Another Aggressive Move en the Domain of the Steam Locomotive.

MILLIONS IN SIGHT FOR CHANGE

Details of a Project of Great Importance-Fast Motor Trains-Progress in Other Departments of the Science.

There is something doing down east which threatens the supremacy of the steam locomotive. It is announced with great posttiveness by the New York Tribune that William C. Whitney and his associates have obtained control of the Stanley Electrie Manufacturing company at Pittsfield, Mass., for the purpose of building up a mammoth electrical plant, with the cooperation of Ganz & Co. of Switzerland, and converting steam railroads in this country into electrical roads. The financial details of the plan, says the Tribune, have not been disclosed, but a representative of the syndicate said they had been arranged and that Mr. Whitney, Thomas F. Ryan, Thomas Dolan, William L. Elkns and P. A. B. Widener, who compose the syndicate, were looking ahead to the work of converting steam raironds into electrical railroads when they made the deal for the control of the plant at Pittsfield and for an enormous extension of its facilities.

The syndicate does not expect that the displacement of steam by electricity on the railroads of America is to be begun imat Pittsfield is to supply the demands of the street railways in New York, Philanecticut for electrical supplies. These demands have been increasing tremendously in recent years, while horse car and cable lines have been transformed into electrical lines. It was said recently that the companies controlling the lines had been furnishing about 37 per cent of the business of the electrical companies in this country. A Large Undertaking.

The conversion of steam roads into electrical roads is expected to begin first along the Atlantic seaboard, particularly where the railway lines enter the big cities. The Pennsylvania railroad will have to haul trains by electricity through the tunnels that are to be constructed under the North river and under Manhattan island and the East river. The New York Central is expected to employ electrical locomotives for its traffic in the Park avenue tunnel before long. Wherever there is a congestion of traffic on the steam roads in the east, it is believed, there will be a displacement of the puffing locomotive by the smokeless electrical engines. Having made a beginning, the railways of the east are expected to extend the use of electricity along their

lines, driving the steam locomotives to the

railroads of the west, where they can be

used until they are worn out.

Mr. Whitney and his associates have not been making their plans in the dark. They have been in communication with railway managers and have learned that railways in the east are about ready to spend \$25,000,000 for the displacement of steam by electricity. That enormous sum would not be expended by the railroad companies unless there was reason to believe that the investment would pay. The syndicate and the railway managers have been informed by their engineers that the superiority of electrical engines over steam locomotives has been proved, and that Ganz & Co. can furnish an electrical equipment that makes a saving of 15 per cent in the operating expenses of a

The electrical works of Ganz & Co. at Budapest, Hungary, are the largest in all Engineers employed there have brought to perfection the science of applying electricity to motors. They constructed in Budapest the first successful underground trolley lines. Their ideas have been adopted in the construction of electric roads all over the world. The patents of Ganz & Co. for electrical motors cover many devices. The concern has been engaged in recent years in the work of converting steam railways in Europe into electrical roads. Its most important demonstration to the minds of some railway men was made on the Valtellina line, sixty miles in length, running past Lake Come in Italy. This line was converted into an electrical road by Ganz & Co. eighteen months ago. The operation of the railway for eighteen months is said by engineers to have proved that the electrical equipment saves 15 per

cent of the operating expenses. Telephone Message Writer.

A patent just issued to Peder Oluf Pedersen of Copenhagen covers a method of using the telegraphone in such a way as to record a number of messages on a single steel strip and to reproduce each message without interference from the others. With this improvement the size of the drum or the length of the wire or ribbon used therein may be materially lessened, so that a long speech or a number of speeches or signals may be stored upon a comparatively short or small magnetic body.

The telegraphone is the invention of Danish electrical engineer, Valdemar Poulwon, and is, as the name implies, a combi-



n us as nice weather for he should have for the une. For that reason the month of June. For that reason the factories have given us some special prices on wheels, which we would be pleased to show you before you buy a bicycle. Some wheels that had been selling for \$40 we are offering this week for \$27.09. others in proportion. Now is the time to buy a bicycle. Puncture-proof tires. 4498.

EDISON PHONOGRAPH and Victor Disc Machines. We carry a complete line of the Vic-tor and Edison phonographs and rec-ords and guarantee our prices to be as low as you can buy anywhere in the United States.



The June Shirt Show



of this device a telephone or telegraph and as often as desired without the record deteriorating.

In this apparatus a steel wire, or a steel band, is moved by any suitable means with considerable velocity between the poles of a small electro-magnet. On speaking into a telephone transmitter joined on the circult, the undulatory currents set up in the transmitter react upon the electro-magnet and cause a continuous variation in the direction and in the degree of magnetism

at the poles of the electro-magnet. These variations are permanently recorded on the steel wire as it rushes by, and when the message is complete the steel wire retains a definite record of what has taken place in the shape of a continuous series of transverse magnitized lines. varying throughout in their polarity and in their strength. On connecting a telephone receiver to the electro-magnet, and again starting the wire on its course, says the Telegraph Age, this magnetized wire generates electric currents in the coils of the superimposed magnet as it passes between its poles, and these electric currents, which are the exact counterpart of those generated by the original voice, cause the telephone to repeat what was said in an almost absolutely perfect manner.

Aerial Telegraph Receiver.

Widespread interest has been aroused says the Scientific American, by the experiments which have been carried on by Prof. Fessenden with a new form of aerial telegraphic receiver, which is claimed to give promise of considerably greater rapidity than the coherer with which the pubmediately or that it will affect many of lie is generally familiar. The experiments the railroads for some years to come. For have been carried out under the auspices the immediate future the increased plant of the weather bureau and have extended over a period of about two years. Some of the results achieved have been made pubdelphia, northern New Jersey and in Con- lie by the bureau and they are considered to foreshadow a great improvement in the speed of aerial telegraphy. The work has been carried on between Hatteras inlet and Roanoke island, over a distance of fifty miles, and messages have been sent and received without the use of the coherer, the place of which is taken by the new re-ceiver, which Prof. Fessenden calls a wavedetector. He claims that he has worked it experimentally at speeds which would be equal to over 500 words a minute, and this with only about 25 per cent increase of energy per signal over that which is used with the ordinary apparatus. We understand that the wave-detector consists of a wire whose conductivity is automatically increased and diminished through a range which can be determined by the adjustment of the apparatus, and that the making and breaking of the circuit is so delicately adjusted that the higher speeds are easily realized.

Barbed Wire Telephones. They are inaugurating a telephone exchange in Fort Benton, Ment., that will put the embryo telephone companies entirely in

the shade. Fort Benton's latest effort is a barbedwire telephone communication. Being by instinct and association cow people, they resented the genesis of the barbed wire and when it was discovered that it was one of the evils that came with the railroad and threw the cowpuncher, the bulltrain and the river steamer out of the game, they decided to take a material view of the situation, and the result is that they are preparing to have a telephone exchange which will take in every ranch from the Missouri river north to the Canadian line and south to the Highwood mountains.

Among the duties of the operator at the toll station, which will be situated at Benton, will be calling the ranchers on the various creeks in the morning, notifying them when the trains are twelve or fourteen hours late, and giving the sheepmen the latest report of the weather bureau, so that they may be ready during lambing heavy rain fell throughout the day. Trees tive in that section.

Ranches are strung all along the line from Benton up Shonkin creek to the mountains, and with a short addition to the over the river banks. No great damage is fences which run continuously, the line will be carried across the Highwood mountains near old Jack Connolly's ranch at Eagle's Head to the thickly populated Highwood district and to the Judith Basin.

When the line is finished the ranchmen of northern Montana will only have to step to the 'phone to be in connection with every city in the state. On emergency cases he can call a physician, or a high, being but two feet above normal, but minister, as the case requires. The latter the storm, which originated in the west is of particular importance in the Bear Paw and Little Rocky region, as some men down there have still the old-time habit of dying in their boots, and even telephone connection with a sky-pilot is a

desirable modern convenience. When a bunch of beef steers stampedes and goes through the barbed wire, central will know that the line is in need of repair and that the beef steers of the Square outfit are losing fiesh by the pound.

Fast Motor Trains.

Swifter than the fastest locomotives, electric cars will begin next month to speed between Chicago and Elgin, Batavia and Aurora, reports the Chicago Inter Ocean. Few trains have ever been run at the speed which, it is claimed, these electric cars will make. They will run so fast that riding in them will be like facing a hurricane and the breezes which will sweep through their open windows forbode disaster for curls, frizzes or any small articles that are not held tightly by their owners. It is a question whether a passenger with his face unprotected will be able to sit at an open window of one of these cars as in the ordinary electric car.

On the trains the newsboys, along with their line of fruit and antiquated literature, will carry a stock of face masks and their first trip through the train will be to urge the women passengers to "rent a face mask and save your hair from being blown down." Like giant racing automobiles the trains will speed across the country, their occupants peering through goggled face protectors and sheltering their heads beneath hoods and vells.

The speed which will be made by the electric trains is not, so the officials of the company say, a wild ante-operation boast. Their stipulation with one of the two largest electric supply houses in the world is that no cars will be accepted whose motors will not make at least seventy miles an hour over any part of the road. The electrical company was amazed at the demand, but now it confidently asserts that not a car will leave its shops that cannot make ninety miles an hour, and that by changing the gearing several of the trains will be able to make considerably over one hundred

miles an hour. The trains will contain from two to sh The cars will be sixty feet long and seat that number of passengers. The motors on each end of the cars will be 500 horse-power in strength and weigh sixteen tons each. The heavy motors will be within eighteen inches of the ground and bring the center of gravity so near the rails that there will be no danger of the cars jumping the tracks on account of the rapid rate at

which they run Chicago's Big Plant.

The projected six-million-dollar electric power plant of the Commonwealth company of Chicago emphasizes the rapid ascendency of electric power for the opera- and arrived in St. Louis without stopping tion of a wide range of mechanical indusand calls attention to the fact that Chicago is fast becoming one of the great- expect it to make the return trip without est centers of electric power development in the world. The Edison company already the saving in fuel alone was 40 per cent.

IN THE FIELD OF ELECTRICITY | nation of the telegraph, telephone and the has available in its various plants in that city not less than 40,000 horse-power. The new Commonwealth plant when completed conversation can be recorded on a steel will have a capacity of 100,000 horsewire or tape and reproduced at any time power. Some idea of its magnitude is conveyed by the statement that it will cover fourteen acres, that it will cost \$5,000,000 and that it will require five or six years to

build it. The installation of such a mammoth plant anticipates not only rapidly increasing demands for electric light, but great and inevitable transformation in the street railway traction systems of the city. To be prepared to supply every form of electrical energy, for lighting, for railway operation and for all kinds of manufacturing industry indicates a purpose to centralize in one great plant the most modern devices that inventive genius and engineering experience have supplied for instituting needed economies in the work of producing electric

Current Notes. Mexico is taking readily to modern electrical appliances. Aiready there are over fifty miles of electric aireet railways in operation in the city conquered by Cortez and fifty miles more will be completed in another year.

An electric flytrap should prove useful as the season advances. One has been pat-ented recently and is omnosed principally of a screen of positive and negative wires and is bated with sugar. The files alight on the wires and the result to them is the same as that to a man sitting in the elec-tric chair.

tric chair.

It is expected that before long the New York fire department will give a practical test to electric motor fire apparatus. The first test, it is understood, will be applied to a hose cart and possibly also to a hook and ladder truck. If it is found to work satisfactorily upon these lighter vehicles the same power will be tried on the engines, which weigh in the neighborhood of 7,000 or 8,000 pounds.

The bounds of th

the hospital tent.

Madison, Wis., is a university town and like most university towns it has a campus upon which grow huge trees. In these trees squirrels have made their habitation, to the great delight of the students and townspeople. For a long time the telephone service of the town has been bad. No one knew why. Finally a curious official discovered that the squirrels had nibbled off the insulation of the telephone cables, cut into wires and wrought havoc in many other ways. Rather than exterminate the squirrels the telephone company determined to keep a force of linemen busy repairing the ravages. But the squirrels have eaten away the insulation faster than the linemen could supply it.

TEXAS DROUGHT IS BROKEN Heavy Rains Fall from Dallas South to Gulf and in Other

Parts of State.

DALLAS, Tex., June 28 .- The long drought prevailing in Texas was quite generally relieved today. Heavy rains are reported from Dallas south to the gulf and many sections north, east and west have received portions of the downpour. The corn crop is said to be beyond redemption, but cotton will be saved. There was considerable alarm for the safety of Galveston through out the day, as a severe gale was reported raging there early this morning and telegraphic communication was entirely interrupted during the day. It was later learned, however, that no damage had been sus tained and that the water was but slightly above normal.

At Houston a high wind prevailed and were uprooted and car traffic was suspended in a portion of the city, but no serious damage was done. At Grand Saline the gale was very strong and the water broke reported there.

GALVESTON, Tex., June 28 .- The wind and rain storm which struck Galveston last night with intensity lasted till late this afternoon. The wind held steady from the southeast and reached a velocity of sixty miles an hour during one and two minute gusts during the early portion of this morning. The tide was not dangerously gulf and passed inland with its center 150 miles west of Galveston, made itself felt on the city. Tonight the wind is blowing thirty miles an hour, but the Weather bureau states that it will veer to the west by morning and produce clear weather for Saturday. The only damage reported in Galveston was the burning out of fifteen motor cars by the water getting into th

electric machinery. HOUSTON, Tex., June 28.-It is said here tonight that a wind of tornado proportions developed near Rosenbery today and blew a Southern Pacific freight train from the track, wrecking it and injuring three or four men. The wires are down and there is no way of getting details.

ANOTHER STEEL COMPANY

Rumor to Effect that New Pennsylvania Concern Will Rival Great Combine.

PHILADELPHIA, June 28.-The North American tomorrow will say: Another great steel company has been formed to ompete with the United States Steel corporation. Several of the highest salaried steel experts of the Pencoyd works, part of the American Bridge company, have left that concern and cast their lot with the capitalist who is behind the new company This man, one of those concerned declares is Percival Roberts, jr., formerly president of the American Bridge company, and for merly a member of the board of directors and the executive committee of the steel

The old plant of the Pottsville (Pa.) Iron and Steel works has been purchased and will be remodeled. The new concern, the Schuylkill Valley Iron and Steel works, will have one of the finest and largest establishments in the country.

The North American also prints a brief interview with Mr. Roberts, who denies the truth of the publication.

CONSIDER OIL FOR Rivermen on Lower Mississippi May

Use Beaumont Oil on

Their Packets.

ST. LOUIS, June 28 .- Rivermen are considering the use of oil for fuel on the packets running out of St. Louis and express the belief if the movement, which has been inaugurated to bring Beaumont oil here from Port Arthur by water, proves successful every vessel plying western waters

will be equipped with oil burners. The arrival of the towboat McRougal from New Orleans today demonstrates the practicability of the use of oil. McDougal was equipped with the burners at New Orleans. It departed with a tow of three barges for fuel. Although a small boat, it did not burn half its supply of oil and the owners paing the balance of its supply. It is said

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Consisting of Cuticuna Boar (25c.), to cleanse the akin of crusts and scales, and soften the thickened cuticle; Cuticuna Cinternative to instantly allay itching, inflammation, and irritation, and soothe and heal; and Cuticuna Resourement (25c.), to cool and cleanse the blood. A Sinule Set is often sufficient to cure the most forturing. THE SET 81. disfiguring, and humiliating skin, scalp, and blood humours, with loss of hair, when all else fails. Sold throughout the world. British Depot: 27.28, Charterboure 8q., London. Preach Depot: 5 Bue de la Paix, Paris. Potent Daue and Cuticuna Resourement. Beaton, U.S. A.

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## Yankees In Europe!

Frank G. Carpenter to Investigate the Great American Peril.

HE WILL SHOW WHAT AMERICA IS DOING AND WHAT IT CAN DO-LIVE LETTERS OF HUMAN INTER-EST ABOUT ENGLAND, FRANCE, GERMANY, RUSSIA AND OTHER COUNTRIES OF CONTINENTAL EUROPE,

Beginning in June The Bee will publish a remarks ble series of illustrated letters from Frank G. Carpenter on what the Yankees are doing in Europe and on the changes which are going on in that continent. The old Europe is fast passing away and a

new country and people are taking its place. Trade conditions are rapidly changing. The people are shaking off their Rip Van Winkie sleep of ages, and beginning to realise that the American Giant of the West has girded his loins and is ready to fight with them for all that is worth having of this world and this world's goods. The fight indeed has already begun, and even at its starting it is in the favor of the West. The greatest countries of Europe are attempting to combat it. Their parliaments already refer to it as "The American Invasion," the Emperor of Germany has called it the "Great American Peril," and the Boards of Trade and Manufacturers of England

stand aghast at the prospect.

In Great Britain, Germany, France, Russia, Holland and Belgium as well as in the other countries of Continental Europe, this increase of American com-merce is steadily going on. The Yankee Exporter has put on the Seven League merce is steadily going on. The Yankee Exporter has put on the Seven heagus Boots of the Twentieth Century, and he is going forth like an electrical dynamo in breeches. He is just now at the beginning of his journey and those who know him best are sure he will not stop until he has distanced all others on the great race track of the world. To describe the new conditions and the thousand and one changes caused by it Mr. Carpenter has planned an extensive tour of the United Kingdom and the Continent. He is now in England and later on will visit Russia, Germany, France and other countries in the interest of our readers.

spoon-feed John Bull to keep him alive, how he sleeps him between cotton sheets at night and how by means of his new electrical machinery he is preparing to carry him to work on our modern street cars. He will show how Eng-

land's coal bids fair to give out and how we eventually must keep our British cousins warm. The New London, the gigantic metropolts of the world as a trade oyster for the American to open will be pictured and a comparison of the big trusts of the "Tight Little Island" and those of

In German Mr. Carpenter will investigate the condition of the American Hog and show how not the farmers, but the rich land holders are fighting against its importation. He will describe how Germany is trying to capture the Ocean by building the best and fastest ships now affoct, and will

make one letter on Kaiser Wilhelm as the Great Interna-tional Drummer who is pushing Germany's trade and business in every way. He will picture Berlin as it is in this year 1902, and traveling over eastern and western Germany will compare their laborers with our workmen and describe the wonderful technical schools which the Emperor has instituted to aid him in making the commercial conquest of the world.

Mr. Carpenter's letters from Russia cannot but be of the greates interest. The Russians next to the Americans are the coming people of the world of the future. Mr. Carpenter will wait the capital, St. Petersburg and give letters about the young Caar and his government. He will investigate for us the changes which are going on in Industrial Russia and will open up a new view of the enormous public works now building. The Trans-Siberian Railroad is only one of those. Russia has canal and other undertakings in hand which are even more wonderful. Russia is already a great manufacturing country and expects to have a great share in the markets of both Europe and Asia in the future. The Russians are now buying millions of dellar's worth of American goods, Mr. Carpenter will tell how these are handled and show year how millions more

Returning again to Germany, the Great Trade Route of the Rhine will be described. Its factories, rather than its castles will form the material of Mr. Carpentar's let-ters and he will carry us along on boats loaded with American meat, wheat and cotton rather than on the scenic pleasure steamers of that famous river. Northern and Southern Germany will give many out of the way letters and Ha the great free port of Continental Europe, and its vast trade with the Snited

States will be especially interesting.

The Yankee in Holland and Belgium will furnish good material. With Mr. Carpents: we shall see how our cotton and wheat are used in the land of "Dykes and Windmills" and learn whether our steel cannot make a foot hold in the beshive of Europe, known as Belgium.

In his tour of France Mr. Carpenter will include the city of Lyons, where thirty millions of dollars worth of silks and vel-vots are made every year. He will show how our own silk mills are fast crowding those of Europe and give Uncle-Sam some points as to how to make his daughter's clethes.

Mr. Carpenter's ability as a correspondent has been well proven. In addition to having visited every part of his own country, he has scaloped South America, has girdled the Pacific cosan from the Aleutian Islands to Van Diemen's Land, and has made three trips to Asia to described continuous.

soribe changes and conditions of that continent. Siam and Java, Burnah and India, Egypt and the Holy Land, Turkey and Greece are well known to him and in this trip to Europe he goes to lands which he has visited many times in the past and which he is now able to describe in the new and changing conditions of this year 1992. These letters will not be confined altogether to commercial subjects. They will take all matters of human interest along the lines of modern progress and will be so written that they will interest, not only the laborer and the capitalist, but every

man, woman and child who wishes to keep abreast of and to know what is going on in the world of today. They will cover such a wide range that they will run for a whole year, beginning in June.

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Carpenter Letters BY SUBSCRIBING FOR THE BEE