

ELECTRIC LIGHTING AT REDFERN.

Mr. C. C. Farr, son of the Ven. Archbishop Farr, who held the Angus Engineering Scholarship, has sent in the following account of the electric lighting of Redfern, New South Wales, of which he was the supervising engineer. An installation of the electric light has just been completed for the Municipal Council of the Borough of Redfern, near Sydney. The plant is erected in a brick building of two storeys high, on the ground floor of which are two compound horizontal engines of 130-horsepower each, by Goodfellow, of Hyde, running at 90 revolutions a minute, which drive by means of a rope belting a line of countershafts, either engine or shaft if necessary, being coupled to the counter shafts by means of friction clutches. From this shaft two alternators (for it is an alternate current system) nature, and two exciters are driven by leather belts. The alternators are by Mather & Platt, of Manchester, and underwent a severe test at the hands of Dr. Edward Hopkinson which they left England. They have also been tested very vigorously by Professor Threlfall and Mr. Fair, the supervising engineers, and found to be fully capable of doing the work which it was specified they should do. The test in Sydney consisted in running them at full load for eight hours, a thing which very few dynamos are ever called upon to do in actual work. The load was obtained by running the current through water by means of two plates hanging in the water and connected to the terminals of the dynamo, the distance of the plates being adjusted till at the proper electro-motive force the right current, as measured by the ammeter, was passing between the plates. The water was simply allowed to boil away and the tank containing it filled up from time to time. These dynamos are 100 unit machines, and give 800 alternations per second, the pressure being 1,000 volts. The two exciters are also by Mather & Platt, and are their ordinary shunt-wound six-unit dynamo. On the ground floor, also, there are two polished eardrums, one for the street lighting and one for the private supply, a considerable amount of which it is hoped will soon be forthcoming; provision having been made for 4,000 16-candle-power house lights. The boiler-house, which adjoins the engine-room, contains two large multitubular boilers, by Friskee Brothers, built up in brickwork. The safety valves of these show off at 110 lb, and the working steam pressure is about 100 lb. There are also here two feed-water heaters and two small Worthington pumps for injecting the water into the boilers. upstairs there is a large room, 70 ft. x 50 ft., which at present only contains the lighting apparatus on the different circuits. It is proposed to use this room for various municipal purposes. Outside all the wiring has been done overhead on ironwork poles, which have actually been put on a table and termed so that they have a decidedly graceful appearance. There are about 30 miles of streets in the borough and altogether 400 incandescent lights of 25 candle-power each lighting it. This, however, is only a beginning, as the council are talking about having several arc lights in the principal thoroughfares. The street lights are arranged in 11 circuits, 57 or 58 lamps in series forming a circuit. The plant has been running now for a little over a month and so far no accident has occurred, which was in no way due to the electric lighting, but several very small to show the ease with which certain repairs are effected. There was a fire in one of the narrow lanes, which burnt through one of the conductors and consequently put out all the lights on that circuit. The man in charge saw at once that something was wrong and switched off the current from that circuit, thus rendering it harmless to pass-by. Ten minutes later a boy arrived and told him what had happened, and in less than half an hour a new piece of cable had been put up and the lights were burning just as if nothing had happened. The whole plant has been erected by the Williamson Electrical and Engineering Company.

AUSTRALASIAN SUCCESSES.

[RECEIVED August 21, 7 p.m.] London, August 21. Mr. J. B. Allen, B.Sc., of Adelaide; Mr. D. H. Jackson, of New Zealand; and Mr. S. H. Barneclough, of Sydney, have been awarded Science Scholarships founded in connection with the 1891 Exhibition.

ADELAIDE UNIVERSITY.

THE PRELIMINARY EXAMINATION.

The results of the preliminary examination in connection with the Adelaide University, held on Tuesday and Wednesday, September 6 and 7, were posted on Monday afternoon. The number who sat was 338, of whom 193 passed as follows:- Prince Alfred College.—A. H. Ashman, S. E. Parilla, H. J. Boss, M. A. Bonson, F. R. Burden, H. Chappe, J. B. Chalmers, W. G. Cole, H. E. Cook, A. R. Crapan, W. G. G. L. Dur, O. S. Fencak, J. H. Fleming, W. M. Gordon, W. G. Greenlee, R. A. Heath, H. J. Hill, W. J. Hughes, J. H. Langford, H. Lillywhite, J. A. Loader, G. Lord, E. M. Martin, J. T. Moffat, W. L. Muecke, N. Y. Opie, A. W. Oppat, A. M. Eaton, F. N. Pearson, F. N. Simpson, H. A. Thompson, B. W. Tilton, J. E. Trevelyan, A. K. Trudgen, J. F. Tullock, Horace Wigg, and B. T. Zwar. St. Peter's College.—M. M. Ashwin, H. L. Bayly, W. S. Bright, H. L. Campbell, H. Cheeman, P. H. Church, A. R. Clayton, W. T. Cook, G. A. J. Dombard, F. S. J. Eshworth, H. G. Fish, F. D. Gower, H. W. Hickling, B. Ingleby, C. A. Luffe, E. W. Mansfield, D. G. Oldham, J. Pils, R. M. Phillips, J. S. Simpson, James Wray, and R. L. Webb. Way College.—H. R. Edwards, D. E. Goldworthy, H. E. Puddy, and F. W. S. Shephard. Christian Brothers College.—G. J. Beaghill, C. F. Bonchar, B. Butler, M. Duffy, W. F. Fox, E. J. Hackett, R. Healy, T. Horne, W. J. Kenihan, R. W. Kennedy, D. A. Kilroy, J. F. Mahony, J. O'Grady, J. P. Redden, and P. F. Walsh. Advanced School for Girls.—Amelia W. D. Bamberg, Christian Anderson Beck, Victoria M. Bercher, Amy L. Bowen, Elizabeth M. Howden, Edelgarde A. Birz, Nina Chambers, Ruby Chambers, M. C. Colebatch, H. Collins, E. Corbin, G. I. East, E. E. Holder, Alice M. Home, C. M. Key, M. Lona, B. Mannheim, W. A. G. Pollitt, Adelaide Elsie Scherck, Ethelwynne G. Scott, Annie M. Smith, Florence M. Solomon, Gertrude Chapple and Nellie Stephenson. Semaphore Collegiate School.—G. P. Brooker, A. R. Bushall, A. G. Congrave, B. Kirby, G. D. Reed, F. Q. Ryder, and A. T. Spryck. Queen's School, North Adelaide.—N. D. Heine, F. E. Lawrence, A. P. Muecke, G. Newland, H. E. Phillips, C. L. Ross, and N. W. Wright. Hardwicke College.—E. Evans, Kate Gilmore, Laura M. Goods, N. F. Lewis, D. L. Marden, R. B. Raymond, Millie Stone, and Hill A. B. Thomas. Winham College.—Spence G. J. B. Lewis, S. C. McFarlane, and P. G. Sossyl. Halundof College.—H. H. Forbury. Ladies Collegiate School, Semaphore.—Jane Isabel Anthony and M. T. Mellor. Southfield School, Parkside.—Florence May Adamson and May Eryos. Unley Park School.—Marian Ahnes Andersen, Edith H. Carver, M. Drew, Theresa H. Hayward, E. C. Jones, A. L. Marshall, A. J. Martin, I. Pils, F. Playford, T. R. Quin, and Helen E. Simpson. Public School, Port Adelaide.—W. H. Adams, G. F. Dodwell, L. Hains, H. H. Nieldke, F. H. Shepherd, and Bessie L. Trevelyan. Public School, Norwood.—R. F. Hatfield, Glen C. Bromley, William Evans, J. M. Gunn, G. Lillywhite, G. Lyons, and J. H. Vaughan. Public School, Clare.—B. D. Jolly. Public School, Grote-street.—W. J. McBride. Oxford House School, North Adelaide.—D. Julliard. High School, North Adelaide.—J. F. Bradley, J. H. Thompson, B. F. Fox, and J. H. Oldham. High School, Norwood.—S. A. Jada. High School, Mount Gambier.—A. W. Watson and F. H. Williams. Gawler High School for Girls.—Bertha C. Gale and H. M. Potter. Merri High School.—A. M. Dawson. St. John's Grammar School.—K. S. Deane, R. T. Sabine, and H. H. Sanderson. Advanced School, Clare.—G. L. Braddock, P. W. R. Braddock, J. A. Hector, and W. S. J. Silver. Dominican Convent, Franklin-street.—N. Dibben and Maggie Goldsby. St. Mary's, Glenelg.—Alice M. Gabb. Miss Willow's School, Norwood.—Edith J. Goods. Convent of Mercy.—Jane E. Green. Stuart-street School.—E. C. Pearson. Pulteney-street School.—W. K. Padlock. The Misses McMinn's School.—Mabel E. H. Austin, J. M. Dixon, and Maud A. Sasse. Miss Kay's School.—Annie B. Whitlam. The Misses Brown's School.—Eleanor M. Williams. Miss Opie's tuition.—C. M. Price and A. G. Price. Miss Thompson's tuition.—Ada Evelyn Ayers and K. Lurley. Mr. T. G. Hayward's tuition.—J. J. Hughes. Private tuition.—A. E. Lovingside and Eleanor J. Turnbull.