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Dec. 27.-The . accompanied er Virigo, has to Requimant. t Portsmouth, raveiling at an e knots. They ports of South up the coast defence vessel Magdalea Bay. nd class cruisbas a speed of irigo is one of yers built last o have a speed wo vessels will will leave for San Francisco

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MINING IN ALBERT.

FIRST PART.

The Mineral Products Company of New York

Have There the Only Plant for Treating Manganese "Bog Ore" in the World.

Very Expensive Works - Description of the Process—The Point de Bute Deposit -The Scientific Theory.

In the beds of "wad" or bog manganese which are known to exist in large quantity in two places, and may no doubt be found in others, New Brunswick has a mineral product not found in any other country in any quantity. The hard manganese ore that is got by mining and found in pockets in the rock formation, is of course quite familiar, though an uncertain quantity, but to find the material in a bed varying from five to thirty feet thick, immediately under the turf or first layer of soil, and so soft that it can simply be shovelled up without the aid of a pick, is quite a novel occurrence in manganese min-

ing experience. If this fine, flour-like deposit of the mineral could be treated as simply as the hard ore from the mines, it would of course be of great value. But that is not possible, and up to the present time there appears to be only one process of treating it with any success

To be available for commercial purposes this pyrolusite or manganese dioxide must be converted into what is technically termed ferro-manganese. That must be done through the agency of a blast furnace. Now hard manganese ore can be treated simply enough, but this bog ore or "wad," after the fifty per cent or thereabouts of water has been dried out of it, becomes a fine dry powder. Put it into a blast furnace and it would simply

The great aim of all experiments has been, therefore, to discover some otherwise suitable substance to mix with the powder, to bind it together in such form that rt would

STAND THE FURNACE and enable the operators to produce ferro-manganese, which, as everybody knows, is used in the manufacture of steel

The reading public will remember that Edison, in his famous iron works in the New Jersey mountains, first separates the iron from the sand in the ore and then takes this fron, which is also in the form of a fine sand, and by employing a "binder" is able to convert the irms sand into from bricks, which will stand the operations of the blast furnace.

O. OI New York at the great bed of this ore found at Dayson Settlement, half a dozen miles from Hillsboro, in Albert county. An American com-pany tried once before to utilise the ore, but was not successful. The present owners are satisfied that they can succeed, and have indeed proved it by actual test. It may be added that theirs is the only process known which has proved effectual. It involves a large expenditure and a com-plicated plant, and their works in Albert county are the only ones of the

kind in the world. The Mineral Products Co. is incorporated under the laws of New York. Hon. F. C. Sayles of Pawtucket, R. I., is president, F. C. Sayles, jr., of Providence, R. I., treasurer; Dr. Edwin F. Ward of New York, secretary; Russell P. Hoyt of New York, general manager; N. M. Langdon of New York, superintendent of works.

The company began operations in Dawson Settlement six months ago, and have spent about \$50,000 in purchase of land, clearing it up and erecting their plant. They have had about forty men employed until lately, when they were laid off to await the beginning of operations in the works themselves, which will start now in a very short time, and be run night and day, employing thirty hands or more, and treating probably a hundred tons of ore per day.

The company own four hundred acres of land, on seventeen of which the ore is found under a thin coating of soil or vegetable matter, and extending to a depth of

FIVE TO THIRTY FEET of the ore, which can be got out by merely shovelling it into the cars. A member of the Sun staff, being in Hillsboro on Tuesday, paid a visit to the place. He vas fortunate enough to find Mr. Hoyt, the general manager, and that gentleman went out with him. The deposit lies on a hillside, with a slightly higher elevation behind it and a deep gully running along its base. The place was covered with a thick growth of woods. Seventeen acres of this has been cleared and the stumps taken out and drains dug. The ore lies in a bed of varying thickness all over it. The Sun man walked over the place, and a man with a pick went along, and, on the sides of the drains and the holes dug all over the place, sunk the pick in through the coating of frost, and

THE ORE WAS DISCLOSED. A singular fact is that there are quite a number of living springs on the property. There are two close together on the highest point of the deposit. The scientific theory of the deposit appears to be that in the hills ack of the bed there is manganese in place or in formation. If the former, as as thought probable, there must be a very large deposit of the ore, and streams of water passing over these large beds have in past ages carried the ore in solution to the ace where it is now deposited, and thaps is still being deposited, as or bog ore.

This bog ore in its natural state contains about fifty per cent. of water, When the works are in full opera-and this of course must be got out. tion, running night and day, they will

When that is done the result is, as stated, a powder, black in color and about as fine as flour.

The company have erected their plant at the foot of the hill that forms the ore bed, the lower side of the structure being on a level with the bed of the gully, where a branch railway comes right up to the back door. The building is 52x72 feet, with 30 foot posts on the upper side, and extending 16 feet lower on the side next the railway, being thus erected on the shoulder of the hill. The building is equipped with heavy machinery, specially made for the work. There is an 80 horse power engine and 50 horse power boiler. The "drier" is a brick chamber 10x44 feet and 30 feet high, in which there is a revolving cylinder of half inch iron, five feet in diameter and 28 feet long.

THE PROCESS through which the ore must pass is a very interesting one. It goes in as rough ore, looking to the unpractised eye not very unlike any other blackish colored fine earth, and it comes out in the form of a hard, black, cylindrical brick, three inches in diameter and two and a half inches long.

The process is not easy to understand without being seen, and even then of course the secret of the pro-cess by which the dried powder is cemented together remains a mystery, known only to the company who control it. The ore is brought in little tram cars from the ore bed, a distance of only 600 to 1,000 feet, and, running into the building, is dumped on a platform on a level with the feedhopper of the revolving drier already spoken of. It is shovelled into this hopper, and the revolving drier, which is kept heated by wood or coal fires, carries it to the back end of the brick chamber, where it drops into a spiral conveyor, which carries it out of the chamber to the boot of a bucket elevator, by which it is elevated to the top of the building, some thirty-odd feet, where it passes through a re-volving screen. The fine ore sifts through the screen into what is called

DRY ORE BIN.

The coarser part, which will not sift through, goes on and out of the farther end of the revolving screen, and is carried from thence down into a grinder, which grinds it up fine, and t is then carried back again to the boot of the elevator and up again to the revolving screen, through which this time at sifts without difficulty into the dry ore bin.

But this is not all. Above the brick drier is a dust chamber with a V shaped bottom, provided with a spiral conveyor. Any fine ore pass ing off from the drier along with the steam or gases, settles in the bot-tom of the dust chamber, and is carried out by the spiral conveyor and passes to the boot of the elevator and up to the revolving screen and into the dry ore bin. Thus every bit of the ore is saved. The steam and gases pass out and away through two smoke stacks rising from the dust

chamber above the drier. The ore from the dry ore bin is Such a process of treating the man-ganese bog ore has been discovered with a suitable "binder." the purpose and has stood the test, and is now to of which is to cement the powder tobe applied by The Mineral Products sether. The mixed material is then carried up to a sufficient

pass in at the top of the BRIQUETTING MACHINE a very complicated piece of mechanism, from the bottom of which the ore comes out in the hard cylindrical bricks or briquettes already described. These briquettes are carried to a pocket on the level of the railway, with capacity to store 250 tons, and from here the ore is shipped on cars to be taken to the company's blast furnace at Bridge ville, N. S.

The company would have erected a blast furnace at Hillsboro, but there was some difficulty in getting a site, and they purchased the furnaces at Bridgeville, N. S., which along with a fine belt of hardwood happened to be on the market. The briquettes will be taken by rail to Bridgeville, converted into ferro-manganase, and from there can be shipped to steel works in any part of the world.

The company have had the property examined and reported on seven of the best experts in the United States and Canada and the ore analyzed by ten of the prin cipal steel makers and prominent chemists of the United States; and the result shows that the ore deposit is a valuable one. The analysis is as fol-

Metallic manganese48.24 Metallic iron 5.70 hosphorus traces Silica 1.88

This analysis was made on the dried nineral at 212 deg. Fahr. The value of the ore is shown by the very slight proportion of phosphorus and sul-phur. No process has yet been dis-covered that will eliminate phos-phorus. When an ore contains more than 0.10 per cent, of phosphorus or more than 12 per cent. of silica. the price is scaled down in proportion to every unit above these figures. The Albert county ore is thus a very valuable one if it can be successfully prepared for the blast furnace.

The ore is covered by a few inches of vegetable matter. A cubic yard of the ore in its natural state weighs 1,-900 lbs. Besides erecting their plant the com-

pany have

BUILT A BRANCH LINE of railway from the works one and a half miles to Stony Creek on the S. and H. raffway. The latter connects with the I. C. R. at Salisbury, eleven miles away, over which the ore is taken to Bridgeville, and which connects the works with the Grand Trunk system and practically with the railway sys tems of the continent. It is only five and a half miles from the works Hillsboro, where at a wharf which the company propose to construct, ves-sels of a thousand tons can lie, and

The vessel rate of freight of U. S. ports is \$1.50, and to British ports about the When the works are in full opera-

thus they will have direct water com-

munication with Boston, New York, Philadelphia and other American

ports, and also with Europe by ves-sels which come there to load lumber.

day to the blast furnaces. Mr. Longdon, the superintendent of works, has had long experience in manganese working in New York state, and his inventive skill has been utilised in adapting the briquetting machine to its prese

employ about thirty men, and expect to ship about 50 tons of briquettes per

purpose. There has been some difficulty in getting this new machinery properly adjusted and the "binder" effectively mixed with the one, but they were making hard briquettes when the Sun man was there, and were confident that in a very short time the plant would be in full operation day and night. Machinery practically does it all, from the time the ore goes into the hopper of the revolving drier until the briquettes come out. The building is equipped with an elevator connecting the floor where the briquet-ting machine stands with the storage room beside the railway.

The market value of ferro-manganese today is \$46.50 per ton. Two tons of the bog ore will make one ton of ferro-manganese, which is the only material that will successfully purify steel. It is imported by steel works from South Africa, Spain, Cuba, Mexico and Japan, and is not therefore found in quantity in any country, the bog ore so far as known only in New Brunswick. In Canada the returns show that only twelve tons were produced in this country in 1896. Reference has alredy been made to a deposit of "wad"

AT POINT DE BUTE.

This has been secured by the Mineral Products Co. There is a bed, said to cover a hundred acres, to a depth of five to fifteen feet.

Gov. McClelan told the Sun man about a deposit on the property of a Mr. Reid, near Harvey, but Mr. Hoyt thinks it is not the same and not large enough to be of value. There may be deposits in other parts of the province, and possibly in Nova Scotia.

If so, they are, however, of no value unless the fine ore can be fitted for the blast furnace, and the only process for doing this that has been discovered is known only to this company, who have it patented. The ocess is the result of several years effort and hundreds of experiments. The company have taken up some twenty areas where hard manganes ore is found in the province. They expect to develop an important indus try, and have made a large investment. Russell P. Hoy't, the general manager, has spent six months in Hillsboro, flitting back and forth between there and Bridgeville, or making excursions to points where manganese areas are found, and has wont the hearty good will of the people wherever he has gone. His company embarked in an enterprise surrounded by unicertainty, and have proved their faith by their works.



In Love's Flower Garden there is the full-blown rose of married happiness and the holy perfume of joyous motherhood for every woman who takes proper care of her health in a womanly way. For the weak, sickly, nervous, despondent woman, who suffers untold miseries in silence from weakness and disease of the delicate organs concerned in wifehood and motherhood, there are only thorns, and to her the perconcerned in wifehood and motherhood, there are only thorns, and to her the perfume of motherhood is the aroma of death. No woman is fitted for the responsibilities of wifehood and the duties of motherhood who is a sufferer in this way. Every woman may be strong and healthy in a womanly way, if she will. It lies with herself. She needs, in the first place, a little knowledge of the reproductive physiology of women. This she can obtain by securing and reading a copy of Dr. Pierce's Common Sense Medical Adviser. It contains 1008 pages and over 300 illustrations. It tells all about all the ordinary ills of life, and how to treat them. Several chapters and how to treat them. Several chapters and illustrations are devoted to the physical make-up of women. It tells how to treat all the diseases peculiar to women. It gives the names, addresses, photographs and experiences of hundreds of women who have been snatched from the verge of the have been snatched from the verge of the grave to live happy, healthy lives by Dr. Pierce's medicines. This book she can obtain free. It used to cost \$1.50, and over seven hundred thousand copies were purchased by women at that price. Over a million women now own copies. For a paper-covered copy send 31 one-cent stamps, to cover cost of customs and mailing only, to World's Dispensary Medical Association, Buffalo, N. Y. For cloth-binding. to World's Dispensary Medical Associa-tion, Buffalo, N. Y. For cloth-binding, send 50 one-cent stamps.

THE SITUATION IN INDIA.

Military Operations on the Frontier Now Concluded-A Severe Loss.

LONDON, Dec. 28.—A despatch from Peshawur says: The British columns have returned from Kyber Pass after punishing with slight opposition the Zakka Khels, in the Bazar valley. Military operations on the frontier are now concluded. Every Afrid and Orakzai valley has been visited. It now appears that the enemy's loss has been more severe than was at first believed, and out of all proportion to its possible fighting strength. Their trade with our centres, for the necessities of life has been closed, and their autumn tillage prevented the complete submission of the Orakzais now accomplished.

Many hitherto unknown strategical frontier routes have been surveyed and mapped out. The vaunted prestige of the Afridas has been lowered, and their punishment has paved the way for the permanent settlement of the dountry. It is firmly believed that, cut off from India and threatened with a re-invasion of their country in the spring, they will now submit. It is expected that the internal friction resulting from the operations will prove almost as severe a punishment as the operations have.

ONE HONEST MAN. Battor.—Please inform your readers, that if a co-to confidentially, I will mail, in a sealed let-ticulars of a genuine, honest, home cure, by I was permanently restored to health and vigor, after your of suffering from previous which I was permanently restored to health and anly vigor, siter years of suffering from nervous solities, sexual weakness, night losses and weak runkes parts. I was robbed and swedded by the secks until I stearly loss faith in mankind, but thank even I am now well, vigorous and srong, and wish make this certain means of cure known to all suffers. I have nothing to sell and want no money to being a firm believer in the universal brotherhood man, I am desfrous of helping the unfortunate to an their health and happiness. I promise you pert secrecy. Address with stamp, W.R. T. MULFORD, ents' Supplies, P.O. Box 59, St. Henri, Que. CUBA AND LIBERTY.

Gustavo Gispert and Mario Garcia, Two Sackville Students.

Talk Hopefully of the Day When the Spaniards Will be Driven from the Island.

A Sun reporter had a very pleasant half hour's talk the other afternoon at 265 Princess street, with two young Culban gentlemen, Gustavo Gispert and Mario Garcia, the former the son of a large sugar planter, the latter the son of General Garcia, minister of war of the Cuban republic, and a soldier of no mean reputation. Gispert and Gar-cia, who are students at Mount Allison University, are spending the Christmas holidays in St. John as the guests of two of their classmates. It was the first named gentleman who answered most of the reporter's questions, Garcia nodding his head occasionally in hearty approval of his comrade's utterances

"Cuba will get independence very soon," said dispert, and Garcia's eyes mashed with patriotic fire as he re-echoed the sentiment, "The island will accept nothing less. It is true that Spain has recently granted the Cubans a much more liberal form of government than they have hitherto enjoyed. but this offer will not delude anybody. Experience has shown the Cubans that Spain never keeps her promises, so they don't take any stock in her word just now. "We want inlependence; not annexation to the

United States." How is the struggle prograssing at the present time? asked the Sun man. The patriots are fighting very hard just now, and an engagement takes place every day or two. They realize that Spain will have to give up the war ere long. as she cannot much longer stand the drain on her finances, and every battle we win, every engagement in which we repulse the enemy, hastens the dawn of Cuban independence. Spain at the present time only holds the principal cities and seaports. The Cubans possess all the rest of the is-land, including several large towns, some of which came into our possesion very recently. How about the blockade by the

Spanish fleet? Spain has a large fleet guarding the coast, but the blockade is not effecmal, and we get in large quantities of arms and munitions of war, from the United States, chiefly from Florida. Running the blockade is easy enough, onice the vessels cam get away from

the American shores.
You say the Cubans are forcing the fighting just now?

Yes. The rainy season extends from May to September, during which extensive field operations are impossible. The present is the dry season, and the patriots will fight very hard in this winter's campaign, feeling that if they can secure a decided advantage before spring, Stain will not be in a condition to renew offensive ope September, 1898. The rainy season is harder on the Spanish troops than the fighting period and more Spanish soldiers die of yellow fever than from bullets in the battle field. What is the relative strength of the

opposing forces? Spain has, or had, an army of 250,000 well equipped men, while the total Cuban force in the field is not over 40,000, and the patriots, it can be truthfully said, are far from being supplied with the best rifles, etc. But what they lack in this respect they make up in spirit and devotion to country. They are fighting for liberty. How long has the struggle already asted?

You might say that Cuba has battled for independence since 1856. There was the ten years' rebellion from 1868 to 1879; then the two years' war, and later the present struggle, which will not end until every vestige of Spanish ontrol is driven from the island.

As Cubans, said Gispert, in conclu sion, both Garcia and myself pray for the freedom of our country, and our nearts have been cheered since coming to New Brunswick to find that nearly every Canadian we have met sympachises with Cuba in her battle for hiberty.

A BIG RAFT.

PORTLAND, Ore., Dec. 28.-Within the next few months a raft containing 5,000,000 feet of lumber, will be constructed in this city and towed to San rancisco by the firm of Inman and Poulson, owners of a large lumber interest here. The ruft will be 396 feet long and 53 feet wide. 'The rafting of sawed lumber is a new undertaking

THE LATEST CITY LOAN. J. C. Mackintosh of Halifax the Highest

(From Daily Sun, December 29th.)
The treasury board of the Common Council had a long session in the City hall yesterday afternoon. Ald. Daniel was in the chair and there was almost a full atendance of members. The first business taken up was the opening of the tenders received for the last issue of bonds ordered in connection with the Sand Polut improvements. The iscue amounts to \$125,000 of 4 per cent. decentures, payable in 40 years, interest payable half yearly.

The terders for the purchase of the whole lot were as follows:

H. O'Hara & Co. of Toronto, \$133,137.12 for the whole lot, along with accrued interest.

A. E. Ames & Co. of Toronto, \$130,962 for the lot, with the accrued interest. The Confederation Life Association of Tor-to, \$133,550 for the lot, with accrued in-Hanson Bros. of Montreal, \$105.51 for each undrel dollars of the issue, with accrued necest, which is equal to \$131,887.50 for the

whole issue.

R. Wilson Smith of Montreal, \$106.35 for each hundred dollars of the 'ssue, which is equivalent to \$132,937,50 for the lot, interest accorded as well.

Bank of British North America, \$106.517 for each hundred dollars, which is equal to \$133,146.25 for the whole issue, interest accorded. orued.
J. A. Meldrum of Toronto, \$133,852 for the issue, carrying accrued interest.
Andrew T. Drummond of Kingston, Ont., \$125,805 for the whole issue, with accrued

Aemilius Jarvis & Co. of Toronto, \$130,957, or \$104,766 per hundred dollars. Accrued interest as well.

J. C. Mackintosh of Halifax, \$107.265 per

hindred collars, or \$134,081,25, with accrued Interest.

G. A. Stimpson of Toronto, \$106.55 per hundred dollars, or \$133,187.50 for the lot.

The tender of Mr. Mackintosh of Halifax was accepted, and the debentures will issue to him in a couple of weeks in whatever denominations he dealers. The interest payable to him will date from the list of November, 1897.

The last loan made by the city was for 1874,000, less than one year ago, and was taken by Aemelius, Jarvis & Co. at \$102.66 per hundred dollars.

LT.-COL. ARMSTRONG HONORED.

Cfficers of the Artillery Present Him With A Gold Watch, with Suitable In-scription Thereon.

(From Daily Sun, December 29th.) (From Daily Sun, December 29th.)

A very pleasant meeting of the officers of the 3rd "New Brunswick" Regiment of Canadian Artillery was held last evening at the residence of Lieut.-Col. Jones. The object of the meeting was to recognize the services of Lieut.-Col. Armstrong, who recently retired from the command of the corps after over twelve years of arduous and energetic endeavor in the interests of the corps and the militia generally.

Soon after the arrival of Lieut.-Col. Armstrong, he was addressed by Lieut.-Col.

Soon after the arrival of Lieut.-Col. Armstrong, he was addressed by L.eut.-Col. Jones, who referred to the pleasant associations which had always subsisted between the former and his officers. In recognition of the great efficiency to which the corps had been brought by the retiring commandant, the officers desired to present him with a small token of their appreciation. In doing so Lieut.-Col. Jones said that it would be difficult for him or any future commanding officer to obtain the same commendation which Lieut.-Col. Armstrong received an all hands, as it would be well nigh impossible to eclipse the record which had already been made. He then handed to the recipient a handsome hunting case gold watch, having on the outside face the crest of the corps and on the rear face Lieut.-Col. Armstrong's family crest. Inside the face the case bears the inscription:

Presented to Lieut.-Col. J. R. Armstrong

Presented to Lie it. Col. J. R. Armstrong by the Officers of the 3rd Reg't Canadian Artillery Upon his retiring from the command of the command of the Corps. 22nd September, 1897.

Captain and Adjutant White followed in a brief speech, recounting the incidents of Lieut.-Col. Armstrong's command, and volcing the appreciation of the officers for

Lieut.-Col. Armstrong's command, and voicing the appreciation of the officers for his administration of the corps.

Lieut.-Col. Armstrong was thoroughly taken by surprise. He thanked the officers for their kindness in thus recognizing such work as he had tried to do for the corps. He briefly recounted the circumstances under which he took command and recalled the joining, one by one, of many of the officers who were present. He trusted that the corps would continue to increase in efficiency, and assired his brother officers that he would always assist in anyway that he could to promote their interests. Their gift, when he had done with all earthly possistions, he would transmit to his family, in the hope that it would always be retained by them as their proudest heirboom.

All the officers congratulated Lieut.-Col. Armstrong, and a very pleasant evening was spent in discussing matters of interest to the corps. Among other things it was announced that Rev. John deSoyres, having accepted the offer of the chaplaincy of the corps, a recommendation to that effect had been forwarded to headquarters.

Capt. White, the adjutant of the corps, is receiving congratulations on having attained the very high marks of 37 in his recent equitation course at Quebec. This qualifies him for the majority of the corps, to which he will soon be promoted.

WHAT OUR EXCHANGES SAY.

What Hallirax Sees.

(Yarmouth Times.) Halifax is now enjoying the pleasure of seeing the government subsidized steamers running between the old country and St. John, pay a flying visit to Halifax hallor each way. They see by the experience of St. John and ortland what a goodly thing it is to be the terminus of a company railway, and by their own how indifferent a matter it is to be only se terminu of a railway owned by the people. While the Grand Trunk railway are carrying all their freight to Pontland for shipment, and the C. P. R. carrying all their western freight to St.

John for shipment, the Intercolonial are not carrying a pound of freight to Halifax, and the steamers might just as well not touch there at all and let the country cave the additional expense in the way of subsi-

Punch in Trouble.

(Montreal Witness.) Punch will get punched if he does not look out, as Jack Ketch used to do it for him before he was "Mr." Punich. Does he not know, and has Mr. Kipling not told him, that it is an insult to Canada to represent her shop in London as containing nothing but such Arctic dainties as "Fresh Snow Ices," "Prime Polar Bear" and 'Juicy Sea Lion Steaks''? Then to represent seals as cheap today is not true, as Uncle Sam, who is short on seals, could have told him. Can Punch face such an avalanche of Canadian poetry as fell on Rudyard's devoted head when he ventured to associate Canada with snow? Canada will have to forbid Punch the country, as the Grand Turk and other insulted potentates have done.

BEGGED WITHOUT WORDS.

(From Vogue.) A dear old clergyman once exchanged pulpits with a younger brother minister well known for his aggres-siveness. Speaking to him before ser-vice, the resident pastor told his sub-stitute that the window behind the pulpit was broken, but requested the latter to say nothing about it, as he had spoken several times without ef-fect. He added that the hymn books were badly torn, and finished by say-ing, in an apologetic tone, that "he didn't suppose the people could afford

new ones." The young minister promised to refrain from making any remarks upon these matters. After beginning ser-vice he found the draught from the vindow unen lurable. He quietly took his overcoat and stuffed at through the broken glass. The deacons became very uneasy, inwardly resolving to remedy this at the earliest possible

when he announced the second hymn he found the last two stanzas missing. He read what he had, then said to the congrugation: "These are all the verses in my book; if there are any more in yours you may sing

Needless to say, the window mended and new hymnals provided before the next Sabbath.

WINDMILLS FOR CYPRUS.

The Ortario Wind, Engine and Pump Co. have just received another order (being the third this year) for six complete windmill outfits for the government of Cyprus. The Caradian airmotor was so well received that they doubled their former order, and the prospects are bright for a large trade for the well-known windmill in the island.

EDISON, JR.,

and Opened an Office of His Own.

(New York Herald.)
Thomas A. Edison has need to look to his laurels. His son and namesake, seat forth from the shelter of the paternal roof and beyond the influence of paternal guidance, expects to make things warm for his father in the line of electrical research and invention.

expects to make things warm for his father in the line of electrical research and invention.

Thomas A. Edison, ir., is something of a "wizard" himself. He is twenty-one years old, and many men of twice his age have learned in the last few months to watch him with much interest.

Thousands of persons to whom the name of Edison is familiar have never heard of this youthful scientist, yet he has had a large part in experiments and discoveries that have startled the world. For years he has spent most of his waking and many of his sleeping hours in the laboratories of his father, those incubators of mysterious things born to amaze. All these matters he has known from his youth up, and enters upon his manhood with a wonderful equipment of knowledge. But why did he not stay with his father? Why not be a partner instead of a rival?

The explanation calls up a curious picture. Figuratively speaking, one bright morning last August, Edison called the young man to him and spake thus:

"Thomas, my son, you know almost as much as your father, but what you know will never be of use to you until you know men. Get out, Thomas, and study men. Brush up against the world for a while, and let us see what you are made of. You have good ideas. Work them. Good morning."

An Office in Broadway.

So the young man started out, four months

AN OFFICE IN BROADWAY.

AN OFFICE IN BROADWAY.

So the young man started out, four months ago, with a head full of ideas, and a lusty desire to make himself heard in the world's noisy traffic. Today he has an office in a big Broadway building, and the big "lectrical manufacturing companies with the lorg titles and the capital of many millions are studying this young man with great care, while pretending that they are not aware of his existence.

This is a very hollow pretence, however, for he has attacked them in their own strongholds. He has invented a device which he says, is only the first of a series of improved appliances in various lines of electrical work. It is an incandescent lamp, similar to the one now in use to the inexperienced eye, but possessing, it is said, many advantages. He calls it the "Edison Junior," with conscious pride, and claims for it superiority over all others in the important details of vacuum and filamena.

To achieve these results the young man designed his own pump, and says that with it he can exhaust ten lamps to a high degree of perfection in less time than is required by the ordinary vacuum pumps generally used to exhaust one lamp. The filament is his own invention also—a chemical combination carbanized at 4,000 degrees Fahrement, making it as near absolutely pure carbon as it is possible to obtain. Curiously enough, neither the pump nor the filament has been patented.

"My figher's experience has taught me to steer clear of the patent office. He has spent as much money and time fighting to uphold them, I guess, as they are worth. I'm soing to Reep my ideas to myself. Secreey is a better safeguard than a patent any time."

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Undoubtedly young Edison believes in secrecy. The ideas for this lamp came to him four or five years ago, but he quietly stored them up against a rainy day. This having come, he puts them to excellent use. He told me he had shown the lamp to his father, but not until it was completed and on the market.

"What did he say?" I asked. The younger wizard laughed.
"He didn't say much," he said. "He just

it'll do."

Young Edison is highly gratifed with the result of his business venture. His father, it should be observed, has nothing to do with this lamp, yet it is being manufactured and sold in large quantities. The young man declined to say where his financial backing came from, but as he speaks of travellers on their way to South America, of Pacific coast agencies, and of the Japanese and Chinese trade, it is to be presumed that large amounts are interested, and the big compenies employing his respected father must wake up.

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"For the present," he told me, "I am having these lamps made for me, but a stock company is now being organized, and in a few weeks I expect work will be commenced on a small factory, which will contain a laboratory for my use. There's no money in these lamps anyway. You know, the inventor never makes anything," and he smiled cheerfully.

This laboratory, if the excessively modest hints of the junior wizard materialize, may in time become as famous se his father's experimental workshops in Edison. N. J.

"As soon as this lamp is fairly started in a business way," he said, "I am going to work on several ideas which I have almost perfected, and which will be startling, I think. You see, I spent nearly nine years with my father, and it would be funny if I hadn't picked up a few things that may result in something new."

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Personally this young man impresses one most with his earnestness, his quiet confidence and his utter absence of affectation. He is slow of speech, but does not weigh his words and occasionally explains his meaning by some graphic popular phrase.

"The fact of the matter is," he said confidentially, "I'm out to hustle for myself, and it won't be my fault if some of these big fellows don't know I'm here. We're going to raise—well, we're going to prod 'em up a little."

This young man, who at twenty-one challenges a scientist of world-wide fame, and his father at that, never had any education in the general sense of the term. When he was cleven years old his scholoing ceased, and from that time until a few months ego he practically lived at his father's side during working hours. Through long days and longer alghts he has watched the "wizard" at work, beriding over tubes until his back ached and watching flying sparts till his brain whirled. Delicate health prevented close application to books, but his was surer knowledge. He saw the bestinning of things, and watched the mysterious forces of nature in every phase, absorbing the countless causes and effects which make the chemist's and the electrician's work. EDGE OFF THE WONDER

A CODE OF SIGNALS.

Nature has a code of signals—a list-less step and tired, weary feeling are in the code. They show that the sys-tem is run down and dragged out. Nature's medicine for this is Milburn's Heart and Nerve Pills—they benefit the entire system, brace the n