



American Canals

The Bulletin of the American Canal Society

www.americancanals.org

Vol. I No.4 Dedicated to Historic Canals, Research, and Parks Fall 2021

The Millener Boat Yards of Rochester and Syracuse

By Richard Palmer

Boat building was brisk along the canal during the period of the so-called "First Enlargement" in the 1840s and 1850s. Scores of yards seemingly popped up overnight along the canal, giving work to hundreds of boat carpenters and kindred occupations. For a time the lumbered required - especially oak - was plentiful.

To accommodate larger vessels the New York State Canal Commissioners expedited the process of rebuilding the locks and aqueducts as well as other works, and straightening the canal. Work on the First Enlargement began in 1838 and was not entirely completed until 1862. But larger craft were able to navigate the canal by the mid-1850s as new facilities became available. The larger yards employed large numbers of men throughout the system. By the early 1850s boats were being turned out annually by the hundreds. They were built for companies (line boats) as well as for individuals and off-canal shipping companies. Boats were not only built in cities like Buffalo, Rochester and Syracuse, but in remote backwaters. Many were even built along rivers and streams as well as on Lake Ontario ports, especially in Oswego.

One of the more prominent boat builders of this era was Joel Potter Millener. He was born in Cortland on July 8, 1813, the son of Alexander and Abigail (Barton) Millener. His father is said to have been a drummer boy for General George Washington during the Revolutionary War. This is another story in itself. At an early age Joel and his family moved to Port Byron where he learned the boat building trade.

As early as 1823, David Johnson built a drydock along the newly completed Erie Canal in Bucksville, which is now Port Byron. Joel Millener's brother, George Washington Millener, John Davis and Joseph Duram eventually purchased this drydock. Later, this business was moved to the corner of Canal and East Dock streets. Subsequent owners were Richard King, Lorenzo Ames and O. B. and H. E. Tanner. This business lasted until 1918.

By the early 1840s the Millener brothers had turned their sights elsewhere and established much larger operations in Rochester and Syracuse. In Rochester, their boat yard was at Oak and Smith streets. Their other yard was established in Geddes, between the canal and the Oswego & Syracuse Railroad, just west of the city at Oak and Smith streets streets in Rochester.(1)

In a small advertisement in the Rochester Daily Democrat of November 15th of that year he advertised he had "300 Sacking Frames of a superior quality for sale cheap" at his boat yard. Among other businesses, Millener was a director of the Merchants Insurance Company of Western New York.

Millener paid cash on the barrelhead for materials such as lumber. Through the years he advertised in the Rochester Daily Democrat that he would pay the highest prices in cash for boat knees and oak planks 10 to 30 feet in length, delivered at his yard. It was common for him to advertise for as many as 50 ship carpenters. He also had a marine railway for boat repairs, but there is no evidence of his owning dry-docks.

In 1846 he established the Washington Boat Yard in Geddes, just west of Syracuse. He was also engaged with D. R. Barton of Rochester in the manufacture of edge tools. During the Civil War they manufactured bayonets for the Union Army.(2)

This interesting advertisement appeared in the Rochester Democrat on November 20, 1844:

NEW ARRANGEMENTS FOR LIFE

The subscriber having built a new basin on the corner of Smith and Oak streets, is now prepared to take care of boats on the most favorable terms, having a large and convenient basin free from stone and logs, and the inlayed canal which is one hundred and twenty five feet in front of his basin, so there will be no danger of boats being run into

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The Bulletin of the American Canal Society

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For Canal Calendar items and news of local, state, and regional canal societies: Contact Michael Riley at mriley20@twcnny.rr.com

The objectives of the American Canal Society are to encourage the preservation, restoration, interpretation, and use of the historical navigation canals of the Americas; to save threatened canals; and to provide an exchange of canal information. Manuscripts and other correspondence consistent with these objectives are welcome.

An annual subscription of four issues of American Canals is included with ACS membership. Regular single membership \$25; Family Membership \$35. Single copies of American Canals, \$3.

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Deadline for materials. American Canals is published quarterly. Every effort is made to include new materials in the next issue. Materials submitted to American Canals for publication should be typed and double spaced or sent by email in MS WORD or Libre WRITER format. You may send actual photographs, which will be scanned and returned, or digital versions may be emailed.

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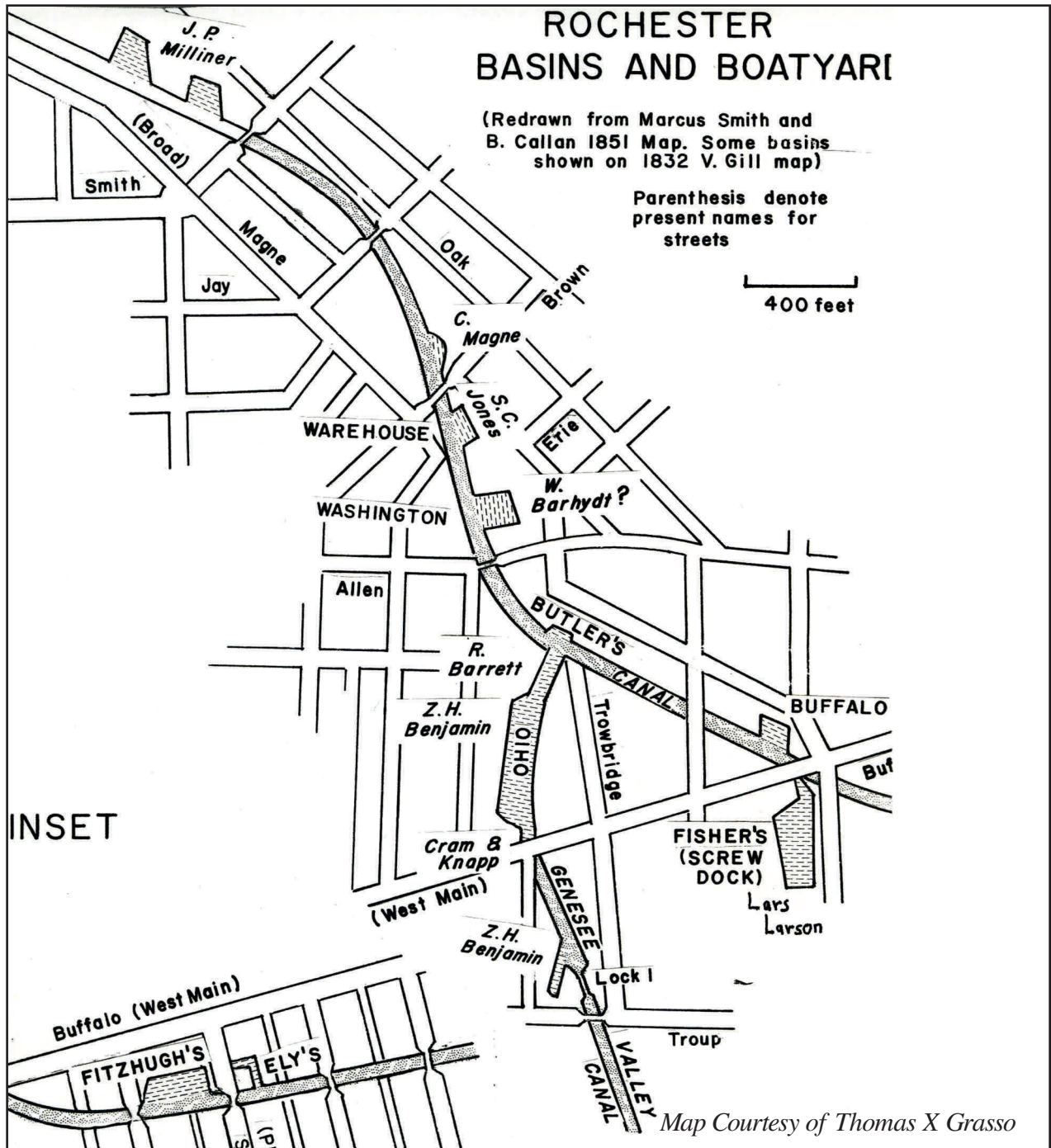
or jammed, and being clear from buildings, there will be no danger of fire. Boatmen that wish to find their boats in the spring, will do well to lay them up at Millener's new boat yard. Having been brought up in a boat yard I can cure all the bruises and jams and lingering complaints that old boats are heir to; and forwarders and boatmen, one and all, will confer a favor on the subscriber in giving him a call. JOEL P. MILLENER

In 1850 Millener constructed a steamboat built in two sections with a 22-foot beam. It was then taken to the California coast. In 1846 he advertised he was prepared to build every conceivable type of boat. A cleverly worded advertisement in the Rochester Daily Democrat of January 5, 1852 reads:

BOAT BUILDING AND REPAIRING

By J. P. Millener, corner of Smith and Oak streets, Rochester, N.Y., where all orders from

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abroad or at home promptly attended to. From long experience and having a faithful set of hands, I think I can suit the most difficult, both as to time and durability of work. Large and small Contracts promptly attended to, by myself. J. P. MILLENER

The Millener boat yard is no longer listed in the Rochester City directory after 1855.

The following articles appear to be the only existing descriptions of his huge boat yard operation in Syracuse that he operated with his brother, George W. Millener. The name Washington obviously was in honor of their father's affiliation with George Washington.

Syracuse Daily Star, June 30, 1849, Washington Boat Yard

J. P. and G. W. Millener's Boat Yard is situated between the Rochester and Syracuse and Oswego Railroads and the Great Western Canal, and between Nolton's salt works and the canal basin.

The boat yard is one hundred and seventy feet in breadth and sixteen hundred feet in length. They calculated to build one hundred and fifty boats within a year. They have been engaged for a number of years in the city of Rochester in this business, and have now established themselves in this city.

They have now about one hundred hands in their employ and calculate to increase that number to three hundred; part of whom are to be our own citizens and part will be of their old hands from the city of Rochester who follow them here, which is the best evidence of the enterprise and integrity of these gentlemen.

We think this establishment to be quite a valuable acquisition to our central and young but growing city. It is with much pleasure and we gladly embrace the opportunity to hail these enterprising and industrious strangers of one of our sister cities; and as such, take them by the hand and give them a hearty welcome. From what little we have seen of them during their short residence here, they have fully evinced to us that they are men possessing urbanity of manners, decision of character, a perfect knowledge of their trade, and a great tact for the management of their business.

They have selected this spot with admirable judgment. Completely fenced around the railroad and canal, situated entirely on one side of the city and away from the commercial part of the place, they can receive anything they want by the railroads or canal, by land or by water, and anything they wish to know by telegraph in a very short time.

Syracuse Daily Star, April 29, 1850, The Washington Boat Yard

Few of our readers are aware of the immense business done at this yard, which fact affords us opportunity to note the praise-worthy enterprise of the proprietors, Messrs. J. P. & G. W. Millener. The yard is located west of our city, and its ground are one and a quarter mile in length, by 300 get in width, bordered on the north by the Erie Canal, and on the south by the Oswego and Syracuse railroad, whereby access with materials of every kind and at all seasons is rendered easy and convenient.

The proprietors commenced operations at this yard on the 5th of May, 1849, and within the year have used about 4,000,000 feet of lumber, about \$20,000 worth of hardware, and have kept employed most of the time 100 to 300 men. They have constructed one hundred and fifty-four boats in the time, 150 of which were for the Pennsylvania Coal Company, 1 for the Delaware and Hudson Coal Company, and 3 for the enlarged canal.

In passing through the yard, the three boats last referred to, which are the first built for the enlarged canal, attracted out especial attention. They are of 200 tons burden, and belong to the enterprising firm of W. A. Jacobs & Co. of Rome. These boats are perfect models, and more resemble the appearance of ship bodies than of canal boats. Their tremendous size betokens to our mind the vast preparation demanded for the transportation of the increased productions of the west, and what immense crafts of moving merchandise will ere long be gracing the waters which now are and ever shall be monumental of the fame of CLINTON.

The Messrs. Millener, in the prosecution of their work for the year past, have expended in our city the enormous sum of ONE HUNDRED THOUSAND DOLLARS, and we fear that our citizens have not adequately appreciated this influx, which has constantly resulted more or less to their benefit. There are now 40 boats on the stocks in this year nearly in readiness for launching.

Boat Building in Rochester, American Railroad Journal, Saturday, April 18, 1846

The business of building canal boats is largely carried on in this city, and is on the increase. The skill and ability of our artisans in that peculiar branch of architecture are known and appreciated throughout the state. The different boat yards are alive with the most active preparations for the approaching season of navigation, and so great has been the demand that nearly all the builders have, within the last week, been compelled to

decline contracts to a very considerable amount. The boat building business is one of the most important industrial interests of our city. It vies employment to a large number of hands, and adds material to the prosperity of the place."

Joel P. Millener's Boat Yard - This establishment is the most westerly on the canal in this city, being situated on the north side of the canal, near the Jay street bridge. Mr. Millener's preparations and conveniences are on an extended scale. The joiner, painter, and blacksmith shops are on the premises, and all in the best order. A new railway, for raising boats out of the water for repairs, is in progress, and will greatly conduce to the convenience and safety of that operation.

Mr. Millener will have completed by the commencement of navigation, eleven new boats. They are of the largest size, and will average freight of 700 barrels of flour. He employs 44 hands, and his expenses are \$360 per week. A portion of the above boats are already launched. We observed some very fine specimens of oak plank, 30 inches wide. Mr. Millener built and launched four new boats late last fall.

S. C. Jones' Boat Yard. - Alderman Jones has four new boats near completed, and will have two more - six in all - ready for navigation. This enterprising citizen is devoting his attention in part to manufactures, in which he is largely engaged, and therefore does not carry on boat building so extensively as formerly. Two of Mr. Jones' boats are already launched. He employed about 30 hands in boat buildings.

Benjamin's Boat Yard. - Z. H. Benjamin, at his old stand between the Genesee Valley Canal and Canal street, has three new boats nearly in a state of readiness for launching. Mr. B. employs about 20 workmen at his establishment. A number of packets are laid up in this yard for repairs and renovation, predatory to the summer business.

J. Howell's Boat Yard. - Mr. Howell carries on boat building very extensively. His establishment is on the feeder, near its junction with the Erie canal. Notwithstanding his arrangements were such that he did not commence till the building season was considerably advanced, he will turn out fifteen new boats for the spring business. Mr. Howell is erecting a shop in a new yard, adjacent to his old location, 70 feet long and 2 1-2 stories high. He furnishes employment to 62 hands. Besides his establishment in this city, Mr. Howell has another in Buffalo.

Frederick Silence's Boat Yard - This yard is situated on the Erie canal, north of the mouth of the feeder, and near South St. Paul street. Mr. Silence has completed nine fine new boats. He employs 35 to 40 hands, and his establishment is in excellent order.(3)

Mr. Watson, near the first lock, has built one boat, and employs 4 hands. This makes up the list of boat building in this city for the present spring.

The following is a summary of the operations of the different builders: (builder/number of employees/boats built) J. P. Millener, 44,11; S. C. Jones, 30, 6; Cram & Barhydt, 20, 3; Z. H. Benjamin, 20, 3; J. Hildreth, 35, 8; W.W. Howell, 62, 15; F. Silence, 40, 9; Mr. Watson, 4, 1. The eight builders employ 245 men and have built 56 boats.

Boat building in this city has been more than doubled since last year. The whole number of new boats launched in the spring of 1845, was twenty-three. We learn that nine new boats are on the stocks at Syracuse. We have not ascertained the number at other points. The price of new boats this season ranges from \$1,300 to \$1,500. The cost of oak and pine lumber for their construction, is constantly advancing. We have had occasion to notice heretofore the extraordinary pains and expense with which oak timber of large size and fine quality was procured for main wales and other peculiar purposes."

Rochester American

Great improvements have, of large, been effected in the model and construction of canal boats. A specimen of those in vogue 20 years ago would indeed be a curiosity."

This boat building boom was short lived. Millener and several other boat builders are no longer listed in the Rochester city directory after 1855. Similarly, it appears Millener also discontinued the yard near Syracuse about the same time. The number of boat yards declined from 14 in 1852 to nine in 1863, and five in 1880. By 1853 the canal was starting to feel the effects of competition from the newly built New York Central Railroad. Passenger-carrying packet boats on the Erie Canal vanished almost overnight. (4)

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An Anecdote About Joel P. Millener.
Rochester Democrat, August 13, 1884

STEM HER!

An Incident Which Occurred on the Canal In Its
Early Day

With old residents in this part of the state, and especially old canal men, the name of Joel P. Milliner is most familiar. Capt. Millener was one of the pioneer boat builders in this state, and many a canaler made his maiden voyage on one of his boats. Many amusing anecdotes are related of the determination and energy of the veteran boat builder, among them the following:

Captain Millener built the first boat which passed through the Erie canal locks after they were widened. The boat was a handsome one of her kind, and was christened the Crystal Palace. On her completion, a short trial trip was made down to the canal from the boat-yard, Capt. Millener's private horses hauling the boat and himself and wife, with George Cummings and wife, being the passengers. While the part we enjoying themselves in the cabin the steersman stampede on its roof with his foot, as a sign that he wished to speak to some one. The captain immediately came on deck.

"Captain," said the steersman, "there's a light laker coming, and she's making' to graze us; what'll I do?"

"Stem her, stem her!" exclaimed the captain, and raising his voice he shouted to the driver, "Bill, you touch up them horses and don't let 'em slack up till I tell you D'ye hear?"

The horses were touched up and when the rival boat which had intended to graze the side off the Crystal Palace and scrape off her paint, a common practice with a new boat in those days, the latter ran straight on to her - stemmed as it is termed and partly crushed in her bow. The Crystal Palace then swung around and passed the wrecked craft, Captain Millener standing on the deck and placidly smoking, apparently ignorant that the other boat captain was making the air blue with profanity.

A law suit was the result of this occurrence, in which Captain Millener was out quite a sum, but the passengers on the boat did not forget the collision in some time, nor did the captain of the other boat try to do any more grazing when meeting boats afterward.

Another Anecdote

Rochester Republican, Tuesday, March 30, 1847

An Ancient Oak - Our attention was attracted yesterday morning to a magnificent stick of white

oak timber, intended for boat building purposes, drawn past our office, to the saw mill of Mr. Jonathan Child. Its dimensions were as follows: - Length 62 feet 6 inches; largest circumference 15 feet 2 inches; greatest diameter 5 feet 3 inches.

The tree grew upon the farm of S. G. Plumb, in the town of Gates, six miles from this city. It was drawn from the spot where it was cut, to Mr. Child's saw mill, by a team of twelve horses driven by B. Butler, and, is said, we believe correctly, to be the largest stick of timber ever brought to this city.

This log was purchased by Joel P. Millener, proprietor of the Railroad Boat Yard, to be used in construction of canal boats. The price paid on delivery here was \$100. The age of the tree was found on counting the grains, to exceed four hundred years - thus dating back to a period to the discovery of this continent by Columbus.

Notes

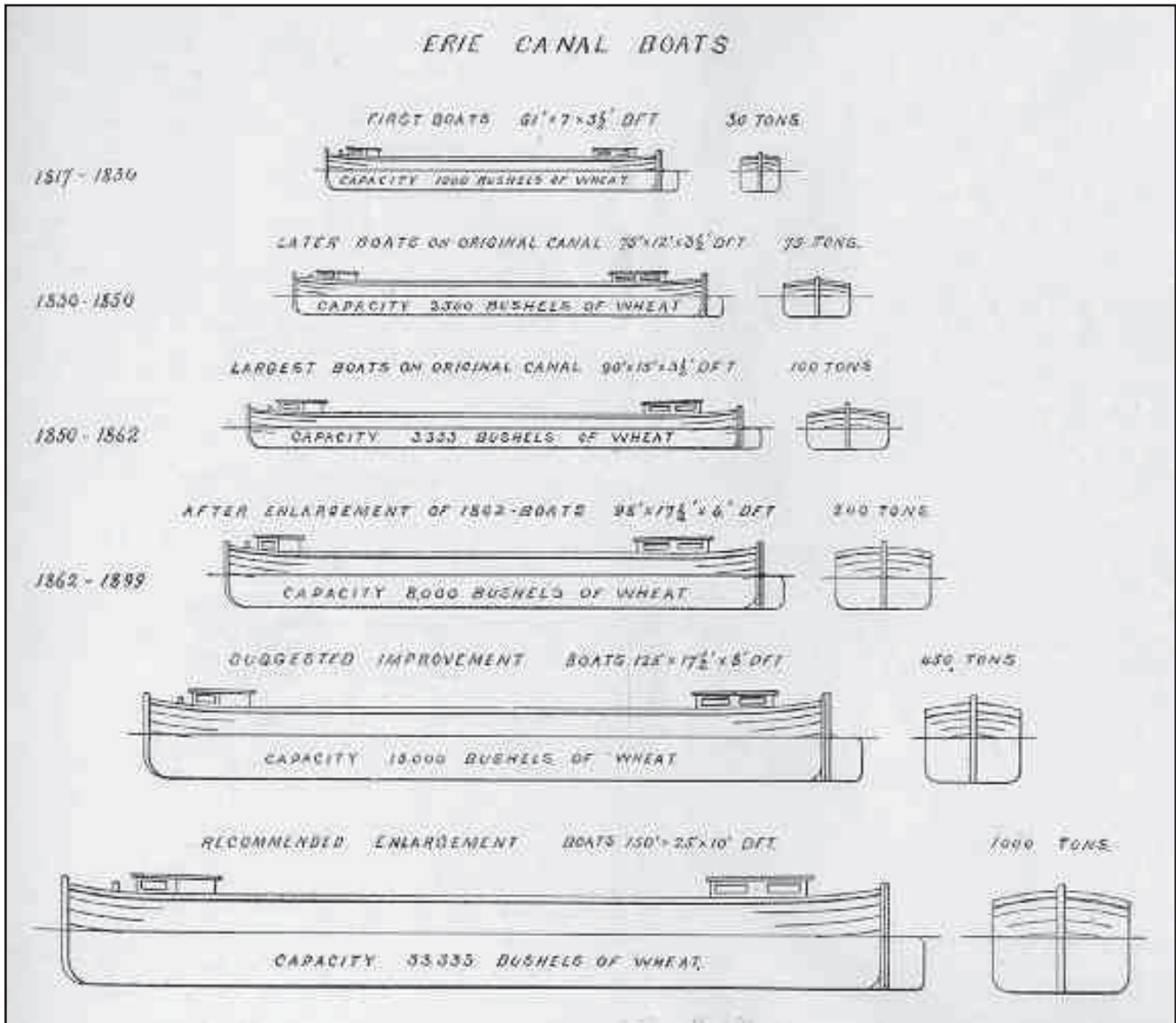
(1) Alexander Millener gained notoriety as being one of the last veterans of the Revolutionary War. He was widely regarded as having been George Washington's drummer boy. He was born in Quebec on 14 March 1760 and died at Adams Basin near Rochester on 13 March 1865 at the age of 104. A street in Port Byron is named in his honor; Riley, Michael, The Millener Dry Docks of Port Byron, In Port (newspaper published in Port Byron) January 1, 2009.

While residing in Port Byron, Joel married Sarah Harden in 1833. She died at Adams Basin on March 3, 1874 at the age of 59. They had four daughters and five sons. Following his death on June 18, 1886 he was buried in Mount Hope Cemetery in Rochester. Obituary in Brockport Republic, June 24, 1886. There is also a Millener family plot in Mount Pleasant Cemetery in Port Byron. The Waterloo Observer of June 23, 1886 stated he once conducted the Central Dry Dock in that village. In the early 1870s he served as a member of the New York State Assembly from Monroe County.

(2) D.R. or David R. Barton, was Joel's uncle, the brother of Alexander Millener's wife Abigail Barton Millener.

(3) The records of the Silence boat yard in Rochester are in possession of the Canal Society of New York State.

(4) Grasso, Thomas X. The Erie Canal and Rochester: Past, Present and Future. Rochester History, Vol. 72 No. 1, Spring, 2010 Page 12; The New York Central paralleled the canal for 296 miles between Albany and Buffalo its entire distance, and between Rochester and Niagara Falls via Brockport and Lockport, 77 miles. It absorbed the independent railroads built at an earlier period across New York State and built an entirely new mainline between Syracuse and Rochester in 1852-3.



This drawing was used in the early days of advocacy for the proposed New York State Barge Canal. The first boats used on the Erie Canal were 61 feet long, with later boats on the first generation canal being 75 feet long. As the canal was enlarged the boats followed suit to 90 feet long and then to 98 feet. At the time of this drawing, the new Barge Canal would have allowed the use of boats either 125 feet (650 tons) or 150 feet (1000 tons) long. Later this would be changed to nearly 300 feet in length which allowed loads of 2000 tons. At the time of Millener's work, the boats would have been either 75 or 90 feet in length.

World Canals Conference

Hagerstown, Maryland

Michael Riley

The Little Conference That Could is how one of the planners welcomed the attendees to the final dinner at the World Canals Conference. And it certainly was the truth. Not only did the planners need to deal with the ongoing pandemic, but they also had to adjust their plans to deal with the remnants of Hurricane Ida. However, in spite of all the complications, the 2021 version of the WCC was a very successful event.

It was a bold choice to continue with the conference with the pandemic raging once again in the States however, after years of planning and organizing, the C&O Canal Association decided it was either “go or no-go.” However as attendees from Europe and Canada were not allowed to travel, the conference was more of a regional, albeit very elaborate, study tour. About 95 people were able to attend, with a large majority being from the C&O Canal area. Others did travel from New York, Michigan, Pennsylvania, New Jersey and Virginia. All the participants were urged to use masks while inside, and although it wasn’t mandated, most people did mask and try to safely distance.

The main venue was the Maryland Theater located in downtown Hagerstown. The Maryland is a beautifully restored theater with multiple floors and large meeting rooms, and if the marquee is any indication, it offers a great variety of entertainment. If you visit Hagerstown, you will find the downtown historic district to be compact and very walkable.

The theme of the conference was Historic Canals Today, and the focus was mostly on how parks and sites operate and present their historic towpath canals. As the

venue was along the old Chesapeake and Ohio Canal, there was no opportunity to see any functioning waterways. The conference followed what I believe is the standard format, with lectures in the morning and field tours in the afternoon. The morning lectures offered a nice variety of topics. There was time for two speakers and then a break, and then two more lectures. This time constraint caused some of the presenters to speak quickly and rapidly move through their slides. And sadly, each lecture was presented once, so you had to pick and chose and unfortunately miss, some good presentations. The PowerPoint slides have been made available on the WCC2021 website at in case you wish to scan through them. I especially enjoyed Dr. Karen

Gray’s presentation, which introduced me to the new phrase, Zombie History, where bad history refuses to die. I must admit to adopting the term and freely using it many times since the conference.

In the afternoon the attendees were spread out between three coach buses and this allowed people to find the space to feel comfortable. As the crowd was small, all the buses headed to the same destinations



WCC attendees walk into the Paw Paw tunnel.

so that the attendees all saw the same things at the same time. After a box lunch in the lobby of the theater, the Monday tour headed west about 45 minutes to the Paw Paw tunnel. Along the way the buses made a brief stop at Prospect Peak along Rt 9, where a 1937 roadside sign tells you that the view is rated as one of America’s outstanding beauty spots. The view out over the Potomac River valley was indeed quite lovely, but maybe not outstanding.

Once we reached the parking lot near the tunnel, each bus was given a local tour guide to lead them to, and through, the tunnel. This was checking off one of my canal ‘bucket list’ items and I was thrilled to be able to walk

through the tunnel. We had to approach from the western portal as a landslide has closed the trail from the east. However the tunnel was open all the way through and we were all given flashlights to help guide our steps through the 3118-foot-long (950m) tunnel. At the eastern end an engineer working on the landslide issues gave us an overview of the whys and hows of tunnel construction and what was being done to reopen the trail.

The Tuesday tour headed east for a tour of the 438-foot-long (133.5 m) Monocacy Aqueduct. The Monocacy was the longest aqueduct of the eleven built along the C&O Canal. First we were treated to a delicious lunch under a tent with a view of the aqueduct. After lunch we had time for a walk over and through the aqueduct, and we then continued east to Great Falls.

Great Falls is about 14 miles from Washington, DC and it is the place where the Potomac river flows over a 76-foot drop in about a mile. Is it a falls, a cascade, or a large rapids? The canal itself was built along the north side of the river, passing through 20 locks to reach the summit of the falls where you find the Great Falls Tavern. The park features a working lock and mule-powered boat ride, and of course the towpath trail along the canal. There are also walking trails out to viewing areas of the falls.

Unfortunately a boat ride was not an option for us as Covid had limited the number of riders to 15, and with nearly 90 people, it would have been impossible to get everyone through. The boat was available for inspection and many took the chance to walk aboard and perhaps plan for a return for a ride. We had been urged to visit the boat first as the staff were planning to move the boat and set it onto the “drydock” frame so they could drain the canal. On the afternoon of our visit the park staff was making preparations for Hurricane Ida. The weather-people were predicting nearly seven inches of rain for the Hagerstown area. Most of the folks then headed toward the falls, but



The Charles F Mercer sits in the pound below Lock 44. The Great Falls Tavern lies alongside the lock.

upon the recommendation of one of the volunteers, I decided to head east along the towpath and forego the walk out onto the Great Falls trail. I was very happy I listened. The canal runs alongside the gorge, only separated by the towpath. The sheer beauty of the trail alongside the river gorge, seeing the exposed rock and how the canal had been built through it all was to be fair, magical. Aside from the section of the Genesee Valley Canal alongside the Letchworth gorge, I can think of no other place of such visual wonder.

The weather-people were spot on and Hurricane Ida made her presence known to all Tuesday night and all day Wednesday. The planned trip to the Williamsport Park and the Cushwa Basin trip was canceled and instead, the buses headed south to the National Antietam Battlefield. At the battlefield, each bus picked up a tour guide who presented an overview of the fighting that took place there. The rain prevented any walk-about, but the skilled guides were certainly up to the task of describing the full scope of the

fighting and events. However, it was a real loss not to be able to see and walk around the canal and basin.

Wednesday night the conference hosted a large buffet dinner at the Historic Springfield Barn in Williamsport where Mary and I had the pleasure to sit with John Frye, one of the early members of the ACS. He delighted me with stories about Thomas Hahn and the early days of the society.

Thursday morning the storm

had passed and the skies had cleared. My wife and I decided to skip the Thursday morning lectures and instead we took the advice of Doug Logan of the PCS and headed west to view the Sideling Hill cut on I-68. After viewing the layers of exposed rock, we continued west to Cumberland for a walk-about around the western terminus of the canal before turning north and heading home.

Pennsylvania Canal Society

Fall Tour of Pittsburgh, Pa
October 1-3, 2021

Michael Riley

“Perhaps no other city in the United States is as well known for its collection of bridges as Pittsburgh, Pennsylvania.” So starts the introduction to Todd Wilson’s Pittsburgh Bridges. The city was built up along the banks of three rivers: the Monongahela, the Allegheny, and the Ohio, and as a result, the region is home to a wide variety of bridges. After the 1893 World’s Colombian Exposition, the city set up an art commission to ensure that all the public works built were pleasing to the eye. This included the bridges. Soon after, the U.S. War Department mandated that new bridges be built to improve navigation and the city took this opportunity to ensure that any view from a bridge be pleasing to the eye. The bridges were turned into their own works of art as they tried to meet these requirements.

Pittsburgh was the western terminus of the Pennsylvania Main Line Canal, which was built in the 1830s to compete with New York’s Erie Canal and the threat of the Chesapeake and Ohio Canal to the south. This canal was a mix of river navigation, man-made canals, inclined planes, and railroads. Although the canal is long since past, the three rivers were and still are used for navigation. The 981-mile-long Ohio River is used for navigation along its full length from Pittsburgh to the Mississippi River. Navigation also extends up the Monongahela another 129 miles to West Virginia and to a very minor extent along the Allegheny 72 miles. The Ohio and Monongahela carry the bulk of the commercial traffic with coal as the major cargo. Other cargoes include oil, sand, and scrap metal. In spite of the reduction in demand for coal, many barges of it can be seen moving along the river.

This all set the stage for the 2021 Pennsylvania Canal Society Fall Tour. With the help of Canal Society of Ohio and the Society of Industrial Archaeology, the PCS hosted

a boat ride that was billed as a Three River Tour by Riverboat. The itinerary included a ride upstream along the Monongahela to McKeesport and then back to the three rivers junction and then up the Allegheny a bit and then if there was time, down the Ohio a bit. It was an ambitious schedule for a six-hour ride. The Friday early bird offered a tour of the Carrie Furnace, and on Sunday morning, two options offered either a bike ride along the river, or a walking tour of Pittsburgh’s steps.

The headquarters was at the downtown Drury Plaza Hotel, a very nice hotel that once was the regional Federal Reserve Bank. The building was purchased by the hotel chain and renovation began in 2014. The website doesn’t

say when it was completed. After all these months of Covid-style hotel stays it was nice to get back to something normal with real breakfasts and even a nice dinner set up.

Mary and I decided to do our own walking tour on Friday, skipping the early bird tours that Doug had set up. A nice walk along the Allegheny riverside



trails led us to the downtown and the Point State Park at the junction of the three rivers. Then a walk up the Monongahela to the historic Smithfield Street bridge and a walk to the west side. After a lunch we headed to the Duquesne Incline for a ride and beautiful view over the city. Back across the Fort Pitt bridge to the Fort Pitt Museum and Block House, and then it was time to head back to the hotel. Our watches and phones recorded between 6 and 7 miles of walking on a stunningly beautiful early fall day.

That night we were treated to an overview of the boat ride. It was nice to see another staple of tour weekends return with the Friday evening presentation. It really does help to set the stage as to what you will see on the tour. Engineer and author Todd Wilson, who wrote [Pittsburgh’s](#)

Bridges, treated us to a fascinating talk and told us how the style of the bridges in the city had been dictated by the arts movement in the early 1900s. All the bridges within the city limits had to allow a nice view and as a result, bridge designs with large beams blocking sight lines were not allowed.

We got an early treat on Saturday morning with a free subway ride to the boat. The transit system is subsidized by the city and attractions in the downtown and north side, so rides between these points are free. A short ride from the Steel station in the downtown took us under the river and to Heinz Field station. The boat sits at the confluence of the rivers just across the Allegheny from the downtown. Our ride for the day was the Rivers of Steel (ROS) Riverboat *Explorer*.

At 9am we set off upstream along the Monongahela and into the morning fog. (Soon the fog would burn off and we were treated to another beautiful fall day.) We quickly passed by Point Park with its iconic fountain, and then under the first of many bridges. Todd Wilson was a guest presenter on the tour. He was mic'ed up and ready to jump in with important details to notice as we passed under the bridges. Todd noted that some of the bridges we were passing under were not easily accessible from the shore and so this was a special treat for him. Also on board was Nathan Holth who maintains the Historic Bridges website. Both were happy to answer all our bridge questions. Between the bridges, the ROS staff offered a running narration of sights to see and take note of.

The Ohio and Monongahela rivers remain as active waterways and we were pleased to see a lot of commercial operations. We saw pusher-tugs with single barges, twin barges, and tows of 9 or 15. In spite of the reduction in coal burning power plants, the transportation of coal from the mines to the plants remains as a large percentage of the traffic. We also saw loads of scrap steel, sand, a tow of oil tankers and more.

Every proper boat ride should feature a lock and Doug did not disappoint us. Our ride passed through the Braddock Locks which is the first of the nine locks and dams that are operated by the USACE. Adjacent to the lock are the active US Steel Edgar Thomson Works, and the mainline of the railroad also passes alongside, which makes for a very active environment. The lock has two chambers, a smaller one for recreational craft, tour boats and single barge tows, and a larger chamber for the larger 9 to 15 barge tows. The larger chamber is currently being renovated and all traffic was restricted to the smaller chamber. More on this later.

The trip would travel about 17 miles upstream, turning at the confluence of the Youghiogheny River. At the turn a

ROS biologist, aided by trip attendees, took a water sample and gave us a microscopic look at what critters live in the water. The scope was hooked up to a few monitors so we all got to see why it is not safe to drink river water.

After the sampling we began to retrace our route downstream. We had seen a small 5 or 6 barge tow making its way to the lock as we exited and our boat captain thought that going a few extra miles upstream plus the stop to take water samples would give them plenty of time to pass through. When we got back to the lock it was clear that we were going to have a wait. And wait we did for nearly two hours. The locks don't have capstans to help move non-powered barges, so a second tug on the downstream side had to be ready to help remove the barges. This meant that the upstream tug would shove the tow into the lock, and then the barges would be uncoupled. The tug would back out, the gates closed, the chamber emptied, and the lower gates opened. At that point, the second tug would hook on to the barges and pull them out. Then the cycle took place again, and again, and seemingly again. There was no explanation from the lock tenders as to the hold up and the ROS staff was clearly upset at the length of the delay. When it was finally our turn, we entered the lock and as the upstream gates closed, a worker stood at the miter, took a look, made a motion that all was okay, and walked away. We had to wonder if there had been an issue with the gates that caused the delay.

If there was a positive aspect to the delay it was that we were waiting under two railroad bridges that serve as the mainline crossing of the river. Train after train passed over us on the bridge, as well as along the tracks that follow the river. The bridge and railroad fans happily snapped away.

The delay cost us our chance to tour the Allegheny or Ohio rivers. As it was we returned to the dock an hour behind schedule. By the time we got back to the hotel, it was time to start the evening dinner and program.

Dr. John Oyler, an Associate Professor at the University of Pittsburgh Swanson School Engineering, gave us an overview of the work of the Dravo Corporation. Dr. Oyler had worked for the company, starting out as a young engineer and working his way up through the ranks. The Dravo Company was established in the 1890s by the Dravo brothers and became a major business in construction on the river and transportation along it. They seem to have built almost everything and if they couldn't find it, they designed and then built it. In

Article concludes on page 13

Water Witch Was The First Steamboat on The Oswego River

By Richard Palmer

Soon after the Oswego Canal was opened between Salina and Oswego on April 28, 1829, Ogden Mallory, a gifted mechanic in Oswego, conceived the idea of building a steamboat to operate on the Oswego River and canal. Mallory was one of the original construction contractors on the Oswego canal. He held a patent for his invention called a "steam engine and feeder for boilers" dated December 18, 1830.*

Prior to completion of the Oswego Canal and the Erie Canal itself, navigation on natural waterways was by canoe, batteaux, Durham boats, scows and rafts. Sails were used when possible on both the lakes and rivers. For years navigation on rivers in particular was hampered by their crookedness. The use of setting poles was in vogue until the improvements allowed for better navigation of the Oneida, Seneca and Oswego rivers.(1)

The Oswego Free Press published a lengthy article on December 29, 1830 giving details of Mallory's creation - a miniaturized version of a "semi-rotary" steam engine to be applied to a canal boat. The plan was to create a simple machine while not losing power. The article alludes to the Seneca River at that time being sufficiently navigable to allow a steamboat to pass from Three Rivers to Baldwinsville. Mallory claimed; "The more simple and less complicated the machinery, the less power will be lost, and a great gain in expense saved to the builder. In the model we examined, the engine, or cylinder in which the power is applied, allows a piston of only two superficial inches, and this is sufficient to propel a small turning lathe." He also devised a steam injector system he claimed would completely avoid the possibility of a boiler explosion.

Nothing more was heard from Mallory until he not only built but sailed a steamboat from Oswego to Baldwinsville. . . again just to prove it could be done.

The Oswego Free Press on August 2, 1832

Several months since we noticed a very important improvement in the application of steam, discovered by our ingenious fellow citizen, Mr. Ogden Mallory. The engines, entirely of his own invention and connections have been placed in a very neat and convenient boat, and fully answer every reasonable expectation.

Last week, Mr. Mallory took a trip on our canal. At Baldwinsville he was greeted with a

public dinner, and a number of citizens of that village accompanied him to the outlet of the Onondaga lake, and returned with him. On his return the following testimonials were sent to Mr. M. which have been kindly furnished by a friend for publication.

This should be - but what has Oswego done? Many of her citizens have not even deigned to look at this piece of mechanism to ascertain if it is an improvement or not. This is not as it should be. If it is an important, (and we are confident that it is) Oswego will be benefited by it, and Oswego should be the first to step forward and get into notice.

Messrs. O. & S. Mallory have gone on single-handed, unaided by their fellow citizens in completion of this boat, and its machinery - much time, labour and expense have been necessary - and now that the improvement is fully tested, Oswego ought not to be behind hand in the manifestations of her approbation. But "a prophet is not without honour save in his own country." We hope, however, that these gentlemen will ere long reap from the public a reward commensurate with their efforts.

The boat went on the canal at the rate of four miles per hour, without any injury to the banks, and in the river at the rate of six. We shall make further remarks hereafter.

Baldwinsville, July 27, 1832

CAPT. MALLORY - Sir - The undersigned beg leave to tender you their grateful acknowledgments, for the attentions of yourself and the gentlemen on board your superior boat, Water Witch, during their excursion from this place to the outlet of Onondaga Lake. Also, that from what observation they had an opportunity to make, they think highly of your improvement in the steam engine.

Respectfully, your obedient servants,

*S. W. Baldwin, I. F. Minard, Thomas Farrington,
L. Robbins, A. Scoville, P. Bigelow.*

CAPT. MALLORY - Dear Sir - I take great pleasure in sending you the foregoing (copy) letter, at the request of the gentlemen subscribers therein; and of adding my individual wishes for your health, and the complete success of the Water Witch. I have the honour to be your obedient servant.

I.F. MINARD. Baldwinsville , July 27, 1832"

Nothing further is mentioned of Mallory. He moved west shortly thereafter. In 1838 he owned the steamboat Cincinnati, sailing on Lake Erie out of Sandusky, Ohio. She was built in August, 1836 in Sandusky by D. Dibble and was registered at 116 tons and had an 80 horsepower high pressure engine.

*Note-From: A Digest of Patents Issued by the United States 1790-January 1, 1831. PP 275-277. Patent granted to Ogden Mallory, of Oswego County, New York, for an improvement in the Steam Engine, and Feeder of the Boiler.—Dated December 28, 1830.

WHAT is claimed as new in this invention, is the application or power of steam to a reciprocating, or semi-circular cylinder, or engine, or a semi-reciprocating rotary motion, or piston head, or wing, &c. And obtaining from such reciprocating or semi-rotary motion, or piston head, a full rotary motion; and thereby obtain the power of steam for propelling or driving machinery of all kinds. And for feeding the boiler by a turning or revolving cock or cylinder, and keeping the water regular in the boiler, and at its proper point at all times. And for regulating the force pump, or the supply of water for the boiler, by means of a valve or stop cock attached to the force pump, and adjusted by means of being connected to a weight in the boiler, which rises, or falls, with the water in the boiler.

Without possessing any of the advantages proposed by the rotary engine, the one here offered appears to us to unite all the objections to it; and we apprehend that it will be as difficult to obviate them as to make a "semi-circular cylinder."

A semi-cylinder is made, and closed at its ends, and across its diameter. Within this a wing is fitted, which is attached to a shaft, working on gudgeons in the centre of the circle, of which the semi-cylinder is a section. This wing must be packed so as to fit at its three edges, and the shaft to which it is attached, must also be packed to render it steam tight. The steam is to be admitted and discharged from each side of the wing alternately; and it is thus to be made to vibrate. A crank, or lever, firmly attached to one end of the shaft, gives motion to a fly wheel, by means of a shackle bar, or pitman. So much for this part of the invention.

The feeding is to be effected by means of a revolving, or vibrating cock or cylinder, which having cavities in it, receives water from a supply vessel above, and carries it down, so as to deliver

it within the boiler. This is one of the modern antiques, which has been used both with, and without the sanction of a patent.

The third improvement is to be carried into effect by means of a float in the boiler, having a rod attached to it, which passes through a stuffing box. The upper end of this rod is to be made to operate upon a cock, or valve, connected with the force pump, so as to regulate the quantity of water it shall supply. If floats, cocks, and force pumps, were not liable to get out of order, a contrivance of this sort might possibly be relied on; but as such is not the fact, this and the analogous appendages which have preceded it, are not likely to afford the desired security.

Sources

(1) The Oswego canal had 13 locks with a lift of 123 feet. It was 40 feet wide and four feet deep. Of this distance, 19.7 miles consisted of slack water navigation - Whitford, Noble E., History of the Canal System of the State of New York, Vol. I P. 452.

(2) Letter in Relation to Steam Engines in the U.S., December 13, 1838, U.S. Treasury Department, Document 21, 25th Congress, 3rd Session.

Fall Tour continued

WWII they built landing craft and destroyer escorts. It is said that the company could build a new ship in three days. After the war Dravo shifted to building tugs and barges for the rivers. The company was sold in 1998.

Although Doug and the tour committee had offered things to do in Pittsburgh on Sunday morning, Mary and I decided to head home with stops at the Johnstown and the Allegheny Portage Railroad sites. Both these sites had been on my "bucket list" and thankfully the Park Service are allowing people to enter the visitor centers and view the orientation films. I have yet to understand why the Tavern at Great Falls was closed to the public and yet these two sites were open, but I am happy that they were. We stretched our legs walking down the trail alongside Plane 6 to the skew bridge and then back up the slope of the plane. And then it was onto home.

Overall it was a fun weekend filled with new sights and sounds. The tour committee is to be congratulated for the safe and enjoyable event.

Canal Tidbits and News

We have reported on the newly rewatered **Illinois and Michigan Canal** in Ottawa, Illinois. After water was introduced to the canal this past spring, some issues appeared such as a leak and aquatic weed growth. It was decided to drain the canal and address the issues; however all parties seem to be committed to a successful outcome.

Ray Hall donated to the ACS over 300 slides that he had purchased from the son of Earl Giles. Earl was a canal historian from Johnstown, Pa and had taken and traded slides of canal sites and explorations along the western division of the Pennsylvania Mainline Canal. It appears that Earl used these slides for his canal history presentations. Some of Earl's slides show work at Plane 6 on the Allegheny Portage Railroad shortly after the site was acquired by the National Park Service, and his explorations in the Pack Saddle region along the Conemaugh River. We have scanned all these slides and will be using some of them in blog posts on the ACS website.

Thanks to Ray, the unofficial **ACS archives** continue to grow. The bulk of the archives came from David Barber and the kind generosity of his wife Audrey, who donated most of his books and records to the ACS, Canal Society of New York State, Canal Society of New Jersey, and the Middlesex Canal Association. Audrey recently sent along more books that she had found. If you are looking for some information, an old newsletter or even a book, contact us and we will see if we can help you.

The storm remains of **Hurricane Ida** that grazed by Hagerstown and the World Canals Conference caused considerable damage to the D&R, Delaware and Lehigh canals and towpaths. It was kind of surreal to be sitting in Hagerstown during the WCC expecting the worse only to see the storm breeze on by to the north and hit New Jersey and New York City.

The **Middlesex Canal Association** held a ground breaking for their new observation deck that is attached to their new museum building. The deck looks out over the pond that was the summit of the old canal, providing water to the north and south. You can follow the progress of the museum construction on the MCA Facebook page.

Looking for a **canal boat parade float**, or maybe thinking about building one? Marcus Phelps writes to say that the Southwick Historical Society is offering to gift

their boat-float to any not-for-profit organization. They used the boat-float in the 250th anniversary celebration of the town of Southwick and the 350th anniversary of Westfield, Mass. The boat-float was built to call attention to the Farmington, Hampden and Hampshire Canal that transited the Congamond Lakes in days of old. This canal was renamed the New Haven and Northampton Canal in 1836 and it was abandoned in 1847. The float weighs about 400 pounds and is 17 feet long, slightly over 4 feet wide, and is 5 and a half feet tall. If you are interested or want more info, contact Marcus at 413-569-3381.

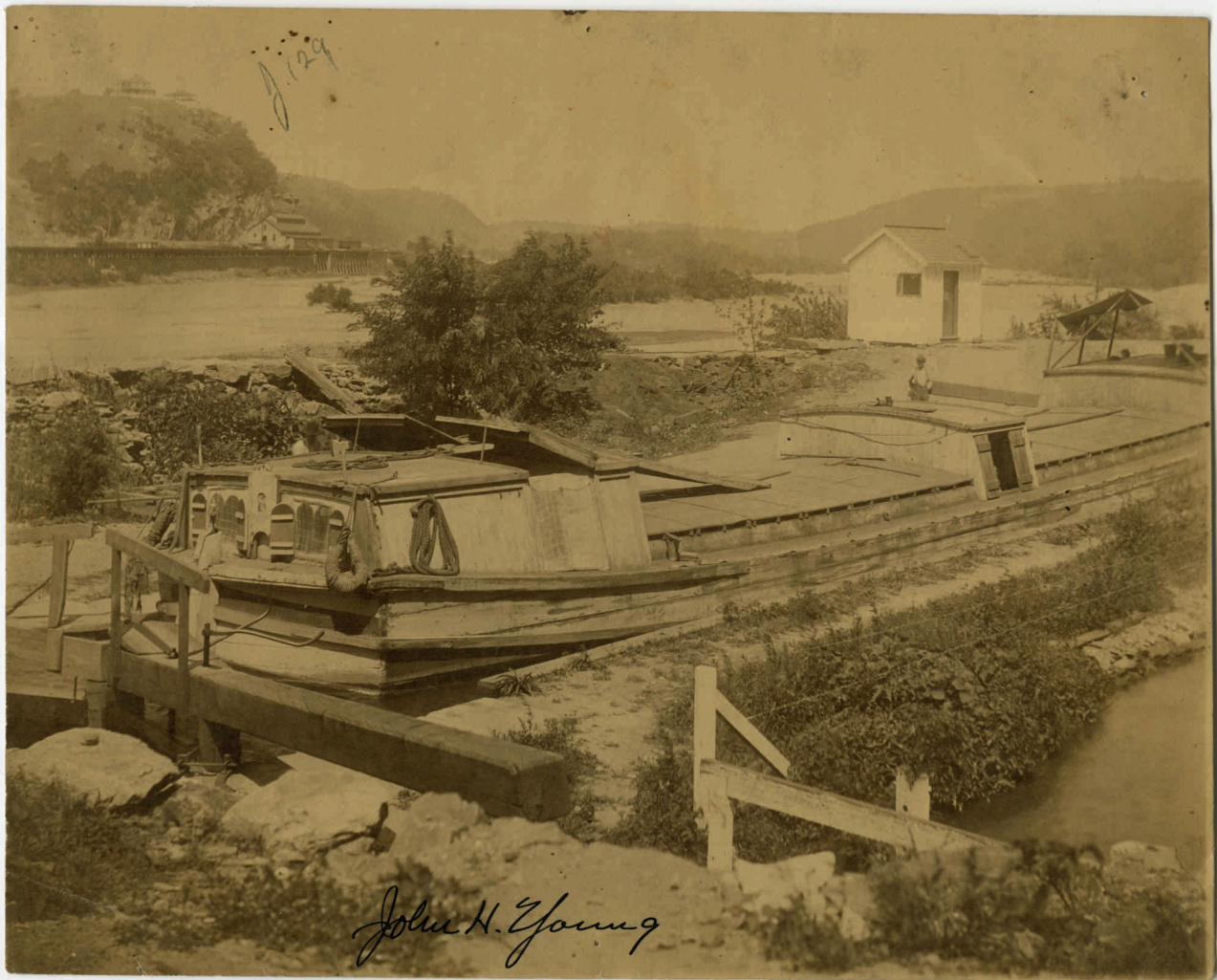
We had a request from the **Canal Society of NYS** asking for help in identifying the photo that appears on page 16. Dr. Karen Gray was able to provide this insight; I believe the structure across the river is the old paper pulp mill which had a hydro-electric plant on the upper floor by the late 1890s. Eventually the whole facility will become a hydro-electric plant. It was the last industry to use the armory canal and was opposite mi. 61.07 on the C&O. That puts it well down the Armory Canal from the Armory Canal headgate at the WV end of the so-called Government Dam (Dam #3 in the C&O Canal Co. system that the C&OCC never owned). Lock 33 opposite Harpers Ferry is at mile 60.7 so the plant on the WV side is only 0.37 mile above Lock 33 and that looks about right in the picture. The boat is in the lock and the water on the right is in that large bypass flume that Lock 33 has. The flip up sections of the mule barn are interesting. I thought they were raised vertically and flipped back over the half not being used (which was used would depend on which side of the boat they were bringing the mules in or taking them out). These are horizontally hinged to flip back toward the cargo hold. Now I'm going to study some other pictures in search of other boats with this design. We tend to assume those freight boats were the same while there is evidence that they were not, and builders didn't use exactly the same design and may have made changes at times or varied them according to a buyer's specification. I believe this is a late period picture from the Trusteeship era (1890-1938), for which the last year of navigation was 1923. If from 1903-1923 it would be a Canal Towage Co. boat. A close study of the plant across the river might help with the dating if its riverside appearance were changed at times. I don't think I have enough pictures of it to know.



Carl Walters, who is a self described student of the **New Haven & Northampton Canal** for the past thirty years, sent along some photographs of a aqueduct model he has been working on. He writes: “For the last four and a half years I have been building a 1/35 scale model of the canal’s aqueduct on the Farmington River in Farmington, CT. This model is based on photographs dating back to the 1880s, and an original bill of timbers, as well as consultations with an archaeologist and an architect familiar with 19th century joinery. We have made some educated guesses about some of the details, but are fairly confident that it would be recognized by its builders. I thought that you might be interested some pictures of the project as it nears completion.”

Carl writes that the model is ten feet long and has over 150 pieces. The Simsbury Free Library in Simsbury, CT has agreed to give it a permanent home. You can watch Carl give a presentation at the library on the Simsbury Community Television channel, available on YouTube.





Canalendar

March 5, 2022: Canal Society of New York State, Winter Symposium, Rochester, NY. www.newyorkcanals.org

April 22-24, 2022: Pennsylvania Canal Society, Spring Trip, Upper Grand Division of the Lehigh Navigation, PaCanals.info@gmail.com

May 7-8, 2022: Canal Society of New York State, Spring Trip, Oswego Canal, Oswego, NY. www.newyorkcanals.org

May 30 - June 3, 2022: World Canals Conference 2022, Leipzig, Germany. This is a reschedule of the 2020 event. www.wccleipzig2022.com

July 2, 2022: Delphi Indiana Canal Days, Wabash and Erie Canal Park, www.wabashanderiecanal.org

Sept 20-25, 2022: Inland Waterways International 6 Day Cruise of Paris, France; info@inlandwaterwaysinternational.org