United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations of eligibility for individual properties or districts. See instructions in *Guidelines for Completing National Register Forms* (National Register Bulletin 16). Complete each item by marking "x" in the appropriate box or by entering the requested information. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, styles, materials, and areas of significance, enter only the categories and subcategories listed in the instructions. For additional space use continuation sheets (Form 10-900a). Type all entries.

1. Name of Property

historic name W.P. SNYDER, JR. (river towboat)
other names/site number W.H. CLINGERMAN, J.L. PERRY, A-1

2. Location

street & number Muskingum River off 601 Second Street ☐ not for publication
city, town Marietta ☐ vicinity
state Ohio code OH county Washington code 167 zip code

3. Classification

Ownership of Property	Category of Property	Number of Resources within Property	
		Contributing	Noncontributing
☒ private	☐ building(s)		buildings
☐ public-local	☐ district		sites
☐ public-State	☐ site	1	structures
☐ public-Federal	☒ structure		objects
	☐ object	1	Total

Name of related multiple property listing:

Number of contributing resources previously listed in the National Register 0

4. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this ☐ nomination ☐ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. ☐ See continuation sheet.

Signature of certifying official Date

State or Federal agency and bureau

In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. ☐ See continuation sheet.

Signature of commenting or other official Date

State or Federal agency and bureau

5. National Park Service Certification

I, hereby, certify that this property is:

☐ entered in the National Register.
☐ See continuation sheet.
☐ determined eligible for the National Register. ☐ See continuation sheet.
☐ determined not eligible for the National Register.
☐ removed from the National Register.
☐ other, (explain:) _____

Signature of the Keeper Date of Action

6. Function or Use

Historic Functions (enter categories from instructions)

TRANSPORTATION--water related
INDUSTRY

Current Functions (enter categories from instructions)

RECREATION AND CULTURE--museum

7. Description

Architectural Classification (enter categories from instructions)

N/A

Materials (enter categories from instructions)

foundation N/A
walls N/A
roof N/A
other N/A

Describe present and historic physical appearance.

W.P.Snyder,Jr. is a riveted-steel, steam-powered, sternwheel-propelled, "pool type" towboat. The superstructure is built of wood, and the hull is supported by a hogging truss system in the traditional manner of Western Rivers steamboats. W.P.Snyder,Jr.'s large sternwheel is propelled by a cross-compound, non-condensing, reciprocating steam engine.

W.P.Snyder,Jr., was built as the W.H.Clingerman, in 1918 by James Rees and Sons, of Pittsburgh, Pennsylvania. She is one of only three remaining Western Rivers towboats and the only remaining example of a pool type boat designed to pass under low bridges. Snyder remains almost unchanged from her appearance and condition when built.

Hull

W.P.Snyder,Jr. was built of heavy steel plates, double-riveted to steel angle frames. She measures 151.7 feet long, with an overall length including sternwheel of about 175 feet. She was 28.4 feet wide when built but was widened to 32.3 feet in beam, late in her service life. Her depth of hold is 5.2 feet. [2] The hull was fitted with a full scow form bow, a flat bottom with no external keel, and a tucked-up run to the stern with rounded indentations to clear the rudders. The bow is fitted with a skeg on the centerline to help give resistance to sideways motion and aid in steering. Internally, Snyder is divided into several watertight compartments by athwartships bulkheads.

Like most Western Rivers steamboats, Snyder's hull is supported by a truss system, which in effect makes the hull one large girder. Two rows of vertical I-beams rise from side keelsons, parallel to the center keelson, and are tied to the hull and to each other by truss rods. These allow the buoyancy of the entire hull to support the weight of heavy fittings, such as the engines and boilers. On Snyder, the hogging braces and chains are quite visible where they extend through the superstructure. [4]

[X] See continuation sheet

8. Statement of Significance

Certifying official has considered the significance of this property in relation to other properties:

[X] nationally [ ] statewide [ ] locally

Applicable National Register Criteria [X] A [ ] B [X] C [ ] D

Criteria Considerations (Exceptions) [ ] A [ ] B [ ] C [ ] D [ ] E [ ] F [X] G

Areas of Significance (enter categories from instructions)	Period of Significance	Significant Dates
Maritime History	1918-1955	
Transportation		
Engineering		
Industry		

Cultural Affiliation
N/A

Significant Person
N/A

Architect/Builder
James Rees & Sons

State significance of property, and justify criteria, criteria considerations, and areas and periods of significance noted above.

The sternwheel river towboat W.P.Snyder,Jr. (Snyder), is now a museum vessel at the Ohio River Museum, on the Muskingum River where it meets the Ohio. Towboats have been employed moving barges on all the navigable waters of the Western Rivers, and have been an important component of the American transportation system since the 1850s. Few examples of any paddlewheel propelled vessels still remain in the United States, and as one of only three steam powered towboats, and the only remaining "pool type" boat, Snyder is of exceptional national significance. [1]

She was built in 1918 as the W.H.Clingerman, the first Carnegie Steel Company boat on the Ohio, Monongahela, and Mississippi Rivers. In 1938, she was renamed J.L.Perry, a name which she kept until 1945, when she was renamed A-1. The Crucible Steel Company of America bought her from Carnegie Steel later in 1945 and renamed the boat again for W.P.Snyder,Jr., the president of the Company.

Snyder spent her entire career towing barges loaded with coal, iron ore, and finished steel products on the Ohio River and its tributaries. This transportation of raw materials and finished products was vital to the American steel industry, and because of the importance of steel in our industrial expansion, to the growth and well-being of the entire economy.

Diesel towboats, with their smaller crew requirements, put steamboats out of business and in 1954 Snyder was laid up. In 1955, Mr. Snyder and the Crucible Steel Company donated Snyder to the Ohio Historical Society and the Sons and Daughters of Pioneer Rivermen. She is now a museum vessel at Marietta, Ohio and is in an excellent state of preservation.

[X] See continuation sheet

9. Major Bibliographical References

See footnotes in text.

☐ See continuation sheet

Previous documentation on file (NPS):
- ☐ preliminary determination of individual listing (36 CFR 67) has been requested
- ☐ previously listed in the National Register
- ☐ previously determined eligible by the National Register
- ☐ designated a National Historic Landmark
- ☐ recorded by Historic American Buildings Survey # _____
- ☐ recorded by Historic American Engineering Record # _____

Primary location of additional data:
- ☐ State historic preservation office
- ☐ Other State agency
- ☐ Federal agency
- ☐ Local government
- ☐ University
- ☐ Other

Specify repository: _____

10. Geographical Data

Acreage of property Less than one acre.

UTM References

	Zone	Easting	Northing
A	17	460120	4306300
B			
C			
D			

☐ See continuation sheet

Verbal Boundary Description

All that area encompassed by the extreme length and beam of the vessel.

☐ See continuation sheet

Boundary Justification

The boundary encompasses the entire area of the vessel as she floats at her berth.

☐ See continuation sheet

11. Form Prepared By

name/title Kevin J. Foster, Historian
organization National Park Service, 418 date 5 February, 1989
street & number P.O. Box 37127 telephone 202 343 9525
city or town Washington, state D C zip code 20013

Towboats also possess another fitting not found on other river types. Their flat bows are usually fitted with heavily reinforced vertical stanchions called towing knees. Snyder has four towing knees across her bow. The second knee from the left has stairs and a railing to aid in climbing to the decks of barges in the tow string.

Superstructure

The superstructure of Snyder consists of two decks: the main, on which the propelling machinery is located, and the boiler deck above the boilers, which supports the pilothouse and quarters for the crew. Snyder was built with a mostly open main deck except for the engine room aft. This deck was closed in cold weather by removable wooden panels. Stanchions and framing for the boiler deck are built of steel. [5] Stanchions, decks and bulkheads of the upper deck are built of wood with lightweight steel reinforcement.

The main deck has a squared open foredeck which extends aft to the partition which encloses the superstructure front. A steam-powered capstan is set in the middle of the foredeck behind the towing knees. Two more smaller capstans are mounted on the centerline inside the boiler room. Four large sliding doors, on the port and starboard sides of the superstructure, give access to the interior.

Boilers

The boiler room is the area aft of the bunker compartments, occupied by the boilers. The boilers are not operational at present, but the museum hopes to return them to service. The four boilers are connected by a pair of mud drums below and a single steam drum above. The mud drums gathered sediments precipitated out of boiler water, from which they could be blown overboard periodically. Each cylindrical boiler was fired from the front with bituminous coal. Coal was fed from the bunkers forward to the boiler fireboxes, by steam-driven automatic stokers. The fire passed beneath the water to the back of the boiler and returned through the water to the uptake by way of two, large diameter flues per boiler. Exhaust gasses passed through uptakes above the fire box, and exited the boat through smokestacks to port and starboard. Steam produced by the boilers was extracted from the steam drum and passed through the main

steam line overhead to the engine room. The entire assembly is covered by a sheet steel jacket over refractory material covering the boilers. The current boilers are the original set fitted to Snyder. She is fitted with four return-flue boilers, 44 inches in diameter, and 28 feet long, rated for 200 PSI.

Three types of instruments indicate the level of water in the boilers. The oldest form of instrument is a vertical row of three small spigots, called test cocks, set into the back of each boiler. The water level is found by opening each one briefly to see whether steam or water comes out. The next oldest type, called a Van Duzen gauge for the inventor, is a clock face gauge activated by a float inside the center boiler. The third, and most modern type of water level indicator, called a sight glass, is a pipe, open at the top and bottom to the rear of the boiler. The sight glass is a heavy glass window set into the pipe through which the water level can be viewed. The redundancy of water level indicators assures that the water will not be allowed to drop low enough to damage the boilers. [7]

The passageways on deck outboard of the boilers are wide and have no rails. Crew members could walk from the bow aft to the engine room by way of the passageways to port and starboard. In the engine room they could ascend to the deck above on a stairway over the port engine.

Engine Room

The engine room occupies the entire width of the stern and contains the engines, rudders, auxiliary machinery, heads, and engine controls. The engines are mounted to port and starboard in the engine room on massive structural members called cylinder timbers. The cylinder timbers support the cylinders and crossheads at their inboard ends and the paddlewheel shaft at the after end.

Western Rivers steamboat engines showed a great deal of variety in design from one builder to another. The most popular types of engine used variable cut-off steam valves. The engines of Snyder were built by the James Rees & Sons Company, of Pittsburgh, Pennsylvania. They are tandem-compound, condensing, engines equipped with a Rees-patent adjustable or variable cut-off with an inside cam motion. The cam turns inside a frame as the pitman turns the paddlewheel, and converts the motion to linear to-and-

fro motion. This motion operates the valve gear which admits steam to the cylinders.

In tandem-compound engines the steam was expanded twice. Two cylinders were mounted in line and pushed a single piston rod. Steam entered the smaller, high-pressure cylinder to the rear first and then expanded again in the larger, low-pressure cylinder nearer the stern. Each piston pushed a heavy crosshead along a slide attached atop the cylinder timbers. The crosshead pushed and pulled the pitman (an overgrown connecting rod) which turned the crank and thus the paddlewheel. The high-pressure cylinder is 14 inches in diameter and the low-pressure cylinder is 28 inches in diameter. Both tandem engines have a stroke of 7 feet and develop 750 horsepower. [8]

The surface condenser is a large cylinder mounted at the forward end of the engine room. It receives the spent steam from the cylinders and saves the hot water for return to the boiler to raise the efficiency of the propulsion plant. Condensers were used in few Western Rivers steamboats due to the abundance of cheap fuel, but in the waning days of steam on the rivers every device that increased efficiency was utilized.

The paddlewheel is the massive construction of steel and wood which propels the boat. It is 21 feet in diameter, 29 feet long and has buckets with a dip of 36 inches. Five flanges, holding sixteen arms each, are evenly spaced along the paddleshaft. The arms are all held rigid by iron circles and blocking. Each arm and flange assembly forms one segment of the entire paddlewheel. The ends of the arms on each segment are attached to the paddle bucket planks which actually push the boat. [9]

A number of small auxiliary steam engines power various pumps and generators. Snyder did not use any gas or Diesel motors in service. Two steam reciprocating, double-acting, duplex pumps handled all regular pumping duties.

All engine room controls are located just in front of and between the engines. A system of bells, connected to the pilothouse, guided the engineer on duty as to what speed and direction (forward or reverse) was desired. Coast Guard regulations required a chief engineer and a striker on duty in the engine room and a fireman in the boiler room when Snyder was operated. [10]

The steering is controlled from the pilothouse, but much of the multiple rudder system is located in the engine room. Two systems were used. The preferred system used a steam steering engine, controlled from the pilothouse, to move the central tiller arm and turn the rudders. The second, older system used cables from the pilothouse wheel to move the central tiller arm at the rear of the boat. This central tiller arm is yoked to two other rudders for additional control in maneuvering. Snyder is unusual for her lack of additional rudders, called monkey rudders, behind the paddlewheel. [11]

Second Deck

The deck over the boilers in poolboats was used to build cabins for the crew. These cabins were of the lightest possible construction. The second deck holds cabins, a kitchen and dining area, and the boat's office. The crew and officers are housed in double and single cabins, with doors opening both to an inside hallway, and to the deck outside. The cabins are cooled by opening small ventilating windows just under the ceiling, and heated by several large coal stoves and the heat radiated by the boilers and engine room. A covered walkway runs around the second deck house from the pilothouse aft to the stern bulkhead.

Carbon-arc searchlights are mounted on tall pylons at the outboard corners of the forward edge of the second deck. A three chime steam whistle is mounted at the starboard rear corner of the pilothouse. It was inherited from another boat owned by the same company, called Crucible, which was dismantled in 1948. [12]

Pilothouse

The pilothouse is built of steel, with large sliding windows all around. It is raised above the level of the second deck house to allow the steersman 360 degree visibility. The roof is flat with a very slight crown.

The main feature of the pilothouse interior is the huge ship's wheel at the forward side, half hidden by the floor. This wheel steers the boat by means of cables which run down to the stern. A foot brake in the pilothouse floor, uses leather pads to stop and hold the wheel at the desired rudder angle. Snyder is one of very few surviving steamboats with both this method of steering, which Mark Twain would have found familiar, and the more modern

steam steering gear controlled by levers. Steam steering gear was developed around 1900 and rapidly supplanted the cable and wheel mechanism, which was prone to breakage. Levers in the pilothouse control steam cylinders in the engine room which turn the central rudder by means of a long tiller arm. The other two rudders are yoked to move with the center rudder.

The pilothouse is surrounded by sliding windows which can be moved out of the way for clearer visibility. The front face is also fitted with chest boards which protect the person at the wheel from some of the rain and wind. Each side of the pilothouse has a railed steel wing and a steel stairway down to the second deck.

Rig

Like other poolboats, which must pass under low bridges, Snyder does not step any masts. She does possess two flagstaffs, one at the front of the second deck, and another at the stern bulkhead, which can be unstepped if needed.

Boiler exhaust travels up from the boilers on two sides and out of the boat through two short smokestacks. The stacks are hinged at the level of the pilothouse roof so that they can be lowered. Simple counterweights on short arms allow the stacks to be handled with little effort. [14]

Notes

1
Alan L. Bates, The Western Rivers Steamboat Cyclopoedium (Leonia, New Jersey: Hustle Press, 1968) passim.

2
Frederick Way, Jr., Way's Packet Directory: 1848-1983 (Athens, Ohio: Ohio University, 1983) p. 222.

3
Alan L. Bates, "Idlewild - Avalon - Belle Of Louisville" (Blueprint plans, Louisville, Kentucky: Alan L. Bates. N.D.) p. 8.

4
Bates, Steamboat Cyclopoedium. pp. 22-30.

5
For details of construction when built and appearance of bull rails see Photo No. 1.

6
David Tschiggare, "Belle of Louisville Steams On" Steamboat Bill (No. 102, Summer, 1967) pp. 67-69, and Bates, Steamboat Cyclopoedium, pp. 41-44, and United States Coast Guard. "Certificate of Inspection" (Washington. D.C.: issued April 1, 1987) p. 2.

7
Reports and Documents upon the subject of The Explosions of Steamboat Boilers (Washington, D.C.: Duff Green, 1833) passim.

8
James H. Rees, James Rees & Sons Company, Illustrated Catalog (Pittsburgh: N.P., 1913) pp. 30-31.

9
Bates, Steamboat Cyclopoedium, pp. 92-97.

10
United States Coast Guard, op. cit., p. 1.

11
Bates, Steamboat Cyclopoedium, pp. 36-39.

12
Bates, "Idlewild - Avalon - Belle Of Louisville".

13
Bates, Steamboat Cyclopoedium. pp. 80-84.

14
For details of rig and ornament see photos and Tschiggfre. op.cit., pp. 67-69.

The preceding statement of significance is based on the more detailed statements that follow.

The Development of Western Rivers Watercraft

The Western Rivers system, composed of the Mississippi, Ohio, Missouri, and other tributary rivers, carried most of the immigrants and freight that settled the Midwest. Starting in the late 1700s, most settlers travelled from the East Coast overland to Pittsburgh, Wheeling, or Redstone and then down the Ohio River to points west. [2] Only a small number traveled north from New Orleans and southern regions using the Mississippi and other rivers running from the North.

To reach the new lands of the West, Europeans adapted boat types already in use by Native Americans and on the East Coast. Explorers used birch bark canoes and settlers used larger dugouts to open the West to settlement. As more people moved west, boats with greater capacity were needed, which called for new boat types. A form of enlarged dugout, called a pirogue, was developed first. Pirogues were more capacious than dugouts and were themselves adapted into more useful forms. The first adaptation changed the method of construction, by taking the well-formed hull shape of the pirogue and replacing the hewn multiple-log construction of pirogues with European plank-on-frame construction. [3]

Plank-on-frame construction was also used for another boat type called a bateau. Bateaus had been adapted for frontier use on the eastern seaboard in the early 1700s and were built for use on the Western Rivers later. When more traditional European construction practice was followed with these vessels, they resembled ship's boats but with more substantial timbers. When the best features of pirogues and bateaus were combined, they were given a hull shape that provided little resistance to the water, an external keel to help in steering, and sufficient cargo capacity to pay their way. This new type was called a keelboat. [4]

Keelboats were the most developed form of watercraft on the river and were used for rapid transportation of passengers and high value freight. Keelboats were usually 40-80 feet long and 7-10 feet broad. They possessed a well-modelled form, and could be propelled about 15 miles a day, by either oars at the bow or by

poles pushed by the crew walking along a footway at each side. A single steersman stood atop a block at the stern to guide the keelboat using a long steering oar. Some keelboats which sailed an advertised route on a regular schedule came to be known as packets, the deep water term for vessels in such service. [5]

Cheaper transportation was afforded by the use of barges and flatboats. Flatboats were box-shaped variants of the scow hull form used for ferries on shallow Eastern rivers. Flatboats were the cheapest form of transportation on the rivers. Intended to travel only one way and then be broken up for lumber, flatboats could be built, loaded with household goods, and sailed by the settlers themselves. [6]

Barges occupied the middle range of watercraft between keelboats and flatboats. Though similar in construction to keelboats, early barges were built wider, more robust, and drew more water. Barges, with their deeper draft, transported heavy freight on the deeper rivers. [7]

Development of the Western Rivers Steamboat

Robert Fulton built the steamboat New Orleans at Pittsburgh, Pennsylvania, in 1811, and started a revolution which changed the pattern of commerce on the rivers. She proceeded down the Ohio and Mississippi rivers to her namesake city attracting publicity and attention along the way. The advent of steam propulsion on the Western Rivers revolutionized river transportation. Steamboats would provide convenient, inexpensive transportation and greatly facilitate the opening of the continent to settlement. New Orleans, and the boats which were built on her pattern, were powered versions of canal boats. Their long, narrow, deep hulls were better suited to deep eastern rivers than the shallow Mississippi, but were needed to support heavy steam machinery. Another sort of boat was required, but several design problems had to be overcome before steamboats could be a success on the Western Rivers. [8]

To navigate on the shallow rivers of the West, steamboat hulls and machinery had to be made as light as possible. Machinery weight problems were solved first. A lightweight, high-pressure engine was employed to propel a small boat called Comet in 1813. The powerplant was further refined in 1816 by Henry Shreve, who put the boilers on deck and designed a new type of engine to

distribute machinery weights out over a large area of hull. Shreve's new engine design used a direct-acting, horizontal, high-pressure engine to drive the paddlewheel propeller. The second design problem was overcome through the years. Eventually, lightweight hull construction gradually replaced earlier robust "canal boat" construction. A broad, shallow-draft, hull form, using a truss-rod system rather than heavy wooden beams, was developed over time.

To succeed in business, these lightly built boats had to carry a large amount of freight and many passengers. In answer to this requirement, sponsons were built over each side of the hull to extend the deck area and the superstructure was extended several decks above the boiler deck to support passenger cabins.

All of the essential elements of the Western Rivers steamboat were present by 1825. Broad, shallow-draft, vessels with boilers and engines on deck, sidewheels or sternwheels for propulsion, and cabins built on lightweight decks above the freight and machinery-laden maindeck, soon appeared on every tributary of the Mississippi. The ease and economy of this service caused the value of goods reaching New Orleans to double every ten years from 1820 to 1860. [9]

One feature of cardinal concern in the development of Western Rivers steamboats was safety. Early boats were particularly susceptible to boiler explosions, fires, and sinkings caused by hitting snags. Extraordinary dangers included being damaged in floods, tornadoes, and ice gorges. The lifetime of a steamboat in the 1840s and 1850s was estimated to be below five years. This situation changed very slowly.

Government intervention forced builders and operators of steamboats to become more conscious of safety considerations in a way that commercial motivations could not. In 1838, Congress responded to the need for increased safety aboard steamboats when it passed an act requiring the inspection of steamboats. In 1851, six steamboat disasters took over 700 lives and caused Congress to tighten these safety regulations. The Steamboat Inspection Act of 1852 set standards for both boats and operators, and created a system of Federal inspection to oversee them. [10]

Many hazards to navigation did not deter business. New boats replaced those lost to various causes. A substantial salvage

business grew up in consequence: parts produced for one steamboat might be reused on a succession of later boats.

As time progressed, steamboat designs diversified to meet the needs of various trades and routes. Various features advantageous to particular trades or routes, were accentuated in vessels built for them. Passenger vessels required high speed and high-class accommodations. Ferries called for wide stable hulls. Package freighters required dependable engines and robust construction as they carried heavy cargo on deck or in barges alongside. In some services speed became paramount, even surpassing safety concerns. Faster vessels required fine lines, powerful engines, and multiple boilers to supply plenty of steam. [11]

Shallow tributary rivers such as the Missouri and the upper regions of other rivers required boats with exceptionally shoal draft. Bertrand, sunk in 1865 on the Missouri River, drew only 18 inches when light. To operate in such shallow water steamboats had to sacrifice all unnecessary weight and be satisfied with minimal superstructures. [12]

By 1880, though a depression in river trade had hurt steamboat companies, riverboat technology continued to advance. Several distinct types of steamboats had been developed for work on the Western Rivers. Passengers were carried on riverboats of any kind from time to time but several types were particularly adapted for passenger service. The most elaborate of these were saloon or palace steamers providing luxury passenger transportation in elegant cabins. Such boats usually ran on schedule, and often carried mail to designated ports. These services duplicated those of ocean-going packet companies; these boats were aptly termed packets. [13]

Other passenger vessels were adapted for short day excursions carrying groups and charters to nearby scenic areas and for cruises to nowhere. These excursion boats were usually large sidewheelers operating from large port towns. Smaller boats also made occasional trips on the rivers "tramping" for charters.

The Development of Towboats

More mundane sisters to the packets operated carrying passengers and cargo, wherever it could be found. Such non-scheduled steamboats often pushed one or more barges to increase cargo

capacity or to decrease draft in periods of low water. Coal was carried from the 1850s and later salt, hay, iron ore, and grain were carried. By 1860, a system of towing barges lashed alongside and ahead of the towboat was developed which allowed greater control than towing on a hawser. This type of service favored sternwheel propelled boats over sidewheelers and promoted other improvements as well. Towboats had become a distinct type by 1870.

Barges also developed in size, construction, and began to be built in standard sizes. Early barges were of two general types. The more common type was a long narrow scow hull, built of planks and used on one-way trips down river carrying coal. This type was generally developed from the flatboat. When they were unloaded they were broken up and sold as lumber. The other type of barge was used for voyages both up and down stream. These were usually greatly enlarged versions of the barges of the 1820s called "model" barges, for their finely modeled ends. Towboats were moving barges carrying over 19 million tons of products per year by 1889.

Towboats were designed to act as floating engines to propel barges. Only the barge need be detained while loading or unloading cargo, and not the expensive towboat. Nearly all towboats had, and have, straight sides and ends to ease tying off to a string of barges. Strings of up to 60 barges were pushed on occasion but today 15 barges is the more usual number, because of the limited size of river locks requiring breaking tows into several pieces. [14]

Construction and Career of W.P.Snyder,Jr.

The iron and steel industry in Pennsylvania required large quantities of iron and coal or coke for production. In the late 1800s, roughly twice as the weight of coal as iron was required to make steel. Thus it was cheaper to bring iron ore near to the coalfields for production into steel. The switch from coal to the more economical coke, allowed these locations to be reversed. Coke is liable to damage in transport so coal was shipped to the coke ovens and there converted into coke. It was 1890 before coke producing companies started to use barges to transport coal to the ovens. In that year, Jones and Laughlin bought the Vesta coal mines near the Monongahela River and used barges to transport coal to their steel plant and coke ovens at Pittsburgh.

Other steelmakers slowly followed suit, so that by the First World War, most used barges to haul coal to the mills. [15]

The high cost of transporting coal for steel-making purposes by rail eventually encouraged the Carnegie Steel Company to transport coal to their mills using cheaper means. Barges moved by towboats had been, and continue to be, the cheapest means to carry such bulk cargoes.

Carnegie ordered a new towboat from the yard of James Rees & Sons in Pittsburgh, Pennsylvania in 1918. Her launch into the Allegheny River was the first act of Carnegie Steel towing activities on the Ohio, Monongahela, and Mississippi Rivers. The new boat, launched on February 21, 1918, was named for the President of the H.C. Frick Coke Company, W.H.Clingerman.

James Rees & Sons were well known as high class boat and engine builders for the rivers of North and South America. W.H.Clingerman and a sistership, Homestead, were the last two vessels built at the Rees yard in downtown Pittsburgh before the yard was moved.

Clingerman primarily towed coal barges from mines on the upper Monongahela River to Carnegie mills in Clairton, Pennsylvania. She also towed barges loaded with finished steel on occasion and made at least one trip to Memphis, Tennessee. In May 1938, she was renamed J.L.Perry, and in the spring of 1945 she was named A-1.

Carnegie Steel sold A-1 and her sister Homestead, now renamed A-2, in August, 1945, to the Crucible Steel Company of America. Crucible Steel renamed A-1, W.P.Snyder,Jr., and renamed A-2, W.H.Colvin,Jr., and used them to tow coal barges to their mills in Midland, Pennsylvania. Snyder was named for the president and chief executive officer of the company.

Competition from newer Diesel-propelled towboats, with lower manning requirements, made continued operation of steam towboats uneconomical in the late 1940s. Crucible Steel laid up W.P.Snyder,Jr. and W.H.Colvin,Jr. in 1954.

The retirement of the last of the steam sternwheelers in the early 1950s encouraged the Ohio Historical Society and the Sons and Daughters of Pioneer Rivermen to try and preserve one for posterity. Mr. Snyder agreed that the boat named for him would

be a fine resource and reminder of the days of steamboats on the rivers and presented her to the Ohio Historical Society, September 16. 1955. [16]

W.P.Snyder,Jr., plays an important part in the cultural. technological, and historical heritage of the Ohio and in the entire steel and coal producing region, where she is regarded with particular affection. Snyder is also of great importance as the sole remaining example of her type, which played an important part in the industrial expansion of the United States. and was used on all the waters of the Western Rivers.

Notes

1
James P. Delgado et al., "Evaluative Inventory of Large Preserved Historic Vessels in the United States," (Washington, D.C.: National Park Service, 1988) entries for W.P.Snyder, Lone Star, Geo. M. Verity.

2
Francis S. Philbrick, The Rise of the West: 1754-1860 (New York: Harper & Row, Publishers, 1965) pp. 312-315.

3
Leland D. Baldwin, The Keelboat Age on Western Waters (Pittsburgh, Pennsylvania: University of Pittsburgh Press, 1980) p. 41.

4
Baldwin, op. cit., pp. 42-44 and pp. 50- 51.

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