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THE INVESTIGATOR.

Incorporated with "Our Cheerful Friend."

OUR COUNTRY'S WELFARE PARAMOUNT.

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The Investigator.

THIS INVESTIGATOR (established in 1872) is published monthly by John T. White & Co., Toronto.

THE INVESTIGATOR has a wide circulation throughout Canada, principally among manufacturers, professional men, merchants and the leading hotels in the Dominion. All communications should be addressed to Messrs. John T. White & Co., publishers, Toronto.

Copies of the INVESTIGATOR can be had from Captain Andrews, Adelaide and Yonge Streets.

The facts published in the Biographical Sketches that appear from time to time in this journal, are all compiled by the editor, and are carefully verified, and special care is taken to avoid publishing any one, as an example, on whose career the least shade of meanness or trickery is attached.

An illustrated description of the Union Station, Toronto, with biographies of the Grand Trunk Railway officials will appear in our next issue.

a similar, but more complicated machine, which was said to be very effective in its operation. Owing to the fact that solidity necessary to ensure permanency was not imparted to the blocks produced by these processes, only a market limited to prescribed localities resulted, and their employment has been practically discontinued.

One essential quality of peat in relation to its value as a fuel is its density; and consequently numerous efforts have been made, and various processes have been attempted, by which to give it a degree of solidity equal to hard coal and sufficient to stand the blast required for a very high degree of heat in the more severe processes of metal manufacture, and the rapid generation of steam. This has generally been attempted by means of direct pressure, variously applied, upon the raw materials, as taken from the bogs; none of these methods have, however, hitherto proved practical, owing principally to the elastic nature of the article itself,

burns with considerable flame, gives an intense heat, and leaves no residuum except a fine light ash, which passes off freely and leaves the grate bars always free and clear.

For domestic purposes the new process solves the problem of furnishing a cheap, clean, uniform, and reliable fuel, as it is equally serviceable for grates, stoves, cooking ranges, and furnaces, giving a long, bright flame and intense heat almost from the moment of ignition, and its durability compares favorably with that of coal in consumption, as the density and hardness of the blocks ensure the retention of their original form until the last atom of the inherent carbon and gas has been consumed. The combustion is so thorough that no volume of free carbon or deleterious vapor is allowed to escape, hence its hygienic and economic advantage over either soft or hard coal. It will not absorb any undue moisture or deteriorate while in storage, and it is odorless and cleanly to handle.

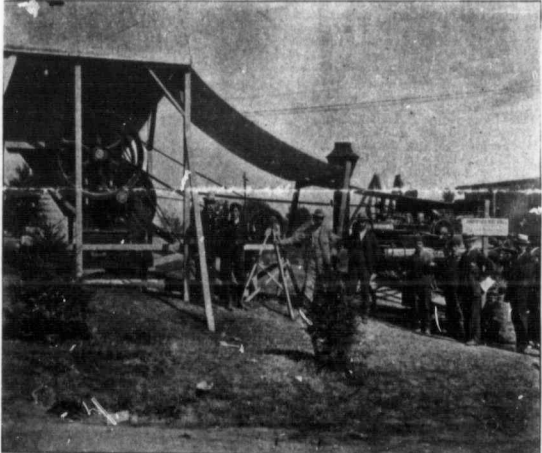
friends—holds a controlling share, will be of interest, we clip the following extracts from the Canadian Electrical News:—"The Canadian Peat Fuel Company, which owns about 4,000 acres of bog, near Welland, Ont., have their works now in operation.

"The process of manufacture, consists, first, in the excavation of the peat at the bogs and its natural drying in the open air, until the material retains only approximately the same humidity as the atmosphere. It is then ready for manufacture, and the next step is the reduction or disintegration of the dried mass until it assumes a pulverized character. This is accomplished by means of a breaker, which revolves at a high rate of speed, and breaks the material to powder. The fibre, however, is preserved free from any undue fracture, and without liberating any of the indigenous or inherent combustible matters. From the breaker an exhaust fan draws the powder in to a large hopper, from which it descends to the machine, where it is stamped into cylinders two inches wide, and to the same depth in a tube without bottom, the resistance to the enormous pressure of some thirty tons being entirely obtained by the friction of the material against the side of the tube. The reduction of bulk from the raw material to the finished block is in the proportion of 6 to 1. The product ready for burning takes the form of a block about 2 inches in length and 2 inches in diameter, very hard and dense, and containing all the fibrous, carbonaceous, volatile and other materials and elements which are originally embodied in raw peat, and an amount of moisture only corresponding approximately with that in the surrounding atmosphere. The patent vertical press, built of cast steel, the invention of Mr. Dickson, with a moderate expenditure of driving power, and only two formers or dies, working against a yielding resistance, has an output of about 1 1/2 tons of pressed peat per hour, but it is proposed to build machines of much greater capacity at an early date. The gear type of compressing machine now in operation is run by a small engine, but ere long a new type of press, carrying its own steam cylinders, running at a much higher rate of speed and producing fully twice the quantity of fuel per hour, will be adopted. This fuel is said to be non-frangible and weather-proof by reason of its solidity and the external glaze imparted to it by frictional contact with the forming dies. The inherent moisture of the peat is reduced to 12 per cent. The weight of the fuel is given as 83 pounds per cubic foot, while bituminous coal weighs 73 pounds, and anthracite coal 93 pounds per cubic foot. Other qualities of this fuel are claimed to be freedom from sulphur, and that it makes neither smoke, soot, dust nor clinkers during consumption."

Critical tests of the Dickson pressed peat, in the presence of advocates of coal, and the local engineers in charge, as well as of the Company's representatives, have been made upon the raising of steam in stationary boilers. The various figures and comparisons would occupy too much space to admit of extended reference in this article. The following extracts from the very latest trials will suffice to show the regard in which the fuel is held by competent judges:—

The certificate of the Chief Engineer of the Toronto Electric Company states "that for quick-steaming this fuel proved superior to coal, quantity consumed was not greater, smoke was not visible at any time, and ash was very much less."

The report of the fireman running one of the Sawyer-Massey Company's portable engines at the Toronto Exhibition says:—"For quick-steaming I never used fuel to equal peat. It is



PEAT FUEL EXHIBIT AT INDUSTRIAL FAIR, TORONTO, 1898.

CANADA PAST AND PRESENT

(Continued)

A WONDERFUL DISCOVERY

COMPRESSED PEAT AS FUEL.

No More Foughts for Coal in Future

To be a British subject is a privilege all may be proud of, but to be a citizen of the Dominion of Canada, as we call the British Empire, is a title that might well be envied by the most exalted.

That she is moving, and that rapidly, in the advance guard of civilization, is every day more patent to the most obtuse or prejudiced. The perfect system of her schools and colleges, the extent of her marine, the resolute fervor she has displayed toward Imperial confederation, the self-sacrificing spirit she has shown in throwing off 25 per cent. of her custom duties in favor of the Mother Country to that end, her projects for faster steamship service, the dauntless manner in which her Postmaster-General overcame the obstructions of the postal authorities of England in obtaining an ocean penny postage, and last, though by no means least, the startling fact that a Canadian has perfected an invention that will benefit the world for all ages, which has baffled the persistent efforts of the most ingenious minds for centuries, viz., the process of converting crude peat into a marketable fuel equal for some purposes superior to coal.

It is difficult to ascertain when peat was first used as a fuel, but that it was at a very early period there can be no doubt. Mention is made of its use by authentic writers in Germany, A.D. 1112, in Scotland, A.D. 1140, in Flanders, A.D. 1223, and in France, A.D. 1308. Charred peat is said to have been used in Freyburg smelting houses about 1560, and for like purposes in England, A.D. the early part of the 17th century. Dr. King, an Irish writer, in 1685, says of turf:—"When it is charred it serves to work iron." "Turf charred I consider the sweetest and most wholesome fire that can be; fitter for a chamber and for consumptive people than either wood, stone-coal, or charcoal." Many methods of preparing peat by hand for fuel are still in use in Europe. It was only during the present century that labor-saving machinery has been introduced in North Prussia. A peat-cutting machine patented by Brosowsky was extensively employed. Lepreux, of Paris, invented

increased to a considerable extent in all peat of a fibrous nature, which caused a distention after the pressure was removed.

In 1885 the British Government offered a reward of £50,000, which was open for five years to any inventor who could produce a process which would convert crude peat into a commercial fuel, and although the incentive was great enough to set hundreds of inventive minds at work, none could arrive at the solution of the problem until a Canadian, in the person of Mr. A. A. Dickson, of Toronto, who, after an expenditure of large sums of money, and nearly a decade of time, accomplished the desired end. A discovery, the advantage of which to the whole civilized world will be inestimable.

The purposes to which peat as a fuel can be applied, and the manner in which it can be used, have a range as wide as coal or wood, or both. For manufacturing and mechanical purposes it is available wherever fuel is required, and possesses characteristics which render it decidedly superior, as, for instance, the simple fact of the entire absence of sulphur so prejudicial to the metal, is a consideration of immense value.

For generating steam it is superior to any other fuel. It ignites freely,

If then the above advantages are facts, and the Dickson process can supply the peat so that it can be handled commercially the same as coal; and they have both been proved by experts of undoubted authority, what a great field of enterprise is opened in Ontario alone with our vast areas of peat bogs in close proximity to important towns in every part of the province. A new era is about to dawn upon us. For many years we have been mainly dependent for fuel, for our iron works, our machine shops, our steam power, and the heating of our homes, to the importation of coal at a cost of millions of dollars annually, and as it is probably true, as stated that this fuel can be prepared for market at a less cost than coal can be mined ready for shipment, it is obvious that a saving of more than one-half the price will be attained. Our millions will be retained in the country, and the employment of thousands of Canadian workmen will be assured. As a brief description of the process used in this new and valuable discovery, and the present and future operations of the Canadian Peat Fuel Company, which has for its object the utilization of the immense peat bogs to be found in Canada, and in which the inventor, Mr. Dickson—with a few of his personal

quite as economical as coal, and in many respects greatly superior. It is smokeless, cleanly to handle, very little ash, and no sulphurous gas, consequently makes no soot to gather on the tubes. I find the stoking much easier than with coal. I banked the fire at 5.30 p. m., closing off the drafts, and found plenty of fire next morning at 7 a. m., with 60 lbs. of steam up. When the fire has burned out I find the grate bars perfectly clean."

The report of the manager and engineer of Stratford water works is of sufficient interest to reproduce verbatim:—

Test of peat fuel, obtained from township of Ellice, made at Stratford water works plant, Sept. 25, 1898:

CONDITIONS OF TEST.

No. 1 Boiler, coal fire, was drawn at 3 p. m., two pine slabs thrown on grates, served to kindle fuel on.

No. 2 boiler was treated similarly, but no kindling was used, the peat fuel ignited from the hot bars.

The steam gauge registered 47 lbs. In 13 minutes the steam rose to 60 lbs., and was held remarkably steady during the test.

The water level of boiler averaged 4 inches.

Temperature of feed water, 170 deg.

Reading of vacuum gauge, temperature of feed water, and pressure of water gauge was taken every half hour.

Peat fuel consumed per hour, 510 lbs.

Water pumped per hour, 31,000 imp. gallons.

Ash and unconsumed peat, 7.5 per cent.

I have no hesitation in saying that fully 100 per cent of the peat fuel was lost owing to the excessive distance from grates to boiler. Had I known the nature of this fuel I should have recommended the raising of the grates fully 7 inches, a much finer grate bar, and an automatic damper in the boiler.

Trial of selected Reynoldsville coal, September 29th, 1898.

No. 1 boiler was drawn at 3 p. m.; 50 lbs. of pine served to kindle.

No. 2 boiler was treated similarly; 50 lbs. of pine served to kindle.

The steam gauge registered 52 lbs.

Water pumped per hour, 30,080 imp. gallons.

The water level of boiler averaged 4 inches.

Temperature of feed water, 170 deg.

Reading of vacuum gauge, temperature of feed water, and pressure of water gauge was taken every half hour.

Coal consumed per hour, 300 lbs.

Water pumped per hour, 30,080 imp. gallons.

Ash, 8.9 per cent.

(Signed) THOMAS CLARK,

Mechanical Engineer and Manager

Stratford Water Works.

Taking difference in gallons pumped into account accurate comparative results are, peat, 10,962; coal, 10,920.

About as nearly equal as two fuels could burn, while if engineer's allowance to the new fuel on account of the disadvantages, unsuitable conditions imposed be calculated, the following ratio is arrived at, viz, 11,877; 10,920 in favor of peat.

The Canadian Peat Fuel Company, comprises among its shareholders some of the shrewdest financial intellects in Canada, who are represented on the directorate by the following gentlemen:—Geo. H. Perley, president, Ottawa; A. Jardine, vice-president, Toronto; Hon. R. M. Wells, Toronto; Alex. Lumsden, M.L.A., Ottawa; J. S. Loudon, Assistant General Manager of the Standard Bank, Toronto; E. W. Spragge, M.D., M.R.C.S.; E. J. Checkley, with Wilson Irwin as General Manager, and controls the entire business in the Dominion; the company's offices are in the Bank of Commerce Chambers, Toronto. County rights are being rapidly disposed of.

We would strongly advise every enterprising Canadian who has capital to invest, to at once communicate with it, as they are being quickly taken up.

Already the counties of Essex, Kent, Lambton, Middlesex, Elgin, Waterloo, and Lanark, Ontario, have been contracted for, and options have been secured, for a limited time, on counties comprising fully three quarters of the remaining area of the Province of Ontario.

Several counties in Quebec, and the Province of Manitoba, have also been applied for. Prompt attention is given to applications, and every information forwarded by the secretary of the company. Address, The Canadian Peat Fuel Company, Toronto.

We clip the following from The Globe:—

QUESTION OF PEAT FUEL.

The question of obtaining fuel from the many peat beds of Canada has been occupying the minds of a good many of our citizens since this new enterprise was given to the public at the Industrial Exhibition recently held in this city. Those interested will be pleased to hear that a bronze medal, the only medal given in the machinery department, was awarded the Canadian Peat Fuel Co., for their exhibit on that occasion. This must be gratifying to the company, as it shows that the directors of "Canada's Great Exposition" thought of this most important enterprise. The public at large will be glad to learn that negotiations for establishment of local plants to supply the "patent peat" fuel to all are well under way for almost every county in Ontario as well as for Manitoba and portions of the older provinces.

Applications for Territorial rights in Great Britain and any other part of the world must be sent to the patentee, A. A. Dickson, 110 Adelaide street west, Toronto.

We cannot close this article without appending a brief autobiography of Mr. Dickson, whose inventive genius has already made him famous, and whose name will soon be a household word from one end of the Dominion to the other.

ARCHIBALD A. DICKSON

was born in Kingston, Ont., 30th November, 1854. He is of Scottish descent, his parents came to Canada in 1833, and settled in Kingston, where his father, the late Alex. Dickson, was, for many years, engaged in the crockery business.

His son, the subject of these notes, was educated at the grammar school in the Limestone City, after which he engaged in fire insurance, was for some time local manager in Montreal of the Beaver and Toronto and Victoria Mutual Companies.

In 1880 he resigned in order to devote his time to the manufacture of telephone instruments, which he successfully conducted under the name of the Telephone Supply Association.

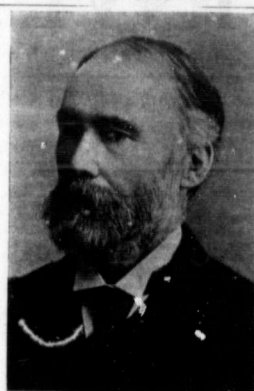
In 1885 he sold out, and focussed his whole energies to the development of the peat fuel industry and the solution of the problem that has made his name illustrious as the only man



ARCHIBALD A. DICKSON.

in the world who has been so acutely accomplished it, and for which he spent many sleepless nights, and many thousands of dollars. He is also the inventor of a chemical bath, which hardens gypsum after it has been cut into pedestals and columns for building purposes, and innumerable smaller articles, such as clock cases, candlesticks, etc., which have all the appearance and solidity of highly-polished marble. This, although a valuable invention, Mr. Dickson rightly considers of minor importance in comparison with his great peat discovery. In 1876 he married Miss Violet Robb, daughter of John Wanless, Esq., M.D., the well-known homoeopathist, of Montreal. Five children have blessed this union, one son and four daughters. In religion he is a Presbyterian, and a Liberal in politics. Thoroughly a man of the people, full of sympathy with the struggles of his fellow men, it is quite inconceivable that the great prosperity his achievements have made certain, will

ever alien his demeanor to the poorest of mankind. It is hardly necessary to add he is universally esteemed.



HON. GEO. W. ROSS, L.L.D.,
Minister of Education.

BRIEF BIOGRAPHICAL SKETCHES PROMINENT CITIZENS OF TORONTO

HON. JOHN DRYDEN

Was born in the township of Whitby, Ontario County, Ont., 5th June, 1840. His father, the late James Dryden, was a native of Sunderland, Eng., who came to Canada with his widowed mother in 1826, and who afterwards married the father of the late Sheriff Paxton, for many years a prominent resident of Ontario county. James continued to



HON. JOHN DRYDEN.

live with his mother and stepfather until coming of age, when he purchased a farm for himself, subsequently purchasing another 200 acres, which formed the nucleus of the now famous Maple Shade Farm, of 420 acres, the property of the Hon. John Dryden.

The subject of this sketch was primarily educated at the common school, in the neighbourhood, subsequently finishing at the Whitby Collegiate. At the age of nineteen he returned home and entered into an arrangement with his father to work the farm on shares. Later he added by rental his uncle's farm and another lot, all of which he eventually purchased. As a thorough farmer in every detail, not only in the proper cultivation of the land, but also in stock-raising, he has long been known to have no superior and few equals in America. His splendid farm is underdrained throughout, and is known far and wide as the best cultivated in the country. His special forte, however, is stock-raising. He is a constant importer of the choicest Shortorns, Clydesdale horses, and Shropshire sheep. He possesses to-day probably the finest herd of Crickshank Shortorns on the continent, while his imported horses are equally celebrated. It would take a volume to give even a

cursor record of these fine animals. Suffice it to say, Mr. Dryden, among many others, bred the well-known bull "Barrington Hero," who was never beaten in taking first prize in any ring in Canada.

We may also briefly mention that his imported "Lady Clare" and her filly, "Lady Gordon," have been equally successful. It is needless to say crowds visit the Maple Shade Farm from all parts of the country, where they are always sure of a courteous reception, whether Mr. Dryden is there to receive them or not. But while he has paid so much attention to this model farm, he has not forgotten his public duties, and has found time to interest himself in other duties for the welfare of the entire community.

The part he has taken in these affairs may be briefly summarized as follows:—Was secretary and treasurer of the local School Board for many years. In 1863, at the early age of twenty-three, was elected a councillor; served his township and county as Deputy Reeve and Reeve continuously until 1871, when he voluntarily retired. In 1879 was nominated to represent the Liberal party in the Provincial Parliament, to which he was elected by a large majority, and re-elected ever since, despite the most strenuous opposition. Was chosen by Sir Oliver Mowat to succeed Hon. Chas., now Sheriff Drury, as Minister of Agriculture, 1890, the duties of which he still performs efficiently. Indeed, it is universally acknowledged that it would be almost impossible to fill his place. He has also held many important offices, as president of the Sons of the advancement of the farming community, a director of the Whitby and Port Perry railway, of which his father was president and one of the chief promoters.

In religion he is a Baptist, of which Church he is a liberal supporter, as well as a most charitable societies.

In 1867 Mr. Dryden married Mary Lydia, daughter of Mr. Thomas Holman, a well-known publisher of New York. Eight children have blessed this union—only one son and five daughters survive.

His defeat, by a small majority, at the general elections last March, in the riding he had so long represented, was conclusively proved, at the recent trial to be due to the most barefaced, wholesale bribery, and over one hundred cases were dropped at the urgent request of Mr. Calder, the unelected candidate, who dreaded further exposure, but who is now taking advantage of Hon. Mr. Dryden's magnanimity in allowing him to vacate the seat, by protesting his own innocence—a misstatement so glaring as to call forth the indignation of the electors, whose intelligence he thus so grossly insults and underrates. There is not the shadow of a doubt the Minister will receive a sweeping majority at the coming by-election for South Ontario.

R. W. BRO. R. W. BARKER

P.M.; P.G.S.W.; J.W.C.; Scottish Rite, 32nd Degree.

Was born in Kingston, Ont., 13th January, 1829. His father, the late Edward John Barker, M.D., the illustrious editor and publisher of the Kingston British Whig, after taking his diplomas in medicine in England, came to Canada from London, his native place, in 1833, and settled in Kingston, where for a time he was employed as editor of a paper then established. His pungent and powerful style at once attracted the attention of the leading men of Upper Canada, who induced him to start The British Whig in 1834, which, it is needless to tell our readers, became the most influential journal in Canada, long before the Globe or any other of our leading papers was in existence, and from whose office was issued the first daily published in Canada. Dr. Barker, himself a *Baldwin Reformer*, became, like many others, convinced of Sir John A. Macdonald's abilities and patriotism, and was his supporter, defender, and warm personal friend for many years. It is a well-known fact that for several years the doctor wielded the pen that controlled the political destinies of Upper Canada. Owing to declining health, he retired from the management of his paper in 1875 (but continued to contribute its columns for some time after), accepting the office of Registrar of Deeds for the city. He died, after leaving his indelible mark on the pages of Canadian history, on the 26th of April, 1884. In private life he was noted for his

forgiving goodness of heart, and was an enthusiastic and prominent member of the Masonic body and the St. George's Society.

His son, R. W. Bro. R. W. Barker, received his education at the Kingston and Chatham Grammar schools.

On 27th November, 1857, he entered the Government service as a junior clerk in the Postoffice Department, rising step by step to the 3rd, 2nd, and 1st class; promoted Inspector in 1870, transferred to the 1st District in 1880, and in 1890 to the Inspectorship of Toronto district, from which, on 1st October last, he retired on the superannuation list, at his own request, having been forty years in her Majesty's service.

In private life Mr. Barker has been since early youth a valuable citizen wherever he has been stationed, entering heartily into every function conducive to the welfare and happiness of his fellow-men. Our space forbids us to enumerate a tithe of good acts that are chronicled of him; we must be content with a brief summary of the societies, etc., in which he takes a lively and earnest interest. As a member of the Church of England, he was warden of St. Paul's, Kingston; lay member to the Synod of Ontario from St. Paul's Cathedral, London, for many years, and member of its choir; was president of St. George's Society, Kingston, 1879, and in London held the same office for 1886, 1888, and 1887. Societies—W.M., T.U., London, A.F. and A.M., G.R.C., London, elected to the chair of Grand Senior Warden, G.L.C.; a member of the Chapter R.A.M. both in Kingston and London, and Scottish Rite, 14th degree. A member of the Royal Arcanum. Has always cheerfully assisted by his magnificent powers as a vocalist at all concerts and entertainments for benevolent purposes, many of which would but for his active help have proved failures. Mr. Barker, as a marksman, is in the front rank, as his scores at various target contests amply testify.

On the 26th of March, 1867, he was united in wedlock to Miss Simpson, daughter of the late Wm. Simpson, Esq., Kingston. Four children have blessed this union, three sons and one daughter.

We had almost omitted a pleasing incident in Mr. Barker's official life. As Inspector he was requested by the Chief of the Six Nation Indians to arrange a daily mail from Onondaga to Oshkewon, for the convenience of those residing there; as it incurred no great additional expense, Mr. Barker advised their request should be granted. In gratitude the Council appointed him a chief, and with due ceremony installed him under the euphonious appellation of "Karihon-tye," which, being interpreted into the vernacular, signifies "Flying Messenger."

We understand that the excellent, who is in the prime of life and excellent health, intends taking an active interest shortly in some monetary institution, where his standing is assured, and where his native intellect will find sufficient occupation.

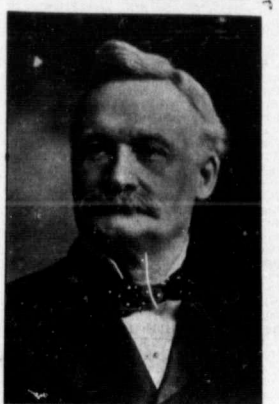
The above photograph is a correct likeness of Mr. R. W. Barker, who, though not so noted as a public man as his late father, inherits his abilities and his sympathetic and generous instincts.

JOSEPH TAIT

Was born at Kirkenbrightshire, Scotland, 21st October, 1829, and is the son of the late John Tait and his wife (nee Miss Williamson, clerk of that ilk. He received a Liberal English education at the parish school, which he served, then at Edinburgh, where he served his apprenticeship to the baking trade, and subsequently worked as a journeyman in Edinburgh.

In 1871 he came to America, and the following year settled in Toronto, when he was at once engaged as manager of a large baking concern, which he ultimately bought out, and which he conducted for many years, until his appointment, when a company was formed to continue the business, and is still carried on as one of the leading bakeries of the Queen City, and known as the Tait-Bredin Company, Limited, of which Mr. Bredin is secretary and treasurer.

It was not long after his arrival in Toronto before his influence for moral reform became apparent, and his marked individuality at once stamped him as a leader among men. For five years



JOSEPH TAIT.

he was president of the Master Bakers' Association. An active member of the Methodist Church, of which he is a local preacher, and a delegate to the General Conference. At the general anniversary services he is in constant attendance, his earnest zeal for the welfare of his fellowmen making his services in great demand. Was elected an alderman for Ward No. 3 in 1889, and to the Legislature of Ontario for the city of Toronto to the following year. His pronounced Liberalism, decisive and convincing oratory, and lucid arguments, had already prepared the way, and he at once took a front rank in the Assembly. Unfortunately for the country, at the general elections of 1894, he was defeated by the leader of the Opposition, though only by a small majority.

He is a member of the A.O.U.W., the Select Knights, and of the Board of Trade. In January, 1897, he accepted the appointment of Registrar of the Surrogate Court, York county, made vacant by the death of the late Gordon Brown, and although his friends cannot object to the well-earned rest this office affords to an active and well-spent life, still his practical common sense, his convincing oratory, and his fearless denunciation of error and wrong, will be missed from our forums for many years to come.

Mr. Tait was married in 1863, to Miss Lizzie McKie, of Dumfries, Scotland. She died in 1872, and four years later (1876) he married Miss Susan Stibbard, of Eglington, North Toronto. Although retired from the political arena, Mr. Tait still takes a deep and active interest in all appertaining to the moral and religious influences in the community in which his lot is cast.

C. C. JAMES

DEPT. MINISTER OF AGRICULTURE.

Was born at Napanee, Lanark county, Ontario, 14th June, 1852. His parents were both born in Canada. His paternal ancestors were natives of Waterford county, Ireland, while his mother is a descendant of the Canniff family, who among many other U. E. Loyalists came to Canada after the revolutionary war of 1776, and settled around the Bay of Quinte.

The subject of this sketch was educated primarily at the High school of Napanee, and subsequently (1873) entered the Victoria College, Cobourg, where, by close assiduity to his studies, he carried off the gold medal in natural science, and graduated with high honours as B.A. in 1883. From January, 1883, to January, 1886, he held the position of assistant master in the Coburg Collegiate Institute. While thus engaged he took up the post-graduate course of study in chemistry and mineralogy at Victoria University. He later took a short course in the Chemical laboratory of Harvard, under Dr. Richards.

In June, 1886, he received the appointment of professor of chemistry at the Agricultural College, Guelph—a position, it is needless to say, he most efficiently filled, his lectures being always listened to by the pupils with the greatest attention, owing, doubtless, to the clear manner in which the professor illustrated the truths of chemistry and their practical application to scientific farming.

In 1891 the Hon. Mr. Dryden, Minister of Agriculture, who ever keeps a watchful eye on the college and experimental farm at Guelph, promoted Professor James to the responsible position he now occupies as Deputy Minister; the important duties of which, requiring incessant and watchful supervision, the clear-headed Minister was aware could be safely entrusted to him.

CHAS. H. RUST

CITY ENGINEER.

Was born at Great Waltham, Essex county, England, 25th December, 1852, and was educated at the Brentwood Grammar school in that county. In 1872 the family emigrated to Canada. His father, the late Henry Rust, Esq., purchased a farm in York township, near Toronto, which he cultivated, and on which the family resided for several years; he, however, subsequently retired, and removed to the city, where he died at the ripe age of 86, on the 13th of September, 1891, universally respected.

His son, Charles H., assisted on the farm until 1877, when he came to Toronto and commenced the study of his profession with the late Frank Shanly, then City Engineer. Four years later he was appointed one of the assistant engineers by Mr. Brough, then head of the department, and in 1883 by Mr. Sproat, his successor, was promoted to the full charge of the city's sewerage. On the resignation of the acting City Engineer, Mr. Cunningham, Council appointed Mr. Rust acting City Engineer.

Mr. Keating, shortly after he took office as head of the department in August, 1892, appointed Mr. Rust to the position of Deputy. His ability as a civil engineer and his care in supervision is readily gleaned from the complete and thorough manner in which his work has been finished under his charge and the entire satisfaction he has given to the several chiefs under whom he has been associated for the past seventeen years. On the resignation of Mr. Keating, Mr. Rust received his promotion as City Engineer.

As a private citizen he is greatly esteemed; is president of Prospect Park Bowling Club; a member of St. Andrews, No. 16 A.P. and A.M., G.O.; of St. George's Society; the Canadian Institute; the Albany Club, and of the Canadian Society of Civil Engineers since 1887.

In 1879, Mr. Rust married Alice, daughter of J. Preston, Esq., of York township, by whom he has two sons and three daughters, all of whom who are old enough are still at school and college.

Members of the Legislative Assembly of Ontario.

ROBERT A. CAMPBELL, M.P.P.

Renfrew S.E.

Was born in Lochiel Township, Glenora County, Ontario, 10th March, 1853. His father, the late Robert Campbell, Esq., M. P., early in this century came to Canada with his parents from Argyleshire, Scotland, who purchased land and settled in the above township.

Owing to the death of his father, Mr. Robert Campbell was left at an early age with the responsibility and care of the maintenance of the family, which, with the energy characteristic of him throughout life, he successfully accomplished, engaging in the timber business; was for eighteen years the proprietor of the late Mr. Egan, and afterwards had charge of that vast estate for some years, until he commenced operations on his own account, principally on the Bonnechere, a tributary of the Ottawa river, acquiring not only wealth, but what is still more to be prized, the lasting esteem of all who knew him.

In 1873 he was nominated by the Liberal party for the Commons, to represent South Renfrew, but was unsuccessful. At the next general elections, however, (1882), he defeated the former member, Mr. Bannerman, and again in 1887 carried the Reform banner to victory for the same constituency. He died after a life of great usefulness, 12th June, 1888, deservedly respected. His youngest son, Robert, again in 1887 carried the Reform banner to victory for the same constituency. He died after a life of great usefulness, 12th June, 1888, deservedly respected. His youngest son, Robert, educated at the High school at Vankleeck Hill, Ont., in the vicinity of the

family homestead, and on the conclusion of his studies joined his father as partner in the lumber business, in which he has been engaged ever since. In 18— he, in partnership with Alex. D. McNabb, purchased a grist and saw mills at Douglas Village, which were burnt down in 1896, but were immediately rebuilt.

Mr. Robert A. Campbell has always taken an active and prominent part in politics. At the general elections for the Ontario Assembly in 1890, he contested South Renfrew in a three-cornered fight between the former mentioned, John Francis Dowling, M.D., Robt. Leach, and himself, and was defeated. The seat, however, was contested, and at the bye-election the year following, he was returned by a large majority over Dr. Dowling, and re-elected in 1894. As a member of Parliament, he has the reputation of being one of its most indefatigable workers, watching the course and drift of every act, both in committee and in the Assembly, and bringing all his shrewd business abilities to bear in promoting and defending the best interests, not only his own riding, but also of the whole province.

HENRY BARR, EX-M.P.P.

For North Riding Renfrew.

Henry Barr, ex-M.P.P. for North Riding of Renfrew, was born on 21st of March, 1844, at the family homestead, Township of Horton, County Renfrew, M.D. His father, the late David Barr, came to Canada in 1833 and purchased two hundred acres of primeval forest in the above township, which he brought to a high state of cultivation. He died in 1866, deeply mourned and greatly esteemed. His wife, the mother of the subject of these notes, was a daughter of an officer in the British army, who fought in the Peninsula, and distinguished himself at Waterloo. In 1827 the family emigrated to Canada, and in 1836 his daughter was united in wedlock to the late David Barr.

Their son, Henry, the ex-M.P.P. for North Renfrew, was taught at the Renfrew Village Public school, where he received a practical education, after which for three years he held the position of school teacher of No. 5 Section, Horton Township. Subsequently he cultivated a rented farm in the same township for three years. On the event of his marriage in 1865 to Miss Emily, daughter of Mr. Ezekiel Cole, of Horton, he purchased a two-hundred-acre lot of wild land in the Township of Bromley, in the same county, which is now one of the most fertile and well-cultivated farms in that district. One daughter has blessed this union whose husband, T. B. Forrest, superintends the farm during his father-in-law's absence. Mr. Barr is a member of the Presbyterian church. In politics he is a Liberal, and since early manhood has taken a deep and earnest interest in all matters affecting the welfare of the community. For fifteen years he served as township councillor. He was elected as representative for North Renfrew in the Assembly in 1894, and although rather brusque in his manner is presumably true at heart.

THE CANADIAN MINER'S LUCK.

Canada's certainty of future supremacy among the nations of the world is every year becoming more and more apparent to the thoughtful statesmen of all countries. Its self-reliant people of only five millions has more than once astonished them by its gigantic undertakings of public works for the development of their vast Dominion. The object lessons they have taught older nations in stock-raising, cheese and butter making; the high state of cultivation by scientific drainage and farming they have brought the agricultural districts already settled to; the perfect protection to life and property afforded by the laws; the excellence of the educational system are put a few of the attractions that are drawing yearly increasing thousands of the better class of emigrants to Canada, but although the abundance in millions of acres of arable fields and forests, and enjoys a climate that produces the choicest fruits, as well as the hardy cereals in perfection, the most important of her treasures are her inexhaustible mines. Striched from the Atlantic to the Pacific embedded in the bowels of the earth for count-

less ages, there is more wealth a thousand times than the world ever dreamt of, and only of recent years has the faintest idea of this almost incredulous storehouse of untold wealth become manifest. To give but a brief summary of the estimated quantity and quality of the minerals already discovered in the Dominion would require a volume. In Ontario alone the mineral resources, varied in character covering nearly the entire list of economic minerals, are of almost limitless extent and value. Exploration, with the exception of a few localities, has up to the present, been entirely superficial, and the prospector has a limitless field for operations before him. It is to the Huronian system of rocks that the minerals of Ontario chiefly belong. Beds of these rocks of greater or less extent overlie the Laurentian formation all the way from the Quebec to the Manitoba boundary of the Province, passing north of Lake Superior, and westward along the United States boundary line. One tract alone, known as the Great Huronian Belt, extends from Lake Simcoe eastward into Quebec, a distance of 700 miles. Of the mineral resources of the Hudson Bay slope, virtually nothing is known. Examination has been limited to what has been seen along the rivers, and it is doubtful if any white man has ever crossed from east to west, north of the 49th parallel. Experts acquainted with the mining camps of the world have given it as their opinion that the gold regions of Ontario surpass those of the Transvaal in richness and extent.

The most extensive deposits of nickel-bearing ore in the world are found north of Lake Huron in the Algoma district, and cover an area of over 2,000 square miles. The vastness of the deposits may be imagined when it is stated that if the ore in sight could be raised and smelted it would give more than three times as much freight as all the railways, not of Ontario alone, but of the whole of Canada, have carried since the first locomotive began to run.

The ores of iron occur in Ontario in great abundance. In the Eastern part of the province there are large bodies of magnetic iron, of hematite and limonite, and red and brown iron ores. North of Lake Superior hematite exists in large quantities.

Iron ore has been found in many localities in the Huronian and Laurentian formations, but the largest and most valuable deposits are undoubtedly the hematites of the Mattawan range, and the magnetites of the Atikokan, to the west of Lake Superior. These ranges are supposed to form a continuation of the wonderful Minnesota deposits which now lead the world in production, but are thought to be of even greater extent in Ontario than in that State. These mountainous bodies of ore may be followed for miles, and millions of tons may be quarried at a very low cost, while the supply is simply inexhaustible.

But why go on enumerating our latent riches, when we are told by the official reports that, valuable as these deposits are it is nevertheless true at the present time they are unproductive owing to the fact that hitherto almost every ton of ore had to be carried to the United States to be smelted, and pay a heavy duty besides the carriage. It has only been during the past three years that Canada has had a smelting works; which are situated at Hamilton, and which turn out 200 tons of iron daily, smelted by American coke. Such is the dormant state, not of Ontario alone, but of the whole Dominion of the GREAT MINING INTERESTS OF CANADA. In vain the prospector, the miner, the broker, and the statesman sought a way out of the difficulty. The recent discovery of the process of compressing peat into a combustible, productivity, has solved this problem. The Almighty in His inscrutable wisdom has placed vast areas of bog in close vicinity to the minerals, which will furnish ample fuel for smelting at the mines, and the pure metal, not the ore, will soon be forwarded to market. It is impossible to estimate the enormous yearly wealth which will now accrue, but we learn the miners have not been slow in taking advantage of the new discovery, and orders for machinery and requests for territory are already being received by the Canadian Peat Fuel Company of Toronto, while hosts of letters of enquiry arrive by every mail.

IN MEMORIAM

William Ewart Gladstone.

By E. H. DEWART, D.D.

A mighty nation mourns her greatest son,
Who bore the torch of progress in the van,
Leader of men, thy great life-work is done—
Reformer, Patriot, Sage, and Friend of Man!
Not only Britain mourns; from every land
There come sad tones of blended grief and praise,
For him who with unquailing heart and hand
Stood for the right through all his lengthened days:
A giant oak among the forest trees,
Strong to resist the fiercest storms that blow—
An eagle soaring till the sun he sees,
And herald's brighter day to earth below.
Not on the gory fields of martial fame
His manifold deeds of chivalry were wrought;
The glory that surrounds his deathless name
Was won by battles in the realms of thought.
A man of peace, he life-long war maintained
That justice might oppressive wrongs displace;
The triumphs which his knightly valor gained
Were all to bless his country and his race.
To freedom's Land of Promise, rich and fair,
With peerless eloquence of tongue and pen,
Through seas of hate and deserts of despair,
He made a pathway for the sons of men.
His words were swords, which cut the Gordian knots
Of partial laws that long held dire control;
But greater than his potent words and thoughts
The human sympathy that filled his soul.
Enthroned in lofty place of power and fame,
On that high stage he played a noble part,
To-day the voices of the world proclaim,
His highest place was in the people's heart.
By faith in God the power to him was given
To move right on, nor swerve for friend or foe;
He even brought the light and strength of heaven
To do the work of earth for men below.
There's nothing in the starry heavens above,
Nor earth beneath in all her summer glory,
More beautiful than manhood, truth, and love,
Wrought out and carved in deed and thought.
The name of Gladstone shall forever shed
A guiding light on the high path he trod—
A grand heroic soul in heart and head—
True to himself, his country, and his God.

WILLIAM SIMMONS

Was born in London, England, 4th of June, 1837. After school days commenced to learn the trade of a carpenter in the British navy as a first-class joiner, where he rose to the rank of a first-class petty officer, and was on the receipt of his last promotion, as his parchment commission corroborates, the youngest petty officer in Her Majesty's navy. His first ship was the fifty-gun frigate Nankin (Capt. Hon. Sir Keith Stewart), which was ordered to join the fleet in Chinese waters under Admiral Sterling; shortly after their arrival he volunteered into the Hornet, a "corvette" of seventeen guns, under Capt. Chas. Forsyth, which was ordered, in company with the man-of-war Encounter, and the frigate Peak, under Commodore Elliott, to chase the Russian fleet to Castro bay and from thence up the River Amour, which they did; the Russians, after deserting their vessels burnt them to prevent their capture. The Hornet then proceeded to the Japanese port, Atsushima, to join the fleet, and was employed bringing the mails from Shang-

hai to the British fleet under Admiral Seymour, when the first news reached it that peace had been proclaimed in 1856.

Shortly after war broke out in China, and the Hornet was in the hottest of the fight, being engaged in no less than three general flank and almost ceaseless boat engagements with the enemy where Mr. Simmons was conspicuous for his daring bravery, and for which in 1857 he took part in the taking of the Bogus Tikas forts and the Takoo forts leading to Pekin, the blockading of the River Fatcham, the capture of Canton, serving with the fleet until the close of the war, and for twelve months subsequently in the suppression of the Chinese insurrections, taking several cities and laying waste the surrounding country to protect the inhabitants until the Imperial troops regained the supremacy. While serving in the Hornet they captured and destroyed seventeen piratical junks. For the invincible bravery of his rank in the capture of the four commanders of her in five years were made post captains, and the subject of these notes received the Chinese war medal with two bars, Fatcham and Canton. He was landed at the city of Keairdin. After the war was over he returned to England and left the navy in 1855, having been in active service in Chinese and Japanese waters over ten years. His retirement from the navy was the result of the solicitation of his intended wife, who, although she would not call him from his post of duty while his country required him, emphatically insisted on this step when the war was over, and the same year they were united. He married Letitia, daughter of the late George Berkingshire, a master plasterer and tallow chandler of London, England, by whom he has five daughters, and two sons, the eldest of the latter, Wm. John is employed as a skilled bricklayer on Government work in Boston, Mass.; the younger, Charles Frederick, is with his father learning the building and carpenter trade to which Mr. Simmons returned in 1865.

In 1871 he emigrated to Toronto where ever since he has been employed as a builder and contractor. Many of the handsome private residences, the hotels, stores, and other buildings of the city are monuments of the substantial and thorough manner in which he finishes whatever he undertakes.

TORONTO'S PAVEMENTS.

The tens of thousands of strangers who have visited the Queen City this year, and admired its stately churches, its magnificent universities, its costly public buildings, and the beauty of their architecture; its numerous schools and well-kept parks, have not noticed particularly the concrete pavements, as level as a floor, by which these edifices are approached, and with which, most of the principal streets of Toronto are paved. This of course chiefly due to the zeal and enterprise of the authorities, but assuredly they would not have had such substantial pavements, that neither the sun nor any atmospheric changes can get or otherwise injure, were it not that their contractor, Mr. Gardner, has made concrete paving and the erection of monolithic structures his earnest life-study since the age of sixteen, and has acquired a knowledge of the ingredients that are most permanent.

Mr. Gardner is a native of Wolverton, Buckinghamshire, England, after leaving school, travelled and worked at his trade all over the United Kingdom, and many places on the Continent. In 1858 he came to Canada, and settled here. In the year his business amounted to \$5,000, last year it summed up to \$60,000, and this year will probably reach \$100,000. The following are among the concrete pavements completed for the city in 1897: far, he wears numberless walks in the grounds of the wealthy citizens, and concrete stable floors.—Church street, west side, Queen to Adelaide; Leader Lane, from King to Colborne; Queen's Park Crescent, east side, from College to Grosvenor; corner Wellington and Simcoe streets; College street, opposite Toronto Athletic Club; Queen street east, south side, Yonge to Toronto street; York street, east side, to Sherbourne; St. George street, west side, Harbor to Bloor; Queen street

west, from St. Patrick's Market to Teraulay; in front of the new civic building; Lombard street, south side, Victoria Church over fifteen miles of pavements had been laid by him previous to the work done in 1888.

Mr. Gardner has several times been approached by officials of other cities at a distance, with tempting offers to leave Toronto, and come and work for them, but has always refused. Only a short time since an official from Australia, after inspecting his concrete work here, offered to guarantee him double the amount of his present business if he would go with him to that far-off colony. Mr. Gardner has done, and is still doing, a rapidly increasing business, and has no intention to give up a certainty of success for the most glittering promises; besides the splendid educational advantages for his children, and the many warm friends by which his success and the character he has surrounded him in Toronto.

BARRIE NOTES

MAJOR SMITH

Station Agent of Barrie and Allandale.
Was born at Bourne, Lincolnshire, England, where his late father was a farmer of the Fens of Lincolnshire.

His son, the subject of this sketch, after school days, joined the 30th Regiment and with it came to Canada from England at the time of the Trent affair, when war appeared imminent with the United States, and was stationed two years in Toronto and three years in Montreal.

When he was on the point of leaving the army, and all his papers had been excused, the Fenian Raid of 1866 occurred, and he requested and was permitted to remain with his regiment, which went to the front at Chancellorsville, he was, on leaving the army, engaged as a porter in the Toronto sheds of the Northern railway, and shortly afterwards was transferred to Angus, Ont. Subsequently he rose step by step to the station agent at Sunnidale (which was destroyed by bush fires), then night yardman at Collingwood; later, agent at New Lowell, Gilford, and in 1870 was appointed agent at Aurora.

Early in the spring of '85, when the second Riel rebellion broke out, Major Smith, then in command of No. 7 Company of the York Rangers, Simcoe Battalion, under Col. W. E. O'Brien, was granted permission by the railroad authorities to leave with his company, receiving on his return the medal granted by Her Majesty the Queen, and was promoted by the railway company to be agent at Barrie, which station he has in charge of in August of that year.

On March 1, 1897, still more onerous duties were imposed by his appointment to the joint agency of both Barrie and Allandale, the duties of which it is his duty to say are most efficiently performed.

As a private citizen Major Smith has been for many years identified with several benevolent societies. In the Masonic order he has the unique history of first having been raised in Kerr Lodge No. 230; of afterwards affiliating, becoming a P.M., and is now a life member of Rising Sun No. 121 and of again joining his mother lodge which had been removed at Barrie, and of which he is now a member. He is also a P.G. of Aurora Lodge No. 148, I.O.O.F., and a past officer of both the A.O.U.W. and Select Knights of Canada.

In January 1897, Major Smith married Miss Jane, daughter of the late Arthur Coffin, Esq., of Toronto. Six children blessed this union; only five, however, survive, four sons and one daughter. The eldest of whom, Lincoln L., is chief clerk of the steamboat department of the C.P.R., with headquarters at Montreal. The second, Arthur L., is train dispatcher, C.P.R., Toronto. The third, Charles J., is train dispatcher, G.T.R., Allandale; the other children are at school. Major Smith on leaving the Imperial army almost immediately joined the Canadian active militia force.

The records show that he was gazetted quartermaster of the 30th Regiment, the 21st York Rangers, that he subsequently he exchanged into the 5th Batt., and in December, 1888, was gazetted captain and adjutant, and the following August, brevet major.