

Carolina Conductor



Volume 3, Number 6

Monthly Newsletter of the Carolina Railroad Heritage Association, Inc.

June 2016

**Preserving the Past.
Active in the Present.
Planning for the Future.**

Web Site:

hubcityrrmuseum.org

Meeting Site:

Woodmen of the World Bldg.

721 East Poinsett Street
Greer, SC 29651-6404

Third Friday of the Month at 7:00 pm

Hub City Railroad Museum

and SOU Caboose #X3115:

Magnolia Street Amtrak Station

298 Magnolia Street

Spartanburg, SC 29301-2330

Wednesday 10-2 and Saturday 10-2

Officers:

President:

Milton Ashley — 864-504-5202

Vice-President:

David Winans — 864-963-4739

Secretary:

Marv Havens — 864-292-3852

Treasurer:

Jim Tewell — 864-281-7667

Directors:

Bob Klempner — 864-431-5409

Bruce Gathman — 864-850-3642

Mac McMillin — 864-624-9658

Terry Brelsford — 864-320-6201

Lee Dobbs — 864-268-3939

Mailing Address:

Suite #129

2123 Old Spartanburg Road

Greer, South Carolina 29650-2704

Editor:

Bruce Gathman—

shaygearhead@bellsouth.net

Newsletter articles and news due
by the 2nd Wednesday of month.

First Streamliner in the United States

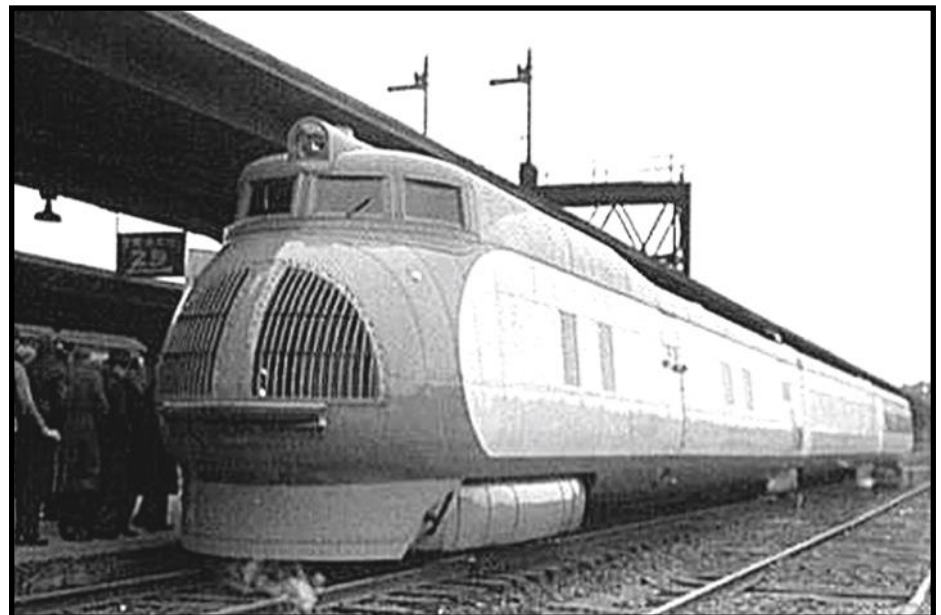
The first streamliner in the United States was the M-10000 in service with the Union Pacific Railroad in February 1934. The second was the Pioneer Zephyr in service with the Chicago, Burlington and Quincy Railroad. Both were built as Diesel Multiple-Units; the M-10000 was made of aluminum and the Pioneer Zephyr of stainless steel.



The Union Pacific Railroad's M-10000, delivered to the railroad on February 12, 1934, at a cost of \$230,997, was the first internal combustion engine, light-weight streamlined express passenger train in the United States. The car bodies and interior fittings were built by Pullman-Standard. The 600 hp V12 distillate engine was built by General Motors' Cleveland subsidiary, the Winton Engine Company.

The Electro-Motive Corporation (EMC) supervised installation of the Winton engine into the Pullman-built body. This engine design was unrelated to the later 201 or 201A Winton diesels. EMC, being primarily a marketing organization during this time, did not manufacture any component parts of the M-10000. The air brake compressor, main generator, traction motors and control equipment were manufactured by the General Electric Company.

Pullman engineer Martin P Blomberg helped style the exterior of the M-10000



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Arrivals

Jim Sheppard Photo Contest

Start now! Take a prize winning railroad photograph. Enter it in the 1st Annual Jim Sheppard Photo Contest. Rules and entry forms available at the Hub City Railroad Museum and SOU Caboose #X3115.



Rules for June 17, 2016 Photo Contest

Photos can be B&W or Color.

Photos must be 8 x 10 inch prints. Smaller or larger size prints will not be judged. Prints may be mounted or unmounted but not framed or matted.

Three categories for entries are: 1. Steam Locomotives, 2. Non-Steam Locomotives, 3. Other Railroad Subject (track, signals, structures, rolling stock, etc.)

Photos can be submitted only by CRHA or NRHS Greenville Chapter members in good standing.

A member may submit up to three photographs. There is no time constraint when the photo was taken.

All photos shall be taken by the person submitting the photo. Prints shall have a completed entry form taped on the back. No identifying information shall be on the front side of the photograph.

Photos can be submitted to the contest committee prior to the June meeting, or can be brought to the June meeting. You do not need to be present at the meeting to compete.

Winning photos are not eligible for entry into subsequent CRHA/NRHS photo contests.

New Rail Line to Volvo



South Carolina's state owned railroad plans to build a 10-mile rail line to the site of the Volvo factory, one of a handful of projects meant to ready the region for the Swedish automaker and other companies that might set up shop near the plant.

Palmetto Railways, a short-line carrier run by the state Commerce Department, says it hopes to have the new line running to Camp Hall Commerce Park, near Ridgeville, SC, in 2019, a year after Volvo is expected to open its first U.S. manufacturing facility along U.S. Interstate 26 in Berkeley County.

The plans are still in the early stages, and state officials will begin pitching the project Tuesday night with a public meeting in Cross, near the north end of the proposed line. Palmetto Railways also launched a website last week to lay out broad outlines of the project, which it is calling Camp Hall Rail.

Palmetto Railways will build, own and operate the rail line. The cost has not been determined, nor has what the agency called "a preferred route" for the tracks.

The effort is among a handful of projects state and county officials used to lure the Swedish automaker to the Low country. Nearby highways will be widened, and a new exit will be added to Interstate 26 for the Camp Hall property, near Ridgeville.

The state says it hopes the rail line also will help drum up more interest in manufacturing development in the industrial park, which covers a 6,800-acre swatch of the western part of the county. Volvo's \$500 million plant is expected to use more than a third of that land. The rail line also could ease traffic on I-26 once cars start rolling out of the factory to the tune of 100,000 a year, according to Palmetto Railways' website.

The new line is expected to run between the industrial park and Santee Cooper's power plant in Cross along Lake Moultrie, roughly 10 miles away. Specifics on the project are limited, and the route isn't expected to be drawn up until later this year. From there, it will need to clear environmental review and obtain permits from the U.S. Army Corps of Engineers.

Palmetto Railways said on its website that it is "committed to collaborating with Berkeley County, state and federal officials and local residents to ensure that the community and surrounding areas are included in the rail line development."

Departures

PRR T-1 Locomotive Build



The Pennsylvania Railroad (PRR) T1 Steam Locomotive Trust is using SOLIDWORKS to build the world's fastest steam locomotive, the PRR, T1 class, #5550, which represents the pinnacle of steam locomotive design in the United States. Evidence suggests that the T1 locomotives could attain speeds greater than 140 mph. However, the day-to-day grind of railroading in the United States immediately following World War II did not allow for the luxury of a world record attempt. Therefore, the current world record of 125.88 mph is held by a locomotive known as the *Mallard* in the UK. The T1 Trust intends to set the record straight by constructing PRR T1 5550 and allowing her to claim her rightful place as the thoroughbred champion of steam locomotives.

In all, 52 class T1 locomotives were produced, 25 at the PRR's Altoona shops and 27 at the Baldwin Locomotive Works in Philadelphia. Sadly, not a single example of this magnificent machine escaped the scrapper's torch. The T1 Trust is a non-profit organization that seeks to right this wrong. Through hard work, dedicated volunteers and the financial support of many generous donors, the T1 Trust is building PRR T1 5550. Slated to become the fifty-third locomotive of her class when complete, 5550 combines stunning art deco design with a unique wheel arrangement specifically engineered for high-speed operation. The goal is simple: to provide mainline steam excursion service and set the World Speed Record for a steam locomotive.

The T1 Trust is a labor of love, and seeks to bring back to life the PRR T1 locomotive so she can be enjoyed for generations to come. The production of PRR T1 5550 will fill a large gap in historical locomotive preservation. Perhaps more importantly, this locomotive will inject new life blood into an aging

heritage fleet. Most US built steam locomotives operating today are over 60 years old. Wear and tear are taking their toll. Efforts such as this one, to create a powerful new machine, will become increasingly important if steam excursion service is to be present in another 60 years.

On February 26, 2016 the PRR T1 Trust reached a major milestone when it cast the first Boxpok (Box Spoke) driver the United States has seen in nearly 70 years. A video of that historic moment can be seen below. Here is the driver being cast. The steel was heated to 2,800 degrees Fahrenheit and then poured into the mold from two sites simultaneously. The entire pour took just less than two minutes, and history was made as the PRR T1 Trust cast the first Boxpok driver in nearly 70 years.



Unlike a typical spoked driver, a Boxpok driver is almost entirely hollow. This design promotes a favorable strength-to-weight ratio and allows the fine tuning necessary for high-speed operation. Driver on trailer showing hollow interior.

The first step in the driver casting process was to obtain the original drawings from the Pennsylvania State Archives in Harrisburg, PA. Members of The T1 Trust spent countless hours pulling old drawings and scanning them in to digital format (image below). This is painstaking work and to the Trust's credit, over 1,200 PRR

T1 mechanical drawings and blueprints have been located and scanned thus far.

Once the Trust obtained scans of the original driver drawings, they were sent to the Trust's senior CAD draftsmen. Over the next three months, the 2D drawings would transform using SOLIDWORKS into 3D digital models. Every measurement was meticulously checked and rechecked by the Trust's CAD team. Once everyone was confident that the SOLIDWORKS model (image below) was an exact duplication of original blueprint, the next phase could begin.

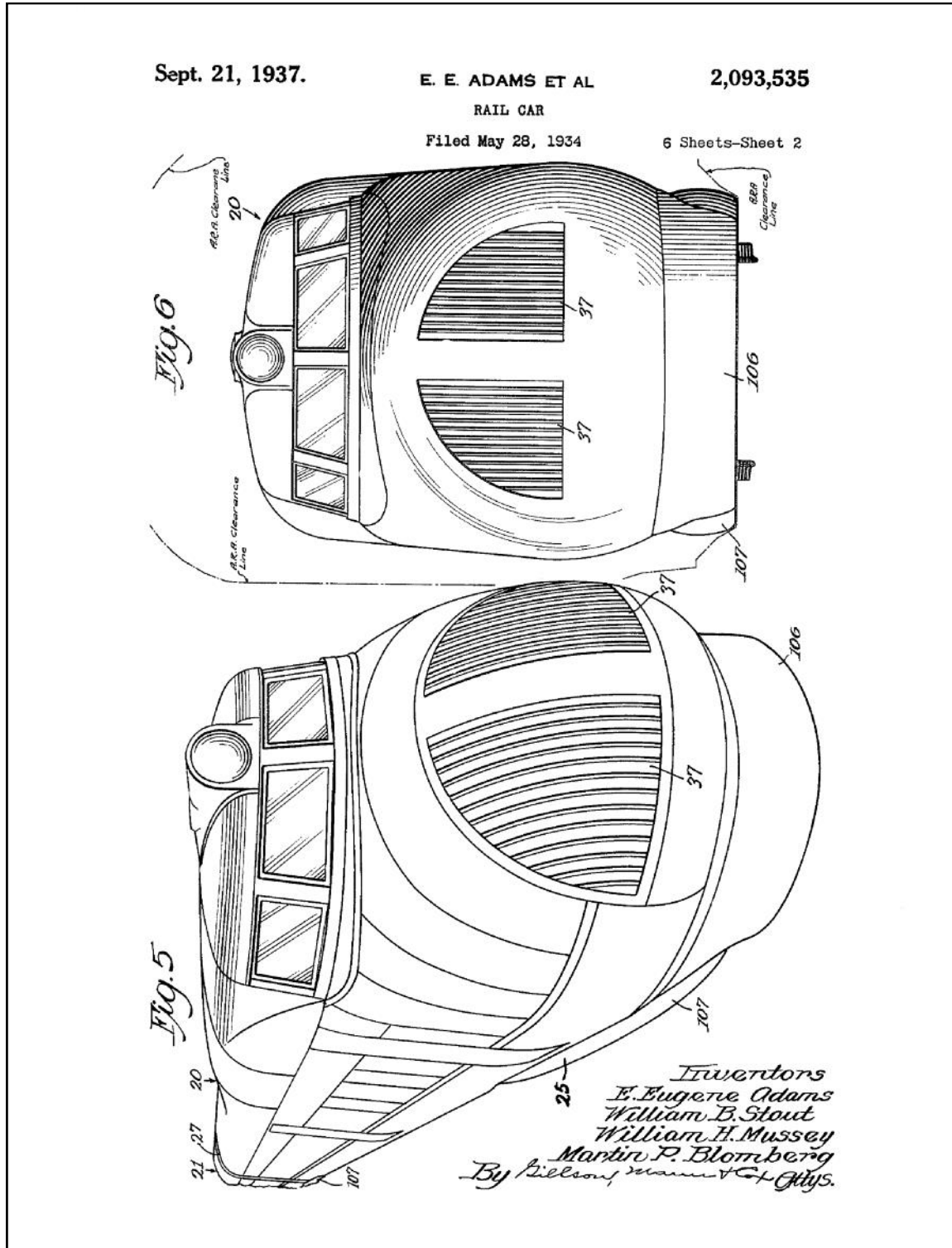
After original PRR T1 drawings were scanned into digital formats, The T1 Trust's engineering team converted those drawings into 3D SOLIDWORKS CAD models. The locomotive running gear is pictured here.

Don't miss part 2 of this series to learn about the team's challenging next step in creating the world's fastest steam locomotive: finding a foundry capable and willing to take on such a large complicated project. You can also learn more about the project by going to: www.blogs.solidworks.com/solidworksblog/2016/05/solidworks-helping-build-worlds-fastest-steam-locomotive-part-1.html

Rare Mileage

1934 Patent for the Pullman UP M-10000

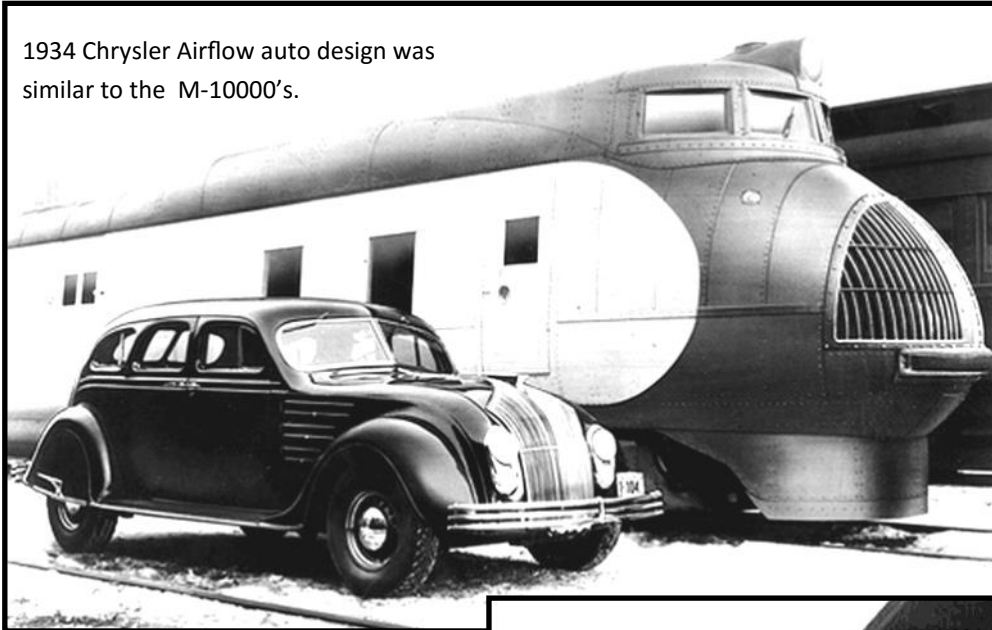
For more complete information look at—www.google.com/patents/US2093535



Manifest

Continued from Page 1 - M-10000

1934 Chrysler Airflow auto design was similar to the M-10000's.

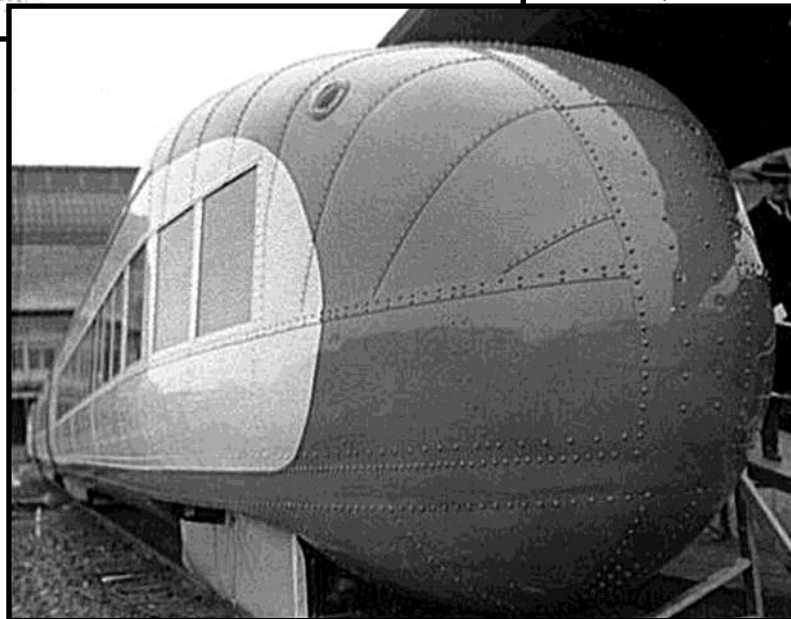


tool as a practical train. During 1934 it made a 13,000-mile exhibition tour across the US, visiting Washington, DC, for inspection by Franklin Delano Roosevelt. Everywhere it went it attracted crowds and press attention, hosting almost 1,000,000 visitors. M-10000 succeeded in its aim of helping reinvent and modernize the passenger train in the popular imagination of Depression-era America, yet in contemporary memory it has long since been eclipsed by the later Pioneer Zephyr. Many other Streamliners inspired by the M-10000 were rapidly developed, and within 15 years most major American railroads had a "streamlined" train of some type.

The M-10000 was eventually named City of Salina for the Kansas

and the M-10001. The US Patent and Trademark Office assigned U.S. Patent D100,000, U.S. Patent D100,001, and U.S. Patent D100,002 for the design. The M-10000 featured a turret cab, an inward-slanting Duralumin body with a nose formed of parabolic arches, and large nose air intakes on each side of the centerline. The train was painted in Armour Yellow with Leaf Brown roof and undersides. Later, the area around the front air intake was also painted yellow. Dividing lines of red separated the colors.

The 204 ft. long, 77 ton train was fully articulated: trucks, strongly influenced by German passenger bogie design as investigated by Union Pacific chief engineer A.H. Fettters, were shared between adjacent cars. There were three cars: a driving, power and baggage car at the front; and two passenger cars. The sleeping car "Overland Trail" was constructed for M-10000 and included in the consist in May 1934, but it was never used in regular service with that train; instead, because of M-10000's assignment to a day train the sleeper was mated with the next Streamliner, M-10001. Subsequent streamliners would be diesel powered, but a reliable engine of sufficient power-to-weight ratio was not available for the M-10000 and it was delivered instead with a



spark-ignition Winton 191-A distillate engine. The front truck carried one General Electric traction motor per axle, and was the only one powered.

The M-10000 was as much a publicity

its materials to the war effort, among other reasons. The paint scheme devised for the M-10000 is still in use as of 2014, except that the brown portions were later painted in harbor mist gray.

City-Salina route it served, but it was also nicknamed the "Tin Worm" or "Little Zip". Since it was built of Duralumin (aircraft aluminum), the M-10000 was scrapped in early 1942 to contribute

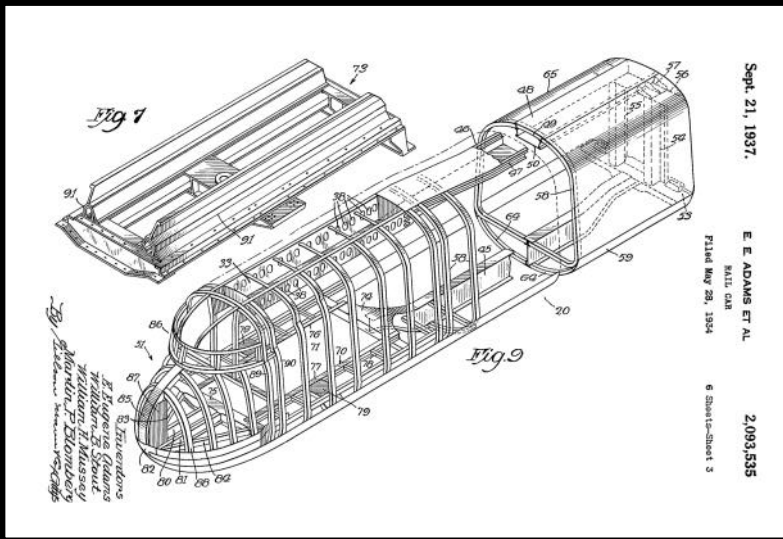
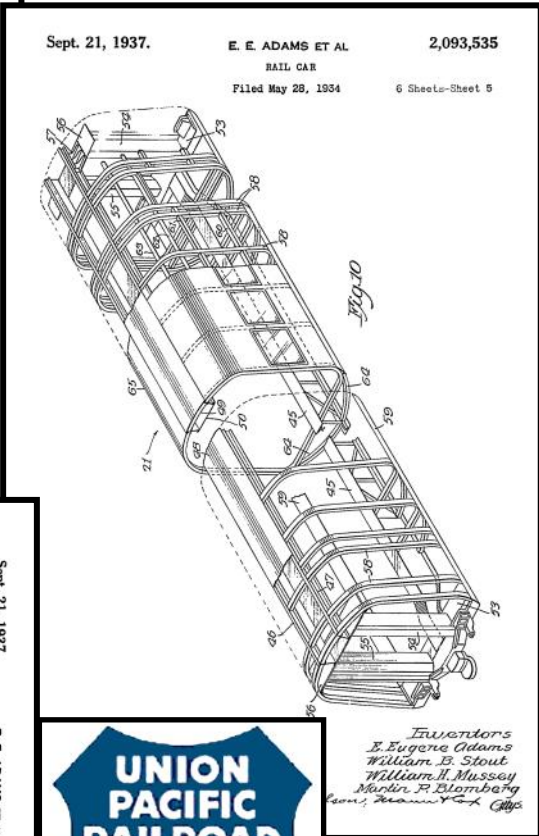
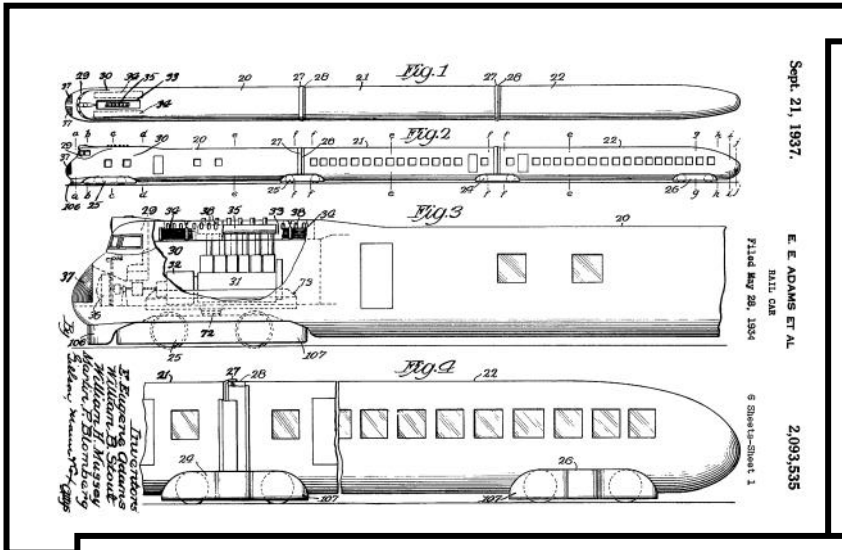
Wanted—Articles for the Carolina Conductor

Submit an article of 100 words or more with some photos and captions and see them in print. Every one of us has some unique railroad experience that would make interesting reading for our membership. With Jim Sheppard's passing your editor needs more contributions of local history and news.

Marker Lights



Union Pacific M-10000



Inventors
 Eugene Adams
 William B. Stout
 William H. Mussey
 Martin F. Blomberg
 et al.

Notice that William B. Stout, the designer of the Railplane, also has his name on this patent.



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