

MONO-RAIL SYSTEM TO REVOLUTIONIZE RAILROAD TRAVEL

May Relegate Steam Locomotives and Heavy Coaches to the Scrap Heap.

FINANCIAL GIANTS ARE INTERESTED

Men of Millions Stand Ready to Test Practicality of Scheme of Howard Hansel Tunis—Speed of 150 Miles an Hour Is Among Promises Made.

New York.—A young mechanical engineer, for a little more than three years, has been mystifying and amusing persons living near his father's home at Windsor Hill, just outside of Baltimore, by his experiments with a single rail railroad that he has constructed.

Recently all the newspapers in the city contained the authoritative announcement that John H. Starin, who has made millions in transportation enterprises; Charles Stewart Smith and Woodbury Langdon, all members of the Rapid Transit commission, were to back a company which will build this young engineer's single rail railroad from Jersey City to Newark.

Formal announcement of the incorporation of the new "mono-rail" company is expected soon to be made in Trenton, and this, it is announced, is to be followed in the next four or five weeks by the announcement of a deal by which the new company has acquired a franchise and terminal sites in the two cities—rights presumably owned by some existing company. Inside of a year, it is promised, mono-rail trains will be skimming across the marshes from Jersey City to Newark, realizing the newest slogan in modern rapid transit:

"To Newark in ten minutes."

Idea Is Revolutionary.

If what the young Baltimore engineer confidently claims for his "mono-rail" be true—and he has convinced such hard-headed business men as Starin, Langdon and Smith that it is true—modern railroading will be revolutionized by his invention. It will relegate to the scrap heap the two-track railroad, the ponderous, coal-eating locomotive and the big, heavy eight-wheeled cars along with the stage coach and the paddle-wheeled steamboat. His new invention, if his claims are well founded, is as far ahead of the locomotive-drawn train, running on two tracks, as the flying machine is ahead of the balloon.

That trains will run easily at a speed of 150 miles an hour on a single rail in perfect safety, without vibration and the swinging side-wise motion of the present day railroad trains, and that tracks and cars can be built and operated at less than half the cost

of the present equipment—this, in brief, is the young engineer's claim.

That he can do what he says is not only believed by a practical transportation man of 40 years' experience like John H. Starin but by a big firm in Wall street which has agreed to underwrite all the bonds required to put through the Jersey City to Newark "mono-rail," and by scores of others who have investigated the new plant and are anxious to become financially interested in it.

Easy to Lay Tracks.

According to an interview printed in the Newark newspapers, the linking of the new "mono-rail" line with the McAdoo tunnel is a possibility. Bion L. Burrows says that it would be a matter of the greatest ease to run the trains from the "mono-rail" road right into and through the McAdoo tunnel without interfering with the operation of trains over the two rail line. All that would be necessary would be the laying of a single rail between the two rails, and the installation of the necessary overhead rails to preserve the equilibrium of the "mono-rail" trains.

If this is done, it is asserted, passengers can be carried from Newark to the heart of Manhattan in ten minutes. That he is willing to enter into an operating agreement with the "mono-rail" company, William McAdoo, head of the tunnel company, is quoted as saying.

This new "mono-rail" system, invented by the young Baltimorean, is totally different from the various other "mono-rail" systems, some of which are in practical operation in England, Ireland, Germany and Austria-Hungary, and others of which are seeking a foothold. It is entirely unlike the system, for instance, for which F. B. Behr, an Englishman, has been seeking a franchise between Atlantic Ferry, Brooklyn and Coney Island. On Mr. Behr's road the cars "straddle" a single triangular rail. In Germany the "mono-rail" system which has been successfully operated is one from which the cars hang suspended. In Ireland there is a system in operation very similar to the Behr system.

The young Baltimore engineer's plan, however, differs radically from all of these, and is, according to his

without being steadied by the overhead arrangement.

Cars Will Be Light.

Then, the cars are to be extremely light as compared with modern railroad cars—another element contributing to high speed. They will not weigh over seven tons.

Right here, in the two points just referred to, is the great advantage claimed by the backers of Engineer Tunis's system. Mr. Burrows in describing its advantages said that engineers had long recognized the fact that the great sprawling cars of the present, with their immense weight, are theoretically wrong.

"These big heavy cars are in effect houses set upon wheels," he said. "These wheels are placed four feet eight and one-half inches apart, with the center of gravity between them. The first and greatest essential to the whole system is that the cars must be heavy in order to remain on the tracks. Here, then, is the whole key to railroad inefficiency, that in a system whose only excuse for being is the ability to make speed the principal requisite should be great weight. In short, having to overcome gravitation, they start out by making it impossible. It requires no great mechanical ability to discover that a one-rail track is greatly superior to a two-rail track, if one goes no further than to see that one wheel will only have half the obstacles to overcome that two have."

Economy in Operation.

Still another claim for the mono-rail trains is that they can be operated very much cheaper because of the economy in power it is possible to realize. According to railroad men, from 15 to 30 per cent of the power used to operate trains is lost in the sidewise, swinging motion of cars. The Tunis mono-rail trains, it is declared, have a straight ahead motion, without any side-swing.

Nothing which ever moved on wheels can equal the speed claimed for the Tunis "mono-rail" trains. One hundred miles an hour is an easy matter, and the cars can be pushed to 150 miles without any difficulty. And, while the cars are going at this speed, it is claimed that the motion is so gentle that passengers are barely aware of the fact that they are moving. The jerky, swinging motion of two-rail trains is declared to be entirely absent.

As if all this were not enough to

claims, safer, faster and cheaper by far to build.

Construction Details.

The single track is laid across ties about three and a half feet in length—the same sort of ties used in the construction of the present day two-rail tracks, except that they are shorter. Sixty-pound rails instead of the standard 100-pound rails are used. Overhead, 20 inches apart, are suspended two parallel rails, L-shaped on the inside. These overhead rails are supported by steel pillars placed at intervals along the side of the road and connected by steel beams stretched across the track.

On top of each car at both ends is attached an inverted truck. This is raised from the car by a strong steel arm, corresponding to a trolley pole, and the four wheels attached to the inverted truck fit into the "L"-shaped inner surface of the overhead tracks. The trucks are in the form of an X, with a wheel at each of the four points of the "X." The "X" is flexible, opening and closing to accommodate itself to the curves.

It is this overhead truck arrange-

ment which constitutes the distinctive feature of the invention of the young Baltimore man, and marks its greatest difference from the other "mono-rail" inventions. The overhead truck arrangement, with the four wheels, horizontally set and working on the inside of the overhead tracks, steadies the car and gives it its equilibrium. Power is also transmitted from these overhead wires for the operation of the cars.

One of the claims made for the Tunis "mono-rail" is that trains running on it will be practically noiseless. One reason given for this is that the guide wheels on top, which run in the overhead rails, are of cast iron, oak and leather and are so constructed as to make but little noise. They also have ball-bearings and this makes tremendous speed possible. The guide wheels are only eight inches in diameter and less than two inches thick. Another feature of the car which contributes to its noiselessness is the use of the direct current motor.

Engineer Tunis claims that the only proper system of railroad construction is the single track, because the double tracks are in opposition to the laws of gravity, and make necessary tremendously heavy cars.

In his cars, Tunis explains, the bottom will be but 20 inches above the rail, and thus the center of gravity will be very low. The cars will have an almost perfect equilibrium, even

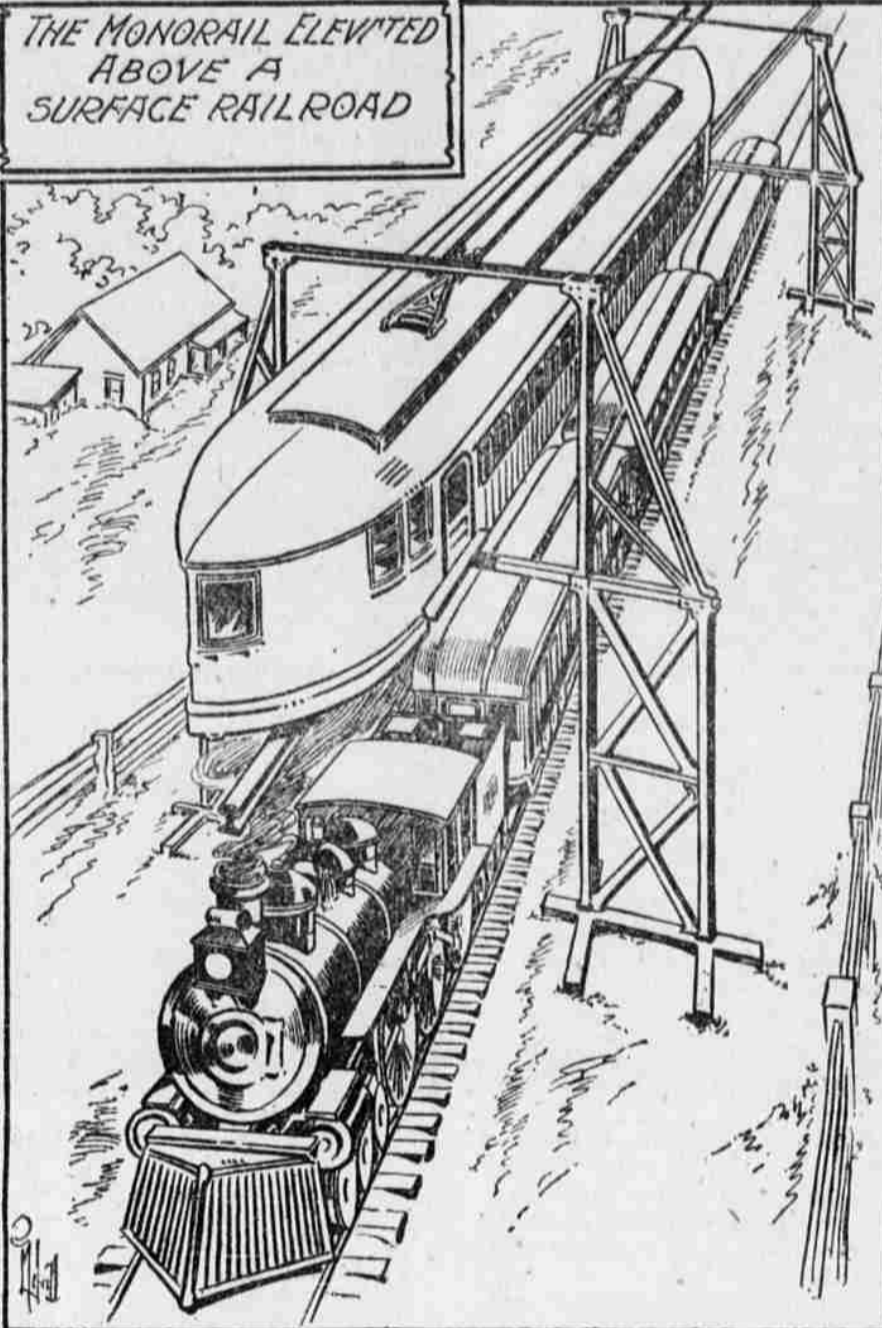
complete the eclipse of the present system of railroad construction and establish the "mono-rail" as pre-eminent, still another tremendous advantage is claimed, and this is the most important of all—the matter of cost.

It is the cheapness of the cost of the system, which, if it is what is claimed for it, threatens to revolutionize railroad construction.

Means Immense Saving.

According to the estimates made for the New York backers of the project, a four-track, elevated line, such as it is proposed to build between Jersey City and Newark, can be constructed for \$75,000 per mile. To build a four-track elevated road, similar to the present elevated system in this city, would cost \$900,000 per mile. This does not include the cost of power or equipment—only the structure and tracks.

The projects of the new enterprise figure upon building the eight miles of elevated track between Jersey City and Newark for \$2,000,000. To build the ordinary type of elevated road, with four tracks, would cost between \$7,000,000 and \$8,000,000. It is this cheapness of cost which inspires the backers of the enterprise to hope that they will reap tremendous profits, and that the success of this initial road between the two Jersey cities will be followed quickly by



the building of similar roads all over the United States. The overhead truck system used in the Tunis system is patented.

Much Interest Aroused.

How active interest in "mono-rail" railroads is, is shown by the fact that following the announcement of the plans to build the New Jersey line, the promoters of the company have been besieged with inquiries from persons who want to introduce the system in other places. One inquirer was a capitalist who holds the concession for a 400-mile railroad in South America, much of the route of which runs through inaccessible country. The Tunis "mono-rail" is especially adapted for use in a rough country because of the fact that the lightness of the cars makes it possible to operate the trains up almost any reasonable grade.

To all these inquirers the promoters say they have replied that they are not in the field for the exploitation of the new system, or even for money making. Mr. Starin, the leader in the enterprise, has announced that his object is not to make money so much as to put into practical use an invention which he believes to be the coming railroad system of the future.

No Stock to Be Sold.

His hope to have a railroad which will carry people from this city to Newark in almost an inappreciable space of time, and to give an example to other railroad companies in the good treatment of employees. It is announced that no stock of the new company is to be put on the market, and that all the money that is wanted to push the enterprise will be realized by an issue of bonds at the right time. A big Wall street firm has already agreed to underwrite them.

Expert System to Be Popular.

That they ultimately expect their system to be widely introduced the promoters of the new road do not attempt to conceal. This, they expect, will speedily follow a practical demonstration of its success.

Howard Hansel Tunis, the young inventor of the system, is at Jamestown, where he is superintending the running of trains over the experimental half-mile track. Tunis wanted a much longer track, but it is said that the trolley companies of Norfolk were too influential with the exposition management and he was restricted.

NEBRASKA IN BRIEF

NEWS NOTES OF INTEREST FROM VARIOUS SECTIONS.

ALL SUBJECTS TOUCHED UPON

Religious, Social, Agricultural, Political and Other Matters Given Due Consideration.

Harvert hands in Gage county are getting \$2.50 per day and board.

James Baxter and Robert Corby have been lodged in jail at Bloomington.

Former Governor Mickey has decided to return to Osceola, which place was his home before he was elected governor.

Soellner Bros. Clothing and furnishing store at Scotts Bluffs, was almost destroyed by fire. The stock was valued at over \$10,000.

The Carroll Lumber and Grain company has filed its articles of incorporation with Secretary of State Jenkin. The capital stock is \$50,000.

Seventeen new members were received into the Presbyterian church at Lyons on Sunday, three of them being received by letter and fourteen on confession of faith.

Treasurer Brian has received word from eighteen banks which refuse to pay the 3 per cent interest on state deposits and he is now withdrawing the state money from these banks.

The Primrose Record scores farmers and others who drive into town and hitch their horses in the scorching hot sun, leaving the animals without shade or water for hours at a time.

Frank Sohlegter, proprietor of a fruit stand at Hastings was seriously and perhaps fatally injured by falling into the elevator shaft of a wholesale house, where he had gone to place an order.

State Superintendent McBrien has gone to Los Angeles to attend the National Education association meeting, at which he is to appear twice on the program. He expects to be gone at least ten days.

Peace reigns again at the brick plant in Humboldt and the machinery is again running at full blast. Practically all of the strikers have been taken back on application and are filling their old places.

Monday morning William Vandenberg, of Nebraska City, who was sent to the asylum some time ago as a dipsomaniac, was taken to Lincoln again, as he had violated his parole. He is a resident of Talmage.

Alexander Maril, a Bohemian farmer who lived near Morse Bluff, lost his life on the Superior line of the Northwestern when freight train No. 204 ran over him. Maril was asleep on the track. He had been drinking.

At a mass meeting of the citizens and business men of Beatrice it was voted to hold a three days' celebration and trade carnival in commemoration of the fifteenth anniversary of the founding of the city of Beatrice, ton, charged with criminally assaulting Miss Mary Koehn. The story of the alleged crime as related by a younger brother of the victim, is that one of the men held him while the other bound and gagged his sister and then committed the crime with which they are charged.

A report was received in Beatrice from Marysville, Kan., to the effect that the first new wheat marketed at that place tested sixty-four pounds to the bushel. Farmers in Gage county are of the opinion that there are a number of fields which will yield as high as thirty-five bushels to the acre.

It is said that the big cut of the Burlington near Milford is nearing completion, and that but about seventy thousand yards of dirt yet remain to be moved on that particular part of the work. The big steam shovels have been burrowing into this hill for a year, with the result that a great gash has been cut.

All Nebraska dairymen have been asked by the state railway commission to attend a public hearing on August 6 when the new proposed rates on milk and cream will be discussed. The commissioners are of the opinion that the new schedule increasing the rates on cream will discriminate against the small creamery.

Herman Boche, awaiting trial at Madison for murdering Frank Jarmer at Norfolk, tried to commit suicide four times during the day, but lived. Three efforts were by hanging one by battering his head against the cement floor of the jail. Earlier Boche also tried to run away while walking about the jail yard with Sheriff Clements.

A traveling man who spent Thursday and Friday along the line of the Union Pacific in Nebraska said he saw a carload of hogs turned out of a stock car into the yards at a little way station, and that half of the hogs died from heat soon after. When they were unloaded some of the animals were almost exhausted, and they died soon after.

A. J. Anderson, pile driver foreman for the Burlington railroad, lost his life by drowning, while at work near Gibson, four miles south of Omaha. He was working on the driver and in some manner lost his footing and fell into the river.

The State Board of Equalization will meet this week to begin work of equalizing between the values of the various counties as fixed by the county assessors. So far only thirty-five counties out of the ninety have been reported, but all are expected to be in within the next few days.

MURDERER ON THE STAND.

Slayer of Brother and Sister-in-Law Tells His Story.

Lincoln—A self-confessed murderer on the stand explaining his own emotional insanity and reviewing his own feelings when tempted to murder was the strange situation in the district court of Lancaster county. Frank Barker, who killed his brother and his brother's wife two years ago in Webster county, was called to the witness stand and made to tell the story of his crime. He did this calmly and without any hesitation or display of feeling.

The first questions addressed to Barker were intended to show that a tendency toward insanity is hereditary in his family. He told of the sick, dizzy headaches with which his mother used to suffer and of her early death. The fact that his brother murdered his sweetheart, her mother and daughter and then killed himself was brought out.

On the night of the murder Barker said that he attended church, after which he took his sweetheart home. Then he went to his father's home, on the way meeting his brother Dan and resisting a desire to kill him. Later he drove to his brother Dan's farm, put his team away in the barn, entered the house and shot his brother. Barker declares that he remembers only the shooting of his brother and related his surprise when, on awaking in his bed next morning with his clothes on, he went down stairs and found his sister-in-law also lying dead on the floor. He left the bodies there all day, he said, and occupied himself with the usual chores about the place, but that night he dug a hole in the cattle shed carried the two bodies out, threw them in and covered them up. When asked why he denied all knowledge of the murder until the bodies were found, Barker said that he did not know. During the cross examination Attorney Blackledge tried to show that there was sufficient motive for a sane man to commit the crime, but Judge Hamer, Barker's attorney, met nearly every question with objections, declaring that they did not care to try the old case over again. Many of the objections were sustained. When asked to tell of his peculiar experience, Barker told of his inability to find his way home once when he was herding sheep a quarter of a mile from the house. Another time he was unable to make a lister work when planting corn, but when he returned to it after a few hours absence, he could manage it perfectly.

CHEA SUPPLIES FOR STATE.

Board of Purchase Adopts New Method of Doing Business.

Lincoln—The plan adopted by the State Board of Purchase and Supplies to buy supplies for the state institutions from dealers having the lowest bid on the individual items, rather than sticking to the old plan of giving the bidder with the lowest total the entire contract for an institution, has proven entirely satisfactory to the state board at least. At the recent letting more than a few thousand dollars was saved. While it is impossible at this time to figure just what amount was saved, reference to a few items shows that the saving was a large sum. On one item alone there was a difference of \$208, and the highest bid on the item was only \$600. This was for apricots for a state institution. The highest bid was \$600 and the lowest \$292. The total bids made by these two firms were very close together. On twenty-five items the difference was from \$2 to \$3, and on fifty items, in some instances, the difference was \$14 and \$15.

Resort to U. S. Court.

Lincoln—The express companies have sought refuge in the federal court from the threatened state supreme court injunction, commanding them to obey the Sibley rate reduction law. The express companies' cases are now on the same basis as the railway cases and will be taken up for argument in a few days. Attorneys for the corporations allege that state courts have no jurisdiction.

Prize Boozer at Taylor.

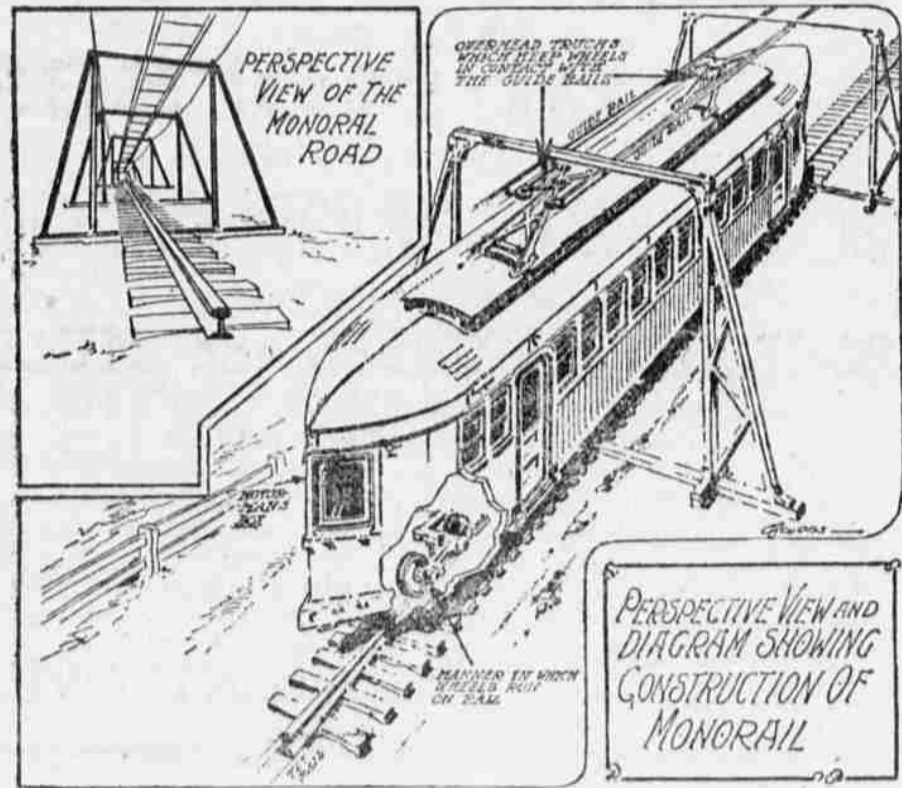
Taylor—Emory Snyder got intoxicated July 3, drifted into a canyon southwest of Taylor and emptied six quart bottles of whisky before he came out on the morning of the 5th. Sheriff Evans has charge of him now, and will hold him for Sheriff Richardson of Custer county, who will take him to Lincoln to be treated for dipsomania.

Bail for Alleged Slayer.

Pawnee City—Ernest Frank, under arrest here charged with the murder of his wife, was admitted to bail by Judge Ruper in the sum of \$15,000 to appear at the October term of the district court. The amount of bail was readily furnished by old neighbors of the accused.

Irrigation Case Argued.

Attorneys for the Belmont Canal company who some time ago made application for more water to be taken from the North Platte river and who argued their application before the state Board of Irrigation, have been notified to file briefs with the board. This company operates the Cheyenne canal and irrigates 35,000 acres of land. It was awarded 270 feet of water 400 cubic feet. Parties down the stream filed objections to the request, as did parties at North Platte.



PERSPECTIVE VIEW OF MONORAIL ROAD

PERSPECTIVE VIEW AND DIAGRAM SHOWING CONSTRUCTION OF MONORAIL

OF THE PRESENT EQUIPMENT—THIS, IN BRIEF, IS THE YOUNG ENGINEER'S CLAIM.

That he can do what he says is not only believed by a practical transportation man of 40 years' experience like John H. Starin but by a big firm in Wall street which has agreed to underwrite all the bonds required to put through the Jersey City to Newark "mono-rail," and by scores of others who have investigated the new plant and are anxious to become financially interested in it.

First Practical Test.

Starting on a short half-mile stretch of track inside the exposition grounds at Jamestown, the first practical test of the new road was made in public, although for three years the young inventor, Howard Hansel Tunis, has been experimenting in the suburbs of Baltimore.

More than a dozen noted engineers, among them Chief Engineer George S. Rice, of the Rapid Transit commission, have investigated the new invention and have pronounced it practical. Some of them assert that it will revolutionize modern railroading because of the tremendous speed which it

claims, safer, faster and cheaper by far to build.

Construction Details.

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