

99 1/2 Miles an Hour by Electricity

A seventy-foot car on the Berlin-Zossen High Speed Electric Railway, a military road between the German cities of Berlin and Zossen, made the remarkable speed of ninety-nine and a half miles an hour in a test.

The car which established this new record for railway speed, steam or electric, has been building in Germany for the past year, and has attracted worldwide scientific attention because of its unique constructive feature of having three trolleys, and the expectations of its builders that it would run 134 miles an hour, or more than two miles in a minute.

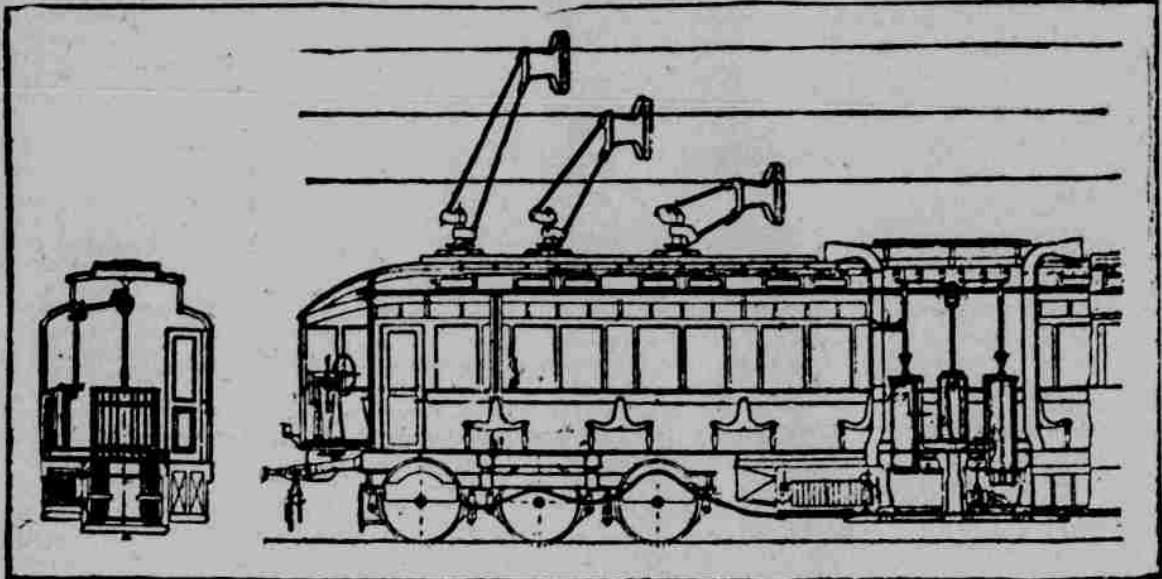
In running at a rate of ninety-nine and a half miles an hour, the three-phase, or three-trolley, electric car

volts, and to wind the motors for this latter voltage.

The car which has come within a half mile of 100 miles an hour was built at Cologne-Duetz to accommodate fifty passengers. Its length over all is sixty-nine feet, and the distance between its buffer plates is seventy-two and a half feet. The full width is eight feet and six inches. The windows of the car are closed, ventilation taking place through the side window of the lofty skylight. The apparatus is in the center, dividing the car into two apartments, though passengers may pass through the apparatus room while the car is at full speed. The trucks, carrying the body of the car, are forty-three feet seven

of each of these arms carries a number of aluminum rods, attached by means of narrow plate springs. The masses of the individual rods must be sufficiently small to insure that they bear constantly against the wire. The head of the arm, carrying the bow, is pressed out of aluminum sheet, and is connected to the vertical base by rods, the base being mounted on ballbearings in the socket of the car. The bow is pressed against the wire by springs, the tension of which is regulated by means of cams.

The Germans and the Austrians claim for the three trolley system immense advantages over the direct current, or single trolley, method. If the Berlin-Zossen line tests continue as



The Three-Trolley Electric Car, Which Has Attained a Speed of 99 1/2 Miles an Hour on a German Military Railroad.

employed 10,000 volts of electricity, 2,000 volts less than the capacity. The current was furnished by the Obersee Central Station of the Berliner Elektrizitätswerke, the distance from the central station to the nearest point on the line conductor being 9.3 miles. The transformers are carried by the car itself, a low voltage (435) being used for the motors. In a paper before the International Engineering congress at Glasgow, Scotland, (printed in America by the Scientific American) A. Laxcher, one of the builders of the Berlin-Zossen road and its equipment, says it is still questionable whether to mount the heavy transformers on the car, or whether it is not better to reduce the high pressure—50,000 volts—by transformers alongside the track to a medium pressure of about 3,000

inches apart. The diameter of each truck wheel is 49.2 inches. Each truck has three axles, the two outer axles carrying the motors. The distance between the wheels measures twelve feet and six inches. The load for each axle is a little more than fourteen tons. Each of the eight motors is adapted for a normal output of 250 horsepower, and for a maximum output of 750 horsepower. The speed of the motor is about 960 revolutions per minute, which corresponds to a car wheel speed of 140 miles an hour. The tension of 12,000 volts, at which the current is supplied from the overhead wire, is reduced in the transformers to 435 volts.

The current is taken from each of the three feeding wires by two trolley bows in parallel. The upper part

satisfactory as they have begun it is not unlikely that it may result in a worldwide substitution of a distinctly European method of transmitting electrical energy for railways of every description.

Easy Traveling by Balloon.

It is one of the peculiarities of travel by balloon that you do not feel anything; all is still with you, no matter how fast you may be going. You see, you are riding with the wind; you move as fast as it moves; you are part and parcel of it, whether you wish to be or not. It takes you in its embrace so firmly yet so softly you do not know it is there. You may be in the teeth of a hurricane, but you never know it; all is calm and placid with you.

Mormon Church in Philadelphia

There is being erected on the corner of Ontario and Howard streets, a church which is the first of its kind to be established in Philadelphia. It will be known as the First Church of the Latter Day Saints, and here will worship the followers of Joseph Smith and believers in the Book of Mormon. Reverend W. E. La Rue and Elder George W. Robley administer jointly to the spiritual welfare of a congregation of over 100 persons. The new church is an imposing edifice of stone and brick which cost \$7,000 to erect and which will comfortably seat 500 persons. The pastor expects the congregation to double its numbers this winter; already he has gained new converts, and although the Mormon doctrines and all who follow them were at first severely condemned by the cloth and the laity of this city, those who listen to the faith set forth by Mr. La Rue find very little to censure, many of the principles being strictly orthodox.

The members of the congregation, although they adhere to the doctrines of Joseph Smith, have little or nothing in common with the Mormons of Utah. They look upon the teachings of Brigham Young as a defilement of the sacred doctrines of the true Mormons.

The pastor and members of this Latter Day Saints Church, says the Philadelphia Times, repudiate the doctrines of polygamy and claim that their social codes differ not the slightest from those accepted as orthodox by city and state.

Wonderful Cave in Montana.

A new and wonderful natural cave, believed to be one of the largest known, has been discovered in the canyon of the Jefferson, on the line of



Rev. W. E. La Rue.



The Church as Planned.

the Northern Pacific railway, about fifty miles east of Butte, Mont. An exploration party from Butte spent several days in the cave, going over an area of ten miles and to a depth of nearly 1,000 feet.

A large river with a cataract of about 100 feet was explored for a distance of several miles without discovering its source or outlet. A few articles of stone and copper utensils and some bones, believed to be human bones, were also found in one of the lower apartments of the cave. There were other evidences that at some time in a prehistoric period the cave was inhabited.

Teaching by Phonograph.

A system of teaching the French language by phonograph is to be tried in England. Several prominent French professors are devoting their energies to preparing phonograph cylinders carrying French lessons upon them. The

phonographic records are accompanied by a book, which contains thirty lessons, each of which corresponds to a phonographic cylinder, and each lesson is ingeniously illustrated. All that the student has to do is to set the phonograph in motion and the book will explain what the instrument is saying. The object of this system is to give the French accent correctly.

Chicago's Many Lawyers.

There are between 8,000 and 10,000 lawyers in Chicago. That is to say, there are between 8,000 and 10,000 men in the city who have studied law and been admitted to practice. Of this number, however, only 4,000 to 5,000, or about 50 per cent, are following their profession. The other 4,000 or 5,000 are in the ranks of trade.

The accumulation of coffee in New York has reached 3,250,000 bags, an unprecedented supply.

NEWLY-FOUND GREEK TABLET 2,600 YEARS OLD

A valuable archeological find has just been reported by the American School of Archaeology at Athens. It is a bronze fragment or plate, dating from the seventh century B. C., containing a decree, or law, emanating from some high official source, king or council, which was intended for the people of Argos. It was recently unearthed a few feet below the surface near the old Temple Herum, at Argos, on one of whose pillars it was tacked.

The inscription is a sort of compact between the City of Argos and neigh-



Greek Alphabet as Written 700 B. C.

boring towns. It also contains an ordinance relating to personal violence, which described the penalty in store for those who sought to annul its provisions.

The fragment is especially noteworthy, as it vividly portrays the form of the alphabet at this early stage of time, and is also one of the oldest known specimens of Argive writings in existence. As a forcible type of criminal code it is worthy of comparison with our modern methods and practices, which are not all that could be desired.

FLAWS OF THE TREATY

Senator Bacon in Speech Proceeds to Point Them Out.

HE REPLIES TO SENATOR LODGE

Disapproval of Canal Treaty not Giving This Country Full Control—Faults of the Old Treaty Still in Evidence—Miscellaneous Matters.

WASHINGTON, D. C., Dec. 12.—Two speeches on the Hay-Pauncefote treaty were made in the executive session of the senate yesterday, one by Senator Bacon in opposition to the treaty and the other by Senator Cul- lom, the prospective chairman of the committee on foreign relations, in support of it.

Mr. Bacon replied to the speech made by Senator Lodge. He summed up his objections in the statement that he could not freely accept any treaty which does not place the isthmian canal entirely under American auspices and American control. This, he said, the pending treaty does not do, nor does it do anything like it. It did not by long odds accomplish what had been accomplished by the senate amendments made to the Hay-Pauncefote treaty at the last session of congress. The Davis amendment, he said, had abrogated all the objectionable provisions of that treaty as negotiated, and it did not matter what provisions there were in the agreement, for long as the United States was authorized as it was by the principal Davis amendment to secure the safety and maintenance of the canal by its own force. That amendment had given this country a free hand to do what was necessary for the protection and defense of the canal, whereas the present treaty carried all the restrictions which were originally contained in the old treaty, leaving out the modifications of the Davis amendment.

He also pointed out that the treaty reproduces the restrictions of the old Suez canal treaty which had been incorporated in the original convention. He charged that these restrictions had been copied almost verbatim from the old treaty, the only material change being in the omission of the words, "In time of war, as in time of peace," from the rule of the Suez canal agreement. This omission did not, in his opinion, change the character of the agreement.

"The only reply," he said, "which the advocates of the treaty make to criticism is that the canal would be under the full control of the United States in time of war, but this is no more true now than under the old treaty, and it is a strange thing that all the provisions refer to the control of the canal in war, notwithstanding it is contended here that in that contingency the removal of this phase places the canal under our absolute control."

He said the war restrictions of the treaty were entirely inconsistent with the claims of Senator Lodge that this country should say who should use the canal and who should not in case of hostilities. He contended that the only power given to Great Britain was found in the last sentence of regulation two, providing that "the United States shall be at liberty to maintain such military police along the canal as may be necessary to protect it against lawlessness and disorder." This, he said, was not sufficient to make the canal an American institution and if the Davis amendment had been necessary to render the original treaty acceptable it was equally necessary in this instance. He considered the pending treaty every whit as objectionable as the treaty of last session.

AGREE ON IRRIGATION BILLS

Western Members Hold Caucus and Select Measures for Support.

WASHINGTON, D. C., Dec. 12.—At a caucus of western members of congress interested in irrigation legislation it was agreed to incorporate in their recommendation for a bill providing for irrigation of arid lands the following essential features:

The money derived from the sale of all public lands shall apply to the revenue provided for irrigation; all irrigation projects shall be under the direction of the interior department; settlers upon such lands shall pay \$5 an acre in addition to the homestead fee; each settler shall be limited to the purchase of 80 acres; charges for irrigating their lands shall not exceed \$10 per acre.

Will Be Gen. Roosevelt.

WASHINGTON, D. C., Dec. 12.—The army board which has been for several months preparing a list of officials which shall be recommended for brevet rank in recognition of gallant services in Cuba, Porto Rico, the Philippines and China has completed its work and the report will be submitted to the secretary of war in a day or two. This list is to take the place of that laid before the senate last session and withdrawn.

"NEBRASKA CATTLE KING" FREE

Abe Moore Gets Out of Chicago Jail After a Year's Confinement.

CHICAGO, Dec. 16.—After a year in the county jail Abe Moore, "The Nebraska Cattle King," walked out a free man.

Moore was released on a writ of habeas corpus by Judge Dunne. He had been held in jail under a fine of \$1,000 and filed a petition as a poor person. It was shown to the court that he could not pay the fine and that nothing remained except to discharge him, as the additional sentence of Judge Waterman for one year in jail expired yesterday.

Though comparatively a young man, Moore was known in the west as a "cattle king." He established a credit among stock yard dealers in Chicago and was enabled to draw upon them to a considerable extent.

In the spring of 1889 Moore drew heavily upon the Strahorn-Hutton-Evans Commission company. According to the story he represented that he had 900 head of fat cattle in the stock yards at South Omaha. These he was desirous of advancing to the Chicago Union Stock yards. But it was necessary that he have money to secure the release of the stock. He gave a mortgage upon the latter, it is asserted, and the money was sent to him. Later it is said no such cattle could be found.

Moore was convicted of obtaining money by false pretenses.

ENTITLED TO WATER POWER

The State Board of Irrigation Decides a Question.

LINCOLN, Dec. 14.—The state board of irrigation delivered a decision in the case of the Farmers' and Merchants Irrigation company of Lexington against the Gothenburg Power and Irrigation company, holding that the latter is entitled to appropriate water from the Platte river under its original claim for use in an extension of the canal east of Gothenburg. Under the claim the Gothenburg company asked for permission to use 200 cubic feet of water per second for the irrigation of specified lands and for the operation of a power plant at Gothenburg. The application was allowed and since the plant was put into operation the canal was extended fifteen miles eastward, so that instead of returning the water from the power plant to the river it was turned into the extension. The Farmers' and Merchants' company demurred to this action, contending that the water could be used only for the purposes specified in the claim. Former Secretary Wilson upheld this contention and the case was appealed to the irrigation board. Under the decision of the board the Gothenburg company may turn the water into its extension canal.

LOOKS BRIGHT FOR IRRIGATION.

George H. Maxwell Discusses Probable Action of Congress.

OMAHA, Dec. 14.—The presence of George H. Maxwell at the meeting of the Commercial club's executive committee naturally turned the subject of discussion to irrigation. The secretary of the National Irrigation association made a short address, in which he congratulated the members of the committee on the fact that the message of President Roosevelt and the report of Secretary Hitchcock were practical and full endorsements of the ideas advanced by the association and endorsed by the Omaha Commercial club. He advised the members to stand firm to the plan of the association, and said that the fight upon the measure will come from the western representatives, the majority of the representatives from the east who have expressed opinions being in favor of the association's plan. Referring to an article from the Brooklyn Eagle, he said that it represented the sentiment of the eastern representatives and that they would stand for no plan contemplating state ownership and control. A general discussion followed, in which each speaker pledged himself to spread the sentiment in favor of the plan endorsed by the national administration.

Normal Will Not Accept.

LINCOLN, Neb., Dec. 16.—Judge Norval has given his friends a positive statement that he will under no consideration accept the commissionership which will be vacant upon Judge Sedgwick taking his seat on the supreme bench. Judge Norval says that he intends joining with his two brothers in the practice of law in his home town of Seward.

Territorial Pioneers' Meeting.

BROWNVILLE, Neb., Dec. 16.—The annual meeting of the Nebraska Territorial Pioneers' association will be held at University chapel, Lincoln, Tuesday, January 14.

Wreck on the Burlington.

M'COOK, Neb., Dec. 16.—Accommodation train No. 175 on the Imperial branch was wrecked near Palsada. Eight cars were derailed, but no one was hurt.

GETTING TO THE FRONT

Manufacturing Capital in Nebraska Shows Handsome Increase.

OUTLOOK IS VERY ENCOURAGING

Census Bureau Issues a Report that Reveals Remarkable Progress in the State—Court Dockets Being Cleared—Miscellaneous Nebraska Matters.

WASHINGTON, Dec. 11.—The census bureau has issued a preliminary report on the manufacturing industries of Nebraska, showing a total capital invested of \$71,978,877, an increase of 92 per cent since the census of 1890, and value of products \$143,986,127, an increase of 55 per cent. Other figures are:

Establishments 5,413 wage earners 24,471, total wages \$11,670,268, miscellaneous expenses \$6,933,748, and cost of material used \$102,196,397.

Statistics for the three cities separately reported follow:

Lincoln, capital \$2,608,992, increase 11 per cent, value of products \$4,105,951, increase 11 per cent; establishments 252, wage earners 1,736, cost of material used \$2,173,345.

Omaha, capital \$34,282,063, increase 87 per cent; value of products \$42,991,876, increase 2 per cent; establishments 837, wage earners 7,422, wages \$3,755,810, cost of materials used \$22,113,388.

South Omaha, capital \$16,471,328, value of products \$70,080,941, no subsequent figures for 1890; establishments 139, wage earners 6,606, wages \$3,368,591, cost of material used \$61,277,486.

CLEARING UP THE DOCKET

Supreme Court is Catching Up With Its Work.

LINCOLN, Dec. 11.—According to Clerk Herdmann of the supreme court, rapid strides are being made in reducing the size of the docket. When the commission began work the court was about six years behind in business. If the present progress is continued it is estimated that the docket will be cleared before the next session of the legislature, which convenes in January, 1903. It is noted that the number of appeals to the supreme court are decreasing, particularly in that class of cases which are appealed merely to occasion delay.

When it took from four to six and seven years to reach a case, mortgage foreclosures and other suits in which the adverse party might profit by tying up litigation for an indefinite time were appealed with great frequency, while other cases, really meritorious, in which the average party could not afford to wait the tardy action of the supreme court, he would compromise instead of appealing. Now conditions are reversed. Cases are seldom appealed for the mere purpose of delay, and meritorious ones are usually taken up with the result that a better class of litigation is being entertained now than before the commission's appointment.

Iowa Traveling Men Meet.

DES MOINES, Dec. 11.—The twenty-first annual meeting of the Iowa State Traveling Men's association was held here, with an attendance of about 500 from Iowa and adjoining states. The old directors were re-elected and W. H. Wheeler and F. E. Haley were re-elected president and secretary. An incident of the convention was the appearance of A. B. Cummins, who has long been the counsel of the association.

Game Warden Alert.

THEDFORD, Neb., Dec. 11.—Deputy Game Warden Frank Nash and Sheriff Crow arrested A. L. Leland and Harry Leland on the Lismal river in this county, and brought them before Esquire Wright. The boys pleaded guilty to hunting without a license and each one was fined. Thomas county is a hard place for the poacher.

Sugar Factory Shut Down.

FREMONT, Neb., Dec. 11.—The sugar factory at Leavitt closed its season's work, after a very successful run. The factory has been in continuous operation since October 1, and the delays experienced the first two seasons have been entirely absent.

Falls to Slab His Heels.

SUTTON, Neb., Dec. 11.—Wes Alberts stabbed Ed Scott with a knife, the knife being aimed at his heart. Scott, parried the blow and received the knife in his arm. It severed the muscles down to the bone.

Dies Twenty Minutes' Apart.

FREMONT, Neb., Dec. 11.—Isaac H. Brown and wife, Mrs. Sarah Brown, died at their home within half an hour. They were nearly eighty years of age. Mr. Brown had been in poor health for years and was attacked with heart trouble. A physician was summoned, but when he arrived he was dead. Twenty minutes after he was again called to the Brown residence and found that Mrs. Brown had just breathed her last.