The Buffalo & Chautauqua Railroad

In this view of the Buffalo and Chautauqua railroad, we see the Pennsylvania Railroad Babcock Street yard on the right with the city of Buffalo behind it.

By Glenn Guerra

The Buffalo & Chautauqua Railroad runs in the basement of Gaylord Gill's house in Michigan. Gaylord was interested in trains as long as he can remember. When he was seven, his parents purchased an American Flyer train set and his dad helped him set it up. The train layout provided many hours of fun until life got in the way. Like so many of us, going off to school, working, or military service broke the bond we had with our model trains when we were younger. Then came family and work. Finally, life starts to slow down a little and we have time to catch our breath. About this time, we start to remember all those care free days spent fooling around with our model trains. Remember those days? This was your railroad and you could do what ever you wanted with it. Think about that. How many other things in life can you do when you want and how you want? That's what hobbies are, and this is what happened to Gaylord around 1979. The old American Flyer set came out, and Gaylord started hanging around with a S Scale club in the Detroit area. Something was a little different though. Besides setting up the layout and running it, Gaylord wanted to create something. The train set was not something nostalgic to remember from his youth – it was a means to create a miniature world as he saw it. By now, he was looking at the prototype railroads closer and some of the things about the American Flyer set were starting to be a concern. One concern was the track. The American Flyer track did not have ties; that combined with the limited variety of sizes made layout planning too restrictive. That could be solved with Gargraves track though. Ideas were starting to come together, and in 1982, Ron Bashista from American Models came to a club meeting with the first S Scale model he made which was an FP-7 that was decorated for the Pennsylvania Railroad. Gaylord told me it was that meeting that finally convinced him to make his layout using scale track and wheels.

This corner of the layout actually contains both ends of Gaylord's point-to-point railroad, with reversing loops stacked one over the other, but all hidden below the visible layer. Inside the loops there is open space that two people can occupy when operating their trains.

One of the first decisions was to get a rough idea of what he wanted to create. Some people model a specific prototype in a specific area. Other people like to create an imaginary railroad. This approach has some appeal when it comes to rolling stock. If you try to stick to a specific prototype in a specific era you may find that the equipment for your prototype is just not available.

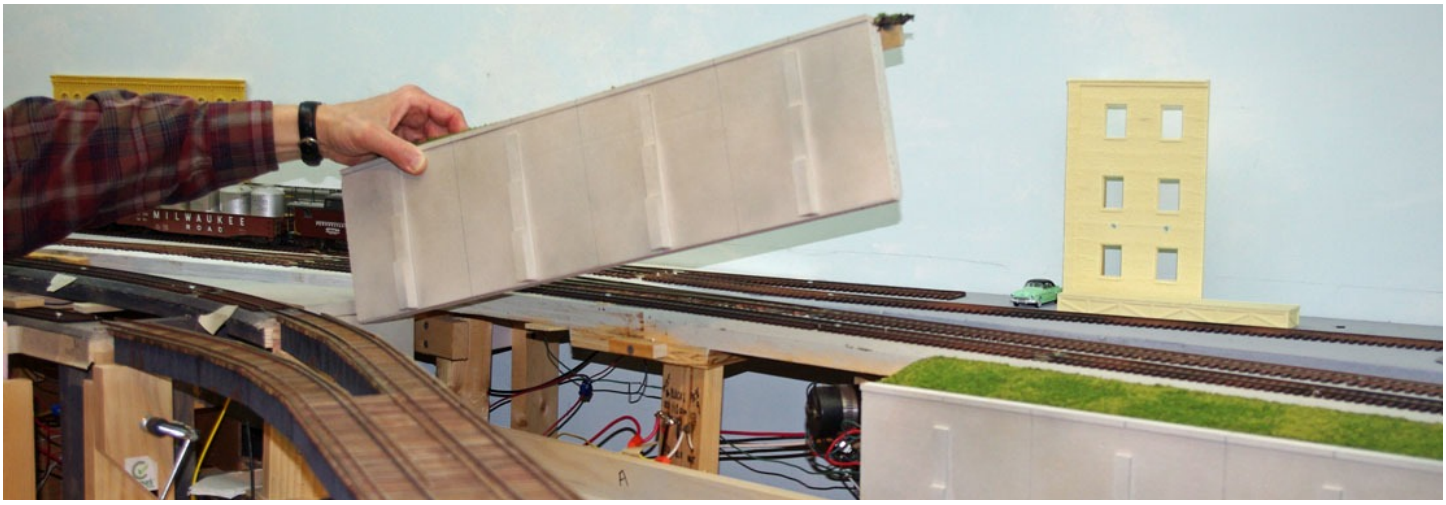
The city of Buffalo slopes away from the viewer down a hill towards Lake Erie. This is different than a lot of model railroad scenery in that slopes up as it goes away from the viewer. This view shows how Gaylord is modeling the background buildings lower than the track, thus reinforcing the idea the city is sloping towards the lake. The tracks on the lowest level go to hidden staging yards, and this works well in a city scene by having the tracks go into a station.

At Buffalo, the Babcock Street yard is high and in the front of the layout. The scenery slopes down as it goes away from you towards Lake Erie. You can see how Gaylord is doing it in this photo. The HO Scale factory set low in the back forces the perspective giving you the feeling that you are looking down hill towards Lake Erie.

This is another nice touch to Gaylord's city scene. In this mock up, notice how the white street next to the cream colored building slopes down to the next block. This is going to give this whole scene the look of a town built on a hillside. These little touches can really add to your scenes.

This view shows one of the control panels that Gaylord has spaced around the layout. These panels control the powered switches on the main lines. The large gray building is the Pennsylvania Railroad Seneca Street freight house.

Gaylord's first idea was to create the Grand Valley Northeastern Railroad. This would be a railroad somewhere in the Midwest. In his original plan, the Baltimore and Ohio, New York Central, and Pennsylvania Railroad would all have trackage rights over his railroad. He would model an era around 1953, and steam locomotives for all the railroads were available. The layout was starting to take shape. While this was all coming together, the model railroad hobby was entering the digital age. The advent of reliable Digital Command Control changed a lot about the way we operate our model railroads. Gaylord started looking at how he would operate his railroad. As he looked into operation more and learned more about it, his ideas on his layout theme changed. Gaylord will tell you, in a separate companion article, how his operating ideas influenced his change of theme and how he operates his railroad now. As a side note, the NASG National Convention this year in Novi, Michigan will host some operating sections on different layouts. If you like operation or are considering it for your layout, be sure to take in some of the operation sections and seminars.



To get at the switch machines for the back track, Gaylord made this removable part of the retaining wall.

In this view we are passing by the roundhouse and entering the east end of Babcock Street yard. When I first saw this, I was trying to figure out what Gaylord was doing with the big screws in the middle of the track. He told me they temporarily hold the track in place. While he is operating the railroad and seeing how it works he sometimes moves tracks around. The screws allow him to move the track easily. When he has the scene the way he wants, it he glues the ballast in place and that holds the track down.

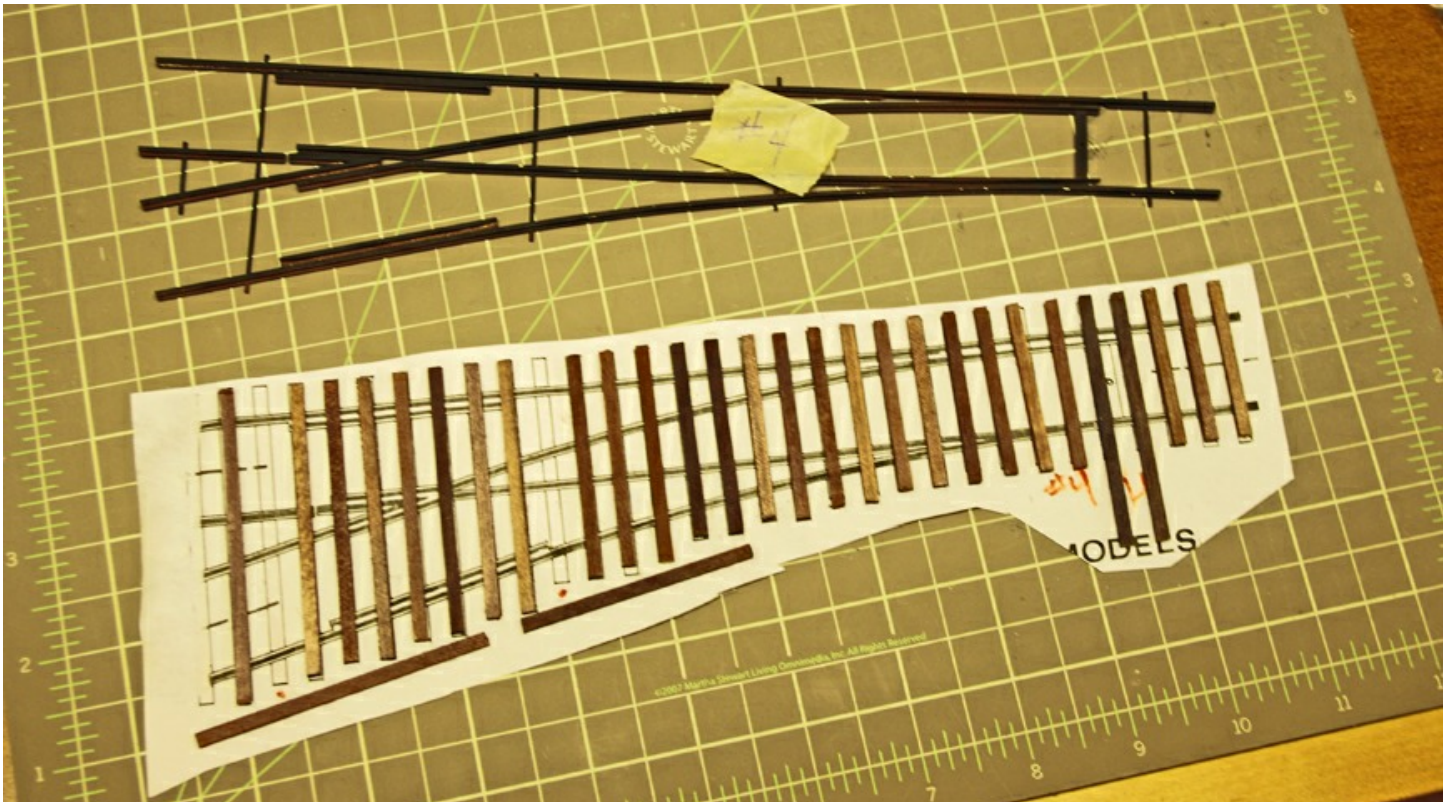
The roundhouse and turntable were scratch-built for Gaylord by the late Don Gates, who had a fine NYC based S scale layout in his home near Chattanooga. Don and Gaylord were friends when they both lived in Troy, Michigan. Don built both the roundhouse and turntable on a single platform, about 4' x 6', which was sized to fit in Gaylord's mini-van. Gaylord then drove down to pick it up and installed it just a month before the 2006 convention.

This is Olean on the Buffalo Main. There is a small yard and some industries here. The upper track is Angola on the Chautauqua Branch. The slight elevation difference and green space helps to reinforce the idea that these are two different locations as far as operation is concerned.

Gaylord's new railroad is now called the Buffalo & Chautauqua Railroad. The tracks are the same, but the reason for being has changed. Currently, the layout is modeled around the Buffalo New York area. Gaylord will cover this change in detail in his article on operating the railroad. With all of that said, I will get back to the layout.

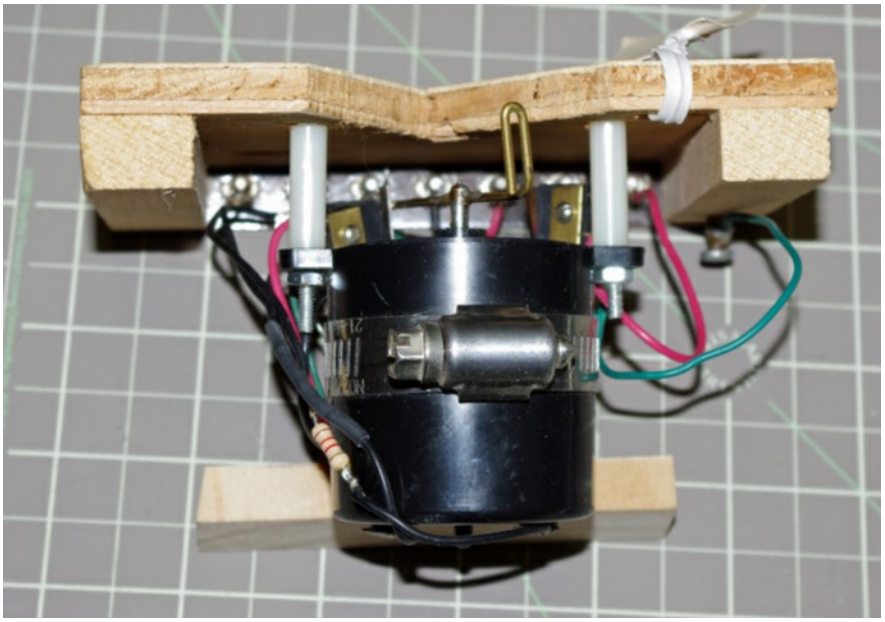
First the technical details. The layout fits in a 30' x 42' basement. The basic idea is a point to point layout with a return loop at each end. The return loops are hidden and on top of one another under the main town on the layout. Gaylord will describe how these loops work in his article on operation. The track is code 100 flex track, and most of the switches are Old Pullman. Gaylord showed me how he lays out his switches. The Old Pullman switches come with the rails soldered together and the ties separate. Most of the time, you would glue the ties to the layout and then spike the switch in place. This method requires the ties to be glued in the correct position and requires some very accurate layout work. While I have done this, it is hard to get the track to flow smoothly and still have equal tie overhang from the rails. Gaylord solves this problem by gluing the ties to the paper template supplied with the switch. Then he glues the rail to the ties with some Walthers GOO or similare adhesive. Now he can adjust the location of the switch while still keeping the rail and tie relationship constant. When he has the location of the switch set, he will then spike it in place. I like this idea a lot and will try it some time.

Gaylord scratch built this oil terminal at Olean on his layout. This is a typical small town oil dealer from the era he models.



Gaylord starts with Old Pullman switch kits. The rails are soldered together when they come from the factory. Gaylord glues the ties to the paper template first and then glues the rails to the ties. Now, he has a complete switch that can be moved around on the layout for alignment. I thought this was a good idea.

In this photo, Gaylord was showing me how his switches mounted on paper worked. He was able to get all the kinks out of the yard lead and not worry about the tie overhang on the rails. When he had the alignment right, he spiked the switches down. The paper will be covered by ballast and the #6 sheet metal screws in the flex track will be removed.



Gaylord uses gear motors for switch machines on the main line. He mounts the motor and electrical connections on a block like this. The clamp around the motor holds limit switches that determine the throw of the switch. The biggest advantage to all of this is that it can be adjusted and assembled on the work bench, not while you are crawling around under the layout

To take advantage of the space available Gaylord, settled on 43" for minimum main line radius. The switches are #8 on the mainline, #6 in the yards, and #4 for industry sidings.

The mainline switches are powered and actuated from control panels around the layout. The yard and industry turnouts are hand throw. Gaylord made his own power units for his layout. He purchased gear motors and made his own wood base to mount them on. He has all the wire terminals on this base. In addition, Gaylord installed some limit switches that control the amount of throw his switch machine will have. By doing this all on a separate block, he can assemble and adjust the whole unit on the work bench. Then, all he needs to do is install it on the layout. This is another good idea. Why didn't I think of this when I spent hours crawlling under the bench work trying to adjust things?

This photo tells a lot about how Gaylord does the scenery on his layout. Notice how he starts the background woods with the dark shadow colors first and then works with the lighter colors. The water tower on the right was one of the first scratch built structures Gaylord ever did.

Most of these trees are painted on the backdrop, but it is hard to tell. The colors match the model trees very well. Look at the different colors and texture of the grass on the hillside. This looks good.

The focal point of the layout is its Babcock Street Yard, with the city of Buffalo and Lake Erie as backdrops. The double-ended yard has seven classification tracks, a nine-stall roundhouse and a 115' powered turntable. Other engine-servicing facilities include a diesel shop with fueling and sanding stations and a 300-ton concrete coaling tower with ash, sand and water stations. This area is under construction, making this a good oportunity to see how ideas take shape. One thing I noticed on my visit were large screws right in the middle of the tracks. These were not there in areas that had scenery, so I asked Gaylord what was going on. He said that even though you have a plan drawn on paper, it is still hard to visualize what it will look like. In addition, operating the layout may point out changes you would like to make. What he does is temporarily screw the track down with #6 sheet metal screws. This allows quick and easy changes in the track. After operating on this for a while and determining it will work, the track is balasted. The glue in the balast holds the track in place and the screws are removed. I liked this idea. It may work for you on your own layouts.

Another thing I liked about this whole scene was the way Gaylord was developing the city. As a way of hiding the approach to his staging yards, he made the track dissapear into a passenger station like many large cities have. In addition, there is a lot of raised track in cities to eliminate grade crossings. This allowed Gaylord to have a lot of different track levels in a small area. The use of retaining walls fit right in with a city scene. These are all good ideas to consider, but the idea I really liked was how the city is built on a hillside. The yard is on the outskirts of town, and the city slopes to the lake in the back. This is different than sloping the scenery up as it goes away from you. As you view the layout, you see the roofs of buildings in the background as the scene slopes away from you. Another thing that makes this work is the use of HO Scale structures in the background. This helps to force the perspective. Helping to reinforce the idea the city is not on level ground, Gaylord made the main streets in town on different levels. Take a look at the mock up for the station head house. Across the street the buildings are on the same level, but look close at those buildings. The buildings behind them are on a different street that is lower. The street along the side of these buildings slopes down to the new level, and you can plainly see this along the foundation line of the buildings. These subtle elevation changes are really going to make this scene.

As we proceed out of Babcock Street yard to our right, on the Buffalo Main, we round the corner by the round house. We pass a way point at Wales first. At Wales, there is a a small industry siding. At this point, the tracks are right next to another track which represents Dunkirk and a completely different line of the railroad. The next town we arrive at is Olean where there is a passing siding and a medium-sized double-ended yard. At this point of the layout, Olean is closest to us and at a slightly lower level than the Chautauqua Branch. By having the town near us, it makes switching the town easier for the operators. Another thing Gaylord did was to make the passing siding long. From an operation point of view, this is good. It allows your train to clear the main while you are working the town. This way, other trains can pass and you have not brought the railroad to a stop while you switch the town. From there, the line continues and crosses under the Chatauqua Branch which is on a long through truss bridge.

This photo shows how well the foreground trees blend in with the painted trees on the backdrop. Another thing that works well here is the different shapes, sizes, and colors of the trees and bushes.

After going under the truss bridge, the line dissapears for a few feet and emerges as the lower level tracks that duck under the depot in Buffalo and into the hidden Emporium staging loops on the lower level. As a result of storm damage along its Buffalo to Salamanca line, the B&O temporarily has trackage rights on this part of the PRR main. By creating the situation of storm damage, Gaylord has created a reason for B&O trains to be operating on what would normally be a Pennsylvania line. These types of diversions are very prototypical and a fun way to explain things on your layout. This also adds to the operation as these trains are not normally schedualed trains.

This farm scene looks good, and one of the things that makes it is the different heights of the building bases. The red barn looks like it should be there built into the side of the hill. A little attention to details like this can add a lot to a scene.

At Babcock Street yard, which is on the upper most level, we can also leave on the Chautauqua Branch, which goes off to our left over the steel viaduct. At this point, we are still within the Buffalo environs, there is a large PRR freight house and several industry sidings at Seneca Street. The line continues past two other lineside industries to Angola, where there is a passing siding. On the layout, Angola is behind Olean and next to the wall. There is not as much work here, and the main focus is the town of Olean. The two towns are at slightly different levels, and this, plus some open space, is enough to get the idea these are two different locations.

I asked Gaylord what the photo of the river was all about. He said he feels good about painting trees but was not sure about the water in the river. What he is going to try here is cutting the river from the photo and gluing it to the wall. He will then paint all the trees in like he did on the rest of the backdrop. It sounds like a good idea.

On the line from Olean this location is known as Wales. This is the track closest to us. On the next track over, the location is Dunkirk on the Chautauqua Branch. At this point, they diverge and the line from Angola enters Brockton where there are two medium-sized reversing loops.

At Dunkirk, there is a track that takes off and heads to East Salamanca located on the lower level by the Buffalo depot. This separate track represents the New York Central operations at Westfield. The New York Central trains interchange with the Pennsylvania at Dunkirk. These are the points on the layout and the potential for operation. I will leave it to Gaylord in his article on operation to explain how he does it.

Now for some scenery. In some of the photos you can see how Gaylord is creating the scenery. One of the first steps is to create the backdrop. There are several ways to do this, and what Gaylord has done is create a view as if you were at track level looking at the woods. The hills and fields are hidden by the edge of the forest. When looking at the edge of a forest, you will see that the tops of the trees and the branches closest to you are bright and light in color. The background of the woods is dark and in the shadows. Notice that Gaylord paints these dark shadows first. Then, he works his way to the foreground with lighter colors. Finally, he puts model trees in the foreground. The effect is quite good. For the foreground model trees, he uses a lot of different sizes, shapes, and colors of trees. This variety makes the forest look real. For the base of the scenery, Gaylord is using foam and wire screen. He is creating a rolling hill type of area and the wire screen works well. The different colors of grass on the hillsides are also a nice touch. This summer look at some grassy hillsides. You will notice many different typs of grass and weeds, and that they tend to grow in clumps.

This has been a lot of fun for Gaylord, and he wanted to tell you that there are a lot of people who helped with advice and labor. Over the years, he has had many helpers; with Bill Bartlam, Sig Fleischmann, Don Gates and Gordy Michael being the greatest contributors. Others include Dave Belanger, Randy Bosscher, Jan Burdzinski, Mark Charles, Jim DeWitt, his brother Larry, Tom Hawley, Roger Jensen, Joe Kocsis, John Racey and Bob Ristow.