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LAYOUTS



Steve Bales, engine foreman for the Southern Pacific, once worked for Lionel in New York City. He's built a fantastic O gauge layout that draws on his work experience in both areas. The bascule bridge is scratchbuilt, based on the Baltimore & Ohio's bridge spanning the Calumet River in Chicago. All photos by Andy Sperandio.

A Lionel layout built by a real railroader

*This outstanding O gauge layout reflects Steve Bales' experience
with both Lionel and the Southern Pacific*

BY DICK CHRISTIANSON

STEVE BALES KNOWS what he's talking about when it comes to Lionel trains and railroads: he's worked for both. Currently, he's an engine foreman for the Southern Pacific working out of Taylor Yard in Los Angeles. Years ago he worked for the New York Central, as did his father before him. When Steve was a teenager in New York in the early 1950s he worked for Lionel in their offices on East 26th St.

Both work experiences have a lot to do with how Steve has built his layout and what he runs on it. When Andy

Sperandio and I visited his layout last spring, I asked Steve a lot of questions about his experiences at Lionel; we'll cover those in the next issue (April 1990 CLASSIC TOY TRAINS). This time we'll focus on the layout. It's a real beauty.

Steve has always been around trains, so it's not surprising he works for the railroad today. He recalls that when he was a youngster of only 5, his dad, an engineer for the New York Central, used a clothesline to tie him to a seat on the fireman's side of a locomotive for a ride up the Hudson River. He doesn't know how fast they were moving, but he does know that the treadle plate was

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Text continues on page 60







Here we see a five-unit all-powered diesel consist pulling 38 cars on the number 2 main line. Steve believes in running really long trains. He points out that in this respect he's much like the Southern Pacific, the prototype railroad that employs him.

bouncing around more than he likes to think about.

Of course, Steve didn't have to ask for a train set when Christmas came around; that was automatic. Whether it was his toy or his father's, Steve was never sure, but he remembers that they both enjoyed it.

As is the case with many of us, Steve has built more than one layout. He got started in Lionel when he was a kid and was able to stock up on postwar Lionel trains at discount prices when he worked for Lionel. When he was buying those trains he had plans to construct a layout, but didn't get around to it until much

Preceding pages: The North Chicago depot is the hub of Steve Bales' layout as well as home to a number of rail lines that terminate in North Chicago. The depot contains 11 tracks, along with a turnaround track. Below the depot is the three-track main line, and below that is the subway system, where the whole layout began. That feature reflects Steve's having grown up in New York City.

later when he moved to California. His first layout was somewhat smaller than the current one, which measures about 20 x 20 feet. A succession of moves to smaller houses resulted in a couple of HO layouts, one of which was portable.

TRACK PLANNING, HOME ADDITION, AND BENCHWORK

After moving into his current home, Steve began doodling track plans for a new O gauge layout in 1980. He tried many different plans, a "whole book full of them" in fact. Being a New Yorker, the one feature he wanted in the layout was the subway that runs under part of the layout, showing up only along the front edge.

Steve also wanted a four-track main line, but given the size of the room, it was impossible to get the four tracks in without making some really tight turns. So he went with three. The layout was designed and built pretty much as you see it in the accompanying photos and track plan.

With the plan finally designed, Steve started work on the layout from the ground up. Well, actually, he started one story above ground. To accommodate his design he had to add a second level onto his house, including a bedroom, study, bathroom, and layout room.

While Steve was at it, he brought in lots of electrical power for the layout. It's divided into two separate circuits, each protected individually. Steve estimates that there are about 30 amps available in each outlet, but each circuit is protected by a lesser-size breaker. The room has its own air-conditioning, and all windows are sealed. Steve wanted to build the room without windows, but local codes wouldn't allow it. So when he and his wife, Usa, move again, the windows can be opened up and it will become a normal room.

Once the room was finished, Steve started on the layout. Well, actually, he laid nylon carpeting, which wears well but won't make dust. He put plywood pads under the benchwork legs so that when the layout is removed, no damage will be done to the carpeting.

Finally, the benchwork. It's real strong. On several occasions during our photo session, Steve slipped off his shoes and climbed onto the layout to replace a car, adjust a bit of scenery, or add some figures. The benchwork is made of 3/4" plywood on a 2 x 4 frame; it's built for strength.

TRACK, TURNOUTS, AND BALLAST

With the exception of three Right-of-Way switches, all the track is made by

GarGraves. The curves are gorgeous, smooth as silk. In answer to my question concerning how he bends the rail without getting kinks in it, Steve explained that he cut a bunch of plywood circles of various radii. "Let's say, for example, that I want a 30" radius. I bend it on about a 26"-radius circle, and it springs back about 4". Keep it flat and just kind of roll it around. It's not always 100 percent good, but it works most of the time."

Curves on the main line are okay, but when Steve designed the track plan he tried to avoid putting switches on curves. Here's one place where his railroad experience came into play. Steve pointed out that real railroads try to avoid switches on curves because wheels tend to pick the points more easily and derail. Points also wear more quickly on curves.

"When you throw wheel flanges against a point," Steve explained, "you're bending the rail, and there's an increased tendency toward wear. It's just like a grinder wearing away the track. So railroads try to avoid switches on curves unless it's impossible."

I noticed how great his ballast looked, extremely fine and scale-looking, and asked if that was a product he came up with through his HO modeling. "No," Steve replied, "that ballast comes from one of the industries we spot cars for. It's roofing shingle material. I just go in with a bucket and pick up five gallons of it whenever I need it. What's nice about it is that it's nonmagnetic, and it adheres real well. I mix it with white-epoxy resin, a dry powder. Then I add white glue as an activator. When I apply it to the layout it hardens. The only thing I don't like about it is that it transmits sound a lot more than other ballast I've tried; it seems to amplify the sound."

TREES, GROUND COVER, AND STRUCTURES

The layout has a lot of trees and some real nice-looking ground cover on it. Some of the trees are commercially made by Heki, some are handmade from bottle brushes, others are lichen.

As for ground cover, every time Steve and Usa travel somewhere, they keep an eye open for interesting and unusual colors of earth. A lot of it, especially red and orange soils, comes from Colorado and New Mexico. The green ground cover is all commercial material, Woodland Scenics especially. Steve says he never uses a color straight from the bag; instead, he mixes at least two, sometimes more, colors. This gives the ground a nice, variegated look with the lighter colors providing a highlight as though sun were hitting the individual blades of grass from different angles.

But it's not the grass that catches your attention when you come into the layout room; it's the structures. Though the rest of the layout is spectacular, it's dominated



This view of the turntable shows Hudson no. 785 being turned. Even the machine shop in the foreground has interior detail. In the upper right corner is the Last Chance Coal Mine, which is a prime supplier of coal for the few steam engines still on the system.



As the sign says, this is the Broad Street Station subway platform with the local just leaving. The four-car train is fully detailed inside and carries more than 100 figures. The cars were made in Japan and imported by KTM in the early 1960s.



North Chicago really jumps at night! There's lots of activity in this scene, and not all of it is visible until you get down close and look in the windows. All of Steve's structures have interior lighting and detail. Even more impressive, the dispatcher's office in the tower of the depot includes an operating dispatcher's panel.

Steve also runs his trains at scale speeds, keeping them "down to where they should be."

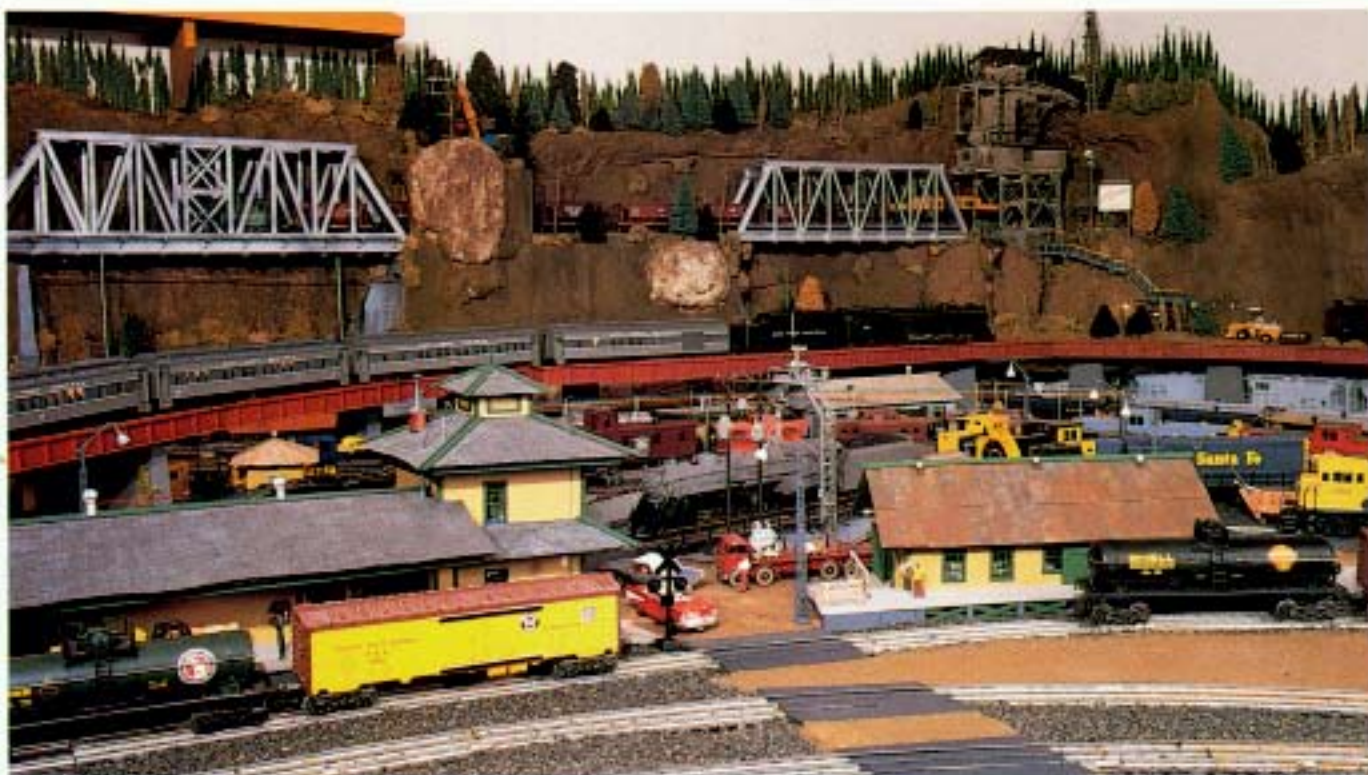
by the city scene to the right and left as you enter. In fact, it was the buildings that impressed me when Steve sent photos of his layout a couple years ago.

With only one exception, a Magnuson kit, the structures are all scratchbuilt, based on buildings that Steve has seen and photographed during his travels around the country. A couple of the more ornate buildings he spotted while having dinner at a restaurant in the old restored train station in Pittsburgh. They were next to the river but on the opposite side, so Steve picked them out with a telephoto lens and photographed them. Though the real buildings are 15 stories tall and the models are only 3, Steve has done a great job of capturing their features.

DETAILS, DETAILS

If you think the exteriors are nice, you ought to see the interiors! Most of the buildings are lighted and have interior detailing. Steve admits to being "kind of an addict for things being the way they should be in real life. I'm a stickler for detail." That doesn't apply to weathering, though. Steve says he's kind of stuck in the middle here. He likes the look of weathered structures and equipment, but he really doesn't want to start spray-painting his trains.

Of special note is the dispatcher's room at the top of the depot. If you look through the window, you can see that the dispatcher's board is operational, at

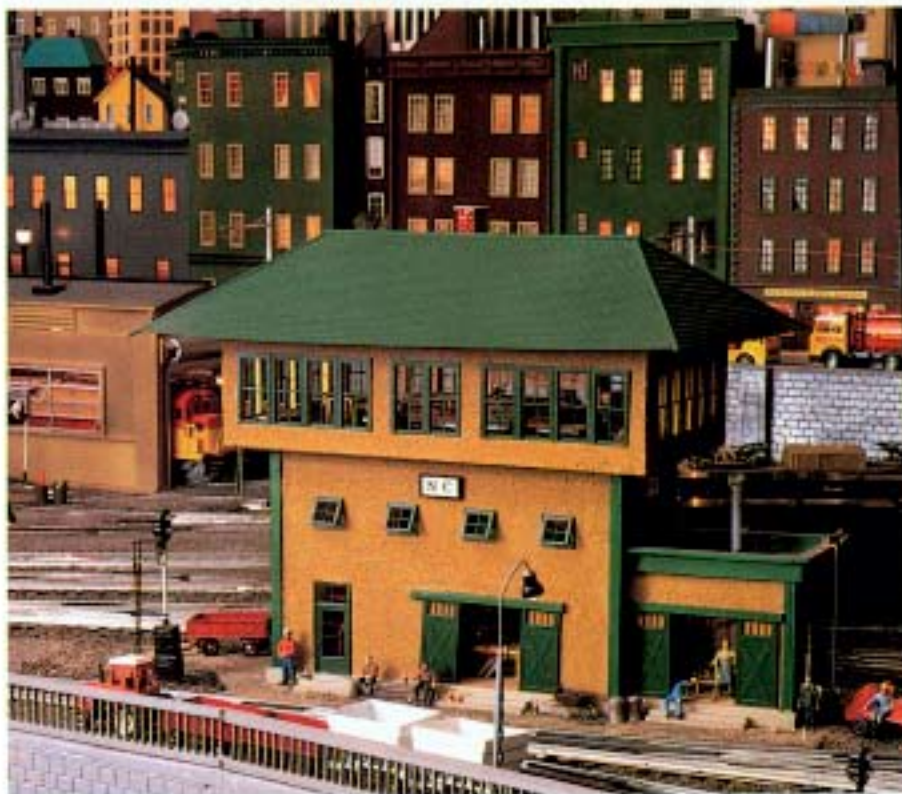


least visually. When a track is detected as being occupied, a lamp lights up, and a fiber-optic tube carries the light to the panel. It's amazing. The second level of the terminal is an office completely furnished, with business machines, desks, paper, etc. It's all there, including pigeons on the roof.

The yard tower, also lighted, detailed inside, and operational like the dispatcher's board, is based on a prototype Steve photographed while traveling in France. He Americanized it a little, but kept the basic T shape because it allowed him to put the yard tracks closer together without making the tower look any less impressive.

Usa has been a big help on the layout, especially when it comes to painting figures (the layout has more than 550 on it). She has also assisted Steve by identifying and pulling wires he can't see when he's under the layout. So Usa gets involved and, according to Steve, she's pretty good about it. Never ecstatic, but "as long as I behave myself she doesn't complain about it. She's never questioned me about buying trains, though she often asks why I want so many. From her point of view, they all look the same."

In addition to lots of figures, the layout has numerous vehicles on it. They came from various sources all over the country, as well as overseas: Italy and Germany, for instance. Some are still produced or new, but many are no longer available. Steve's been collecting them for a number of years, probably starting when he was at Lionel and bought a lot of the autos, mostly Dinky



Top: Many buildings on Steve's layout are based on structures he's seen during his travels in the United States and abroad. But the long building in the left foreground is based on one Steve saw close to home. It's a mirror image of the Goleta depot, north of Santa Barbara on the Southern Pacific. The turntable follows the design of the one in the SP's Taylor Yard.

Above: A structure that definitely was influenced by Steve's traveling is North Chicago Tower, which is based on a tower that Steve photographed in France. It has interior details, including a fully operating track plan showing trains and switch positions. The tower is made from wood that was covered with sand from the sandhouse at Taylor Yard in Los Angeles.



The Pepsi-Cola bottling plant is to the left as you enter the room. The sign on the lower platform in the foreground is fun to watch, since cans of Pepsi continually come out of the 12-pack and into the ice bucket. Steve painted in oil the buildings in the background.

Steve is obviously an operator, but could hardly avoid being something of a collector as well.

Toys, from Madison Hardware. Most are 1:43, some are 1:50, with a very few being 1:48. But all three scales blend in fine with the trains, figures, and structures.

THE BRIDGE

There are lots of bridges on the layout, all of them scratchbuilt, mostly from stripwood and balsa. The bascule bridge is a different matter, of course. That's all sheet metal, folded, soldered, and bolted together. Steve checked out a library book on railroad bridges. When he found the one he wanted, the Baltimore & Ohio's bridge over the Calumet River in Chicago, he made copies of the photos and prepared drawings, modifying specifications as necessary.

The mechanism is a Pittman motor from an old Max Gray O scale locomotive. Steve used a set of reducing pulleys,

actually O ring washers, as the drive belts, stepping it down three times to get to the speed he wanted. Power is transferred to the lift bridge via a screw-drive system, providing extremely smooth, slow operation. It takes 35 seconds for the bridge to raise or lower. Steve used 12 pounds of sand for ballast which allows him to adjust its balance very closely.

The bridge is interlocked so no trains can hit the deck — either the bridge deck or the floor — and the bridge can't be raised without throwing red signals and killing the track four feet ahead of it on either side. It's an impressive sight watching that big bridge slowly raise and lower.

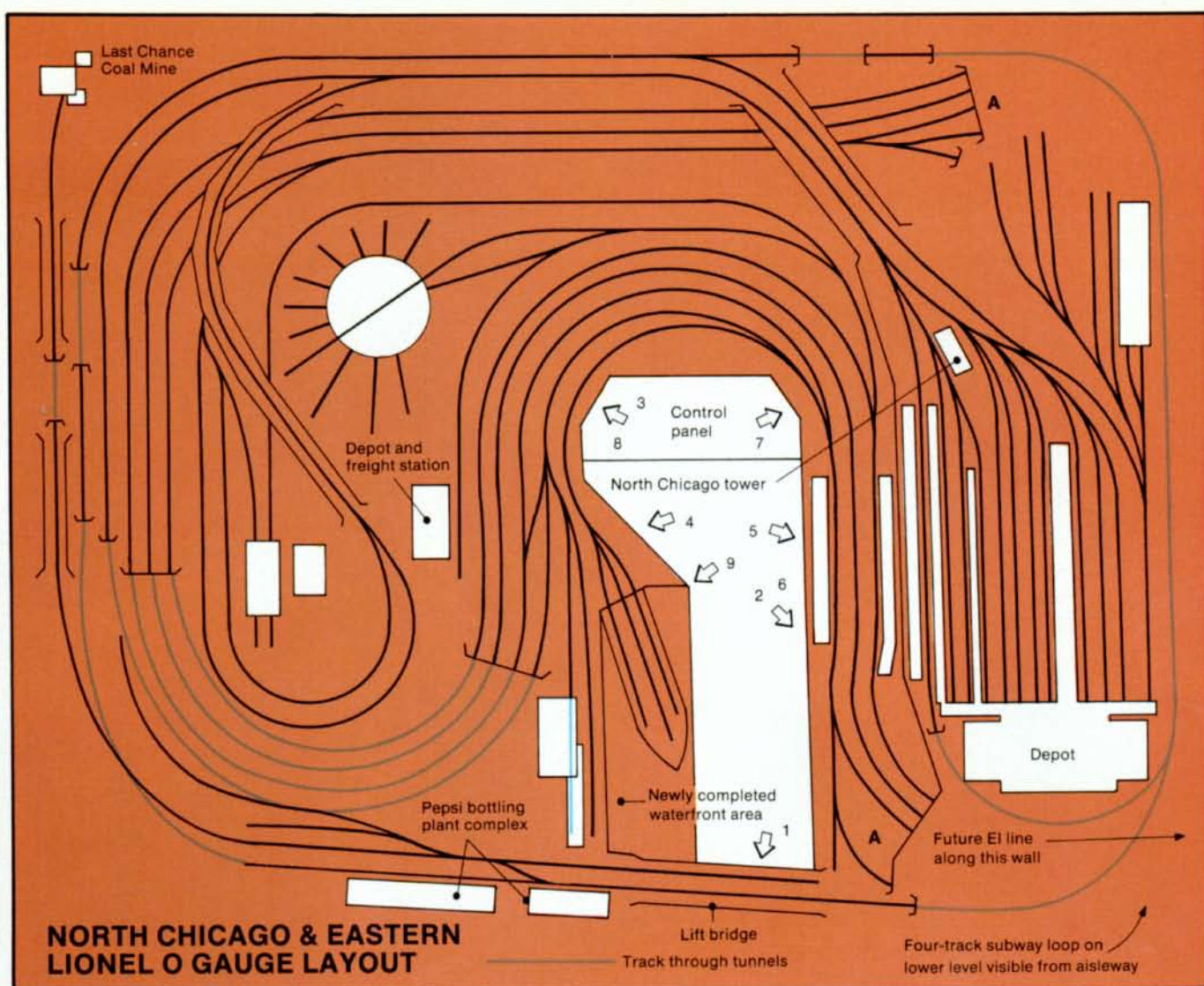
POWER AND MOTIVE POWER

All the main lines contain seven blocks. Power to the main lines is supplied via three ZW Lionel transformers and a fourth ZW for the engine roundhouse area, mine, and subway. Also powering the layout is a 50-amp transformer with a converter designed by Steve's son. Power output is divided into three groups — 6, 12, and 18 volts DC — and is further divided into eight sections, each of which is protected by a fuse. The entire unit is protected with a circuit breaker as well as a heat detector that shuts off the entire unit when it reaches 135 degrees F. During our photo session, after 2 hours the unit proved that it worked as it shut down and had to be reset.

I was a little surprised to see that Steve had a lot of Santa Fe power on the layout, and not much of his employer's road name. He argued that he really does have a lot of SP power; he just didn't have it on the layout. Actually, he runs steam and diesel in a variety of road names, many of them eastern: New York Central, Pennsylvania, and Erie-Lackawanna to name a few.

Steve has also done some kitbashing, including a seven-car train (four motors) of Lionel 2600 cars powered by overhead catenary (four motors), as well as custom painting and building. He's built heater cars because, he points out, the New York Central (his former employer) had a lot of them and "just because they were oddballs." Steve's also constructed two types of track-cleaning equipment. One drags Bright Boy track cleaners around the layout; the other's a motorized unit that uses aluminum oxide disks to polish the rail.

In addition to the principle of avoiding curved switches, Steve's profession has influenced his layout in other ways. For example, the layout uses block signals just like the real railroads do. Though Steve says he has a year's worth of wiring yet to do, when it's completed the system will be completely interlocked and have the same safety features as the prototypes.



Steve also runs his trains at scale speeds, keeping them "down to where they should be. I don't believe in running them at Lionel speeds, so to speak." Nor does he mind pulling long trains, which is the economical way to run them. Besides, Steve reminded us, the Southern Pacific is famous for running them that way. He pulls 30 or more cars per engine and has pulled as many as 50 behind a single GG1, by far his best power, he says.

HIS NEXT LAYOUT

How about the future of the layout? Where does Steve go from here? Well, he wrote recently to tell me he's built a wharf, complete with car ferry, just to the left as you enter the layout room, near the Pepsi plant. Work has also been completed on the Broad St. station platforms; now both sides have access to trains stopping.

The control panel, originally designed to be temporary so Steve could get the trains running, is another big project. There's a spot in the center of the layout

where he'd like to add a building of some sort, probably related to engine servicing, maybe another fueling center. He also wants to add a two-track elevated system that will travel down Broad St. in front of the depot and terminate in the industrial part of town. Other than that, the layout is pretty much the way he wants it.

I asked if he'd ever get tired of the layout and start over, not really expecting a yes. As it turns out, both Steve and Usa, a registered nurse, are thinking of retirement and moving north. At that point, he said, he might build another layout, but he wouldn't use any of the current one.

STEVE'S COLLECTION

Steve is obviously an operator, but he could hardly help being something of a collector as well. He says he "can't go back to the real old stuff; can't afford to touch that." But he does have a few pieces on display near the layout and in his study.

Considering the amount of space the layout occupies, Steve really doesn't have much room to display a collection, even though he says he has 76 locomotives and more than 550 cars, and he continues to buy new Lionel production. His favorites are his Hudson collection, all but one of which are mint. Most of the trains he bought at a discount when he worked at Lionel. But more on that in the next issue. For now, enjoy a superb layout. **CTT**



The author and his wife, Eileen, have opened their home to visitors for 25 years now to share the fun they have with their Madison Central O gauge layout. Phoebe Olmsted photo.

A layout you can visit

The Lionel O gauge Madison Central

A home layout open to the public every year since 1965

BY BILL HOPPING

FIFTY-SIX YEARS later I still remember it clearly. The tree was lit with pointed Mazda lamps in red, green, blue, white, and orange, and had tin reflectors that looked like flowers. Beneath the tree on that Christmas morning was a full circle of O gauge track, and racing around it was a gunmetal gray Lionel 259-E and four assorted freight cars with latch couplers. I knew my dad couldn't afford such an expensive toy (\$6.95) on his \$27-a-week salary, so what other conclusion could I draw? Yes, readers, there *is* a Santa Claus, and he's the one who's responsible for the Madison Central layout!

THE FIRST LAYOUT

In 1939 Dad and I set up the first Madison Central on two 4 x 8 sheets of plywood supported on sawhorses. Its home

was the large dining room toward the back of our house, and this is where it stayed for 10 years. I don't think Mom was ever real enthused about the idea, but she went along with it since the house had a large kitchen where we could eat our meals. Eventually she got into the spirit of the thing, helping with scenery and detailing. In our home, Lionel railroading was a hobby for the whole family, just like the Lionel catalogs depicted.

Perhaps the best thing about that old house was that the main line of the Delaware, Lackawanna & Western was in plain view. I became familiar with numbers, paint schemes, consists, and operations of railroads, especially the DL&W. For example, by observing the prototype I learned that the Lackawanna's engines were 4-6-2s, not 2-6-2s like the Madison Central's five (at that time) no. 224s, but that didn't matter much to me.

Also, at that time the DL&W was all

In our home Lionel railroading was a hobby for the whole family.



This view of the layout shows only a little bit of the Madison Central's motive power and rolling stock. The first MC of the early 1950s was all steam. Dennis Livesey photo.

*In January of
1951 we opened
the [first]
Madison Central
to the public.*

steam. But when Lionel introduced its F3s, Dad and I knew we had to have one. Alas, they came in only Santa Fe and New York Central schemes, so for \$29 we had one custom-painted in DL&W colors. (I was never happy with the color of the maroon stripe, but it's an imperfect world.)

In 1949 we moved to a smaller home, but Dad and I managed to sandwich in the layout and add a 3 x 4-foot roundhouse and turntable extension I had built for a high school shop project. Unfortunately, the circle I cut for the turntable pit was not perfectly round (more imperfection!), and despite valiant attempts to make the table operate, it just wouldn't work to our satisfaction. Finally, we made some mechanical changes (converting it to a manual table), and it worked fine.

Our first public showing was given on the suggestion of a lady who recommended that we charge a small fee and donate the proceeds to the March of Dimes. So in January of 1951 we opened the Madison Central to the public; 195 visitors came to watch the trains run. A year later the number of guests doubled, but that was the end of MC operations for a while as I went off to serve in the Army during the Korean War.

Operations resumed in 1957, when more than 500 viewers came back to see the layout. By now the Madison Central's roster included three 2-8-4 Berkshires,

a Pennsylvania RR Turbine (a real lemon, not long for the railroad), three 0-6-0s, and a few assorted diesels, including a 622 diesel switcher with a mechanical bell.

The final showing in my parents' home was in 1959, when more than 700 guests tromped through Mom's living room, kitchen, and bedroom to view the layout. The Madison Central had made its last run in that location.

For six years not a wheel would turn on the MC. Marriage was on my mind, and Eileen, my bride-to-be, was being carefully educated to the life of a railfan and model railroader. Soon after our marriage in 1961, layout construction began in the basement of our new home. The new Madison Central was going to be—in my mind anyway—the “ultimate” tinplate layout.

THE NEW LAYOUT

Entrance to the basement layout room is through the garage (no more tracking through the house), and viewing capacity is 40 people per 90-minute show. Dad and I designed the 18 x 25-foot layout ourselves, incorporating some track configurations from nearby railroads. We also built the layout, but had plenty of help along the way.

Richard Hill, a self-employed carpenter, got things going by building the

benchwork. Grades on the double-track main line were kept to a bare minimum, and Lionel track was used throughout. Over the years we had accumulated a large supply of track, including O-72 curves and switches. We soldered all rail joints and installed plenty of feeder wires for optimum performance.

A ZW transformer powers the east- and westbound main lines, and a Z-type handles the functional signal system built by Ed and Wayne Ruland. Smaller transformers handle the layout lighting. In all, 5 transformers and 22 trains running over 800 feet of track keep the operators pretty busy during the 90-minute show.

Ed and Wayne also built storage cabinets under the layout and installed foot-high Plexiglas around the layout. (Kids find it hard to resist touching the trains.) Scenery is mostly Mountains in Minutes over screen wire. Thelma Raffensberger used acrylics to paint the backdrop on the smooth concrete basement wall.

SHOWTIME ONCE AGAIN

Five years of weekends and midnight oil went into the construction of the layout before we were ready to show the Madison Central. During this time construction on a larger scale was taking place across the street. On the grounds of the former DL&W freight yard, a new YMCA was being built. Incorporated in the new building would be the restored 1918 DL&W freight house. We decided to make the new YMCA the recipient of proceeds from our Madison Central shows. Our 1965 show entertained 899 visitors, and each year thereafter the number has increased.

During the late 1960s, though, we barely held our own, reflecting the state of the hobby as it competed with slot cars and outer space toys for consumer dollars and resulting toy industry emphasis. Speaking of the toy industry, only 14 miles to the northwest, the huge Lionel production facility, where as many as 1,000 workers had once been employed, was on its way out. The doors were closing behind employees who had received their last paychecks.

It wasn't until the middle and late 1970s that things began to turn around. Area newspapers "discovered" the Madison Central, and attendance at the shows exceeded 3,000 each year. Writers referred to the MC as "a symphony of locomotives," "like something out of Walt Disney," and "like watching the real thing." The increasing publicity made the difference.

While the Madison Central was on the upswing, the opposite was true of the real railroads. Flags were falling everywhere: Erie Lackawanna, Jersey Central, Lehigh Valley, and Reading. Fortunately, Lionel, now located in Michigan, was offering trains that recalled the



One of the author's favorite locomotives: a 1950 Lionel 773 modified to resemble one of the Lackawanna's Hudsons. The tender is from a scrapped 5344. Both photos by Henry Lister.



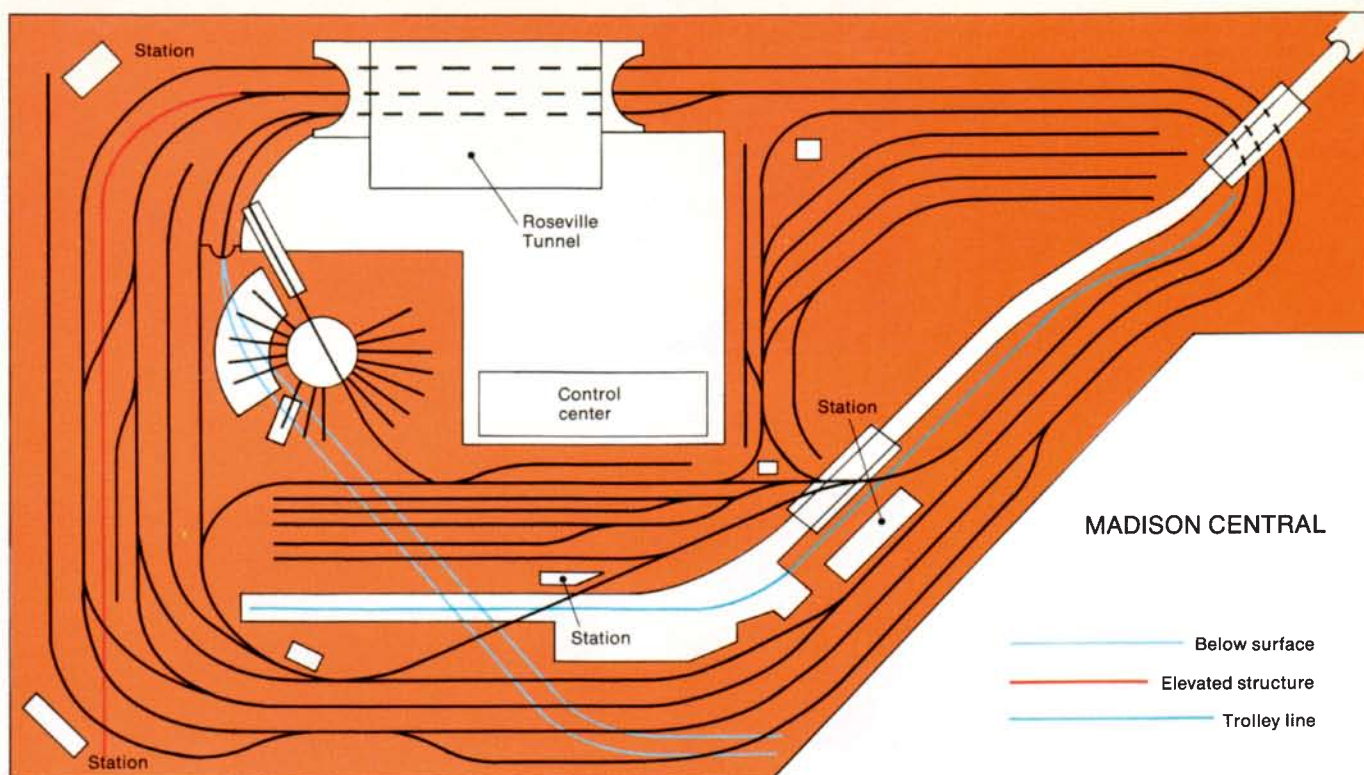
The author built this turntable in a high school shop class. He and his dad struggled to get it to work automatically, but settled for the consistency of manual operation.

great names of railroading, and the Madison Central added most of them to its roster.

Visitors like the variety of names, colors, and eras, and I'm grateful to the friends who are responsible for this variety. One, Kevin Kennedy, transformed a beat-up F unit and caboose into beautiful blue Conrail units. Another, Fred Romin-ski, converted three MPC Pennsy coaches into DL&W open-platform coaches, four MPC cars into Jersey Central blue-and-yellow passenger cars, and a 1938-vintage Lionel 225 into an 800-class Jersey Central heavy Pacific.

The Madison Central's most prized locomotive is a Lionel 773, the 1950 version, purchased new for \$55. Though it performed beautifully, I wasn't satisfied with it, feeling it lacked the niceties of the 1937 version. Lionel executives visiting the Madison Central replaced the 726 tender with a scale one that had been gathering dust on a shelf at the Hillside plant. A call to Keystone Locomotive Works in Ithaca, N. Y., put this beauty on the track toward conversion to a representation of DL&W no. 1151, the locomotive that had represented the DL&W at the 1939 World's Fair.

22 trains keep the operators pretty busy during the 90-minute show.



The Conrail F and caboose were "beaters" custom-painted by Kevin Kennedy. The layout's fully functional signal system was put together by Ed Ruland. Photo by Roger Wilson.

Proceeds after expenses go to the Madison YMCA, which between 1965 and 1987 has been given more than \$40,000.

Another prized possession is from the Hillside-Irvington plant. I'm referring to the last 2600-series six-wheel Pullman cars to come off the assembly line, cars that appropriately are named "Madison."

Yet another favorite came as a presentation from Lionel, but by an indirect route. Thomas Taber, former mayor of Madison, N. J., had been presented with an FM Train Master by the Lionel Corp. in 1956. Tom, an annual visitor to the Madison Central show, had specified in his will that the locomotive be added to the MC's roster. His request was honored when he died at the age of 76.

OPEN FOR VISITORS

That's a look at the Madison Central. If you're in the area around the first of the year, please stop by and visit. We're located at 49 Keep St., Madison, NJ 07940. Space is limited, so you'll need to make reservations (starting in November) by calling the Madison YMCA at 201-377-6200.

Shows are presented from the first weekend after New Year's through mid-March on Friday evenings at 8 p.m. and Saturdays and Sundays at 1:30 and 4 p.m. Each show lasts 90 minutes, simulating a 24-hour day and including a night scene with a thunderstorm and a daylight scene complete with patriotic ending. Children (with adult supervision) are given front-row privileges. Suggested contributions are \$2.50 each for adults and \$1.25 for children 5 through 11. Proceeds after expenses go to the Madison YMCA, which between 1965 and 1987 has been given more than \$40,000. CTT



A New York Central Hudson rolls into Avis with a string of streamlined passenger cars trailing her. The entire consist of the train is from Lionel; the silver streamlined passenger cars have been lettered for the New York Central.

Pennsy and New York Central meet on this O gauge “hi-rail”

Track and trains are tinplate; scenery and structures are scale

BY HERB LINDSAY
PHOTOS BY ANDY SPERANDEO

MINE IS NOT a “typical” tinplate layout. It’s what has over the years come to be known as “hi-rail”—toy trains in a scale setting. The layout looks like a scale layout within tinplate limitations: three-rail (GarGraves) track, large couplers, and oversized wheel flanges. To retain the scale look, I purposely avoid tinplate accessories. All the signals, buildings, lineside detail, scenery, and people

are what one would expect to find on an O scale layout. As you read on, you’ll begin to discover the source of the inspiration for the scale side of my layout.

GROUNDWORK

The railroad occupies a 26 x 25-foot space in a 26 x 25-foot room in the basement, in addition to an 8 x 16-foot workshop area. My wife, Dagmar, kids me that the rest of the house was built around this room. To that I plead

guilty. When we had the house built, I specified that a 26-foot-long steel beam be used, eliminating the need for the steel posts found in most basements.

The railroad runs around the walls of the room with a center section where the lower and upper levels connect. A duckunder provides access to the controls and aisles. An earlier table layout convinced me that easy access to all the track was essential for enjoyable operation.

The layout is set in central Pennsylvania (Clearfield to Williamsport—see



If the bluffs were a little higher in the background, you might mistake this scene for the Pennsy's Horse Shoe Curve. Wide-radius curves show off the Williams K4 and mix of Lionel and Walther's passenger cars to their best advantage.

map inset to track plan) sometime in the mid-1950s. I chose this area because both the New York Central and the Pennsylvania ran through there, and I wanted to run equipment from both railroads. And like so many others, I chose the mid-'50s so that both steam and first-generation diesels (F units, Geeps, and switchers) would be appropriate on the layout.

The track plan is a modification of a John Armstrong plan shown in a 1971 *Model Railroader* article. I wanted a layout that would allow for continuous running, which is the lower-level NYC line, and a single-track Pennsylvania line that would require operator involvement. Although Williamsport, the last section of the PRR line, is still to be built, I have been well satisfied with the overall track plan.

The benchwork generally follows the L-girder method popularized by former MR editor Linn Westcott. More than 2,000 screws now hold the benchwork together, and when the last upper-level section is completed the number should exceed 2,500. The main line features 40"-minimum-radius curves, ballasted track, and painted rail. Except for a few handmade curved switches where required, GarGraves no. 6s are the standard.

ELECTRICAL

The controls are designed and located for the convenience of one-person



The tower operator at Clearfield has given the Pennsy K4's engineer clearance to proceed on down the main line. Many of the structures on Herb Lindsay's hi-rail layout are scratchbuilt or kitbashed. This tower is from Suydam.



A passenger train pulls into Clearfield as a coal drag heads out. The Williams switcher sits on the siding, waiting for the main line to clear.

To retain the scale look, I purposely avoid tinplate accessories.

operation. However, when Williamsport is completed timetable operation with two or three operators will be possible. Separate controls are provided for the New York Central line and a local cab for Avis switching. The Pennsylvania RR line is controlled from Clearfield and, eventually, Williamsport.

Six types of electrical circuits are used to control the railroad:

- AC power circuits.
- DC track-switch control via capacitor discharge unit.
- DC track-switch direction lamp circuit.
- AC track signal-lamp circuit.
- AC electromagnet uncoupling circuit.
- AC block-occupancy circuit.

The AC circuits use a common return, while each DC circuit has its own return connection. The power sources are numerous Lionel transformers.

Currently there are two main control panels, each with its own track diagram. There are two cabs per panel, and each cab is controlled from a Lionel ZW (275-watt) transformer. New York Central trackage is controlled from one panel, Pennsylvania trackage from the second.

Except for the throttle, all controls are mounted on the track diagram in their respective positions.

Block control is from double-pole double-throw (DPDT) center-off switches. Track-switch control is activated by GH Products illuminated push buttons. The capacitor-discharge unit supplying power to twin-coil switch machines is a beefed-up Peter Thorne Quick-Recovery CD unit. Block occupancy lights are red grain-of-wheat bulbs. The train wheels complete the circuit — made possible by the three-rail track. Uncoupling is done by electromagnets from Elton Offenbergh of Erie, Pa., and controlled from Radio Shack miniature push buttons.

Each of the two mainline control panels has two rotary switches, one for each cab. The purpose of these rotary switches is to allow a cab to release its blocks to any other cab. In this manner a train can run anywhere under control of the same cab.

There is a local cab at Avis controlled by a Lionel TW transformer. This cab can be activated by either of the two NYC cabs. The track diagram with its various controls is a future project.



The Pennsylvania and the New York Central meet on the high iron here. Diesel units pulling old-fashioned heavyweight equipment, as on the Pennsy train, and steam pulling streamlined equipment, as on the NYC, were common during the steam/diesel transition period that Herb is modeling.

Marnostat throttles are used at Clearfield because of space limitations in the aisle. The power, set on maximum, is taken from Lionel ZW transformers and fed to the Marnostat throttles. DC power to the control panel is from two capacitor units from Al Ruocchio, a past president of the Train Collectors Association. I use the DC power for remote-control uncoupling by the diesel switcher assigned to Clearfield.

All the switches have been wired to provide them with a nonderailing feature like Lionel's. Again the three rails make this possible. One feature I have used in wiring the switches, which Lionel switches don't do, is power routing. Sidings and "X" blocks take the power from the direction of their track switch. Power routing makes operating complicated trackwork a pleasure, not a nightmare.

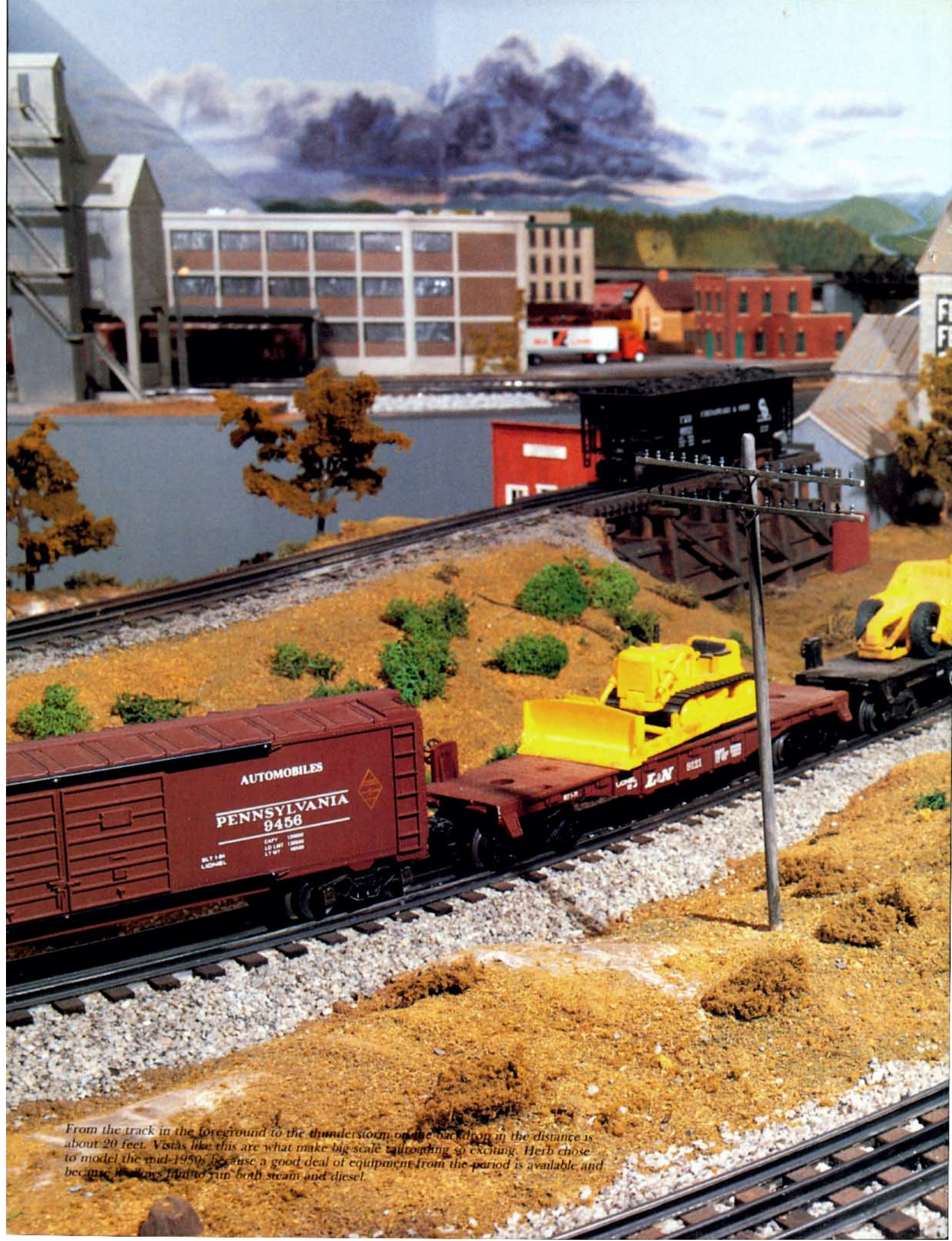
Don Reschenberg's wiring articles in the August, September, and October 1962 issues of *Model Railroader* were a great help. This was my first year reading MR, and these articles were like a bright light being turned on.

SCENERY

The scenery is also *Model Railroader*-inspired. I used Hydrocal plaster to cover the landforms and then zip-textured over that. Zip-texturing was a scenery method pioneered by Linn Westcott in

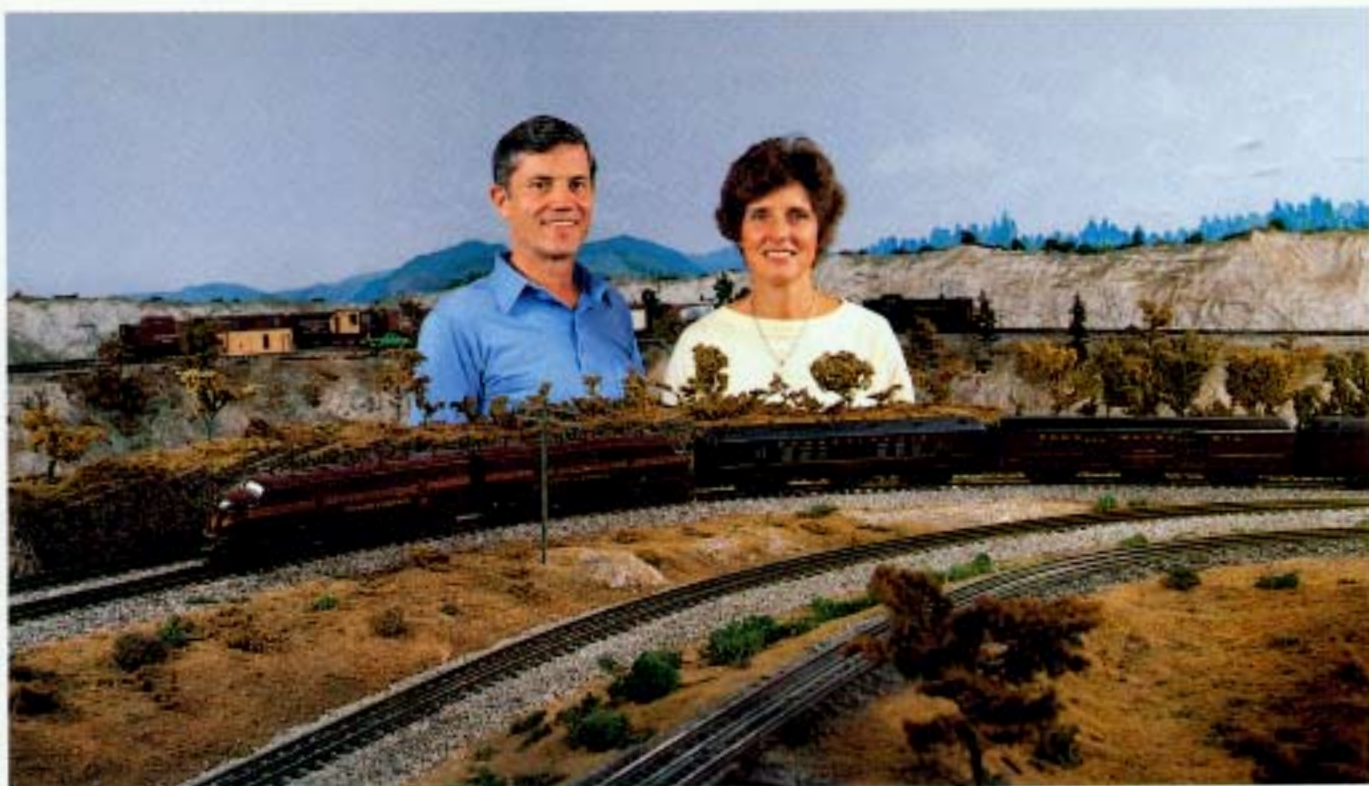


A Lionel NYC Hudson takes on coal and sand at Clearfield. This scene is in the lobe of the layout, where trains are turned from one direction to the other. This industrial and maintenance area is directly behind the passenger station.



From the track in the foreground to the thunderstorm on the backdrop in the distance is about 20 feet. Vistas like this are what make big scale railroading so exciting. Herb chose to model the mid-1950s because a good deal of equipment from the period is available and because it allows him to run both steam and diesel.





Herb and Dagmar Lindsay in the middle of their creation. Herb built the railroad; Dagmar has painted the backdrop and done some detailing on the layout. They're a great team and were wonderful hosts during our visit.

Model Railroader articles were like a bright light being turned on.

the 1950s. Today most of the zip-texturing has been covered by Woodland Scenics foam. I made the rocks from cork and Hydrocal poured into molds made of rubber or crumpled tinfoil. The concrete tunnel portals are also cast Hydrocal.

Trees are my area of originality. After realizing I could never afford enough commercial trees, I was fortunate to discover that the tips of North Carolina blueberry bushes provide an excellent tree structure. Using Walthers Goo I glue on Woodland Scenics foliage and then apply hair spray. Thus far the layout has more than 100 of these trees.

Planting the trees is simple. I drill a small hole in the bottom of the trunk, press in a 2½" length of wire, and drill a corresponding-size hole in the scenery. A small amount of Goo is placed on the bottom of the trunk, then the tree is pressed in place. The light weight of the tree allows the wire to balance the tree in an upright position.

Dagmar painted the backdrop by using oils to color white oil-base paint. Her most recently completed area features a gathering thunderstorm.

LOCOMOTIVES AND CARS

The locomotives are from both Lionel and Williams, freight cars are Lionel and Weaver, and passenger cars are from Lionel and Walthers. As you'd expect, most of the equipment is painted for the New

York Central and the Pennsy. Everything uses Lionel operating couplers.

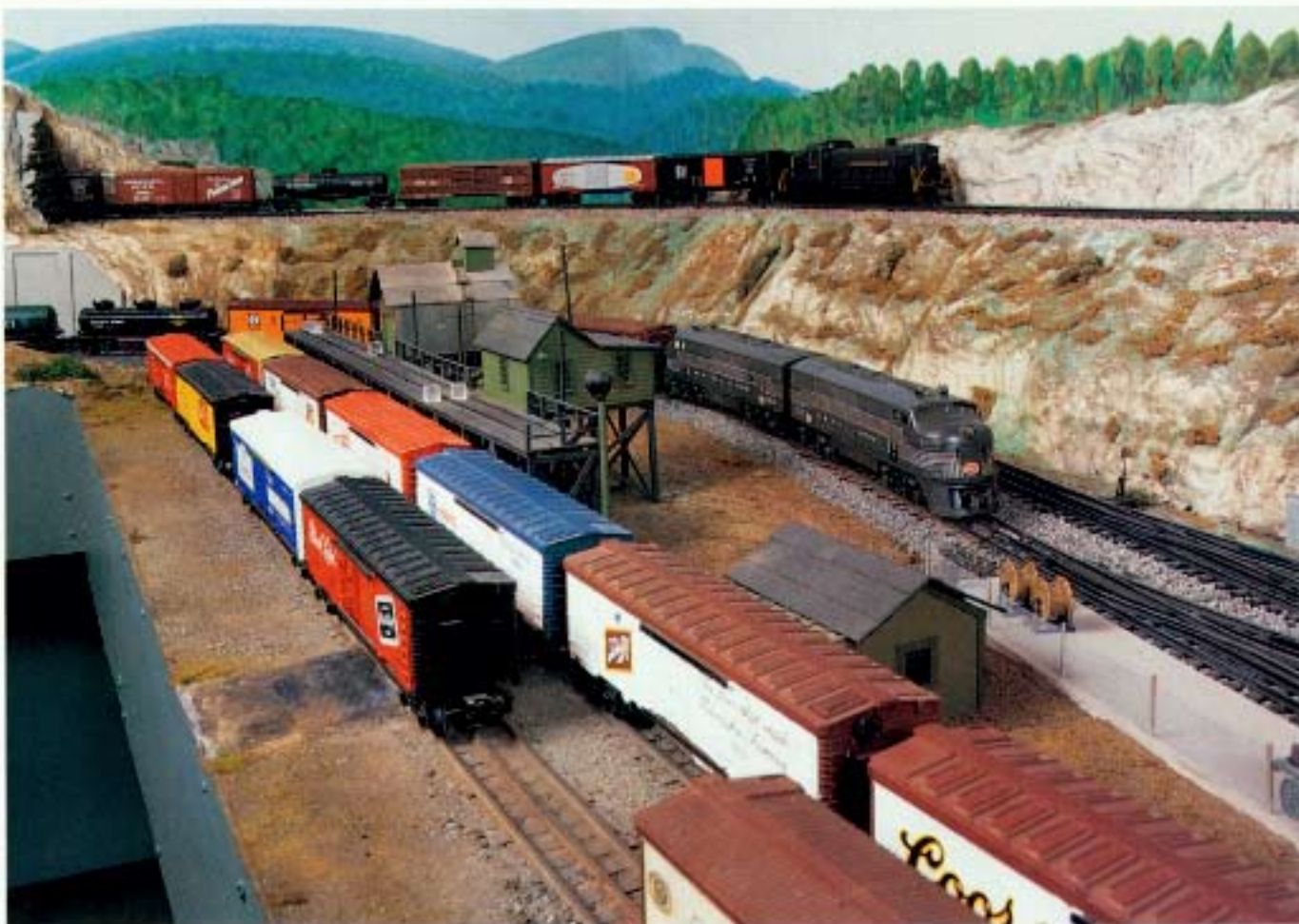
Most of the freight cars are tinplate width. When it came to the coal hoppers, though, I couldn't resist the scale Weaver cars. As long as I run them as a unit, their scale width doesn't clash with the narrower tinplate equipment.

All of my NYC passenger equipment is Lionel that I've fitted with BC Models diaphragms. The PRR equipment is a mixture of Walthers and Lionel fitted with Keil Line operating diaphragms. Also included is a PRR express boxcar from Main Line. I have used Lionel trucks under the Walthers mail, combine, and coach cars. There is also a Walthers business car with a pair of their six-wheel trucks; meanwhile, a 60-foot Walthers baggage car is under construction.

STRUCTURES

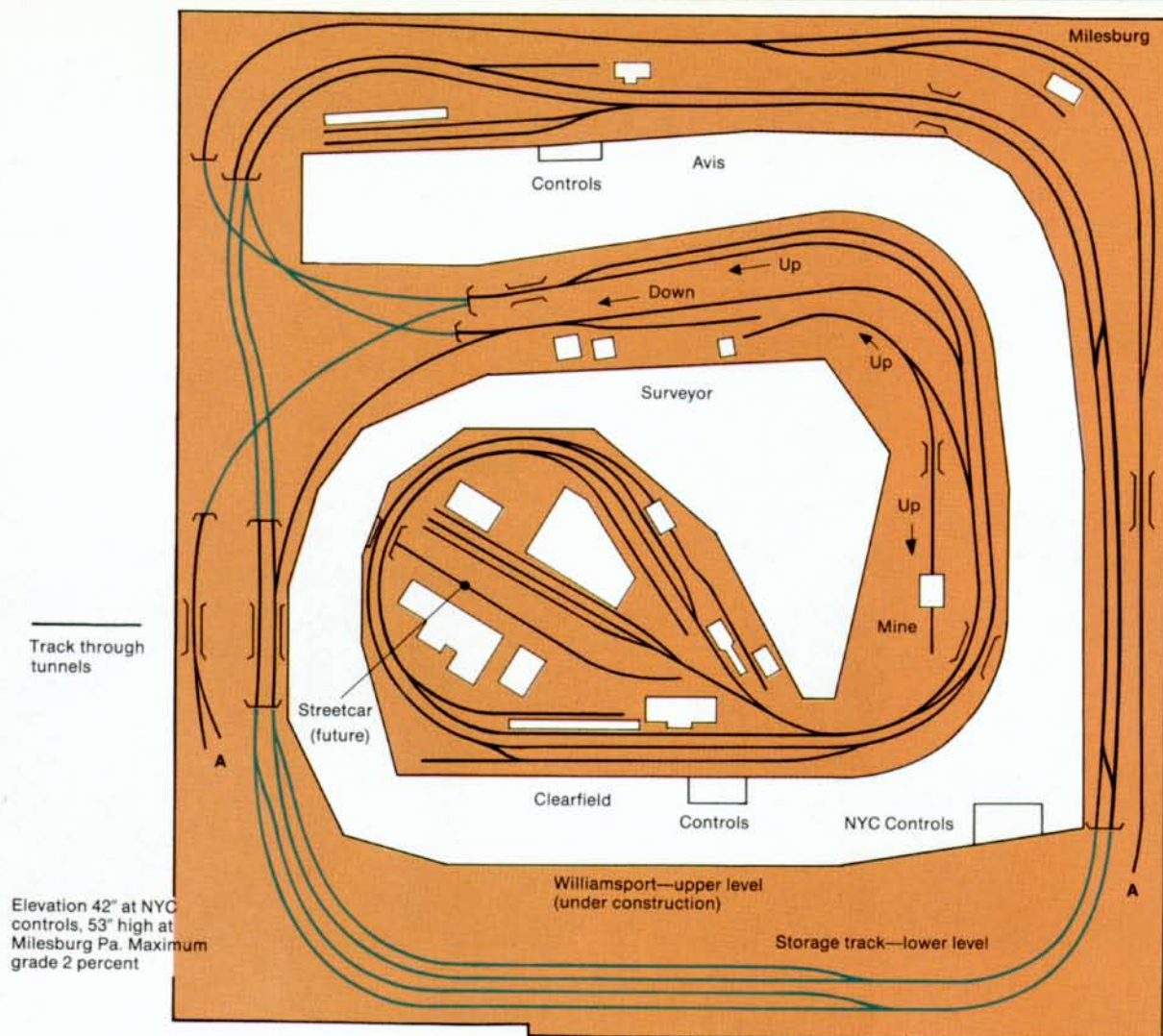
Thus far I have constructed 31 structures for the layout. Three of the buildings are scratchbuilt from my own designs. The rest are built from articles in MR. Dreyer Feed & Grain was built from plans in Kalmbach's *Easy-to-Build Model Railroad Structures* (out of print).

My latest scratchbuilding effort was an Eastern Shingle cottage from plans in the January 1987 issue of MR. The most difficult part of building the cottage was cutting roughly 2,500 shingles from thin strips of walnut veneer. Four



The icing platform at Avis is busy loading ice into refrigerator cars in dedicated beer service. We were pleased to see that our hometown Schlitz and Pabst reefers were prominently represented. **Below.** And here's the little house that started it all. Herb sent us a photo of the house he had built based on plans in Model Railroader. We asked to see photos of the rest of the railroad, and we were impressed. Herb is justifiably proud of the house, but we think the railroad (house included) is nothing short of terrific.





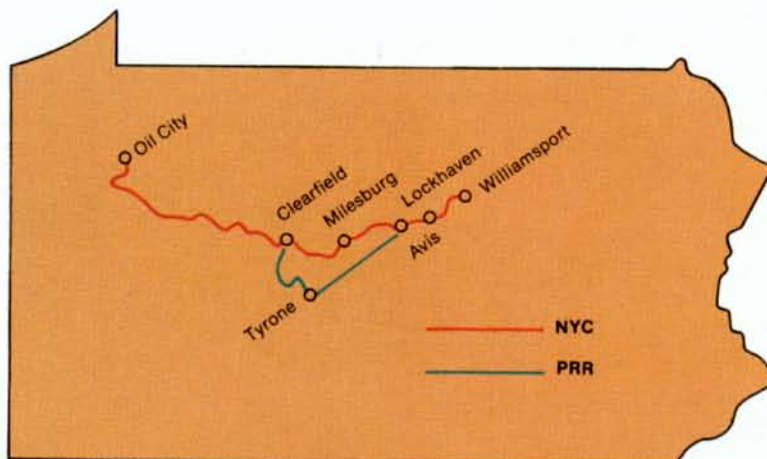
of the rooms have individual lights controlled from switches mounted on the fascia. Dagmar did the plantings and hanging baskets.

FINISHING TOUCHES

I have been building the railroad since the fall of 1974. All the railroad track and benchwork is completed except for Williamsport (upper level), and I'm now working on that benchwork. The city of Clearfield is blocked in; however, a number of buildings are missing, along with much of the detail scenery. As planned, Clearfield's main street will have a streetcar line.

Although the layout construction has been an individual effort (Dagmar's painting excepted), I have been fortunate to have the help of many friends. Rus Boulware has kept a number of my F3s running when I thought their end had come. Eric Brunger of Buffalo, N. Y., has provided helpful prototype information. My membership in TCA has been especially enjoyable and a real help in my model railroad activities. Oh, yes. MR has also been helpful. CTT

Herb Lindsay's NYC & PRR Hi-Rail Model Railroad





Layout owner Phil Klopp in the center of his around-the-walls layout.

A postwar boy's dream come true



Phil Klopp's magnificent O gauge layout is everything we dreamed of as youngsters of the 1950s

It's a hot night and the doors are open at the Lionel station, giving us a glimpse of weary travelers and the observation end of a train awaiting departure.

BY DENNIS A. LIVESEY

IT WASN'T visions of sugar plums that cavorted through the Christmas dreams of postwar boys; instead, their restless nights were filled with the sweet agony of hoping that Christmas morning would yield beautiful orange, blue, and cream boxes emblazoned with that magical name — Lionel!

Their dreams were also of — THE LAYOUT. Boys everywhere spent hour after hour poring over those magnificent catalogs with beautiful pictures

showing trains conquering mountains, crossing broad rivers on steel truss bridges, and serving industries along the three-rail right-of-way. Those vivid images naturally led young engineers to dream of bringing those pictures to reality in their own basements. Those were my dreams too.

So my interest was piqued when I read about Phil Klopp and his Lionel layout in the Lionel Collectors Club of America (LCCA) magazine, *The Lion Roars*. There were some mighty good things shown in those photos: a finished room, nice track

plan, and scenery. Having seen several Lionel layouts of the Plywood Central variety, I was most interested in seeing Phil's layout in person.

FIRST IMPRESSIONS

By the time I caught up with him, through mutual friend Ron Hollander, Phil had built yet *another* layout. Phil finishes his layouts (he's built many) in blind-ing speed. "This one took 9 months to finish. If a layout takes longer than a year, I start to get obsessive about it and

start taking days off from work." Work in this instance consists of ownership with his wife Linda of Hobby Hangout & Craft Center, a fine, all-around hobby shop located in Easton, Pa.

As I descended to the lower level of Phil's home, I caught tantalizing glimpses of trains through the railings of the iron spiral staircase. And then, there I was, standing in the middle of a completely finished, around-the-room layout. There were mountains, tunnels, and a zillion trains! My fifties' dream layout had come to life!

Filling a 25 x 30-foot basement, the layout is 44" high with 42"-minimum- and 72"-maximum-diameter curves. In designing and building the layout, Phil accomplished exactly what he had set out to do: "Create the fantasy the catalogs showed" and make the trains do "what Lionel trains were born to do — entertain both adults and children alike." As far as I'm concerned, he hit it right on the nose.

DESIGN CONSIDERATIONS

Phil has been building train worlds since he was a child. In fact, there have been so many he can't put a number on them. So with this backlog of experience, coupled with ideas from books such as John Armstrong's *Creative Layout Design* (Kalmbach), Phil set out to design and build his layout. The track plan is meant to avoid what Phil regards as the pitfalls of many toy train layouts: 4 x 8 platforms with all the trains and accessories heaped in a pile. Throughout the planning and building stages he balanced the use of scale techniques with toy train compromises to achieve that "like-the-catalog" look. It's the use of these that makes the layout such a success.

Phil decided upon an around-the-room configuration, allowing the trains to travel through a series of scenes. An advantage of this design is that he didn't have to finish the far side of structures and scenery. One design mistake that he says he won't repeat is making the multiple switch lead to the yard so inaccessible.

Before starting to build the layout he put in a drop ceiling and painted the seamless walls blue. "Next time, I want to use mirrors and a scenic backdrop to increase the apparent size of the railroad." He also intends to use a technique long known to mainframe computer users — troughs in the floor for the wiring. This will make the task of wiring much easier.

OTHER ELECTRICAL CONSIDERATIONS

Phil's overhead electric line is the fulfillment of Lionel engineering designs over 40 years old. Innumerable times I've read of the capability of the vaunted Lionel GG1 of taking its power prototypically from overhead catenary. But



We're inside looking out through the doors of a Korber roundhouse toward no. 2020 steam turbine on the turntable, no. 2035 on the left, and a Bob Gale-modified Reading no. 2124 on the right.

In his layout Phil has created "the fantasy the catalogs showed."



On the high line a Pennsy (Williams) passenger train rolls along under real, live catenary. Down below, it's "new" meets "old" as custom-painted Lehigh Valley F units meet a New York Central Hudson.



Things are getting heated up at the Hejran Brewery! Phil installed lights and a smoke generator in the building to simulate a fire and added flashing lights to the fire engine. That's real water coming out of the fire hose.

how often has it actually been done? Lionel had ideas of supplying overhead and had mock-ups made but never put them on the market. Pittman put out a catenary system in the fifties, but it suffered from the wire not being stiff enough.

Phil solved the problem by soldering N scale rail together and stringing that on the very adequate Pittman poles. However, having to solder hundreds of teeny pieces of N scale rail together to make more than 125 feet of catenary undoubtedly had something to do with his decision to use modified Märklin catenary next time.

Control is by a block system with power coming from Lionel Z and ZW transformers. Not being familiar with the

prewar Z, I asked him why he didn't use all ZWs. "Power," he replied. "The Z puts out 25 volts and as much as 10 amps. I can run two twin-motored GG1s, a dual-motored F3, a likewise-motored FM, and a GP9 — nine motors all at once, with no problem." Now *that's* power!

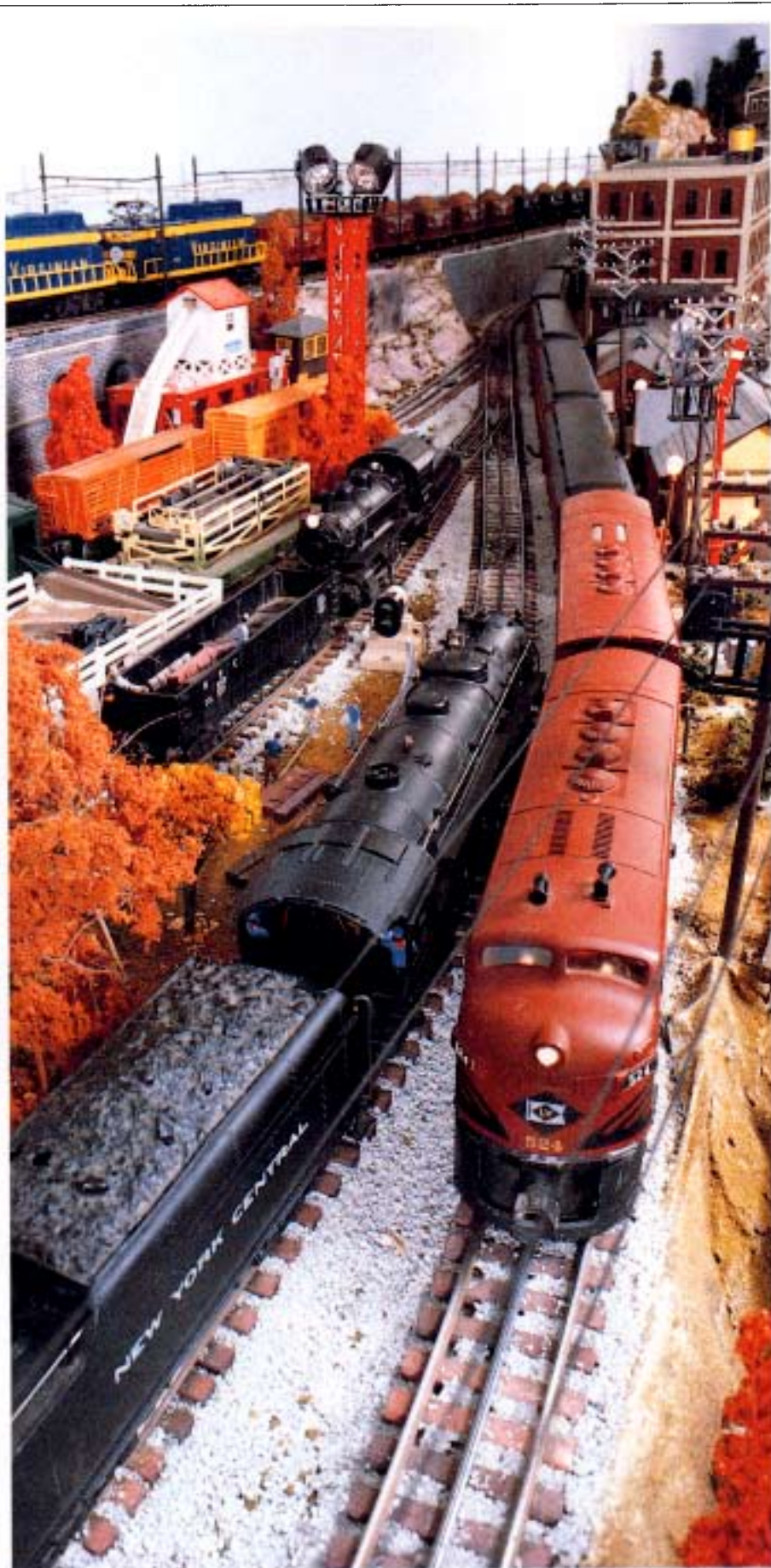
MOTIVE POWER ADVANCEMENTS

While most of Phil's engines are basically 1950s technology, he has updated some quite thoroughly. Some diesels produce excellent Tri-Tech sound effects along with flashing safety lights. Being a steam snob, I never regarded diesel effects as anything to spend money on.

But I took notice when Phil put his Reading FM in "idle" with the bell ringing. Those were sounds I had often heard in the background (but never really appreciated) on all those pleasant days and nights chasing real trains. Then he cranked it into "run," and the train started out ever so slowly. He increased power even more, and the room was throbbing (almost) with the sounds of railroading. I am now a convert to diesel sound.

Phil plans to expand the use of sound effects from the engines and circus to include the roundhouse, machine shop, slaughterhouse, and track gang.

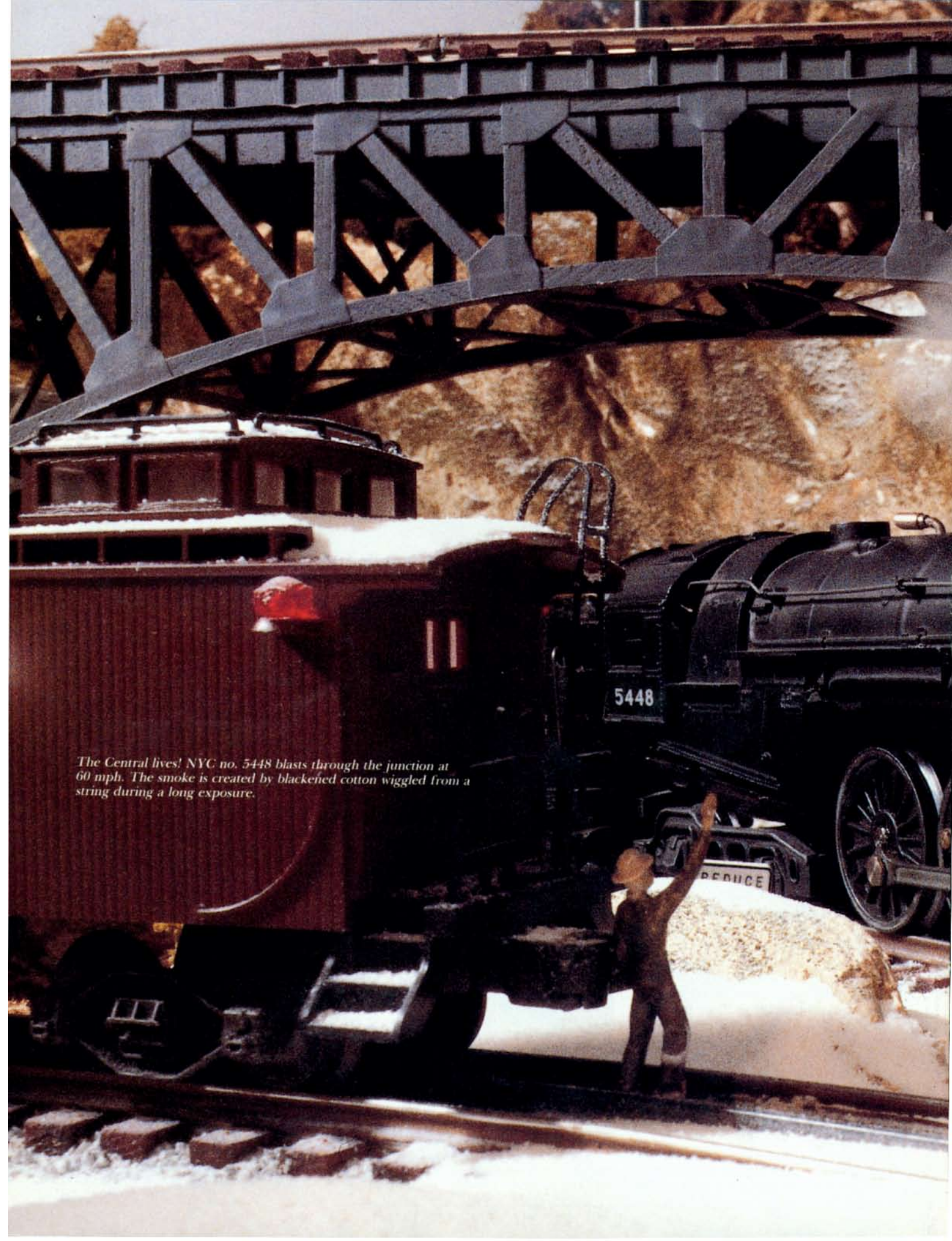
Art Boynton's Scaled Tin Rail electronic E units have also been installed



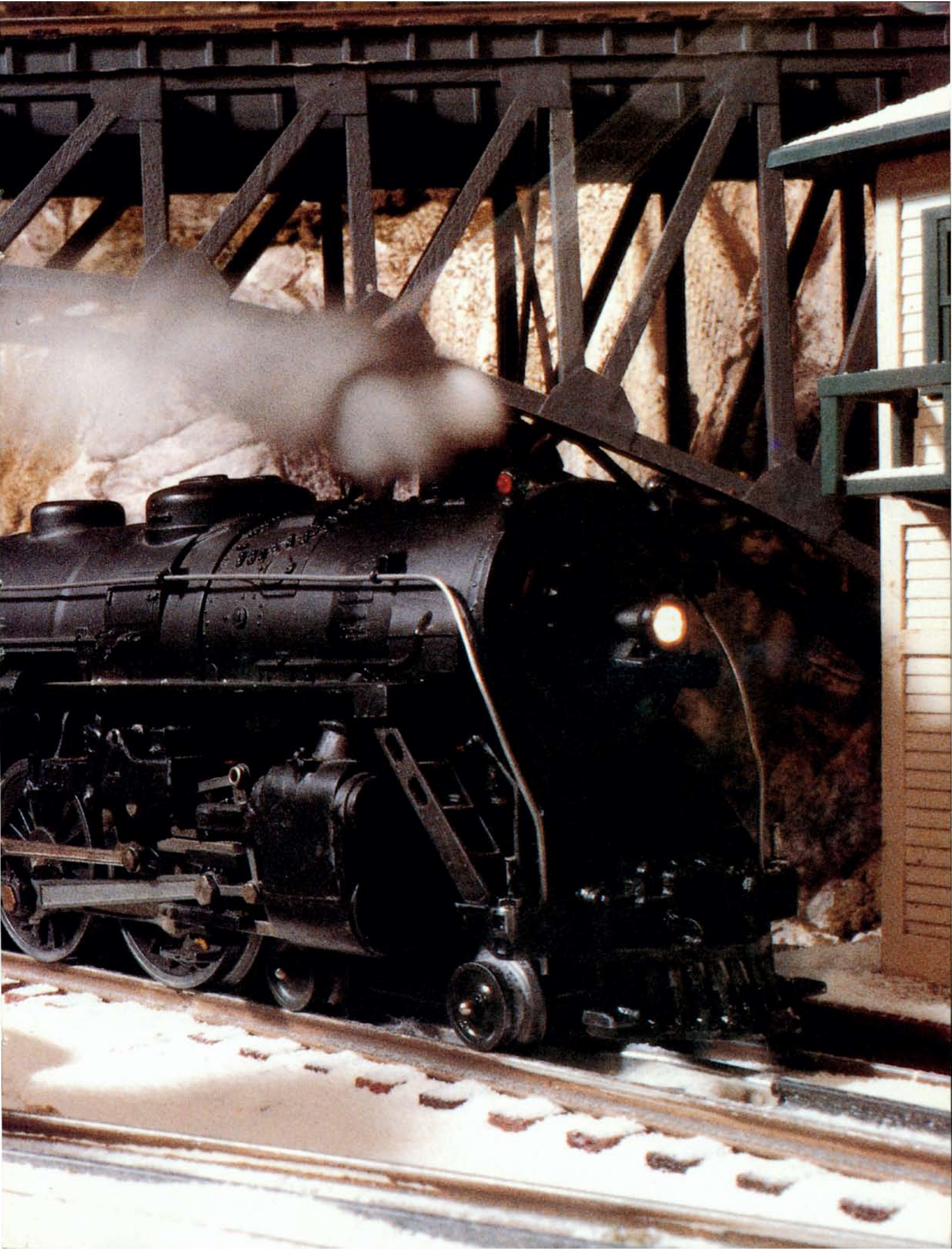
with great success. They eliminate two of the worst bugaboos of the old E units: accidental tripping and the infamous buzz. The greatest convenience, however, is that after about a second of being off, the unit starts in forward — ideal for running those huge multiple-engine lashups Lionel operators are so fond of.

Virtually every postwar accessory is represented on the layout. Some, such as the newsstand and crossing gates, have had their original motors replaced by heavy-duty ones to withstand the hard use they receive. Visitors get a kick out of working the gantry crane; the sawmill; and the milk, cattle, barrel, lumber, coal, and you-name-it loaders. In addition, the

Phil pays attention to detail. Note the engineer and fireman in the cab of the Hudson. The Virginian Rectifiers are running on real overhead power.



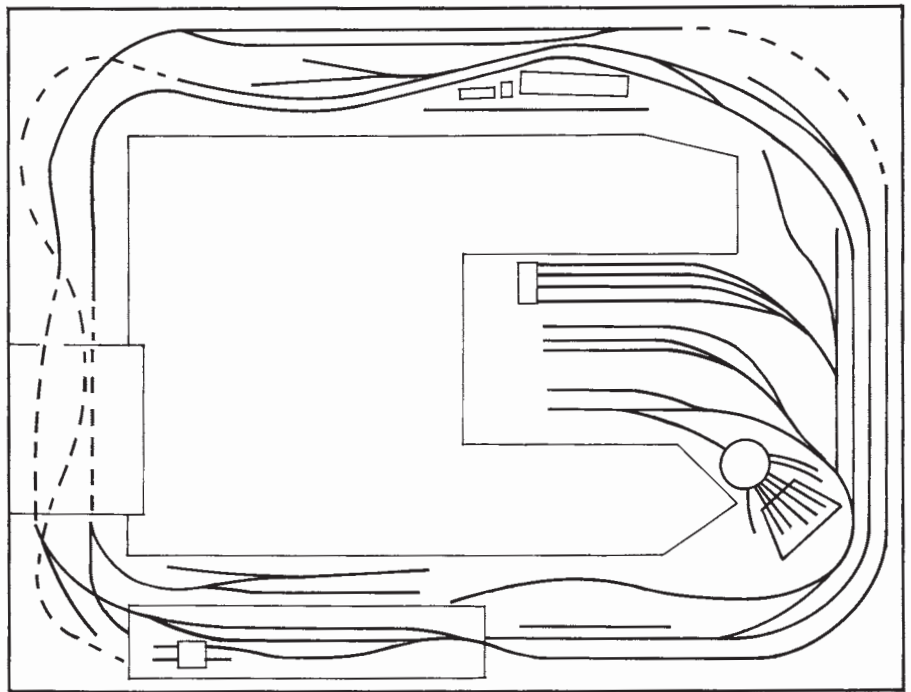
The Central lives! NYC no. 5448 blasts through the junction at 60 mph. The smoke is created by blackened cotton wiggled from a string during a long exposure.



animation effects of the circus' Ferris wheel, the billboard hanger, the playground swing, the donkey kicking, and the real waterfall are treats to all who find them.

I was eventually able to tear myself away from admiring the layout long enough to take some photos. The ensuing months brought more visits and better photos. Then came the news that Phil and Linda were moving. The anguish of that news was tempered only by the knowledge that their new house is being built with particular attention paid to the train area. (Architect: "Let me get this straight. You want a bigger basement in your new house for a *what* room?") You can trust your reporter to tell you all about it when Phil gets the layout done — and that probably won't be long from now. CTT

Phil's layout is built entirely around the walls of his basement and with a yard peninsula in the middle.



We're alongside the Mississippi River as the Milwaukee Road's classic Hiawatha races through the snow on its way to Chicago. We found out about Phil Klopp when the author submitted this great shot to Model Railroader Magazine's photo contest.