

The Annihilation of Space.

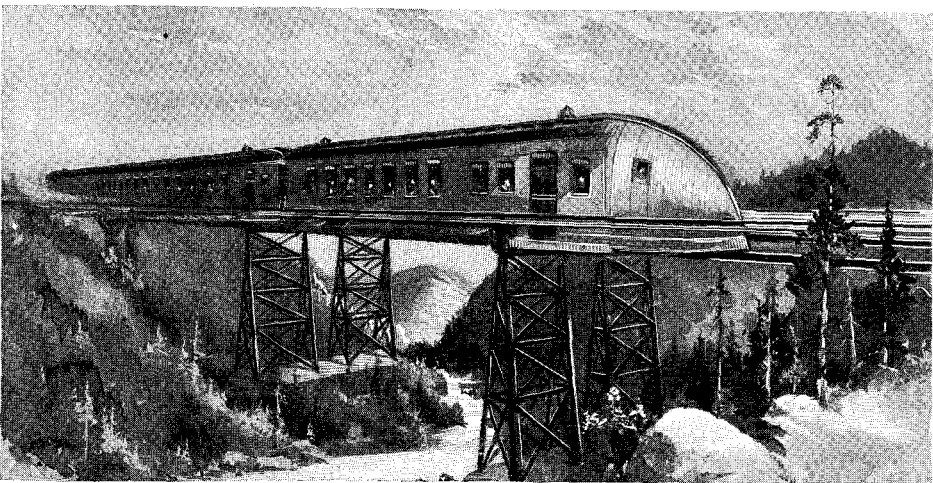
BY FRANK A. MUNSEY.

WHEN PHILADELPHIA, BALTIMORE, WASHINGTON, PITTSBURG, BOSTON, AND BUFFALO WILL BECOME SUBURBS OF NEW YORK—WHEN CHICAGO WILL BE WITHIN FIVE HOURS, AND SAN FRANCISCO WITHIN FIFTEEN.

THERE has been more or less published from time to time during the last dozen years about the single rail or bicycle idea in railroading. No one knows how many inventors have worked on this theory or how much capital has been swallowed up in experiments. But only three systems, I believe, have attracted much attention. These are the Boynton, the Brott, and the Beecher. The first of these has not been heard of for years, and little or nothing has been said or done about the Brott system since the bill introduced in Congress several years ago for a charter for a road between New York and Washington was killed. But recently a good deal has been printed in the daily press about the Beecher system, and this may reawaken a general interest in the high speed railway idea. I have been interested in it from the first, and for the reason that the present methods of travel are not sufficiently rapid. Distances in this

country are too great. Space must be annihilated.

The railroad has done a good deal in this way. It has revolutionized society and business, and has brought Chicago closer to New York than Philadelphia was when Jefferson was President. It has developed the great West, and made its citizens our neighbors. The railroad has been the greatest space annihilator of the century. But now it is too slow. Sixty miles an hour is not enough. We demand more, and it is doubtful if the present railroad can materially increase its speed with safety. We want two hundred. We want to bring Chicago within five hours of New York, and San Francisco within fifteen. We want to make Boston and Washington and Baltimore and Buffalo and Pittsburg and Philadelphia suburbs of New York; not literally suburbs, but in the sense that they can be as easily reached as the immediate suburbs are today. Two hundred



THE BROTT BICYCLE RAILWAY—THE TRAINS OF THIS SYSTEM, HEADED BY A CAR SO SHAPED AS TO DIMINISH AIR RESISTANCE, RUN UPON A SINGLE RAIL IN THE CENTER OF THE TRACK, AND ARE KEPT IN PLACE BY SMALL WHEELS RUNNING UNDER GUIDE RAILS AT EACH SIDE (SEE CROSS SECTION ON PAGE 36).

A SPEED OF ONE HUNDRED AND TWENTY TO TWO HUNDRED MILES AN HOUR IS CLAIMED.

miles an hour will do it, and two hundred miles an hour, it is claimed, is now possible, and with greater safety than the speed of the present railway.

Two hundred miles an hour, appalling as it seems, does not touch elbows with the impossible. The best steam railway locomotives of today have come within measurable distance of this pace. A speed of one hundred and thirty five miles an hour has actually been recorded. The engine which made this record is owned by the Chicago, Burlington & Quincy. With one hundred and thirty five miles as a basis, it isn't a very great stretch of imagination to fancy a speed of two hundred miles an hour.

But it does not follow that this high speed of the locomotive will give us faster trains, and for the reason, it is claimed, that the speed of passenger trains cannot be greatly increased with safety and economy. For example, the Empire State Express, running between New York and Buffalo, which is considered to be the fastest long distance train in the world, makes an average speed of only about fifty seven miles an hour. I don't know what the average speed of the average passenger train of the country is, but I should fancy that it would not be in excess of thirty five miles an hour—perhaps not so much. This is not a technical article; if it were, I should not write it.

The point I wish to make is that the railroading of today isn't the fastest thing in the world. As compared with the old stage coach, it is lightning; as compared with the telephone, it is the old stage coach. We are ready for something faster. The question is, can the present railroad give it to us with safety, and will it? If not, why shouldn't we look to something new? We have been watching the flying machine inventors patiently and hopefully, but there is no machine yet in sight that has much, if any, promise. It may be that the bicycle railway will solve the problem and give us both the flying machine and genuine rapid transit.

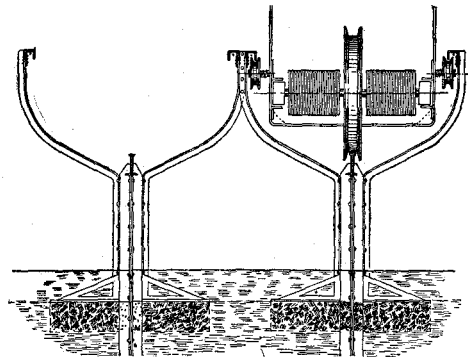
I had a talk recently about this bicycle railroad with a very able railway engineer,

and he said there is nothing in it. I am not so sure that he is right. He has spent all his life on the old theory. His point of view may be wrong.

If it is a fact, as Beecher claims, that his cars cannot run off the track, no matter how fast the speed, I am not sure that I need to know much about the science of railroading to be able to see the possibilities of high speed in his idea. It must be apparent to all that the first thing to make sure of, in doubling and quadrupling the speed of the present passenger train, would be to keep it on the track and to make it impossible for it to jump the track. Starting with this as a foundation, it looks as if our clever inventors should be able to solve all the other prob-

lems in the way of the desired speed. They may already have been solved by Boynton, Brott, and Beecher in a more or less crude way, but not more crude, perhaps, than were our early railways in comparison with the present roads.

It was a dozen or more years ago that E. Moody Boynton, of Massachusetts, built an experimental road at Coney Island to set forth the merits of the bi-

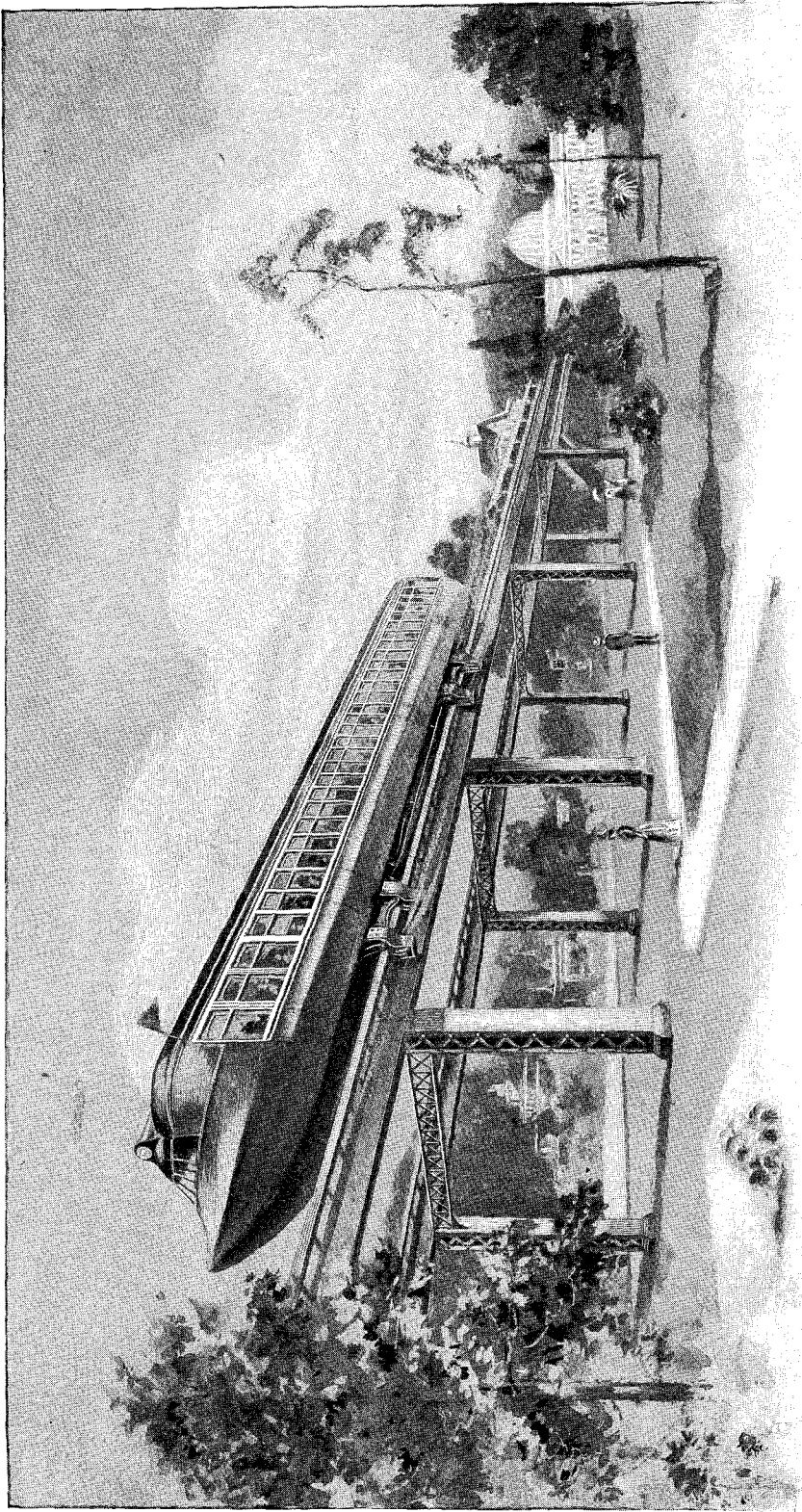


THE BROTT BICYCLE RAILWAY — CROSS SECTION
SHOWING THE SINGLE RAIL UPON WHICH RUNS
THE TRACTION WHEEL, AND THE GUIDE
WHEELS AT THE SIDE.

cycle idea in railroading. It attracted a good deal of attention and worked more or less successfully. He did not have the advantage of electricity as a motive power, his experiment antedating the use of electricity for this purpose. The fundamental idea in his system, it seems to me, was the impossibility of his car leaving the track. He sought to accomplish this result by an overhead guide rail. It was a clumsy and costly affair.

His idea was taken up by Colonel George S. Brott, of Washington, and Captain Lina Beecher, of New York. One of Brott's early notions was to run his train in a sort of steel trench, with guide rails half way up the side. This was finally modified, so that the guide wheels now appear near the base of the car; but they are still on the side, and operate on lateral tracks. The cars were to be practically as large as ordinary railroad coaches, and were to be made up into trains.

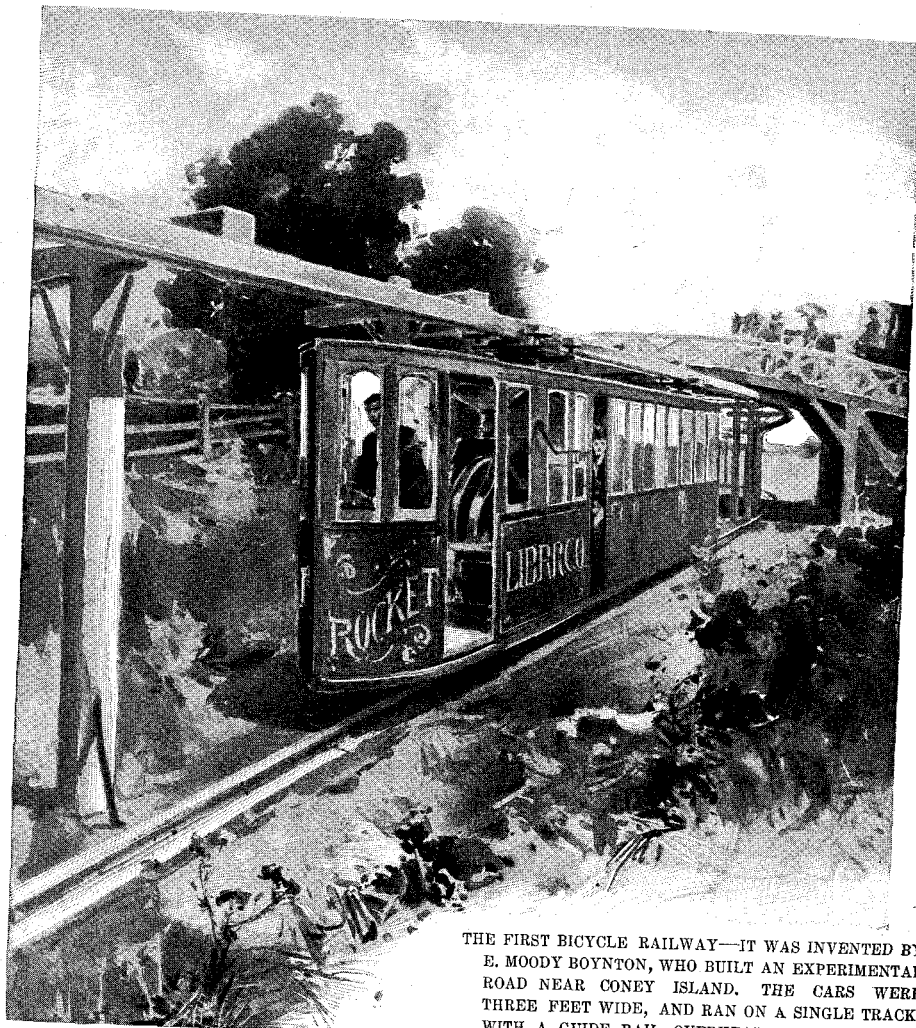
There are many points in common between the inventions of all the men in-



THE BEECHER MONORAIL PROJECTILE CAR, WITH WHICH IT IS CLAIMED THAT A SPEED OF TWO HUNDRED MILES AN HOUR CAN BE MAINTAINED. THE CARS, WHICH WILL RUN SINGLY, ARE TO BE OF ALUMINUM, AND EACH WILL CARRY FIFTY PASSENGERS. THE DRAWING SHOWS THE GUIDE WHEELS UNDERNEATH THE TRACK, WHICH MAKE IT IMPOSSIBLE FOR THE CAR TO LEAVE THE RAIL, NO MATTER HOW FAST IT TRAVELS.

terested in the bicycle railroad idea, but the man who seems to have worked out the problem on the most promising lines

car of the Brott system, his car is but four feet in width. It is built of aluminum, the lightest of all metals, and is lined with



THE FIRST BICYCLE RAILWAY—IT WAS INVENTED BY E. MOODY BOYNTON, WHO BUILT AN EXPERIMENTAL ROAD NEAR CONEY ISLAND. THE CARS WERE THREE FEET WIDE, AND RAN ON A SINGLE TRACK, WITH A GUIDE RAIL OVERHEAD.

is Captain Beecher. His system, known as the "monorail," has had several practical tests, which seem to sustain all his claims.

Like Boynton and Brott, he has made positive safety so far as pertains to the car leaving the track the fundamental idea in his system.

Starting with this as a basis, he has worked out the various problems in a most ingenious and attractive manner. He has the advantage of being a practical electrician and railroad man. His cars are to be run by electricity. He has met the question of air resistance, and reduced it to a minimum. Instead of having the wide

asbestos, to make it positively fire proof. The car can be stopped, he asserts, when running at full speed, within a distance of four hundred feet. It is lighted and heated by electricity. It is little more than a projectile, pointed at the end, and is as smooth on its surface as polished steel. It contains twelve sections of four seats each, and also an observation section in the rear end, with two seats, which gives it a carrying capacity of fifty people. Entrance to these sections is from the side. Each passenger has a window seat.

The Empire State Express—engine and four coaches—weighs about four hundred and forty tons and has a maximum ca-

capacity of two hundred and forty passengers, or nearly two tons to a passenger.

Beecher's car, with motor and all equipments, weighs only about ten tons, or say two hundred and fifty pounds, at most, to a passenger. The economy in motive power must be apparent when this weight is compared with the two tons per passenger of the Empire State Express.

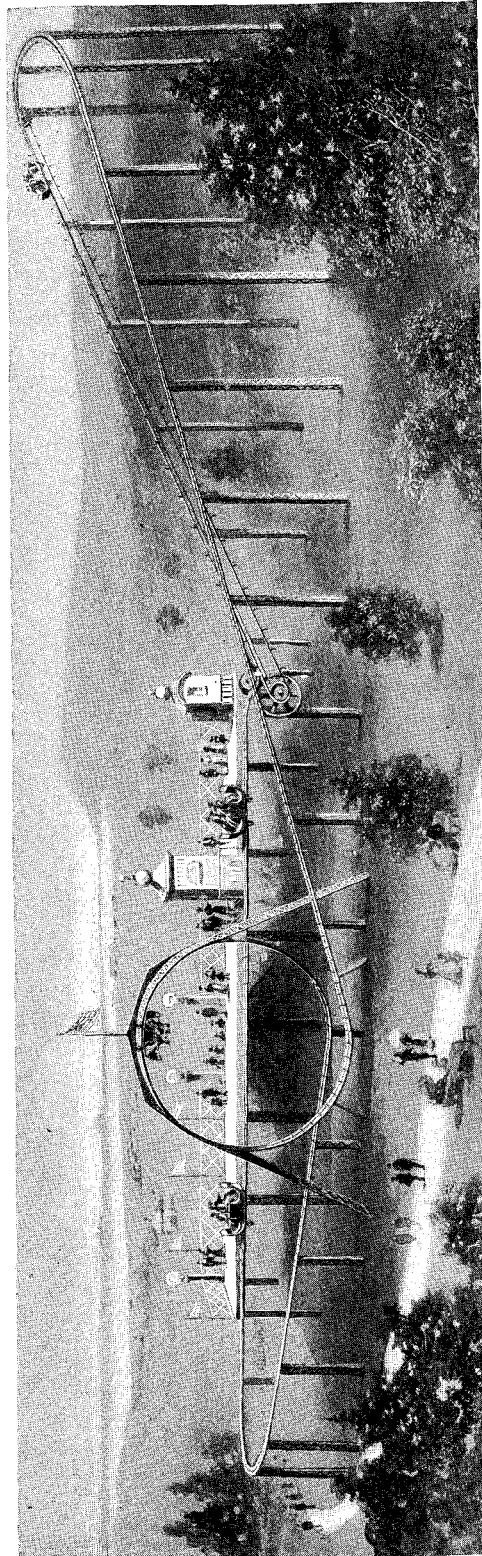
Beecher argues in favor of running single cars to reduce the air pressure further. Herein his system differs from the Brott. He thinks that a car should leave New York for Boston or Chicago or Philadelphia or any other point every few minutes, or as often as the traffic would demand. But these are details and have little to do with the merit of his single rail system.

He claims that if the track were tipped up on one side to an angle of forty five degrees, or even turned upside down, his car would still cling to the rail, and this remarkable statement seems to be pretty well sustained by what he calls the Centrifugal Cycle Railway, which he has recently installed at Coney Island, and of which we give an illustration on this page.

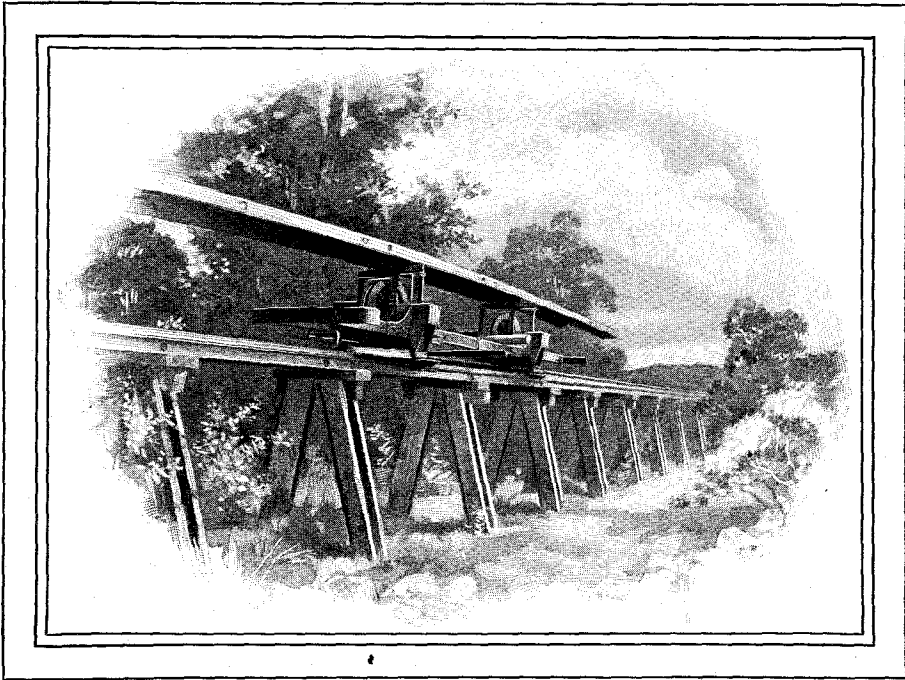
It will be seen that in this engraving one car is suspended upside down in the air. The railroad is, of course, a mere amusement device, somewhat similar to the switchbacks and roller coasters, but it serves to show that the car would cling to the track no matter what might happen.

Captain Beecher has spent ten years of hard work on his railway system, and has absolute confidence in a maximum speed of two hundred miles an hour.

Two hundred miles an hour would mean the annihilation of space in very truth. It would be in keeping with our American way of doing things. It would give us mails to compete with the telegraph. It would convert the smaller cities and the rural sections into places of residence. The big cities would become the workshops of the nation and the centers of trade. Wide sections of the country would be consolidated



THIS AMUSEMENT DEVICE AT CONEY ISLAND, CALLED THE "CENTRIFUGAL CYCLE RAILWAY," AND BUILT ON THE BEECHER RAILWAY SYSTEM, SHOWS THE SEVEREST POSSIBLE TESTS TO WHICH A CAR CAN BE PUT AND STILL NOT LEAVE THE TRACK. THIS CAR RUNS UP AND DOWN GRADES, TURNS SHARP CURVES, AND FINALLY DESCRIBES A COMPLETE CIRCLE IN THE AIR, CARRYING MEANWHILE A LOAD OF PASSENGERS.



THE FIRST EXPERIMENTAL TRACK AND TRUCK BUILT BY CAPTAIN LINA BEECHER. THE GUIDE WHEELS WERE THEN AT THE SIDE, BUT WERE AFTERWARDS PLACED UNDERNEATH FOR GREATER SECURITY.

about a few great commercial capitals. New York would be one of these, Chicago another, and San Francisco another; Atlanta might perhaps be a fourth, and Denver a fifth. Two hundred miles an hour would bring Philadelphia within half an hour of New York, and Boston within an hour.

The Chicago business man could leave home at six in the morning and be transacting business in New York at eleven. He could put in a day's work here, and, jumping upon a car at five, could be back in Chicago at ten. Boston and Washington and Baltimore and Philadelphia and Pittsburg and Buffalo could attend the opera in New York, and get home in time for a good night's sleep. Women in any of those cities could leave home in the morning after breakfast, do a day's shopping on Broadway, and be back again at their own table for luncheon.

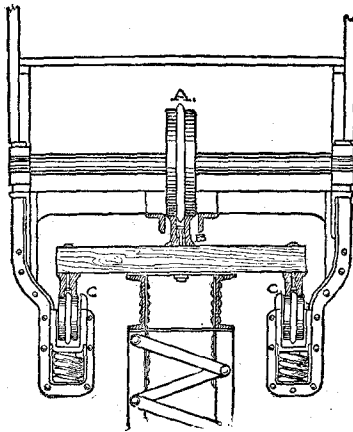
Two hundred miles an hour means that the

New Yorker could travel from the Battery to Harlem River in about three minutes. During the busy hours it takes well nigh an hour on the elevated roads to cover this distance. Of course it is largely the numerous stops that account for so long a time.

With a speed of two hundred miles an hour, the flying machine will be a realization. The wildest dreams of the inventor will have come true.

The flying machine of his fancy had no such speed, and no such possibilities for commercial and social use. The flying machine would be superior to the bicycle railway only in respect to crossing the ocean or the great lakes. In all other respects the railway would surpass all the possibilities of actual aerial navigation.

Two hundred miles an hour would revolutionize the business and social world. Old lines would be turned upside down and all present systems relegated to history. Let it come!



CROSS SECTION OF THE BEECHER MONORAIL SYSTEM — A IS THE TRACTION WHEEL, B IS THE SINGLE RAIL. C, C ARE THE GUIDE WHEELS WHICH RUN ON RAILS BENEATH THE TRACK.

A THEOLOGICAL TIPSTER.

BY EDWIN LEFÈVRE.

THE ORIGINAL AND INGENIOUS SCHEME BY WHICH SILAS SHAW HELPED TO ENLIGHTEN BOTH THE POOR HEATHENS OF BOLIVIA AND THE GOOD CHRISTIANS OF WALL STREET.

AT first Wall Street thought that Silas Shaw's "religiousness" was an affectation. What purpose the old man desired to serve by the calculated notoriety of his church affiliations no one could tell, though many ingenious theories were advanced, some going so far as to hint at repentance.

As a matter of fact, Shaw really had in his tape wound and ticker dented old heart a soft spot for things ecclesiastical, and next to being a power in the Street, he loved to be regarded as one of the pillars of his church. Indeed, his generosity was so notorious among the church people that the Rev. Dr. Ramsdell, pastor of the 'Steenth Street Methodist Episcopal Church, felt no hesitation in applying to him for assistance. It was not Shaw's church, but in Dr. Ramsdell's charge there were one or two bankers well known in Wall Street and several members of the New York Stock Exchange. He called at Mr. Shaw's office one morning.

"Good morning, Brother Shaw," said the clergyman. "I trust you are well."

"Tolerable, tolerable, thank 'e kindly," replied the sturdy old gambler. "What brings you down to this sinful section? Doing some missionary work, eh? I wish you'd begin among those d—er—dandy young bears."

"Ah, yes," said Dr. Ramsdell eagerly. "Missionary work is my errand." And he told Silas Shaw all about the plan for carrying the light into darkest Bolivia by building a Methodist chapel in Oruro. The reverend doctor hoped—nay, he knew, in view of Brother Shaw's well known devotion to the glorious work of redeeming their benighted brethren—that he could count upon him; and the subscription list—

"My dear sir," interrupted Shaw, "I never sign subscription lists. When I give, I give; and I don't want everybody to know how much I've given."

"You need not sign your name. I'll put you down as X. Y. Z.," Dr. Ramsdell said.

"No, no; don't put me down at all."

The good doctor looked downcast.

"Cheer up, doctor. I'll tell you what I'll do; I'll buy some Erie for you. Yes, sirree; that's the thing to do. What do you say to that?"

"Ahem—are you sure it will prove a—ahem—a desirable investment? You see, I do not—ah—know much about Wall Street."

"Neither do I. And the older I grow, the less I know."

The reverend doctor ventured a tentative smile of semi incredulity.

"That's right, doctor. But we'll make something for you. The blooming, I mean, benighted Bohemians—"

"Ahem! Bolivians, Brother Shaw."

"I meant Bolivians. They must have a chance for their souls. John"—to a clerk—"buy five hundred shares of Erie at the market."

"Yes, sir," said John, disappearing into the telephone booth. To buy "at the market" meant to buy at the prevailing or market price.

"Brother Shaw, I am extremely grateful to you. This matter is very close to my heart, I assure you. And—ah—when shall I know if the—ah—investment turns out profitably?"

"Oh, have no fears on that score. We shall make the stock market contribute to your missionary fund. All you'll have to do is to look on the financial page on your paper every evening."

"I fear, Brother Shaw," said Dr. Ramsdell deprecatingly, "that I may find the figures beyond my understanding."

"Not at all. See here," and he took up his newspaper and turned to the stock tables. "You see, here is Erie. Yesterday, on transactions of 18,230 shares, Erie sold as high as 64 3-4 and as low as 63 1-4, the closing sale being at 64 1-2. The number means dollars per share. Haven't you got a report on that five hundred Erie yet, John?"

"Yes, sir," said John. "Sixty five and one eighth."