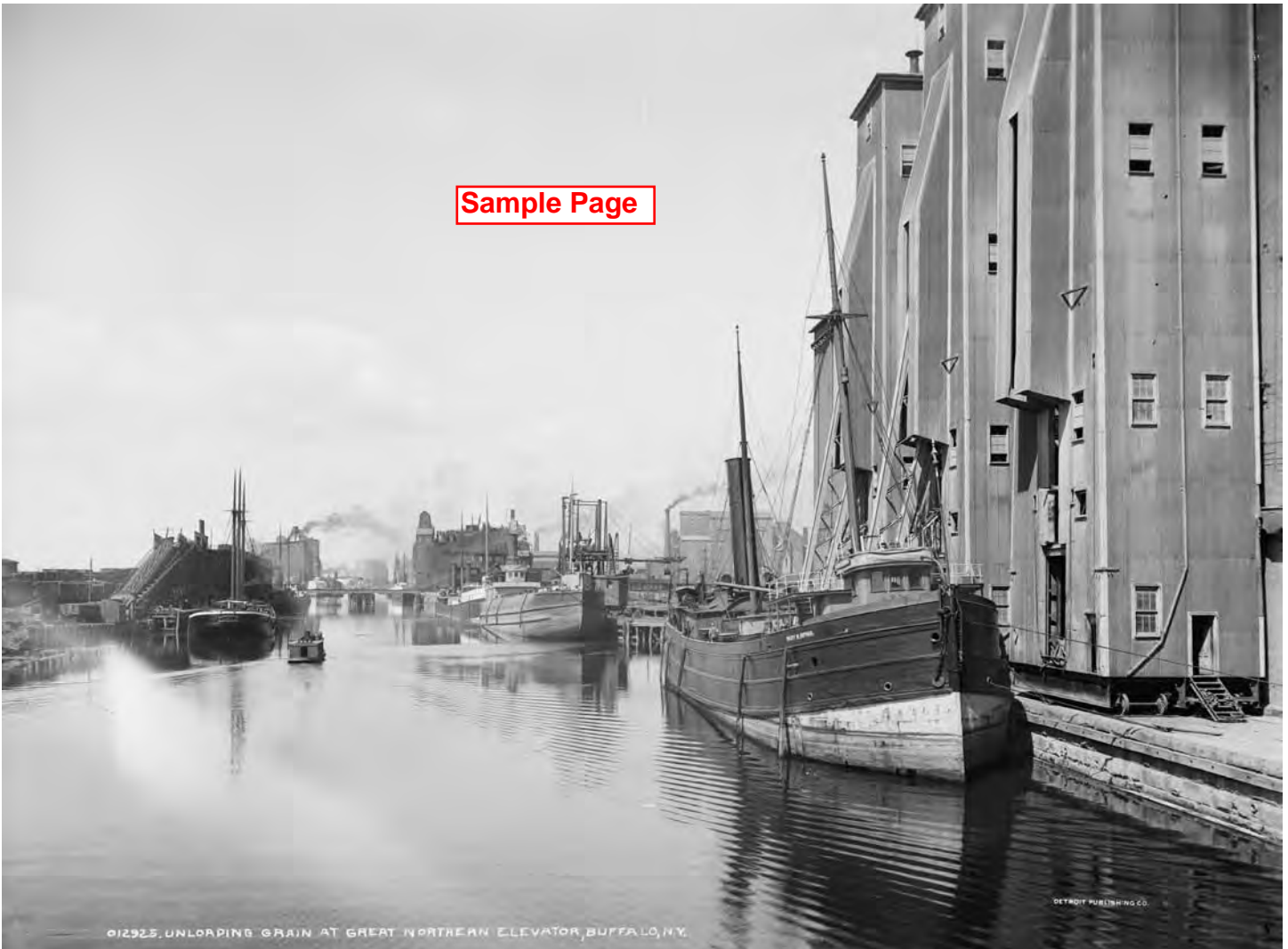


Sample Page



Things were busy along the Buffalo, New York, City Ship Canal early in the last century. The incoming-grain traffic for the various cereal-makers and bakers was brisk, and coal traffic was developing. Here, on the right, the marine legs of the Great Northern elevator empty the steamer "Mary H. Boyce." The towers sit on standard vented railroad wheels allowing them to move along the 300-foot house containing the storage bins. At the R&P Dock in the center background the Brown Hoist is much more visible as it has finished unloading the steamer "Andaste." (*American Memory collection*)

Buffalo, New York: *The B&O Gateway to the Great Lakes and Canada*

By George Kovalchick

If a historian of the Baltimore & Ohio Railroad were asked, "What was the primary purpose of the Buffalo Division and what was its primary contribution to the owner?" the typical reply is usually about a mythical northern route, crossing Pennsylvania near the centerline of the state, that is known as the Rainbow Route.

There are nearly no records left of the fabled Rainbow Route plan in official B&O documents, nor did the B&O invest any money preparing or building the new route. Blame for this is almost always laid

to the Great Depression and the collapse of the stock market.

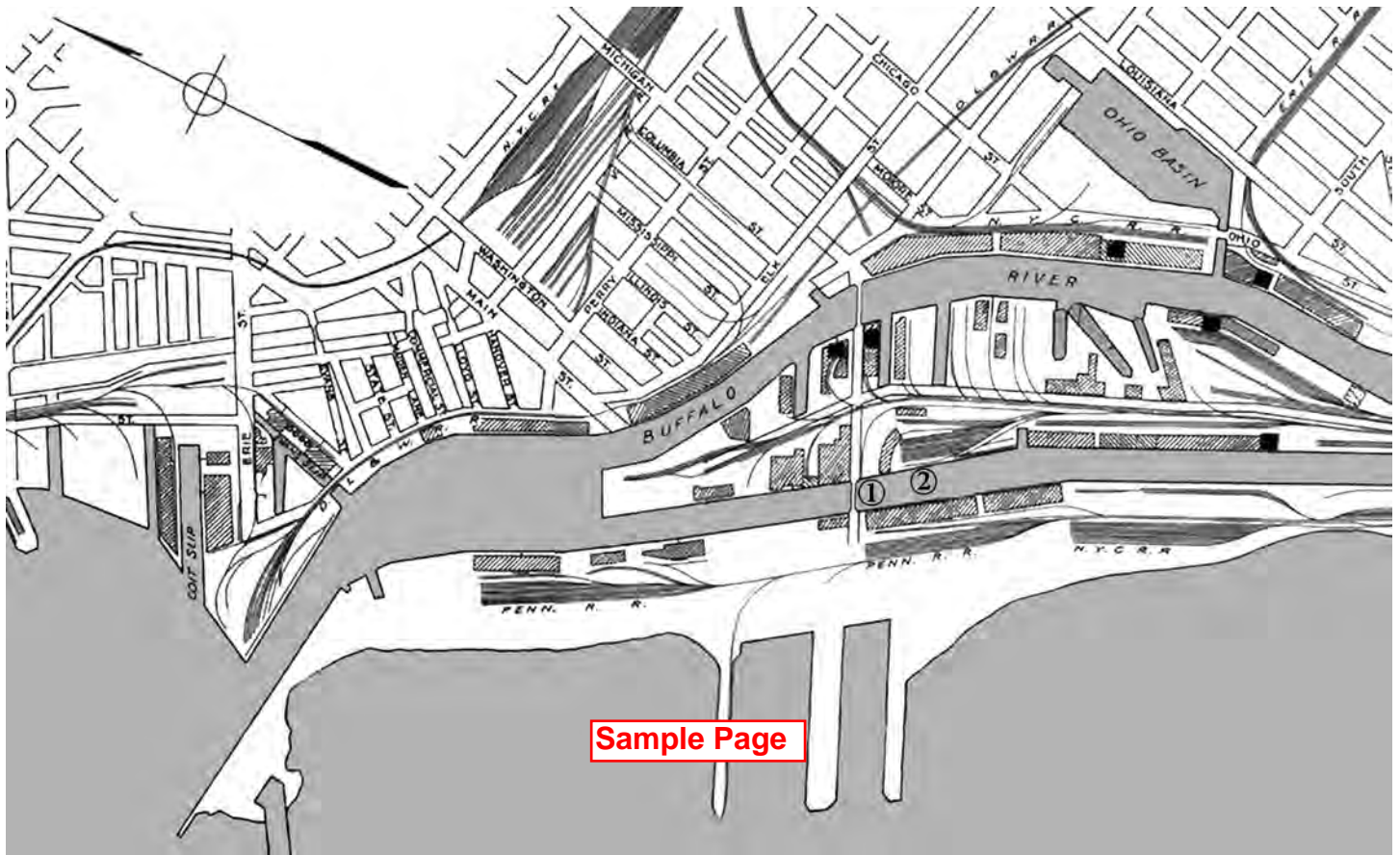
Ask a Canadian railroader or lake mariner the same question and the results may be quite different. For those who relied on coal through the gateway for heat or a paycheck, the B&O had much more significance.

The Buffalo Terminal

When the B&O purchased the stock majority of the Buffalo, Rochester & Pittsburgh Railway in 1929 it may

have been betting on the dream of the Rainbow Route, but it had nonetheless bought into a flourishing international port. Other than Buffalo, only in Detroit had the B&O connected so directly to a major Canadian industrial market. The B&O had been in Buffalo before, when it briefly controlled the Pere Marquette, but had not capitalized upon the situation, as that line was through Ontario, Canada.

The Buffalo, Rochester & Pittsburgh Railway had built into Buffalo in the 1880s, and by that time the city was already



In 1931, the B&O's presence in Buffalo consisted of the BR&P coal dock constructed perpendicular to the Ship Canal (1) and the yard facilities of the Buffalo, Rochester & Pittsburgh Coal & Iron Ore Co. (2) The Great Northern elevator shown on page 3 was just to the right of the latter facility.

bristling with railroads. The Delaware, Lackawanna & Western, the New York Central & Hudson River and the Erie had already invested heavily in the area. For this reason, the BR&P built an interchange yard on property it purchased near Buffalo Creek.

At the turn of the century, Buffalo was one of the main grain ports of the Great Lakes. Just inside the shore line of Lake Erie wooden and concrete silos and elevators arose, where grain shipped in from the Plains via the Great Lakes could be stored for the city's bakers and cereal makers. The Buffalo City Ship Canal led into the grain district where the Buffalo River entered Lake Erie.

The BR&P yard was constructed to utilize the Buffalo Creek Railroad as the primary connection. This intercity shifting line was owned jointly by the Erie and the Lehigh Valley. BR&P trains had trackage rights to the grain district and inner city over the Buffalo Creek. Passenger trains would use the DL&W or NYC depot. Along Ganson Street in the grain

district the BR&P built a freight house.

In 1889, the BR&P purchased 1,137 feet of frontage on the Ship Canal for rail-to-ship and ship-to-rail transfer. A long curved and covered coal trestle ended perpendicular to the Ship Canal where two chutes of different width would load bunker coal into fueling ships. A slip was originally parallel to this end of the trestle, but it was filled in before the turn of the century.

For additional transfer apparatus a Brown Hoist of two legs along with five Excelsior Revolving Derricks worked what was labeled the Rochester & Pittsburgh Coal & Iron Dock. This operation kept the Punxsutawney, Pennsylvania, Iron Furnace up and running on Missabe ore until 1903.

By that time coal car dumpers and fast plants were springing up along the Lakes, greatly increasing the amount of material handled daily at each port. One of the greatest inventors of these machines was George Hulett of Cleveland, Ohio. Best known for his Automatic Ore Unloaders, Hulett also had developed car dumpers.

The machine invented for the Rochester & Pittsburgh consortium to use in Buffalo was the only one of its fashion ever constructed. It was built by the Webster, Camp & Lane Machine Company of Akron, Ohio for Hulett. The emphasis of this machine was to load coal into ships' holds with as little breakage as possible.

Whereas with the competing McMyler car dumper the car is elevated before being rotated and dumped into a large dustpan-shaped funnel, Hulett's dumper began rotation at a much lower level and dumped onto a pan that fed two 23-ton buckets with nearly no fall of the coal. The buckets, in turn, would be lowered into the hold as far as possible before the unique bottom dump mechanism released the coal.

The design offered 10 percent more gob or lump coal delivered to the port in the ship through the reduction of breakage, and it had a capability of 500 tons per hour. But in the end, shippers and receivers of coal desired the quicker transfer time the McMyler dumpers offered,



The yard at Brooks Avenue in Rochester, New York, was the BR&P/B&O's main sorting point for coal being shipped across Lake Ontario. The tall structure in the distance is the yard office. At one point the B&O could have as many as 700 loaded hoppers in the yard at Dock Junction or on the mainline past Rochester at Brooks Avenue. (Keith Pritchard collection)

predated the BR&P. Rochester is nearly on Lake Ontario, while Buffalo is on Lake Erie, so anybody desiring to market coal in Ontario would have a more direct route going through Rochester. Since navigating the Niagara River from Lake Erie to Lake Ontario is impossible in anything other than a barrel, nautical traffic is funneled through the Welland Canal.

Charlotte is the spot where the Genesee River flows into Lake Ontario, and instead of making any sort of breakwater, the railroads and coal marketers simply had the Lake boats come in the river channel a small distance to the docks. Prior to the BR&P having its own facilities, the Bell, Lewis & Yates Coal Company would use the BR&P Railway north to the NYC&HR to utilize their docks on the Genesee River.

Once again, the Grand Trunk Railroad initiated international commerce as it was seeking a quicker route for steam coal to power its locomotives in central or eastern Ontario than the congestion of the Niagara Frontier bridges. In fact, four

to seven days were estimated to be saved by avoiding Buffalo or the Falls. So, in a joint venture, the BR&P would construct a slip on the Genesee River for a railroad car ferry where it had already purchased land to load out coal onto barges and Lake boats. The Canadian port was not as simple, and for some time Port Hope competed with Cobourg as the northern dock. Cobourg won.

The Ontario Car Ferry Company was launched as a joint GTW/BR&P venture starting in 1907. Its two ferries, Ontario Number 1 and Number 2, were designed to hold 28 loaded two-bay N-17 hoppers on four tracks, plus 1,000 passengers. They would remain in service until 1950.

A good history of the OCFCo is Ted Rafuse's book *Coal to Canada*.

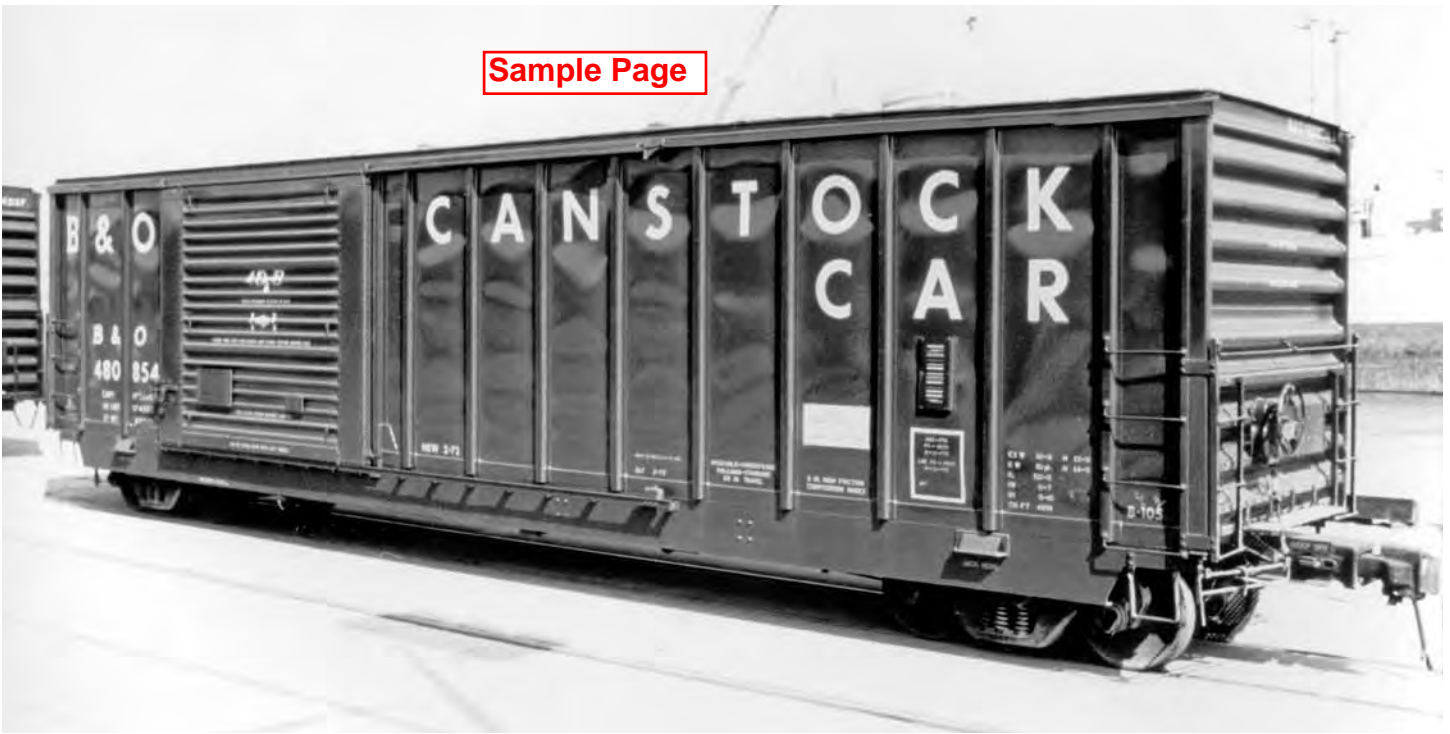
Arthur Yates has been described in prior publications as a coal baron and not a railroader. He was, however, such a good businessman that the BR&P would see a great increase in service and capability under his tenure as president that

began in 1890. In fact, so much would transpire in 1889 that Yates may have had an effect even that early.

As mentioned earlier, in 1889 the BR&P purchased land along the City Ship Canal. At the same time, it purchased the land the Charlotte Docks of Rochester would stand upon. And in 1890 the Board of Directors would see three men from Yates' coal company sitting upon it. And Yates was the major stockholder in the Ontario Car Ferry Co. from the BR&P side.

Yates clearly saw the "big picture" of the bituminous industry and would make grand decisions with near unerring results for the companies he would be associated with in his life. With this came both fame and fortune.

To replace his own coal docks on the Genesee River, Yates took advantage of a new proprietary road named the Lincoln Park & Charlotte in 1889-1890. This would divorce his mining companies from reliance on the New York



One of the original batch of boxcars designed to expedite the hauling of coils of .006 thick sheet steel for use in food and drink packaging, B&O Number 480854 was one of 75 built by Pullman-Standard in Bessemer, Alabama in February 1972. They were Class B-105, as by then C&O designations were being used for B&O freight cars. (Mike Shylanski collection)

Building a Better Mousetrap: *The B&O Canstock Boxcar Story*

By Mike Shylanski

There are not a huge number of them—only 150 were built—but the B&O boxcars specially designed to carry thin steel or aluminum for can making, the Canstock cars, are real favorites with railfans. There is something endearing about these short, stocky 50-foot boxcars with the huge doors way to one end of the car. They have a solid appeal to them, and they have looked good not only in B&O livery, but also in Chessie and even CSX paint.

Why the Canstock Cars Were Needed

An earlier article in *The Sentinel* (Volume 29, Number 4) told the story of how from roughly 1955 to 1960, the B&O responded to its customers' needs for better protection of coiled steel by pioneering special gondolas equipped with skids and hoods. Several years later, in 1964, the B&O and partner C&O, working with the Evans Products Company in

Plymouth, Michigan, created the Cushioned Coil Car. The basic configuration of this car became more or less the standard for carrying large coils of steel used in the automotive and appliance industries. It was discovered, however, that these early coil steel cars were not optimal for shipping coils or sheets of steel for the food and drink industries.

The steel used for products like cans was as thin as .006 inch, and coils or sheets could be damaged from hard coupling or simply from the wear and tear of railroad transit. The steel and aluminum being transported was wrapped and banded, and there was a need to avoid tearing the wrapping.

The wrapping in part prevented nicking the metal, and it also was intended to avoid having condensation form on the metal. Condensation caused discoloration on both metals that caused customers to reject certain of the loads. Nobody wanted to buy food or beverages

in cans that were discolored. Thus, keeping the packaging intact was important to keeping out unwanted moisture.

Early Attempts at a Canstock Boxcar

The best known way to ship such steel continued to be in boxcars. It was B&O's intention to provide customers with modified class M-65 (later B-46) boxcars for coil steel service. Cushioning was added to a small number of M-65 cars in 1963 and 1964. A clean boxcar with a cushion underframe could be used to ship coil steel on pallets when they were adequately secured by wood packaging.

Around this time, the B&O introduced a new 50-foot, plug door boxcar, the M-78 (later B-54) class. By the latter part of 1963, the B&O began to use these handsome, blue boxcars in an attempt to provide a modern way to protect canstock loads. The cars had large, yellow plug doors, and, when closed, there was a

Time Gets a Second Chance

How an Average B&O Clock Survived

By Bruce Elliott

It's pretty well known that in the early days of the B&O Museum, lots of what today would be called really nice items were sold off for little to nothing. To the railroad this "stuff" was junk, and would have been treated as such, but someone decided that the public might just give a little more than scrap value for these items.

Well, business is business, and for those people lucky enough to acquire one of the many dozens of different items that were available, congratulations! That brings up this article.

I remember in particular an early trip to the museum as a lad of 9, in which my father picked up one of these unique items—a wall clock. I believe it was around September of 1963.

We had spent the afternoon in the museum itself, and before leaving, we went through the gift shop. Oh, it wasn't an item hanging on the wall with a price tag on it. Rather, I think that it was either an item advertised on paper or something that was told to dad by one of the gift shop staff.

It sure didn't interest me either way, but not only did it interest dad, after he paid for it, we had to go over to Camden Station to pick it up. A clock, big whoop!

So off we were to the Camden warehouse, where the offices were, up front. We went up on the third floor, and in this one room was nothing but clocks. Not a single one was together or in running condition.

Dad said later on that there were more than 150 clocks in there. Dad got his pick, which meant more time. This definitely wasn't my cup of tea. When all was said and done, dad brought out the clock works in one box, and a box full of wood with a glass door.

I have no idea what he paid for it, but it was too much. Dad could have spent that money in the museum or in a hobby shop on something useful.



We took this "stuff" home, and dad took the clock works to a clock shop to have it reworked.

In the meantime, dad took all of this wood and put it back together and made a clock housing with it. Dad was a good carpenter and refinisher, and had the case looking brand new!

The clock repairman installed the reworked mechanism in the case and we had a genuine Seth Thomas dual-wind 30-day clock that had once been in a B&O office, somewhere on the system. (It of course would be nice to know where it spent most of its life, but now I'll settle for just having the clock.)

When we got this thing home, the first thing that I noticed was that this thing was noisy. For the first week or so, at night, after everything was quiet, you could hear this clock all over the house, tick-tock-tick-tock.


With TLC and monthly winding it continued to run for about 20 years. But in the early '80s something happened and it quit running. Our faithful family sentinel

that I had come to love so much remained on a silent vigil until 2008, when mom sold the house after dad passed away.

The clock was now mine, and it moved from Maryland to West Virginia. I had grown up with that clock and wanted to see and hear it run again.

I had to decide where its new home would be. It was hard to decide whether to keep it at Cass or at the house. I decided that it was far too valuable to leave at Cass. Eventually someone would realize what it was and its condition and it would be gone.

The clock was taken to a repairman, both main springs were replaced and some minor repairs made. Once again the sound of tick-tock-tick-tock sounds through the house.

A familiar sound from the past to me and a sound that my wife will soon become accustomed to. It's refreshing to have an old friend in the house again. 



Bruce Elliott did not always appear in public wearing a B&O conductor's uniform. In the 1960s it was enough to go to the museum and check out the original model railroad. (Family photo)

Sample Page



This view of the north side emphasizes why it was called the High Bridge. Being 112 feet in the air will do that. Notice the four trapezoidal concrete-and-stone footings used at each tower. The differences in girder depths can be seen as you work your way across the image.

90-foot span in the distance is deeper than the 60-foot spans.

Frankly, while standing there and observing the bridge, and then studying Allen's photo in *The Sentinel*, I really couldn't tell this span was longer as it is far in the distance. But Ed's dimensions clearly state this, and several of our members also pulled up the satellite images that confirmed this. So basically, that answers the first question.

(The editors got a separate note from engineer/member Ed Manning, telling us, "A check of some old railroad bridge design codes indicates that they require the girder spans to be not more than 10 or 12 times the depth of the girder. Those in the photograph appear to respect a similar rule of thumb.")

Now let's clarify the second question: photo 2, which was not originally published, shows the easternmost 30-foot span as being the full 8-foot depth. I actually took this photograph not to show engineering details but to show the "pack" headed for the obligatory embankment-scaling adventure (typically with Allen Young at the head of the attack squad) and being restrained by Ed because we were in a semi-trespass situation; he also muttered something about unfriendly dogs.

So why was this one 8 feet deep, while the other 30-foot girders we were seeing were only about 4 feet? It should be pointed out that you will see prototype examples of both practices. There is economical use of steel by using shallower girders for the shorter spans, but

there may be an additional cost element involved with the connections; note the triangular brackets extending from the bottom of the short spans to the bottom of the long spans. And for what it's worth, page 137 of Paul Mallery's *Bridge and Trestle Handbook* Fourth Edition shows both approaches, while the styrene Micro Engineering model of this type of bridge offers either style. So it looks like either approach goes.

Ed's notes also tell us that as originally built, all of the deck plate girder spans were of the same height—about 8 feet—except of course for the one over the creek, which is about 12 feet high. And Ed says some of the 30-foot spans were, indeed, replaced with the shallower, 4-foot spans. These shorter spans sit over