

How the World Moves



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Most dangerous Railroads

10. The Kuranda Scenic Railway in Australia ranks in at our number 10 because of its winding path through the dense jungle clinging to the sides of cliffs. Instead of crossing rivers on this trip you will go around waterfalls hundreds of feet below you. But with the dangers people will still ride through the great Australian wetlands for the astounding views.

9. The Argo Gede Train Railroad in Indonesia well deserves the number nine spot due to an accident back in 2002. Luckily no one was killed. The name, believe it or not, directly translates to *train in the clouds* in English. The name suites the railroad perfectly because of the staggering altitude of 2061 meters (6760 feet) above sea level. I hope you don't have altitude sickness.

8. The Outeniqua Choo-Tjoe Train in South Africa takes the number eight spot because in the early days there were many accidents. In 1908 there was a major wreck that sent logs onto the track causing another wreck behind it. Today the rout is safer than it ever was because of new advancements in technology and computers. One of the most important being the two way radio. Now the yard could communicate with the train.

6. The Tren a las Nubes in Argentina runs between the two cities of La Polvorilla and Salta. The lines construction took almost thirty years, but the results were astounding and the views just as amazing. The Tren a las Nubes has many engineering marvels which include more than twenty tunnels, countless switchbacks, and almost fifty bridges and viaducts to cross. Of the lines many features

the most breath taking is probably the La Polvorilla viaduct which holds you 300 feet above the canyon floor.

5. The Lynton & Lynmouth Cliff railroad in the UK was a major economic hurdle to clear for two towns. Before the railroad all the supplies for the town had to be carried up by horses and mules. This is one of the only operating water powered railroads still operating today. Although the task was massive the construction took less than three years.



4. The White Pass & Yukon Route in Alaska (shown above) was originally constructed for the Klondike Gold Rush of 1898 and was completed in 1900. The railroad's purpose was to bring people in and take gold out. The primary route into the Yukon was almost short lived though. In 1982 it ceased all operations until in 1988 the WP&YR became a heritage railway. Today the WP&YR is owned by several companies that share the profits.

7. The next railroad on the list is in our own backyard. The Cumbres and Toltec Railroad in New Mexico is Number seven because of the dizzying height. The highest point of the journey reaches 10,000 feet (3050 meters) above sea level. At this height altitude

sickness is very common. That is what makes the Cumbres and Toltec come in at number seven. If that doesn't blow your mind then altitude sickness probably will.

3. The Chennai-Rameswaram Route in India was designed to connect the island of Rameswaram to the southern coast of India. The hair raising journey takes you across a half mile long bridge. That doesn't sound like much until you learn that the wind can gust up to fifty miles per hour. The line has remained virtually the same since 1914. The only things that have changed have been the trains and track repairs.

2. Our number two spot belongs to the **Georgetown Loop Railroad** in Colorado. The GTL was designed to haul gold and silver

from Clear Creek Canyon down to Georgetown. In the late eighteenth hundreds the railroad became a tourist attraction for those seeking the thrills of silver miners earlier in the century. The line doesn't operate in winter due to the massive amounts of snow, and a high risk of avalanches. If you take this journey in winter pack a shovel.

1. Finally the **Aso Minami route** in Japan comes in at our number one because it's close vicinity to the active Aso volcano. The busiest time of year is November because of the forests that burned down earlier in the year due to volcanic activity. This is just one of the reasons. Another reason are the cliffs and bridges that the train goes over if you fall you're dead.

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Aviation



American Eagle Airlines changing their name?

Is it true that American Eagle Airlines is going bankrupt? Yes it is, American Airlines is changing their name to Envoy. American Eagle Airlines will be changing their name in spring 2014. By changing their



name to Envoy they will not be ran by American Airlines Group, Inc. Another reason they are changing their name is because it is too much like the other airlines name 'American Airlines', The 10 carriers that providing local service from American and US Airways will soon take over American Eagle Airlines.

Costumers traveling on American Eagle Airlines will not notice a difference, besides the name change.

Envoy's aircrafts will continue to work the same using the American Eagle's Aircraft. Envoy's aircraft will continue to operate using the American Eagle brand and uniform.



Top rated airlines in the USA.

1. Virgin Airlines
2. JetBlue
3. Air Train
4. Delta
5. Hawaiian
6. Alaska Airlines
7. Frontier
8. Southwest
9. US Airways
10. American Airlines
11. American Eagle
12. SkyWest
13. ExpressJet
14. United Airlines

American Main Track



Trips out of Chicago

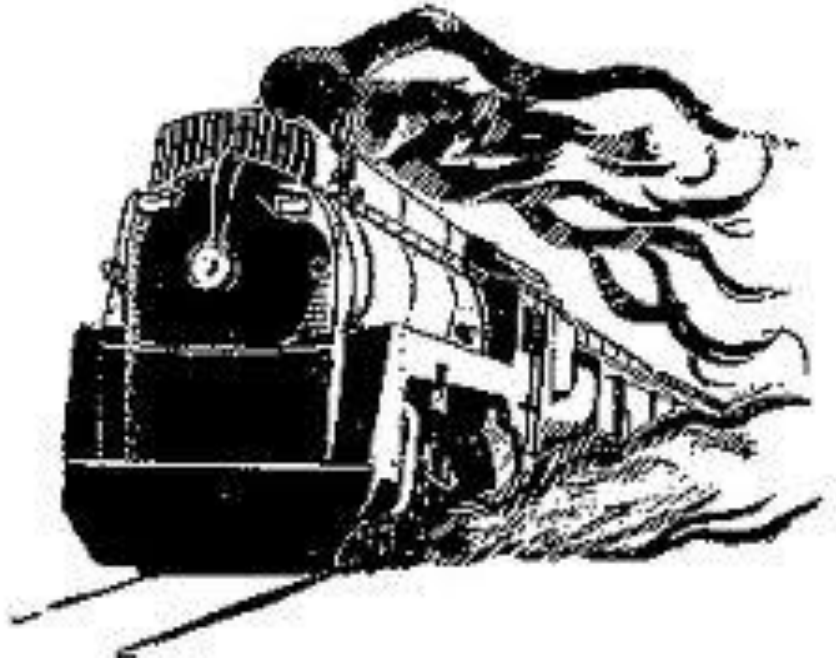
To New York for only - \$100

To California for only - \$150

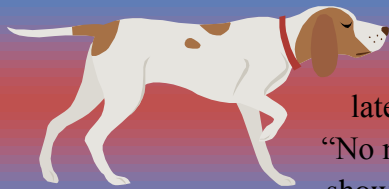
To Florida for only - \$200

To Louisiana for only - \$150

To Alaska for only - \$750 (round trip, passport not included)



Thomas the train was always known as the happy train and always enjoyed taking short drives on the train with his friend Boxer the dog. Everyday Thomas would meet Boxer on the railroad next to Kansas Avenue. One day Boxer never came and Thomas soon got worried, because he would only be happy if he got to talk to his friend. Thomas decided to go and ask Sam, the duck, and see if he has any idea where Boxer could've gone. When he arrived at Dare Pond Thomas saw Sam training all of the other ducklings on their paddling skills.

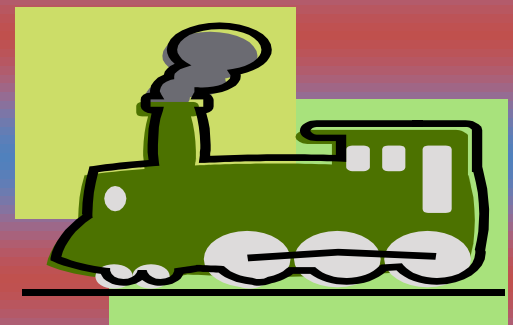


“Hey Sam have you seen Boxer lately?” says Thomas. “No not lately he didn’t show up for the meeting

last night.” Responded Sam. “Oh, he didn’t show up for our walk today” Thomas answered. “I will keep my eye out for him” concluded Sam.

Thomas was trying to figure out where Sam could've gone and came up with an idea. “I mine as well ask the other dogs if they have seen Boxer, they would know.” Thomas said to himself. He showed up at Chester’s Dog Kennel and rode up to see all of Boxers friends in there kennel. “Hey Remy have you seen Boxer lately?” he asked. “No actually I haven’t seen him since yesterday morning, have you checked with Scarlet he was talking to her last night?” Remy said. “No I haven’t I will go and ask her thanks for your help!” Thomas yelled back. Remy barked in a way of saying ‘no problem’. Thomas drove down Lakeland Drive to go and find Scarlet at her house. Scarlet was a beautiful hawk that always gave the most

wisest advise and was the nicest bird in this town. Thomas walked up to her tree and saw no sign of anyone in Scarlet’s tree so he started to call for her since he couldn’t see anyone in her tree. Out of nowhere Scarlet swooped down next to Thomas and said, “What would you like Thomas?” Thomas was a little confused on how she got next to him so quickly but decided not to question it. “I was wondering if you have seen Boxer lately, he has been missing and Sam and Remy haven’t seen him since yesterday.” Thomas responded. “Well Boxer did come to me last night and asked for my advice about a very special event coming up but I was asked not to tell anyone.” Thomas was confused he couldn’t think of any event coming up that was so important, that he would have to hide it. “Thanks for your help I guess I will just wait till tomorrow for him to return.” Thomas decided to drive home and wait for Boxer to come to him. When Thomas came walking into his tracks he heard a big “SURPRISE!!” and everyone from the kennel and the pond came walking out with party hats on. Thomas then remembered it was his birthday! He then saw Boxer come walking up to him and he said he was so sorry for not showing up all day and that he was preparing for Thomas’s surprise. Thomas understood and forgave him, besides he even forgot his birthday he said to himself.



Letter from the Editor

Hello I'm Caleb Derga-Prinz, the editor of this magazine, and I want to tell you about the struggles and accomplishments of writing this magazine.

I chose the topic of transportation because I have always been into trains and railroading. I am also into cars and aircraft to, but trains are the real reason I chose the topic. I also chose it because I thought it would be interesting.

Some of the struggles I've had writing *How the World Moves* were that it was hard to find writers and readers for the magazine. It was also kind of difficult to think of topics. Sometimes I think it's easier to do something yourself than to tell someone else to do it for you.

A few good things that happened during the writing were that I was able to make this happen and do everything I needed to, to finish the magazine. First of all, I had a major break due to advertising. If I hadn't gotten any ads the magazine would be dead in the water. The problem was that there weren't any writers for *How the World Moves*.

I personally enjoyed writing this magazine even though it had its share of problems. I would definitely do it again if I had to. I thought the magazine turned out great, but I would like to hear your comments as well.

I'm thirteen years old and go to Fox West Academy in Hortonville. I like FWA because its more project based and I can work and learn at my own pace.

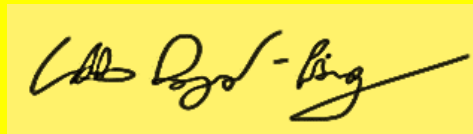
My favorite subject in school is probably math or science (engineering). I like math because it's a challenge and you're always trying to find the answer. Engineering is also one of my favorite classes because I like to create and build things. I also like it because it involves a lot of math knowledge. My teacher once said "*math is science, and science is math*"-Mr. Hall. This is probably why I enjoy science and math.

Sometimes people say that I was born an engineer. As a kid I had a toy cash register that I always took apart with a screw driver. Then my dad always had to fix it. People have also said that I have great drawing skills, which come in handy as an engineer. When I get older I want to go to UW Madison for college because of their engineering department.

In conclusion I thought that the magazine came together quite nicely. There were bumps in the road, but I managed to make it work. Thank you for reading.

Sincerely,

Caleb Derga-Prinz

A handwritten signature in black ink on a white background, reading "Caleb Derga-Prinz". The signature is written in a cursive style.

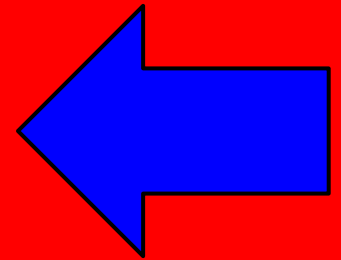
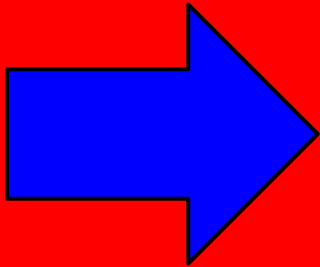
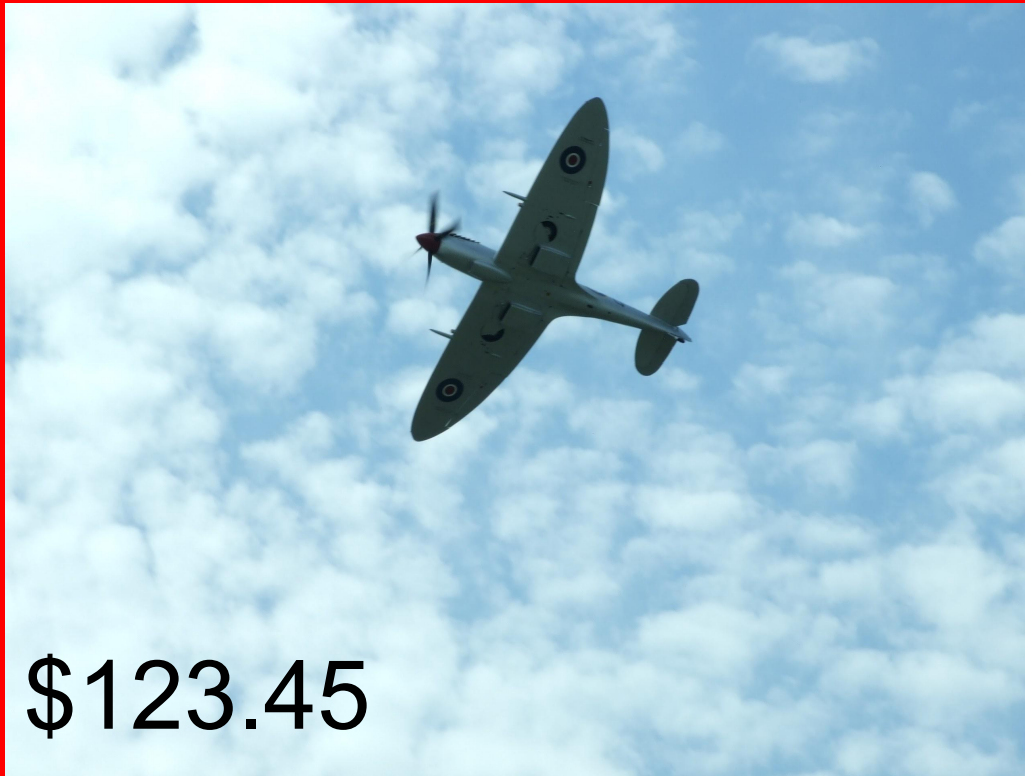
Dear editor,

I was very happy to say how much I enjoyed your ads about cool cars and trains. I was interested about an article that talked about how much gas people have used in one day. Also I am very grateful for your ideas on a special railroad track. Just thought I would point that out for you. Keep up the good work.

Sincerely,

Jason Huang

The New RC Plane!!!!!!



Dear Editor,

Your last magazine was ok what I think you could add is more pictures and more detail. You could have more information and facts about your magazine and how your magazine topic is the best. Also why you choose to write about it. I liked how you introduced the magazine title and how you arranged it. Also how it stood out and got peoples attention. Next time I would add why you should get this magazine.

-Jacob G.

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New Idea

Hydro-mechanical diesel multiple units (DMUs), multiple unit trains powered by diesel engines, are needed in regional traffic. At the Institute of Vehicle Concepts in Stuttgart, Germany, researchers have



developed a new hybrid hydro-mechanical DMU concept, including a hybrid energy storage system made up of batteries and double layer capacitors. The hybrid energy storage system fits the requirements better in comparison with double layer capacitor or battery energy storage systems.

Advantages of this Idea

The main advantage of batteries is that they can store more energy than double layer capacitors, but their power is more expensive and they only last for up to 5000 duty cycles. On the other hand, double layer capacitors can give up to one million duty cycles. Another advantage of double layer capacitors is high power density, while the disadvantage is limited energy density which makes high energy applications very expensive.

Testing the new DMU

To evaluate both the electrical and thermal behaviour of the hybrid energy storage system, the researchers built up a scale energy storage in hardware on a test bench and used a DMU model to simulate train environment and drive train. The test bench makes it possible to validate models. The researchers measured the double layer capacitor and the battery currents and voltages. When they compared these values with simulated values a good agreement was seen. However, they also found that a suitable cooling concept of the hybrid energy storages has to be developed, as well as a dependable method to determine the storages' state of charge while in operation.

The results of the DMU test

This hybrid energy storage system connected to the DMU propulsion system was tested for fuel consumption and performance and compared with a conventional DMU. Depending on the characteristics of tracks and parameters such as station distance and maximum speed, simulations suggested fuel savings from 6 to 13%, which makes the CO₂ emissions decrease by the same percentage. Reduced pollutant emissions and noise at stations can also be achieved through the new concept, since it makes it possible to turn off the diesel engine during stops and use stored energy to power auxiliary systems. This new hybrid hydro-mechanical DMU concept has a long way to go before being widely employed on tracks. However, fuel savings between 6 and 13 percent would be an important step towards decreasing the CO₂ emissions from diesel-powered trains.

A Trip of a Lifetime

By: Greg Hall

This summer wasn't the first time 8 year old Owen joined his family for an 12 hour car ride in pursuit of adventure and big fish; however, this trip would prove more exciting than most.

For as long as Owen can remember each summer would end with a family canoe camping trip to the Quetico Canoe Wilderness in Canada. He would join his mom or dad and his pair of grandfathers for a week of canoeing, camping, and fishing.

The first few trips up Owen didn't show a fraction of the interest his grandfathers did in fishing. Granted this is understandable seeing that these two were very dedicated fisherman. The mere value of the lure laden tackle boxes spoke volumes of their passion for fishing.

Over the years these obsessed old man create challenges that grew from who could catch the biggest fish to who could "grand slam" the fastest. A "grand slam" by Owen's family's standard is the successful catching of the four big species of the waters of Quetico: Northern Pike, Lake Trout, Small Mouth Bass, and Walleye. For some reason this trip their obsession caught onto Owen.

Within minutes of climbing into our 20 foot canoe and paddling across Beaverhouse Lake Owen had a large strike. Owen was first made aware of this when his grandfather bellowed out "Owen, Owen you got one! Set your hook." Snapping out of his day dream Owen grabbed his pole, gave it a big tug, and began his 20 minute adventure of landing his first ever Northern. Without a doubt, the 34" northern wasn't the only thing "hooked", Owen from this day forward would be a fisherman.



After several dozen photos and a handful of high-fives we pushed on across the big lake to our first portage. As we moved across the lake there would be no more daydreaming for Owen. He

remained as focused as an eagle on the tip of his pole eagerly waiting for the next strike.

As luck would have it, he would not have to wait long. We had just entered what we called the

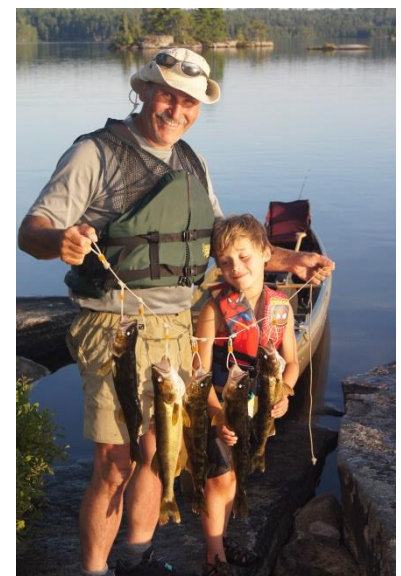


lake trout zone when Owen's pole bent back twice. "I got one, I got one!" Sure enough there was something big on the line dragging out his line. Twenty minutes and two major runs later Owen landed his first ever lake trout. Measuring 32"

in length Owen found out first hand why catching a Quetico lake trout from a canoe is an experience of a lifetime.

It didn't take long for Owen to realize he was halfway to what took some days to accomplish – the grand slam. "What lake has walleyes?" Owen was disappointed to hear that the next two lakes were not known for any walleye holes. The only glimmer of hope was that our intended campsite for tonight had a couple rock ledges that might house some walleyes.

Several hours later, the group landed their canoes at a campsite on the far eastern side of Quetico Lake. As the adults took to setting up tents and locating firewood, Owen began shore casting. The tents weren't even set up before we heard joyous screams from the shoreline below. "I got another fish! I got another fish!" Low and behold, Owen handed landed yet another fish species – a small walleye. Grandpa grabbed



his fishing pole and before land they had dinner on a stringer.

Owen had moved from obsessed to fanatical at this point. He begged his grandfather, sore and tired from hours of canoeing, to climb back in and paddle him to where the bass are. By this time, it was dark enough that you had to wear headlamps to see much of anything. Not much more than a few minutes after they had set off, Owen landed himself a smallmouth bass. Owen had accomplished his first ever grand slam on the very first day of the seven day trip. It was official; Owen from this day forward would be diehard fisherman.

Fishing was good for everyone that week with 8 separate grand slams and a 43" gator of a northern being caught by Owen's grandfather. The week on the water fishing with family proved to be a trip of a lifetime.



The Wright story

This is a story about two brothers who change history forever. To simply say that the Wright brothers invented the airplane doesn't begin to describe their many accomplishments. Nor is it especially accurate.

The first fixed-wing aircraft was conceived and flown almost a century before Orville and Wilbur made their first flights. The Wrights were first to design and build a flying craft that could be controlled while in the air.

Every successful aircraft ever built since, beginning with the 1902 Wright glider, has had controls to roll the wings right or left, pitch the nose from side to side. These three controls, roll, pitch and yaw, let a pilot navigate an airplane in all three dimensions, making it possible to fly from place to place.

The entire aerospace business, the largest industry in the world, depends on this simple but brilliant idea. So do spacecraft, submarines, and even robots. The Wright brothers changed history as we know it today. Can you imagine not having airplanes

to fly us where we want to go? The Wright brothers inspired 1000's of people's inventions.

Today planes are so different from the Wright brothers' plane, which only weighed a couple hundred pounds, compared to the jumbo jets today, which weigh several tons. The Wright Brothers plane only flew for a couple yards now planes fly for hundreds of miles.



Fear of Flight

By: Rosalie Starkweather

I was on my way to the airport with my school, Fox West Academy, to go to Washington D.C. It was my first time flying and I was going without my parents. I was so nervous. As we walked into the airport my nerves calmed down don't know why I wasn't as scared inside the building as I was outside.

We walked and got ourselves checked by the flight workers to see if we had anything. Then before I knew it we were walking down to get the plane. The more closer we got I could hear the planes engines running. Then I got nervous. As we went into the plane I had no idea it was going to be that small. I felt claustrophobic. After all the hustle and bustle about getting our suitcases up top I sat down. After a while a lot more people came in on the tiny plane. When everyone was ready we were ready for take off.

I had a friend sitting next to me. I didn't realize how hard I was breathing. My friend tried to comfort me. As the plane took off my ears started to pop. I suggest you chew gum and swallow hard swallows.

That really helps a lot. After we were up in the sky we were by the clouds. I really wonder what a cloud would taste like. I started to relax. Then before I knew it. We were coming down.

My ears hurt superbad and all the pressure gave me a headache. I couldn't hear out of one ear for a while. If I were to rate

flying out of 5 stars I would give it a 3. A lot worse things could have happened to me. My time ever flying was a lot better because I knew what it was about. On my trip to Orlando Florida my family took 2 planes.

Our first plane was from Appleton to Chicago. Then the second was Chicago to Orlando. On our way back our plane had something wrong with it. It took about an extra 15 minutes to get it fixed.

I enjoyed flying the second time a lot better than the first. My ears didn't pop as much. I was a lot more relaxed than I thought I would be. I took a nap on the way back. I really enjoy flying once when I am in the air.

On the way back down I still felt the pressure. I think that is probably the worst part of the flight. I do have some tips for flying and they are:

1. To never fly on an empty stomach
2. Wear loose clothes
3. Bring a small water bottle that doesn't take up too much space.
4. Bring a neck pillow. I flew without one and wish I had one!
5. Have something to work on, unless you're planning on taking a nap.
6. For sure bring gum! Especially if your ears pop easily.
7. Put something on your luggage that will make it yours. Many people have black suitcases so you're better off putting something on it.

I hope every one has enjoyed this. Thank you all for reading. Stay tuned for my next article. Here is a sneak peek... (It's going to be about cars.)