



SHORT LINE

Sierra Division * Pacific Coast Region * National Model Railroad Association



The
**World's
Greatest
Hobby!**

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19th Century Turlock, California in N Scale
Ken Horne



Bodie, California Hose Cart
Neil Pfafman



Typical California Central Valley Warehouse
Chip Meriam

The Sierra Division has been holding virtual meets, via ZOOM, since October 2020. Along with a few random business items, the “meat of the meets” has been the “Show ‘N Tell” sessions where participating members are free to share progress on their various modeling activities. This sharing has led to some lively discussions and exchanges of ideas, references, methods, and cautions (what to look out for).

In this issue of the Short Line, we are featuring the subjects of three of the Show “n Tell presentations:

First, is Ken Horne’s N scale rendition of Turlock, CA as it was in the late 1800s. See Ken’s article on page 8.

Second, is a bit of fire apparatus history featuring Neil Pfafman’s scratch-built Hose Cart. We’ve had several discussions about historic Bodie, CA, and Neil has been working on recreating the scenes from that area. See Neil’s work on page 12.

Third, is a brief summary of the construction progress of Chip Meriam’s model of a storage warehouse, loosely patterned after the DePue Warehouses that are strung along the former Southern Pacific right of way in California’s Central Valley. See Chip’s warehouse project on page 15.

If you haven't joined us yet, be sure to do so. The ZOOM meets occur the 2nd Saturday morning of each month at 10:30 AM. Jim Collins coordinates the meets and sends out the invitations and links a day or two ahead of time.

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Short Line is published quarterly by the Sierra Division of the Pacific Coast Region of the National Association. Material may be reprinted with permission.

Articles, photos, tips, or ideas are heartily encouraged and will be enthusiastically accepted! The preferred format would be in Rich Text Format (RTF), with photos as JPEGs, but we will accept any format (from a PC or Mac; MS Word, Simple Text, typed, or handwritten). Send it to your editor by regular mail to **Short Line**, 2260 Cherry Glenn Ct., Chico, CA 95926 or by email to :

chipmeriam@comcast.net If e-mailing put EDITOR in the subject line.

From The Superintendent

It's Hard To Believe the first quarter of 2021 is gone. What's more difficult to grasp is that it's been over one year since we have been able to hold our traditional quarterly meets. As I write this, there is news that our State of California may lift the burden of COVID-19 mitigation measures entirely in June. So I am hopeful, as I'm sure your are as well, that we'll actually get to see one another again this year. It's doubtful the May meet will be held "in person", but August seems promising.

Meanwhile, planning remains a nightmare. Until recently, we were going to attend the PCR Convention in Fresno this April, and the NMRA National Convention in Santa Clara in July. Now, both conventions have been cancelled and replaced with virtual events. The PCR event will be April 24 (see page 4). The NMRA National event will be July 6 - 10 (see page 5). Far enough in to the future to remain safe, we hope, is the 2022 PCR Convention, Return to the Redwoods scheduled for April XX - XX, 2022 in Rohnert Park. (see page 6). The 2022 NMRA National Convention was to have been held in Great Britain, but it has been cancelled, too. The next NMRA National Convention is scheduled for August 2023 in Grapevine, Texas.

Our Division Director, Jim Collins reports, "There is some growing interest in increased participation in the Master Model Railroader program. Recently, Steve Folino announced that he has acquired several Fast Tracks jigs and materials to construct the three track features for the Model Railroad Engineer - Civil certificate. Once he has finished using them, he has generously offered to make them available to anyone else in the division who wants to work on their certificate. The details of shipping and responsibility are being worked out. Hopefully more people will decide to participate in this excellent program."

And I call your attention to the column by Jack Burgess in the current issue of the PCR **Branch Line**. <http://pcrnmra.org/pcr/branch/BL221web.pdf>

Jack has provided an overview of the Golden Spike Program. I urge you to take a look at Jack's column. You may discover that you've already accomplished the necessary components and all you need to do is document your work to qualify for a Golden Spike Award!

As long as you're browsing the **Branch Line**, be sure to read Steve Folinos' story on page 26 of that issue.

During our ZOOM meeting of April 10, we finalized the Fast Tracks turnout/crossing fixture kit sharing program. We now have a set of HO scale fixtures, suitable for Code 83 rail, that aid in the hand-laying of four #5 turnouts, and a 14 degree crossing. We also have established a system whereby Sierra Division members can share the use of these fixtures. See more detail on page 22.

Finally, we will soon see a change at the helm of the Pacific Coast Region. PCR President, Chris Palermo, is on his way to Austin, Texas. A succession plan for PCR President will be one of the topics at the April 22 virtual PCR Board meeting. The entire staff here at the **Short Line** wishes Chris a smooth and productive relocation and we extend our thanks for his service as PCR President over the past two years, and as PCR Secretary prior to that. Good luck, Chris. You shall be missed.



SIERRA DIVISION

Next Meeting: May 8
Via ZOOM

10:30 AM

Jim Collins will be our ZOOM moderator. He will contact everyone with a link to the meet during the week prior to May 8.



A virtual, on-line one-day event will occur on Saturday April 24, 2021.

Starting at 8:30 AM we will have a virtual meeting room with your choice of break-out rooms for clinics, layout tours, a keynote speaker, door prizes, and awards presentations. All of this will take place on your computer screen in the comfort of your home without the time and expense of transportation or hotel. And, the really good part is that you can come and go as you wish. Events will continue throughout the day until just after 9 PM.



August 22 - 25, 2023 Texas Express 2023

Gaylord Texan Hotel, 1501 Gaylord Trail, Grapevine, TX

TIMETABLE

May 8, 2021
ZOOM Meet

Aug 14, 2021
To Be Determined

Oct 9, 2021
To Be Determined

Feb 12, 2022
Sacramento

SHORT LINE

Jun 10 for the Jul Issue

Sep 10 for the Oct Issue

Dec 10 for the Jan Issue

Mar 10 for the Apr Issue



NMRA 2021 Rails By The Bay – Join Us (Virtually) This Summer in Santa Clara

As you've heard, NMRA 2021 Rails By The Bay has transitioned to a video-rich, online virtual convention scheduled for five days from July 6-10, 2021. We'll be offering live online video clinics and panel programs, with real-time Q&A with speakers. All video will be offered using high-bandwidth, high-resolution, pro-level service from Zoom, supplemented by online chat via the Slack platform. We will offer a number of channels for interaction among the attendees to capture some of the feeling of meeting old friends in the hallways. Each convention day will run 9:00 am to 9:00 pm, Pacific time.



Mark your calendar! Registration for the 2022 PCR Convention, Return to the Redwoods, will open April 24, 2021. Sign up early and get a \$20 discount on a Full Fare Registration.

The convention will be held April 21-24, 2022 at the beautiful Doubletree Sonoma Wine Country in Rohnert Park. With ample room for clinics and displays and easy access from Highway 101, this is the perfect spot for PCR/NMRA members to gather once more. A full three-day program is planned including over 40 clinics, layout tours, operating sessions, contests, vendor exhibit/sales, a member swap meet and a full non-rail program. And of course, there will be excursions including the ever popular, Sturgeon's Mill.



Virtual Convention Replaces Cancelled In-person Gathering

by Chuck Harmon, MMR

The 2021 PCR Convention, Sugar Pine Centennial 2021, will not be held as planned, due to the on-going pandemic. Instead, a virtual, on-line one-day event will occur on Saturday April 24, 2021.

Starting at 8:30 AM we will have a virtual meeting room with your choice of break-out rooms for clinics, layout tours, a keynote speaker, door prizes, and awards presentations. All of this will take place on your computer screen in the comfort of your home without the time and expense of transportation or hotel. And, the really good part is that you

can come and go as you wish. Events will continue throughout the day until just after 9 PM. What is required? There's no fee, but you must register on the PCR website. Go to <http://www.pcrnmra.org/conv2021/registration.html>

Instead of a model contest there will be a "Meet the Modeler" show and tell event.

Clinic presentations will be live with time for questions and discussion. Presentations currently planned include Robert Pethoud: *Basics of Steam Locomotives*; Jeff Johnston: *The Pains & Pleasures of Prototype Modeling: The Sugar Pine Lumber Company & Minarets & Western Railway*; Doug Wagner: *Sunset Railway*; Steve Redeker: *Modeling the Hetch Hetchy RR in Black and White*; Scott McGhee: *Madera Sugar Pine RR*; and Ed Merrin: *Focus Stacking and Low Perspective Smartphone Photography*.

Four layout tours will be conducted using a video of the key features of each layout, followed by a Q & A session with the layout owner. Layouts on the tour include Jim Niell's *SPLA Division/Bakersfield Sub*. (HO scale), Bob Jakl's *UP, AT&SF, CB&Q, Katy* (O scale), Glenn Sutherland's *Sierra Railway* (HO scale) and Rob Briney's *Sierra, Clovis & Western* (HO scale).

Later in the day we'll continue with our keynote speaker, Mike Osborne, narrating his experience as a new SP crewman on a trip from LA to Bakersfield. After the keynote presentation there will be a dinner break, then the presentation of awards for members of the year for the Region and for each Division, plus the selection for this year's John Allen Memorial Award. The evening will conclude with more clinics.

The convention committee has been hard at work meeting on Zoom weekly to shift everything from an in-person gathering to a virtual one in just a few short weeks. Convention co-chairmen Bill Scott and Walter Mizuno expressed their gratitude to Seth Newmann and the Rails by the Bay 2021 NMRA National Convention tech team for their assistance with the shift to virtual.

For more details and to register for the 2021 PCR virtual convention go to www.pcrnmra.org/conv2021. Convention cars are still available and may be ordered on the website at <http://www.pcrnmra.org/conv2021/store.html>. Cost is \$30.00 each (includes sales tax), plus \$10.00 shipping. Allow 2-3 weeks for delivery. Convention shirts can be ordered directly from Daylight Sales. Visit their web site at: <https://www.daylightsales.net/product-category/pcr-2021/>

NMRA 2021 Santa Clara - Now Virtual!



NMRA 2021 Rails By The Bay – Join Us (Virtually) This Summer in Santa Clara

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We'll be offering pre-recorded video layout tours, coupled with live Q&A with layout owners. You'll virtually visit the top-quality layouts of modelers like Jack Burgess, Guy Cantwell, Dave Connery, Bill Decker, Dave Houston, Otis McGee, Dave Stanley, and more.

We're also developing an online, photo-based model show so you can showcase the models you've built in the past year, with a "meet the modeler" panel so you can chat about techniques.

Interested in layout design? We'll offer a complete LDSIG program including videos of LDSIG-oriented layouts grouped in one block, and a panel discussion about lessons learned and layout improvements.

For operators, virtual op sessions (either as an active participant or viewer) also are under development.

A dedicated team of volunteers is working to make this a great convention. To obtain a registration form, visit <http://www.pcrnmra.org/NMRA2021/pdf/RegForm.pdf> or send email to: registrar@nmra2021.com.

"Online registration and payment by PayPal now available on the website,

<http://pcrnmra.org/NMRA2021/registration.html>"

For further convention information, contact publicity@nmra2021.com. 2020-2021 have been a year unlike any other, and we appreciate your patience and positive support as we continue to develop the convention under challenging conditions. Visit www.nmra2021.com for further information.

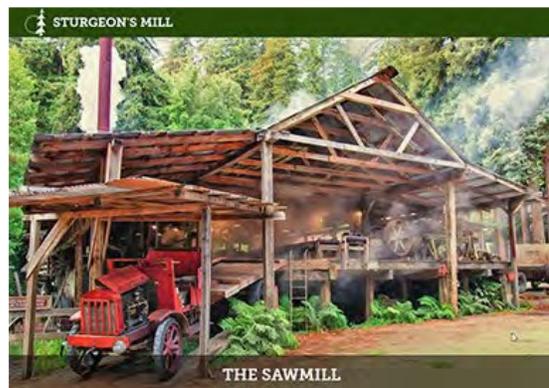


Return to the Redwoods PCR 2022

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The convention will be held April 21-24, 2022 at the beautiful Doubletree Sonoma Wine Country in Rohnert Park. With ample room for clinics and displays and easy access from Highway 101, this is the perfect spot for PCR/NMRA members to gather once more. A full three-day program is planned including over 40 clinics, layout tours, operating sessions, contests, vendor exhibit/sales, a member swap meet and a full non-rail program. And of course, there will be excursions including the ever popular, Sturgeon's Mill.

For more information and the link to registration, visit <http://www.pcrnmra.org/conv2022>



NOTHING IS GOOD ENOUGH

By MIKE HAMM

Scratch Building Trees

Perhaps I'm being lazy, but I approached this facet of the world's greatest hobby the same way I do all model railroad building projects by seeing what's out there in the commercial market. Since I'm not blessed, like a few of you modelers who have access to a fully stocked hobby shop nearby, I got out my check book and catalogs and proceeded to order a vast array of store bought trees. I even ordered trees from some of the American "mom and pop" workshops that produce custom, handmade trees. These are the outfits that never advertise in the magazines, don't have a phone number, but only have a website where you are allowed to text. Well, I do things old school and want to talk to the folks that make these trees, but I ordered some of their products anyway. Once I received my tree orders in the mail, I had a huge array of trees sitting on my workbench ready to evaluate. I won't mention any brand names, but they are all the ones we have come to know and love. You readers probably know what happened next. I thoroughly examined all of these store-bought trees and declared, "NOTHING IS GOOD ENOUGH!" They either looked like something you would see in Woolworth's at Christmas time, or foam rubber glued on a plastic stick! Not only were they unsuitable for foreground trees, I probably wouldn't be using any of them in the background of my railroad either. So, I gave them to my wife, Marsha, for her Christmas village under the tree during the holidays.

My layout is set in the mountains and valleys of Montana in late autumn. I needed deciduous trees such as Birch and Aspen, and hardwoods like Oak, Maple, and Hickory. I also needed plenty of evergreens such as Pine, Spruce, and Cypress. I first tried to make these evergreens from furnace filters. But I must admit I just don't have the skill or creativeness it takes to pull it off. None of the six I made looked real. So into the round file they went.

Puffball trees, using spray adhesive and ground foam in three different autumn colors, looked acceptable when planted near the backdrop.

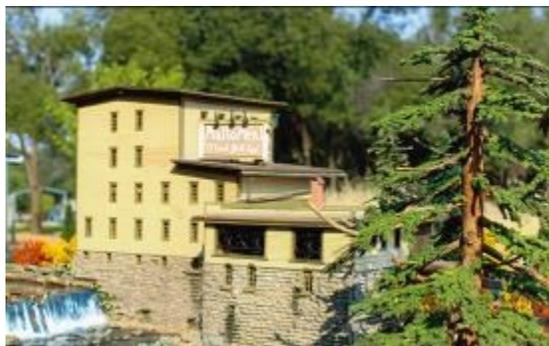
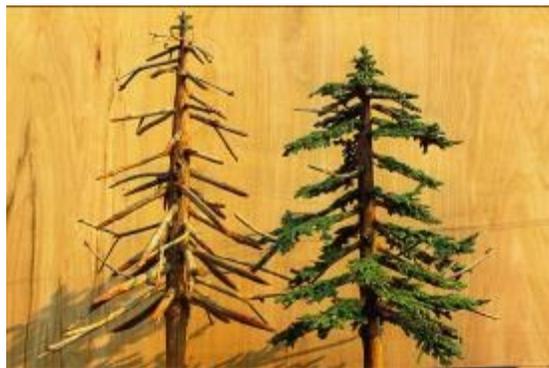
Pepper grass armatures, sold in arts and crafts stores such as Hobby Lobby® or Michael's®, have been used for tree making by modelers for many years. Generally used in dried flower arrangements, these can be painted with fall colors before being glued onto the limbs of my trees. I used a hot glue pot found at Blick® Art Supplies.

As for the tree trunks, nothing is as good as the real bark of limbs or small bushes that can be found in the wild or, in my case, on the acreage where I live. I work from photographs of real trees in my neighborhood or on my property. One neighbor has seven lodgepole pines. Another neighbor has huge redwood Sequoias and Digger Pines, Colorado Blue Spruce, Paper Birch, and Ponderosa Pines. I have no Aspen trees in my neighborhood or yard, so I had to model from photographs.

Some of the Oak trees I've modeled have hand-made trunks using wooden dowels and built up layers of plastic wood putty carved with a hobby knife. Moss was painted on using very thick thyme green paint from Behr paints.

"Continued on Page 8

The two signature trees in the foreground of my layout are O scale Sequoyahs. One is 16" tall and the other is 14" tall. These two trees took 3 1/2 weeks to make. The trunks were made from butterfly a bush growing in my yard. It was a close match for the bark of these trees. The wooden branches used for the trunk and the limbs had to be tapered, which meant removing the bark then painting it back on to match the real bark. This was difficult for me to do. The armatures, which were attached to these tapered limbs, were made from cut down, dyed, pipe cleaners hot glued in place, Pacific Pine and Thyme Green paints from Behr® were used to paint the pine needles. The Thyme Green was used last, but only as a highlight on the tips of the needles.



I began to question spending 3 1/2 weeks on two signature trees, but after photographing them in front of one of my O scale models, I guess it was worth it.

The birch trees were done the same way, but I used real birch for the trunks and limbs. The birch tree is right here in my yard.

Tree making can be a lot of fun, but can be as time consuming as you want it to be. When nothing is good enough, and you have hundreds or even thousands of trees to make, it could mean a lifetime of tree making and very little time to run your trains. For me, running the trains and operations is still the most fun in this, the world's greatest hobby.



Starting a birch tree using real birch.



Ready to add armatures



Late autumn - early winter paper birch tree ready for installation on the layout



Every layout should have at least one dead tree for realism. Here's mine.

Time In Turlock

by Ken Horne

I always had an HO scale railroad until retiring 4 years ago and downsizing to a smaller house. Then the idea was to build a layout to suit my small 9 x 9 room. At Hobby Lobby, I found an old west Bachman Durango & Silverton train set. Coupled with my love of watching old west movies and shows, and reading and learning about the yesteryears, I decided this was what I wanted in a theme: Old West in Turlock pre 1895 era. I found old pictures of Turlock and began to duplicate. Please see my attached YouTube links so you can see what I am trying to accomplish.

<https://www.youtube.com/watch?v=JRIMNheZcc4>

<https://www.youtube.com/watch?v=ExMDlojipbw>



"Continued on Page 10"



Country farm overlooking steep trail to the town.



Town growing with new business moving in .



Indian village having at war dance around the flickering campfire .



Overlooking town lumber yard and freight station activity.

“Continued on Page 11



Village night scene - kerosene lights.



Grand Hotel has a water trough & hitching rail.



Gun shop, book store, with hitching posts located next to the Grand Hotel.



Covered wagon coming in from a long trip. Happy to arrive in a busy town.

Hose Cart

by Neil Pfafman

You live in a small town and the automobile is a thing of the future. The town council thinks it is time to put together a volunteer fire department. You know that you can find volunteers to fight any fire, but you need equipment because all you have right now is a few buckets, an ax or two, and maybe a shovel. The next town over has invested in some fine machinery for their fire protection. They have a hand pump, a hose cart and a hook and ladder wagon - all of which can be moved to the site of a fire by human power.

Did I mention a hose cart? Even today a hose is used by the local fire department to get water from one point, be it a hydrant, water tank, lake, etc., to where an unwanted fire is consuming something that nobody wants burned. Before the automobile, you had a choice of moving a large heavy hose around, either by horsepower or manpower, and in an emergency where do you find a horse that can pull a load? Maybe the horse is there, but by the time you get the required harness in place and hooked up to the hose carrying vehicle, it may be too late to do you any good. You have manpower and they are ready to go and that is where the hose cart comes in.

The hand drawn hose cart could be found with many small-town volunteer fire departments in the 1800s. They could also be found in an industrial complexes and railroad yards. The use of the hose cart eventually would be replaced by the small motor truck during the 1920s and 30s. The hose carts that survived ended up in museums, fire department back lots, and in some cases a forgotten corner of a building. The first one I remember seeing was sitting in an unused warehouse that contained nothing but a lot of space and a lonely hose cart covered with dust. The end of the rotting hose was still connected to a water valve on the wall.

I do not know of anyone who has offered a model of a hose cart in any scale, so I decided if I want a model of one, I would just have to scratch build one. If you want one, you will have to do the same. I will show you the steps I took to make an HO version. The hose cart that I modeled mine after is sitting in the fire house in Bodie, CA. There are two of them still there - one blue and one red,

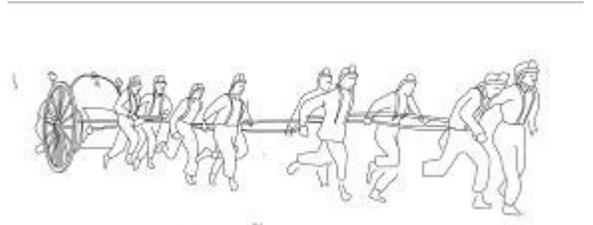


Fig. 1 Let us start off with what is generally found in the construction of the hose cart. The details vary from one cart to the next, but normally they are the same. They were made by the hundreds, if not thousands and used all over the United States if not all over the world.



Fig 2. First is the basic frame. It should be about 11.50 feet long and 3.50 feet wide. The pole can be either round, square or something in between, depending on the original maker and what repairs were done to keep the cart in service. Wood and sometimes steel would be the material of choice. Remember, weight would have been a major consideration.

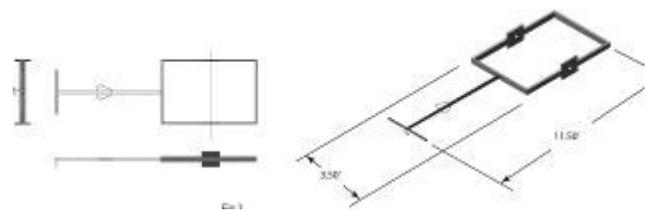


Fig 3. Next is the hose reel. I made it out of two brake wheels with handles added to the outside to help turn the reel when re-loading the hose. I used a piece of plastic dowel for the center. I wound some flat strip stock, which I have rounded off the sharp edges, around it to simulate the hose. Keep in mind the

hose would be pulled off the rear end of the cart and from the top of the reel. Do not forget the brass coupler at the end of the hose.

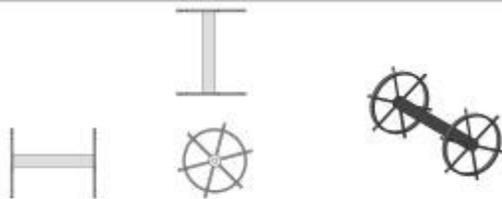


Fig 3

Fig 4. The hose guide roller is another piece of plastic dowel with small pieces of plastic cut as mounting brackets. This will be mounted on the back of the cart to prevent dragging the hose over the end frame, side frame, or the toolbox.

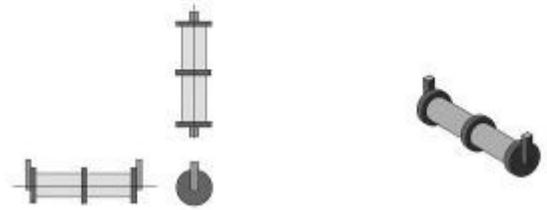


Fig 4

Fig 5. The pull rope spool is made of another piece of plastic dowel with some small pieces of plastic for separators. I used carpet thread to simulate the tow rope, which would be unreeled toward the front of the cart for pulling the cart. There should be a rope guide at the end of frame to keep the rope from interfering with the men pushing the cross bar.



Fig 5

Fig 6. The tool box is an open box with or without a lid for storage of hydrant wrenches and other small tools that would be needed by the firemen. A couple of chock blocks of wood might be included for parking brakes. It would be embarrassing after a fire to find that the cart has left the scene on its own, following the call of gravity.

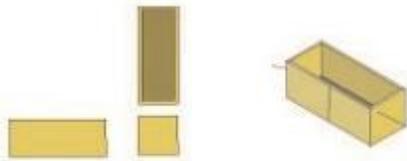


Fig 6

Fig 7. Now you will need 2-4 to 5 foot diameter wheels. They need to be light carriage wheels. After all just how much weight would the firemen want to pull around? I got my wheels out of an old Jordan carriage kit.



Fig 7

Fig 8. The bell hoop is there to carry a bell to warn people that these firemen are in a hurry to get to a fire and to let the victims of a fire know that help is on the way. The bell was the siren of the day. The bell hoop I show is a simple piece of strap iron bent over the width of the card. Some bell hoops were made very fancy and a piece of the blacksmith's art.



Fig 8

Fig 9. Most hose carts had 2 torches. The style varies with the location and cost and just how fancy did you want it. They were used to light the way to a fire at night. I used torches, but a fancier light would be a lantern or two.



Fig 9

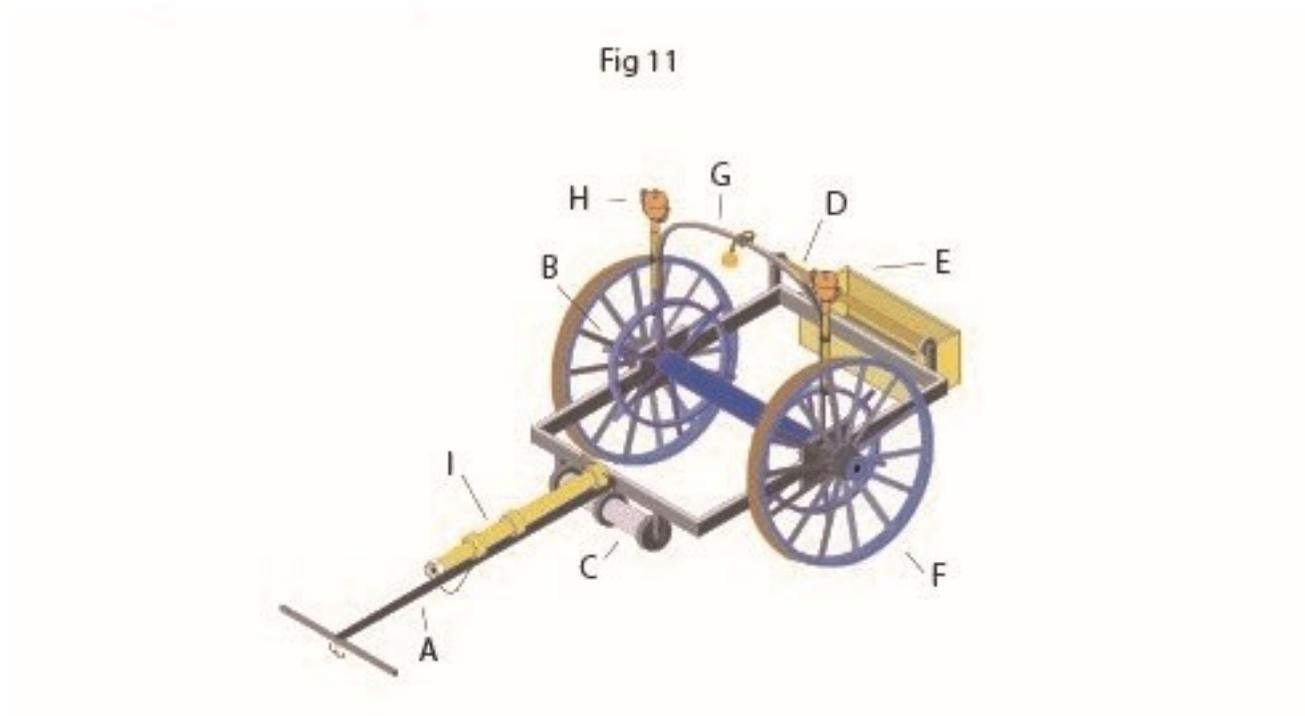
Fig 10. Now a hose is not very good unless you have a nozzle to go on the end of the hose. This is the one I made. I mounted mine on the towbar, but I've seen the nozzle mounted in several other locations on other hose carts.



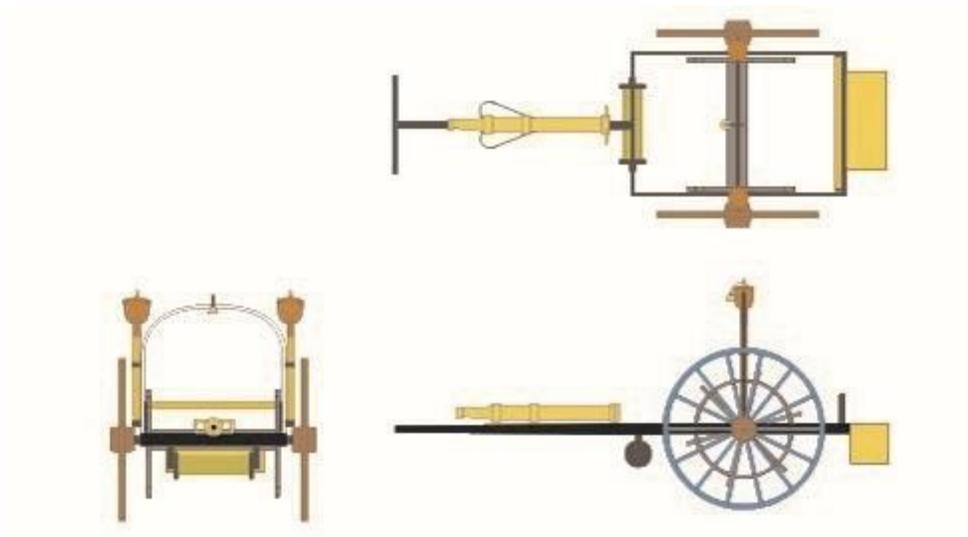
Fig 10

Continued on Page 4

Fig 11. Now that you have all of the various sub assemblies made it is time to put them together.



Here are several views of the finished hose cart.



Now that you have a fine model of a hose cart, there is one last thing to do and that is to paint it. The one I modeled was blue, but the majority of the ones I have found on-line were red with one or two that were white or yellow. Pin stripping is optional.

Now your hose cart is ready to park in the fire house, being pulled to a fire, sitting empty while the firemen tend a fire, or being proudly pulled by fire fighters in a town parade.

Typical Central Valley Warehouse

by Chip Meriam

Before Interstate 5 came to Northern and Central California, the main north-south route through California's Central Valley, from Redding to Bakersfield, was US Highway 99W. Paralleling 99W, for most of its length, was the Southern Pacific Railroad. Along the railroad were several ag-related warehouses operated by the DePue Warehouse Company. A



DePue Warehouse - Williams, CA

few of these warehouses remain to this day, and I decided to build a model of something similar. Here's my progress to date.

I started with a perimeter foundation of a scale 32 feet by 52 feet, built from strip wood textured with Rustoleum® Textured spray paint. Note the crawl space access at the end.



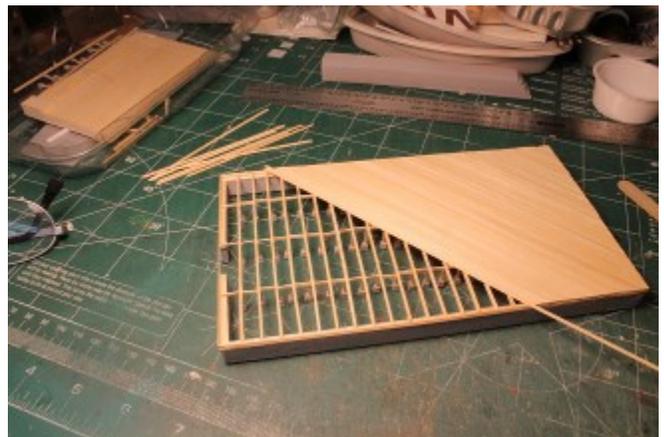
For this project I would need posts and piers as an integral component of a raised foundation. The concrete pier blocks are produced on a 3D printer, and the posts are cut from scale 4X4 lumber from Mt. St. Alberts (now part of Fast Tracks). These, along with scale 2X6 lumber and some NBW castings from Tichy Train Group were fashioned into floor joists.



The

floor

joists, stringers, and mud sills were laid out and fastened in place inside the concrete perimeter to form a raised foundation, which was then covered with a diagonal 2X6 subfloor.



Continued on Page 16

With the subfloor in place, I raised framed walls built up from 2X6 scale lumber. The walls included toe plates with tie-downs (Tichy Train Group Bolt and Washers), studs, jack studs, 2X8 headers, fireblocks and dual top plates. Once the walls were raised, I applied 8X12 floor boards over the top of the subfloor.



It required hours to build 26 roof trusses, each with 16 individual cut pieces and 14 NBW castings. The end trusses were modified slightly to accept the exterior siding at the gables.

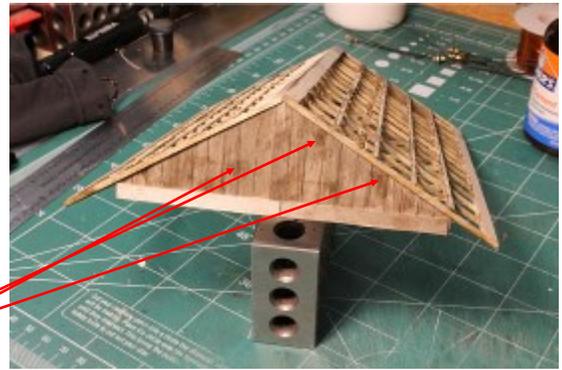


I placed the end trusses first and installed the skip sheathing at the ridge before rolling the other 24 trusses into place.



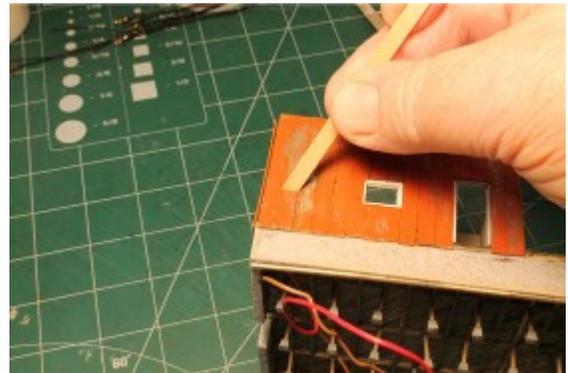
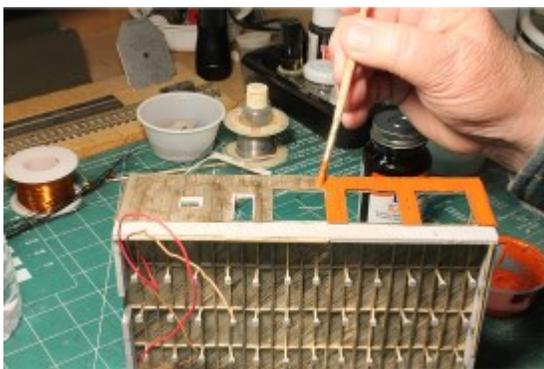
Continued on Page 17

The exterior siding boards were strips cut from 1/32" plywood. I applied the siding board-by-board. When the siding was all installed, I applied two coats of stain solution made from 1 part black acrylic paint to 10 parts 70% isopropyl alcohol. Once the stain dried, I dabbed on some rubber cement as the first step in representing peeling paint.



Rubber cement blobs

My next step was to paint the siding with my chosen color. Once the paint dried, I used a coffee stir to scrape off the parts that had not adhered to the wood because of the rubber cement blobs.



The result was an authentic weathered look with honest-to-goodness peeled paint.





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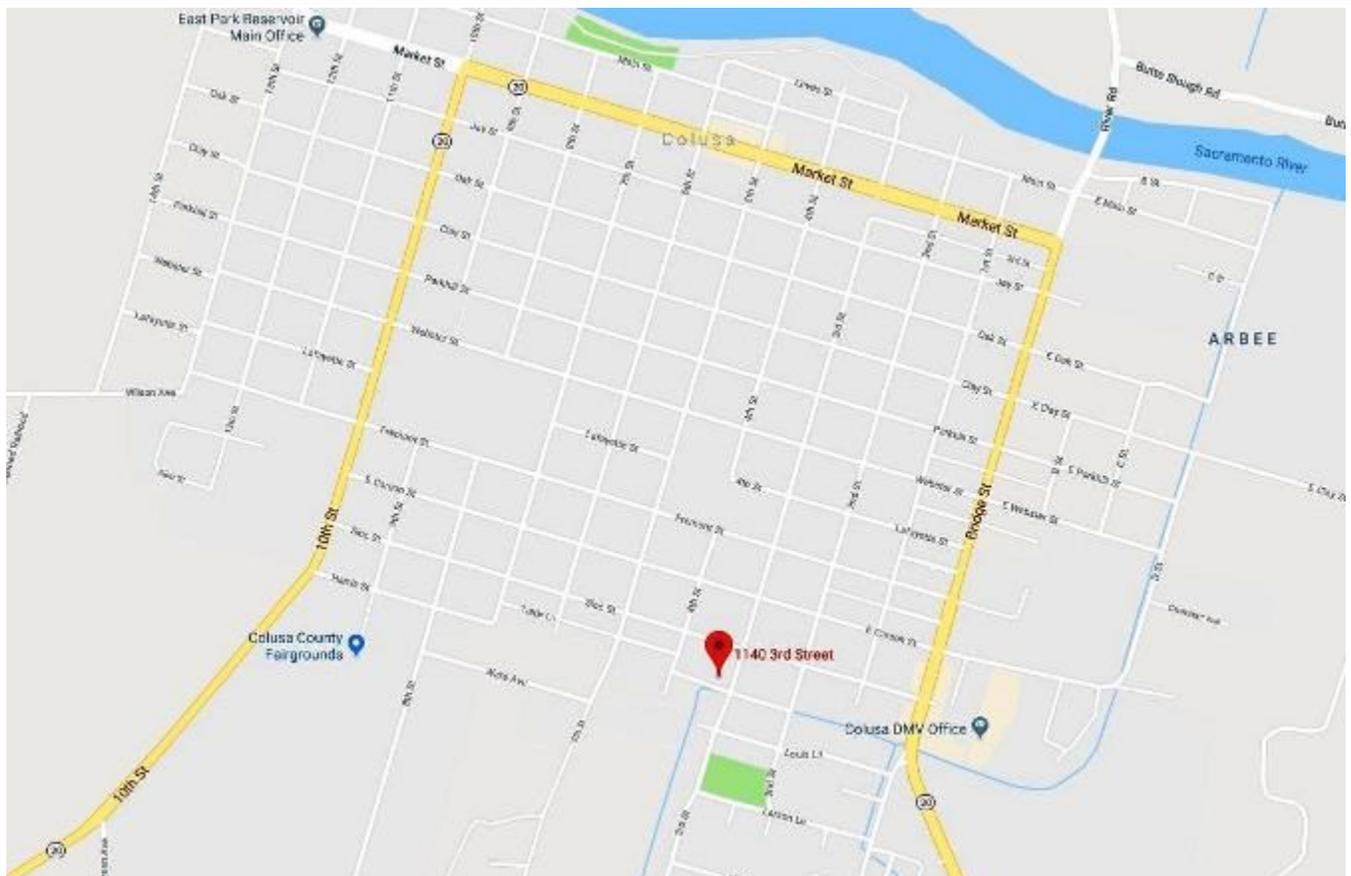
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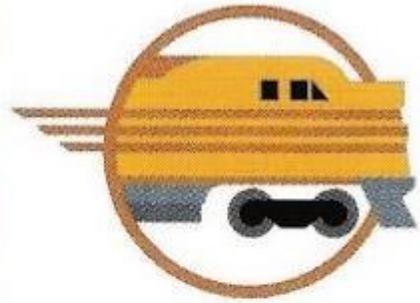
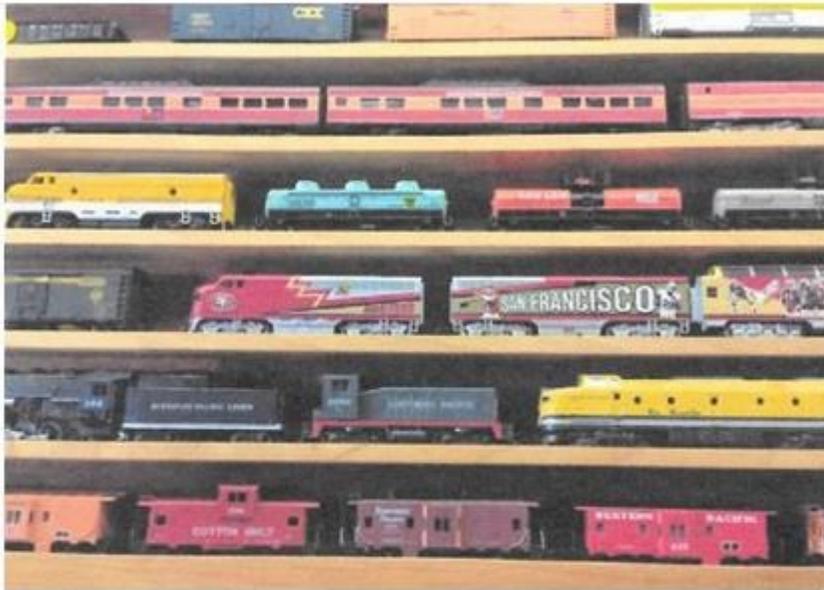
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WORKING ON THE RAILROAD

WORD SEARCH

The following terms and words can be found in the accompanying Word Search Matrix. All are associated in some manner with railroads and railroading. Many are straight terminology, but others are railroad employee slang terms. Where terms consist of two words, both will be together in the matrix with no spacing. As with most word search puzzles, all terms and words may share a letter with another [or more than one] term or work, however, none will be found completely within another term [eg. *Calendar*] A note: This puzzle is about railroading! "CAR" appears multiple times. Have fun & HAPPY RAILROADING!!

doodlebug	big hook	gauge	varnish
engineer	Galloping Goose	branch line	Pullman
flanger	gandy dancer	bunk car	knuckle
locomotive	glory train	Mikado	cowcatcher
rabbit	handcar	NYPANO	rail
railfan	wrecker	oiler	ballast
tender	hostler	caboose	rammer
double header	ribbons	Mogul	depot
yard goat	roundhouse	Overland	rattler
wye	Santa Fe	Camelback	dispatcher
switch	saw by	oilcan	redball
tie plate	shiner	wildcat	Dinky
spike	smoker	Casey Jones	right-of-way
airbrake	speeder	marker	Erie
flatcar	table	worm	ESPEE
articulated	Texas	Challenger	zulu
fusee	truck	Mallet	dutchman
frog	Hudson	Red cap	exchange
Atlantic	hotbox	ringmaster	torpedo
Big Boy	Prairie	Climax	freight car
hobo	journal	Shay	drag
block signal	brakeman	Niagra	timetable
boxcar	brain cage	club car	apron
Amtrak	tanker	Pacific	grade
highball	tower	coupler	empty

WORKING ON THE RAILROAD

T U L O C O M O T I V E K Y S W I T C H Q P I M V R E D N E T
R R E H C T A C W O C A B T C O D I M X L H P Q C G V Z L A I
U O B O H B O X C A R X S O E R S E N O J Y E S A C B N O E M
C M Y T I Q W U O P K P N P C M A P W B X Y Z C U K L G P S E
K F L A G M A N J R I C E E Q J N L W T F G N N O S D U H U T
Y R W V H U B K Y K L Z C D C Y T A B O W I V R Q R C V B O A
T A I R B R A K E P B I G B O Y A T X H A Y Z G A U G E W H B
E B H T A S Y A E Q A L J M E A F E B R D N W Y E I Y F B D L
X A M I L C W R T I U N O H L H E X B R A N C H L I N E K N E
A C Z R L V Y T E B R U O C K S R D V A R N I S H O Y R N U G
S F O D A K I M C L F I R A C K N U B F L F N A F L I A R O F
C I T N A L T A O L I G A G H S A W B Y H L E N G I N E E R G
A A B C D T M P U T U O T R T Y I E E P S E A Y T M H W Y E L
B R T F R E Q R P S R B K L P B I G H O O K L S M C N I A L A
O M N T L H M O L K N U C K L E M P N R E K N A T M N L W T N
O V F B L A Q N E V N F P A G B F A V A W G J A D A S D F S R
S Y A X B E T V R E O C A P R D M C W D L F P W C D F C O O U
E C G T D B C C B D R D C Y B E E I T D B S D L R B U A T H O
K J L O J L H A A A T J D L K M L F U A I F I J E G L T H R J
L W R W R N A M R R H F E A P N Y I L D O O D L E B U G G K Y
A B E E C F L A N G E R R T D R I C D O E G D H F G Z G I J K
W C D R U D L R E F R B Y E E G H D R U E G R J E K E I R E M
N R E S D F E G H I N J K C I L M N A B P O A Q R E D B A L L
A G E H I L N A R G A I N A R G B C G L O R Y T R A I N D T E
M E P C T H G I J K M A R K E R H L I E M F N O Z R E M M A R
H N S T K N E G O N D O L A N T M T W H G R I B B O N S P B A
C F A G H E R K I Y L M N O I I P R C E S L L I B Y A W T L C
T R W L I A R W D R E P L E H B D E T A L U C I T R A X K E D
U P U L L M A N F R E K O M S B G R L D R G D N A L R E V O N
D F R E T S A M G N I R E G N A H C X E P O R C U P I N E G A
E S O O G G N I P O L L A G T R M N O R Q M A L L E T S T U H

Word Puzzle Courtesy of Ben Hughes

The Sierra Division, PCR-NMRA is making available to Sierra Division members a “kit” containing the necessary tools and instructions to complete the part 3 requirements of the NMRA Model Railroad Engineer – Civil certificate.

The included tools and templates are sufficient to create the following (you only need to construct 3):

HO Scale #5, Code 83 Right-hand turnout

HO Scale #5, Code 83 Left-hand turnout

HO Scale #5, Code 83 Single crossover

HO Scale #5, Code 83 Double crossover

HO Scale #5, Code 83 Crossing 14 degree

How the System Works:

- Reservations are on a first-come, first-served basis. All reservations will be for a calendar month. Requests must be sent to steve@fungusmungusrr.com.
- The kit will be shipped via UPS on the first day of the month. Arrival should be within 2-3 days.
- The member may use the kit for what should be, **about** three weeks.
- The member must ship the kit back, postage pre-paid by the 25th of the month. This will allow us time to check and clean the kit and still send it out again on the first of the month. Zip ties and address information will be included in the kit. **Steven Folino, 1794 Azurite Way, Sacramento, CA 95833.**
- The rental fee and deposit must be received by the 15th of the preceding month.
 - a. The rental fee for the kit is \$25.00 by separate check. This will cover the cost of shipping the kit to the member, cleaning costs and additional packaging as needed.
 - b. A deposit in the amount of \$500.00 must be included by **SEPARATE CHECK**. This check will **NOT** be deposited unless the kit is not returned. When the kit is returned, the check will be destroyed.
 - c. Both checks must be sent to: **Steven Folino, 1794 Azurite Way, Sacramento, CA 95833.**
- Be prepared. Have supplies ready and on-hand in advance of the arrival of the kit. You will need.
 - a. Micro-Engineering Code 83 NON-weathered rail, have extra, I wasted several.
 - b. Small diameter solder.
 - c. Soldering iron, min 35 watts.
- The member is responsible for loss and all damage to the contents of the kit. If you break it, or damage it beyond further use, notify us immediately at steve@fungusmungusrr.com. Be prepared to include a check in the amounts listed above to cover the cost of replacement.
- Please notify us as soon as possible if you wish to cancel your reservation so that we can offer it to another member. steve@fungusmungusrr.com

If you have questions, please direct them to Steve at steve@fungusmungusrr.com or Chip Meriam at chipmeriam@comcast.net.

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