THE SCALE RESOURCE

NEWS, REVIEWS, INFORMATION TO USE

October/November 2019
Volume 6 No. 1

6 YEARS STRONG!

Elk Creek Lumber and Mining Ditcher
NASG Convention Wrapup & Contest
O&S Scale Midwest Show Wrapup
New Tracks - 3D Printing & More
Scene Around the Layout
Shows, Meets and so much more...

THE S RESOURCE
NEWS, REVIEWS, INFORMATION TO USE
SCALE

Published Bi Monthly

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Welcome to the online S Scale Resource magazine. The magazine is presented in an easy to use format. The blue bar above the magazine has commands for previewing all the pages, advancing the pages forward or back, searching to go to a specific page, enlarging pages, printing pages, enlarging the view to full screen, and downloading a copy to your computer.

Front Cover Photo

Warren Judge's Sn2 Elk Creek Lumber and Mining Ditcher

Rear Cover Photo

View of the The Southeastern Michigan S Scalers layout at the O&S Scale Midwest Show.

Find us on Facebook

BILL OF LADING

The Model Railroad Resource, LLC publishes *The O Scale Resource* and *The S Scale Resource*. Be sure to look at both of our magazines. There are many articles in our magazines that are not scale specific and will be of interest to you. Click the magazine title in this announcement to see the magazine.

Des Plaines Hobbies
S Scale America

The New S Scale

S SCALE
10,000 Gallon Tank Cars

CITGO **EORX**

SSA1418.1 #18558
SSA1418.2 #18551
SSA1418.3 #18554

PHILLIPS 66 **PSPX**

SSA1419.1 #9212
SSA1419.2 #9215
SSA1419.3 #9219

MOBILGAS **SVX**

SSA1420.1 #2042
SSA1420.2 #2044
SSA1420.3 #2048

GULF **WRNX**

SSA1421.1 #14131
SSA1421.2 #14132
SSA1421.3 #14144

CITIES SERVICE **EORX**

SSA1422.1 #1131
SSA1422.2 #1134
SSA1422.3 #1145

UNION 76 **UOCX**

SSA1423.1 #6040
SSA1423.2 #6044
SSA1423.3 #6047

SINCLAIR **SDRX**

SSA1424.1 #10890
SSA1424.2 #10896
SSA1424.3 #70113

Seven New Paint Schemes

Flyer Compatible Trucks and Couplers

Easily Converts to Scale Wheels

Due: Late October 2019

Reservations being accepted

MSRP: $59.98

Des Plaines Hobbies/S Scale America
1524 Lee St Des Plaines, IL 60018
www.desplaineshobbies.com 847-297-2118

From the Publisher's Desk

Hey everybody – I'm back! This is a month for celebration – it's our 6th year in publication. Thanks to everyone who has helped us to make the magazine a success. Please continue to send your pictures and articles so that we can share them with our readers.

The O & S Scale Midwest Show is over, so I am "back in the saddle" as they say, and taking over the Publisher's Desk from Dan once again. The O & S Scale Midwest Show was a great success again this year. We switched to a Saturday/Sunday format, and although attendance remained about the same as last year, we did see a lot of new faces. We had some new layouts featured as well, so be sure to check out the coverage of the show in this issue. We had great dealers and there were some wonderful bargains to be had. These bargains are only available at shows, so that's a great incentive to attend. Plus, you never know what you might find that you need or want. Thanks again to all the dealers and attendees for their support! We are in the process of securing the same location next year, so watch for announcements in the future.

Speaking of shows, be sure to check out our coverage of the 2019 NASG National Convention in this issue. Ken Zieska was at the O & S Scale Midwest Show to promote the next National Convention to be held in Bloomington, Minnesota July 7-12, 2020. We'll be there so put it on your calendar now!

This issue features a great building article on a mining ditcher by Warren Judge, and he uses the term scrap-building instead of scratch-building. Be sure to read his article to find out why.

This month's *New Tracks* article features two modelers from India, along with a great contest to win a 3D printed item from Shenzhen Fantasy 3D Technology Co., Ltd. Plus, the article explains 3D printing process and the acronyms that accompany the process. Even I understood it!

While I was proofing *New Tracks* for this issue, something Kaustav Chatterjee (one of the modelers profiled in the article) said really stood out to me:

"The point of a miniature is replicating the world as we see it, and I see imperfections everyday in real life. In a way, miniature art is all about how perfectly we can represent imperfections, so it is fine for me to induce a little imperfection of my own, as long as such embellishments serve a bigger purpose."

I find the above quote to be very true; and as a modeler, I think this is a great thing to always keep in the back of your mind when you are trying to create the most minute details. Nothing in this world is perfect, so why do our recreations need to be? Just someting to think about while you enjoy this issue of *The S Scale Resource*.

Happy Reading & Happy Modeling,

Amy Dawdy

NEWS YOU CAN USE

Model Tech Studios LLC has some new offerings.

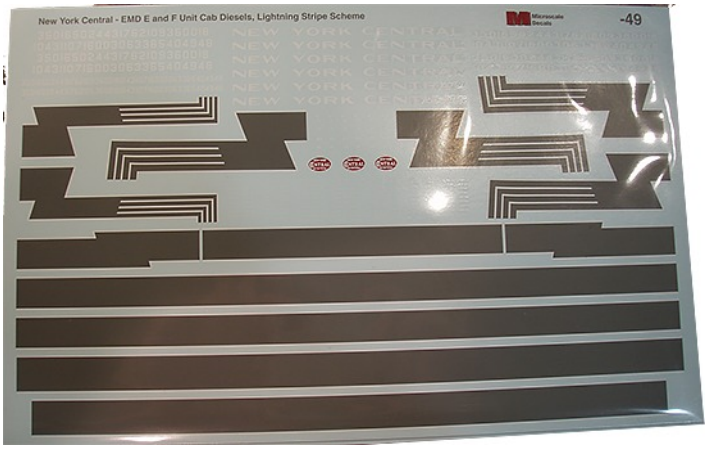
In search of that elusive gold jackpot, this old prospector has his trusty rifle slung over his shoulder. By his side is Trudy, his "pack donkey".The donkey is carrying his most needed supplies for his trek for gold. Very nicely detailed.

See their Website for all their fine products.

Richard Segal from Right On Track Models has a new item, a Fairbanks Morse 100 Ton Coaling Tipple.

Based from the prototype that was built for the Michigan Central Railroad in 1918 and stood in the yards at Grand Rapids, Michigan. These kits features precision cut MDF wood, highly detailed impact styrene windows and doors as well as resin and metal parts. The kit will offer our new “Real Scale Rolled Asphalt roofing material”. Complemented with easy to follow step by step color instructions. Check their website for more info on preorders, pricing and release dates on this kit and our other S kits.

Bill Mosteller has new decals for New York Central Cab Diesels (1945-1960) Diesel - Cabs - EMD E and F Lightning Stripe Scheme, in grey, red, and white, are available in S-scale (#64-49) from Great Decals!, 3306 Parkside Terrace, Fairfax, VA



22031. The decals are $10 each.

Each set provides road names and road numbers in white, grey and white lightening stripes, and heralds, enough to do three engines. The artwork is Microscale’s # 49 artwork, re-sized for S-scale and produced by them exclusively for Greenbrier Railroad Models. Click here to see a large sample. Contact Bill at wsm@greatdecals.com

New from Motrak Models is an industrial water supply tank has an unique look to it. It will be a conversational piece on your layout.

This water tank was on my diorama for my Bisgeier Tool Company kit and lots of people asked me if I'd sell the water tank as a separate kit. This water tank is almost 37' tall, 13' wide, and 22' deep

(including the pump house and the ladder) scale. You will get the pipe that goes from the pump house to the tank and a pipe that goes into the ground. If you have a building that is shorter than the water tank, you could go to the building if you want extra detail.

The kit includes:

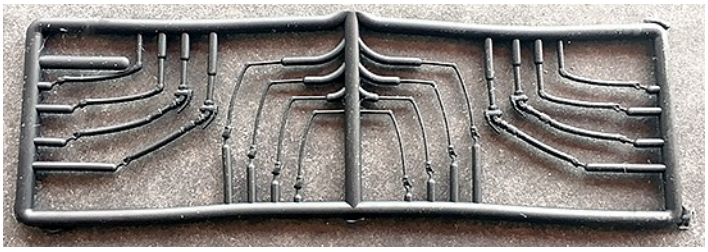
Laser-cut tarpaper
Laser-cut tank walls
Laser-cut pump house walls
Bunch of stick pieces
Piping
Easy to follow instructions with templates

See their Website for more details.

NorthWest Short Line is Back

NorthWest Short Line is pleased to announce that the entire line has been acquired by an NWSL employee, effective September 3rd, 2019. All existing back orders will be filled, and NWSL will be open to new orders as soon as the new websites are rolled out; the primary website will carry forward as the primary contact point. The line is expected to carry forward largely unchanged although the company will no longer offer phone support. NWSL will be headquartered in Kila, Montana, located near Kalispell, and the new address is PO Box 219, Kila, MT 59920. Email contact is through the website.

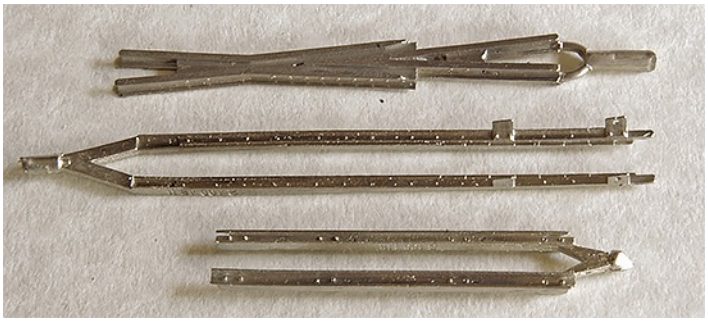
From Des Plaines Hobbies: Introducing our all new rubber Air, MU, and Signal Line Hoses. Now



you can have real rubber hoses, just like the prototype. These were crafted by our S Scale friends at PBL exclusively for Des Plaines Hobbies/S Scale America. They are available now. The part number is SSA126 at an MSRP of $10.00. Be on the lookout for more new stuff from S Scale America.

Dan Navarre from River Raisin Models says he expects the sample models for the C&O and SP Pacifics around the end of September. Check their Website for updates.

S Scale Track Works now has their switch kits and parts in stock. Code 100 frogs in #6 and #8, guard rails and points as well as a full kit. Also a code 83 #6 frog. Free templates and instructions on their Website.



More form Model Tech Studios LLC. Got Moonshine? This old moonshiner does and he's ready to test it! Add this classic figure to your S scale scenes today. He comes all painted and ready to go.

Super Detailed Lumber Carrier comes ready for your Lumber / Logging Scenes. This industrial equipment comes to you all built up and detailed ready for the layout.

See their Website for all their fine products.

Dave at LBR has a new restoration grade smoke wick for Pre-1966 AF steamers that retails for $7.00 each. See their Website for more details.

John Agnew of Railmaster Exports sent us a note.

We have decided to sell off our remaining S painted figure sets. We used to sell these when we attended USA conventions pre - 9/11, but these days of course we cant now bring in suitcases full of metal kits etc. I deleted the painted versions some years ago, so there is little point in keeping the 40 odd sets that are remaining. They are still $25 for a set of 6, plus airmail to Nth America. Or will sell 4 packets for $100 including post. We can advise individual emailers what's left. If the demand for painted figures was there, we would consider doing a fresh run. We shall see?

We have also deleted the English made 'S' truck (autos) range from our lists, as the moulds needed replacement, but there is just no demand for them.

Also we have been supplying re-gauged loco kits to order of late; e.g. Smaller steam and most Diesels to run on their preferred choice of the 3 S gauges, S, Sn3, or Sn3½ (Sn3.5; Sn42). Also purchasers have been sending us photos of N G steam locos that they want, and we endeavor to pack parts for that particular wheel arrangement to suit their prototype, from our huge parts range - as far as possible.

See their Website for all their fine products.

New Products from CatzPaw Innovations, LLC

Female Standing Figures 1940's: Set A set of female figures dressed in 1940's era attire. Set includes one each: Female Pouring Coffee 1940's, Female Standing Chatting 1940's, Female Walking 1940's, Female Taking Notes 1940's, Female Drinking Coffee 1940's.

Police K-9 Unit: Set This set includes one (1) each of our Police K-9 figures: K-9 Sit, K-9 Walk, K-9 Release, K-9 Run, and K-9 Take Down.

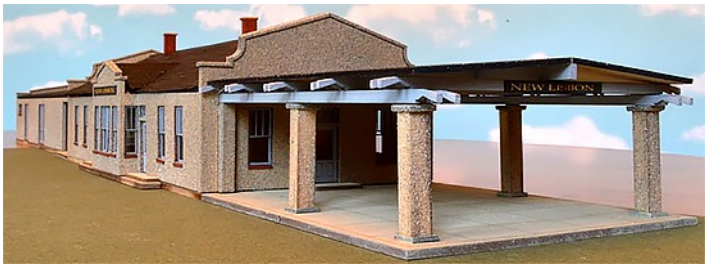
Police Officer Traffic Control Set: This set contains one each of the following Police Officer Figures: Directing Traffic, Writing Ticket, Standing Waiting.

All figures come unpainted. See all their products at their CatzPaw Online Store!

Hidden River Manufacturing has some new kits available.

Milwaukee Road Car Repair Shed
Footprint: 3-1/4" x 5"

Milwaukee Road New Lisbon Depot: Footprint: 7"x 35" This is a scaled up version of their HO depot. They did this for a customer and decided to offer it to anyone else who might enjoy it.



See their Website for all their fine products.

Des Plaines Hobbies/S Scale America has new 10,000 Gallon Tank Cars arriving.

Seven new paint schemes, flyer compatible trucks and couplers, easily converts to scale wheels, these are due late October 2019. Reservations are now being accepted.

Check their Website or call 847-297-2118

NE Prototypes will be offering another NEW S Scale only Decal set soon for both Central Vermont and Grand Trunk Steam Locomotives. This is a combination set doing both roads. Price should be around $24.95 and will decorate multiple locomotives of either road .

NE Prototypes
PO Box 4-4-2
Rutland, MA 01543-0442
TEL: 508-886-4848 8AM Till 8PM Eastern Time only Please

NASG National Convention 2019
Cincinnati, Ohio

By Glenn Guerra

The NASG National Convention was held in Cincinnati, Ohio this year. If you have never been to one of these, I would recommend considering going to one. These shows are a lot more than just a flea market. At this year's show, they had a tour of the old Cincinnati Union Depot. This depot is an icon of the Art Deco style and a landmark building. The tour included parts of the building that are normally not open for viewing. On this same trip, the group went on a river boat ride on the Ohio River. These types of activities make these shows a vacation, as well as, a train show.

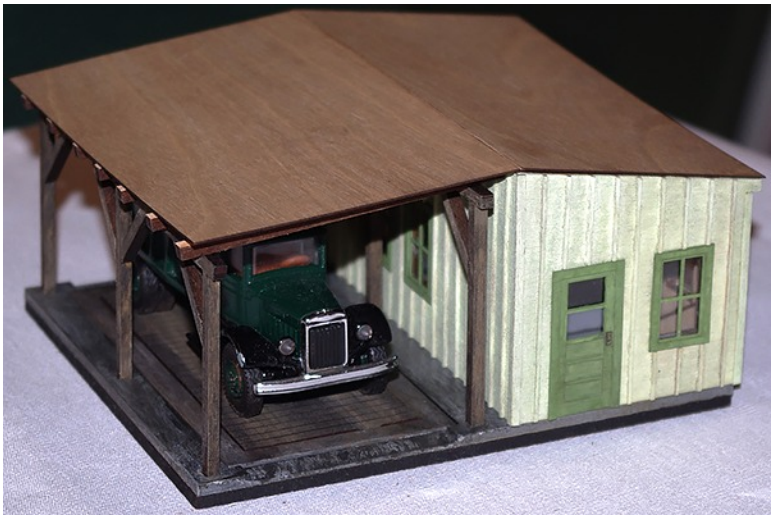
The tours are usually Wednesday and Thursday of the show; and the trading hall opens on Friday and Saturday. There are many clinics that run on Friday and Saturday also. The trading hall has a range of manufacturers, dealers, and individuals all offering stuff for sale. Besides being able to find stuff you may be looking for, you can see and touch the stuff before you buy it, always a plus. I was in the trading hall most of the time and here are some photos.

Willy Monahan from New Orleans models the Ulster and Delaware railroad in the 1890's. He brought this model over to the table to show me. The model started with a Bachman On-30 4-4-0 model. Willy made a new cab and tender. The side rods and safety valve are parts he drew up and had produced using rapid prototype processes. It's a nice looking model.

Dan Navarre from River Raisin models was at the show. Dan has a new project to import new brass models of Pacific type steam locomotives. The current project will be Southern Pacific, as well as C&O prototypes. Dan said reservations are going well. If you want one, look on their website for more details and some of the other models they sell.

Steve Wolcott and his wife from Pre-Size Model Specialties were at the show. They produce resin castings of retaining walls, tunnel portholes, bridge piers, and detail parts. The last few years they have been producing some freight car kits in resin and they are popular with the modelers.

Al Castellani from East West Rail Service was at the show. Al makes laser cut models with some resin details. A nice combination of technologies.



Larry Morton from Tomalco Track was at the show. Tomalco makes flex track and switches in code 100 rail for the scale modelers. See their website for more of their track products.

Dave Blum was at the show. Dave goes to quite a few model shows and always has a lot of S Scale items. Don't let the boxes fool you, there is a lot of good scale stuff mixed in with the high rail stuff. He usually has a lot of vintage kits also, which I find interesting.

Doug from Port Line Hobbies was at the show. They carry an extensive line of S Scale detail parts.

The Pittsburgh S Gaugers brought a module that shows the variety of S Scale. There is S standard gauge, S 3' narrow gauge and S 2' narrow gauge on this module. Very nicely done to show people what can be done in S Scale.

The Hoosier S Gaugers from Carmel, Indiana brought this module layout. A nice break from the more common flat module layout. The layout is intended to show what S Scale is about.

The 2019 NASG National Convention was another good show and well run. I always enjoy the shows. If you do not attend these shows, I would recommend trying one. The 2020 show will be in the Minneapolis, Minnesota area. So be sure to mark July 7-11 on your 2020 calendar. See you there.

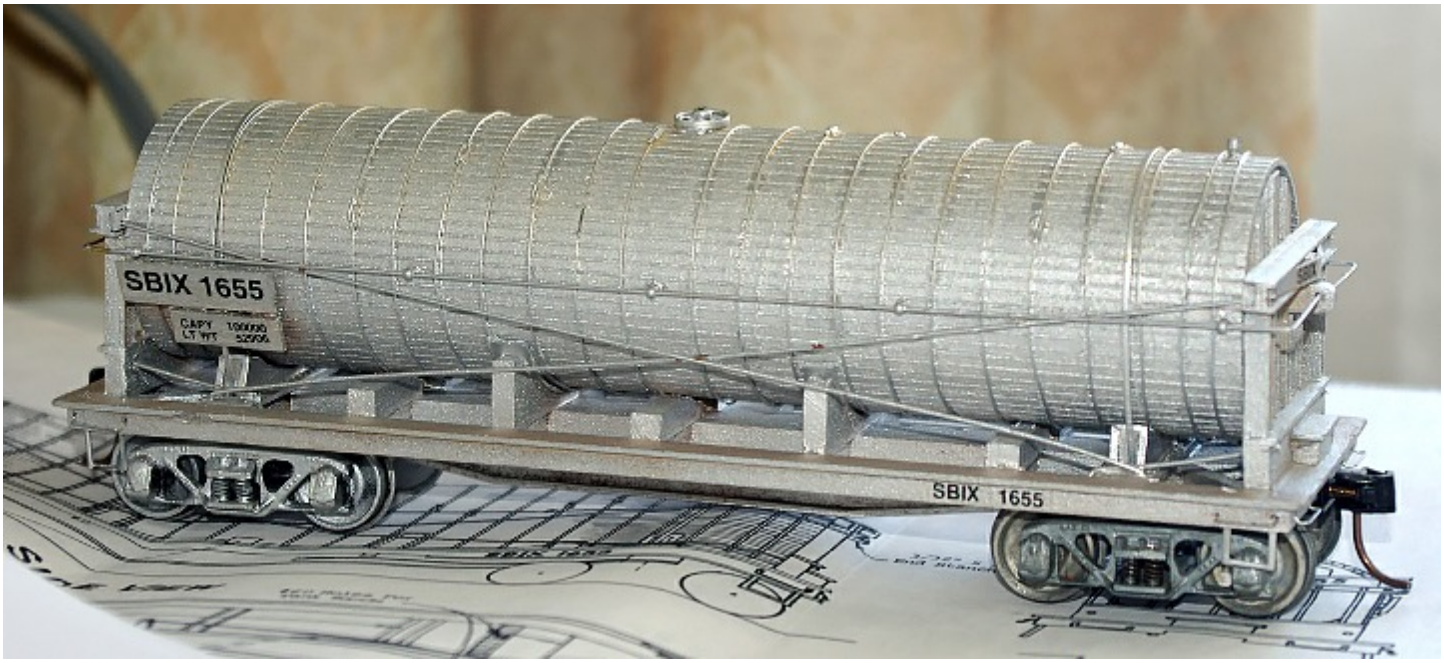
NASG National Convention 2019 Model Contest

By Glenn Guerra

The model contest at the NASG National Convention this year had a lot of nice models in it. It's good to see that there are so many models entered each year. I decided to make a small separate article about the contest. One of the things that make these contests appealing to new people is the amateur class. If you have never entered a contest before, or have not won a contest, you will be grouped with other people with similar circumstances. If you win the contest, you will be bumped to a different category. I think this appeals to people and it makes the contest more fun.

I took these photos before the judging, and as a result I do not know who all the builders were. Forgive me for not mentioning your name, but your models were too nice not to show everyone.

This building was entered by a first time entrant. The painting and weathering is very nice. Doing a small diorama like this is fun to work on. It fits on your work bench so no bending over the layout. When you are done, you can install the whole diorama in the layout. A little touch up and you are done. Built by Chris Elliot.



This is a nice job on an unusual car. These cars were built around 1920 when commercial vinegar was being produced for the canning industry. Prior to this, the canning companies made their own vinegar locally at the canning plant. The wood tank was the only material that the vinegar would not attack. Built by Alvin Clapp.

This car had some nice painting and weathering on it. The rusty unpainted wheels are a nice touch. Built by Jeff English.

This small home has some nice details. The open windows look good don't they?

Some of the nice rolling stock that was entered in the contest.

Traction is not modeled very often in S Scale. If you are looking for some new ideas, give traction a look. The tight curves make fitting track plans into your space much simpler. The operations ranged from freight to interurban to city cars and all with the same railroad. Since you will need to scratch build or kit bash your equipment, the variety of the prototypes gives you a lot of latitude. This model of a typical freight motor is a nice job. Built by John Robertson.

This model of a depot follows a specific prototype. If you are modeling a specific prototype like this, be sure to bring your research material to the contest for the judges to look at. The mold that made the doors and windows also adds to the model. A very nice job.

Notice how the modeler built this complex on a base that can be dropped into a layout. All the details can be done sitting at your work bench. Then just install it on your layout.

WRAP UP O&S Scale Midwest Show

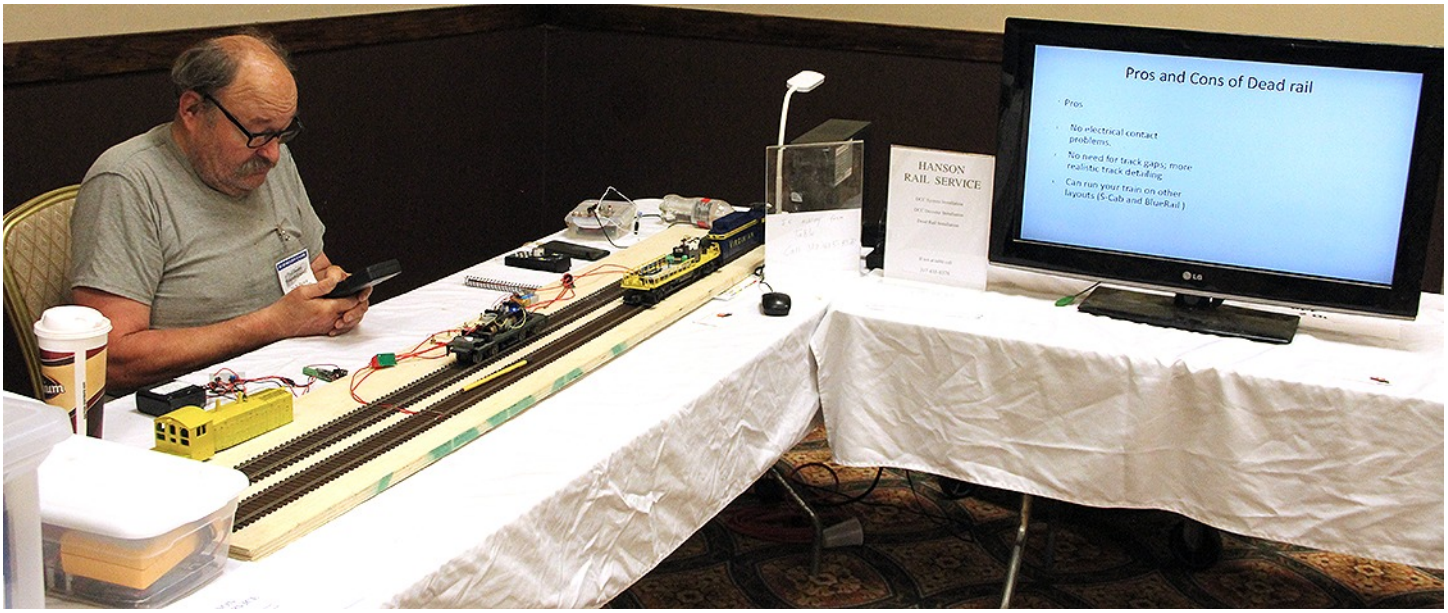
Another O&S Scale Midwest Show, formally the Indy O&S Scale Show, has come and gone. S scale is alive and well. Beautiful layouts, new products and crazy cheap prices made this the place to be. We are finalizing next year's show and hope to confirm that soon. Thank you to all that came and had a great time.

This is just one of the two ballrooms the show was in.

Des Plaines Hobbies was there and had a lot of S scale at fantastic prices.

The other ballroom also had S scale goodies.

Again this year we used “presenters”. Glenn Guerra was demonstrating soldering brass with torches and soldering irons, as well as, resistance equipment. He had a large crowd around him. Glenn also had his new line of S scale switch parts from S Scale Track Works.



Paul Hansen of Hansen Rail Service was demonstrating DC, DCC, and Dead Rail.

Not only did Ken Zieska set up a table where he did some scenery tasks, including static grass, he encouraged people to try it and had small “squares” people could create grass on and take with them. Then, he went to Charles Malinowski’s MR2GO! layout and did some hands on work.

Ken Zieska's static grass demonstrations were very popular with both S and O scalers.

There is nothing better than hands on experience for learning!

The Hoosier S Gaugers had their beautiful layout here. The layout is a 9×13, walk around set in 1950. We'll cover this layout in more detail in an upcoming issue.

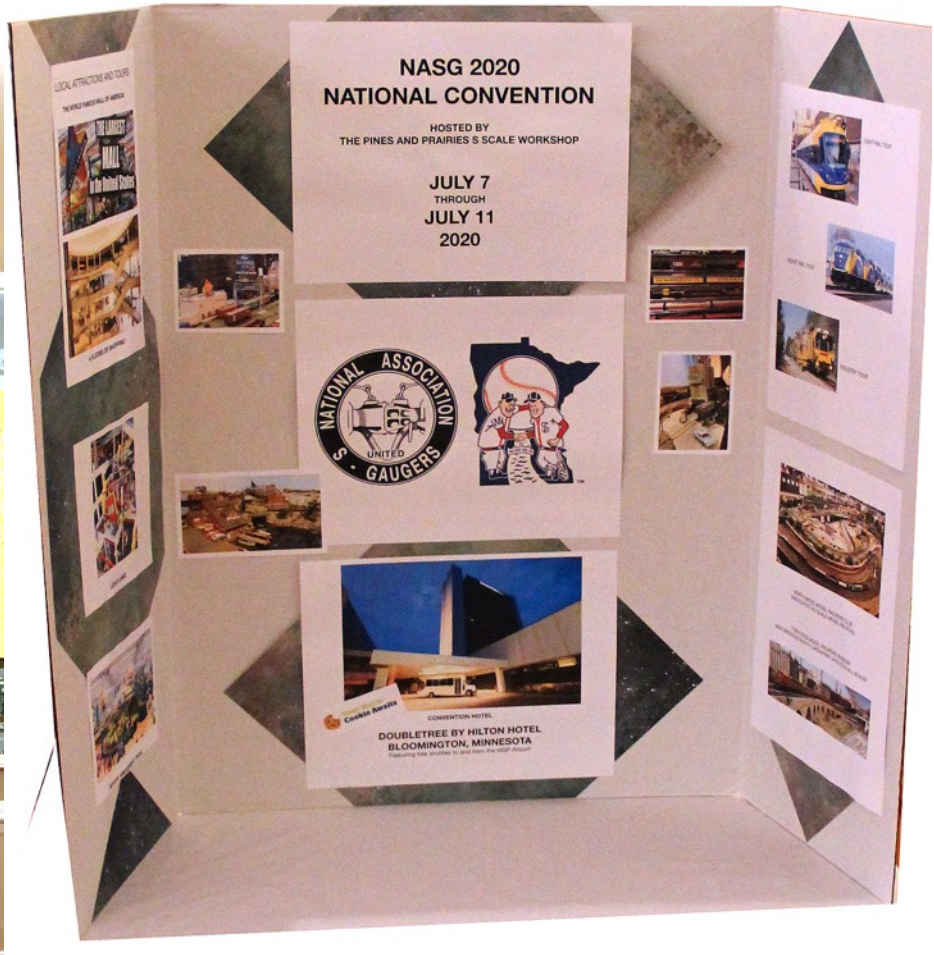
More from the Hoosier S Gaugers

The Southeastern Michigan S Scalers were here again this year with their fantastic layout.

Charles Malinowski and his 1:64 version of MR2GO! layout was here. The layout picture on the right was early in the show. The others are after the static grass demonstrations.

A sampling of bargains at the show.

Below: Pikesville Models had a great array of products at the show.



Above: Don't forget the 2020 NASG National Convention in Minnestota! We are planning to be there!

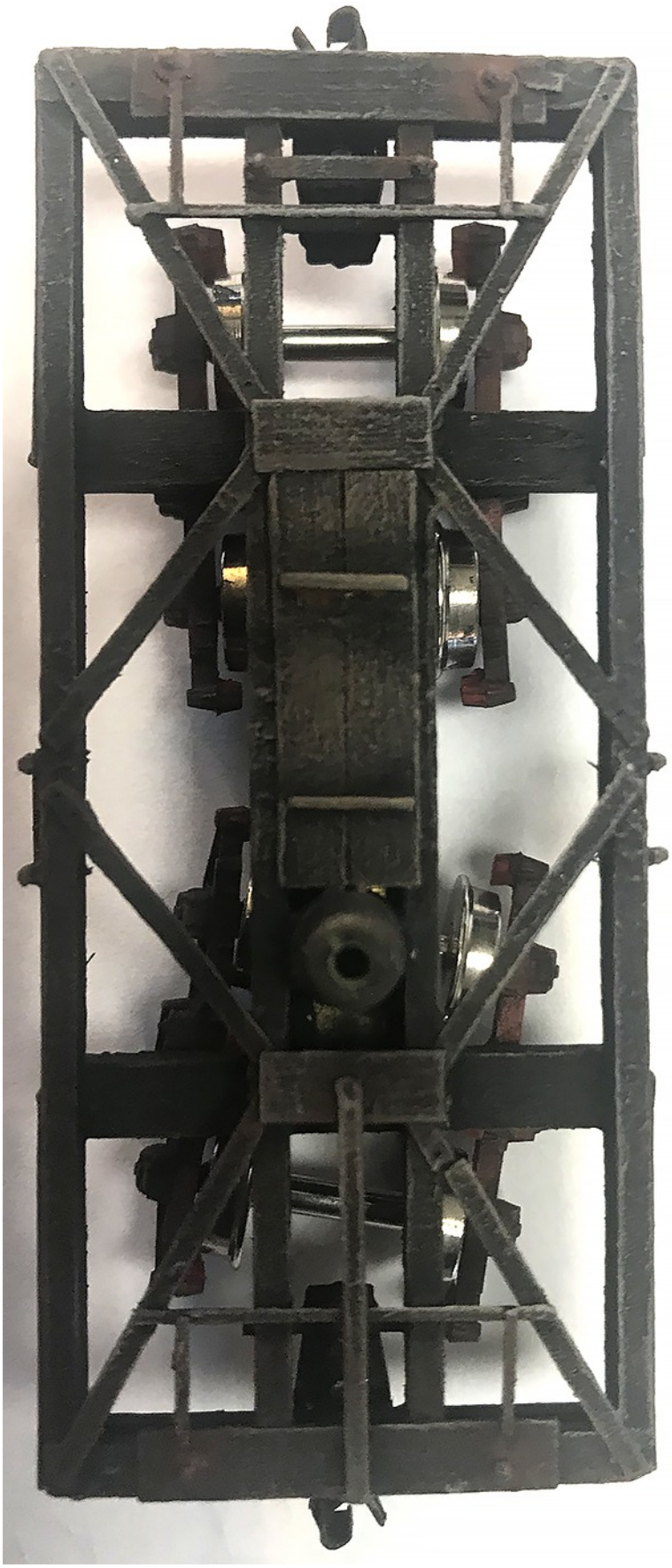
Left: We were there displaying some of the models featured in our magazines, along with accompanying copies of the articles.

Elk Creek Lumber and Mining Ditcher

By Warren Judge

When one decides to build a freelanced lumber and mining model railroad, in Sn2 mind you, one must consider the Maintenance Of Way equipment and rolling stock needed to support it. When I took on the task to build the Elk Creek Lumber and Mining layout, I realized really quickly that as a freelanced layout most commercial available rolling stock just might not be correct for the subject matter. Most of the rolling stock I have is either scratch built or converted.

I find that as a scratch builder I'm not limited to, or restricted to, a certain railroad or a certain piece of equipment or rolling stock that may not fit my needs. As a fan of the Denver Rio Grande & Western (DRG&W), The Rio Grande Southern (RGS), The West Side Lumber Company (WSLC) and the Gilpin Tram, I wanted to create rolling stock and MOW equipment that would enhance the layout; give credibility as equipment needed; and also be recognizable to some aspect to the viewer. Plus, I think MOW equipment is so cool!



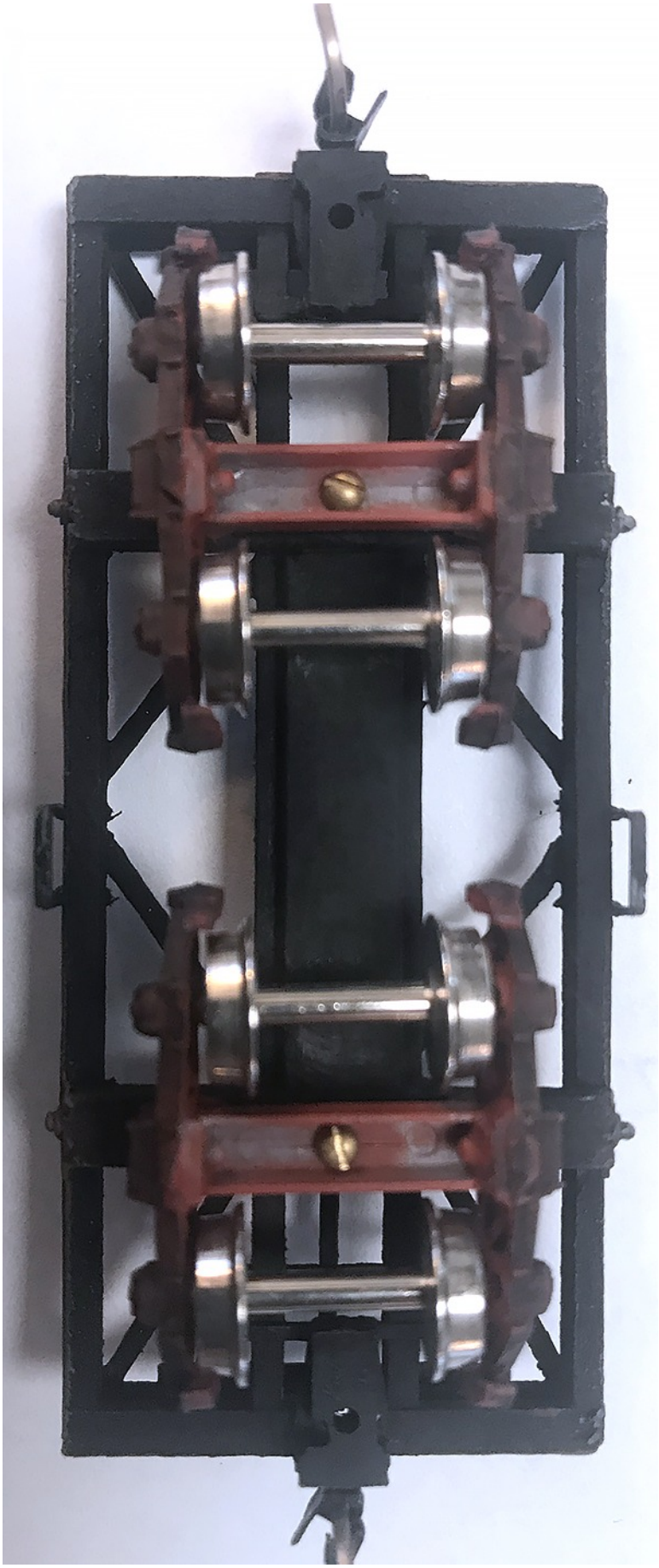
I've always loved the Ditchers from the DRG&W and the RGS. So those were my inspiration in creating this little ditcher.

As a Sn2 model, I really needed to first come up with a design that did NOT look too small and yet was not over powering. As anyone who models in Sn2 knows, the majority of trucks are usually fabricated or taken from HOn3 trucks. So if using small HOn3 trucks, it is imperative to focus on proportions and getting them right. If not, your model may look too small and resemble more of a HOn3 piece as opposed to a Sn2 model. For anyone is not familiar with Sn2, most, if not all, Sn2 modelers use HOn3 to gauge the track and work with a lot of HOn3 items.

Currently, there is a very limited supply of Sn2 items (mostly east coast railroads) available to build rolling stock and MOW equipment. Though new items are slowly coming to fruition through resin, laser kits and 3D printing, most things I build are scratch built or converted. When I begin to construct or scratch build anything, I always do a quick inventory of the material I have and parts needed for the project. After a thorough search through my ever growing parts box (that's not a bad thing), I finally picked what I thought would work. With parts, I like to go a little overboard with the quantity so I have plenty of items to choose from when laid out before starting to build. Once I've picked out the parts I need, I put the rest away for the next project.

After I came up with a design for the model, I began with the base of it – the frame. This would determine the overall size of the model. I used the ditcher from the RGS with a little twist here as a reference guide, using my artistic license to come up with the final design. The base is built out of basswood and balsa wood. I kind of copied the construction of the base from the RGS ditcher using little laser cut cardboard strips to frame out the design of the top portion of the frame. These little pieces were left over from an old project I did (I save everything). They had little rivet marks on them and look great on the frame once attached. After the top was completed, I decided to finish the lower section of the frame using the same pattern.

Happy with the results, I cut out the section on both ends to frame out the coupler slots. I initially chose to use Kadee 714 couplers, but accidentally used N scale couplers. Once the couplers and frame were finished I



moved on to the cab and ditcher arm. In my scrap box, I had saved the frame of the ditcher arms of the RGS Sn3 Wiseman Scale models kit I had done a few years back. I had two sets in the kit and hoped to build a scratch built ditcher in the future. This is what lead me to this project.

I started out next with the roof first to give me an idea of the size and shape of the cab. I used strong white cardboard and lined the roof with thin brass pieces to frame it out. I added detail framing to the ends and center along with the wire return and roof stack with whistle. I chose to go with a triangular style roof since I wanted a older looking piece of equipment and it resembled other MOW equipment I had seen before.

After the roof was constructed, I built the cab. I started out with plastic styrene with a wood design on the surface. I wanted a wood looking floor for the cab, and the piece I used worked perfectly. Once the cab floor was cut out, I framed it with precut pieces of basswood. Satisfied with the base of the cab floor, I moved to the heart of the ditcher, the interior and winch.

Most of the sawmill interior parts are from a Woodland Scenics sawmill kit . I also had a bunch of different little parts I had previously separated and chosen to create the interior and winch. After I came up with a relatively workable design for the interior and winch, I put them together and attached the sub-assembly to the cab floor. I added a seat and a few little control arms using small pieces of brass and adding a touch of super glue to the tip. I spray the arms with a kicker to quickly harden the control arms to give it a handle kind of look, then glued them in place.

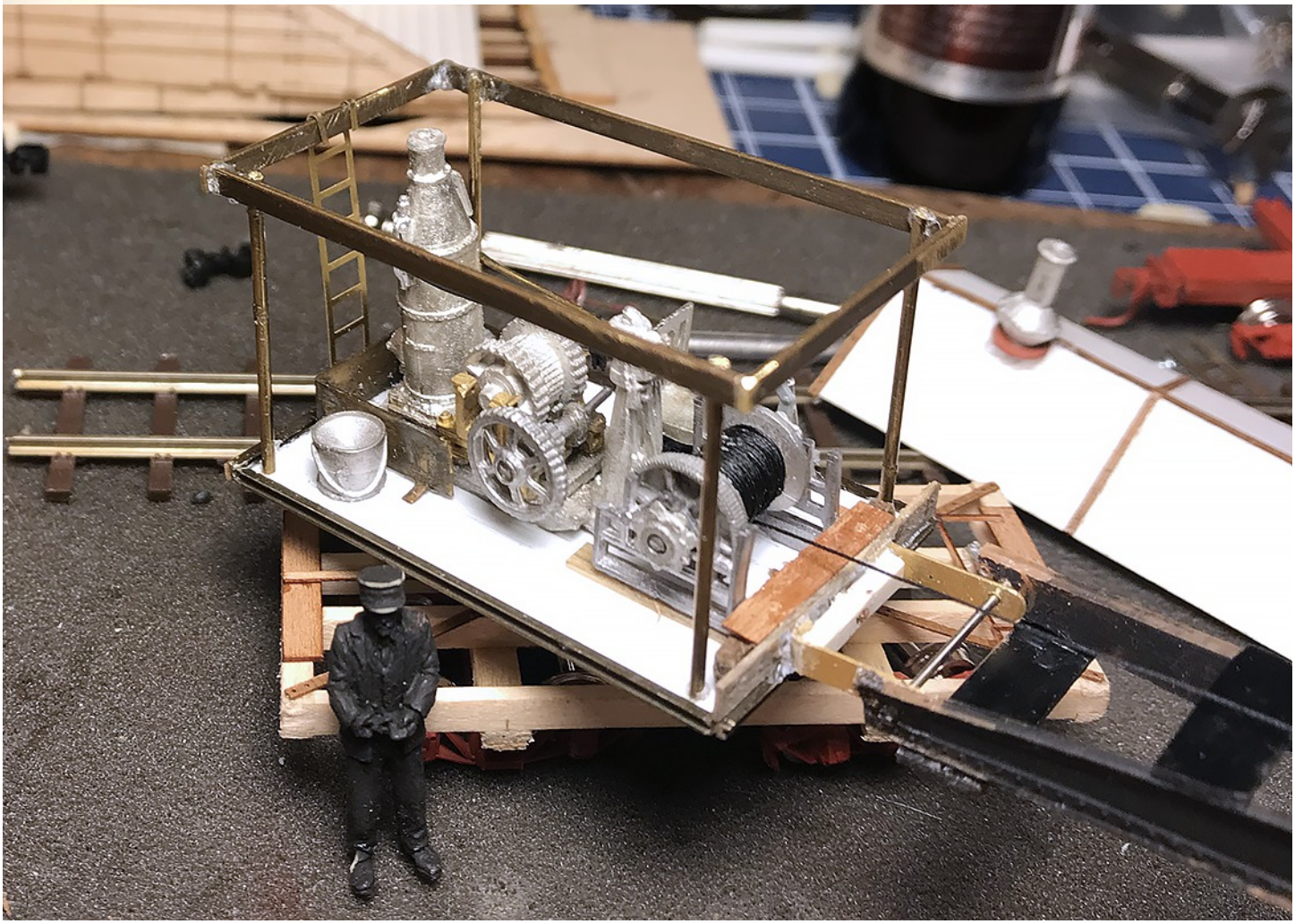
Now I want to point out from a scratch builder's perspective one thing. How did I choose what to use you might ask? I always answer by saying, "Use what you think looks good, experiment, and create something different that only you can come up with.". One point to remember, it's your design and your ideas, so don't be afraid to push yourself to try something new. You might be surprised with what you come up with.

Once all the pieces in the cab were installed, I moved on to the roof support beams. I used thicker brass rod to help support the roof. I measured all of them to equal lengths to give the appearance of a taller roof. Again, I wanted to simulate a smaller ditcher, but one with the appearance of S scale.

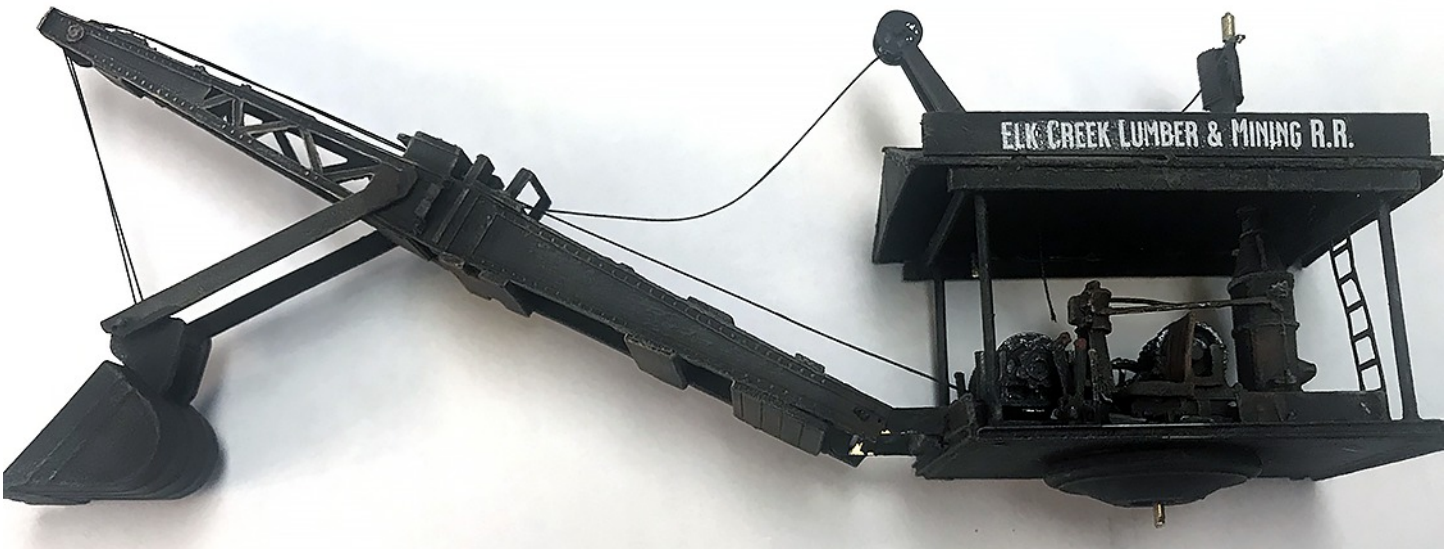
I drilled out the base floor to hold the support beams and glued them in place with super glue. Once the support beams were in place, I framed around the beams using small flat pieces of brass. I chose brass for its strength and rigidity. Once this was finished, I test fitted the roof to make sure it was the a good fit.

I now moved on to the most fragile aspect of the ditcher – the ditcher arm and shovel assembly. When considering the project, I thought about the shovel portion and said to myself, “I'm going to have to scratch build this piece.”. To my surprise, I was fortunate to have remembered I bought a toy backhoe at the Dollar Store for a dollar and the shovel fit perfectly!

The frame arms were the left over resin pieces from the Wiseman kit and are very fragile until they were framed them out on both ends. After I finished framing the arms, I added detail to them, along with a wheel at the tip to move the cable. Once I was satisfied, I moved on to the shovel’s support beams and made them moveable until I found where the final placement would be. See the picture on the next page.



Now that the ditcher arm and shovel was completed, I added very strong brass support beams to the lower front of the frame to hold the shovel. I used an old broken drill bit I saved to hold the arm to the cab. I used the old drill bit because of the strength of the bit, and it was the perfect diameter. So never throw out your old drill bits, you never know what you can use them for.

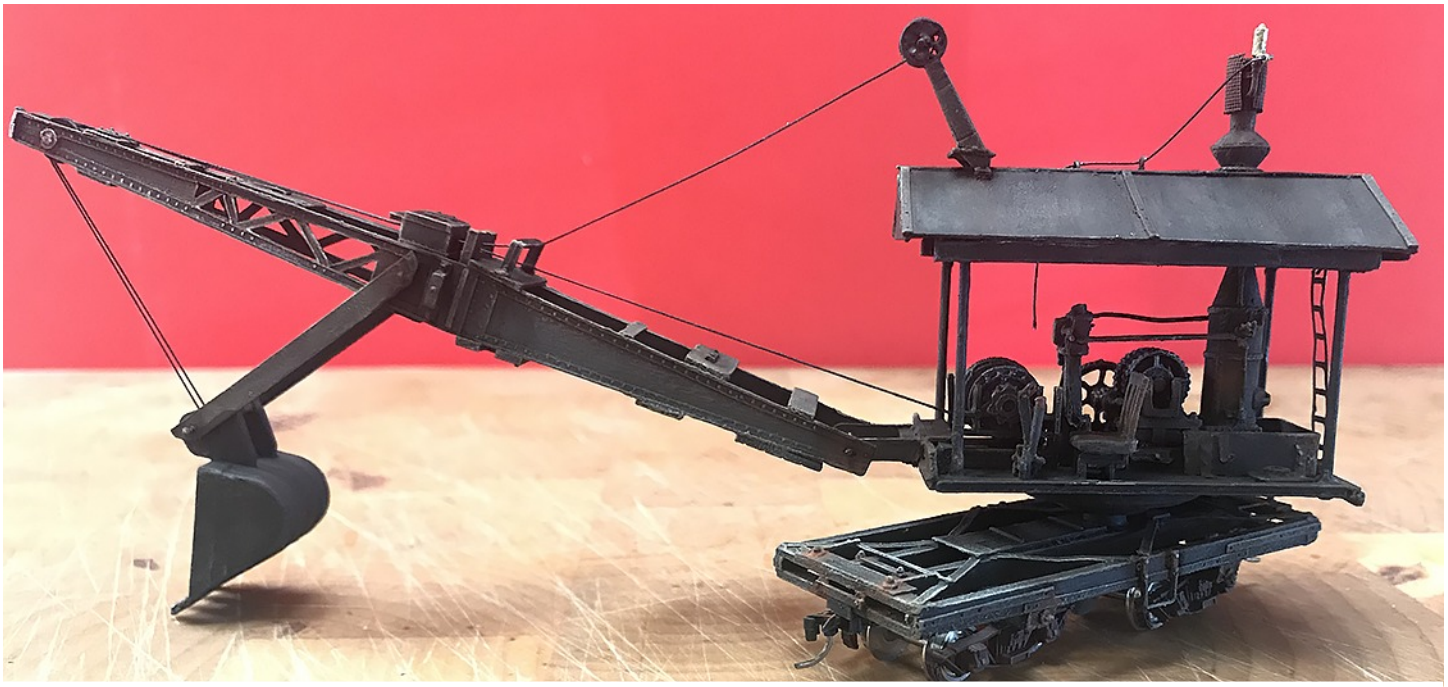


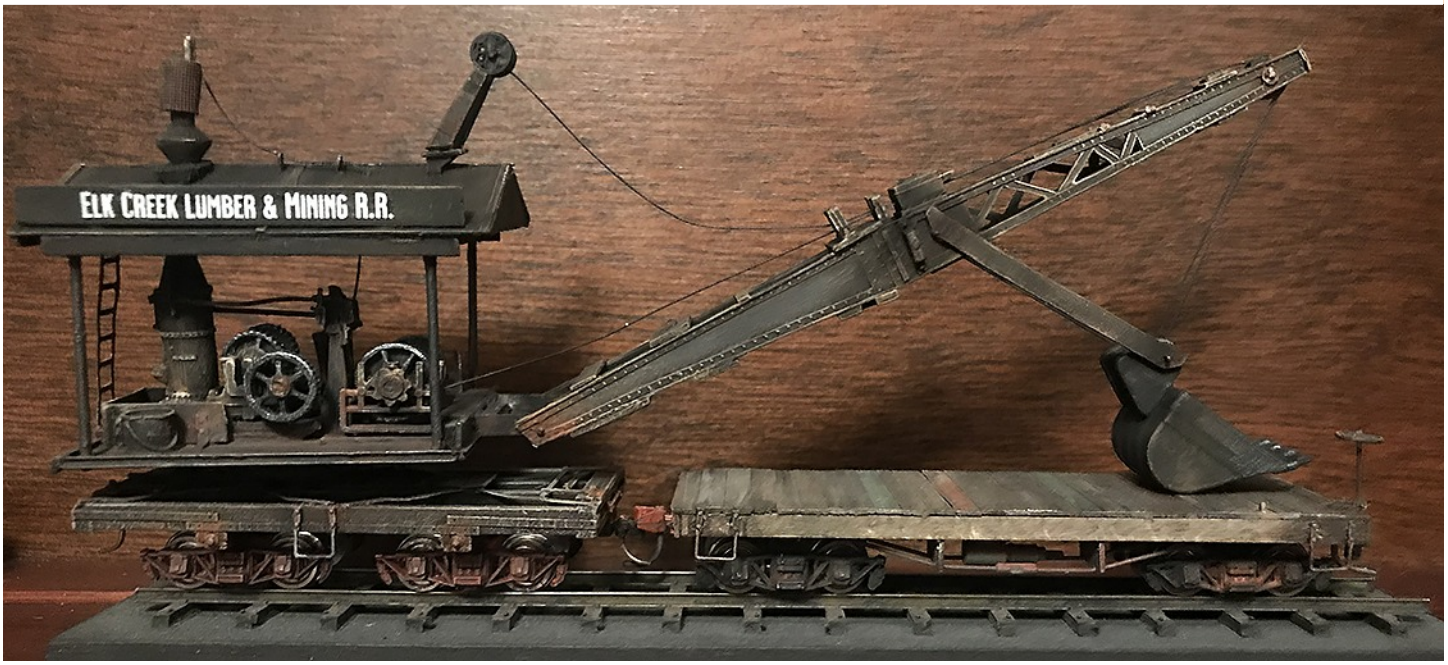
The final assembly was to attach the ditcher cab and arm to the frame hoping it wouldn't slouch to one end or the other. I also wanted the ditcher to be able to move back and forth. To attach both pieces, I again went to my trusty parts box and found an old 1/35th tiger bogie wheel from my armor days. I also a found a toy plastic car safety cone which surprisingly fit perfect in the hole of the bogie wheel. I added a piece of brass wire down the center of them both to give it a little more strength and test fit them to make sure they worked well together, which they did. I glued both pieces in place, one to the top of the frame and the other to the bottom of the cab. I then test fit the arm/cab to the frame and checked for leaning in the font and back. They fit great since the white metal in the cab for the winch and interior countered the weight of the long arms of the shovel end.

I finalized the ditcher with a name plate of the railroad on the roof and began the weathering process. As anyone who knows me knows, I approach weathering a little differently then most model railroaders. I choose, for the most part, to paint everything flat black with a brush. I use the base color of black because black is the darkest color in the color wheel. I'm able to bring out the highlights better showing more depth to the model using this technique.

I strung the cable using a silk thread which works great because it doesn't fray over time or as you use it and looks great in scale. Plus, since it's already black you don't have paint it. I followed the old instructions from the Wiseman Ditcher kit as a guideline. If you don't have the instructions, then you can use your imagination.

Try remembering as you go that the cable must flow to all parts so as to work together yet independently. I started at the winch winding it around roughly 10 times to give the look that there was more coiled around the wheel.



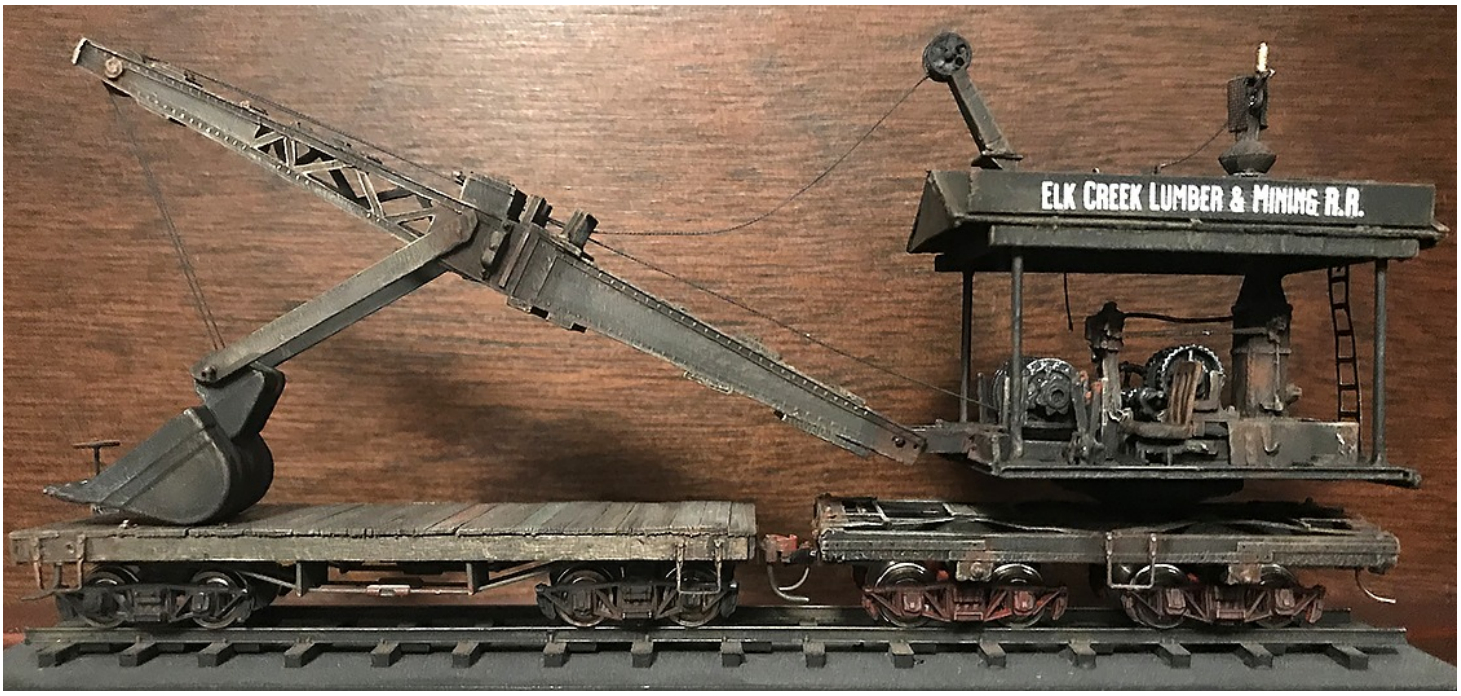


I started up the the arm to the wheel at the tip of the arm, back down to the shovel, then back up to the wheel, following that to the top of the roof return wheel. I allowed slack in the silk thread to move the arm to the position I liked it then super glued it to the return wheel.

I also added a cord to the whistle and put a small eyelet on the roof to follow and hold the cord until it reached the drop hole. I drilled a small hole in the roof for the drop hole and fed the cord down into the cab. I attached the cord in place using super glue.

I start off my weathering with dry brushing lighter colors to what I think looks good. Then I apply controlled oil washes to the fine points like rivets, nuts and bolts, and small details.

I start the washes with a controlled wash the consistency of milk and use black, burnt umber and lastly, burnt sienna. I finish off using artist pastels to really bring it alive.



I finally had custom decals designed by good friend and fellow Sn3er/Sn2er, Mike McKenzie, who absolutely did a fantastic job.

This ditcher doesn't represent any one in particular MOW car, but a mixture of multiple ideas and equipment I've come up with to help support the layout.

I cannot forget those who have helped me so much in my modeling, first the Lord for giving me the talent to create, without Him, I'm nothing; John McKenzie, who sees me though almost every project I do, who is a personal friend and is my mentor; my great friend, Jerry Wilson, who single handedly helps me in all things Sn2 and is also my mentor; Mike McKenzie whose line drawings and logo designs are just out of this world; and *The S Scale Resource Magazine* for allowing me to give a little of what I love to do to others.

Thank you all. "Remember, projects don't start themselves, you gotta build something."

Mentor Definition: A Trusted Counselor or Guide

By Contributing Editor Jim Kellow MMR

S Scale modelers are builders! I hear it all the time. Here are two modelers in India who I believe can teach us all something about model railroad building. Also, a Chinese 3D printing company that comes highly recommended by one of the modelers profiled, has a great Contest for all of you to enter.

I hear all the time from modelers who model in S Scale that if you want to join the S Scale modeling community, you need to be ready to scratch build many of your models. When I met Kaustav, who is an N Scale Modeler living in India, I immediately thought that he might make a great S Scale Modeler under different circumstances. He is moving from N to HO so maybe one day he will make it all the way up to S, who knows. Maybe some of you can help him with the transition!

The other thing I hear about S Scale modeling is the relative high cost and low product availability compared to other scales. Kaustav has an answer for those comments. Whatever the cost for a product in S Scale we may purchase in the US, the cost for Kaustav in India for that same product is 3 to 4 times higher. How many of us could afford, or want to see those costs? Maybe we are luckier than we think!

Pegasus Designs & JBM (Jeremiah Bunyan) is a Indian Modeling company offering another way to produce S Scale. The profile is a must read. I even used their 3D printing service and my experience will show you how easy it was. This was the first time I have ever tried 3D printing. It was "**New Tracks**" for me. I assure you it will not be my last 3D model to use in my building projects. Thank you Pegasus Designs & JBM for opening up this new area of model making to me. Jeremiah also introduced me to Ivan at **Shenzhen Fantasy 3D Technology Co., Ltd**, a Chinese 3D printing company he uses. I used them, and could not be more pleased with the experience and result.

First, I want you to meet Kaustav. I truly admire Kaustav's modeling ability, philosophy, and determination to build a model railroad under rather unique circumstances to say the least. I believe what Kaustav has accomplished will be inspirational to many of us, and hopefully encourage our modeling. Please meet Kaustav and see his model railroad.

Kaustav Chatterjee
Wrightsville Port: N Scale Layout by Kaustav Chatterjee

Discovering Model Railroading in India

Model Railroading has been in India for a long time, however, not in the way it grew in the west. In India this is not a 'hobby' the way westerners perceive – this is a novelty passion for the rich, or at least those who

are well to do. And there is a practical reason for that. You can only afford to sustain this hobby if you have enough money not only to buy the item, but also pay as much as the price of a product to import them – and I mean, every single item. There is no Model Train or Scale Model industry in India – miniature art is obscure, and though a common man would appreciate the creation, he would certainly not be inspired to start anything of his own, the moment he realizes the money and time devotion that the hobby demands. And yes, price of model trains and related items increase worldwide for everyone in the natural course, but an ever-weakening rupee against dollar, increasing shipping costs and the ever tightening noose of the Indian Customs to restrict import (and thus increasing customs duties) means that when an item becomes costlier by a dollar in America, if I want to buy the same product from India, it gets costlier by 3-4 dollars on the baseline in the same time period. So, understandably, Model Railroading, or even much simpler Scale Model building, are still very niche hobbies for a select few in this second largest population in the world with the fourth largest railway network. Also, in most part, model railroading activities in India never go beyond collecting – so trains are in focus among model railroad enthusiasts for sure, but not necessarily model train layouts. The dual prongs of price pressure and exclusive need to devote time to the hobby keeps even the interested parties away from building highly detailed layout.

If you ask me then, how I got interested in model railroading, I have to say that I have no idea! When I was 4 or 5 years old, I started building paper models of cottages and trees. Eventually, I graduated to replicas of ships, vehicles and buildings – the concept of 3 dimensions always fascinated me. I saw my first ever model railroad at a toy fair in Calcutta back in 2001. It was a proper, fully detailed N scale European layout, displaying models of some great European trains, and that is when I discovered Model Railroading. Needless to say, it was love at first sight! It still took me 9 long years before I started building my first proper Model Railroad – Wrightsville Port back in November 2010.

But before I started building the layout, I had spent hours, days and nights looking at layout plans, making my own designs and talking to people to learn more about the techniques and technology of model trains while buying necessary items like track, turnouts, rolling stock, accessories etc. in regular installments. And sometime in between, my life partner Mouli started to share this madness with me – bit by bit! But somehow, somewhere something was missing. I designed a lot of layouts – small and big, studied so many more that I can't even remember – but the 'givens and druthers' were always in the flux. Now, after a considerable number of frustrated attempts and sleepless nights, I found the most important 'givens' of all – flexibility! At that point in my life, there was no point making plans for a room full of long trains and large junctions since my constraints were everywhere – time, money, space, need for movement… So, I needed something with more fluidity: something that I could carry, that could grow over time, but was also complete and fulfilling on its own, something that could capture the real-life operation, but not too elaborate to bore people (primarily me and Mouli) to sleep. Something that is challenging to build, and will keep me engaged for a good amount of time, but not for decades; something that has both softness of scenic beauty and ruggedness of an urban set-up, can replicate real life pick-up/drop type freight operation, also passenger trains… and as you can see, that was one hell of a laundry list in the name of flexibility!

Many people asked me over time why I started with N Scale – a scale that is still considered as novelty toy train among true model train connoisseurs. The answer is above. Wrightsville Port is a less than 18 sq. ft in area, and I have been building that layout for nearly 8 years now. And in the first 7 years of its existence we moved 6 times, across 2 cities over 900 miles apart. Size and portability were big factors for me. But most importantly, I believe I looked at N Scale differently – I think I saw that there is more to that scale than what meets the eye – literally as well as metaphorically! So, the challenge of making something as small as N scale as highly detailed and realistic as its HO counterpart still gets me going. Even if you look at the layout plan

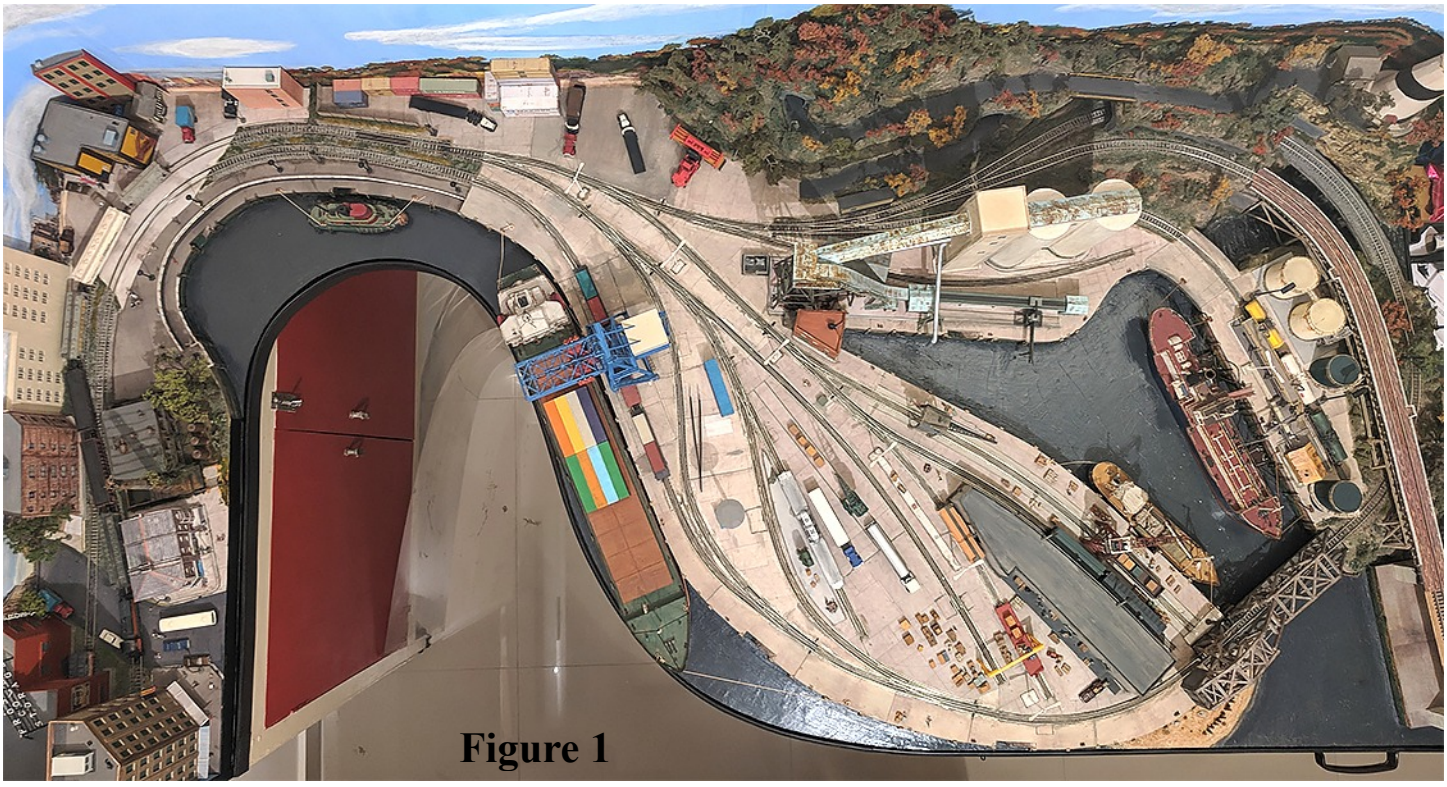


Figure 1

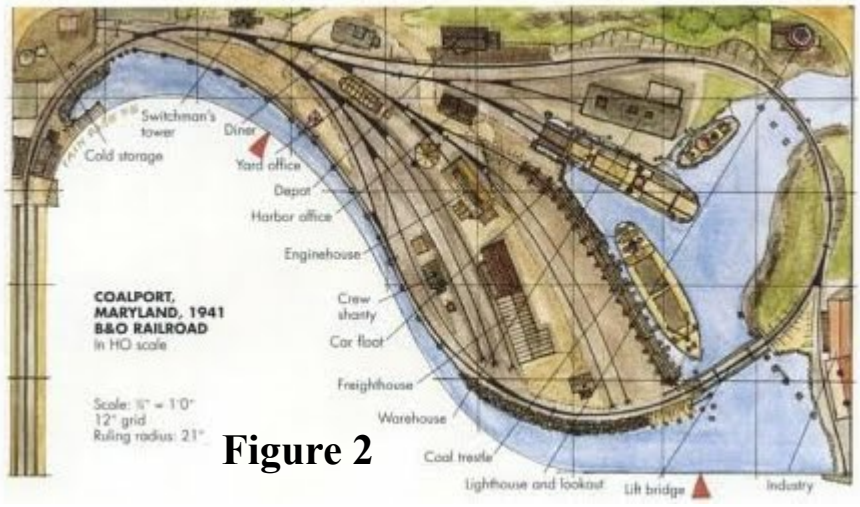


Figure 2

itself, it is a slightly modified version of Iain Rice's Coalport, MD plan in HO (Figure 1). And the reason it is designed in HO is because over 80% of track in Iain Rice's plan was concrete embedded, including the turnouts. Plus, there is a need for an authentic lift bridge which is not something you see every day in N Scale. To my knowledge, even to this day, no one has attempted something as complicated as that in N scale as far as the track work is concerned, where not just the forks, but even 10 out of 12 turnouts in the layout are embedded in concrete as you can see in the Wrightsville Port plan (Figure 2). And if that wasn't enough, given this is in its essence a switching layout, you expect to see slow, switching operations by small N scale switchers where max scale speed can only go up to 15 miles an hour. And when I started building this I did not have money to go for DCC, so this layout is running on 2 cab DC – a very humble Bachmann Power pack from my first Bachmann train set, and a Hornby controller that a friend gifted me. Miserable? Not quite!

Why a Waterfront Layout?

Because nothing else can bring so many different elements together, display the extreme dynamism and contrast among those elements and let all that play in perfect unison! Trains and ships became friends back in the 19th century right after the huge potential of trains to move large amounts of cargo and people was realized. That forged an irreversible bond between rails and ports, and that always fascinated me. But the driving factor was again that tingling sensation of taking up a challenge! Back in 2010, I didn't find many highly detailed waterfront layouts in N Scale. The opportunity it presented in terms of making custom vessels, buildings, cranes and the uniqueness and romanticism of rail meeting the water was enough to keep me excited for 8 years (and

counting!), and that is why I chose a waterfront layout. That's when, in my long research on ports and model train layouts with that theme, I stumbled upon Iain Rice's Coalport, MD design.

Considered to be a mid-size layout in HO, designed over just one wall spanning 9 ft in a room, the Coalport, MD layout had everything I dreamt of, and liked in the real life – a large water body, interesting switching, a draw bridge, a trestle, a lighthouse, decent scenic modeling opportunities as well as that rough, old town feeling; and the most important part was that even though this was a pure switching layout, it had that depth of field, that very interesting and intriguing entry and exit. Also, if you try to imagine how the trains are going to run on this layout, you realize that even though this is a small layout, that reverse loop can create a sense of distance that is generally not present in most switching layouts. Adapting this design in N scale had actually made the layout in small to medium size category with much less than 18 sq. ft area, and also a unique and fascinating look with a curved bench work that can replicate the feel of novelty furniture.

However, I did not adopt the exact plan, rather, I could not; I had just been inspired and heavily influenced by it. Why? Several reasons…

Iain Rice made this plan keeping mostly hand-laid tracks and turnouts in mind, whereas for me it had to be off-the-shelf. I neither had the time, nor the patience to hand-lay tracks. So, the plan had to be readjusted for longer turnout lengths.

I decided to move at least 20 years ahead of 1941; of course, because I wanted to have the option to model in Diesel, but primarily, because Mouli requested for one thing that I could not refuse (or even wanted to) – a container ship! To model a container ship, it was important to move the era to past the '60s, because before that they didn't even exist.

Instead of a large warehouse, I decided to go for a grain transfer facility where grain barges bring the load in, then are unloaded by pneumatic un-loaders which is then transported out of the port by the grain hoppers.

The only part where I didn't agree with Iain Rice's plan is putting the trestle right in the middle of the layout. In my mind, that would actually create obstruction to the objects behind it and the visual effect might be a little compromised. So, I decided to pull that to the far right of the layout – where the industry stands in Mr. Rice's design. This will also give an added advantage over the original plan, an over and under action!

Figure 3

I introduced an extended section towards the left to include a more elaborate town scene that would also give the trains a longer run, and will give me the opportunity to build a waterside town scene with compelling night time scene.

Scratch-building (Or should I say scrap-building!)

Now, while the plan was taking shape through intense self-deliberation (and of course a lot of engaged discussion between a wife and her husband), Mouli and I kept ourselves busy with building what we would essentially need – a lot of vessels, cranes and buildings. My

Figure 4

Figure 5

medium for making models is primarily cardboard – they are tough and easy to work with and especially for vessels and cranes in N scale, they are perfect to achieve that 'fine-scale' look. Again, I heard many times over the years, that cardboard models are not really long lasting! Say that to Sirius (Figure 3 previous page) – our first model of a steam powered oil tanker. The oldest member of the layout will complete her 10th birthday in November, 2018 and as you have realized by now, 'smooth-sailing' was not the case for these models during their life with me! And you know what? I didn't use fancy, architectural model grade material either – I had used basic cardboard from packaging of goods, various forms of electrical wires, toothpicks and even my wife's discarded cheap jewelry! I trained myself to find use of humblest of things to build a good scale model. No, they will never possibly find place in a museum, but that doesn't take anything away from these little models.

Slowly but steadily, we kept building – I was the builder, Mouli was the painter. We built the small freighter 'Severus' (Figure 4), the tug boat 'Gaj' (Figure 5 – this was actually a railroad tug because when she was built, the plan was that we would have a car float on the layout, much like Iain Rice's plan), the cranes (Figure 6) and the oil storage tanks (Figure 7) I made out of the cardboard sleeves of toilet paper rolls! They were all built even before the layout plan was finalized.

Back then, I was starting with my career and money was not really in abundance. Anything that could have been built, I built it so that even the last dollar could be saved for something like a loco, rolling stock, or even that odd N scale figure. So, when it came to the decision of the lift bridge, it was quite a dilemma. I wanted to make an authentic lift bridge, meaning where the 'leaf' of the bridge would actually be lifted upwards to simulate passing of a vessel. Now, for an N Scale bridge this was quite a challenge – the structure had to be rigid and reliable so that it can be lifted up or down with its moving components not clogging on itself; the span needs to be strong enough to support any type of loco or rolling stock; the tracks must have solid electrical connection despite movement of the span; and the track should align the two sides of span perfectly every time the bridge is closed. Clearly, this was actually as much of an engineering challenge as it was a modeling challenge. To add to the problem, the bridge had to have a specific length – any bigger than 9 inches, it would

Figure 6

Figure 7

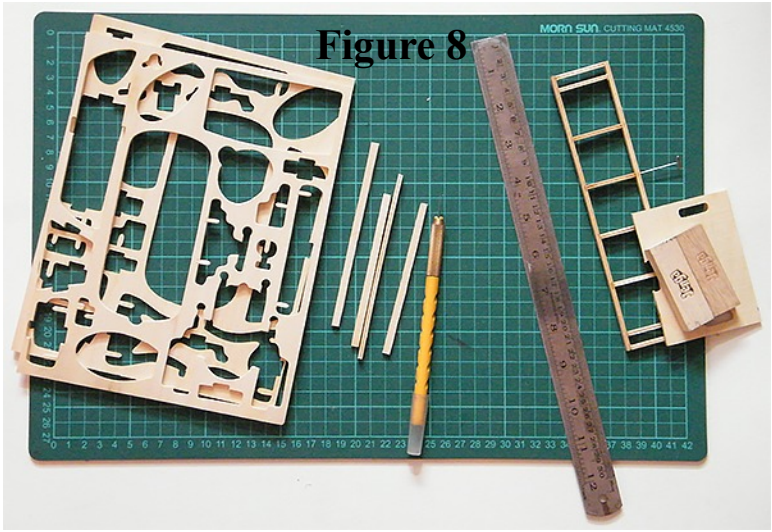


Figure 8

Wooden strips cut from frames of wooden puzzles used to create the structure of the truss bridge.

compromise the radius of the curved tracks leading on both the ends, any smaller, it would look unrealistic.

After much deliberation, I decided that I would scratch-build the whole thing! Now given I could not source proper material to make the truss of a Bascule Bridge with the right amount of detail, I decided that if I have to compromise, prototypical detail would be the one – for this one time. I didn't have money to afford a brass kit or other metal scratch building material (the only thing that can provide the required details as well as structural rigidity). Besides, with all honesty, at that time I didn't have the required soldering skills to even do justice to a brass kit. So, I decided I'd go with a wooden bridge. I had leftover thin ply from a wooden dollhouse furniture puzzle set – I cut thin strips of wood from that and built the truss structure (Figure 8). I used paper pins for joints and to create the fulcrum for the lift mechanism, and finally, it turned out to be a beautiful centerpiece of my layout (Figure 9 and 10). No, this is not a fine scale model, but within my constraints, I believe this is as good as it gets.

In my house nothing gets wasted – I find use of every carton, every bit of packaging, electrical wire, toothpick, cardboard sleeves of toilet paper roll, sprue of a model kit (piping in the oil facility is actually the sprue of the trestle kit that made the custom trestle in the background in Figure 11), or even the branches and roots of dead flowering plants – all have use to create an original and authentic model. The growth on the broken smokestacks of the abandoned factory on my layout shows exactly how creative and original you can be with your modeling without putting a hole in your pocket (Figure 12). That's why I coined the term Scrap-building!
So, the list goes on… Over the years, I kept on adding very original and prototypically accurate custom models on my layout – most of them are made out of cardboard, some are wood, styrene and even metal. Whether it is a close clearance warehouse inspired by the warehouse buildings of famous New York transfer facilities (Figure 13), an operable container crane inspired by the first container cranes from the port of Seattle (Figure 14), scratch-built signals (Figure 15), gantry cranes

Figure 9 above: Bascule Bridge in 'open' position
Figure 10 below: Bascule Bridge in 'closed' position

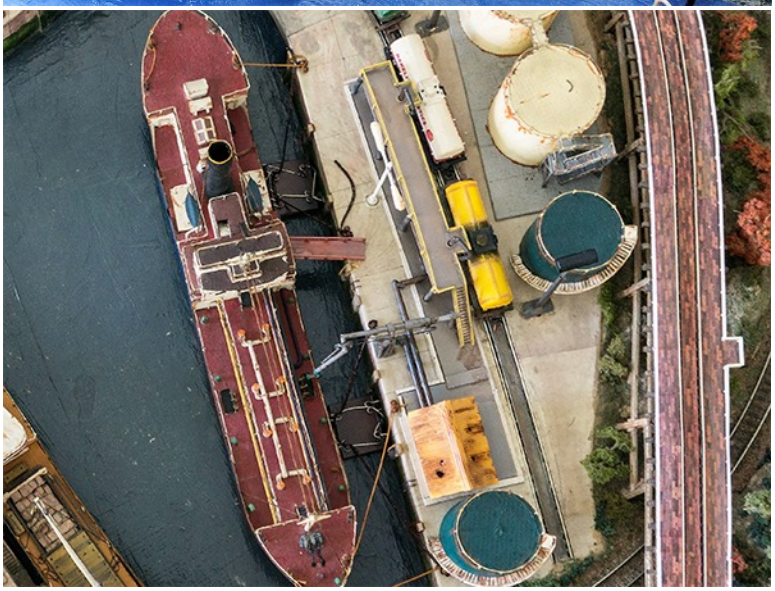


Figure 11: The piping and other details of the oil facility are made from the sprue of the trestle kit behind it.

(Figure 16), an elaborate conveyor for the grain facility (Figure 17) or even the bang for buck lighted N Scale vehicles – even the tiny motor bike with its headlight on in the night scene (Figure 18): I have made sure that every single item on the layout has its own character, a story and its string is tied to something real in our 1:1 world.

What is Wrightsville Port, then?

So, now when I look back, Wrightsville Port is not a typical model train layout. It's not prototypical, it is not freelance, technically it is not even proto-freelance! It is my sketchbook of miniatures evolving as a part of my life! A friend recently pointed out that many things on this layout seem odd and totally outside the norm of the prototype. This is so true – you don't see a container facility so close to a boat yard, and most importantly, there was no container facility in any port in North Carolina back in the '60s. You don't see a factory in the middle of a residential area (though in my country it is not that uncommon). The oil storage and grain facilities are cramped and compressed for most American prototypes – you might find a few exceptions in very dense urban settings like railroading in New York in the first half of the last century, but it wasn't a widely accepted norm. There is no hill in Wrightsville, NC and people from Wrightsville mentioned that there is nothing on this 6 x 3 plywood that resembles their town. So even the cover story of 'what if there was a small little sister port of Wilmington back in the '60s…' falls flat on most occasions. So, what's the point?

The point is that each and every item on the layout is based on a real-life-counterpart – whether it is the ships (I find my prototypes on a website called maritimesales.com), the pneumatic unloader in the grain facility (Figure 19), the oil unloading arm (Figure 20), the elaborate lighting effect for night time scenes, or all the other things that I've already mentioned. The point is to make each individual item stand out on its own, but be an integral part of the whole and give meaning to that big picture. It's like writing fiction or making a feature film – you know it's not true even before you enter the theater, but the elaborate details and characters of that imaginary world make it 'feel' real. One of the first rules of Model Railroading is following a prototype; and as it is in my style to break conventions and still make it work, I did follow prototypes very

Figure 12: The growth on the abandoned factory are made using real dried plants and Woodland Scenics turf.

Figure 13: Warehouse for loading and unloading box cars as well as trucks. Notice the close clearance between the box cars and the warehouse doors.

Figure 14: Container Crane with retractable boom and trolley to simulate whether a crane is operating or not.

closely ,but not exactly the way you would expect. Hence you have Wrightsville Port – an unrealistic model train layout that feels real!

What's next?

Building Wrightsville Port will eventually conclude. This started as a 2-year project, but even after 8 years I still have parts of it incomplete, but time has come for me to close this chapter and move on. I will be taking all the learning and knowledge of this project to my next ones whether it is another Model Railroad (an HO Scale one is in the advanced stages of planning with most required procurements completed) or other forms of miniature art. Possibly this time I will strive for going after truly fine scale models, making things truly prototypical (I may even attempt Indian Railways!). But before that, there are a few little things that this little layout has to offer in the coming months.

What advice would you give to fellow model railroaders?

I hardly feel that I am there yet to 'advise', except maybe to those who are just starting with Model Railroading and in this wonderful world of miniatures. Truth be told, I never had any mentor (not just in Model Railroading, but in life as a whole) – I figured things out on my own since childhood. Fortunately, I started with Model Railroading at a time where the world is continuously becoming smaller, thanks to the Internet and digital technologies. That helped me connect with people from all walks of life. Many of them were brilliant model railroaders like the late Paul Templar (back in the day he managed the All Model Railroading Forum), while others might not have extraordinary model making talents, but they helped me in understanding the real world. One of my Model Railroading friends gave me point by point input about oil tankers, port design and basics of mooring (he was a sailor himself and worked on an oil tanker for a number of years), another person helped me understand how low tide details on my layout looked wrong and what should be done to correct it. A very close friend of mine has nothing to do with Model Trains, but is a professional engineer and a senior consultant in a mechanical engineering firm – he designs large material handling equipment starting from cranes to conveyor belts; and you can clearly imagine what an immense help he has been for this project. That is why Wrightsville Port looks and feels real even though it is not a prototypical layout, because the layout is heavily influenced by the experiences of real people. I don't think I

Figure 15: Scratch-built 2 aspect signals.

Figure 16: Gantry crane made out of styrene.

Figure 17: Elaborate conveyor for grain facility. Barge of grain is unloaded using the pneumatic grain un-loader and then sent to the silos. Engineers would recognize that the initial steep ascent is actually a step conveyor and then it transfers to a belt conveyor.

Figure 18: Lighted Vehicles, including that 15 mm long motor cycle!

Figure 19: Pneumatic grain un-loader. Scratch-built from excess parts from the trestle kit and, a tank from the abandoned factory, some odd pieces of styrene and metal tubes of different diameters.

Figure 20: Oil loading/unloading arm. Scratch-built using aluminum pipes.

can see or know everything, where creating engineering designs of the lift bridge, pneumatic unloader, conveyor belts and oil unloading arm falls right in my alley because I am an engineer by education, there are other areas that converge in my models where others might have a better

understanding – so I listen to their experiences and translate that into my work. To me, the real success of model making is not when you are just replicating brick and mortar to minute detail, or showing sophisticated techniques and technologies of computer control and automation, or even making museum quality fine scale models that throw a curve ball to the best of rivet counters; the real success is when people relate to your story and connect emotionally, where their experiences become a part of your creation and inspire them to look beyond just the technical aspects. Imperfections don't bother me in a miniature that much as long as the 'story' is good. The point of a miniature is replicating the world as we see it, and I see imperfections everyday in real life. In a way, miniature art is all about how perfectly we can represent imperfections, so it is fine for me to induce a little imperfection of my own, as long as such embellishments serve a bigger purpose.

Thank you Kaustav for letting us see model railroading through your eyes. If any of you believe he can help you in your modeling you can contact him at Kaustav.Chatterjee@sscaleresource.com.
Website: http://www.trainsanddioramas.com/ YouTube: https://youtube.com/trainsanddioramas

I know that I am looking at my model railroad from a different perspective after reading his comments and looking at my model building from his viewpoint.

I now want you to meet Jeremiah, who is an outstanding modeler, from India. I think he can help you particularly in your 2D and 3D CAD efforts. In fact, with his help you may become your own 3D designer! I know this sounds impossible, but take a look at what he is doing and his educational offer of help to you. Jeremiah is the person who designed my first (and so far only) 3D product. It was an interior lamp for one of my scratch built trolleys. He also helped me navigate Shapeways to get it printed. Thank you Jeremiah.

Jeremiah Bunyan
(Pegasus Designs & JBM)

Jeremiah has been very forthcoming and helpful every step of the way in helping me understand 3D printing. Please meet him, he really went out of his way to help me, and I am sure he will do the same for you.

Well I don't claim to be a professional modeler, in fact I tend to consider myself more as a collector, designer and builder as I don't have any specific interest. I tend to buy and/or build models from any region. I've never built layouts or dioramas to date, it's always been building models more than anything else.

I got my first Hornby OO gauge train set when I was 3 years old in 1999. The train set, combined with the fact that my family has worked on British Rail and the Indian Railways for over 4 generations… resulted in trains running through my blood. I developed an interest for trains at an early age and the Hornby train set was the beginning of it all. Over the years, we could only afford to buy track packs to extend the layout. It was a basic layout set up on a large piece of foam. The early years saw no major additions as shipping to India was a very very costly affair. From 2008 onwards, Dad started buying me the more modern Hornby models, and since then, Dad has been buying me model locomotives almost every year. In 2006, Dad bought me a Mehano HO scale train set. This was a CSX themed set and my first America one. Through all this, I always felt something was missing, and that was HO scale Indian Railway models.

I never really learnt how to build models. I guess I figured things out by sitting and opening up models and putting them back together. I also owe a lot of this skill to Airfix kits. So I have Airfix to thank for this. My Dad was also there to provide some assistance.

To be honest, I dabble a bit in a variety of scales. I have a little T scale, N scale (British and Indian), HO/HOe scale (American and Indian), OO scale, and I design models in every other scale in between. In saying that, HO scale is my preferred scale as the size is right and the availability of spares and so on is fairly good.

I would love to assist people in custom builds and also help them learn to use a basic software such as SketchUp to make anything from small detail parts to full locomotives. I can help people with anything Indian Railway related and so on. I also offer budget CAD services and budget respray services etc. I can easily help people with that as well.

About Pegasus Designs & JBM

Pegasus Designs & JBM is something small started by Sarah and myself in October 2016. It's not a huge company or anything, it's merely a part time job and we do it as a hobby and for a little additional income. This income is then used for our own further studies and/or injected back into the hobby for more models. We offer budget CAD services for all those modelers who either don't have the skill, time or funds to do so. We know that there are hundreds of modelers who want to model a particular prototype that is not financially viable in RTR form. Also, many professional 3D artists charge hefty fees (which is understandable). We aim to plug that gap in the market and offer budget CAD services. We offer both 2D and 3D CAD services i.e. we can draw up 3D files for 3D printing and/or 2D files for etching. Since we use SketchUp to do the work there's a small catch, that being that the 3D files can only be accepted by Shapeways and 2D files for etching can only be used by PPD Ltd in the UK. But I'd like to add that we have no partnership with the two companies and earn nothing from this. It's just that the type of files SketchUp exports in can be best produced by these firms. If by chance anyone feels that they cannot afford our prices, we're happy to do it free of cost, but we reserve the right to sell the files as our own personal kit. If it is paid for by the customer, the files are owned by them upon completion. This we feel is a fair choice. Our CAD services come under the "Pegasus Designs" tag and our RTR models come under the "JBM" tag. If customers so desire, we'll even assemble the kits for them, this is done at cost.

Furthermore, if you have queries, you can simply ask us. We currently work with a couple of manufacturers also, this means that we have to sometimes prioritize their projects. Lead times can extend from 2 days to 3 weeks depending upon the project. Our business isn't really based in one place, I reside in Mumbai, Maharashtra and Bangalore, Karnataka, India and am constantly up and down between the two cities.

Since our business is just taking off, we've got a few things to show but the range is ever increasing. We currently deal mainly with customer's bespoke designs and in terms of kits we started off with a small but growing range of Indian Railway NG kits (1:87 scale - HOe gauge). The NG range of kits shall be completed by mid-2019 after which we'll move into Indian Railway BG kits (1:87 scale - HO gauge) and lastly we'll finish off with Indian Railway MG kits (1:87 scale - TT gauge).

Our contact details are as follows:-
Email ID: designspegasus@gmail.com
Facebook: https://www.facebook.com/PegasusDesignsJBM/
Instagram: pegasusdesigns_jbm
Wordpress: https://pegasusdesignsblog.wordpress.com/
Shapeways: https://www.shapeways.com/shops/pegasusdesigns

Regarding SketchUp

SketchUp is a free software and can easily be downloaded from a variety of sources. We don't claim to be experts, but have had experience with the software for over 8 years now. We can provide basic help and assistance and answer most queries regarding SketchUp. I'll also be extremely happy to help people with their individual projects if they have any issues with creating a certain shape or reproducing a certain part. We can surely provide basic consultation to those modelers who wish to start with an easy program such as SketchUp.

Thank you Jeremiah for this offer. If any modeler would like to have Jeremiah's help with learning the basics of 3D design and printing please contact him at designspegasus@gmail.com. Good luck to everyone going down these "New Tracks".

In my case I am so computer illiterate that I knew I would never be able to learn how to design 3D models so I asked Jeremiah if he could design a part for me and walk me through the process so I could better understand the 3D printing process. He agreed and so started my trip. I hope the following will give you some idea of the give and take between Jeremiah and myself to get my model designed.

See on left light figure I asked to have made by 3D printing in O Scale 1/4"=1ft. I copied the photos off a Facebook post. I asked Jeremiah if could design this for me and if so did he need any other information beside the photo.

Jeremiah replied:
Hello Jim,

I can do that for you. It can be done sans the fine detailing. Since it's part of an interior of a coach the detailing will probably be far too small to see. It will take me a couple of hours.

If possible please send me some basic measurements like the total height of it (from its mounting to the lowest point) and the width of it from end to end. We can even work with one basic measurement as once the diagram is scaled in the CAD program everything falls in place.

Hope you can provide some basic dimensions, preferably in mm.

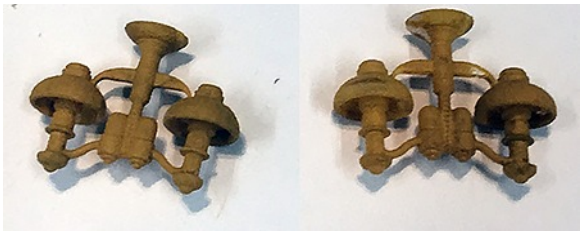
Kindest regards!

My reply:

This is photo of my brass scratch built car I will use light in. Best guess I have on dimensions of light is 1-1/2 ft to 2 ft in height and width. I suggest using 2 ft. Dimensions of car interior is 7-1/2 by 10-1/2 ft width and length. Let me know if you need more. Sorry, I do not know how to convert to mm.

Jeremiah replied: Google convert mm to inches. There are several sites that can do it for you. (I learned something new. Which brought me even closer to the 20th century)

So with that limited information Jeremiah designed my part.



I can not believe it. I could never have made this without the ability of Jeremiah and the technology of 3D printing. Ok, I made a mistake and got a 3D printed light that would be great for HO, but not for O Scale. So I had to beg Jeremiah to double the size of the light. After my apologizes and suitable begging, Jeremiah stopped laughing, and told me no problem. I shortly had the larger light shown here.

I also must admit that I had trouble at first getting the graphic file accepted by Shapeways to print, but with Jeremiah's encouragement and help I finally got it accepted, printed, and shipped. I told you I am not computer literate. But with the help of an expert, I did it. Cost from Shapeways for printing two light fixtures including shipping was about $20.00. Thank you Jeremiah. I learned a lot about 3D printing as well as converting inches to mm, and also gained some humility in basic model measurements.

While I was working on this article, I got the following email from Jeremiah.

"I think you have profiled a friend of mine Kaustav Chatterjee? Kaustav and I are great friends and have just started working together to make some HO scale kits/models based on Indian content. We do like the idea of publicizing Indian modelers and the work we do. There are people in India who have been hand-building models and some using 3D printing to a small extent, but none of them are accurate. We use certified scale drawings and also measure real locos and rolling stock and produce models that are up to 95% accurate, keep in mind that the 5% part which is not accurate is things we have to compromise on as there's no other alternative. But ours are the only true scale and faithful representations of Indian Railway models."

I recently watched a television show on the Smithsonian Channel about "Mighty Trains". One episode was about the Maharajas' Express and its trip from New Delhi to Mumbai India. The show said is one of the most luxurious trains in the world. I was really impressed, and if you get the chance, take a look. When I asked Jeremiah about the train, he suggested I take a look at another India luxurious train called the "Golden Chariot". Either one looks great to me. Anyone taken a ride on either of them? I'd love to hear about your trip. Contact me at jimkellow@sscaleresource.com. I asked Jeremiah if he was going to model either one and he said that some of his models would be suitable for the Marahajas' Express if painted properly, but unless he gets a specific request, he currently has no plans to offer the complete train. He does however have plans to offer the "Golden Chariot" complete train. That will be something to see. Talk about going down **"New Tracks"**!

Best of luck to both Jeremiah and Kaustav with their new Indian Models. Here are some photos of a few of them. Thanks again for all your help. If you believe Jeremiah can help you with your model building, as he helped me, please contact him Jeremiah.Bunyan@sscaleresource.com.

I hope you enjoyed reading about Kaustav's and Jeremiah's modeling and will consider some of their ideas in your modeling. It was fascinating to hear about model railroading in India. It appears that it has a way to go before it becomes available to a large number of modelers. But it is also obvious to me that there are very talented modelers who are leading the way for the future of model railroading in India. I wish them success, and most of all, I am proud to have met them and am honored to introduce them to you. I also hope I hear from other model railroaders in India, especially the model builders of Indian Railroads. I have been told they exist and look forward to meeting them. I will let you know if I do. I love going down these **"New Tracks"**

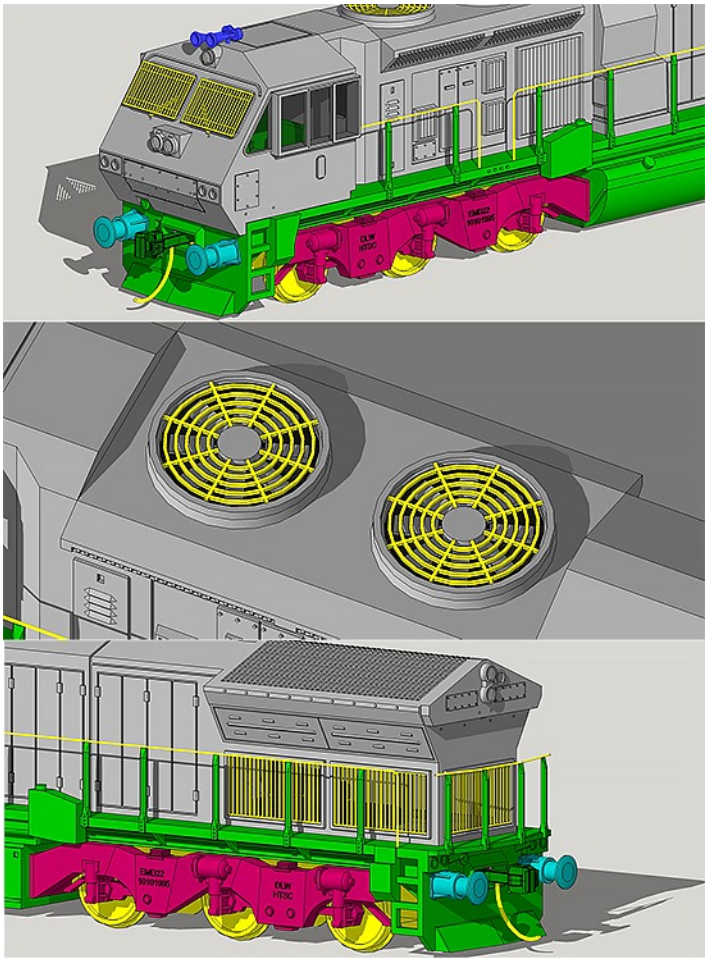
An HOe scale ZDM4A built from one of my kits. It's almost done. A few more handrails to add, some glazing and touching up the blurred paint lines. 1:87 scale model that runs on 9.0mm NG track.

Because of my difficulties with Shapeways, Jeremiah suggested I contact the company he uses for his company's India Railroad models 3D printing. He highly recommended this company to me, so I want to introduce you to this Chinese 3D printing Company.

Shenzhen Fantasy 3D Technology Co., Ltd

When I contacted the company, I first asked about the company owner.

An N scale WDM1 kitbash. This is a work-in-progress kitbash. It uses a Hornby International (Arnold) ALCo World Series locomotive which I am converting into an Indian Railway WDM1. This will also utilize a few 3D printed parts that I designed to make the model more accurate for an Indian Railway WDM1. 1:160 scale model that runs in 9.0mm SG track.



Completed CAD work for my forthcoming INDIAN RAILWAYS WDP4 and WDG4. CAD work is now complete and as can be seen from the images there's a wealth of detail. All my designs are inspired by the best of models from the likes of Kato, Hornby, Athearn, Dapol and so on. I really try to match their level of detail and finesse. These models are due in September - October 2019 and will be my first RTR models. These are 1:87 scale models that can be built to run on 16.5mm and 18.8mm gauge track.

An HOe scale NDM6. The NDM6 is most famous for it's role on the Darjeeling Himalayan Railway. Yet again another work-in-progress. It was 3D printed by Ivan Industries in China. Quality is absolutely out of this world. Comparable to an injection moulded part. 1:87 scale model for use on 9.0mm NG track.

A Hornby Class 90 currently being "super-detailed" using my own 3D printed parts which I designed. I'm updating the model with new 3D printed valances, compressor units, pantographs and so on. I'm also adding a wealth of separately fitted brass items made by myself and also PH Designs. It's a 1:76 scale model that runs on 16.5mm gauge track.

I was told: “The founder of the company is Goffy Zheng. After graduating from college, because of his interest in 3D printing, Goffy joined a FDM printer company in Shenzhen. Goffy found that many customers need 3D printing service so he founded the company to do 3D printing services. Yes our company does business in the United States.”

“Shenzhen Fantasy 3D Technology Co., Ltd. Is located in Shenzhen, China. We provide professional 3D printing service for on-demand production of prototypes, individual products as well as short-run manufacturing.

The 3D printing processes we offer include SLS,SLM,FDM,SLA,MJF. We provide access to a wide range of materials including PLA, Resin, Nylon, Copper, Iron, Aluminum.

Since I am new to 3D printing, I asked what the abbreviations meant. Ivan said:

1. Fused Deposition Modeling (FDM)

Material Extrusion devices are the most commonly available — and the cheapest — types of 3D printing technology in the world. You might be familiar with them as Fused Deposition Modeling, or FDM. They are also sometimes referred to as Fused Filament Fabrication, or FFF.

The way it works is that a spool of filament is loaded into the 3D printer and fed through to a printer nozzle in the extrusion head. The printer nozzle is heated to a desired temperature, whereupon a motor pushes the filament through the heated nozzle, causing it to melt.

The printer then moves the extrusion head along specified coordinates, laying down the molten material onto the build plate where it cools down and solidifies.

Once a layer is complete, the printer proceeds to lay down another layer. This process of printing cross-sections is repeated, building layer-upon-layer, until the object is fully formed.

Depending on the geometry of the object, it is sometimes necessary to add support structures, for example if a model has steep overhanging parts.

2. Stereolithography (SLA)

SLA holds the historical distinction of being the world's first 3D printing technology. Stereolithography was invented by Chuck Hull in 1986, who filed a patent on the technology and founded the company 3D Systems to commercialize it.

An SLA printer uses mirrors, known as galvanometers or galvos, with one positioned on the X-axis and another on the Y-axis. These galvos rapidly aim a laser beam across a vat of resin, selectively curing and solidifying a cross-section of the object inside this build area, building it up layer by layer.

Most SLA printers use a solid state laser to cure parts. The disadvantage to these types of 3D printing technology using a point laser is that it can take longer to trace the cross-section of an object when compared to DLP.

3. Selective Laser Sintering (SLS)

Creating an object with Powder Bed Fusion technology and polymer powder is generally known as Selective Laser Sintering (SLS). As industrial patents expire, these types of 3D printing technology are becoming increasingly common and lower cost.

First, a bin of polymer powder is heated to a temperature just below the polymer's melting point. Next, a recoating blade or wiper deposits a very thin layer of the powdered material — typically 0.1 mm thick — onto a build platform.

A CO2 laser beam then begins to scan the surface. The laser will selectively sinter the powder and solidify a cross-section of the object. Just like SLA, the laser is focused on to the correct location by a pair of galvos.

When the entire cross-section is scanned, the build platform will move down one layer thickness in height. The recoating blade deposits a fresh layer of powder on top of the recently scanned layer, and the laser will sinter the next cross-section of the object onto the previously solidified cross-sections.

These steps are repeated until all objects are fully manufactured. Powder which hasn't been sintered remains in place to support the object that has, which eliminates the need for support structures.

4. Direct Metal Laser Sintering (DMLS) / Selective Laser Melting (SLM)

Both Direct Metal Laser Sintering (DMLS) and Selective Laser Melting (SLM) produce objects in a similar fashion to SLS. The main difference is that these types of 3D printing technology are applied to the production of metal parts.

DMLS does not melt the powder but instead heats it to a point so that it can fuse together on a molecular level. SLM uses the laser to achieve a full melt of the metal powder forming a homogeneous part. This results in a part that has a single melting temperature (something not produced with an alloy).

This is the main difference between DMLS and SLM; the former produces parts from metal alloys, while the latter form single element materials, such as titanium.

Unlike SLS, the DMLS and SLM processes require structural support, in order to limit the possibility of any distortion that may occur (despite the fact that the surrounding powder provides physical support).

DMLS/SLM parts are at risk of warping due to the residual stresses produced during printing, because of the high temperatures. Parts are also typically heat-treated after printing, while still attached to the build plate, to relieve any stresses in the parts after printing.

5. Multi Jet Fusion (MJF)

Multi Jet Fusion (MJF) is HP's proprietary 3D printing process.

In MJF, parts are built by jetting a binding agent onto thin layers of polymer powder particles (typically nylon) and then sintering them using an IR heat source.

MJF produces functional plastic parts with isotropic mechanical properties that can be used for detailed prototyping or end-use low-volume production.

Like binder jetting, MJF uses inkjet printing to define part geometry, but then it diverges in how it fuses the powder into a part. Each fraction of a millimeter layer is created with three steps:

1. A layer of powder is spread across the bed.

2. Inkjet print heads sweep across the powder, depositing millions of drops of light-absorbing ink. These define which voxels to keep and which will fall away as powder. Additional inks help mark a crisp part boundary and can provide other properties, including color.

3. An infrared heater sweeps across the bed. The ink-marked areas absorb enough of the IR energy to sinter to the underlying part, and the rest remains as full-color powder.

The maximum size we can print is 1400x700x500mm. SLA printing has high detail. Our services are recognized by a large number of customers. At the same time we provide laser cutting services (acrylic board, aluminum sheet, wood board), Silica Gel Compound Mould, spray paint, STL file repair and other services.

Our company does not have a modeler who does designs, customers give us their 3D files, and we print them to the customers specifications."

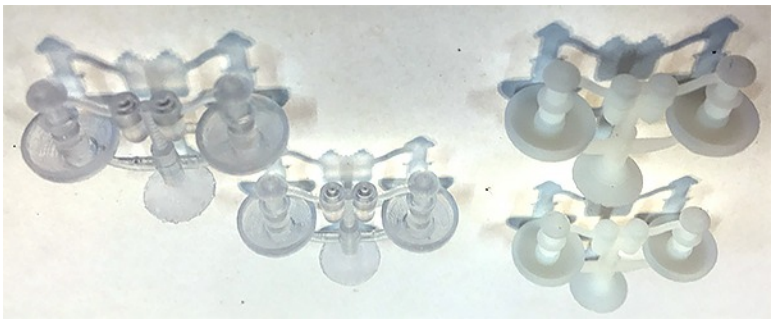
In order to see for myself how difficult it would be to get a design printed in China, I sent Ivan an email of the 3D design for my interior trolley light fixture I had Jeremiah design. I wanted to compare price, quality and

service, as well as ease of doing business with the Chinese Company and with Shapeways. I was really impressed with the service and help I got from Ivan.

Comparison/Price

Shapeways was more expensive to print the model and the shipping cost was naturally more expensive from China. Total cost was basically the same. I did not try to compare volume for On Demand pricing for either company. Total cost either way for my part was about $20.00.

Because the $10.00 printing cost for Shenzhen Fantasy 3D Technology Co., Ltd is their minimum charge, Ivan told me I could have received 4 of my parts for the same price. Does Shapeways offer this? I do not know.



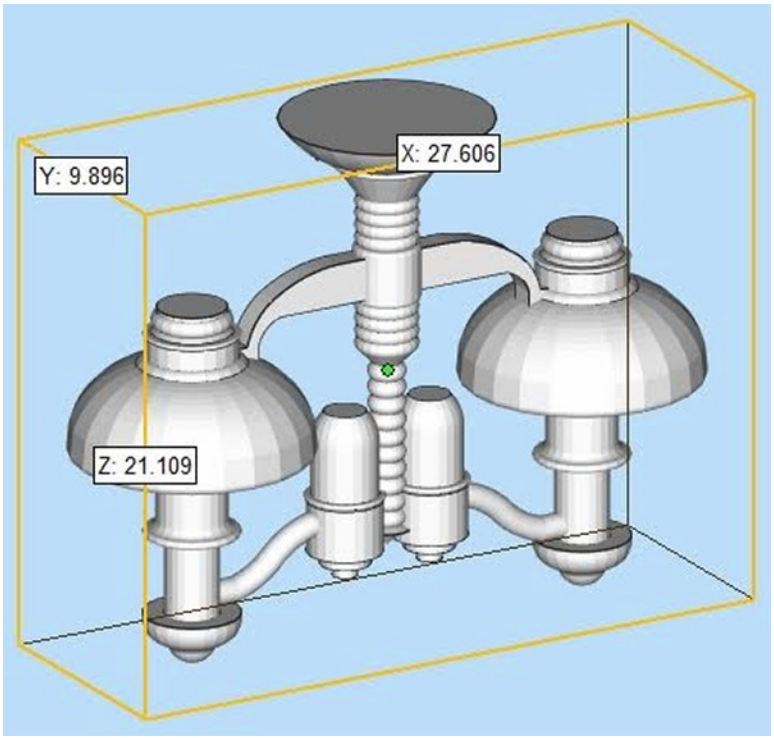
Quality

On the left are photos of the Shapeways printed light fixtures. Also included is a dimensional photo below left. Also here is a video of the Chinese printed part and a photo of both parts together.

For me, both parts look great and I am extremely pleased to use either one. Quality for my light fixture was not an issue.

Service and Ease of Communication

I had no problem in communicating with Ivan in working on my project. I really like being able to talk directly by email with a representative of the company. I could not figure out a way to do this with Shapeways.



As soon as I sent my Design to Ivan, I received an email from him with dimensions of the light fixture for me to approve before printing. I really liked this and did not get it from Shapeways. I sent his email to Jeremiah, who had designed the part for me, and he immediately told me it was accurate and to approve the part for printing. I did. Next, I received a video from Ivan showing the finished part before it was shipped. This was a great service. I told Ivan the part looked great and to please ship it. Knowing the dimensions and seeing a video of the part before I approved it and had it shipped made, me feel confident that I was going to get the part I needed. Ivan told me this is done for each of their projects.

Overall Evaluation:

For a first time user, I had no problem with this company. I would not hesitate to ask for a quote from Ivan for any future project I may want to print.

Now please meet Ivan:

I am Ivan Mao, I am the salesman for the company. Please contact me at Ivan.Mao@sscaleresource.com with any questions or inquires.

I asked Ivan about communication problems customers may have in using their service. Ivan said:

"On 3D printing services, communicating with our company will not be too difficult. If we take the order, we will reprint it for free if we have caused a problem with the original printing." He offered these suggestions for customer designs:

- The thickness of the printed model should not be too small, The thickness should above 0.8 mm. The probability of printing failure of the model with too small thickness is greatly increased.
- For the resin model, if the thickness is too small it can be easily deformed. Of course, the materials can be printed in other than resin.
- 3D printing use STL file, and the file is preferably in STL or STP format.
- We recommend sending 3D files to us after completing the 3D design work.

Lastly, I asked Ivan to offer a Drawing Contest where readers would enter by sending in an email and a winner would be drawn from the entries received. Ivan agreed and offered a winners prize of $100.00 USD off the total delivered cost for the 3D printed item. Thank you Ivan for your interest and help. I really appreciate it. If any of you are interested in getting into 3D modeling, this could be your starting point. I hope you will enter the contest and thank the company for the opportunity. Good luck to you all!

HOW TO ENTER THE Shenzhen Fantasy 3D Technology Co., Ltd Contest

This company could not have been more helpful or interested in working with the readers of this magazine. Please show your appreciation to the company and Ivan by entering their contest. Good luck to all of you.

I also heard from a modeler about how he got started with 3D printing. I believe these comments may open up the 3D printing experience for many of us.

Peeyush Garg, a modeler from California, wrote me about his journey into 3D printing.

I'm relatively new to 3-D printing but here's what I have learnt. If you want to get started, visit this www.tinkercad.com. This website is built for 7th grade students in mind. It takes you through a short hands on tutorial on how to work with 3-D printing and in a matter of minutes you'll be doing some simple designs. Once you're hooked, there's no stopping. There's many YouTube channels that provide lots of information about 3-D printing. A couple of my favorite ones are Maker's Muse and 3D Printing Nerd.

Once you have a design ready, I usually go to 3dcompare.com. Once you upload your design, you can see a list of manufacturers who will be able to print it for you in your choice of color/material. And I don't think you can beat the price that is quoted there. Most of them are US companies. They are either smaller individuals / businesses or probably doing it for fun. Do choose wisely, as the quality can vary. You can probably ask what printers they use to make your call.

Also try thingiverse (if you haven't already), here you can find some nice publicly available designs to start with. 3-D printing is no longer limited to a few big manufacturing houses. It's become community based where people share designs with each other and also share their printers to print for others! It's amazing.

Thanks Peeyush for sharing your journey into 3D printing. Maybe I will get there yet! Seems like more help is out there than I thought, but there is no question that for me to really benefit from what 3D technology can bring to my modeling I am going to need a mentor. Good luck to all of you in your 3D Printing journeys.

I really appreciate companies and individuals sharing their journeys and offering their knowledge and help to other model builders. After all, helping each other to learn skills and develop confidence in our abilities is a major part of modeling success for all of us. That's the point of my "New Tracks" series.

Before I go, I want you to meet a Farm Modeler who I wanted to include in my last article about "Farm to Table Modeling", but because I got his information too late, I could not. I also want to tell you the winners of the contests in my "Farm to Table" article in the previous issue. I look forward to seeing their farm scene using their prizes.

- **SpecCast Contest: Winner:** Joshua Caron
- **Top Shelf Contest: Winner:** Christopher Burger
- **FarmFactor3D Contest: Winner:** Brad Guhle

Congratulations to you all, and thanks to all of you who entered the contests. Now please meet:

Roy Johnson

I'm Roy Johnson from the UK, I'm 73 years old, and I was brought up on my uncle's farm. I got my first train set when I was 9 years old. I started building dioramas of farming in the 50's and 60's about 7 years ago. I start all of my dioramas and just let them evolve, I also have a good friend who likes modeling in OO gauge (1-76 scale) so we exchange ideas. I would like to pass on any information to your readers that I can. Roy can be reached at Roy.Johnson@sscaleresource.com. He is obviously a dedicated talented model farm modeler as evidenced by the following pictures.

Well that's it, time for me to get back to my work bench. Got to work on my trolley model's interior. Thanks for reading this far. Best of luck to everyone with your model building, and HAVE FUN.


MSLR

Scene Around the Layout

By Pete Silcox

I built this kit in 1987, it has been on my layout all these years and the many moves I made as I progressed with my positions with CSX and predecessor companies.

Western Railway of Alabama. Ran from West Point, Georgia to Montgomery, Alabama and a branch to Selma, Alabama. Part of the Group of the Atlanta & West Point RR and Georgia RR which are now CSX.

I started my Career with this group and continued on into CSX as a civil engineer for 36 years.

We are proud to feature readers work. Depending on your response we would like to make this regular feature.
So get those cameras and cell phones out and start shooting!
High quality JPG or TIF files are only.
Email to daniel@modelrailroadresource.com with a description of your pictures.

S Scale Shows & Meets

The S Scale Resource Magazine will now be providing a free listing of upcoming events. This small, text only listing will include the Event, Date, Location, Type of Event, and Contact Information. Click here to go to the sign up form. This form will take your information, and we will publish it in our next issue. If it is an annual event, you will need to submit your information every year.

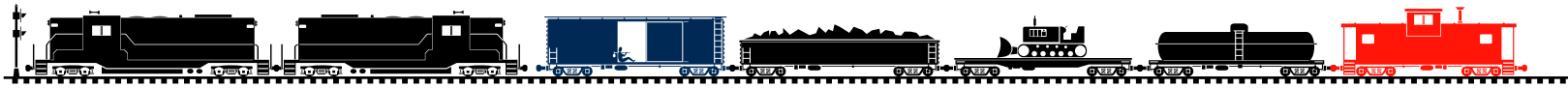
FALL S FEST 2019
November 1-3, 2018
American Flyer S Gaugers of St. Louis will hold this year's Fall S Fest at the DoubleTree Westport Hotel by Hilton (FSF room rate $99 per night per room, 1 to 4 occupants; call directly at (314) 434-0100; do not use the 1-800 number).
Website: http://www.trainweb.org/afsgsla/

2020 NASG Convention
July 7th through July 12th, 2020
Bloomington, Minnesota
We are planning a full slate of activities, tours, clinics, workshops and exhibits. The hotel is also near the Mall of America, Prince's Paisley Park and other great "tourist" destinations. We have selected the Doubletree Hotel by Hilton as our headquarters because they have shuttle services to the airport and the Mall, they have great guest accommodations and the Convention space is huge and in one central location. Reservation information will be on the NASG site soon.
Email: Ken Zieska

O & S Scale Midwest Show
Formerly the Indianapolis O Scale Show / S Scale Midwest Show
New name, but the same great show!
Next year's date to be announced!

It's September! Time to kick off your modeling season. Come enjoy the O & S Scale Midwest Show.

This is a dedicated 2 rail O Scale and S Scale show; however, we encourage and welcome the many modelers and collectors from the 3 rail and high rail side of the hobby to attend. There are many aspects of the hobby, including building, scenery and more that applies to any scale. Moreover, this show is a great place to get inspired while meeting old friends and making new ones!
Website: oscalemidwest.com/
Email: info@oscalemidwest.com

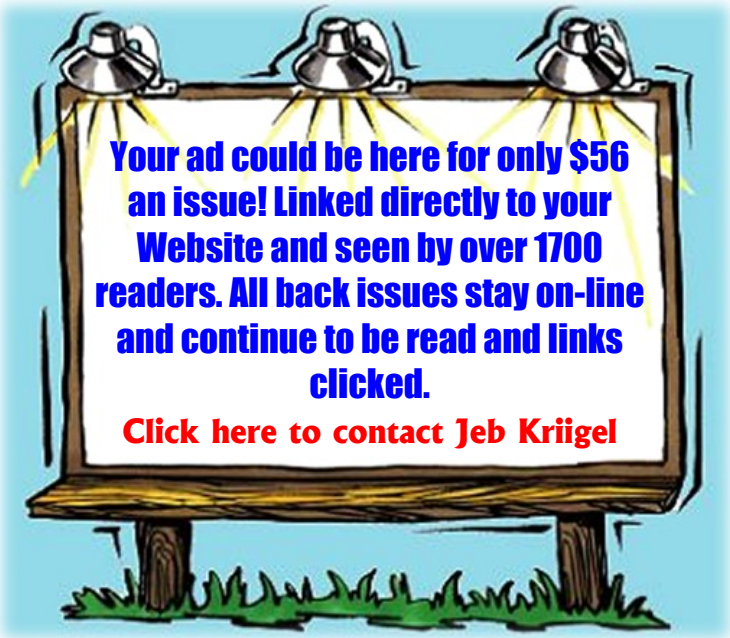


Classified Listings

Manufacturers

Advertiser Index

To advertise in The S Scale Resource classified listings contact us for our rates. Your classified ad will appear in the section you want for 6 issues. If you do not see a section that you think would fit your products or services, let us know. We can add a category that better suits you. Your ad is hot linked to your website which puts your customers one click away from you.



Yes, we now have a Facebook page to help keep you up to date on new products and ideas. And, even in an on-line magazine, we sometimes have more pictures than we can use so we'll post them on Facebook.