Rhinelander Railroad Association

Warrant

Rhinelander Railroad Association
P.R.R.&S.
PELICAN RAPIDS ROUTE
RAILWAY
Rhinelander,WI

April 2012

President's Message: Greetings from the "Old Man"

by Jim Brown, President RRA

Well now, we have had a couple of weeks of warm weather, which spoiled some of us for the month of March. I know it did me! It gave me some time out in the yard and just enough time for some ticks to latch on in private places!

Due to many things going on this past month and time getting away, this will be a short message.

Members of RRA will be meeting at the Depot, April 28th, Saturday at 8:30am, to carpool down to the Title Town train show in Green Bay.

We already have people signed up to attend it. If interested, call Jim Brown at 715- 282- 7935.

Norm Braeger is back in the engine house for repairs and we all wish him a speedy recovery and a get well quick.

There is a possibility of losing our home down at the store on Brown Street so we are preparing to get remaining items out and take down the modules.

May will bring a date for clean up at the depot and get ready for the summer months at Pioneer Park. More on the mentioned items in this message will be brought up at the business meeting of RRA which will be held at the store location, 123 S Brown St., Wednesday, May 2nd at 7:00pm. Hope to see you there!

Take care, Jim Brown, President, RRA.

Couldn't Resistor: affairs can be exciting

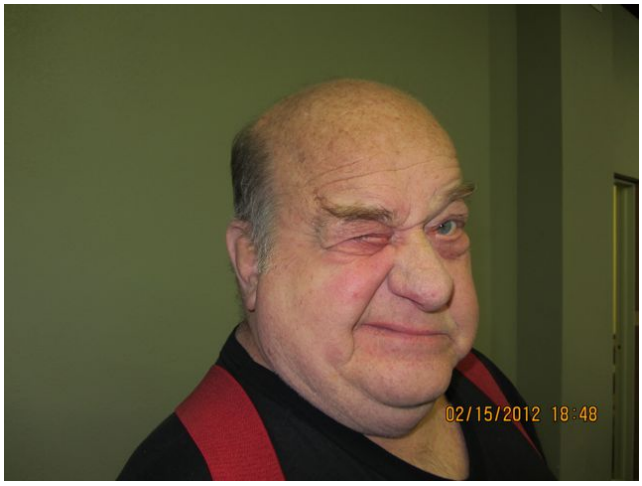
by Bob Lake

Back in the day I sometimes undertook projects for which I had absolutely no background or skills. As a result, I was dangerous to others and myself. I had discovered RADIOS! The radio I had was about the size of a loaf of bread and didn't have a cover. The guts were there for everyone to see and boy, did I look! It was just the chassis and it would appear to my glinting eyes that all the parts were there. My first action was to plug it in. But at the end of the cloth covered cord was bare wires. What is this?

I knew about electricity. If you put a battery in your mouth you could sing tenor for a week. And I knew that wires carried the stuff. I had bare wires, what more could anybody want to begin changing the world? So, painstakingly, to avoid getting "bit" I pushed one and then the other wire into a handy wall socket.

Have you ever wondered what the deal was about putting wall sockets down near the floor and then telling a three year old not to touch?

After my mother went through her spiel about no-no this and no-no that, I picked up a hairpin from the floor and inserted it in the socket and what do you know. I wound up on the other side of the room and my fingers had the imprint of a hairpin on them… in painful red.



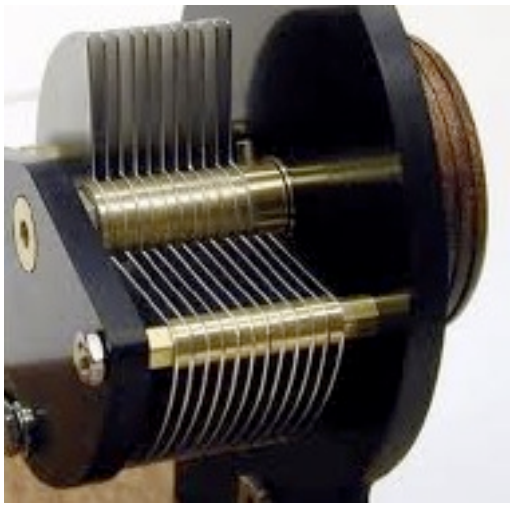
Note: Children who put hairpins in electrical outlets should expect to lose some hair and at some point in their lives begin to look like a winking pirate with a very broad smile. Ed

This is how we learn. Test first and then gain experience. Thank you Mother Nature. Having successfully attached the wires to a wall socket without any shocking experiences and with a sigh of relief I turned to the radio chassis and all that it implied! It offered a glimpse into the world of the adults and the occult. A total mystery to me. Now I would find out why Gabriel Heater sounded like my grandfather. And I would…Whoa!

Something was happening! Some of those glass things were glowing red/orange and were pretty cool. Well, I was mistaken. They were hot! Some more burned fingers.

I made a pact with myself not to touch anything unless I had to.

Some of the moving stuff made sense. One knob controlled the volume. I knew about that: "Turn that radio down, I am trying to read!"
It happened every time I wanted to listen to Superman.



It also had the off/on switch. Off if you twisted the knob to the far left. Today "far left" means something other than the far left. But this radio made really nasty sizzling noises when I tried to turn it off. I made a mental note to fix that someday.

The other knob moved a really strange piece of machinery sitting on top of the chassis. It moved plates through gaps between other similar plates almost like slicing bread. When I touched them, the radio hummed. Almost like a cat purring. I made another mental note to fix that or find out why…some day.

At the same time, turning that knob moved a pointer across a lighted thingamabob with the radio stations on it. This was good news. Now I was getting somewhere. I actually did something without getting bit. But worst of all, the radio did nothing a radio is supposed to do. So I turned it upside down.

Now this was a revelation! There were brightly colored objects hooked together with wire, nuts and bolts, clips and the occasional screw. Little did I know that would be the majority of my life in the not so distant future. Yes, I loved electronics already! However, when I touched one of those bright objects, I did it again. I burned another finger. The way I was burning up fingers, I would be running out in no time at all.

And that brings us to the subject of this message: Resistors. Some of those alluring objects I was later to find out were nothing more than carefully measured mixtures of carbon inside ceramic casings and marked with different colored bands at intervals around the circumference. Some were hot and some were not. More mysteries. The more I found out, the more questions popped up.

I don't need to tell you that we all survived the fire, that the insurance covered the losses and the radio was consumed in the conflagration that resulted when the hot tubes contacted the curtains at my window and what I learned was that I needed to find another radio. No need to worry. I was smarter now.

But in the meantime the mystery about the resistors continued. It took another ten years before I revisited electronics (my dad's request or demand actually). It was the first book that I ever purchased. I later loaned it to a guy who promised to return it. I bet you knew I would still be waiting! I had read it from cover to cover so the loss wasn't so great.

But, I found it on page 76. THE RESISTOR! I knew it was important or they wouldn't have put it in the front of the book.

And here is the stuff that either makes you or breaks you. I was determined to become a GEEK! I certainly hope you don't hold that against me. If you give it a chance you may find you like this stuff too. It goes well with model railroading.

Resistors change things in an electronic circuit. They reduce things like voltage and amperage. They are considered passive components in an electronic circuit because they don't do anything but sit there.

They are a lot like a catalyst. They don't put anything into the action; but the action changes anyway. There are, like everything else, rules you need to follow in order to obtain the desired result. And in order to do that, you have to know what each individual resistor can do for you and how you can find the exact one for the job.

Looking at it closely it is usually a cylindrical in shape, has a wire lead coming out of each end and has bands of color around it. It is these bands that we are interested in. They are a color code that tells the informed what value the resister holds.

The bigger the value, the greater the resistance. Like wire gauge sizes, the bigger the number the smaller the diameter of wire. For resistors, the bigger the number there is less of a path for electricity to pass through; hence, less gets through.

Resistance is measured in OHMS. Ohm was a guy who did not want to be a locksmith like his dad and began research using the electrochemical cell (battery) invented by Volta. I am sure these are all guys who would have gladly burned the house down for one more piece of info.

Georg Simon Ohm (1789 - 1854) was a German born physicist and mathematician. He is best known for using Volta's invention of the early battery, or electrochemical cell as it was known then, to determine the relationship between electrical current, voltage, and resistance of the conductor in the circuit.

This is known today as Ohm's Law (I=V/R), where I represents the current flow, V represents voltage, and R represents the resistance of the conductor making up the circuit.

Ohm also discovered, because of his precise measurement style, that the current flow through a wire is directly proportional to its cross sectional area and inversely proportional to its length. This is the basis for determining the resistance of electrical conductors, and a "must know" if you're a modern day electrician. *It should be noted that the goal of superconductor technology is to eliminate this resistance and take this factor out of the equation*.

As with many brilliant minds, Ohm was ahead of his time, Ohm did not receive favorable recognition for his discoveries during most of his life. Most of his peers simply could not comprehend his work. Probably

In 1841 however, Ohm was recognized by the Royal Society in London and awarded the Copley medal for his work.

Manufactured Resistors have 'quality percentile ranking' values that can be placed in groups representing the accuracy of each. Call accuracy the tolerance. How accurately ohms are expressed in a resistor places them in percentile groups of tolerance. 1%, 2%, 5%, 10% and perhaps during the carbon resistor days, 20% tolerance resistors were the one type typically available in the market.

So, if someone drops a resistor on the floor and you pick it up, reading the color bands you decide it is 100 ohms. (Brown, Black, Brown). But to what tolerance group does it belong? If 20%, there are no further bands. 10% is silver and 5% is gold. These are bands in addition to the numerical and decade bands. Ok, this is the kind of stuff that gets people to leave the class early, I know. Let me rephrase that as follows:

Holding the resistor so it is horizontal, place the % band on the right. Then from the left as though reading a letter from the IRS, the first band represents a number. The second band represents the next number. The third band represents the decade or how many zeros follow the two numbers.

I hear you. (Boy, can I use that when I go grocery shopping). But I don't feel one bit sorry for you. Know why? Because you will be one of the 5% or fewer Americans who know about resistor color-coding when you get done reading.

The clue to the mystery is in the code. It is as strange as the signals you get from your wife when she wants to go out, but wants you to read her mind about it. Never fear: THIS band code is simple.

Black = 0
Brown = 1
Red = 2
Orange = 3
Yellow = 4
Green = 5
Blue = 6
Violet = 7
Grey = 8
White = 9

The code can be remembered via a trick. Here is one of them: **B**ad **B**oys **R**eally **O**gle **Y**oung **G**orgeous **B**londes **V**ery **G**reat **W**isdom. The words correspond to the first letter of color.

Lets say you need a resistor with a value of 4700 ohms. There are two ways to find it in the haystack lying on your workbench. Use a Volt Ohm Meter (VOM) and touch a lead to each of the wires exiting ends of each resistor. Then, test until you locate the little rascal. Or you can visually inspect them until you find the color code you are looking for which is:

Y V R S pretend this is a resistor. With a silver band (10%).

With bands colored: **Y**ellow, **V**iolet and **R**ed. Using the color code chart above:

4 7 00 or 4700 ohms

Not so bad, huh? If you decode the resister value you want into colors using the color code table above, then it is a lot easier rooting through the drawers and cigar boxes containing resistors to find exactly the one you want.

Fun to know, the lower the percentage of tolerance, the more resistors that fall in the group. EIA (Electrical Industries Association) has established the E series of standard resistor values. What follows is a summary of preferred or Standard Resistor Series.

E Series	Tolerance	Number of values in Each decade
E6	20%	6
E12	10%	12
E24	5%	24
E48	2%	48
E96	1%	96

The reason for this discrimination is prevention of overlaps in resistance values and reducing the inventories of manufacturers, wholesalers, retailers and the ultimate user. It also helps when the janitor dumps a sorted drawer of 3000 resistors on the floor and the next morning someone has to sort them all out again. All the Gold (5%) tolerance bands in one pile, all the Silver (10%) in another and the blanks (20%) in yet another pile. Or you can start with the first two color bands. It is your choice.

Just for the record, I finally built that radio but it was a lot different from the one that burned the curtains. That first one was vacuum tube technology in a super heterodyne. My successful radio was 100% solid state, no tubes! It is more efficient and a lot prettier!

So what has this to do with railroading, you want to know? Everything. Resistors will be likely components in a simple DC throttle or a complicated DCC layout with automated systems and animated signals. I am just happy to be a part of something bigger than myself. If I help contribute a single resistor to one of our projects and it is the right component, all this burning of fingers will have been worthwhile!

Written by Bob Lake for the Rhinelander Railroad Association, Warrant Newsletter, April 2012.

Railroad Happenings: or Semi-local events…

April 28 – 29, 2012 Titletown Train Show, Shopko Hall, Green Bay, WI
Info at www.ttsgbllc.com

May 5, 2012 NMRA Winnebagoland Division Spring Meet, Plymouth, WI
Info at http://www.wld-nmra.com/

May 17-20, 2012- CNW Historical Society Convention- Norfolk, NE
Info at: www.cnwhs.org

June 16-17, 2012- Annual Strawberryfest Model Railroad Show- Waupaca, WI
Waupaca Recreation Center
Saturday June 16 10 AM to 5 PM
Sunday June 17 10 AM to 3 PM

June 28-July 1, 2012- Milwaukee Road Historical Assoc. Annual Convention
Moscow, Idaho
Info at: www.mrha.com

July 21, 2012- Rail fair- Copeland Park- LaCrosse, WI
Info at: www.4000foundation.com

July 29 – August 4, 2012 it's the 77th National Model Railroad Convention, Grand Rapids, MI. The host club is found at www.grmrhs.org a 100% NMRA club. For info on the convention: www.gr2012.org
Seventy fantastic layouts within one hour of the 12th best hotel in North America (Amway). Let's all go!

Sept. 13-16, 2012- Soo Line Historical Society Annual Convention
Thief River Falls, MN Info at: www.sooline.org

Oct 21, 2012 Model RR Show and Swap Meet – Circle B Recreation
6261 Hwy 60 – Cedarburg, WI
Info at: www.lammscape.com/cedarcreek

Car 57, Cheyenne, Wyoming

photos & inspiration by Harvey Radtke
and story by R.G. Blocks

Long time rail fan friend and member of Western Union Junction Railroad Club of Sturtevant, Wisconsin, Harvey Radtke loves travel and exploration. Below, is his photo of restored 'car 57', a passenger car that originally manufactured one-hundred and twenty-five years ago for General Grenville M Dodge.

You'll remember that Grenville M Dodge was Chief Engineer in charge of building the Transcontinental Railroad through Cheyenne, Wyoming as part of the Union Pacific Railroad effort. The UP's principle shareholder, Thomas C Durant is reported to have made his connections with Grenville M Dodge and money by smuggling Confederate cotton. Credit Mobilier, the finance firm Durant controlled and manipulated provided resources that helped them to build over one thousand miles of track beginning in 1865 and join up with the Central Pacific at Promontory, Utah on May 10, 1869 where the Golden Spike was driven.

You probably will not remember, nor care; however, Grenville Mellen Dodge was my wife's seventh cousin (that's pretty thin relativity), twice removed (even thinner), which may explain why she simply tolerates my love for railroads and may explain why I know his middle name.

Grenville M. Dodge ordered it as car 45, one of four passenger cars, costing $6,000 each for the DT&FW Railroad, that's the Denver, Texas and Fort Worth Railroad where he was then Chief Engineer. In 1890 it became car 371 for the Union Pacific and Gulf, then in 1899 the car was renumbered to 57 by the C&S, Colorado and Southern. It was overhauled by the C&S in 1907 as car number 513 and in 1937 it retired to bunk service duty as C&S 99924.

Cheyenne is the capital of Wyoming and located in Laramie County. Elevation is 6100 feet and the country is known as the High Plains and it is semiarid. Dodge chose Cheyenne as a supply depot and literally created the town in 1867. The first train arrived November 13, 1867. The town at that point had a population of 4,000 folks. It started out as Dakota Territory, then in 1869 became Wyoming Territory and by 1875 the gold rush in the Black Hills helped make it a great jumping off place.

You will remember the names of local legends: Wild Bill Hickok and gal friend Calamity Jane. Also, Buffalo Bill Cody and Wyatt Earp helped fashion their fame locally. Wyoming gained statehood in 1890 and today is best recognized for its oldest, continuous rodeo, Frontier Days first celebrated in September 1897.

The 'car 57' interior was removed, fittings scrapped and the entire car retired in March 1943 and listed as scrap. It was placed on the ground at the C&S roundhouse in Cheyenne and used as a crew layover facility until 1954. An employee, J. Tamayo, moved it to Carlin Avenue for a family home where it served until 2008.

Now restored, 'car 57' sits at The Cheyenne Depot Museum where current thinking is to build or purchase a roof structure to protect 'car 57' from the ravages of weather.

The Cheyenne Depot Museum has a wonderful website and is celebrating the 125th anniversary of construction of the Depot itself. See for details: http://www.cheyennedepotmuseum.org/

Within our sister organization, the Three Lakes Model Railroad Club, Mr. Bon French models Cheyenne Wyoming. Thus, let me point you to the club website at: www.tlmrc.org where you should immediately find a photo of the very Cheyenne Depot of which we speak.

We thank Paul A Wussow who worked with Bon French on the latter's backdrop photos and for their contributions to our little lesson on 'car 57' and the Union Pacific's influence on the town of Cheyenne, Wyoming. But credit my pal Harvey with the photo's that began and end the story.

Storm develops over the rail yard at Cheyenne on the left, and two classic caboose cars are dwarfed by today's rolling stock. They simply are not sufficiently tall to allow one to see down the length of a train. Photos Radtke