

AMERICAN CANALS

BULLETIN OF
THE AMERICAN CANAL SOCIETY

BULLETIN NUMBER 93

Editorial Address—968 Chapel Road, Monaca, PA 15061

MAY 1995

PRESIDENT'S MESSAGE

The International Association for Inland Waterways now has a U.S. Treasurer: Linda House, 214 N. Bridge Street, Somerville, NJ 08876. Make your check out for the dollar equivalent of £7 (now about \$11) to "Canal Society of New Jersey" with "IAIW Dues" in the lower left corner, and sent it to her and she will see that it reaches the IAIW, saving you a prohibitive currency-changing bill. Linda reports that membership is growing nicely; we're looking forward to great things from IAIW. Linda has just retired to work on canals full-time, especially on her well-organized CSNJ tours which many ACS members have enjoyed.

Did you know that there's another "ACS" down under? It's the Australian Canals Society, c/o J. Roden, 33 Carson St., Dundas, N.S.W., Australia, 2117. There being no proper canals in Australia except for locks on the Darling River, they meet to discuss trips to canals abroad, especially in Britain. So if you're going to Australia, let Mr. Roden know and take along your slides of American and British canals just in case.

tion that gets things done by drawing on the knowledge and experience of individuals working toward a (mostly) common goal: that of seeing the canals restored, and enjoying the work." As many of us can tell you, it's great fun joining a WRG "dig."

On the local scene, "Building of the C&O Canal: Explore the C&O Canal and decide why canal building was important" is Lesson Plan #10 of "Teaching With Historic Places" prepared by the National Park Service and the National Trust for Historic Preservation. You can order it for \$5.95 minus 10% if you are a National Trust member, plus \$3 for handling, plus state tax, by calling the National Trust at (800) 766-6847. It's well done but it leaves students and teachers with no guidance for the next step, which is to visit a canal and participate in activities. There is no mention of the C&O Canal Association, of *AMERICAN CANALS* as the national canal magazine, or of the American Canal Society as a resource for finding students' local canals and canal societies around the country.

Lastly, we need to encourage authors to put canals in their novels and films - it's good for canal history and preservation. Thanks to ACS member Vivienne Mitchell I had a great time reading *The Wench is Dead*, Colin Dexter's Inspector Morse novel featuring a voyage up the Oxford Canal in England. When an author puts a map of a canal in his novel, you know he is canal literate, so I wrote to thank him and to encourage him to give Morse another canal trip and boost the canals some more. Alas, he replied, "I'm unlikely to give Morse another go on the Oxford Canal. Why? Well, on my day's research up towards Wolvercote, I was promised faithfully that we would reach the pub there, after a 10:30 a.m. start, by opening time (noon). Alas, we finally finished our two-mile journey at 3:05 p.m. - just after the doors were closed. Anyway! Greetings from Oxford!"

Bill Trout

CANAL MULES

The following item is reprinted from the newsletter of the CANAL SOCIETY OF INDIANA. It was discovered by C.S.I. member Jerry Getty:

The mule is a hybrid between a male ass and a mare horse. The mule has long ears, tufted tail, slender legs and the hooves of the ass, but in height and size is more like the horse. The mule brays and has the obstinate, cautious disposition of the ass. In size and weight, mules range from small mine workers of 12 hands and 600 lbs. to large draft animals which are 17 1/2 hands high and scale at 1600 lbs. Most of the marketable mules in the United States weigh between 1150 and 1400 lbs.



The mule pulls slower than a horse. It is more sure footed and works better under difficult conditions. It is peculiar in many ways and must be understood in order to bring out its best horse-like qualities. The animal must not be hurried, but should be persuaded firmly, yet gently.

Mules are powerful and need less care and food than horses. Some oats, corn, and/or hay, a bucket of water, and a few hours rest and the mule is ready to go again.

In the canal era, private boat owners used two mules. One worked while the other rested in an on-board stable; then the role was reversed.

The mule may be worked lightly when 3 yrs. old, but cannot be given heavy tasks until it reaches maturity at 5 yrs.

The male mule is sterile, but a very few mare mules have produced young when bred to a jack or stallion. It is believed the reason the mule is sterile is because its chromosomes, derived from horse and ass parents, are somehow incompatible and cannot survive this intimate association. As a result, the maturation of sperm cells in the testis of the mule is terminated at this point.

Mules are popular in Asia, southern Europe, and the southeastern United States.



Congratulations to the "WRG", Britain's Waterways Recovery Group, which celebrates its 25th anniversary this year - their Silver Jubilee. If you have canal mud in your veins, look them up when you're in Britain to see what you can get your shovel into. The latest issue of *NAVVIERS* sums it up: "WRG has achieved a heck of a lot. We are, always have been, and will continue to be an entirely voluntary organisation, run by dedicated (if not certifiable) waterways enthusiasts. Canals have been restored, reopened and maintained because of volunteers. We don't seek "glory" for what we do, the satisfaction of doing it is normally enough... WRG is a loose, sometimes anarchic, organisa-

"**Towpaths To Tugboats**", A History of American Canal Engineering, is selling so well that it is out of print. We are putting it back on the press for the fifth time! The book traces the development of navigation canals from ancient times, through Europe and England, until the Americans started to build them here — the Santee, the Middlesex, the Erie, followed by canals in the northeastern states. American canal expertise has carried over into the Twentieth Century with the building of the Panama Canal, the St. Lawrence Seaway and the Tennessee-Tombigbee Waterway, all illustrated. The works of many canal engineers of the past two centuries are discussed in detail. \$7.00 from the American Canal and Transportation Center, 809 Rathton Road, York, PA 17403; add \$1.50 for shipping.

American Canals

BULLETIN OF THE AMERICAN CANAL SOCIETY

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AMERICAN CANALS is issued quarterly by the American Canal Society, Inc. Objectives of the society are to encourage the preservation, restoration, interpretation, and use of the historic navigational canals of the Americas; to save threatened canals; and to provide an exchange of canal information.

Annual subscription to AMERICAN CANALS is automatic with A.C.S. membership. Send dues payment (\$15 minimum) to Sec'y/Treas. Charles W. Derr, 117 Main St., Freemansburg, PA 18017. Single copies may be purchased at \$3.00 from the publisher.

Manuscripts on subjects consistent with the objectives of the A.C.S. are welcome. They should be sent to the editor.

Canalabration in the Maumee Valley 1845-1995

(From *The Canal Society of Indiana Newsletter*)

The building of an interstate canal system throughout the Maumee river valley during the 1840's was the valley's first major corridor project. This cooperative effort between Ohio & Indiana created a new regional transportation waterway. The route of the canal followed the natural geographic features of this post glacial valley to establish a dependable commercial link to eastern markets. The Wabash & Erie Canal, begun at the valley's summit in Fort Wayne on February 22, 1832, was completed between Toledo, Ohio and Lafayette, Indiana by May of 1843.

The canal played a crucial role in the development of the Maumee valley. First came the common laborers and craftsmen who built the canal. They were soon followed by merchants and artisans who took advantage of growing opportunities. Packet lines and freight boats plied the waters of the canal and lined the docks of towns and villages along its route. The canal brought the immigrants who arrived from Europe and others from the eastern seaboard to the frontier, where families could purchase virgin land and prosper. Villages soon became towns as commercial activity grew along the banks of the canal and the Maumee river.

Another giant step was taken in 1845 when the Miami & Erie Canal was extended from Dayton to Junction, Ohio. At Junction this canal, whose southern terminus was in Cincinnati, connected with the already operating Wabash & Erie Canal. Produce from the western edge of Ohio and from northern Indiana poured into the Maumee river valley. Toledo was at this time the northern terminus for both canals. The agricultural commodities heading for eastern markets came to the

docks of the city and helped establish Toledo's future as an important milling, trading and industrial center.

By 1847 Indiana relinquished control of the Wabash & Erie inside her borders to private investors. The 88 miles of the canal that were in Ohio were turned over to that state. On March 14, 1849 the Ohio legislature officially renamed that portion, the Miami & Erie Canal. The Indiana canal ceased operations after 1874, but the state of Ohio kept her portion operational until 1913, when a great spring freshet (flood) destroyed the locks and other canal structures, bringing the canal era to a close.

MORE ON THE SHAKERS

Perhaps I can contribute some information that will be more accurate, as I am a long-time collector, researcher, scholar on the subject of the Shakers, having been associated with the restoration of the Shaker community, Pleasant Hill, Ky., and on the Advisory Council there.

When the small band of Shakers came to America in 1774, "the entire sect" was only 9 people, and they were finally able to establish their first group together near Albany, New York at Niskayuna in 1776, later known as Watervliet in Albany County.

The various communities of the Shakers, and their dates of founding, are a total of 24. In the East: Watervliet—1787, in New York State and then Mount Lebanon (also formerly known as New Lebanon) 1787, also in New York. In Massachusetts: Hancock (near Pittsfield) 1790, Harvard, 1791, and Tyringham, 1792. Connecticut: Enfield, 1790. New Hampshire: Canterbury, 1792, and Enfield, 1793. Maine: Sabbathday Lake, 1794, and Gorham, 1808, Alfred, 1793. Shirley in 1793, also in Massachusetts, and Savoy, 1817.

Then Union Village, Ohio, and Watervliet, both 1806, and Whitewater, 1824. N. Union 1822. Kentucky: Pleasant Hill, 1806, and South Union, 1807. Indiana: West Union, 1810.

Later: in New York, Sodus Bay, 1826, and Groveland, 1836. In Narcoossee, Florida, 1896, and White Oak, Georgia, 1898.

Due to their dwindling numbers, today at Sabbathday Lake, Maine are the few left, also some new converts have joined, but officially the last "Mother" colony or spiritual head at Canterbury closed the rolls some years back.

Major restorations have occurred at Hancock, and both Sabbathday Lake and Canterbury welcome tourists in increasing numbers, to the site. Also other sites at Mt. Lebanon are well maintained with exhibits. Watervliet in New York, Enfield in New Hampshire are worth a trip. Especially notable are the restorations at Pleasant Hill, Ky., and the other less well known Kentucky site, South Union.

So your statement that "their commercial activities now consist of regular and widely advertised "auctions" of Shaker furniture, which is being sold at fabulous prices!" - is misleading as these restorations and the existing Shakers at Sabbathday Lake *do not hold such auctions*. Auctions are held by dealers, often at sites as New Lebanon has been one such site. But such auctions are also held in New York City, elsewhere. The Shaker villages/sites are not selling off their furniture but are trying to collect and maintain sites—please do read about Hancock!

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Navigable Canals, David F. Ross, chrmn., Rt. 1, Box 87T, Savannah, TN 38372.

Other publications: *The Best from American Canals*,

William H. Shank, editor and publisher. *American Canal Guides*, William E. Trout III, editor and publisher.

ACS LIFE MEMBERS

Life Membership in the American Canal Society is still available for a modest, single-time payment of \$150. We ask our present Life Members (approximately ninety) that they keep Secretary Charles Derr informed of their changes of address.

NEW DIMENSIONS IN CANALLING: OR, "GREAT CANAL DISASTERS"



A "Great Canal Disaster" occurred when The GALAXY FAITH struck the upper gate of the Inner Harbor Navigation Canal Lock in New Orleans on April 5, 1972, closing the lock for 18 days. Fortunately for the GALAXY FAITH, her adventure was less exciting than the ASSINIBOLA's record-breaking trip through a lock in 1909. (Photo courtesy of the New Orleans District, Corps of Engineers)

By Bill Trout

Moving vertically is not, as such, a new dimension in canal boating. It happens all the time in locks and lifts. But now and then things can get more exciting.

High-speed Canalling at Sault Ste. Marie

One of these exciting voyages occurred on June 9, 1909, in the Canadian lock at Sault Ste. Marie, where Lake Superior falls nineteen feet down into lake Huron. The story is told in more detail in *The Sault Ste. Marie Canal* by Brian Osborne and Donald Swainson, published in 1986 by Parks Canada.

Early in the afternoon on June 9th, the lower gates were closed and the lock chamber was full. The lakers ASSINIBOLA and CRESCENT CITY were steaming in from upstream, to tie up in the chamber and lock down. Just then the PERRY WALKER, approaching the lock from downstream, ran out of control and rammed the lower lock gates, knocking them open. The water rushed out at some 40 miles an hour, taking the ASSINIBOLA and CRESCENT CITY with it, breaking the known speed record for lakers.

As the ASSINIBOLA made its high-speed voyage through the lock, some of the passengers fainted. One tried to jump overboard and had to be knocked out by the mate. Another threw his trunk over the side. But some passengers "apparently supposed this method of locking was the usual one, for they are reported to have continued to snap their cameras as they were shot along the canal."

In the end, everyone survived, the ships were repaired and Lake Superior's flow through the lock was stemmed thanks to a removable dam which was ready for just this type of accident.

Vertical Canalling on the Trent-Severn

Few boats have travelled vertically at high speed, headed toward the center of the earth. But we learned at the latest International Conference on Historic Canals that this actually happened once on the Trent-Severn Waterway where the famous Peterborough Hydraulic Lift Lock lifts boats 65 feet, while they are afloat in steel chambers full of water with gates at each end.

The lift has only failed the boaters twice in the last 90 years since it was built. Once, in 1975, when the west chamber started to lift, one of the two hydraulically-operated locking pins which holds the gate shut failed to engage. As the chamber moved upwards, with three boats floating inside, the gate started to leak on one side and then twisted open, dumping out all the water. Meanwhile the quick-thinking captains all managed to start their engines and headed toward the far end, stemming the flow as the chamber drained dry. The boats and their crews were left safe but drydocked on the chamber bottom when it stopped, 35 feet up. After this incident, the hydraulically-operated locking pins were supplemented with manual ones so it wouldn't happen again.

But the other incident qualifies as a true adventure in new dimensional canalling: On June 24, 1967, the west chamber was down in the lower level of the canal and the gate was open, to let a small boat out. Suddenly, with no warning, the

chamber started to lift. With the gate still open, the water began to rush out, taking the small boat with it. Captain Garnet Everson put his 85 horsepower engine in reverse, trying to stem the flow, but it wasn't enough. He ordered his nephew to jump out onto the side of the chamber to save himself, and he stayed with the ship, hoping to ride the cascade. By this time it was a three to five foot vertical drop. The boat successfully rode down the waterfall but Capt. Everson had to jump out when the propeller caught on the chamber gate, which was still lifting. Finally the boat broke loose and fell 15 feet into the canal, bow first. The boat got a hole in the bow; Capt. Everson got wet; and his nephew got an exciting 65-foot vertical ride up the lift, hanging onto the railing.

New Dimension canallers will be disappointed to learn that the lift failed only twice in the last 90 years, and it won't happen again. We have this officially from Fred Irons and Dave MacDougall of the Trent-Severn Waterway, who furnished the above details.

Vertical Canalling in Louisiana

Involuntary vertical canalling also happened to several barges and a towboat at Jefferson Island, Louisiana, 15 miles south of Lafayette. Our information comes from a dramatic article by Michael Gold in the November issue of *Science 81*, and a detailed report published by the Mine Safety and Health Administration in August, 1981.

Jefferson Island is the top of a salt dome, and under it is a huge salt mine 1300 feet deep. Millions of tons of salt have been quarried out, loaded onto barges in Lake Peigneur, and towed down the Delcambre Canal which flows out of the lake to
(Concluded on Page Seven)

PCS TOURS LEHIGH GORGE & ASHLEY PLANES

by Denver L. Walton

Spring had not quite reached the Poconos, but those on the Pennsylvania Canal Society Field Trip enjoyed a sunny but breezy day as they toured the upper Lehigh April 29th. Tour headquarters were at the Pocono Ramada, near Lake Harmony, just off Interstate 80.

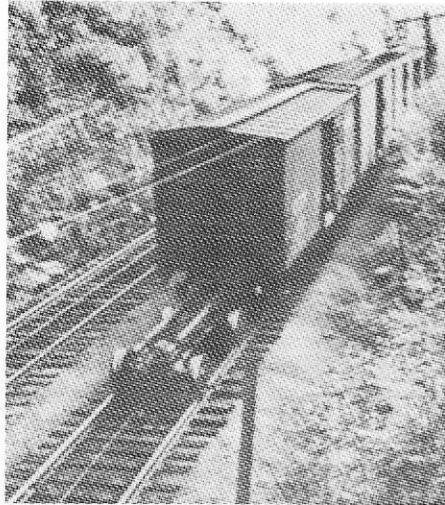
On Friday evening, we enjoyed movies and slides about the area to be covered by the tour, accompanied by an interesting commentary by Lance Metz. The hand-colored glass slides, we were told, were taken back in the twenties when the canal was still in operation.

On Saturday morning we boarded a caravan of five large vans (buses were too big for some of our stops). White Haven was our first stop, where we viewed the huge Huber breaker, a relic of the days when Anthracite was king. Then, down a narrow rocky road to view a section of the Ashley Planes, one of a number of inclined plane railroads hauling coal over the mountains to the Lehigh valley. One more stop before lunch was to Lock 29 at White Haven, the first of the very high locks of the Upper Grand Lehigh Canal. This lock had a lift of 23 feet and a dam, now gone, of 28 feet.

Then it was back to the Pocono Ramada for a buffet lunch. The afternoon tour began again at White Haven and featured a view of the Lehigh Gorge on a recently abandoned railroad track. It is now a bicycle path, but wide enough for our vans. We were accompanied on the trip by a State Park ranger.

Stops along the way included Lock 28 and Dam 19 at Bridgeport. This lock had a water tunnel at the lower end for rapid filling of the lock chamber.

We stopped to see the Leslie Run lock (no. 23) and the Mud Run lock (no. 22). We toured the village of Rockport and its old railroad tunnel, also the site of the Buck Mountain Gravity Railway. Next was Penn Haven, which was the terminus of two



Freight cars ascending one of the Ashley Planes, in the early 1900's. The Barney is clearly visible, pushing the cars uphill. The Planes operated successfully for more than 100 years.

planes, (Hazelton and Beaver Meadows.) There was no road access into Penn Haven, just two railroads and a station to serve them both.

We saw the Tidewater Pipeline crossing the gorge, constructed to compete with Standard Oil and one of the first pipelines in the U.S. The Lehigh Gorge tour covered 23.6 miles.

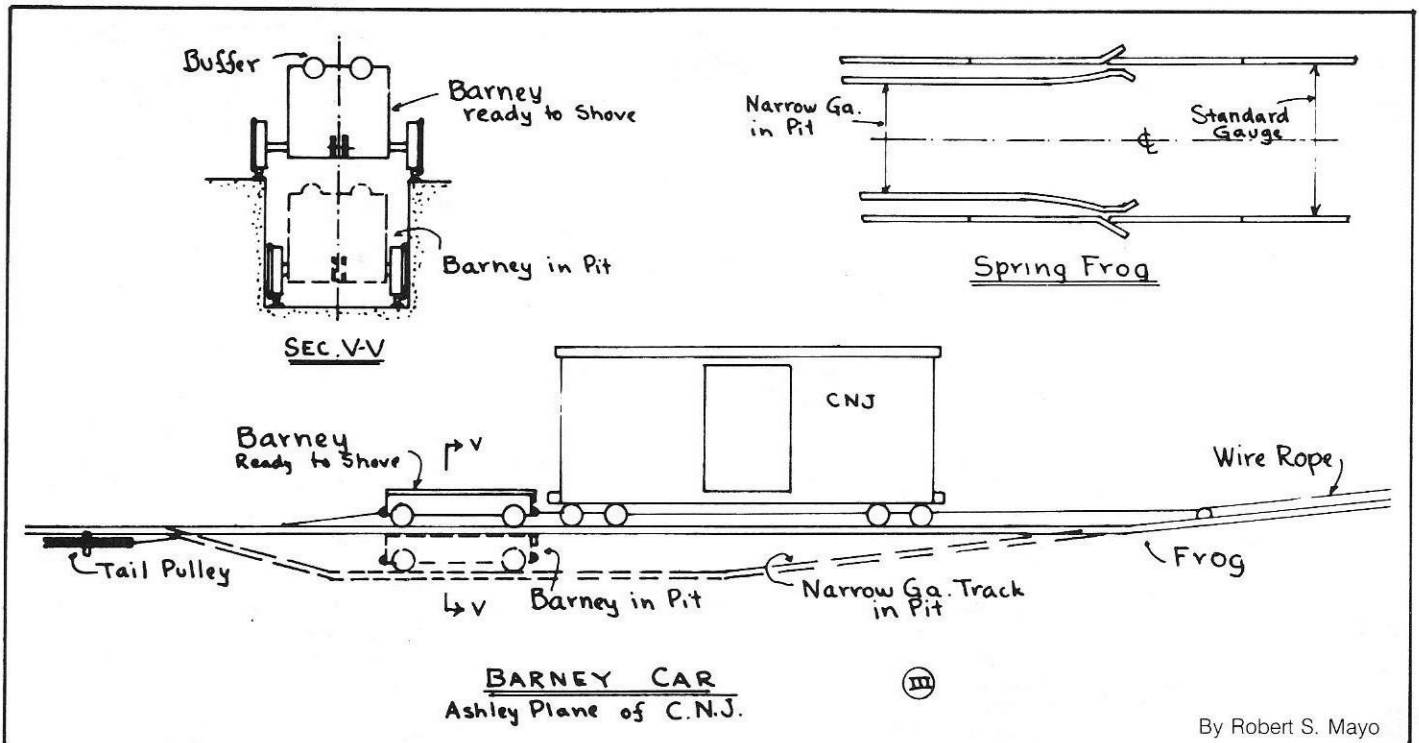
Our dinner at the Pocono Ramada was again buffet-style. The evening program was hosted by the knowledgeable Lance Metz, who showed us films of the Switchback Railway and a severe flood in Mauch Chunk (now Jim Thorpe).

All in all, we had a superb tour with very good weather. On the way home Sunday it rained. Good timing!

We quote from the "Amazing Pennsylvania Canals" for a description of what Josiah White planned for the Upper Lehigh Valley:

With water routes finally completed to both New York and Philadelphia, Josiah White turned his attention westward, envisioning a combination canal and rail route to make connections with the Susquehanna North Branch Canal. His first move in this direction was to provide a canal from Mauch Chunk north to the town of White Haven (named in his honor) along a particularly rugged stretch of the Upper Lehigh. All the experts said this would require locks of such tremendous lift that the project was out of the question. Nevertheless Josiah tackled the job, building a series of locks larger than any yet in existence in this country. They were 20 feet in width, 100 feet in length with a maximum lift of a full thirty feet. The Canal Commissioners, who inspected the works in 1838, glowing in their praise: "We passed through a succession of the largest, best-constructed and most easily managed locks within our knowledge and of such magnitude as greatly to exceed any public works in the whole United States. We were filled with admiration and delight when we examined these stupendous works, which have made the Lehigh from a shallow, wild, useless stream into a calm and beautiful river, suited for all purposes of navigation, either for trade or pleasure."

Josiah White's final achievement, to tie his entire navigation and transportation system together from east to west, was the "Lehigh and Susquehanna Railroad" completed in 1841, which carried freight over the mountains 25 miles from Wilkes-Barre on the Susquehanna North Branch



By Robert S. Mayo

The Barney Car, one of Josiah White's many inventions, had four wheels and normally ran on standard-gauge track. But it had sliding axles and the wheels had outside flanges, so that as it came down the hill and hit the Frog, the gauge would narrow until the Barney could pass underneath the cars waiting at the foot of the plane. It could then be pulled out of the pit and behind the cars waiting to ascend. It would then emerge from the narrow-gauge track and push the train of cars along to the point where it expanded to normal gauge again.

Canal to White Haven on the Lehigh. To lift the loaded cars out of Wyoming Valley on the north end of the route he used a series of three inclined planes, known as the "Ashley Planes," run by powerful stationary steam engines similar in design to those on the Allegheny Portage Railroad. These planes were said to have the highest lift of any in the world. The rail line also included an 1800-foot tunnel north of White Haven.

Disaster struck Josiah White's enterprises in 1841 when a tremendous flood rolled down the Lehigh Valley, with great loss of life, destroying most of the Lehigh Navigation System, portions of his coal and iron works and virtually all of the beautifully constructed locks of the Lehigh Valley Canals. Such a catastrophe would have ruined a lesser man, but Josiah White, with fierce determination, within four months rebuilt enough of his navigation system to get back into operation, at least to Philadelphia, and shortly thereafter restored most of his canal system to its original condition. After a second flood, in 1862, the White Haven section was abandoned.

The Ashley Planes, with some modifications, continued to lift entire trains over the mountains until 1948, as part of the New Jersey Central Railroad system.

Dr. Evan Snyder on the Ashley Planes

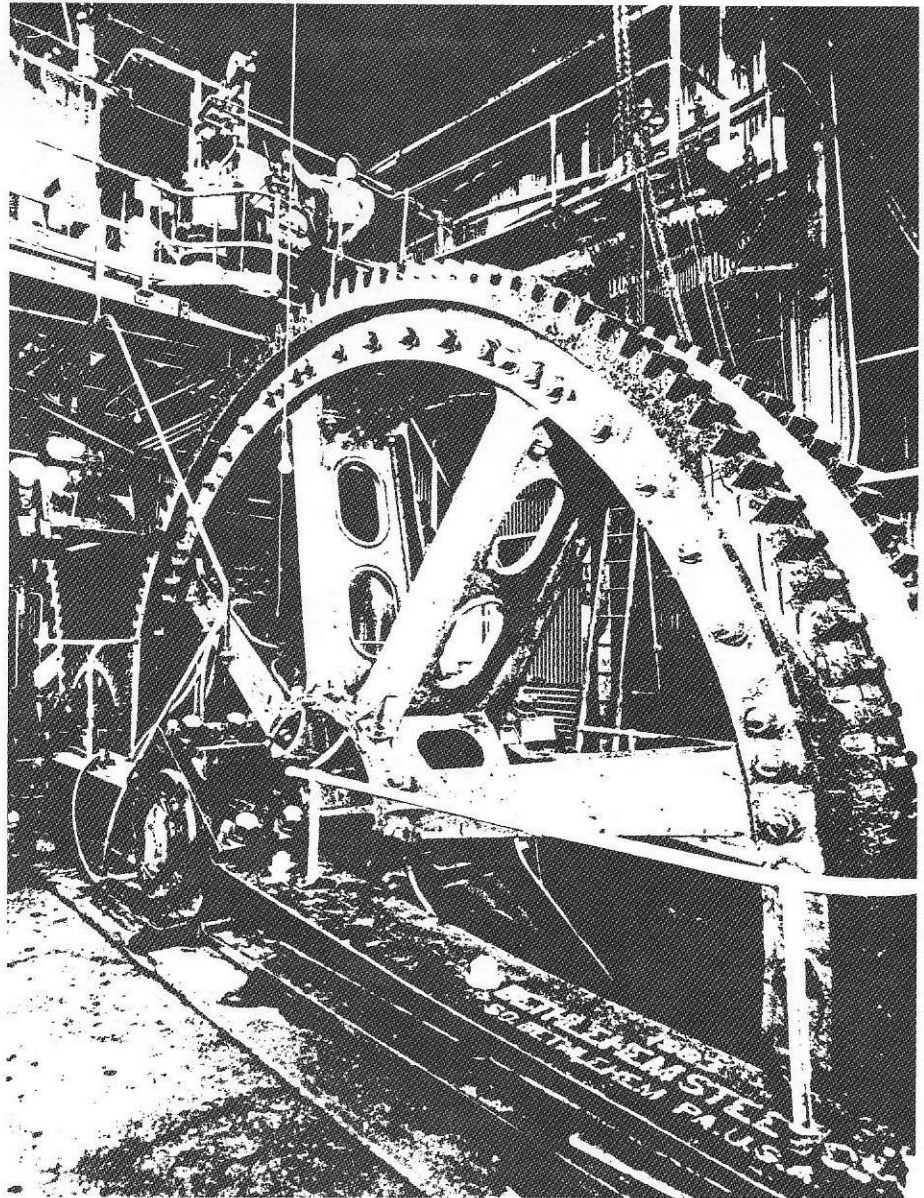
Dr. Evan Snyder, who organized the PCS Tour this spring, has the following explanation of the Lehigh and Susquehanna Railroad and the Ashley Planes:

To provide access to the Wyoming Coal Fields, the Lehigh Coal and Navigation Company, in 1837, petitioned the state legislature for permission to build a railroad from White Haven to Wilkes-Barre. This would connect the Lehigh Navigation with the North Branch Division of the Pennsylvania Canal on the Susquehanna, thus providing a coal route from the Wyoming fields to Philadelphia.

Because the proposed route of the Lehigh and Susquehanna Railroad passed over 2000 foot Penobscot Mountain at Solomon's Gap, there were obstacles to overcome. But Josiah White's inventiveness seemed to thrive on obstacles. Edwin Douglas, as chief engineer for LC&N was also the chief engineer for the L&S Railroad. The plan included a tunnel 1743 feet long beginning about 2.5 miles from White Haven. The most difficult part of this route though, was between Wilkes-Barre and Solomon's Gap. The slope was steep—to step for a conventional railroad. To bring the coal up this slope, White and Douglas decided to construct a series of three inclined planes. Each plane had an up-track and a down-track. The planes



The Huber Breaker, close to the foot of the Ashley Planes in Wyoming Valley. (Denver Walton photo).



A side-view of one of the tremendous, 1200-horsepower steam engines at the head of each Ashley Plane. The engine had a vertical- 40-inch cylinder diameter with a 48-inch stroke. The winding sheaves were twenty feet in diameter, with the cables passing around them three times. Another horizontal sheave at the foot of the plane provided inter-connections of the double tracks, and the engines were reversed after each "lift". (Courtesy of the Wyoming Historical and Geological Society.)

became known as the "Ashley Planes" for the village of Ashley at the foot of the lowest plane.

As initially designed, Plane 3, the lowest one, rose to an elevation of about 900 feet in a distance of about 5000 feet. A slightly descending section 800 feet long led to the foot of Plane 2. Plane 2 rose to an elevation of 1250 feet over a distance of 3880 feet. From the head of Plane 2 to the foot of Plane 1, the cars were pulled by mules over a relatively level track a distance of 3000 feet. Finally Plane 1 rose to 1680 feet in a distance of 4360 feet and brought the cars to Solomon Gap.

An enormous 1200 horsepower steam engine was at the head of each plane. The cylinders were 40 inches in diameter with a 48 inch stroke. The engine turned a drum about 20 feet in diameter which wound up a wrought iron band. The band was attached to a small car, or "barney", that rose out of a pit between the rails and behind the loaded cars. As the steam engine wound up the band the barney pushed the loaded cars up the plane.

Josiah White designed the ingenious operation of the barney. Its wheels could slide on their axles. When the barney rose out of the pit it was on rails closer together so it could rise between the rails on which the loaded cars rode. For the trip up the plane a deflector moved the wheels out so they would fit on the same rails as the cars. Hence only one set of rails was required up the plane. While the barney was making its trip up the plane, another "cut" of loaded cars was brought to the base of the plane. When the descending barney reached the front of the new cut of cars, its wheels were moved by deflectors to yet a third spacing of rails that allowed it to pass under the loaded cars. At the rear of the loaded cars, the deflectors again changed the spacing so, when the steam engine at the head of the plane was reversed, the barney could rise behind the new cut of loaded cars and push them up the plane in a continuing process.

(Concluded on Page Six)

LEHIGH GORGE AND ASHLEY PLANES



Ruins of the tremendous Lock Number 28 on the Upper Lehigh Canal, with a lift of thirty feet. Two floods forced the abandonment of the Upper Lehigh Canal. (Denver Walton photo.)

(Concluded from Page Five)

At the top of the gap the cars were weighed and made up into trains for the mostly downhill trip to White Haven.

The planes were completed in 1843, but the wrought iron bands did not function satisfactorily. Experiments with wrought iron rope made by hand by John Roebling convinced Douglas that this was the solution to the problem with the bands. He developed a machine to wind wire rope. It was set up in Mauch Chunk in a former grist mill and was water-powered. The bands on the planes were replaced by wire rope in 1849-1850.

The planes were modified several times. Among the extensive changes in the 1860's, was the conversion of each plane from an ascending and a descending track to two ascending tracks. The empty cars were returned to the valley via a 12 mile long "backtrack". This was a gravity railroad.

Another change was the relocation of Plane 2 to bring it more in line with Planes 3 and 1. In this way, the use of mules on the connecting level track was eliminated, and the time for cars to traverse the planes were reduced.

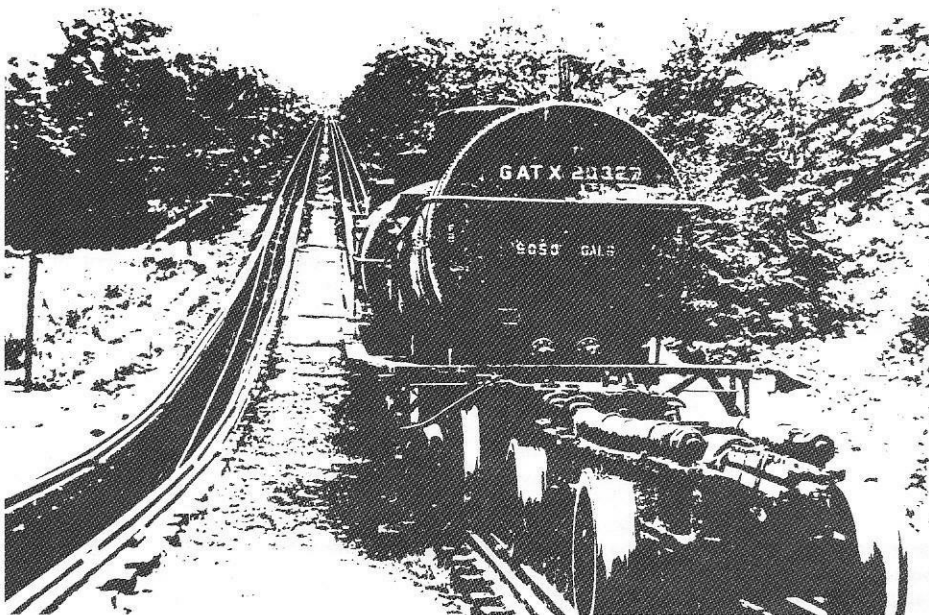
Although the backtrack was 12 miles long, it was still too steep for the locomotives of that day to pull coal trains up the mountain. It was used, however,

to bring up passenger traffic and light freight. The planes continued to operate until July 6, 1948. The demand for coal was decreasing, and by this time new powerful diesel locomotives could pull loaded coal trains up the backtrack.

After the flood of 1862 destroyed the Upper Grand Division, the legislature forbid its reconstruction but approved the extension of the Lehigh and Susquehanna Railroad to Mauch Chunk. The extension was completed by 1866, and coal from the Wyoming fields could again reach the Philadelphia markets. By November 1867, the railroad was extended to Easton. In March of 1868, a connection was made at Easton with the Central Railroad of New Jersey.

The Lehigh and Susquehanna Railroad was one of the first American railroads to use Bessemer steel rails. Since they had to be imported from England, they were considerably more expensive, but they wore less than wrought iron rails and could carry heavier loads.

The L&S continued to expand, primarily to new sources of coal. The cost of expansion, and of the steel rails, and of restoring the lower division after the 1862 flood put a severe financial strain on the LC&N. To regain capital, the LC&N leased the L&S railroad in 1871 to the Central Railroad of New Jersey. After that, it operated under the name of CRRNJ.



View of the Barney at the foot of Plane Number Two.

CANAL CALENDAR

June 11, 1995

Kids & Kritters on the Canal - D & H Canal Park. Guided tours, games and crafts. Contact: (914) 754-8890 (Neversink Valley Museum, Cuddebackville, NY)

June 25, 1995

17th Annual Canal Festival on the Lehigh Canal in Easton's (PA) Hugh Moore Park. Contact: Canal Museum (610) 250-6700

August 5 & 6, 1995

Port Colborne Museum (Ontario) "Canal Days"

August 18 - 20, 1995; September 25 - 27, 1995

CSNJ Cruises on the Erie Canal aboard the *Emita II* Contact: Linda House (908) 722-7428

August 20 - September 1; September 1 - 13, 1995

Canals of America Cruise aboard the *Niagara Prince*. Contact: (800) 556-7450. Sail from Warren, RI, up the Hudson River and Champlain Canal, Erie Canal.

September 16 - 17, 1995

Roscoe Village (on the Ohio & Erie Canal) will host an Old Time Music Festival. Contact: (800) 877-1830

September 23, 30, October 7, 14 & 21, 1995

Canal Walks on the Delaware Canal (PA) in five 12 - mile increments

October 2 - 6, 1995

1995 International Conference on Historic Canals; Augusta, Georgia, Radisson Riverfront Hotel, hosted by Augusta Canal Authority and the National Park Service: Conference Chair, Jeanie C. Allen, 3042 Pine Needle Road, Augusta, Ga. 30909. Phone & fax 706-733-2635

October 6 - 8, 1995

Canal Society of New York Fall Field Trip on the Champlain Canal

October 27 - 29, 1995

Canal Society of Indiana Fall Tour of the Wabash and Erie Canal. Contact: (317) 632-6574

VERTICAL CANALLING

(Concluded from Page Three)

the Gulf Intracoastal Waterway and the Gulf of Mexico. The canal is also the harbor for a fleet of shrimp boats and is used by the oil and gas industry for hauling derricks and equipment.

Salt domes are also sources of oil, and it was here, on the morning of November 20, 1980, that an oil rig out in Lake Peigneur drilled down to 1,248 feet and then slowly sank out of sight. Within a few hours a whirlpool a quarter-mile wide opened up, taking with it 11 barges, one tugboat, and 65 acres of the Rip Van Winkle Live Oak Gardens, a very popular tourist attraction developed as a hobby by the previous owner of the salt mine.

Barges loaded with salt, trucks and equipment were drawn into the whirlpool. "They'd go around maybe four times, bobbing up and down, and then, 'bloop,' they'd disappear," said an eyewitness.

As the lake disappeared and drained into the mine, the Delcambre Canal drained into the lake and reversed direction, beaching the fleet of 30 shrimp boats moored in the canal. The crew of a tugboat tried to plug the canal flow with a barge, but the strong current took both craft down into the whirlpool, the crew jumping out into the canalbank mud at the last minute. The tug was never seen again.

Down in the mine, all of the 48 miners working that day made their way safely to the surface as the mine filled up. During the next few days, as reverse flow from the Delcambre Canal filled the lake up again, eight of the eleven lost barges popped back to the surface, completing their vertical voyages. And somewhere, deep in the bowels of the earth, are still three barges and a tugboat stranded in the flooded corridors of the Jefferson Island Salt Mine.

Vertical Canalling over Niagara Falls

Some years ago we recited in these pages a joke from Hayward and Emily Madden. They were standing beside a Welland Canal lock, watching a boat go through, when a lady standing beside them asked her friend, "This is all very interesting, but I wonder how these boats go around Niagara Falls?"

Well, we've learned that more than one boat neglected to take the Welland Canal route around Niagara Falls. In addition to thirteen occupied barrels (on purpose) and an occupied motorboat (by accident), two large craft have made, or are still making, the vertical journey. The first, a big iron scow, has been a tourist attraction for 77 years, perched on an island off the Canadian shore, just

upriver of the precipice of the falls. The boat is gradually rusting away and going over the falls, one piece at a time.

Our Canadian Director, Arden Phair, sent us the dramatic story as told by Francis Petrie in the August 5, 1978 *Niagara Falls Review*. Back on August 6, 1918, the entrance to a power canal on the American side was being dredged out. Filled with dredged sand, the scow was being towed out into the Niagara River to dump when the tow line broke, sending it careening down the white water toward the falls. The two men aboard quickly opened up the dumping hatches in the bottom of the scow to sink it, threw out an anchor, and waited for developments. The hero of the rescue operation was the Niagara's expert William "Red" Hill, who braved the water and international red tape to get the men off; now famous, both of the scow's crew men made a personal appearance in a popular Niagara Falls theater a couple of days later.

Rewards were offered for the recovery of the scow, but no one dared to retrieve it and it sits there still, 77 years later. ACS member Scott Ankeney writes that he saw it there nearly 20 years ago and still remembers the story and the impression it made on him, watching the barge out in the rushing white water, thinking of the two crewmen who spent all night not knowing when they would be swept away to their deaths over Niagara Falls.

INTERNATIONAL CANAL CONFERENCE October 2-6, 1995

The 1995 International Conference on Historic Canals is being held October 2-6, 1995 in Augusta, Georgia, at the Radisson Riverfront Hotel (Reservations 1-800-333-3333).

Explore the canals of the Old South. Discover how these man-made waterways nourished ante bellum dreams, produced arms for the War Between the States (the "Late Unpleasantness"), advanced industrial opportunities following reconstruction, and became the treasured heirlooms of the new South, now nurturing dreams for the twenty-first century.

This event is hosted by the Augusta Canal Authority in cooperation with the National Park Service, celebrating the 150th anniversary of the historic Augusta Canal, built 1845 and enlarged 1875. Contact: Jeanie C. Allen, Conference Chair, 3042 Pine Needle Rd., Augusta, Ga. 30909. Phone and fax 706-733-2635.

NEW BOOK ON THE OHIO RIVER

Released in November of 1994 by the U.S. Army Corps of Engineers, this 484-page book tells everything you'll ever want to know about the development of the Ohio River Navigation System over the past 200 years.

Full title of the book: "The Ohio River Division, U.S. Army Corps of Engineers: A History of a Central Command" by Leland R. Johnson. Its detailed descriptions, with excellent drawings and photos, review the period since 1888 when the C.E. Central Division opened at Cincinnati. It also follows previous river history from the fortifications and battles with both French, and Indians to the start of canalization, winding up with details of the present lockage system.

Like all C.E. works, it is accurate, highly readable and well illustrated. No price is given, but we suggest you write Charles E. Parrish, District Historian, U.S. Army Engineer District, Louisville; P.O. Box 59, Louisville, Kentucky, 40201-0059.

Bill Shank

1995 QIMBY'S CRUISING GUIDE NOW AVAILABLE

The new and revised 222-page *QIMBY'S CRUISING GUIDE* for 1995 is now available. It contains a new section on the Missouri River, written and illustrated by our own David F. Ross, based on his personal assessment of its facilities. Other articles by David Ross also appear in this issue, many of them familiar to readers of *AMERICAN CANALS*, where we have been publishing his articles for the past ten years. Other waterways covered in this 1995 Quimby's include the Mississippi, Ohio, Illinois, Tennessee, Cumberland, Tennessee-Tombigbee, Alabama, Arkansas, Allegheny, Apalachicola-Chattahoochee-Flint, Black, Black-Warrior, Kanawha, Kentucky, Monongahela, Muskingum and St. Croix Rivers—7,544 river miles in all. Included are exact mileages, navigation tips, name, address and phone numbers of marinas and harbors, as well as phone numbers for most of the locks on the entire navigation system. \$15.95 c/o of *WATERWAYS JOURNAL*, 319 N. Fourth Street, Suite 650, St. Louis, MO 63102. Phone (314) 241-7354.

SALLY FORTH/ BY GREG HOWARD AND CRAIG MACINTOSH

Submitted by Bill Trout

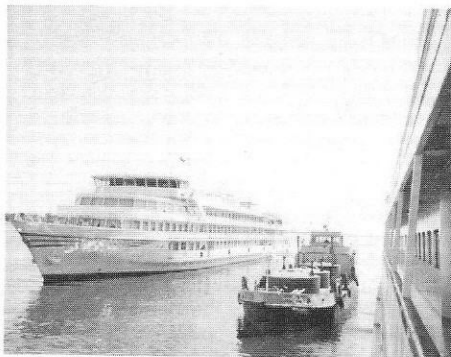


MOSCOW TO ST. PETERSBURG BY BOAT

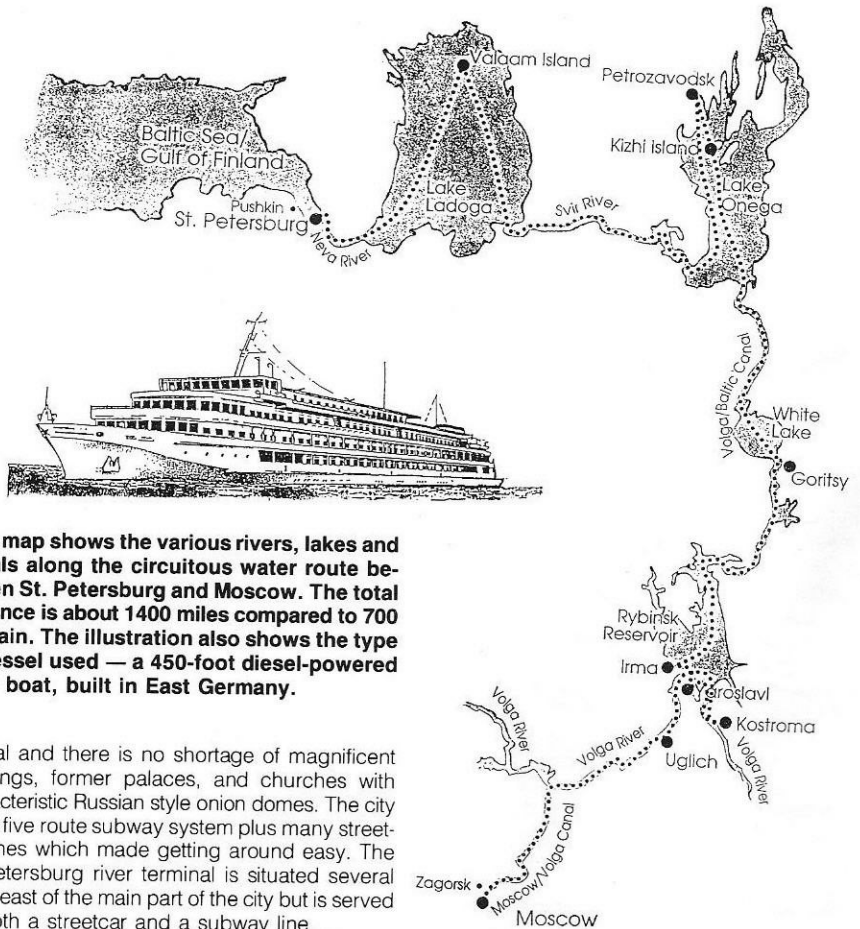
By Bruce Russell

Being a canal and inland waterway enthusiast I had always wanted to make the St. Petersburg to Moscow journey by boat. I had read several books and articles about how the Moscow-Volga Canal was built during the 1930s and was very curious to experience it first hand. Two companies were advertising the trip. One was ODESSA AMERICA TOURS which charged over \$3,000 for passage on their luxurious vessel the LEV TOLSTOY. The other was EAST WEST TOURS which had a price of \$1700 which included round trip airfare from New York. Naturally I chose the cheaper alternative. EAST WEST's riverboat was the NIKOLAI CHERNESHEVSKY, named after a Russian writer of the 19th Century. I later discovered that the standard of accommodation aboard both vessels was approximately the same. Hence I saved myself over 1200 dollars which was considerable.

Upon arrival in St. Petersburg I was taken to the boat which would remain berthed for three days. This was to permit local sightseeing in Russia's second largest city which is known as the "Venice of the North" because of its many canals which branch off the NEVA RIVER. Until 1917 it was the



Midway during our journey our ships were fueled by this small fueling boat which came alongside with extended hoses.



This map shows the various rivers, lakes and canals along the circuitous water route between St. Petersburg and Moscow. The total distance is about 1400 miles compared to 700 by train. The illustration also shows the type of vessel used — a 450-foot diesel-powered river boat, built in East Germany.

capital and there is no shortage of magnificent buildings, former palaces, and churches with characteristic Russian style onion domes. The city has a five route subway system plus many street-car lines which made getting around easy. The St. Petersburg river terminal is situated several miles east of the main part of the city but is served by both a streetcar and a subway line.

On the evening of the third day the NIKOLAI CHERNESHEVSKY pulled out followed by the LEV TOLSTOY and another smaller riverboat. In July the sun never really sets in St. Petersburg since the city is so far north. Locally the summer is referred to as the time of the "White Nights".

For several hours we proceeded east along the NEVA RIVER passing a steady stream of both freight and passenger vessels headed in the opposite direction. Many navigational aids were evident on this busy river including flashing beacons and bouys.

Prior to departure I had purchased a guide book which described the entire trip from St. Petersburg to Moscow, indicating location of the locks, the main sights, and the methods used for creating the water route which is almost 1500 miles long. For \$10 it was a great investment. I also had a map of all the waterways and canals of Europe including Russia and was amazed at the kinds of trips one can make by boat.

Among the highlights we encountered were the Fortress of Schusselberg, the Valaam Monestary situated on an island at the northern end of Lake Ladoga, Kinzi island in Lake Onega, the White Lake Monastary, the historic cities of Yaroslavl, Kostroma, and Uglich, and several lesser sights. All are described in standard guidebooks and were fascinating. Each day aboard the NIKOLAI CHERNESHEVSKY there was a 1 hour lecture on the history of Russia beginning in the second century AD and going up to the present time. The speakers were excellent and having them made the journey more meaningful. When discussing the construction of the canals there was no attempt to gloss over the fact that Stalin's victims were used as virtual slave labor. The lecturers were all in their 20s and 30s and were anxious to get to know Americans. Many wanted to learn US style business practices and none were supportive of the former Communist government.



The Lev Tolstoy drops to the lower level of the Svir River Lock in this view from the stern of the Nikolai Cherneshevsky. These two vessels traveled together during our entire 10-day trip, sharing almost every lock transit. (All photos by the author, or ship companions.)

Passage through the many locks was exciting, in part because they were so gargantuan. Generally our riverboat and the LEV TOLSTOY locked through together. Since each was about 450 feet long and there was ample room to spare the chambers could not have been less than 1200 feet in length or 200 feet longer than those of the Panama Canal. Adjacent to most locks was a hydro-electric power dam.

The portions of the waterway which consisted of flooded valleys was particularly intriguing. Several church steeples still protruded from the water. It was a strange sensation as we glided over what must have been thriving towns and productive farms. As we transited the Rybinsk Reservoir I could clearly see clumps of dead wood floating about. These came from the pine trees which were submerged once the man made flooding commenced in the early 1960s. Our path across this body of water was marked by navigational lights attached to floating bouys. This was likewise the situation on Lake Ladoga, Lake Onega, and the White Lake.

During the entire journey we constantly passed other riverboats similar to ours going in the opposite direction. When we stopped at Kostroma, Yaroslav, and Uglich there were always other



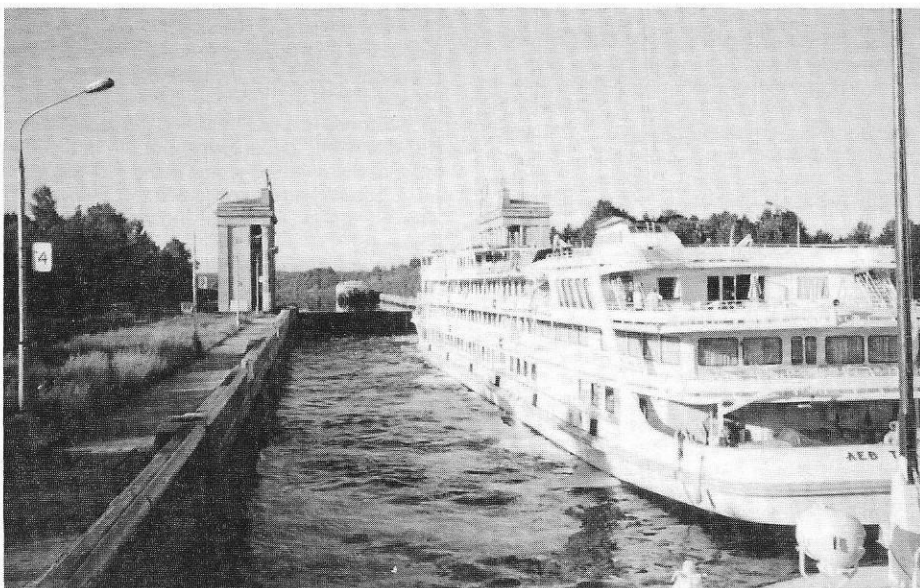
The Moscow-Volga River Canal was finished in 1937, using mostly forced labor. About 80 miles long, it connects the Volga with the Russian capital, replacing a much smaller 19th century waterway. Note the red, white and blue flag of the Russian Republic, which has replaced the "hammer and sickle."

vessels tied up. The majority were on regular schedules but some were strictly cruise boats. Many Russians book passage on them simply to take a trip and plan their itinerary to permit two and three day stop overs. Unfortunately in our own nation such options aren't possible. The last regularly scheduled overnight passenger services on the Mississippi-Ohio system ended in 1938. This was on a line running between Cincinnati, Ohio and Louisville, Kentucky. All of the boats I saw appeared to be freshly painted and in good repair. Few had the Soviet era hammer and sickel insignia attached to their funnels. All flew the red, white, and blue tri-color flag of the newly created Russian Republic.

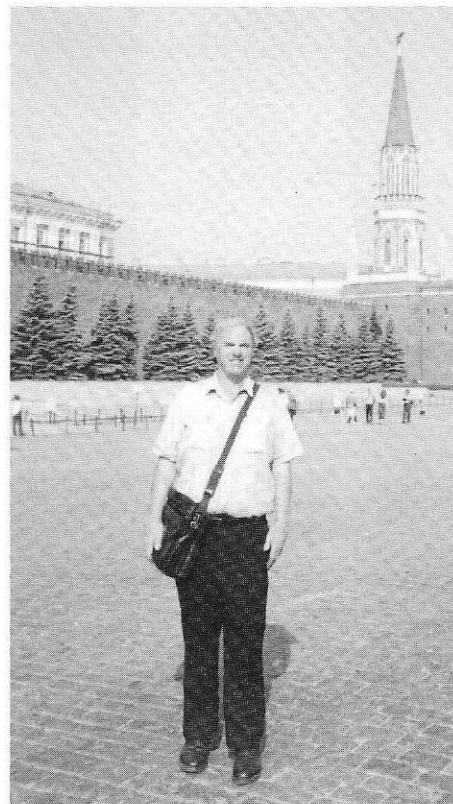
The final two days of the journey involved passage through the Moscow-Volga Canal. After departure from Uglich we separated from the Volga River and entered Lock #1 which had a date 1935 written at the base of the triumphal arch which spanned the chamber. The weather was bright and sunny and everyone was out on deck.



In order to create the Rybinsk Reservoir entire valleys and villages were purposely flooded in the 1960's. This church steeple is all that remains above water in this village.



The Riverboat Lev Tolstoy inside one of the locks of the Moscow-Volga River Canal, headed toward Moscow.



The author in Red Square.

As we neared Moscow the canal became busier with a number of day excursion vessels encountered. I later found out that their destination was a large amusement park on the periphery of the Russian capital. To reach it they used a small branch canal. Until the mid-1960s in the city of Washington, D.C. there was a company called the WILSON LINE which ran day excursion boats to an amusement park called Union Hall on the bank of the Potomac River. Sadly it succumbed to automobile in 1968.

The crew consisted of both men and women and while few spoke English most appeared to
(Concluded on Page Ten)

MOSCOW TO ST. PETERSBURG



A Russian Orthodox Cathedral in St. Petersburg.

(Concluded from Page Nine)

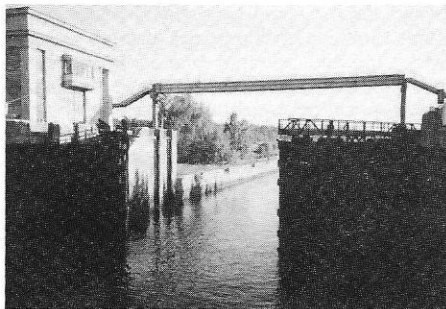
be friendly and seemed to like Americans. The quality of food served in the boat's restaurant was far below that available on such vessels as the DELTA and MISSISSIPPI QUEEN but was nevertheless acceptable. Borsht soup and black bread, both Russian specialties, appeared frequently as did the Ukrainian dish "chicken Kiev". Bottles of Vodka were normally placed on the tables during both lunch and dinner and were included in the overall price of the voyage. Beer on the other hand was available but had to be paid for separately.



In addition to the large 450-foot vessels like ours there are also regularly scheduled Hydrofoils, carrying 65 people each. Many times during our trip, the Nikolai Cherneshevsky was overtaken by these swift craft.

Huckleberry Finn Versus Boisenberry Boris

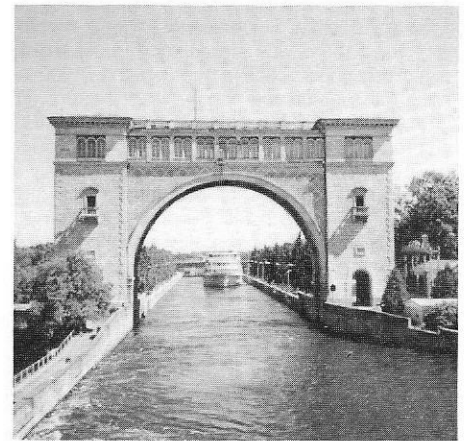
During the 19th Century in America the ambition of many young lads was to become a riverboat captain. In his book *LIFE ON THE MISSISSIPPI* author Mark Twain explores this theme, and his principle character HUCKLEBERRY FINN is always watching and traveling on the giant sternwheelers. On my 1994 trip aboard the NIKOLAI CHERNESHEVSKY I noticed that a boy of about 12 was often inside the bridge sitting next to the captain. I later learned that he was the master's son who was taking the trip with his dad. A thought which came to my mind was that some Russian author should write a book titled *LIFE ON THE VOLGA* and have as its main character a youth called BOISENBERRY BORIS! I was subsequently advised that "little Boris" desired to become a riverboat captain just like his father. I noticed that while on the bridge he was absorbed in studying the instruments as well as the charts which indicated the twists and turns of the rivers and canals we were using to get from St. Petersburg to Moscow. Furthermore when we passed through the giant locks I often saw young boys inside the control booths assisting the lock tenders as they opened and closed the valves and massive steel gates. This is a sure way to learn responsibility.



The gates are opening at Lock #4 of The Moscow-Volga canal, allowing the Nikolai Cherneshevsky to proceed south toward the Russian capital. American and Canadian engineers were involved in the design of this Stalin-era waterway.

Arrival In Moscow

The NICKOLAI CHERNESHEVSKY arrived at the Moscow River Terminal in the late afternoon of the 10th day following departure from St. Petersburg. This facility, completed in 1937, features a Stalinesque era design complete with a tall spire which is still crowned by a red star. Its interior is cavernous and includes several waiting rooms, a post office, and ticket windows. On one wall is a map of European Russia and Ukraine indicating the complete inland waterway network. Voyages from the White Sea to the Black Sea are totally feasible. Over 100 vessels, all at least 400 feet long, were berthed at this sprawling facility about 12 miles north of Red Square. The NIKOLAI CHERNESHEVSKY was assigned a specific location - berth 16-C - and we were advised to write it down. For three days the vessel remained here while we toured the Russian capital. During this time I was able to observe how busy this place was with arrivals and departures going on continuously. In the United States there is nothing comparable! On the 14th day our group was taken by bus to the airport to catch an Aeroflot flight back home. Meanwhile a new group boarded the NIKOLAI CHERNESHEVSKY and a return trip to St. Petersburg commenced.



The six locks of the Moscow-Volga Canal have these large triumphal arches astride each of them, thought to satisfy the ego of Dictator Joseph Stalin.

Conclusion

For Americans interested in canals and inland waterway navigation this trip is highly recommended and can be arranged through most travel agents. The cost is quite reasonable, averaging less than \$50 per day or one fourth of what DELTA QUEEN charges. Prior to going it's a good idea to obtain maps from sources such as the INLAND WATERWAYS ASSOCIATION. These will advise exactly where you will be going and also indicate alternate routes. Excellent and informative guide books on Russia can be purchased at local book stores which give the history and background of all the cities along this incredible water route, which combines canals, lakes, and rivers.

Two Canal Scenes on Christmas Ornament

(From *Towpath Topics* - Middlesex Canal Association)

Two views of the Old Middlesex Canal are depicted on a special limited edition Christmas ornament produced by the Billerica Historical Society.

One side is a picture of a canal boat being towed from the floating towpath at North Billerica with the mill village in the background. The scene was originally painted by J. Warren Barton in 1825 and is now owned by the Society.

The other scene shows the Shawsheen River aqueduct as it appears today - a view taken from the downstream side. This towering stone pier and its surrounding structures, designated by the American Society of Civil Engineers as a National Civil Engineering Landmark in 1967, is located at the Billerica-Wilmington town line on Route 129, Salem Road.

The ornament was designed by the Billerica Historical Society as one of a series of historic Billerica scenes. It is the 12th in the set.

Ornaments can be obtained by contacting the Billerica Historical Society, Box 381, Billerica, MA 01821, or call Mary Pasho at (508) 667-9792.

A CANAL TELEGRAPH LINE

By Tom McConkey

The following item is reproduced with permission from "Dots and Dashes", the official publication of the Morse Telegraph Co. for summer 1994.

Ever hear of a canal telegraph? A real, functioning communication system devoted solely to canal operation? Such an enterprise did exist on the Delaware and Raritan Canal in the state of New Jersey for the greater part of half a century and had the distinction of being the original route of the Morse Magnetic Telegraph, extending from Baltimore to New York, after the Washington-to-Baltimore line proved successful in 1844.

The D&R Canal opened for business in 1834 — ten years before Professor Morse's immortal words were sent thundering through the wires. Telegraph poles were erected along the canal bank rather than along the right-of-way of the Camden & Amboy Railroad, which was shorter and more direct in distance, but not touching at Trenton, Princeton or New Brunswick, all prominent New Jersey centers of population. Trenton, the state's capitol, was an essential source of business for the newly-invented telegraph.

Since communication by electric impulse is instantaneous in any direction, it made little difference which way the wires were strung. The canal and railroad companies were of one and the same ownership as of Feb. 15, 1831 and were commonly known as the "Joint Companies." Within five years of the start of barge operation on the canal, the railroad laid tracks along the berm, on the opposite side of the canal towpath.

Fearful of what happened in Boston when people froze to death because of a lack of wood to burn for fuel, New York — an island — looked to anthracite coal to keep warm in winter and to fuel its fast-burgeoning industries. Trouble was, anthracite was mined in Pennsylvania and the cost of coastal shipping prohibited anything but small amounts of coal to move by this route. An inexpensive method of transport was needed to get this low-grade commodity to market. The answer lay in canals, the waterway system for crossing land with boats drawn by animal power.

The D&R canal was 44 miles long, with a 22-mile navigable feeder waterway to assure constant flow of water. What it lacked in length, it made up in breadth, measuring 75 feet wide and eight feet deep. Many canals of the period were not as wide, and had four-to-six foot drafts.

The canal was relatively level and crossed New Jersey, at its narrow waist, with only a 57 foot difference in elevation tidewater to tidewater, and consisted of eleven sets of locks. A well-built canal, it collected tolls up until 1932 and closed as a result of the great Economic Depression, not because of functional inadequacy.

Ninety percent of D&R Canal revenue was derived from payments made by coal barge owners or operators. Passenger travel was nil. With a railroad caressing the canal bank it took two hours by train, compared to two days by boat, to travel the same distance.

Unprecedented train travel at the height of the Civil War in 1864 forced the railroad to vacate the canal bank in favor of a better route. The "Joint Companies," owners of both railroad and canal, accomplished this by buying out the turnpike toll road that paralleled the D&R Canal in a straight line across New Jersey. At the same time it gave rise to the famous "Princeton Shuttle" connecting the university town with the new double-track main line (which eventually became Amtrak's "Northeast Corridor") 1.7 miles eastward of the canal, with the Princeton shuttle train still functioning 130 years later.

With the rails gone, the telegraph poles remained in place still handling commercial business. The railroad stations at Princeton and Kingston were both served by spur lines. The Pennsylvania Railroad, not satisfied with Philadelphia as its eastern terminal, in 1871 stretched its tentacles northward to reach the Hudson River opposite New York City, by embracing the ancient Camden & Amboy Railroad, along with the D&R Canal.

PRR's acquisition of the two companies cast a pall over residents of the state, who felt their sovereignty had been invaded. In spite of traffic having already reached its zenith, operationalwise, better days lay ahead for the D&R Canal under Pennsylvania Railroad aegis.

To begin with, the main office was moved to 129 Broad Street, New York, a few doors down from the prestigious New York Stock Exchange. Also, the telegraph was installed as part of the railroad operating department at canal locations, and steam-powered tugs to haul barges were introduced to expedite movements. Unlike mules, tug boats could handle more than one barge at a time.

In a revised list of D&R Canal wire office calls, effective 12:01 a.m. May 17, 1891, the PRR shows each office with an asterisk (indicating "Daily Except Sunday" service) which, if nothing else, establishes that the canal was not open for traffic on Sundays. The only canal office open seven days a week was the off-line Canal Coal Port at South Amboy where an accumulation of anthracite was stock-piled during the months of the year when the D&R Canal was navigable, April to December. As winter wore on, the supply was depleted through sales to customers.

With New York as the main office, there doesn't appear to have been a system of dispatching boats through the waterway, such as that employed by the railroad. However, restrictions were applied to tug boat operations, with the telegraph utilized to regulate the speed of these steam-powered craft not to exceed 4.5 m.p.h. to prevent excessive lashing of water against the side walls of canal banks.

AWARD PRESENTED

The Friends of the Delaware Canal has received the 1995 Service Group Award from the members of the Pennsylvania Recreation and Parks Society. The award was presented during the Society's March conference at the Seven Springs Mountain Resort in Champion, PA.

The Friends, a non-profit volunteer organization, was cited for its efforts to preserve and improve the Delaware Canal State Park, a 60-mile-long historic waterway extending from Bristol to Easton, PA. Endeavors such as a successful \$100,000 fundraising campaign to buy dredging equipment, the restoration of the Locktender's House in New Hope, master planning, and clean-up and monitoring programs were lauded.

The Pennsylvania Recreation and Parks society, a 1500 member organization, unites recreation and park professionals and interested citizens by providing opportunities to enhance their leadership roles in improving the quality of life by meeting the recreational needs of all Pennsylvanians.

CANAL BOAT W.C.

The following account of travel by canal boat is especially noteworthy because it reveals the location of one indispensable part of every boat that most travellers discretely neglected to mention. We can stop wondering, now, because on some boats, at least, we now know where to find it - that is, where to "go".

Syracuse to Utica by Packet, 1839

This was a canal boat made narrow, sharp bow, and with sections light as possible; and with seats about the cabin, below the upper deck, or roof over the cabin. The cabin occupied the nearly whole length of the boat, about 1/3 of it being divided off by a curtain for a ladies' cabin at the bow of the boat, and as small a portion of the stern for pantry, cooking, stove, and other conveniences for meals. The tables and bed-berths being adapted to be effective yet occupy the least possible space with the least weight. A stairway led by a few steps up out of the cabin, on the steersman's platform, and a few more steps up on the upper deck. That before bedtime was in summer the place where most of the passengers sat, to see the country and get the air, which was every little while interrupted by the cry: "A bridge! A bridge!" when we, everyone, bowed down to get under the bridge, for often the blow of a careless passenger had been a serious accident, even to the loss of life, by the contact of his head with the then low bridges.

At bedtime, the berths were put up by ropes and hooked to the roof of the cabin, and the swaying beds and the restlessness of the passengers often made it late at night before sleep, imperfect as it was, was had, in the crowded, stifling air that a hundred or more, in such sleeping, made in the cabin, yet for economy of space and good equipments, these boats were models of adaptation to convey on the Erie Canal seventy-two to a hundred and forty or so passengers. The boat running as still as silence herself, except when a bank was grazed, a lock was to be passed, or a town reached, in which to receive or discharge passengers. The trunks and baggage was put on the upper deck or roof of the boat, and usually marked with chalk as to its destination.

The meals were on flat boards, about three feet wide and ten feet long, with stools as seats, or the fixed seats along the whole length of the side of the cabin. They were plain ham and eggs, or beefsteak and potatoes, fried pork and beans, with hot "biscuit" or rolls, cooked on the boat, at 25 cents a supper and 30 cents a dinner; plain, usually well cooked meals that were really good, as were the usual hotel meals of like style at the same prices in those days. It was not until the railway came that the then so called "extravagant" (as it really was, and is) 50-cent and 75-cent charges were endured for a meal. For years on the Erie Railway, 40 cents was the dinner charge, and 30 the breakfast-supper charge, and I want no better meals than I have eaten at Port Jervis, Calliconn, Deposit, etc. on that road at these prices, or at Baggs' Hotel in Utica, NY.

All night long the horses, usually three or four at tandem, tugged on the tow-rope, as we went on with our bowlight gleaming before us, and at daylight we began to get up, wash at the limited space at the stern, go out on deck (after using the closet, limited as it was, on the stern part of the boat); and by this boat, with its narrow yet well-adjusted appliances, we were comfortable, and made the 76 miles, arriving between 4 A.M. and 5 A.M., from Syracuse to Utica. Few are now alive who, like me, ever actually rode in such a boat, though as late as 1856 I rode from Wilkes-Barre to Danville, PA on such a boat one night.

At Utica, NY we took the cars for Albany....

THE IRONDEQUOIT MISHAP (1884)

Submitted by William Dzombak

Southeast of Rochester, the Erie Canal had to cross low ground in the valley of Irondequoit Creek; rather than build locks to step the canal down to the valley floor and then step up out of the valley, canal engineers maintained the level of the canal by heaping up a long mound of earth across the valley and then forming the canal trench along the crest of the fresh embankment. After that elevated section of canal had been completed, some people did not trust a water-filled ditch founded on recently mounded earth; the planned celebration of that engineering feat did not occur without an alarm, as reported in the following account of the event [1]:

When the grand embankment west of Bushnell's Basin was completed, the commissioners were expected to pass over it in their special boat on a certain day, in honor of which occasion there was a great turn out of the good people in the locality, and mounted officers, beplumed and be-buttoned, rode up and down the tow-path, ready to do their royal best in any appointed way when the signal heralding the approach of the commissioners should be given. It was a moment of great expectancy, and the best of Monroe county stood before that distrusted embankment, which even the contractors, it was said, had no confidence in.

Now this famous embankment, 1500 feet long and 80 feet high, is one of the remarkable features of the Erie Canal. Wonderful as it was to behold in a state of security, each beholder could not imagine what the sight would be if "a break" should happen, and the water go pouring into the Irondequoit Valley. Provision had been made for a break, and hereby hangs our tale.

At each end of the dangerous section was a stop gate, lying flat at the bottom of the canal. In case of need it could be uplifted by some one jumping into the water and bringing its mechanism into instant play. It would be an opportunity for heroism on the part of ordinary humanity, which the dwellers in that quiet neighborhood might watch for with vigilance - an opportunity to win a glorious fame in saving a wide tract of country from disastrous inundation.

The crowd deepens, the hour is getting late, the beplumed officers not a little impatient, when a shrill cry is heard from the base of the embankment: "It's going! It's going! It's breaking away!"

There was a scampering of the panic-stricken crowd in every direction, but those officers did not forget their duty as servants of the people. Into the canal they leaped and up sprang the gates in a trice. What was a thorough soaking of fine uniforms if thereby peril might be averted? But where was the break, and where was the perpetrator of the practical joke? The crowd turned in hot pursuit of him, and found him in hiding, trembling with terror.

They carried him out on the mill-flume and threw him into the pond, and were back to the embankment in good season to see the commissioners pass over it in safety. This embankment is the largest on the canal. The precautionary gates were never brought into requisition, although several breaks and some serious ones had occurred in the vicinity. When the Irondequoit embankment was built, nearly every male resident of the adjoining towns turned out with pick, spade, and wheel barrow, unless physically unable. Some of the wealthiest farmers in the county are proud of telling that they worked for seventy-five cents a day on the Erie Canal.

[1] Parker, Jenny M.

Rochester: A Story Historical
Rochester: Srantom, Wetmore and Company
(1884), p. 114

First Car Passes Through Panama Canal

The Associated Press

SYRACUSE, N.Y. — The Dobbertin Surface Orbiter has become the first car to travel the Panama Canal under its own power.

Karen and Rick Dobbertin, who are journeying around the world in their homemade amphibious vehicle, completed passage through the canal in three days, Karen Dobbertin told the Syracuse Herald-Journal.

Canal officials said the Orbiter, which is registered in New York as a car, was the first car to pass through the canal under its own power, she said.

Rick Dobbertin, an award-winning car builder, built the Orbiter out of a converted milk tanker in his back-yard garage over five years.

The 32-foot, 5½-ton stainless steel craft, which is powered by a 6.5-liter turbocharged diesel engine modified for marine use, contains a kitchenette and beds.

The Dobbertins left Syracuse in December 1993 in an attempt to become the first to circumnavigate the globe in one continuous trip in the same vehicle. They already have visited South America.

John F. Garb, Albany

Albany Oct 17th 1862

Canal Department, State of New York

Loan under the Act to provide for deficiencies in the Sinking Funds under the provisions of Article seven of the Constitution.

Be it known that the People of the State of New York, by their Supt. John F. Garb, in trust for the **State Bank** in the City of New York, do hereby sign the sum of **Three Hundred** Dollars bearing interest at the rate of **SIX** per cent per annum from the first day of **October 1862** payable quarterly on the first days of the months of **January, April, July and October**, being made in pursuance of the Act to provide for deficiencies in the Sinking Funds under the provisions of Article seven of the Constitution, passed April 12th 1855, the principal of which stock is reimbursable on the first day of **October 1875** and is declared to be a charge on the **Sinking Fund** provided for in the Third section of Article seven of the Constitution, which stock is transferable at the transfer Office in the City of New York according to the rules prescribed for that purpose.

In testimony whereof J. Nathaniel S. Center, Auditor of the Canal Department of the State of New York, have hereunto subscribed my name and official seal of office the day and year first above mentioned.

Countersigned by **J. M. Carson** **N. F. Weston** Auditor

A Sinking-Fund Certificate issued in 1857 by the State of New York, paying six percent, and redeemable in 1875.