

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

PH0684198

FOR NPS USE ONLY
RECEIVED SEP 12 1978
DATE ENTERED DEC 19 1978

**NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY -- NOMINATION FORM**

SEE INSTRUCTIONS IN HOW TO COMPLETE NATIONAL REGISTER FORMS
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

1 NAME

HISTORIC

Easton Roller Mill

AND/OR COMMON

2 LOCATION

E of Morgantown

STREET & NUMBER

SR
County Route 119/17

NOT FOR PUBLICATION

CITY, TOWN

Morgantown

VICINITY OF

CONGRESSIONAL DISTRICT

Second

STATE

West Virginia

CODE

54

COUNTY

Monongalia

CODE

061

3 CLASSIFICATION

CATEGORY	OWNERSHIP	STATUS	PRESENT USE
<input type="checkbox"/> DISTRICT	<input type="checkbox"/> PUBLIC	<input checked="" type="checkbox"/> OCCUPIED	<input type="checkbox"/> AGRICULTURE <input checked="" type="checkbox"/> MUSEUM
<input checked="" type="checkbox"/> BUILDING(S)	<input checked="" type="checkbox"/> PRIVATE	<input type="checkbox"/> UNOCCUPIED	<input type="checkbox"/> COMMERCIAL <input type="checkbox"/> PARK
<input type="checkbox"/> STRUCTURE	<input type="checkbox"/> BOTH	<input type="checkbox"/> WORK IN PROGRESS	<input type="checkbox"/> EDUCATIONAL <input type="checkbox"/> PRIVATE RESIDENCE
<input type="checkbox"/> SITE	PUBLIC ACQUISITION	ACCESSIBLE	<input type="checkbox"/> ENTERTAINMENT <input type="checkbox"/> RELIGIOUS
<input type="checkbox"/> OBJECT	<input type="checkbox"/> IN PROCESS	<input checked="" type="checkbox"/> YES: RESTRICTED	<input type="checkbox"/> GOVERNMENT <input type="checkbox"/> SCIENTIFIC
	<input type="checkbox"/> BEING CONSIDERED	<input type="checkbox"/> YES: UNRESTRICTED	<input type="checkbox"/> INDUSTRIAL <input type="checkbox"/> TRANSPORTATION
		<input type="checkbox"/> NO	<input type="checkbox"/> MILITARY <input type="checkbox"/> OTHER:

4 OWNER OF PROPERTY

NAME

Monongalia County Historical Society

STREET & NUMBER

c/o Dr. Paul H. Price

The Hogback, Preston Road

CITY, TOWN

Morgantown

VICINITY OF

STATE

West Virginia 26505

5 LOCATION OF LEGAL DESCRIPTION

COURTHOUSE.

REGISTRY OF DEEDS, ETC.

Monongalia County Courthouse

STREET & NUMBER

High Street

CITY, TOWN

Morgantown

STATE

West Virginia

6 REPRESENTATION IN EXISTING SURVEYS

TITLE

Historic American Engineering Record

DATE

1973

FEDERAL STATE COUNTY LOCAL

DEPOSITORY FOR
SURVEY RECORDS

Library of Congress

CITY, TOWN

Washington

STATE

D.C.

7 DESCRIPTION

CONDITION		CHECK ONE	CHECK ONE
<input type="checkbox"/> EXCELLENT	<input type="checkbox"/> DETERIORATED	<input type="checkbox"/> UNALTERED	<input checked="" type="checkbox"/> ORIGINAL SITE
<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> RUINS	<input checked="" type="checkbox"/> ALTERED	<input type="checkbox"/> MOVED DATE _____
<input type="checkbox"/> FAIR	<input type="checkbox"/> UNEXPOSED		

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

Easton Roller Mill is a detached 3½-story rectangular building with a one-story shed addition. Mortise-and-tenon timber construction constitutes the framing of the structure, and it is covered by board-and-batten siding. The rough board exterior walls are painted red, while the cornice, window trim and door facings are white.

The three-bay front contains a center door with a window on either side. Fenestration on this elevation is symmetrical with 6/6 double-hung sash (4/4 in the gable), but elsewhere it is irregular. A plain white cornice has brackets on all sides except the rear. The dominant feature on the exterior is the tall, corbel-capped chimney at the rear; it has indented panels in each elevation.

Upper floors contain large open spaces (a small office is also on the second floor), while the first floor includes the steam engine, drive shafts and associated milling equipment. The shed-roofed addition houses the boiler and fuel storage areas. All floors are constructed of rough wood except for the largely dirt basement. Walls and ceilings are of unfinished boards with framing timber exposed.

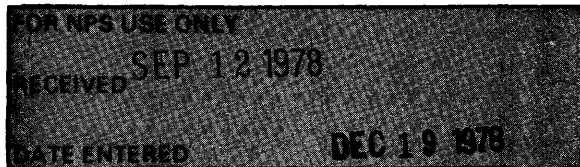
What powered the mill when it was constructed in the late 1860s is uncertain, but nearby West Run was probably inadequate to turn a water wheel. Perhaps steam was used from the beginning, though the present forty horsepower engine, manufactured by Lane and Bodley Company of Cincinnati, was probably not the original source. Because of the great amount of power available from this steam engine, Easton mill was rather easily converted to the roller process in 1894. The new process introduced requirements for additional equipment. The second floor contained shakers and grinding apparatus, and the third floor included the numerous sifters required by the gradual reduction process.

A maze of belts and pulleys from the main drive shaft of the forty horsepower engine ran all of the equipment. A continuous vertical conveyor system with closed wooden conduits branching from it on each level fed grain into the various machines. On the third floor grain was sorted and cleaned. It then traveled down the conduits to grinding machinery on the second level. After it was ground, grain again went to the third floor on elevators to be sifted and graded. From this point the product went in a number of directions, with fine white flour bagged or stored, chaff and tailings removed, and middlings reground (often seven or eight times).

Once it settled into the roller mill technology, little change took place in appearance. It continued in operation until about 1930, at which time it closed. In 1939 the mill was reconditioned and reopened for a short period but then closed again, remaining

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idle and unused until acquired by the Monongalia County Historical Society in the early 1970s. Except for cleaning, painting and minor repairing as needed (a corrugated metal roof was placed on the main section in 1976), the historical society has left the mill and its machinery basically as it has been since about 1894.

8 SIGNIFICANCE

PERIOD	AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW			
<input type="checkbox"/> PREHISTORIC	<input type="checkbox"/> ARCHEOLOGY-PREHISTORIC	<input type="checkbox"/> COMMUNITY PLANNING	<input type="checkbox"/> LANDSCAPE ARCHITECTURE	<input type="checkbox"/> RELIGION
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> ARCHEOLOGY-HISTORIC	<input type="checkbox"/> CONSERVATION	<input type="checkbox"/> LAW	<input type="checkbox"/> SCIENCE
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> AGRICULTURE	<input type="checkbox"/> ECONOMICS	<input type="checkbox"/> LITERATURE	<input type="checkbox"/> SCULPTURE
<input type="checkbox"/> 1600-1699	<input type="checkbox"/> ARCHITECTURE	<input type="checkbox"/> EDUCATION	<input type="checkbox"/> MILITARY	<input type="checkbox"/> SOCIAL/HUMANITARIAN
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> ART	<input checked="" type="checkbox"/> ENGINEERING	<input type="checkbox"/> MUSIC	<input type="checkbox"/> THEATER
<input checked="" type="checkbox"/> 1800-1899	<input checked="" type="checkbox"/> COMMERCE	<input type="checkbox"/> EXPLORATION/SETTLEMENT	<input type="checkbox"/> PHILOSOPHY	<input type="checkbox"/> TRANSPORTATION
<input checked="" type="checkbox"/> 1900-	<input type="checkbox"/> COMMUNICATIONS	<input checked="" type="checkbox"/> INDUSTRY	<input type="checkbox"/> POLITICS/GOVERNMENT	<input type="checkbox"/> OTHER (SPECIFY)
		<input type="checkbox"/> INVENTION		

SPECIFIC DATES

1894

BUILDER/ARCHITECT

STATEMENT OF SIGNIFICANCE

The history of the Easton Roller Mill near Morgantown, Monongalia County, West Virginia, provides an insight into the pattern of settlement of a region which was, at the time of the Civil War, only one step removed from wilderness. Originally the mill was both a sawmill and a grist mill and illustrated the close relationship of lumbering and milling in a frontier environment. By sawing their timber and grinding their grain, the mill satisfied two very basic needs of early settlers in this region.

The original mill at Easton was built about 1870 by Henry Koontz, a local resident. The interior timber framing indicates that the original building measured approximately 30' x 52', terminating just beyond the location of the existing set of burrs. Although there is some possibility that it was originally a water mill (a small stream flows nearby), a steam engine became the prime mover at an early date. By 1883 it was described as being a large steam mill with a capacity of 120 bushels per day. With such a capacity, it is likely that the engine was used to run two or possibly three sets of stones, in addition to the sawmill. The portion of the main structure which houses the engine and three floors of machinery above it was probably added soon after the initial building. If, indeed, the steam engine was the original prime mover, it could very likely have been housed in an adjacent structure or shed addition as was common at the time.

The expansion of agriculture in this area coincided with a revolution in the technology of flour milling. As a result, Easton Mill is quite significant as an artifact of the transition from small "custom" mills to large-scale industrial organizations. During the period from 1870 to 1910, the milling industry underwent a major revolution in technology. The state of milling in 1870 was essentially the same as it had been since Oliver Evans' innovations of 1790. Evans was responsible for the automation of flour mills. He achieved this through his invention of a system of conveyors that made the small water-driven mill virtually a one or two man operation. From 1790 until the invention of the roller mill in the late 1870s, innovation in flour milling consisted of the elaboration of Evans' designs. In 1870, Edmond LaCroix, a French immigrant employed at the Washburn "B" Mill in Minneapolis, began a series of experiments to develop a more efficient purifier for the separation of fine and coarse mill products. LaCroix, working under conditions of utmost secrecy, built for the Washburn Mill a purifier based on the design of a French machine patented in 1860.

9 MAJOR BIBLIOGRAPHICAL REFERENCES

Brooks, Harvey. "Easton Roller Mills," Monongalia Chronicle, I, No.1 (Jan. 1972).

Ellifritt, Duane. "Early Engineering in the Hills," West Virginia Hillbilly (Richwood, W.Va.), January 28, 1978.

10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY 1/2 acre

QUADRANGLE NAME Morgantown, North, W.VA-Pa.

QUADRANGLE SCALE 1:24000

UTM REFERENCES

A 1,7 5,9,3,3,0,0 4,3,8,9,2,8,0

B

C

D

E

F

G

H

VERBAL BOUNDARY DESCRIPTION Easton Mill is on a lot about 150' x 150' in dimension. It is bounded on the front by County Route 119/17 (West Run Road) and on the rear by West Run. The sides are bounded by straight lines between the road and the run, approximately 50' to either side of the building

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE	CODE	COUNTY	CODE
STATE	CODE	COUNTY	CODE

11 FORM PREPARED BY

NAME / TITLE

James E. Harding, Historian

ORGANIZATION

Historic Preservation Unit
W.Va. Department of Culture and History

DATE

August 7, 1978

STREET & NUMBER

The Cultural Center
Capitol Complex

TELEPHONE

(304) 348-0244

CITY OR TOWN

Charleston

STATE

West Virginia

12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL

STATE X

LOCAL X

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

STATE HISTORIC PRESERVATION OFFICER SIGNATURE

Clarence Morrow

TITLE

DATE

Sept. 8, 1978

FOR NPS USE ONLY

I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

DATE

12-15-78

KEEPER OF THE NATIONAL REGISTER

ATTEST:

Will A. Kerpe

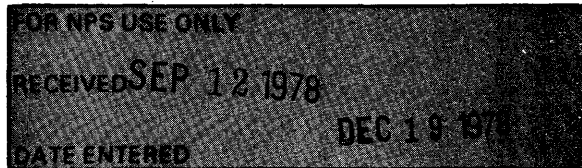
DATE

Dec. 13, 1978

CHIEF OF REGISTRATION

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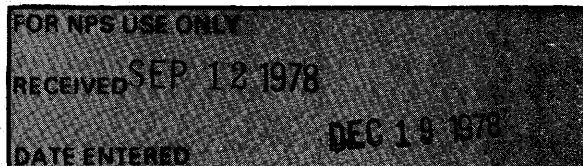
Until this time, the middlings (coarse particles) had little value, but the new purifier allowed them to be efficiently separated from the bran and reground. The resulting flour was highly superior for baking bread and was labeled "patent" flour. The durability of patent flour encouraged the acceptance of the so-called "New Process" milling technique in which the stones were set high (far apart) to obtain the largest possible amount of middlings. Elaboration of this process led to what is called the "gradual reduction" method in which grain might be ground as many as seven or eight times, being run through a purifier after each grinding. Unlike the old process, the object of the first grinding was now to produce as little flour as possible. The stones were set far apart, eliminating, to a large extent, the heat of friction which formerly discolored the flour and reduced its rising ability.

The next step in the revolution in milling was the adoption of the Hungarian system of using rollers instead of stones. In the first reduction, the grain was passed between two cylindrical rollers of chilled iron and twisted until it cracked, thereby separating the starchy portion from the hull (chaff) and the germ. After separation, the former was reground. Each successive purification eliminated more of the undesirable parts and produced flour and middlings. The final result was flour of the highest quality. By the late 1880s the roller mill was the most common system for new mills throughout the country.

The largest impedance to widespread acceptance of the New Process was its increased demand for power, a demand met through three basic solutions: use of steam as motive force, use of large wrought-iron water wheels, and replacement of the water wheel by a water turbine.

The sequence of improvements at the Easton Mill suggests some crucial problems in the adaptation of steam power to flour milling; also evident is its importance to subsequent innovation. During the period from 1860 until 1880, compact, dependable steam engines became increasingly more available. Because of technology associated with railroads and steamboats, the basic principles of steam power were becoming more widely dispersed and accepted as conventional knowledge. By the time steam engines came into use in flour milling, many of their problems had been eliminated. More likely than not, Henry Koontz or William Anderson, who owned the mill at Easton from 1876 to 1883, bought the present forty horsepower steam engine as a surplus item--perhaps in the nearby oil fields of Pennsylvania. Installation was not simple, for the great majority of flour mills in the country were water driven at the time, and problems of adequate and appropriate shafts, belts and gears had not yet brought forth any standard solutions. Just how the

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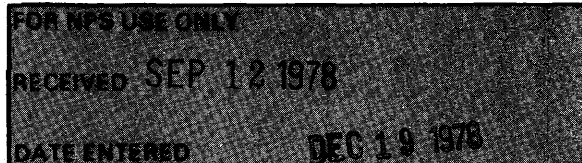
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millers at Easton adjusted the power of the engine to the original grinding machinery is unknown. Two things are certain, however: one, he had great difficulty in maintaining a trouble-free system, and two, the amount of horsepower available was greatly in excess of the amount required to run his machinery. The miller probably learned from experience and, as a result, became something of a mechanical engineer in the course of pursuing his profession.

As regards the excess of horsepower at Easton, we can say that, in retrospect, it was a fortuitous situation. The power available and the existence of some transmission hardware greatly facilitated and probably encouraged the installation of roller-mill machinery. When Isaac Morris put in the roller process at Easton in 1894, the superiority of the gradual reduction process had been proven. The consumer demand for middlings or "patent" flour was expressing itself in the marketplace in terms of higher prices. In a rural area like Easton, a roller process meant not only higher prices but more business. By the time Morris decided to modernize his mill, the technical expertise needed to set up and run the machinery for a gradual reduction process had risen above the level of the competent country carpenter and blacksmith. Aside from the problems of harnessing a new prime mover, the additional machinery necessitated a complex system of elevators to carry the grain through the many stages involved. The fact that the roller mills at Easton and a good deal of the other machinery was acquired from the Indianapolis (Indiana) firm of Nordyke and Marmon indicates that Isaac Morris himself did not have required technical expertise. Working under a license from various patent holders, the Indiana firm produced their own machinery, installed it, and sent a factory-trained miller to instruct the owner in its operation.

From 1865 until World War I, nearby Morgantown, the chief user of Easton Mill flour, grew from a sleepy little river community to a rather large, diversified center. The several factors involved in this growth brought in a diverse population which made Morgantown, on the whole, a more cosmopolitan center than the surrounding area. Its situation on the Monongahela River meant that, even before the war, it had become a market center with a river connection to Pittsburgh. Various small industries had developed to supply the surrounding agricultural region with manufactured goods. Among these were a foundry, a pottery, a paper mill and a steam-powered wagon factory. In addition, there were numerous retail outlets for goods brought in by steamboat, e.g., clothing and furniture. In 1864, Morgantown was designated by the legislature of West Virginia as the site of the new state university. Together, these factors made the community the logical center for the subsequent industrial development

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of the surrounding area. It provided a pool of qualified labor (clerks and managers) and housing and supportive services for the new population which that development attracted.

Morgantown's greatest period of industrial expansion coincided with development of nearby coal and oil deposits. From 1885 until World War I, the growth of supportive facilities for these industries wrought great changes on local patterns of culture. Railroad and telegraph connections were made with the major industrial centers of Pittsburgh, Baltimore and Philadelphia. Availability of coal and gas for fuel attracted new industries, particularly steel and glass. In general, development brought with it a whole new range of occupational roles and their corresponding cultural patterns.

While we must be careful not to over-generalize, some tentative conclusions may be drawn as to the effects of such changes on an enterprise like the Easton Roller Mill. The acceptance of the roller process was, after all, dependent upon two factors: the exposure of the miller to its existence, either through literature or from millwright representatives, and, two, the local demand for a flour which made white, light bread. Consequently, the success of the mill from 1894 until 1930 reflects upon the nature of Morgantown which was much more amenable to national trends (at least in bread consumption) than were the surrounding rural areas. During the period when the location of mills was greatly influenced by grain supply, the roller mill process was even more closely circumscribed by the susceptibility of local markets to national tastes. In many rural areas, milling was unaffected until the appearance of electronic communications and modern transportation. The former created the demand, but the latter made the location of industry independent of grain supply and markets. When W. C. Ley and Frank Walls tried to re-open the mill in 1939 (it had closed in 1930), they found that local farmers no longer produced grain and that most people bought their flour at the grocery store where they could choose one of several nationally-marketed brands. With the usefulness of Easton Mill thus circumscribed, it closed its operations for good.

Today the roller process machinery and equipment remain pretty much intact. Under the auspices of the Monongalia County Historical Society, this mill that played a significant role in bringing technological growth to a surrounding community attuned to change and expansion once again displays its resources. *

* Adapted from Zembala, Dennis M., "Easton Roller Mills" (Draft).
Washington, D.C.: Historic American Engineering Record, n.d.

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DEC 19 1978

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Ryan, Evelyn. "Old West Run Road Grain Mill Subject of Historic Survey," Dominion-News (Morgantown, W.Va.), June 9, 1973.

Zembala, Dennis M. "Easton Roller Mills" (Draft). Photocopied. Washington, D.C.: Historic American Engineering Record, n.d.