

FROM HORSE CAR TO THE TROLLEY

Story of the Wonderful Development in Electric Traction During the Past Twenty Years.

PASSING OF STEAM TRACTION

Gradual Elimination of Distance Through the Development of the Electric Locomotive—Chicago to New York in Ten Hours.

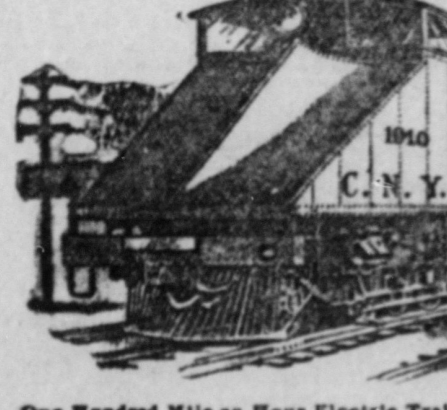
During the summer of 1887, there appeared in the New York Sun the following facetious news item: "They tried an electric car on Fourth avenue yesterday. It created an amount of surprise and consternation from Third St. to One Hundred and Seventeenth St. that was something like that caused by the first steamboat on the Hudson. Small boys yelled "dynamite!" and "rats!" and made similar appreciative remarks until they were hoarse. Newly-appointed policemen debated arresting it, but went no further. The car horses which were met on the other track kicked without exception, as was



First Electric Railway of the World, Berlin Exposition, 1879.

natural, over an invention which threatens to relegate them to a sausage factory. That was less than twenty years ago. Today the New York Central Railroad Company is expending \$50,000,000 in the electrification of the first thirty-five miles of its system, and the car horses were long ago relegated to the byway, if not to the "sausage factory." "They" have done marvelous things since the increasing knowledge of electricity opened up a new world of achievement, and we have scarcely crossed the threshold. In 1880 the electric car was a dream; in 1890, an experiment; in 1900, a great and wonderful fact which is revolutionizing passenger transportation and will enable human beings to move from place to place twice as fast as they do at present.

Born in Old Vermont. When in 1834 Thomas Davenport, of Brandon, Vt., ran a toy motor mounted on wheels on a small circular railway,



One Hundred Mile an Hour Electric Train, Chicago-New York Electric Air Line.

the modern electric railroad with its possible speed of over one hundred miles an hour was born.

In 1828 Robert Davidson, of Aberdeen, Scotland, built an electric locomotive which actually reached a speed of four miles an hour on the Edinburgh-Glasgow railway. Nine years later Professor Moses G. Farmer operated an experimental car which carried two passengers at Dover, New Hampshire.

Then the United States congress became interested. By special grants Professor Page of Smithsonian institute was aided in the construction of several forms of motors. One of them was used as a locomotive and, driven by a battery of one hundred Grove elements, was tried April 29, 1851, on a railroad running from Washington to Bladensburg. A speed of nineteen miles an hour was developed, so great that it destroyed the batteries.

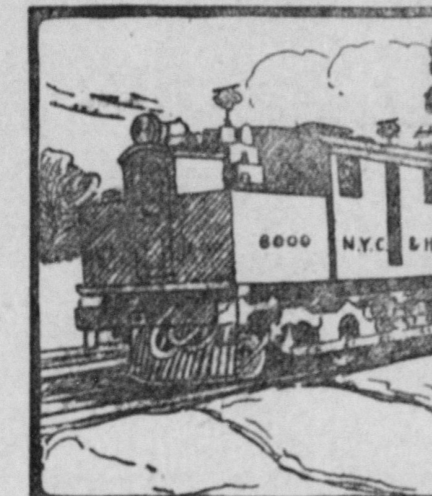
Numerous other experiments followed, all commercial failures because the motors were crude and the source of power a primary battery. The development of the wonderful modern dynamo was necessary before electric railroading could become a commercial success. The first great step was in 1860, when an Italian named Pacinotti invented a continuous current dynamo. Three years later the first practical commercial machine for continuous current operation was made by Gramme.

Still the modern electric car was impossible. The "reversibility of function" had yet to be discovered, involving electrical transmission of energy through two machines, one driven by power and generating electricity; the other reversing the operation, receiving electricity and developing mechanical power.

Like many other important discoveries, this is said to have been the result of accident. A workman coupled

a machine to a live circuit by mistake and was greatly astonished to see it begin to rotate. This reversibility of function was publicly demonstrated for the first time at the Vienna exposition in 1873.

Not until 1879 was the first electric railway put in operation, taking the current from a dynamo, using a modern motor and carrying passengers. This novelty was in operation at the Berlin exposition and was a mile and two-thirds, in length. The train consisted of a small locomotive and three small cars, capable of carrying twenty people. It reached a speed of eight miles an hour.



Electric Train Just Installed on New York Central Railroad, 1904.

About this time Stephen D. Field and Thomas Edison in the United States began experimenting. In 1880 Edison was operating at Menlo Park an electric locomotive which pulled two cars.

The First Electric Railroad.

The first regular electric line to be established was at Lichterfelde, Germany, near Berlin. It was only a mile and a half in length and opened for traffic in May 1881. The trains carried twenty-six passengers, at a maximum speed of thirty miles an hour.

The first electric car to be operated regularly in the United States was installed by Deft on the Hamden branch of the Baltimore Union Passenger Railway in August, 1886. That was barely twenty years ago. So great was the skepticism of the public and railway men generally that the contract under which the road was built withheld payment one year so that it might be determined whether the cars would run. "No one but a knave or a fool would undertake such a thing," said a well known scientist at the time. Scientists sometimes have trouble keeping up with the procession. About the same time small cars were operated by Van Derpoel at South Bend, Ind., followed by other small roads in



Edison Electric Locomotive Operated Experimentally at Menlo Park, 1880.

Windsor, Canada; Appleton, Wis.; Port Huron, Mich.; Scranton, Pa., and Montgomery, Ala. In the autumn of



First Regular Electric Railway in United States, Baltimore, 1886.

1884 Frank L. Sprague, whose name is inseparably connected with electric traction, began to attract attention with his motors.

At the beginning of 1887 there were in the whole world less than sixty miles of electric railroad track, and only about one hundred motors and motor cars. In 1905 there were nearly thirty thousand miles of electric track in the United States alone.

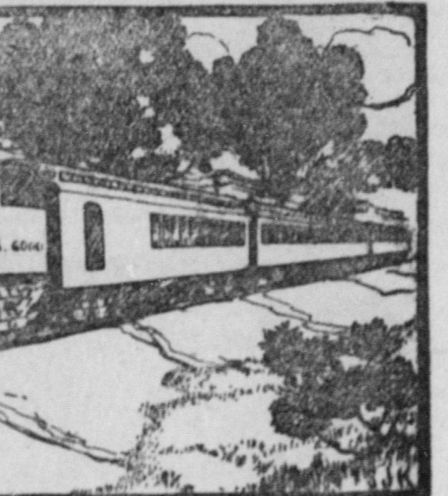
This change was not accomplished without opposition, discouragement and financial difficulties. Mr. Sprague himself, who was so potent a factor in working this change, has told the story of his first important contract. In the spring of 1887, the Union Passenger Railway company of Richmond, Va., engaged him to build an electric railway. The first car was run out one night while the skeptical people slept, to make sure it could climb the hills. It started out in a blaze of glory and ignominiously was towed back again by four big mules. But Sprague persisted until on Feb. 2, 1888, in a drizzling rain, the road opened for business.

From that time forward the future of electric railroading was assured and events moved rapidly. City after city adopted the new motive power; horse cars became things of the past; interurban roads began to gridiron the country everywhere, and in each instance a commercial success was scored. Electric interurban lines have been money makers from the start.

The greatest development has been in the east; but the west is not far behind. The Aurora, Elgin and Chicago Electric railway (the third-rail system) which has been in operation several years, is famous. From one central power station over two hundred miles of road are operated, or will be as soon as the line to Belvidere is

completed. Electricity at wholesale is sold to cities and villages along the route for lighting purposes; electricity for power is sold to farmers. Trains of elegant cars run into Chicago at a speed which would have seemed impossible a few years ago. Passengers wave good bye to steam trains on a paralleling railroad, which they pass easily. A parlor and dining car is one of the luxuries which the suburbanites enjoy going to and from the city, and the railroad seems a veritable gold mine for its owners.

The horse car has long since disappeared. Will the iron horse, the great steam locomotive, be supplanted also?



Chicago to New York in Ten Hours.

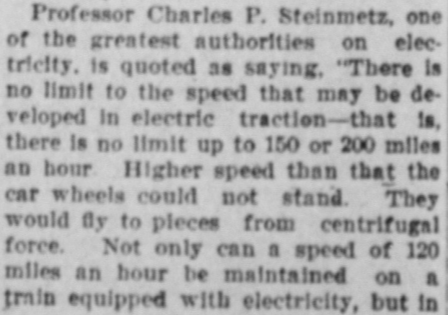
In fact such a railway already is being built between Chicago and New York by the Chicago-New York Electric Air Line Railroad company, of Chicago. This company, headed by a group of practical railroad men, proposes to run limited trains, making more than three stops, through New York or Chicago, in ten hours. The thought fairly takes one's breath away at first, but the project considered soberly seems practical enough, and certainly is "a consummation devoutly to be wished." The work of grading began Sept. 1 near LaPorte, Ind.

As the new road will be an air line, with few curves, the route surveyed is 160 miles shorter than the Pennsylvania "Short Line," and 230 miles shorter than the Lake Shore and New York Central, each of which runs trains covering the distance in eighteen hours. Taking into consideration the shorter route of the Air Line, this is equivalent to a fourteen-hour service with low grades, a straight track and no grade crossings, the seventy-five miles an hour average necessary to a ten-hour service ought easily to be maintained. Even on the first class steam roads of today ninety miles at hour is not uncommon for short distances.

The Scientific American of Feb. 18, 1905, speaking editorially of the New York Central experiment, says, "The success of this installation, of which there can be no doubt whatever, marks the first step in the gradual substitution of the electric for the steam locomotive in the operation of long distance express trains." The Chicago-New York project may be regarded the second step.

Mr. Sprague himself says that speed is "a matter of finance." "What then will determine the future?" he asks. "Chiefly the financial factor, as it must be the future of any other great industrial problem. When savings in operation add the increased return for traffic will more than pay a fair dividend on money invested for electrical equipment, will trunk lines be operated by electricity."

Professor Charles P. Steinmetz, one of the greatest authorities on electricity, is quoted as saying, "There is no limit to the speed that may be developed in electric traction—that is, there is no limit up to 150 or 200 miles an hour. Higher speed than that the car wheels could not stand. They would fly to pieces from centrifugal force. Not only can a speed of 120 miles an hour be maintained on a train equipped with electricity, but in



First Regular Electric Railway in United States, Baltimore, 1886.

my opinion it is an entirely feasible scheme from the commercial point of view."

At any rate, the world seems on the eve of great things, and no scientist dares say today as was said twenty years ago, "a man is a knave or a fool." The attitude of the American public is one of faith and expectancy, best expressed by a recent remark of an old lady in her last sickness: "I don't want to die," she said, "I want to see what they are going to do."

The Bald Eagle Telephone Co., which is composed of Centre and Clinton county capitalists, which has been in operation six months, is proving a paying venture, a dividend of three per cent being declared on January 1.

DER PENNSYLVANIER



Richter Drucker!—Hot Eich des Christkindel ah ebbs Eche-nees brocht? Ich dent wol, for Ihr hen en Lot Unnerschreiver un wann juchst die Hält betum ufzuehilt hawe, dann tennt Ihr aufriede sei. Oder hen Ihr verleicht en Anzahl vun seler Sort, was am Christidag Ihr Geld selwert brauche un die anner Zeit zum Johr teens hen? Ich hab mir sage losse, dah es so Leit gebt.

Wenn mer selwert nir zu getre braucht, dann is es net so schlimm, wann mer ah nir kriegt. Awer wann mer ebaut en Duded Bräntente tafhe soll for nir un awer nir, dann is net viel Gätisfächgen drin. Wer segt wol, geue wär seliger as wie nemme, mit schreit es awer, dah en rechter Schlaumer seler Spruch gemacht hot oder ebber, was blendt Geld gehat hot un hot es afforde tenne, freigebig zu sei. Sell tennt ich ah ferrig bringe, wann ich en Bär voll Goldfider hat. Awer wann mer sich nee dhu muh, ich meen, wann mer sei bar Dhaler for ebbs sunsthot notuennig braucht, dann is tee große Seligkeit drin.

Am Dued noch em Christidag ware mer beifamme in's Hanneberger's Etohr. Dr' alt Dschoh hot en neie Peif geschmolzt. "Alta," sag ich, "en Christkindel!" — "Do hochst's grad gerotse," segt er, "awer ich hät se viel besser un ah viel billiger selwert tafhe tenne. Die Peif tocht mich grad seh Dhaler, denn so viel hab ich gespendt an meiner Tochter ihre drei Rinner un do fen se dann getumme un enns bringt die Peif, en anneres en Bädelsche Duwad un des dritt en Mättschbar. Ich hab ah noch ausgefunne, dah mei Alite des Sach tafht hot. Hecht e Geshäft! segt als dr' alt Hausfrier. Es werd alle Johr ärger. Wie ich noch en Kerner Buh war, do hab ich nig gewist dun so Sach am Christidag. Mir Rinner hen als en Bar Ebbel friegt, en bar Rih un en Stid Ruche. Aliterel sage tem die Rinner, was se hawe welle. Ich meen, die ganz Bräntentemacherei werd iwerdhu. Es werd viel zu viel Sach getafht. Ich hab genotit, dah arme Rinner mit en bar Klepche Holz, wo se mit spiele tenne, en viel grechere Freid hen, as wie reiche Rinner mit eme ganze Haupe Fänspram." — "Sell glach ich selwert," segt dr' Benich. "Awer loh doch die reiche Leit so Sach tafhe, do-derfor is es jo doch gemacht. Die Etohrhalter welle ah leine, net mooh, Hanneberger?" — "Ei, ufhoras," segt seler. "Die Zeite, wo die kleine Buire als kumme ten un hen gefrogt for en leere Sigarbar, wo se dann große Knöpf an die Seite genagelt un en Wägelche gemacht hen, fen verbeel. Nau welle se en Infschein un en Roib Cars, oder en Automobil, was in dr ganze Stid rum fahrt, wann es ufgezoge werd, oder sunsthot ebbs dun seler Art hawe. En Drumm oder en Horn werd juchst getofht, wann en Schwärmutter

Im Haus is—verfieht Ihr? En Schlitte macht juchst Spah am Christidag, wann's ah dichtig Schnee hot. Wie Ihr seht, hab ich noch viel Schlitte do. Ich kann se verleicht später noch ver-tafhe, awer net zu Feierdags-Breife, sell verfieht Ihr ah? Aee, ich kann em Dschoh net recht geue. Lohst die Leit tafhe so viel as se welle, nichlich ebber unni, wie mehner asde besser. Sell Geld is net verlore, es kriegt's allemol wieder ebber." — Dr' Will hot gefacht un dann gefacht: "Du hochst do grad ebbs gefacht vun ere Drumm. Rannsthot Du Dich erinnere, dah ich lefcht Johr ah ene tafht hab for mei Kerner Buh? Un ich will's ah zugewe, dah ich derbei an mei Schwärmutter gebent hab. Se hot mich ah verfanne un mir en Bild geschmiffe, was gefacht hot: Dich fir ich for sell. Wie ich am nächste Dued heentumme bin, do hot dr' Buh geheult, well sei Drumm kaput war. Un dent mol, wie sell kumme is! Dr' Buh hot welle zum Fenster naus gude, war awer zu fte. Do hot ihm die verdollt alt der die Drumm hiegeschawe, dah er sich druffelle soll un er is ah richtig dorch dr' Duedem gebroche. Do hab ich ihm dann am nächste Dag aus em Städel en Horn aus Blech mitge-brunge, was noch viel meh Rädert gemacht hot, wie die Drumm, un laut ge-nug, dah Alle es hen höre tenne, dah ich gefacht, dah wann ah des Horn ver-brecht, ah dann noch sunsthot ebbs zammefchlage werd. Seler Hint hot genumme un am Neijohr is die Schwär-mutter zu ihrer annerer Tochter ge-muht, was mich so geblecht hot, dah ich meiner Frahen un Wuff tafht hab!" Dr' Hansjörg.

FOOLISH GIRLS.

Those Who Deliberately Walk Into Matrimonial Failure.

It is enough to make one's heart ache the way foolish girls will pass by splendid, hardworking men and choose insignificant little nobodies for their life's partners, and all because they won't take the trouble to look below the veneer of fine dress.

The man who has an aim in life can't spend all his time in running after girls and going to dances. He has something better to do. He has to make a name and place for himself in the world.

The young men who are lounging around street corners and saloons will never be anything better than they are now. The chances are they will be much worse.

Look around at the married women of your acquaintance. Some of them married honest, hardworking men. Others married loafers. Some of them are happy wives, others miserable wrecks.

Look forward a few years and imagine yourself in the place of either and then marry a good for nothing loafer if you dare.

Marry the worker and help him build up a successful career. Let him come home at night and find a cheerful home and a happy, smiling wife who is proud of his successes and sympathetic in his reverses.

But don't deliberately walk into a life where failure is bound to come. Don't tie yourself to a man for whom as time goes on you will be able to feel neither love nor respect.—St. Louis Republic.

IF YOU HAD A NECK As Long as This Fellow, and SORE THROAT ALL THE WAY DOWN TONSILINE WOULD QUICKLY CURE IT. 25c and 50c. All Druggists. THE TONSILINE CO., Canton, O.

THANKS

We desire to thank our friends for their patronage during the past year.

We are now going over our whole stock of goods discarding everything that we find is not up to the standard, and we will, if possible, be better prepared than ever before to furnish our customers with the best of everything in our line.

We solicit your continued patronage.

GREEN'S PHARMACY CO. BUSH HOUSE BLOCK Bellefonte, - - - Penn'a.

PAINS IN THE BACK

are the first signs of Kidney trouble. Thousands have kidney trouble and do not know it. When the kidneys become affected they in turn will affect the Nerves, causing Nervousness, Sleeplessness, Restlessness and Irritability; too frequent or infrequent Urination; Excessive, Scanty or Painful Urinary Passages. For these disorders take

Kriner's Kidney Pills

They are almost specific in their action in restoring these organs to their normal condition; they remove the poisons from the blood, and cheerfulness and good health return. One month's treatment one dollar at Krumrine's Pharmacy; and if you are not benefited ask for your money back, and you will get it.

RAILROAD SCHEDULE

Table with columns for stations (Bellefonte, Coleville, Morris, Whitmer, Lime Centre, Hunters, Filmore, Brally, Waddle, Krumrine, State College, Struble, Bismarck, Pine Grove) and times for Westward and Eastward travel.

CENTRAL RAILROAD OF PENNA.—Condensed time table effective Dec. 3, 1906.

Table with columns for stations (Bellefonte, Zions, Hecla Park, Dunkles, Hubersburg, Snyderport, Nittany, Huston, Lamar, Clintondale, Kriders Sid, Mackeyville, Cedar Springs, Salona, MILL HALL) and times for Westward and Eastward travel.

(New York Central & Hudson River R. R.) 11 45 8 35 Jersey Shore 3 28 7 52 12 23 9 10 At WM'SPORT At 2 30 7 52 12 26 11 30 Lv. NEW YORK (Via Philadelphia) 7 30 6 50 PHILA. 18 36 11 30 10 10 9 55 NEW YORK 9 00 (Via Philadelphia) p.m. a.m. At Lv. a.m. p.m. Week Days. W. H. GEPHART, General Supt.

W. H. MUSSER, General Insurance Agent, Notary Public and Pension Agent. BELLEFONTE, PA.

HARRY FENLON Successor to Frederick K. Foster Wm. Burnside FIRE, LIFE, ACCIDENT AND TORNADO INSURANCE. BONDS of every description. TEMPLE COURT, BELLEFONTE, PA.

Jno. F. Gray & Son Successors to GRANT HOOVER. Insurance: This agency represents the largest Fire Insurance Companies in the world. We are prepared to write large lines at any time.

Life and Accident Insurance, and Surety Bonds. Call on or address us at Crider's Stone Bldg., Bellefonte.

RUBBERS

Every Man, Woman, and Child should have a good pair of Rubbers at this season of the year. Wet feet always travel the road that ends in the hospital, and it's usually a short trip.

We've the best Rubbers made—we sell no other sort, for poor Rubbers are worse than no Rubbers at all. From the Little "Tot" to the head of the family, there's a pair of good Rubbers here, for all. Mother wants Comfort, Sister wants Style, Father wants Durability, while the younger feet want protection.

We are showing every desirable style. Our Rubbers fit perfectly, and our prices are as low as the quality will allow.

MINGLE'S SHOE STORE BELLEFONTE, PA.