

POWER FROM THE COLLIERY

Montreal Star: When Edison was in England a few years ago he was informed that it was proposed to start a plant for generating electricity by steam in or near the west end of London, to which coal would have to be conveyed by railway. "Why not," he asked, "build the plant at the mine and transmit the power by wire?"

Elaborating this idea in an interview with one of the best known newspaper correspondents, Mr. James Creelman, he said: "It would not surprise me to learn that someone had seized the secret of the production of electricity by direct process. This will abolish the carrying of coal for the production of electricity. Instead of transporting such gross material as coal to get power, we shall set up plants at the mouth of the mines and generate the power there and transmit it wherever it is needed by copper wires."

"It is preposterous to keep on putting the coal mines on wheels. It is too clumsy, too costly, and there is no necessity for it. It is easier to convey molecules of vibration—millions of waves a second—than freight cars full of crude matter. We can ship 100,000 horsepower over a wire more quickly and more economically than we can send the equivalent in coal over a railroad track. We must eliminate the railroad altogether from this problem. What we want is the resultant, the utmost energy that can be produced. Everything points to the fact that in the near future electricity will be produced for general consumption in great powerhouses at the mouths of the coal pits. This is the logical and commonsense outcome of recent events. Now the truth is that it will cost one-third less to transport electrical power by wire than to convey it in the form of coal in railroad cars. We can turn that coal into electricity at the mine and convey it by wire at less than half the cost of freight coal. Where power is not available the great power plants will be set up in the coal fields and do away with the individual steam plants, and electric light will become cheaper than gas."

Last week for the first time on this continent this very practical suggestion was put into practical operation; at the Chicago mines of the Maritime Coal, Railway & Power Company, where the Lieutenant-Governor of Nova Scotia, in the presence of a large and representative gathering of public men, turned on the current, which will henceforth supply Amherst, and in the future many other maritime Province towns, with electric power. This ceremony was afterwards repeated at the great car works of Rhodes, Curry & Co., in Amherst.

In the evening a splendid banquet was given to Senator Mitchell, President of the maritime company, and a large party of visitors. At the banquet Mr. H. J. Logan, M. P. for Cumberland county, read the following telegram from Mr. Edison:

"Trenton, N. J., July 31.
"H. J. Logan, M. P.:
"Chairman Board of Trade Committee, Amherst, N. S.:
"Permit me to congratulate your board of trade and Senator Mitchell on the inauguration of the first power plant on the continent, and on the generation of electricity at the mouth of a coal mine and the distribution of the same to distant commercial centres. It is a bold attempt and I never thought it would be first accomplished in Nova Scotia, where my father was born over 100 years ago."

"THOMAS A. EDISON."
The reading of this telegram was received with tremendous enthusiasm. The Lieutenant-Governor, Senator Mitchell and his associates upon doing what had never before been accomplished even by our enterprising and friendly neighbors to the south. The intention is to utilize as fuel for the production of electricity the coal which has been regarded as waste, because its market value would not pay for its freight; and Governor Fraser observed that in his own county there were thousands and thousands of years gone by, which the colliery owners could neither use nor sell.

Senator Mitchell, in his speech, acknowledged the toast of his health, told the history of the company's early vicissitudes. The power plant just started was only one unit, as the precursor of many to come. They would add unit to unit, and were ready to give the manufacturers of Amherst and other towns within 50 miles power at a rate that they could possibly make it for themselves. In his opinion, the company had to-day a nice property; they had acquired a large area of coal lands, which would become extremely valuable, especially if they obtained reciprocity in coal with the United States, which would double the value of every mine in Nova Scotia.

Mr. N. Curry, of Rhodes, Curry & Co., vice-president of the Maritime company, said that his interest as a customer was much greater than his interest as a seller. He pointed out that the new system has many advantages besides the low price per horsepower. For instance, a small manufacturer could get power for what it would cost him to employ one man to run his own plant. The Hon. Dr. Pugsley paid a high tribute to the energy and ability of Mr. David Mitchell, general manager of the Maritime Coal, Railway & Power Company, to whose efforts the great success of the company was chiefly due.

Mr. Julian E. Smith, of the Shawinigan Power Company, remarked that the reason Montreal was the greatest city in Canada was because it was the greatest centre of transmitted electrical energy in the world.

Mr. D. W. Robb, of the Robb Engineering company, expressed the opinion that the greatest of the Amherst industries was the one started that day. Among the other speakers were Mr. C. A. Lusk, president of the Amherst Board of Trade, who presided; Mr. C. W. Robinson, Premier of New Brunswick; Hon. Frank J. Sweeney, Mr. George Robinson, M. P. P. Mr. Henry Daly (of Montreal), Mr. E. S. Boudet (of Law), Professor Andrews, Mayor Lowther, Mr. G. W. Cole, Mr. C. S. Sutherland, Mr. Oostell and Mr. Stuart Jenks.

The new power plant is of the most modern type. It includes a Robb-Armstrong strong compound vertical enclosed steam engine, forced-feed cooling engine, of 750 horsepower, while working under its most economical load, or 1,000 horsepower for an overload. The engine was manufactured by the Robb Engineering company, of Amherst, and is probably the largest of the type in America.

Directly connected with the engine is a Canadian Westinghouse alternating current, electric generator, with a rate capacity of five hundred kilowatts, delivering the current at a pressure of eleven thousand volts. At the

company's substitution in Amherst are three Westinghouse transformers of 150 kilowatts each, which transform the pressure from 11,000 volts to 2,000 volts. At the Rhodes-Curry works are three transformers of 40 kilowatts each, which for certain purpose, and for the protection of the workmen, further reduce the pressure from 2,000 to 220 volts.

Very little labor is employed to run the plant. Steam is supplied by four 300 horsepower return tubular boilers, built by the Robb Engineering Company. The fuel, which consists entirely of the culm or refuse of the mine, is fed to the furnaces automatically by Jones' Underfeed Stokers; and is carried from the bankhead on being separated from the coal by mechanical conveyors, into the boiler room, and falls into the stokers by gravitation. Even the graduation of the fuel supply according to the needs of the fires is effected automatically. The system is said to afford the most economical method of producing electric power yet discovered.

Thursday afternoon was devoted by the visitors to the inspection of the new property recently acquired by the Maritime Coal, Railway & Power Company. This includes, in addition to coal lands estimated to contain 200,000,000 tons of coal of high quality, extensive timber lands, a valuable town site, and the railway running from Macan to the Bay of Fundy, and which is now a continuation of the Maritime Company's old line from Chignecto to Macan Junction with the Intercolonial Railway. The railway is now doing a profitable business and will do better when the improvements now in progress are completed. Of these the most important is the building of new bridges over the Macan and Hebert rivers, which will enable the company to use heavier locomotives.

Work is going on day and night in the construction of a new slope which is literally "on the shore" of the Bay of Fundy. On the first of June, operations were commenced near the foot of the cliff overlooking the way, working upwards, and it is expected that the surface will be reached at the point where a new bank head of the modern type is to be built in less than a week. Ultimately the workings at this point will reach the submarine areas belonging to the Maritime company and Mr. John Hardman, the company's consulting engineer, is authorized to state that there will be no difficulty in shipping a thousand tons a day from this slope when completed. Some of the visitors were taken into the mine by Mr. David Mitchell, the general manager, and Mr. Burchell, his assistant, and shown a five foot seam of what is designated to be some of the best coal in Nova Scotia.

The mine is remarkably well situated for getting out and shipping coal cheaply. The small mine trucks, holding fifteen hundred pounds of coal each, which are filled by the miners in the various galleries of the mine, and will be run by gravitation to the mouth of the mine (the full trucks pulling up the empty ones), no sooner emerge from the shaft than they are on a deep-water pier. Coal can be loaded direct from the mine into the ships without any handling whatever, and there are excellent markets near at hand at Moncton and the Bay of Fundy and Atlantic ports.

Senator Mitchell took a party of friends, including Mr. William Irving of Montreal, and Mr. H. Dudley Smith, of Hamilton, directors of the company, to Amherst in a private car. The trip was a most enjoyable one, and the visitors returned most favorably impressed with the operation of the new power plant, and with the prospects of the company, and no less with the cordiality of their reception by the people of Amherst.

HOW TO LIVE LONG.

Rules for attaining an active old age by adopting a rational scheme of living are given by General Boudet.

"The possibility of prolonging one's life by living rationally is far greater than most people suppose," he said. "Anyone with normal health, by making an effort can live if not a full century at least much longer than they otherwise would. I agree with the Harley street physician who said that a man was as old as his organs. I totally disagree with another correspondent in the 'Daily Mail' that life beyond fifty is not worth living."

"Take myself. Had I died at fifty half my life's work would have been left undone. People call me old, but I deny it. I sometimes say I am seventy-nine years young. At any rate, I don't feel old, and I expect to live a great many years yet. "After my normal health, by making an effort can live if not a full century at least much longer than they otherwise would. I agree with the Harley street physician who said that a man was as old as his organs. I totally disagree with another correspondent in the 'Daily Mail' that life beyond fifty is not worth living."

"I deplore this idea. I believe every old person who is not physically diseased should be kept as long as possible. For my part, if I live to be 150 I shall keep on working to my dying day."

Brilliant Definitions.

Miser.—A captive fettered to the car of gain.

Ambition.—Avarice on stilts and mask.

Habit.—A living maxim become flesh and instinct.

Air.—The clear deep breath of God that loveth us.

Englishman.—Flattered, a lamb; threatened, a lion.

Nature.—The mysterious and tender mother of marvels.

God.—The great misunderstood; the least apprehended.

Drunkennes.—The art of making things unrecognizable.

The Gospel.—A ray of heavenly light traversing human life.

Nickname.—The hardest stone that the devil can throw at a man.

Modern Needs.—A turbulent and sedition crowd; a legion of tyrants in miniature.

Idler.—A watch that wants both hands, as useless when it goes as when it stands.

Action.—Conscious thought—thought become concrete, obscure, and unconscious.

The World.—A firework, a phantasmagoria, destined to cheer and form the soul.

Hypocrite.—A gilded pill, composed of natural dishonesty and artificial dissimulation.



Stylish Hat and Veil.

One of the fads in vogue lately is to have a large circle of dotted veiling, edged with a satin ribbon, and worn as shown in the top picture. The hat in the lower sketch is a dark grey satin felt, trimmed with black panne velvet and a plume which curls over the hair in the back.

Husband Should Tell Wife He Loves Her

(By Helen Oldfield.)

There can be no more bitter moment in a woman's life than that in which she realizes that her marriage has been a mistake, that—

"She has plighted her woman's affection, She has given her all in all!"

to a man who is unworthy of her, perhaps, what is worse, who does not value the gift.

It is said with much truth that a woman will condone any offence which she is convinced has been committed for love of herself. It is an old proverb that "Love pardons all to love," and the charity which "covers a multitude of sins," unquestionably is love of the genuine, permanent variety. The woman who loves, and who feels certain that she is truly beloved, never acknowledges that her marriage is a mistake, indeed, from her point of view it is not, whatever may be the opinion of her disapproving friends.

No matter what trials may be the portion of her married lot, she can meet them bravely—may, gladly—stand in hand with her husband, feeling that they are borne for his sake. The man whom a woman loves can always retain her affection by loving her and telling her from time to time, not too seldom, that he is hers, hers only and alone.

The modern husband generally really is in love with his wife, but he has a way of forgetting to tell her so. It is a perennial source of wonder to him that his wife consents to marry him at all. This fact is that, immersed in what he considers the bigger things of life, the strenuous fight for a career and for financial independence, he sometimes is neglectful, even unconsciously selfish. He has his eyes fixed upon the material welfare of his wife and children. It is the most important thing in the world to him. Every day of his life he learns more and more of the cruelties and hardships inflicted upon the weak and unprotected, and as a result of this knowledge he flings himself with a stronger determination into the fight for competence, too often thrusting aside for the sake of this greater end all the little attentions and thoughtful courtesies which mean so much to women.

"My husband hardly ever has time to talk to me now," "John seldom takes me to the theatre nowadays," "Girls have their eyes fixed upon the material welfare of their wife and children. It is the most important thing in the world to him. Every day of his life he learns more and more of the cruelties and hardships inflicted upon the weak and unprotected, and as a result of this knowledge he flings himself with a stronger determination into the fight for competence, too often thrusting aside for the sake of this greater end all the little attentions and thoughtful courtesies which mean so much to women."

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Do Spiders Sleep?

The question, "Do spiders sleep at night?" is not easy to answer. I have made a careful observation of the sleep of ants, and that could readily be done by watching colonies in their artificial formicaries. It is almost impossible to deal with spiders in the same way. I was, however, however, in general terms, spiders sleep, as all animals do, and doubtless parts of the night are spent in slumber.

Many species, however, prey on the night-flying insects and so must be awake in order to catch their prey. If you will watch the spider or orb-weaver of your home on a summer evening you will be likely to see an orb-weaver spider drop slowly down on a single thread in the gathering dusk of the evening. From this beginning a round web will soon be spun, and either hanging at the centre thereof or in a little nest above and at one side is the architect, with feet clapping what we call the "trap line," and waiting for some night-flying insect to strike the snare. In this position spiders will sometimes wait for hours, and it is just possible that they may then take a little nap, but they might easily do that and yet not lose their game, for the agitation of the web would rouse the sleeper and then it would run down the trap line and secure its prey.

Some species of spiders do the chief part of their hunting at night, and there are some who chiefly hunt during the day, but as a rule these industrious animals work both day and night.—From the St. Nicholas Magazine.

WANTED TO BE IN FASHION.

Willy—Cricket, Billy, yer got a dirty face. Why don't yer wash yerself.

Billy—"Cos I want me girl to think I own a door."

clined to find fault with his wife as with his business partner? Why should not a woman take the same pains to be agreeable to her husband as to any stranger whom she desires to please?

A woman once asked Dr. Johnson how it was that in his dictionary he came to define pasters as the knee of a horse. "Ignorance, madam, pure ignorance," was the doctor's answer. This is the simple explanation of many an anecdote which occurs at the beginning of the matrimonial journey.

COST OF MOTORING.

Interesting Statistics on the Expense of Running an Automobile.

To determine the average cost of maintaining and operating an automobile, an enterprising manufacturer has just compiled statistics, showing that with judicious handling, and the ordinary care that should be accorded an automobile, the amount to support a machine is not nearly as great as most people believe. The Cadillac Company determined recently to discover the cost. It sent invitations through the newspapers throughout the country and to owners of single-cylinder Cadillac's, asking them for sworn statements as to the total expense incurred in the maintenance of their car. Of those who responded, hundreds were willing to make statements of the approximate cost of running their cars, yet none of these was used. Only the actual cost, sworn before a notary public and witnessed, were accepted. One hundred and sixty-four statements were received, coming from 30 different States, which show records of cars that have been used on all kinds of roads and under all sorts of conditions. From the data received the following statistics were compiled: The mileage gotten out of the cars varied considerably, ranging from 350 to 32,000. Many of the affidavits showed a mileage of over 20,000 and nearly 50 per cent. had gotten over 10,000 miles out of their car. The total combined, made over 1,500,000 miles, or to be exact, 1,555,427; the average of this being 9,881 miles per car.

The gasoline consumption afforded great interest. One car running as low as 8.23 miles per gallon, while another ran as high as 32 miles per gallon. Forty per cent. of the number have claimed to get over 20 miles per gallon, while the average of all is a trifle over 18 1/3 miles per gallon.

The cost of repair. This amount ranges from practically nothing in some cases to several hundreds of dollars in others. The total amount of repairs, not including tires for the 161 cars, was \$6,881.29, or an average for each car of \$42.74. For the average length of time the cars have been used (1 year, 7 months, 20 days), it means an average of \$2.17 per month, or less than 51 cents per week. Another way to compute the cost would be to total the distance travelled, taking 101 cars, totalling 1,555,427 miles and with the total cost for repairs \$6,881.29, it means that the cost of the upkeep averages .004439 per mile or in other words only 4 1/4 cents per mile that is travelled. That certainly is cheaper than walking. In considering these points do not overlook the number of passengers carried. Some were runabouts carrying one or two, and sometimes three passengers; while others were four-passenger cars, carrying five or six passengers. The average as shown by affidavits was nearly 1.2 persons, so it would make this expense less than 3 cents per 100 miles for each passenger.

The next item of expense is that of gasoline. The sworn statements show that the miles obtained per gallon run from as few as 8.23 up as high as 32 miles per gallon. The average was 18 1/3 miles per gallon. Take the average of the lot, it shows 18.34 or a trifle over 18 1/3 miles per gallon. The cost of gasoline varies in different parts of the country, but may probably be averaged at 18 cents a gallon; it would then make the average cost per mile for fuel, or less than 1 1/3 of a cent per mile per passenger.

LONDON'S WATER.

Something About the Supply of the Great City.

It is estimated that the population to whom the Metropolitan Water Board supplies water in London amounts at the present time to the enormous figure of 4,500,000. When we consider that the average daily consumption of water by this vast population is about 215,000,000 gallons, we are enabled to form some idea of the task of supplying such a quantity to the board. Since about three years ago, when the water supply was taken over from the hands of private companies into those of the Metropolitan Board, much good work appears to have been done. Under the new order of things the board is supplied with five engineering districts—the Eastern, the Southern, the Western, and of these five the Kent district is the only one which is entirely independent of the Thames and Lea, being supplied wholly from deep wells, of which nineteen are in the chalk and one on the lower greensand during the past year the supply from the Thames (formerly 66,422 per cent. of the whole consumption) was increased by 0.75 per cent., while that from the Lea was increased by 15.412 per cent. To make up for the deficiency derived from these two rivers on account of this, the supply from spring and wells was increased by 13.252 per cent. The total volume supplied during the year fell off to the extent of 22,000,000 gallons, or a daily decrease of 1,300,000 gallons. This decrease, of course, refers to the whole area supplied. In the case of the population, the daily average quantity of water consumed per head fell from 31.54 gallons during the year 1905-6 to 29.33 gallons during 1906-7, a most satisfactory aspect of the present water supply is that the constant system has been slightly increased during 1906-7. The area, the percentages of supplies on this system now being 9.5 in March, 1906, against 9.15 in March, 1907. As regards the capacity of existing reservoirs amounts for the Thames to 424.5 million gallons, and for the Lea to 232.5 million gallons, or a total of 757 million gallons, which does not include the Hatfield and Highgate ponds, and the Cobden Park reservoir. There are in course of construction provision for the storage of 140 million gallons, and authorized, but not commenced, 600 million gallons, of which 100 million gallons are for the Thames, and 500 million gallons for the Lea.—Engineering.

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HANDLING THE COLTS.

There are farmers whose colts are always gentle and easy to catch out in the fields, while there are others whose colts are always wild, breaking away when the owner approaches, as if he were a stranger to them. Men of the former class tell me that their colts in that condition are half broken. If you will notice one of these cases you will see how nicely he progresses with his work and how soon he is driving that animal. These colts have confidence in their master, a point the other man must will before he can proceed right. Of course he can by intrigue catch it and by main force hitch it up then turn it out to run away with the wagon first thing, but that is not training the colt in the right away in fact he is making poor progress training it at all. There are some men who think that it does no harm to a colt to run away when being broken but very much harm is done, a great deal of time is lost, and the colt is not so much as it should be. The writer had a neighbor who was of this opinion and who would strap the harness on a pair of green mules and hitch them to a wagon first place, then with a driver on the seat turn them out on the highway to run off first thing. Well, the mules took care of their mule-ships and no accident occurred, but was no harm done. Why those mules ran away almost every time they had a chance after that first lesson. Now mules are great creatures of example and habit and as the first impression is the most lasting we should be careful to teach them only just what we want them to know and that does not include running away.

To get a colt, gentle, we must spend some time with it and try to gain its confidence by kind treatment and attention; after that point is gained we may proceed to get it acquainted with the harness and the art of leading. A few repetitions and we are ready to hitch it to a wagon or plow and give it its first practical lesson. This should be done by hitching it up beside an old horse or mule to act as guide and keep the youngster in its place. After each one has been broken in this way they can be worked as a team. Colts broken in this manner are very broken. The turning plow is, I think, the best place to give the colt its first lesson, but it often is desirable so as to get ready to work before spring. By so doing the shoulders will be toughened so that they are more able to stand the racket.

Some shoulders are a great deal of the animal for that reason. This is especially troublesome in working young stock and it is policy to be toughening the shoulders as you go along with the breaking. Bathing as soon as unharmed with salt water is a good plan and should be kept up during most of the first season. Particular attention should be given to fitting the animals' shoulders with perfect fitting collars, and these with proper hames. Only stout harness should be used.

The colt's education should begin early for very much the same reasons that the child's should. I like to break the colt or yearling, then next year break to a wagon or plow, giving only light work, but giving lessons of the mule at two and the horse colt at three can stand quite a lot of work if judiciously evened up.

The Change.

Before she went to boardin' school she useter romp and play. She druv the cows from the field an' helped take in the hay, But she don't do that any more, because of this, you see.

She went away as Mary Jane, an' came back Jeanne Marie.

She useter wear made-over clothes, an' always with a smile. But now her dresses every one must be the latest style. She don't ride bareback any more, nor climb the apple tree— She went away as Mary Jane, but come back Jeanne Marie.

Her hair is all in crinkles now—she calls 'em Marshall waves; She's up in all the etiquette, real stylish she behaves.

Her ma and me are mighty proud o' all she's learned—b-b-b-ye, We sometimes wish for Mary Jane instid o' Jeanne Marie!

—Mrs. Elsie Duncan Yale in Woman's Home Companion.

A Cure for Hay Fever.

George B. Harrison of Garden City, who has just begun to harvest his crop of hay fever, says that he has discovered a sure cure for it. His remedy is simple, but he says it is none the less effective. It consists in not eating breakfast until 11 o'clock in the morning. Mr. Harrison has not taken out a patent or copyright on the remedy, and any one who wishes to use it is at liberty to do so.—From the Toledo Daily Capital.

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