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# The Sentinel



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# Message from the President

It is now halfway through the 2017 year and things are moving smoothly. For the most part from this date on I will be addressing general society needs. Archives updates will be handled by Grant Berry, the building manager and assistant archivist. Funds toward the society building have slowed and we are currently at about 70% towards our goal of \$350,000. We held a dedication ceremony on April 20th to introduce the building to the community leaders and show local donors the progress on the building. The following weekend we had an open house for the public and there were 74 people on Saturday and 92 people on Sunday. I want to extend a deeply felt thank you to Sallie Taylor and Grant Berry for all the extra help they put into organizing those two past events. With 95% of the work on the building done, the next direction for the building is long-term funding to expand our service as a research facility. Enclosed with this *Sentinel* is a four-page brochure of the society's building.

The Western Mini-Con was a great success in Willard, Ohio with over 70 people attending. Many thanks to the presenters, Mike Lytle, and Bill Cramer. The 2018 Western Mini-Con will be in Toledo, Ohio so stay tuned for future details. The Eastern Mini-Con is scheduled for July 15th at world headquarters. A picnic and tour of the building are scheduled and of course the complete company store will be available for purchases. As a special note, the society

recently has had a large number of books donated to the organization and the library already has enough copies. These books will be selling at bargain prices and the funding goes to the archives. The annual convention this year is a joint activity with the Western Maryland Historical Society. Dates are October 5th through 8th. Get your hotel registration in early since there will be two groups attending. Tentatively, our plans for the 2018 convention will be in the Dayton, Ohio area and 2019 in the Baltimore area.

Volunteers are still needed, but some positions are being filled. We have one current and one new member to step up to handle the website. Starting the fall, we will be having quarterly community presentations to encourage railroad historical research and to get new members. I need a volunteer to coordinate this function by setting dates and getting presenters. Although we prefer B&O topics, general railroad history a couple times a year is acceptable. It has been announced to a couple art guilds that we are requesting three murals be painted on the exterior of the building. If you are local to the building and are interested in submitting a proposal, contact me through my society web address.

The remainder of my space will go to Grant Berry to address specifics about the building and the archives collection. Have a great summer and be safe.

Greg

(Continued on page 39)

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**THE BALTIMORE AND OHIO  
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*The Baltimore and Ohio Historical Society is a non-profit corporation dedicated to preserving and disseminating historical information about The Baltimore and Ohio Railroad.*

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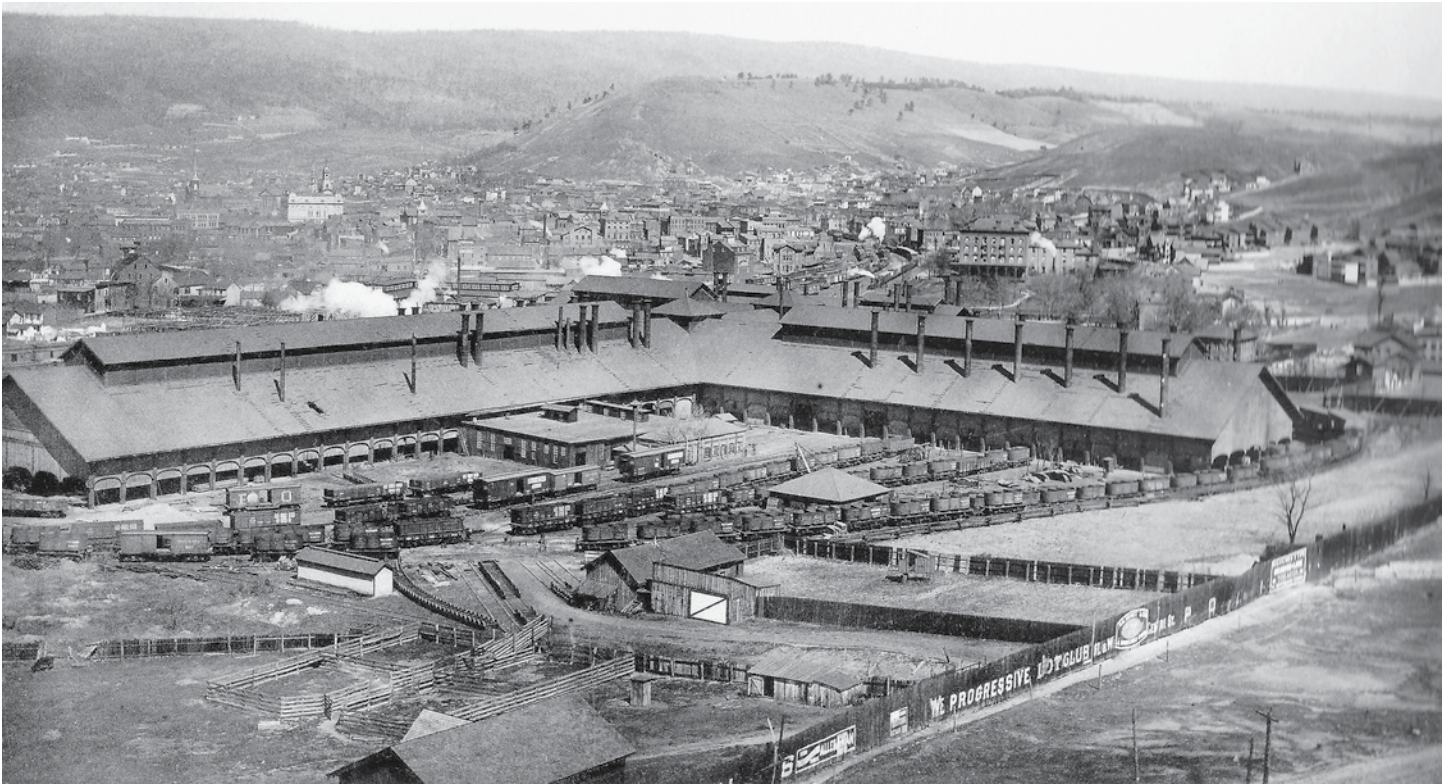
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## On the Covers

**Front Cover:** EMD GP40 3776 leads a lash-up pulling eastbound freight from Grafton, West Virginia at Viaduct Junction, Cumberland, Maryland, July 19, 1986. Built March, 1971, this boomer was leased to the ATSF in three separate stints during 1979-81. It was retired January 16, 1991 as CSX 6551. (Collection of Bruce Elliott, B&ORHS Archives)

**Back Cover:** This map was issued to visitors to the B&O centenary pageant, *The Fair of the Iron Horse*, staged at Halethorpe in 1927. The event was not only well attended, but raised the prestige of the Baltimore and Ohio and Daniel Willard.



The view is north, the original rolling mill is to the right. Loads of coal stand ready to feed the furnaces beneath the chimneys. A number of iron pot hoppers are in evidence. Beyond is the Queen City Hotel and station.

# Baltimore and Ohio Railroad Cumberland Rolling Mill

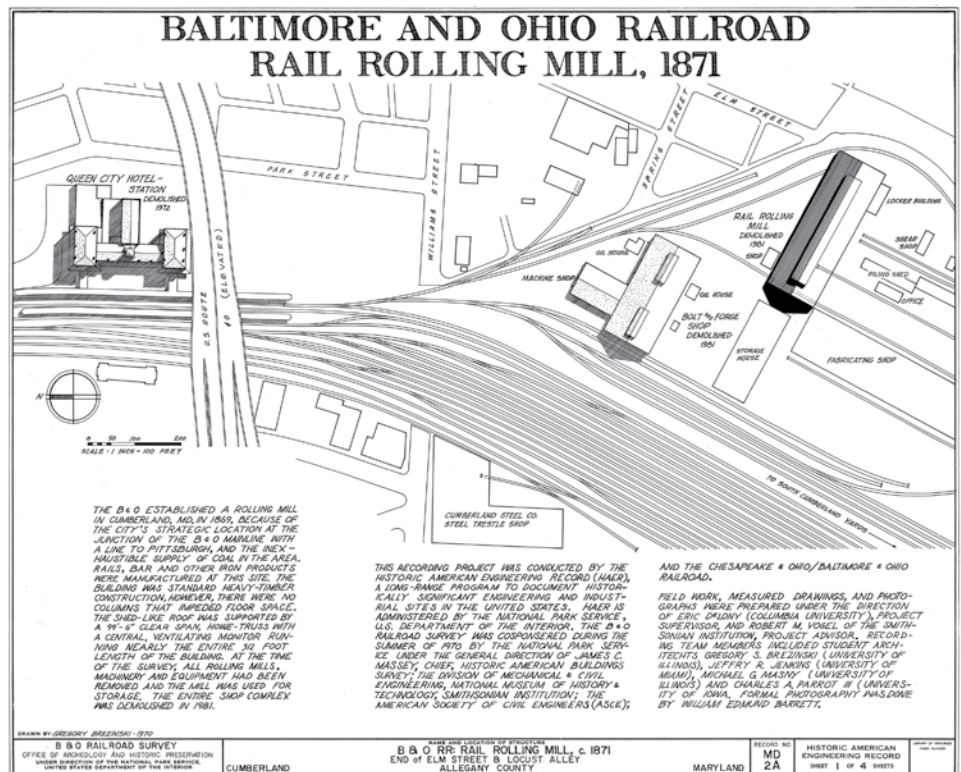
By Andrew Sparber

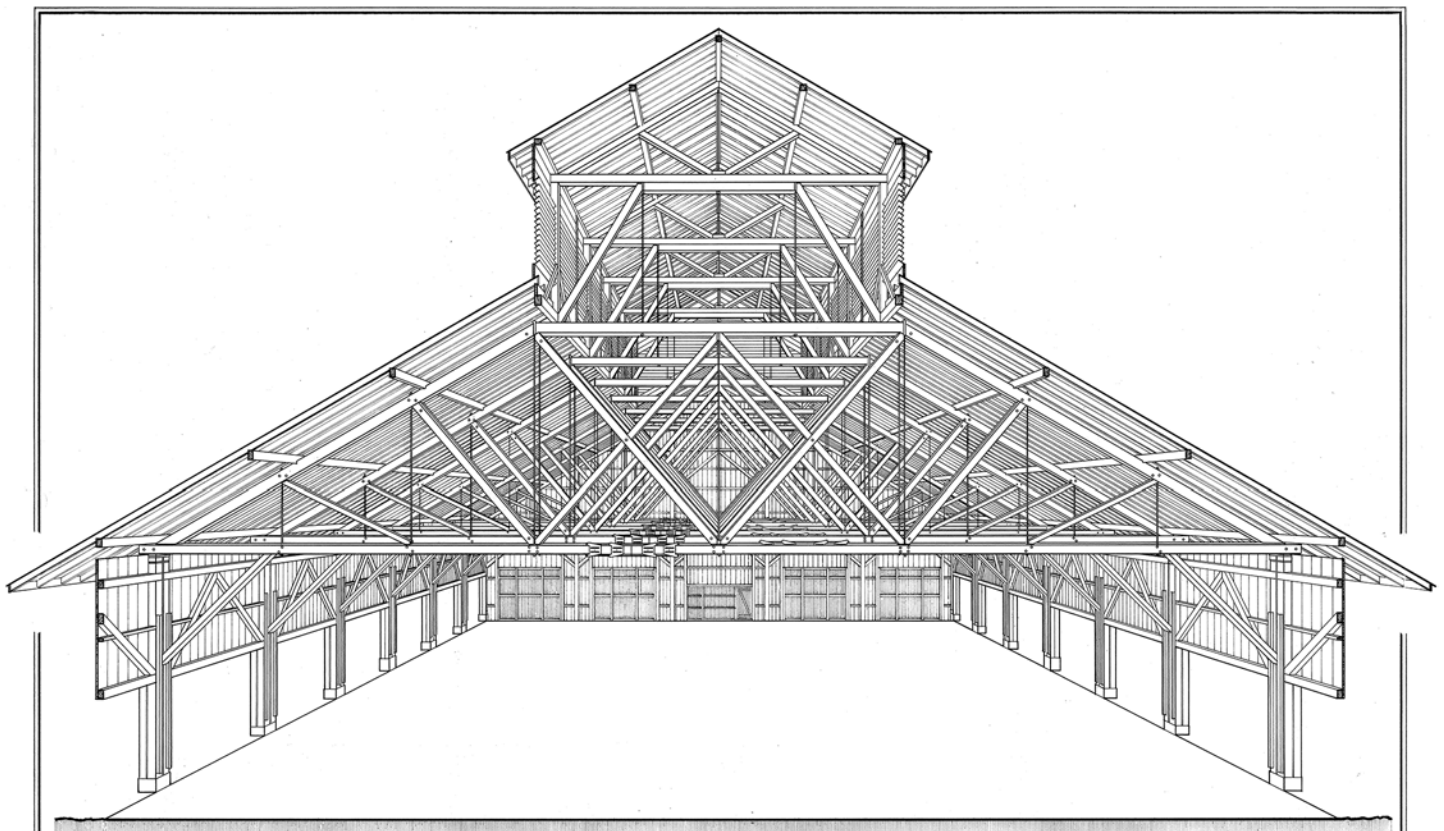
Illustrations from the Author's Collection Except as Noted.

The Baltimore & Ohio Railroad's Cumberland, Maryland rail mill was built in 1870, and was an active rail mill until 1883. After that operations on the site continued in various metal working capacities until the early 1970s. The original goal of the mill was to manufacture rails for the extension of the railroad's service to Chicago and other points, and for the double tracking of the main line from Cumberland to Grafton, as well as meeting the ordinary maintenance and replacement needs of the property.

After 1883 when the B&O stopped making rails, a series of companies leased the buildings. Business cycles resulted in expansion and contraction of these enterprises. The railroad opened its Bolt & Forge shop on the site in 1918. This was the last operational facility to be in business, and operated at various times as a reclamation depot, recycling plant, and freight-car-parts-manufacturing facility. At times, and

Third Quarter 2017





SECTIONAL PERSPECTIVE

DRAWN BY: JEFFERY JENKINS - 1970

B & O RAILROAD SURVEY  
OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION  
UNDER DIRECTION OF THE NATIONAL PARK SERVICE  
UNITED STATES DEPARTMENT OF THE INTERIOR

CUMBERLAND

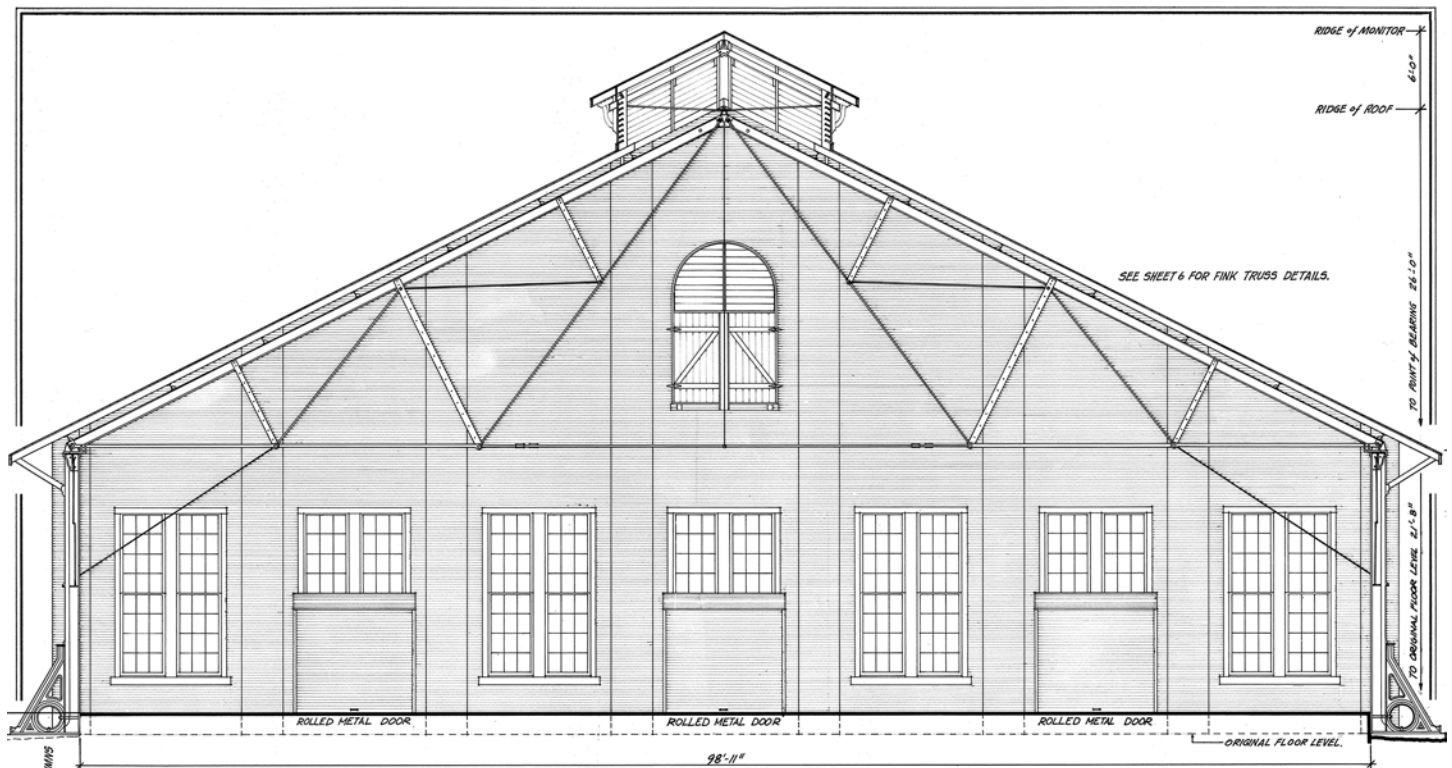
NAME AND LOCATION OF STRUCTURE  
B & O RR: RAIL ROLLING MILL, c.1871  
END OF ELM STREET & LOCUST ALLEY  
ALLEGANY COUNTY

MARYLAND

RECORD NO.  
MD  
2A

HISTORIC AMERICAN  
ENGINEERING RECORD  
SHEET 4 OF 4 SHEETS

LIBRARY OF CONGRESS  
HATCH NUMBER



TRANSVERSE SECTION

SCALE:  $\frac{3}{16}$  INCH = 1 FOOT

DRAWN BY: CHARLES PARROTT III - 1970

B & O RAILROAD SURVEY  
OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION  
UNDER DIRECTION OF THE NATIONAL PARK SERVICE  
UNITED STATES DEPARTMENT OF THE INTERIOR

CUMBERLAND

NAME AND LOCATION OF STRUCTURE  
B & O RR BOLT & FORGE SHOP, c.1873  
WEST END OF SPRING STREET  
ALLEGANY COUNTY

MARYLAND

RECORD NO.  
MD  
2B

HISTORIC AMERICAN  
ENGINEERING RECORD  
SHEET 4 OF 6 SHEETS

LIBRARY OF CONGRESS  
HATCH NUMBER



3/4 view of south and east elevation of fabricating shop.

in the final years, the buildings were also used for storage. The site was recorded in 1971 by the Historic American Engineering Record of the National Park Service (HAER). The remaining structures were demolished in 1981.

Information about the mill was found from a variety of sources such as the HAER recordation, B&O Annual Reports, other texts about the B&O Railroad, and back issues of local papers on newspaperarchives.com. Additional comments, review, and resources came from Society members John Teichmoeller and Andrew White.

### EARLY HISTORY

Given the B&O's strategic importance in the Civil War, the later site of the B&O rolling mill property was a Civil War military campsite and parade ground. The necessity of keeping the rail line open to move supplies and troops was recognized by Federal army officials. Camping right next to the rail line made sense, and was a common scene during the Civil War (*Cumberland Times* October 8, 1938).

In the early days of railroad transportation, railroads were compelled to build their own rails and equipment. A May 18, 1913 *Times* article indicated that the people of Cumberland in the late 19th century had been looking for industry that would keep the town prospering. The B&O Railroad became one of the leading industrial and

economic forces in the city, employing hundreds, and maintaining car shops and a large roundhouse. B&O manufacturing interests developed in Cumberland during the years of the city's early growth. Other local industries were iron, steel, and tin factories, breweries, glassworks, planing mills, and others, including the mammoth Footer Dye Works. By mid-twentieth century, Cumberland had become Maryland's largest manufacturing center, a position it retained until surpassed by Hagerstown.

The purpose of a rolling mill was to produce light and heavy rails, as well as other heavy iron products for the railroad. After its early use of strap iron rail on granite sills and wooden stringers, the B&O started employing wrought iron U-shaped rail. The B&O's 1927 Centenary Exhibition showed a piece of such rail said to have been rolled in the 1841-1844 period by the Mount Savage Iron Works near Cumberland. This was wrought iron rail, not steel. The Exhibition also displayed English-made steel rail said to date from 1869. B&O management must have thought that with the inexhaustible supply of coal, and the eventual juncture of the route to Pittsburgh with the mainline at Cumberland, they could achieve significant savings by producing rails and other metal products at Cumberland, rather than purchasing them from commercial mills, especially those overseas.

### RAW MATERIALS

The local availability of iron ore and high quality coal made iron production seem potentially profitable. The iron ore used to make pig iron for the rolling mill initially came from Allegany County mines, where the early coke-fired furnaces produced the initially superior pig iron steel. Pig iron from these furnaces was of sufficient quality that it could be rolled into rails after being converted to wrought iron in puddling furnaces. As rail cars and engines increased in weight and ran at faster speeds, there was an increasing demand for harder rails, therefore a higher quality of pig iron was needed that had to be obtained from outside the state. Not enough is known about the source of iron, however, as an example of "non-local" iron, the *Baltimore Sun* of July 29, 1874, reported that J. Baker Kunkel of Catocin Furnace, Maryland (north of Frederick) had shipped 150 tons of iron to Cumberland for consumption by the B&O mill.

Another essential ingredient to the mill was to have an unlimited supply of cool water to make steam for machinery, or later to generate steam for the electric dynamos. Water from the Potomac River met this need, and was pumped into the mill's reservoir and diverted to the mill as needed.

## WROUGHT IRON AND THE ROLLING MILL PROCESS

Rolling is a metal-forming process in which metal stock (in the case of rails, “billets”) is passed through one or more pairs of rolls to reduce the thickness and to shape the rail. Rolling also improves the metallic properties of the rail. The starting material is pigs of iron from blast furnaces. These pigs were typically three-to-five feet long; in old photographs where they are stacked up in the mill, pigs often appear to look like cordwood. The mill pigs were softened into a squishy mass in what was called a puddling furnace. After the mass was “worked” with drop forges, billets of wrought iron were the result. The working distributes veins of slag and other impurities throughout the mass, which actually provides flexibility; rails made of pure pig iron would be brittle. The above is a gross oversimplification of the process, of course: to learn more, see *City of Steel* by Ken Kobus. The billets would be heated red hot and then be fed through a series of rollers to form the distinctive T-rail cross section. They would then be straightened, trimmed to length, and drilled for joint plate bolts on other specialized machinery.

## PURCHASING THE PROPERTY

A May 18, 1913 *Times* article indicated that the people of Cumberland in the late 19th century had been looking for industry that would keep the town prospering. A proposition finally came from the B&O, which was interested in locating a rolling mill here, provided the city would donate the property.

The proposal was a rather large request for Cumberland at that time, however, the city fathers took up the matter energetically. The wealthy firm of Johnson, Walsh, and Stewart, owning real estate assessed at million dollars on the books of the city, offered 33 acres at a thousand dollars an acre. The property was located along the railroad and at the end of Elm Street and Locust Alley. The city provided \$28,000 of the \$33,000 for the purchase and expenses; the railroad company paid the remainder. The offer was accepted, and under the authority of the Maryland Legislature, bonds in the amount of \$28,000 were sold at par. Thus, the necessary funds were raised to purchase and transfer the land to the B&O.



Detail view of base of furnace (presumably one of the reheat furnaces as by this time the iron puddling furnaces were probably long gone).

The bonds were known as the “Rolling Mill Bonds” and could be redeemed in ten years. One of the conditions of the deed was that if the railroad company allowed the mill to remain idle for two years continuously, the city could take possession of the property. Another feature of the transaction was that the original owners of the property were granted an option under which they could re-acquire the property at the expiration of two years of such continued idleness by reimbursing the city (The reversionary nature of the property sale may have been why the B&O seemed to have tenants using the facility even at times the railroad had little use for it itself.) This landmark decision to purchase property for the mill

marked the beginning of an era of prosperity for the town. In 1878, the bonds became due and the truth of who owned the bonds came out. Dr. Chas. Ohr, Chairman and trustee of the city’s Sinking Fund, had over time bought up all of the bonds. As a gesture of good will, he offered to cancel the bonds and proceeded to offer them to Mayor Read, who in turn chopped them up with a hatchet made for the purpose, however, to this day there remain unanswered questions about the true owners of the property.

## CONSTRUCTION

The cost of building the B&O Rolling Mill was \$183,174.24 (2016: \$3,528,188).

It took between 700 and 1000 workers