members of the Council of India, have hereunto set their hands the day and year first above written.

Signed by the party of the first  
part in the presence of

Signed by the said two members  
of the Council of India in the  
presence of

AGREEMENT made the

day of

19

BETWEEN

of the first part, and THE SECRETARY OF STATE FOR INDIA IN COUNCIL of the second part.

WHEREAS the Secretary of State for India in Council has engaged the party of the first part to serve His Majesty in India as  
for a period of \_\_\_\_\_ months from the date of his reporting his arrival at \_\_\_\_\_ as herein-after mentioned and subject to the conditions and agreements herein-after contained.

NOW THESE PRESENTS WITNESS and the said parties hereto respectively agree as follows:—

1. That the party of the first part will, on being provided with a first class passage to \_\_\_\_\_, proceed thither within such time as may be prescribed by the Secretary of State for India in Council.

2. That the party of the first part will, on arrival at \_\_\_\_\_ forthwith proceed to \_\_\_\_\_ and report himself to the Officers of Government there, and will submit himself to the orders of the Government and of the Officers and authorities under whom he may from time to time be placed by the Government, and that he will at all times obey the rules prescribed for the time being in the memorandum of information furnished to Candidates or otherwise for the regulation of the branch of the public service to which he may belong, and will, when required by the Government, proceed to any other part of the province within which he may be serving, or to any other province in India, and there perform the duties of any specified office in the cadre of the Indian Educational Service.

3. That the party of the first part will devote his whole time to the duties of the service, and will not engage, directly or indirectly, in any trade, business or occupation on his own account, and that he will not (except in case of accident or sickness certified by competent medical authority) absent himself from his said duties without having first obtained permission from the Government or its authorised Officers.

4. That if the party of the first part shall during the period of his appointment relinquish the service of the Government (whether after having given notice or otherwise) he shall forthwith on demand pay to the Secretary of State for India in Council the cost of his passage to

5. That from the date of the party of the first part reporting his arrival at \_\_\_\_\_, the Government will pay him, so long as he shall remain in the said service either temporarily or as a permanent member of



the Indian Educational Service and actually perform his duties, a salary at the rate of Rs. 500 per mensem for the first year rising by annual increments of Rs. 50 per mensem

6. That the Government may at any time dispense with the service of the party of the first part without notice in the event of misconduct on his part or of a breach by him of any of the conditions herein specified.

7. That on the determination of the service under these presents, or if prior to the expiration of his service under these presents, the service shall be determined by the Secretary of State for India in Council or by the Government in India under the provisions of Clause 8 of these presents, and if the party of the first part shall quit the same in India, the Government will provide him with a first-class passage back to England at the public expense, provided he claims such passage within six months from any such determination of the service as is mentioned in this clause, and leaves India on his return to England within such time as he may be directed.

8. That it shall be lawful for the Secretary of State for India in Council or for the Government prior to the expiration of his service under these presents, if satisfied on the report of the duly constituted advisory Medical Board that the party of the first part is unfit and is likely for a considerable period to continue unfit by reason of ill-health for the discharge of his duties in India to determine the service under these presents (the decision of the Secretary of State for India in Council or the Government being conclusive), and thereupon his services shall be terminated.

9. The party of the first part shall while on duty in India and during the period of his engagement be entitled to such travelling allowance as is payable to Officers of the first class under the Civil Service Regulations for the time being in force, and travelling allowances on the same scale shall also be payable to him in respect of his journeys (1) from

to on first joining the appointment, and (2) from his station to his port of embarkation if and when he leaves India under circumstances which entitle him to the grant of a return passage as specified in Clause 7 of this Agreement.

10. The party of the first part will, during his continuance in the service, pay such subscriptions to the General Provident Fund as shall be payable under the rules for the time being in force (by which rules he agrees to be bound); and it shall be lawful for the Government to deduct the said subscriptions from any money that may be payable to the party of the first part under these presents or otherwise.

11. That if the party of the first part shall ultimately be appointed a permanent member of the Indian Educational Service his service (commencing from the date of his entering on the performance of his duties under these presents as aforesaid) if it be continuous shall count as service towards leave and pension under such rules as regards leave and pension as may for the time being be applicable to his case. PROVIDED ALWAYS that in case of any dispute as to the interpretation of any of the said rules, or otherwise relating in any way to them, the decision of the Secretary of State for India in Council shall be conclusive.

12. That in any payments which may be made in Great Britain under these presents the rate of exchange between England and India fixed from time to time by the Secretary of State for India in Council in communication with the Lords Commissioners of the Treasury shall be observed.

13. That the proceedings, letters, and reports of the Governor General of India in Council, or of any of the Local Governments, and of all others the Officers and Agents of Government, or any copies thereof or extracts therefrom, which shall be sent officially to the Secretary of State for India in

Council, or to any officers or servants in the Indian Service of His Majesty in England or elsewhere in any way relating to the sums of money to be paid or allowed to the party of the first part, or to his conduct, or in any way relating to the premises, shall be received as conclusive evidence of any matter therein contained in any action or in any legal proceedings by or between the parties to these presents, or in any way relating thereto.

In witness whereof the party of the first part and

being two members of the Council of India, have hereunto set their hands the day and year first above written.

Signed by the party of the first }  
part in the presence of }

Signed by the said two members }  
of the Council of India in the }  
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Santhosh

Seet. 11-10 (a).

Educational DEPARTMENT.

READ AGAIN G.O. No. 607 Sol. dated 30<sup>th</sup> June 1913  
 " " " " 776 Sol. " 14<sup>th</sup> July 1915

READ ALSO:-

|                  |                      |          |            |       |
|------------------|----------------------|----------|------------|-------|
| C. No. 2465 Sol. | From the D.P.I.      | No. 6901 | dated 14.7 | 1915. |
| 2545             | " Secretary of State | Telegram | " 19.7     | "     |
| 2785             | " do                 | 2705     | " 19.7     | "     |
| 2736             | " Gov. of India      | 1327     | " 14.8     | 1915. |
| 2777             | " D.P.I.             | 4901     | " 10.8     | "     |
| 2967             | " Gov. of India      | 1460     | " 23.8     | "     |
| 3107             | " D.P.I.             | 477      | " 7.9      | 1915. |

ORDER.

P.S.

No. 1052 Sol. dated 26.9 1915.

The D.P.I. will be informed that the Secretary of State has sanctioned the addition to the D.E.S. of a Professorship of higher electrical engineering in the College of Engineering, Madras.

2. The Government also sanction the employment of a laboratory assistant on the salary of Rs. 200-40- (biennial)-400 per mensem. This appointment will be outside the Provincial Educational Service.

3. This sanction has been registered as no. 109. of 1915-16.

4. The ~~Secretary of State~~ <sup>Secretary of State</sup> has sanctioned the appointment of Mr. H. B. Matthews, Assistant Professor of Electrical Engineering at the Indian Institute of Science Bangalore, to the I.E.S., as a Professor of <sup>higher</sup> Electrical Engineering, on probation for two years. Mr. Matthews will, as a special case, be paid an <sup>initial</sup> salary of Rs 750 per month in the grade of Rs 600-500-1000. ~~of Rs 500 up to Rs 1000.~~

5. The Director will be requested to obtain from Mr. Matthews an agreement in triplicate, with the necessary modifications in the <sup>first</sup> ~~form~~ of the two forms in G.O. no. 1037 Ed., dated the 18<sup>th</sup> November 1913, as revised with reference to G.O. no. 507 dated the 2<sup>nd</sup> May 1914 and no. 667 Ed., dated the 19<sup>th</sup> June 1913, the Director signing on behalf of the Secretary of State. One of the agreements may be furnished to Mr. Matthews and the other two should be submitted to the Govt.

G.O. no. 1110 Ed.  
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