

# AMERICAN CANALS

BULLETIN OF  
THE AMERICAN CANAL SOCIETY

BULLETIN NUMBER 78

Editorial Address—Rural Route 1, Box 87T, Savannah, TN 38372

AUGUST 1991

## PRESIDENT'S MESSAGE

As is discussed elsewhere in this issue, the Canal Society of Indiana is working hard to preserve the state's best remaining wooden lock. It is about time America had a canal museum or park focused on a wooden lock, and it would be particularly appropriate in Indiana where wood, not stone, locks were the common type. It will take some imaginative planning to preserve a wooden lock, in place in the ground, yet have it exposed to view. Should it be preserved under water, like wooden locks in tidal areas? If you can help, write C.S.I. at 302 E. Berry St., Ft Wayne IN 46802.

Ron Oakley has just sent us a list of 46 videotapes about canals which are available in Britain, ranging from "A Civilized Adventure" to "A Crooked Ditch." The list includes the price and source of each tape. I'd like to see some of these tapes shown around the United States, but there could be international copyright problems, and there is definitely the technical problem of "translating" the tapes so they will work on American VCRs. Is anyone set up to transfer British videotapes? Is anyone interested in working on a national canal video lending library? Has anyone assembled a collection of canal snippets from the movies? [See also the item "Canal Films Needed" elsewhere in this issue.]

One of the most interesting canals in the world must be the Bude Canal, in Cornwall, described as an "amphibious tramway." Wheeled tub boats run up and down six inclined planes. In the May issue of *Navvies*, the Waterway Recovery Group reports that the pit for the large waterwheel which ran the cable on one of the planes is being excavated by Bude Canal Society volunteers. The wheel is completely enclosed, 50 feet below ground, reached by a personnel tunnel. They need visitors and support. Morris Canal buffs take note!

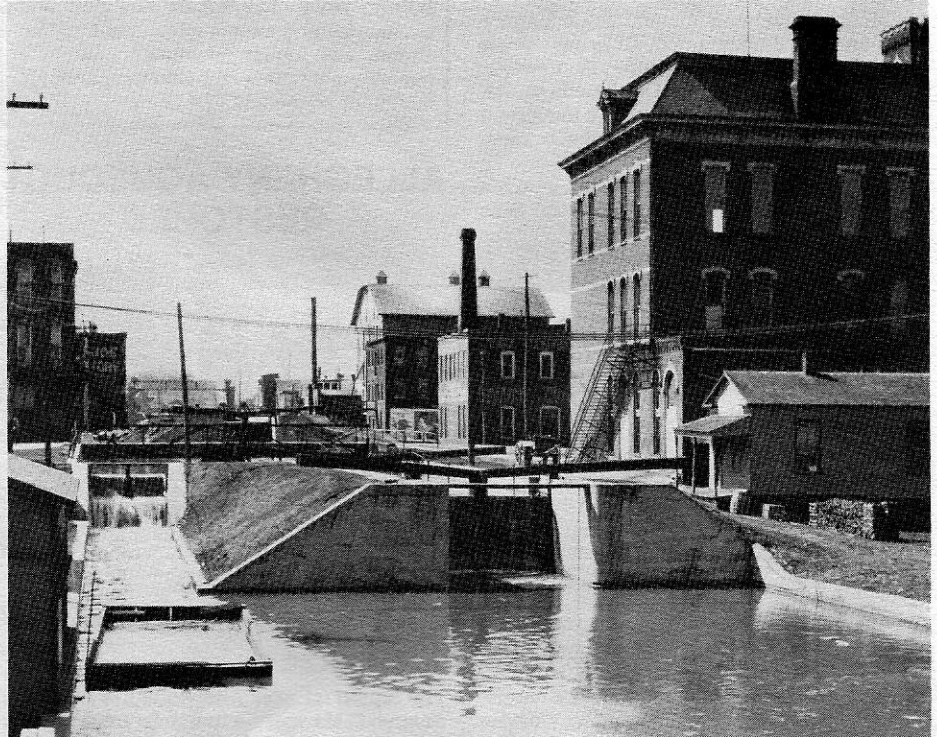
What difference does an inch make? Well, the *Waterways Journal* reports that vessels using the St. Lawrence Seaway can now add *one inch* to their maximum draft, making it 26 feet, 1 inch. That inch may not seem like much, but it means that one of the huge lakers can now carry up to 100 metric tons of additional cargo, and make more profit. This is what the business community refers to as "the bottom line." Will still another inch be allowed some day? How many more inches does it take to bottom out?

— Bill Trout

## CAHILL HONORED

Louis J. Cahill, ACS Director for Canada, on June 6th, 1991 received an Honorary Doctor of Laws Degree from Brock University of Canada. Lou is the founder of OEB International, the largest independently owned public relations firm in Ontario.

## LOCK SITE WANTED: OBJECT—ADOPTION



**This excellent photo, taken nearly 100 years ago, shows the Miami and Erie Canal passing through Defiance, Ohio, not far from the M. & E. junction with the Wabash and Erie Canal, running west into Indiana. (Photo was sent us by Richard A. Eierman.)**

A.C.S. member Richard A. Eierman has written to President Bill Trout requesting the society's assistance in acquiring a lock site. The Eierman family has long been involved in preserving artifacts of engineering history. In the past, they have restored paddlewheel riverboats, steam traction engines, and antique automobiles. They are now ready and eager to move on to a navigation lock on a canal.

Since many lock sites are the property of governmental units that are at present in a state of fiscal crisis, the Eierman offer is of particular topical interest. Canal enthusiasts generally oppose the sale of canal-related real estate to private interests which would raze or pave over whatever relics remain. We rarely have the opportunity to react to a proposal from a private developer whose interest is in preservation and restoration. The Eiermans' intention is to retain title to the property following restoration, but to keep it open to the public. This could certainly be preferable not only to the usual destructive development but also to continued neglect and deterioration under public ownership.

Mr. Eierman's letter follows. Anyone with a lead

or suggestion can reach him through this bulletin or direct at 301 East Broad Street, Westerville, Ohio 43081, phone 614 882 2866. D.F.R.

June 6, 1991

Dear Mr. Trout—

We are members of the Canal Society of Ohio and the American Canal Society, and as such are extremely interested in preserving what is left of the canal system in Ohio.

In looking through some old negatives of pictures taken by my grandfather, Carl J. Eierman, I noticed one of a canal lock. On studying the area I found that it is a photograph of the Miami and Erie Canal at Defiance, Ohio. The lock in the foreground is number 16 from Toledo or number 3 at Defiance or number 37 from the north summit. The lock has a nine foot lift. The background lock is number 17 from Toledo, number 4 from Defiance, or number 36 from the north summit. These locks were originally built of wood and were replaced with concrete-faced sandstone structures as part of a renovation program in the first decade of the 1900s. The large building to the right of the

(Concluded on Page Two)

# American Canals

BULLETIN OF THE AMERICAN CANAL SOCIETY

Publisher: **William H. Shank, P.E.**, 809 Rathton Road, York, PA 17403. 717 843 4035.

Editor: **David F. Ross**, Rt. 1, Box 87T, Savannah, TN 38372. 901 925 0099.

Contributing Editor: **Bruce J. Russell**, 240 Mt. Vernon Pl. (11-E), Newark, NJ 07106.

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 (\$12 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.

## LOCK SITE WANTED

(Concluded from Page One)

canal is the old Central Fire Station at the corner of Perry and 3rd Streets. Lock number 37 is still there; however, most of it has been covered over by a parking lot. We thought you would like to have a copy for the archives.

For the past two years, the Eierman family has been trying to obtain a lift lock and two pound levels on Ohio's historic canal system. Upon acquisition, we would undertake a complete restoration and return it to navigable condition. We have at our disposal all of the construction equipment needed to do the work as well as an expert in hydraulics to carry it out. Ideally, going into this we wanted one of the original stone locks on the Ohio and Erie Canal which was supervised by Alfred Kelly, but at this point we will talk to anyone about any site anywhere in Ohio. Our problem is in acquiring a site, since land ownership of remaining sites is such a crazy quilt of local, state, national, private, and commercial interests. We have

been working with the Canal Lands Section of the Department of Natural Resources, but it appears that the majority of lands have already been sold or transferred. Quite frankly, we're running out of lock sites to investigate. We seek the society's comments, opinions, and advice on our situation.

We look forward to hearing from you at an early date. Sincerely, Richard A. Eierman.

## D&H CANAL LOCK WORKING MODEL

The Neversink Valley Area Museum, at Cuddebackville, New York, has just added to its exhibits a working model of one of the early locks on the Delaware and Hudson Canal. In addition to the lock itself, the model includes a canal boat complete with mule and coal-burning stove. The exhibit was built and donated to the museum by Tom and Jane Van Orden. For further information, write the museum at P.O. Box 263, Cuddebackville NY 12729, or phone 914 754 8870.

## ALLEGHENY AQUEDUCT RESTORED



The aqueduct over Allegheny Creek on the Schuylkill Navigation has been restored and is now the central attraction of a Berks County park. The aqueduct is at Gilbralter, Pennsylvania, between Reading and Pottstown. Restoration work was conducted by a crew led by stonemason Richard Miller. Sponsors included the Pennsylvania Department of Environmental Resources, Berks County, and the Schuylkill River Greenway Association. [Information supplied by Schuylkill River Greenway Association.]

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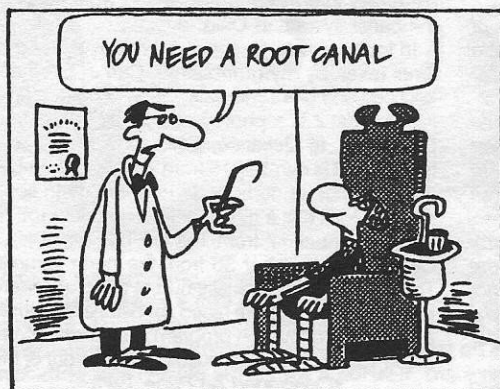
William H. Shank, editor and publisher.

*American Canal Guides*,

William E. Trout III, editor and publisher.

## THE WIZARD OF ID

(By permission of Johnny Hart and NAS, Inc.)



# WABASH & ERIE YIELDS WOODEN TREASURE

by Robert F. and Carolyn Schmidt

On June 4, 1991 an historic treasure was unearthed east of Fort Wayne, Indiana on the old Wabash & Erie Canal. A construction crew working on the U.S. 24 acceleration lane from Indiana route 469 accidentally uncovered the remains of a timber-frame lock. The lower third of the lock is in an almost perfect state of preservation, resting in an old glacial lake bed which has kept the timbers packed in moist mud for 150 years. The part remaining is that portion which was covered by the low-water pool in the lock since its construction in the late 1830s.

This wooden lock, known as Gronauer Lock #2, was constructed on the timber-frame design. The dimensions of the lock chamber follow the standard on the Wabash & Erie of 90 feet long by 15 feet wide. Typically for this type of lock, the timbers form cribs which support the interior chamber walls. The cribs adjacent to the gates are stone filled for extra support. Beyond the east gate is an additional 50-foot length of timbered floor and breastwall to protect the canal bed from the water flow rushing from the lock. Further information on this type of construction can be found in the February 1989 issue of *American Canals* in an article by Indiana Canal Society Editor Stan Schmitt.

The level of preservation in the lock is truly remarkable. The timbers are solid, both gate sills are intact, oak planking covers parts of the sides and floor, and the entire lock structure is supported on foundation timbers 37 to 47 feet long. Nails, metal spikes, door strappings, wooden pegs, and portions of the gates have also been found.

## Lockhouse Located

Across U.S. 24 from the lock, archaeologists have located the basement and foundation of the lockkeeper's house, the cistern, and an artesian well. Substantial information about the lockkeeper, Joseph Gronauer, is known. Pictures of the house and of the Gronauers have been provided by descendants. Also, detailed information on the repairs made on the lock has been found. Archaeologists are impressed by the substantial artifactual remains that have surfaced from the original excavation by the construction crews. The lock was probably used as a trash pit after the canal fell into disuse.

The Gronauer Lock is of historic importance and deserves preservation, not only because of its construction details, but because of its strategic location. It is:

(1) On the longest canal ever built in the United States—458 miles;

(2) Seven miles from where the Wabash & Erie began in Fort Wayne on February 22, 1832;

(3) On the first federal land grant for public works (1827);

(4) Within close proximity to structures in Ohio and Indiana that would link this interstate canal into the historic corridor park plan being considered by the National Park Service;

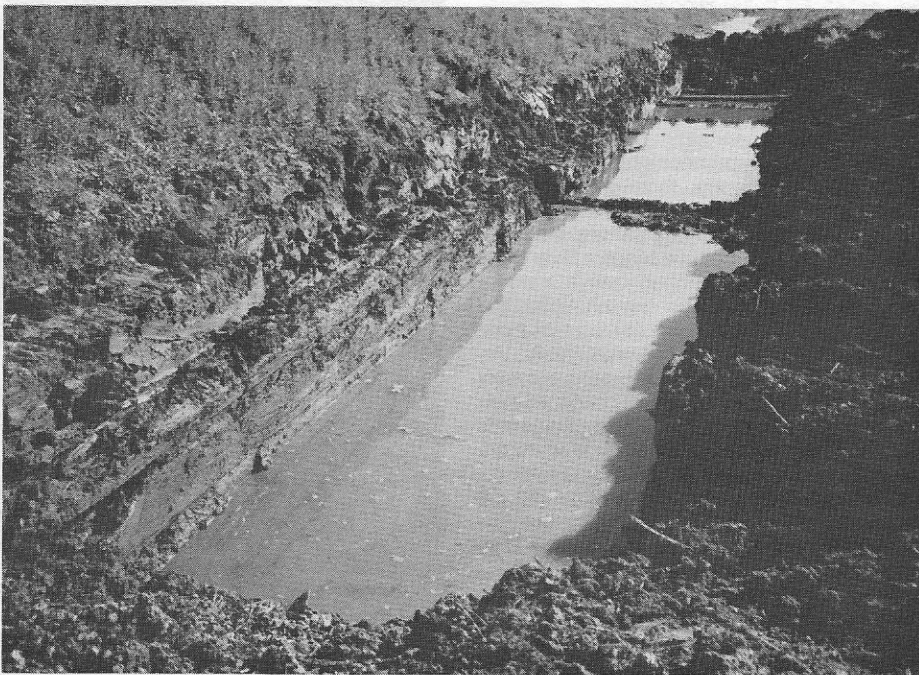
(5) On the route used in 1846 to take the Miami Indians to the West.

It has definite potential for registration on the National Register of Historic Places.

Based on these considerations, the Canal Society of Indiana has taken immediate action to assure that the unique historic importance of the site is known to all governmental and private authorities at federal, state, and local levels. Letters requesting review of the site have been written to Vice President Quayle, Indiana senators Coats and Lugar,



Two views of Gronauer Lock #2, unearthed recently by a highway construction crew working on an interchange east of Fort Wayne, Indiana. Some of the old wood timbers are visible in these views.



and Governor Bayh. Contact has also been made with our congresswoman and with mayors in Indiana and Ohio. To increase public awareness, society members have been providing daily interpretations for visitors at the site. Thousands of interested people from many states have learned of the importance of this lock. The society has also used the media, presentations at civic organizations, and displays at festivals in both Indiana and Ohio, to build public support. Plans are being made to present the details of this discovery to the 2nd International Conference on Historic Canals at Akron, Ohio, in October.

Currently, all construction near the lock is on hold as archaeologists continue to probe the site.

The Indiana Department of Transportation is developing a variety of proposals to resolve this collision between new highways and an old canal. The Indiana Canal Society welcomes any support or creative ideas on preserving this lock for future generations.

Letters in support of the effort of the Canal Society of Indiana to have this site preserved and developed should be directed to: Pat Ralston, Director, Indiana Department of Natural Resources, 612 State Office Building, Indianapolis, Indiana 46204.

Tax-deductible contributions may be sent to: Gronauer Lock Preservation Fund—Canal Society of Indiana, 302 E. Berry St., Ft. Wayne, IN 46802.

# CRUISING THE WATERWAYS BY CANOE



Off to Utica, following the Fourth of July celebration in Syracuse.

by Wilson Greatbatch

[Editor's note. Most of this material was originally published, in slightly different form, in the *Clarence Bee*, and appears here with the permission of the Bee Group Newspapers.]

In an attempt to experience what our forefathers experienced years ago, three generations of Greatbatches spent two and a half weeks during the summer of 1984 rowing canoes along the 342-mile Erie Canal, from the Niagara River to the Hudson. The idea developed over a two-year period of planning by number-one son Warren and his uncle, Les Wright, formerly of Akron, New York, and now of Tucson, Arizona. Unfortunately, Uncle Les was incapacitated by a massive coronary during the spring and wasn't able to go. He participated only vicariously, through telephone calls and cards enroute, and by a slide show afterward. Warren developed the concept of rowing the canoes, procured the charts, planned out the stops, and tested out the whole thing between Tonawanda and Lockport before we left. To him goes the credit for making it all work.

Our entourage ranged from three to six people, and from two to four canoes. People joined in and dropped out as their time allowed. Warren rowed about 320 of the 340-mile stretch. I did about 300 miles. Warren's Uncle Dee (Dee Wright, of Akron) did about 200 miles. Other family members included granddaughter Ericka Greatbatch and number-three son Kenneth and his wife Sharon, from Keene, New Hampshire. Also with us for two days was Henry Kautz of Clarence.

Most of our canoes were fitted with oars, which were much more efficient than paddles. Warren had a beautiful rig, with a "Mad River" canoe, a sliding seat, and nine-foot, feathering sculling oars. I had a used Sears fiberglass wreck with a board seat and homemade outrigger, made from electrical conduit, for my seven-foot oars. Warren and I will never agree on which worked out better. Mine was more stable and shipped less water in the wake of a fast motorboat, but his was easier to row.



Start of the trip at Lockport — hopeful hoisting of a largely useless sail.

I told him I made up for that difference in pure brute strength. Granddaughter Ericka spent alternate days riding with Dad and with Grandpa. I asked her which boat was best. After considerable thought, she said, "Yours is more comfortable, but Dad's is faster." She'll make a fine diplomat some day.

There is a distinct disadvantage to traveling backwards: you can't see where you're going. After the first two days, I bought a rearview mirror. It helped, but my canoe is still covered with red streaks. I think I hit every buoy between here and Albany.

I cheated: I had a sail. Actually, the sail wasn't very useful, though. The winds on the canal were most capricious, and I found I could always row faster than I could sail. I didn't use the mainsail after Brockport (except for one instance in Syracuse—see below) and after Utica, I didn't even use the jib.

At night we camped by the side of the canal, or stayed in motels when the weather was bad.

We were pleasantly surprised to find so many motels so close to the canal. Sometimes it was good to have a hot shower and dry out our gear after a day of rowing in cold rain. Many nights we set up our tents right on the well-kept lawns at the locks. The lockmasters encouraged us to stay there, since our presence discouraged vandalism after they closed the locks at 11 p.m. and went home.

Our trip was not without problems. Warren fell through a rotten board in one dock, and we had to take boards off to get him loose. I slipped on a muddy bank and fell, hitting my head. It was five minutes before the canal stopped going around and I could stand again. Fortunately, we got nothing worse than bruises. We broke one oar and two oarlocks, holed one canoe, and I had to row the last two days with one six-foot and one seven-foot oar.

## On The Erie Canal

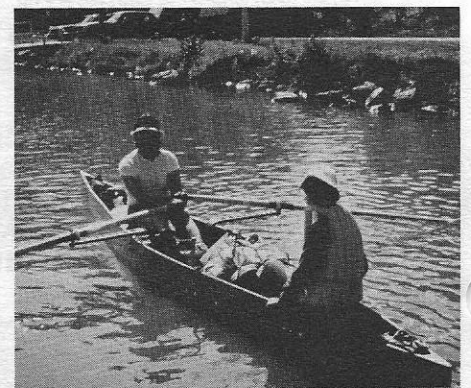
The lock people were very accommodating, letting us use their lavatories, and their shops when we needed repairs. They were very proud of their well-kept machinery and grounds, and each took great pleasure in showing them to us.

We overnighted in Baldwinsville, near Syracuse, on July 3rd. On the Fourth, we rowed the few remaining miles to Lake Onandaga, and pushed our canoes up on the shore at the county park that you can see from the Thruway. Our families from Clarence and from Schenectady drove there and we had a Fourth of July picnic in the park. This was one of the rare times I used my mainsail. It began to rain, and we hung the sail from the trees to make an awning over the picnic table. About mid-afternoon, our families waved us off with sparklers and we continued on our voyage.

The rowing wasn't as exhausting as I had feared it would be. We were dead tired by evening, but completely refreshed and ready to go in the morning. We usually covered 15 to 20 miles each day, depending on wind and current. From Syracuse to Utica, we had three inches of rain in three days. The Mohawk River was in flood and we had a four-mile-an-hour current pushing us, as well as a tail wind. The next-to-last day we did thirty-one miles, and the last day we did thirty-five.

After two and a half weeks, we pushed the canoes up on daughter Anne's back lawn. She and husband Larry Maciariello have a four-acre estate on the Mohawk River in Alplaus, just north of Schenectady.

What a tremendous feeling of accomplishment! We traveled the same route that Governor DeWitt Clinton did in 1825, when the canal was built, and



Son Warren and Granddaughter Ericka under way on the New York Barge Canal.



**Ericka locking through — not in accordance with Corps of Engineers procedure.**

we did it with our own backs and arms. We had problems, accidents, and rainstorms, but the important thing is, We Made It!

It was a trip I shall remember all my life. Never again will the Thruway be a boring six hours to Albany. Here's the spot where we never saw Herkimer from the canal because the canal banks were so high. There's the spot in the Montezuma Swamp, where the canal lies just beyond the hedgerow, where we saw all the great blue herons. Here's where we had the picnic. There's where I snapped an oarlock when I hit that red buoy. There's where the flooded feeder stream filled the canal with limbs and trees and we could hardly get through.

I often travel on business to the West Coast in four hours. In the canoes, after four days of travel we were still seeing Buffalo newspapers on the

stands and hearing Buffalo stations on my pocket radio. Incredible!

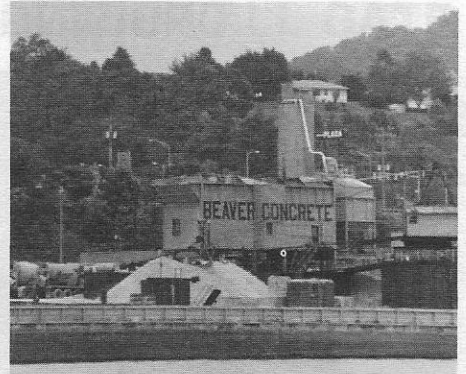
It's hard to imagine that the old timers did all this with just men and horses and no engineering precedents to guide them. It makes you proud of your heritage, proud of New York State engineers and entrepreneurs who, a century and a half later, are still doing new things. I'm glad we went.

### **Three Years Later — On The Ohio River**

Three years later, we undertook to top our previous feat by conquering the Ohio River. This time, two of our five-person team had health problems that precluded rowing, so we took along a 21-foot Wellcraft runabout, as a chase boat.

We trailered the runabout, and car-topped the canoes, to the Beaver River, which empties into the Ohio a little below Pittsburgh. I belong to the Buffalo Yacht Club, and we have reciprocal privileges with most yacht clubs around the country. This enabled us to take advantage of the hospitality of the Beaver Valley Yacht Club. We put our canoes in at their dock, launched the runabout at a nearby ramp, and parked our pickup truck and trailer in the yacht club yard for a couple of weeks. We had planned to start immediately on our trip, but the forecast was for thunderstorms, so we decided to wait until morning. Sure enough, down it came while we were eating dinner at a nearby restaurant. We spread our sleeping bags on the yacht club covered balcony that night. Nearly every day after that they forecast thunderstorms on the river, but it never rained once. Good thing!

For the next two weeks, we slept in everything from a tent on an island to picnic tables in a yacht club pavilion, and even a few nights in riverside motels. The hospitality of the yacht clubs was outstanding. In addition to the one at the Beaver River, we visited the East Liverpool (Ohio) Yacht Club, the Wierton (West Virginia) Yacht Club, the Martins Ferry (Ohio) Yacht Club, the Magnolia Yacht Club in New Martinsville, West Virginia (which turned out to be defunct, and converted into a bingo hall), and the Marietta (Ohio) Boat Club. Most of them charged us little or nothing to tie up for the night. Everyone seemed interested in our trip and our canoes. They were most kind.



**At the mouth of the Beaver River, this is presumably where the beavers get the raw material for their dams.**

The Ohio River locks were fantastic, after those on the Erie Canal. Some are 1,200 feet long and 150 feet wide. They can take one of the humongous pusher tugs with 12 barges (4 long by 3 wide) all at one time. My, those locks looked big from our little canoes!

Our eating habits varied. I usually tried to get on the river early and drift with the current while I ate breakfast, which was granola or some other dry cereal in powdered milk plus water. For lunch, sometimes our two canoes met with the runabout and we stretched our legs for a time. Other times, I just ate peanut butter and jelly sandwiches in the canoe. I carried breakfast and lunch makings in a foam cooler, along with quite a lot of fruit, until someone stole the cooler out of the canoe one night in Marietta.

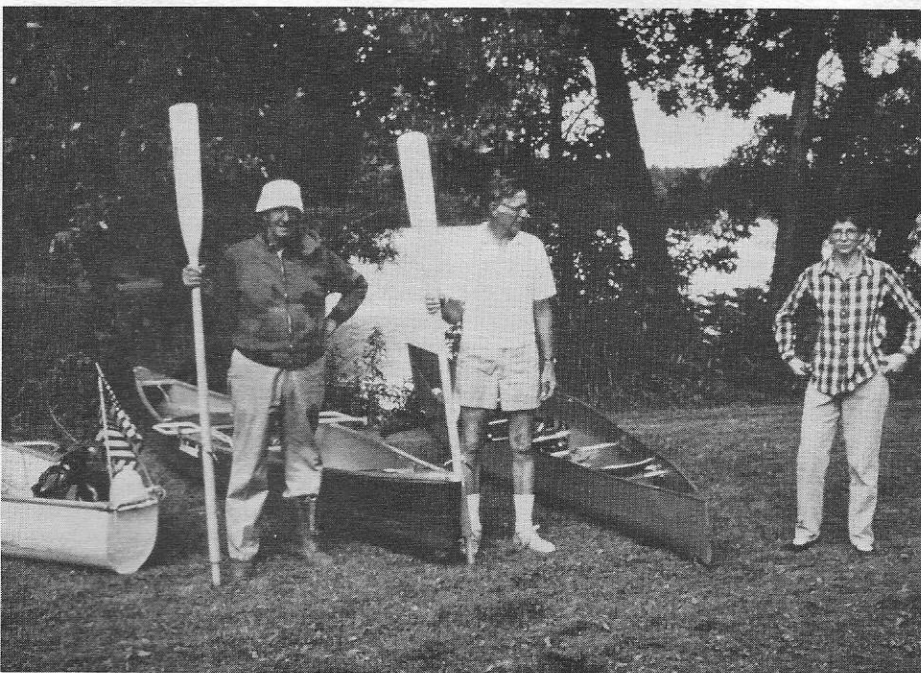
### **Rowing — Hard Work**

Rowing was hard work, and I carried a gallon of water along with a generous supply of salted pretzels to munch on during the day. I still managed to get pretty dehydrated, which gave me some urinary problems until I forced myself to drink the whole gallon of water each day.

We always stopped before 5:00 p.m. and either cooked a good supper or went to a restaurant. We had a complete camp kitchen with us and a 12 by 12 foot tent. Sometimes we set up the kitchen on shore, and other times we cooked on the deck of the runabout. We stressed flexibility rather than precise planning.

We had hoped to make many stops in the little towns along the way. However, we never saw most of them, because of a railroad or a steel mill between the town and the river. A few, like Wellsburg, West Virginia, Sistersville, Ohio, and Marietta have really developed their waterfronts, and made them attractive and accessible. In places like these, we stopped, looked around, and spent money. It occurred to me that the Ohio River might be going through something similar to what happened on the Erie Canal a couple of decades ago. There, the vanishing commercial traffic was gradually replaced by recreational traffic. Now every town on the Erie Canal has an attractive waterfront and good docks and facilities. They cater to the recreational boaters instead of walling themselves off behind a railroad or factory.

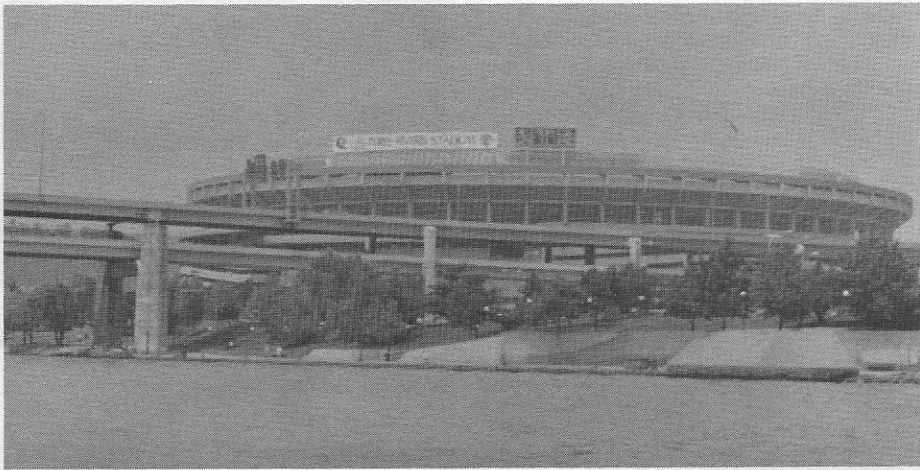
We usually made 20 to 25 miles per day, rowing. One thing we hadn't anticipated was the heat and humidity. It seemed that on most days the temperature went over 90°F. It made rowing so hard that we actually cut our trip short. This had been planned to be longer than the Erie Canal trip, but ended up only about 200 miles. The last day



**The fleet's in — daughter Anne's backyard on the Mohawk near Schenectady.**

*(Concluded on Page Six)*

# CRUISING THE WATERWAYS BY CANOE



Three Rivers Stadium in Pittsburgh — here begins the Ohio River.

(Concluded from Page Five)

I rowed, it was 98°F and 90 percent humidity, and I rowed 17 miles into a head wind. We tried to get our rowing in early in the day, both to be in the cooler part of the day and to avoid the wind, which seemed to rise in the afternoon. Of course, by traveling southwest, we were bucking the prevailing wind.

Marietta was a most enjoyable town. We arrived there during their bicentennial celebration. This was the first town in the old Northwest Territory. They had loads of fireworks, special events, tours of the Delta Queen sternwheeler, that passed us on its way to Pittsburgh, and street concerts by a Dixieland band. It seems that the trumpeter owned a print shop on Main Street, so that's where they played.

## Friendly Ohio Valley

I was impressed by the friendliness of everyone in the Ohio Valley. Everyone says Hello to everyone when they meet. Even little kids do it, whether they know you or not. Everyone is polite, considerate, and willing to talk anytime. A real uplift! But also, everyone will willingly give you directions on how to get where you are going, whether they know the way or not!

Our people decided to stop in Marietta a few days and fish. I'm not a fisherman, so I had them car-top my canoe 50 miles up the Muskingum River to Rokeby, Ohio. I put my canoe in just below the lock and spent the next three days cruising down the Muskingum alone. After the Ohio River locks, the Muskingum locks look like children's toys. They are less than 50 feet wide, and are all hand operated. The lockmaster walks around a turnstile a dozen times or so, first to open the valves and then to open the gates.

I spent my first night above the McConnellsville lock, had supper in town, and then walked over to the lock to check it out. A neighbor directed me to the lockmaster's house. My chart said they were open 9:00 a.m. to 6:00 p.m., but he said No, they were open from 8:00 a.m. to 5:00 p.m., except that the next day he was on garbage detail and would have to leave early. I asked When. He said 8:00 a.m.! But, if I was there at 8:00 he would lock me through. I was there at 7:45, and he did.

I got to the Stockport lock about 11:00 a.m. and found no one there. Another canoe came along with a crew that had friends in Stockport. They spent 1½ hours calling to try to find the lockmaster.

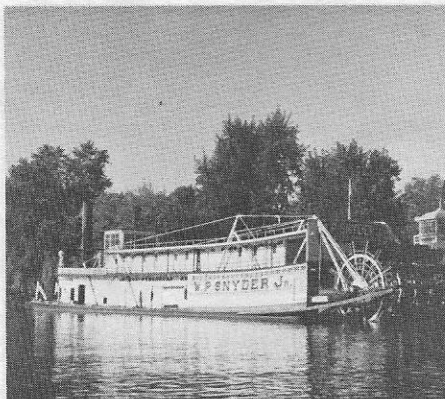
We finally portaged their canoe around the lock and started to unload mine. Just then, a little outboard came tearing up. It was the lockmaster from Luke Chute lock, six miles downstream, who ran up on his day off when the grapevine relayed our problem. Evidently the Stockport lockmaster was also out on garbage detail! When we got to Luke Chute, there was our outboard driver again, who locked us through on his day off.

Next lock was Beverly. Again, no lockmaster. Finally, the lockmaster's young nephew borrowed a wrench from a local truck and got the lock open, and we went through.

I decided the reason that the service on the locks is so poor is the lack of traffic. The reason the traffic is so sparse is the poor service on the locks. Catch 22!

The other canoe carried a retired farmer and a physician (nuclear medicine) who were on a week-long canoe trip from Coshocton to Beverly. They talked to each other non-stop. The doctor said to me, "We're so happy to see some company. You're the first boat we've met all week." Then they positioned themselves 20 feet to one side and proceeded to talk my ear off. I tried to ignore them, but couldn't. In my distraction, I ran my canoe into a tree. I tried to fall back, but they did too. I tried to pull ahead, but with two paddlers, they were faster. Finally, I just resigned myself to them being there and sweated out the rest of the day. Fortunately, they pulled out at Beverly. Oh blessed peace!

While driving up to Rokeby, I had spotted motels at 20-mile intervals, making sure I could see the



Canoes with oarlocks are not the only strange craft on the Muskingum.

river from the motel. Unfortunately, that doesn't mean you can see the motel from the river. In Beverly, on the way down, I finally had to stop, tie up in a bush, climb a 30-foot bank, and walk along the road until I found someone to ask where the motel was. They asked where I left my car. I said I was in a canoe. They looked a little askance, told me where the motel was, and took in their children.

I got to Lowell lock at 11:55 a.m. Surprise, the lockmaster was there! He looked at his watch, said he took lunch from 12:00 to 1:00, and I should come back at 1:00. So I did some shopping, got a milk shake, came back at 1:00, and went through. As I left, he shouted, "You know Devola lock is out of commission, don't you?" Shock, shock!

Oh well, Devola lock is only six miles above Marietta, so I called Warren to meet me there with the truck at 4:00 p.m. I guessed it pretty well and arrived at 3:45. He arrived at 3:55. Perfect timing, and we pulled out. Thus ends the Muskingum saga.

## Blennerhasset Island

One interesting stop later on the Ohio was Blennerhasset Island, near Parkersburg, West Virginia. A British nobleman built an estate there in the early days of the Northwest Territory. Aaron Burr gathered an expeditionary force there to conquer Mexico for the United States, but without the U.S. government's knowledge or permission. History got all mixed up, and he was eventually (evidently unjustly) tried for treason, largely due to the personal animosity of President Jefferson. He was acquitted, but people don't seem to remember that.

It was interesting to walk around the island and imagine the goings on. The manor house has been restored, but someone noted that the famous flood of 1937 buried the whole island under 12 feet of water.

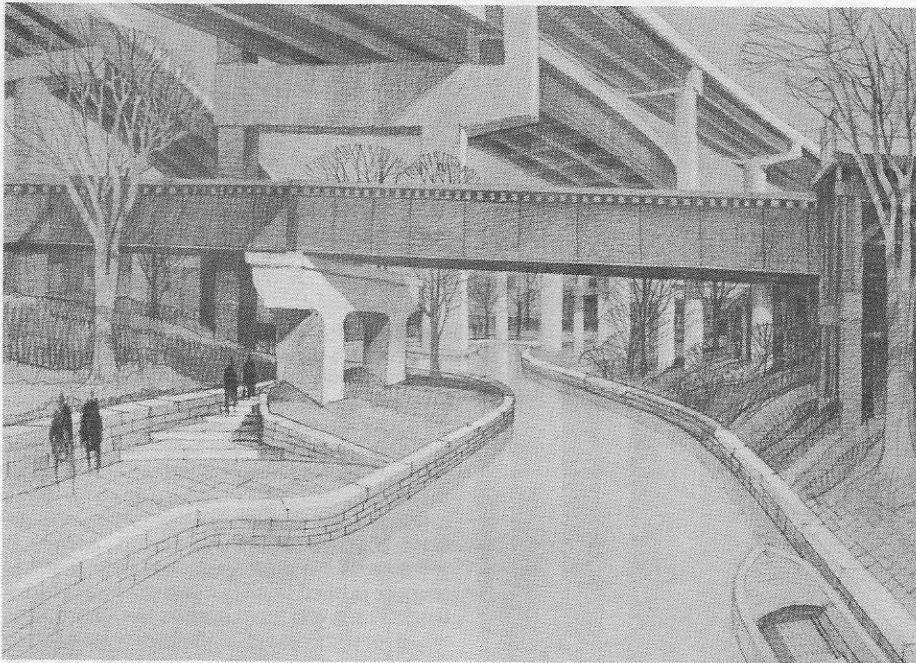
So, down to Gallipolis, Ohio. This was a town built by French immigrants (Gallipolis = Gallic City), and the end of our trip. It was a good trip, but the next one will be shorter, and cooler.

## CANAL FILMS NEEDED

Old Santee Canal State Park, a 250 acre park in Moncks Corner, South Carolina, is located on the site of the first summit-level canal in America. Construction of an 11,000 square foot Interpretive Center is nearing completion. Located in the center will be exhibits dealing with the Santee Canal, plantation life along the canal, the natural history associated with the park, and other features of historical significance in the area. In addition to the exhibits, there will be two theatres, featuring many different shows. It is intended that nature films will be shown in one theatre and films on canals in the other.

The park management is seeking information on VHS, 16mm, and slides dealing with canals that could be purchased, rented, or borrowed for showing in the theatre. To date, an entire library of nature films has been acquired, but only two films on canals. Anyone possessing relevant information is asked to make contact with Mary Anderson Seabrook, Curator, Old Santee Canal State Park, 900 Stony Landing Road, Moncks Corner, South Carolina 29461 [Phone: 803 899 5200]

# REOPENING OF CANAL HINGES ON FLOODWALL GATE



This perspective shows part of the proposed route of Richmond's restored canal. It depicts the canal as it heads eastward under the A.C.L. Railroad trestle. The double-decked bridge is the Richmond Metropolitan Authority Expressway (I-95). The proposed floodwall gate would be just beyond the distant bridge piers. (Drawing by Carlton Abbott.)

The Canal Committee of Historic Richmond Foundation is now conducting a campaign among Richmond's private and public sectors to raise the approximate \$500,000 cost of a gate for the James River and Kanawha Canal in the floodwall now under construction. Prompt action to provide the construction funds for the gate by mid-fall is critical to the future reopening of the canal through downtown Richmond, a leader of the movement to restore the canal told the city council on July 8th. Reopening the canal is a key part of the current city and Richmond Renaissance proposal for revitalizing Richmond's waterfront, said A. Howe Todd, chairman of the Canal Committee.

The committee strongly supports Richmond Renaissance's concept for incorporating the Richmond canals into its proposal for the waterfront, Todd said. The most critical issue at this time is the difference in the cost of building the gate *now* (while the floodwall is being constructed) rather than *later*, he emphasized. Some estimates indicate that future installation of the gate into the completed floodwall could cost four or five times the cost of building it now.

Todd's call for action came during a presentation of a detailed engineering plan for reopening the canal's eastern end, which will be intersected by the new floodwall. The study deals with the sector from 17th Street to Virginia Street—an area where portions of the canal system are missing or covered over. The report, which emphasizes the exceptional development potential of the proposed canal restoration, was commissioned by the committee with funds from the Richmond Industrial Development Authority.

Todd said the long-awaited cost estimate was received from the Corps of Engineers only on July 8th, and that the half-million-dollar figure was a rough estimate. A firm estimate was expected to be received in August. Scott said that an immediate effort would be made to raise the full amount from the public and/or private sectors. He said it would be unthinkable for the citizens of Rich-

mond to sit by and allow construction of the floodwall to be completed without the gate being included, and stressed the need for prompt action.

The report, prepared by Carlton Abbott and Partners, P.C., adds engineering data and detail to a schematic canal plan completed in March 1988 for the Canal Committee, also with funds from the Industrial Development Authority. The I.D.A.'s charge to assist in the economic development of the city has been the impetus of its continuing financial support of the committee's efforts.

In praising the recent Richmond Renaissance riverfront report, Todd quoted Brenton S. Halsey, chairman of the Renaissance Working Committee, calling the development of the riverfront and canal "an extraordinary opportunity for economic development, unmatched in potential by similar projects in any other major U.S. city."

Reopening the canal and implementing the riverfront plan, Todd said, is the most dramatic and doable economic development solution for downtown Richmond, providing a uniquely appealing and historic urban amenity as an attraction for new commercial activity and tourism. In the portions of the downtown area where the floodwall runs between the river and the canal, the canal will provide a water amenity, he said. He noted that the potential of such a navigable waterway running through an urban center is dramatically demonstrated in the economic boon to San Antonio, Texas, of its developed canal.

Contributions for the canal gate may be sent to Historic Richmond Foundation, 2407 E. Grace St., Richmond VA 23223.

## ERIE CANAL IMPROVEMENT BOND

State of New-York, Transfer Office.

MANHATTAN COMPANY.

New York O M 18 60

Received from the Treasurer of the State of New-York, through the President and Directors of the Manhattan Company, the sum of One thousand five hundred Dollars, being in full payment of certain Certificate issued in pursuance of Chap. 19<sup>th</sup>, Laws of 18<sup>th</sup> May, 1841,

For the Enlargement of the Erie Canal.

redeemable 1<sup>st</sup> July, 1860, bearing Six per cent. interest dated 1<sup>st</sup> Oct/57, 2<sup>nd</sup> Dec/57 and numbered 5713 + 9272 having signed duplicate receipt on the said Certificate.

A satisfied investor signed this receipt for \$1,500 when he redeemed his matured bond for the enlargement of the Erie Canal in October 1860. The facsimile was sent us by Gerard Chapman of Stockbridge, Massachusetts.

# GLOSSARY OF CANAL TERMS



Here we have a problem. Do we call this a "flight of locks" or a "lock staircase"? Do we call them "double locks" or "parallel locks"? Impressive, in any case!

A few months ago, A.C.S. President Trout appointed an ad hoc committee to develop a canal glossary. The committee chairman is John W. Droege. The work has now proceeded to the point where the committee is ready to solicit assistance from the A.C.S. membership at large. We are therefore reproducing here, in slightly modified form, a questionnaire which was recently circulated to the committee members. Responses are invited, and should be sent to John W. Droege, Rt. 1, Box 31, Brownstown IN 47220.

Before they tackle the questionnaire, readers are asked to note the following guidelines:

1. The principal focus of the glossary will be on terms which were used during the days of operating canals in the United States, mainly the 19th century. Terms in current use, and English terms in use outside the United States, will be included but are of secondary interest.

2. Because the chairman is already in danger of being swamped with paper, he asks that readers limit themselves to suggesting unusual terms and definitions. He indicates that he already knows how to distinguish a bow from a stern and a lock from a boat.

Following the questionnaire, we present a discussion by committee member William Dzombak of the issue raised in question 7. With the author's customary thorough scholarship, this provides an illustration of how complex these apparently simple terminological questions may be. It may also be taken as illustrative of responses which the committee chairman, given his present paperwork crisis, might consider too verbose. The following alternative model is suggested for reader responses:

Culvert: carries water (possibly a canal) under something (possibly a canal).

Aqueduct: carries a canal over something (possible water).

## QUESTIONNAIRE

Please identify your response as "19th Century" or "historical" if possible. If you know of any regional differences in usage, please note. The inclusion of references would be very helpful.

1. Did boatmen refer to two "gates" at either end of the lock, or to one gate with two "leaves"?
2. Were the terms "hold in" and "hold out" (to indicate the towpath or opposite side of the canal)

in common use in the U.S.? If not, how did one say to take the near side or far side?

3. What is the difference between "capstan" and "windlass"? Were either or both in common use?

4. Do you know the terms "weir boards" and "weir slots"?

5 "Flash [flush?] lock" — could the gate be opened before the the levels were equalized? Is this the same as "staunch"?

6. What is a "mud sill" with reference to a lock?

7. What is the essential difference between a "culvert" and an "aqueduct"?

a. A culvert has dirt thrown upon the supporting structure, an aqueduct has a wooden or stone channel carrying the water. b. A culvert maintains the usual width of the canal, an aqueduct is just wide enough for one boat. c. A culvert is little, an aqueduct is long. d. A culvert is made of a stone arch, an aqueduct is supported on stone piers. Or e. . . . ? Is there a regional difference here?

8. I know of two kinds of valves: a. butterfly, where a plate rotates through 90 degrees to open or close a passageway for water; b. a plate is withdrawn from before a hole to allow water to pass, or pushed back to cover the hole. I take it the first kind was more common in this country, the second in England. Were there unique names for these two kinds of valve? Is "paddle" or "paddle gate" specific? Does "wicket" refer to one or the other or both? What about "sluice gate"?

### "Ground Paddle?"

9. What was the valve called when it controlled water passing through the lock structure rather than through the gate? Was there a name for such a culvert ("ground paddle" in England)?

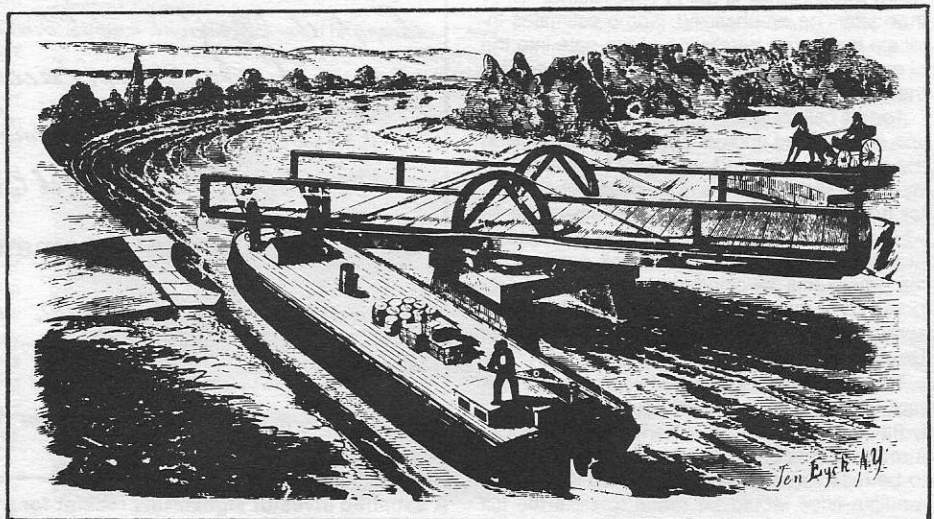
10. These valves were operated by a mechanism which extended to the top of the gate or lock wall. What was this handle called?

11. In Ohio, at places troubled by excessive silting and inadequate water depth, the state maintained "lighters" to help boats through the bad place. I know what a lighter is in the harbor; what was it in the canal?

12. Prism: was there any fixed relationship among the dimensions? The sides sloped at some fixed angle? The width was 10 x depth?

13. John Lamb sends these terms from Illinois. Were they used elsewhere?

a. "Hydraulic basin": holding basin taking water from the I. & M. (or other?) Canal for use to produce power or for other industrial use, in effect,



Can we call this a "pivot bridge" or a "swing bridge"? Certainly not a "draw bridge"!



a mill pond. The term "hydraulic canal," I know, "hydraulic basin"?

b. Bear-trap dam: a movable-crest sector dam. One such, formerly located in the Chicago Sanitary & Ship Canal at Lockport, consisted of a 45° sector of a cylinder (perhaps 20 to 25 feet long) of 26-foot radius, pivoted on the downstream side, somewhat in the manner of a Tainter gate. The sector could be rotated to provide an 18-foot variation in the crest. The dam was supported by hydraulic pressure and was operated by controlling this pressure. Its operation was therefore similar to that of the gate in the bear-trap lock formerly used in small streams in the East. Is this the origin of the name? (*Engineering News*, 11/12/1908.)

c. Butterfly dam: formerly located as a safety backup for the above-described bear-trap dam at Lockport. They wanted to be sure not to drain Lake Michigan into Joliet. The structure had two wings, each 80 feet long, supported in the center on a pivot in the center of the canal channel. It operated somewhat like a swing bridge. Each wing had six valves. By opening the valves in one wing, closing the valves in the other, the dam could be caused to swing in one direction or the other, using the current in the canal for motive power. The final movement to or from the fully open position, leaving an 80-foot channel on either side, was accomplished with rack and pinion and electric motor. The dam was normally left in the open position, but was designed to be closed quickly in case of emergency. Was any such thing used elsewhere?

14. What is a "double" lock? Side-by-side? End-to-end? If end-to-end, having a common pair of gates? Please indicate whether you consider your answer to be the 19th century usage.

15. (U.S. usage, please) a. Flight — series of locks separated by ponds; staircase — series of locks with common gates. b. The opposite of a. c. Both terms, interchangeably (series of locks relatively close together). Or d. . . . ?

16. Were these terms used on American 19th century canals: "pound," "winding" or "winding hole," "lock pocket" or "gate pocket," "sweep," "barge" (on towpath canals, "turnaround," "canaller"?)

## AQUEDUCTS AND CULVERTS

by William Dzombak

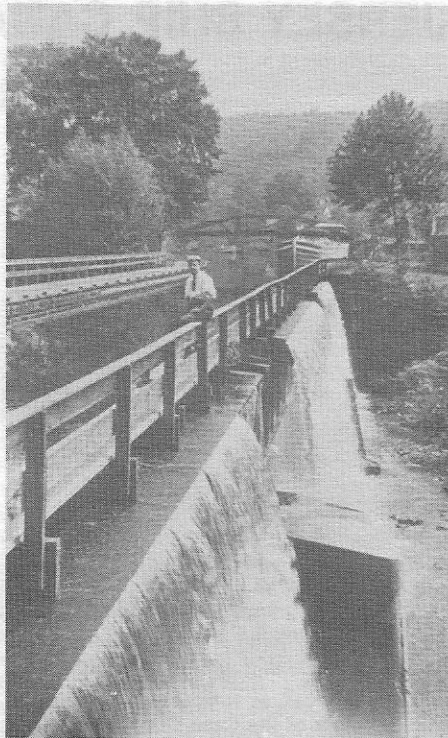
A.C.S. member John Droege has begun to compile a glossary of canal terms and has invited assistance from anyone who is able and willing to contribute definitions (and supporting documentation, if possible). To help with that work, the present notice may evoke some discussion and clarification of two terms to be included in the glossary. Those terms are "aqueduct" and "culvert." The task is to identify the essential difference between the two structures.

In common understanding, the difference is that aqueducts convey boats while culverts convey water. An aqueduct is a bridge; a culvert is a tunnel. Confusion may arise if a bridge span happens to resemble a tunnel, as is the case where the trunk of an aqueduct is supported on arches and not on straight (rectangular) piers.

Descriptive definitions. An aqueduct is a bridge supporting a channel, or trough, filled with stationary water. A culvert is a tunnel-like conduit conveying moving water.

Functional definitions. An aqueduct is used to convey boats from place to place. A culvert is used to convey water from place to place.

Elucidation (defense) of the definitions. The most simple form of aqueduct is a single-span bridge; if the bridge happens to span a stream, the span



**Water spilling off an Aqueduct into the stream below. Can we call these "waste water weirs" or just "surplus water discharge"???**

portion of the aqueduct can be thought of as a culvert, for in such situations the span serves that secondary purpose, also. Most aqueducts were built to cross streams, but other aqueducts were built across dry land, such as ravines, that only occasionally contained flowing water drained from the surrounding hills. Aqueducts have been built to cross dry land where enormous amounts of earth fill would have been needed to level the irregular terrain sufficiently to permit construction of a conventional canal by excavation of the earth to form a channel. Most aqueducts are multispan bridges; structures of that form are never mistaken for culverts.

One or more culverts can be built into an aqueduct, but it is impossible for an aqueduct to be part of a culvert. On some aqueducts that span rivers, each pier supporting the trunk of the aqueduct is pierced by a culvert to enable high flood waters to pass harmlessly through the bridge and not overtop the structure and so damage it.

As applied to canals, the distinction between culvert and aqueduct is simple and clear enough: one is for drainage, the other for navigation. Confusion arises because the same words have been applied in different contexts and there employed interchangeably.

### Roman Aqueducts

The Romans, for example, conveyed water from mountain reservoirs over long distances by means of tunnels through mountains and by means of open channels or troughs supported on high piers. The two types of structures used to convey water were referred to as aqueducts, without distinction, if I am not mistaken. The Roman aqueducts ran for great distances before crossing a stream, so it is not necessary to associate stream crossing with the notion of "aqueduct." The Roman usage is also employed today in California, where water is conveyed in huge pipes and in open channels, both called "aqueducts."

Early canal engineers (e.g., Isaac Roberdeau, *Treatise on Canals*—see this bulletin, February 1991, pp. 8-9) referred to a "water bridge," in the sense of what was conveyed (foot bridge, wagon bridge) and not what was spanned. If we use that historic basis for the term, then it is clear that an aqueduct is an elevated and open channel that conveys water over any kind of terrain, wet or dry — that is, a bridge. A culvert, on the other hand, is a closed conduit used to convey water under or through the earth. An aqueduct may, or may not, incidentally serve also as a culvert.

A "large" culvert does not become an aqueduct just by being larger than other culverts. No culvert could possibly serve as an aqueduct, because every aqueduct must be an open channel (to provide clearance for boats), but every culvert is a closed conduit. Some uncertainty regarding this distinction may arise when considering aqueducts made of wood, such as the one at Metamora which is covered with a roof. That covering does not make the structure a culvert, because the roof of the wooden aqueduct is not a necessary part of the structure, but the "roof" of a culvert is indispensable, required to support the earth through which (under which) the culvert passes.

### "Large" Culvert Not Aqueduct

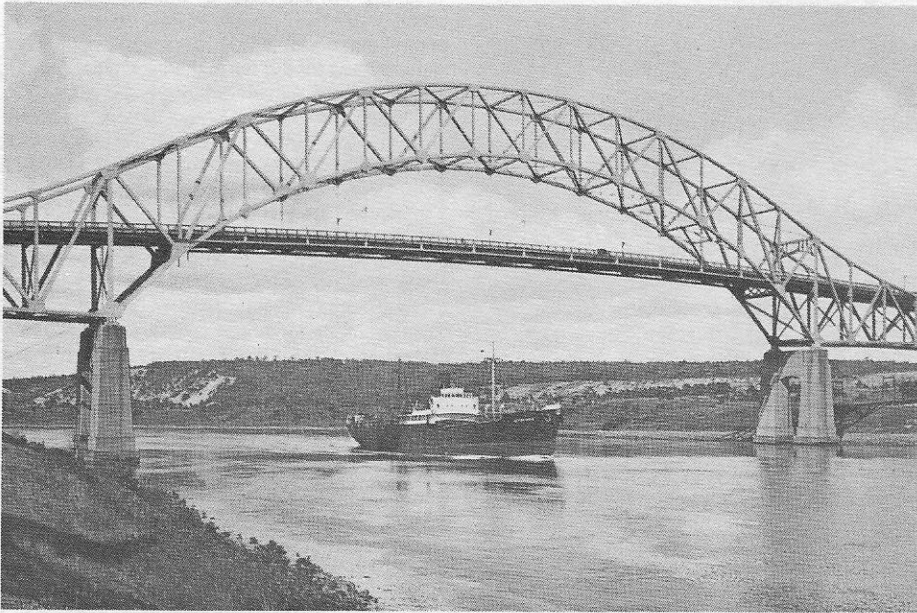
A "large" culvert cannot be classified as an aqueduct for another, structural reason, also. Although the span of a culvert may be large enough to warrant classification of the structure as a bridge, that criterion alone cannot justify its designation as the particular type of bridge which is properly called an aqueduct. The difference involves also the nature of the structure found on top of the span. If the span is buried under earthworks that form the towpath, bottom, and berm of a canal, the structure clearly is a culvert; on the other hand, if the span supports a trough bounded by walls and deck made of stone, wood, or iron, the structure clearly is an aqueduct. The distinction here is based on the nature of the materials used to form the channel that lies above the span.

It has also been suggested, in connection with the idea of a size criterion, that a structure which preserves the width of the canal is a culvert while a structure which reduces the canal to the width of one boat is an aqueduct. The distinction rests on the assumption that every aqueduct must be narrower than the canal it serves. Factually, that is not the case, so width of structure cannot be used as the basis for definition.

Definitions that are "obvious" to one person may be objectionable to others, so all canal "experts" are invited to join in the fray. Through discussion may come definitions which will satisfy most, if not all, students of canals.

[*Editor's note.* A propos of Question 13b., Mary Verhoeff, in *The Kentucky River Navigation* (Louisville: 1917), pages 37-38, refers to the construction at Beatyville, Kentucky, on the Kentucky River, of "a fixed timber dam with passes on the American bear-trap plan . . ." She states that it was completed in 1886, but proved unsatisfactory, and that in the hope of overcoming its difficulties "a lock was decided upon," construction of which was abandoned before completion in 1891. The index reference is "Bear-trap dam, American." Citations are the *Annual Reports of the Chief of Engineers for 1884* (pp. 1730, 1733, and 1746), 1887 (pp. 1873-76, 1884, and 1888), and 1891 (p. 2449). In *The American Canal Guide, Part IV, Trout refers to this as "The BEAR TRAP LOCK," but correctly describes it as "a dam with bear-trap gates (and an unfinished lock)"* (p. 16).]

# THE TRANS-JERSEY SHIP CANAL - PART II



If the proposed Cross-Jersey Canal had been built at sea level, as suggested in one plan, the route might have looked like this. Actually this is a view of the Cape Cod Canal where the Sagamore Bridge crosses it.

by Bruce J. Russell, Contributing Editor

Survey work for a ship canal across New Jersey began in 1908, and by 1909 the approximate route had been determined. Like the original 1830-era Delaware & Raritan, it would begin at Sayreville on Raritan Bay near New Brunswick. Ships departing from New York City could travel through the Kill Van Kull and the Arthur Kill, and finally enter Raritan Bay in the vicinity of South Amboy. Such a route would of course avoid the need to travel upon the open sea. From Sayreville, the actual entrance of the planned waterway, ships would head 31 miles in a southwesterly direction toward either Trenton or Bordentown on the Delaware River. Once on that river, which separates New Jersey from Pennsylvania, they would proceed south, passing Philadelphia and Wilmington, Delaware, before reaching Delaware City, entrance to the Chesapeake & Delaware Canal. Ship owners looked forward to creation of such an inland passage, which, by eliminating miles of circuitous travel around Cape May, would save thousands of gallons of fuel or tons of coal since the latter was still being used to fire ships' boilers.

The Trans-Jersey Ship Canal would have been 31 or 32 miles in length. One scenario envisaged excavating a sea-level waterway the entire distance, since the land was essentially flat with no natural obstacles such as mountain ranges or deep valleys. If constructed in this manner, it would have been almost identical to the modernized Chesapeake & Delaware Canal. Another plan involved building a flight of three locks at each end, giving a total lift of 56 feet. Yet another engineering consultant advocated combining the two three-lock flights into single chambers with a 56-foot lift. Instead of having six individual locks to build and maintain, there would be only two. Either way, the technology for doing this was certainly available in 1905-10. Engineers working on the New York State Barge Canal were in the process of designing gigantic lift locks to be installed at Lockport, New York, as replacements for the 1850-era flight up the Niagara escarpment. And in far-away Panama, the massive locks at Gatun, Pedro

Miguel, and Miraflores were in the final planning stage. Lack of technology was never considered an obstacle to constructing the Trans-Jersey Ship Canal. Gigantic steam shovels and other types of earth-moving equipment were available as was the procedure for pouring concrete to create massive lock chambers. The actual transportation of excavated earth and stone would have been done using narrow gauge railroads, much the way it occurred in Panama.

Water to supply the planned waterway was supposed to come from the Delaware River, and would be delivered to the main channel by means of strategically placed feeder canals. In fact, a portion of the existing 1830-vintage Delaware and Raritan Canal was to be incorporated into its successor's feeder system. Naturally, this would insure its survival as a purely recreational waterway, rather than one utilized for commercial purposes. In a similar manner, a section of the 1850-era Erie Canal serves as a feeder to the 1909-1918-vintage New York State Barge Canal in the vicinity of Utica, New York.

## DINING OUT AT COLONEL BALDWIN'S

The Baldwin Mansion, located at Baldwin Landing on the Middlesex Canal in Woburn, Massachusetts, was originally built in 1661. It was occupied during the late 18th and early 19th centuries by Loammi Baldwin, a great grandson of the original proprietor, a colonel in the Continental Army during the War of Independence, and a civil engineer who served as Superintendent of Construction for the Middlesex Canal. The building has now been renovated and opened to the public as Baldwin's Restaurant. Agents of the A.C.S. and the Middlesex Canal Association report that canal history buffs with gourmet tastes will be well served here at moderate cost. [Information provided by the Middlesex Canal Association.]

In 1908, most of New Jersey, including the corridor through which the Trans-Jersey Ship Canal was to be built, was still farmland or undeveloped tracts. Land acquisition costs would have been minimal, and little if any disruption would have been created by the excavation. Building supplies such as concrete, stone blocks, clay, et cetera, could have been delivered to the various construction sites via the existing Delaware & Raritan Canal, which by this time was using small steam-powered tugboats in place of the traditional mules to haul boatloads of cargo. In his book, *Canal Boatman—My Life on Upstate Waterways*, Richard Garrity describes how the still-operational 1850-vintage Erie Canal was used to bring construction material to places where the replacement barge canal was being excavated. Similar arrangements would no doubt have been made in New Jersey.

Unfortunately, the concept of a wide and deep canal across New Jersey able to handle ocean-going and coastal ships did not please the powerful railroad interests. From the beginning, they viewed it as a competitor, and began to wage an intensive lobbying effort to prevent it from ever being built. Furthermore, they were opposed to any type of inland waterway development in the United States, viewing it as a throwback to the long-gone canal era. In New York State, the New York Central Railroad, still under the iron grip of the Vanderbilt family, had waged a bitter battle to stop the barge canal system from being built. For reasons not entirely clear, they lost this fight and the canals were constructed. Until the 1960s, when interstate highways, the St. Lawrence Seaway, and a general decline of industry in the Northeast robbed it of commercial traffic, the New York barge canal system was a busy waterway network. From Albany to Buffalo and from Syracuse to Lake Ontario, it witnessed a steady stream of large barges filled with grain, coal, oil, salt, and other commodities. Likewise, in the Midwest the railroads used their political clout to keep public money from being spent on improvements to the Mississippi and Ohio river networks.

## Opposition in New Jersey

In New Jersey, opposition came not from the New York Central but from the even larger and more powerful Pennsylvania Railroad. Beginning in the 1850's, both this multistate carrier and its arch rival, the Reading Railroad, began acquiring the Keystone State's canals. By this time, the canals were starting to suffer serious losses on account of railroad competition, and purchasing them wasn't difficult. Although they continued in use for a few more decades under railroad ownership, very little money was invested in them except for normal maintenance. Across the Delaware River in New Jersey, the directors of the Pennsylvania Railroad decided to acquire the then 45-year-old Delaware & Raritan Canal, which was experiencing financial problems caused by parallel railroads capturing much of its business. One of their motivations was to eliminate this waterway as a potential competitor. They knew it offered a shortcut between the New York harbor area and the port of Philadelphia. While they never conceived of the 1870-vintage Delaware & Raritan Canal as a serious rival for their freight trains, they must have known that a rebuilt Delaware & Raritan or a new waterway parallel to it and capable of handling the largest freighters then in use would constitute a major challenge. The directors of the Pennsylvania Railroad were aware that a sea-level canal had just been dug at Suez in Egypt, enabling ships from Europe to avoid the trip around the cape of Good Hope on their journey to India and

## BOOK REVIEW

Erie Canal Museum, *Photos from the Collection* (Syracuse: 1990).

Reviewed by Jeremy G. Frankel

*Photos from the Collection* is a compilation of 250 photographs from 600 kept on file for researchers and historians. The museum's total holdings number nearly 17,000, according to the preface. The book is divided into five sections: Life on the Canal; Canal Country; From Weighlocks to Waste Weirs; Canal Ports; and 20th Century Canal.

I have mixed feelings about this book. On the one hand, if the aim is to introduce someone to the world of canals, boats, canal life, and the architecture, then the book is a success. I imagine that this must be the market the museum had in mind. However, for the more serious researcher or historian, there are several errors and miscaptions, and the index certainly needs fine-tuning.

The book could almost be subtitled "The Effect of the Erie Canal on Syracuse," as half of the views pertain to Syracuse and its environs. Several of the captions exhibit errors, the most blatant probably being the one on page 69, photo number 217, where lock number 2 on the Waterford flight is credited to the Champlain Canal instead of the Erie Barge Canal. The vast number of people standing on the lockside suggests that the picture may have been taken at the official opening of this flight, in 1918. The Champlain Canal side cut can be seen in the photograph, and it is mentioned but not identified as such. A previous view, photo number 44 on page 17, which shows a barge entering a lock, is merely captioned, "A lock on the Champlain Canal, late 1880s." Close inspection of the footbridge abutment reveals the wording "STATE CUT," and comparing this view with number 217 shows that the lock is in fact number 3, the top lock on the side cut to the Hudson River. Hence, a more specific caption could have been applied to photo number 44.

In other instances, the captions are misleading. An example of this occurs on page 25, where photo number 67 depicts a view of the Erie Canal at Little Falls, just west of locks 37 through 39. The caption states that at Little Falls, the Mohawk River, the canal, and the railroad all had to squeeze through a narrow pass. Yes, this is perfectly true, but this photograph does not show that place. On page 18, photo number 48, instead of asking us to squint at an almost invisible badge on the locktender's hat, why not describe the function of the hand-operated winch in the foreground?

The worst news for the canal historian is the index, which is littered with errors and marred by omissions. There are places mentioned in the captions, such as Lakeville, Weedsport, and Schenectady, which do not appear in the index. A lock indexed under the Black River Canal and shown in photo number 113 on page 39, is in fact situated on the Champlain Canal. It might also have been useful to mention in the text that this lock (number 10) at Schuylerville, is a guard lock where the canal meets the Hudson River.

As was mentioned at the beginning of this review, this book is probably aimed at the novice, though the canal buff will also enjoy the many interesting photographs. It's a shame the book has been diminished in scholarly value by what appears to be poor caption research in identifying the scenes and by errors in the indexing; otherwise, it is an excellent value for the money. The book can be purchased from the Erie Canal Museum, 318 Erie Boulevard East, Syracuse, New York 13202, at a price of \$9.95 (there is no mention of any charge for tax or for shipping and handling).

the Orient. Furthermore, they knew that the technology existed to excavate the planned Panama Canal across the narrow isthmus separating North and South America. Consequently, they perceived it to be in their best interest to gain control of the Delaware & Raritan Canal and either retain it in its existing form, perhaps for pleasure boating, or simply shut it down after a few years. In practical terms, this was their best insurance against a modernized version coming into being.

It thus came as no surprise that in 1907 the directors of the Pennsylvania Railroad became apprehensive when organizations such as the Atlantic Deeper Waterways Association began calling for the building of a Trans-Jersey Ship Canal. Almost immediately, their lobbyists both in Trenton, New Jersey, and in Washington, D.C., went to work to make certain that no state or federal funding would be made available for such a scheme. The same tactics were used 50 years later by the railroad industry in its effort to scuttle the St. Lawrence Seaway. Unfortunately for them, by this time they had lost much of their former political clout, and the seaway opened in 1959 amidst much fanfare. But in 1907, the railroads were at the top of the heap in terms of wielding influence, and no matter what arguments backers of the ship canal across New Jersey could muster, the scheme was destined to fail. Without all-important government funding, its chances of being built were nil.

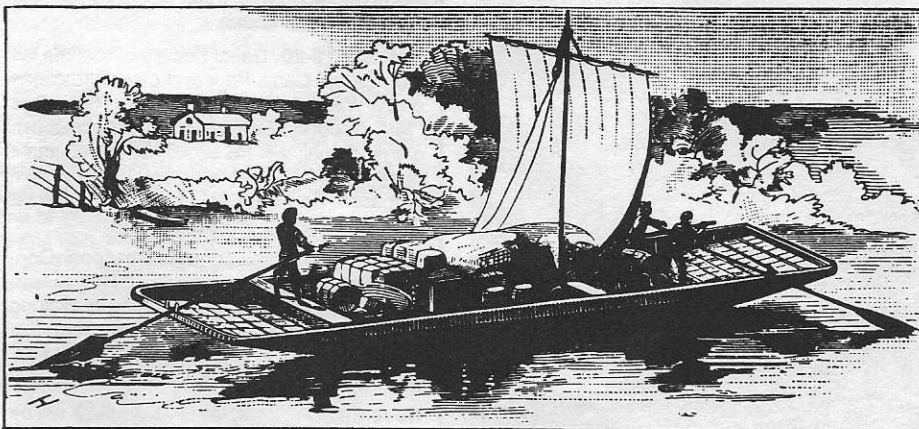
In spite of setbacks in New Jersey, work on the intracoastal waterway continued, with many canals and channels dug up and down the East Coast. After World War I, the scheme to convert the Chesapeake & Delaware Canal across the northern portion of the Delmarva Peninsula began to move forward, and by 1926, work had commenced. But in the Garden State, government money began being spent on highways and airports, and few people gave much thought to canals. In 1924, the hundred-year-old Morris Canal, with its incredible system of inclined planes, was abandoned with virtually nothing saved as a reminder to future generations of early 19th century engineering expertise.

In the late 1920s, there were plans to construct a Trans-Jersey Ship Canal entirely at sea level, eliminating the need for costly locks. Those in favor of building it pointed to the just-reconstructed Chesapeake & Delaware Canal, which was now handling ocean-going and coastal shipping between Philadelphia and Baltimore. They viewed a

rebuilt Delaware & Raritan Canal as a logical counterpart to it, and sent observers to gather data. Perhaps on account of pressure from the New Jersey canal supporters, the U.S. Army Corps of Engineers did conduct studies of a modernized ship canal across the Garden State, doing surveys and cost analyses. A detailed, working model was built. The final recommendation of the Corps of Engineers was for a canal consisting of a 500-foot-wide channel with one set of locks at each end. The total rise would be only 10 feet, and the canal would be lined with riprap in some places and with stone retaining walls in others. An elaborate system of reservoirs fed by the Raritan River would have kept the summit level supplied with water. One of the reasons why the final proposal was for a lock canal rather than one at sea level was to satisfy the objections of those who believed that a sea-level canal would allow water from Raritan Bay to flow into the upper portion of the Delaware River. The rise in salinity might, so the argument went, kill fish and otherwise disturb a delicate ecological system.

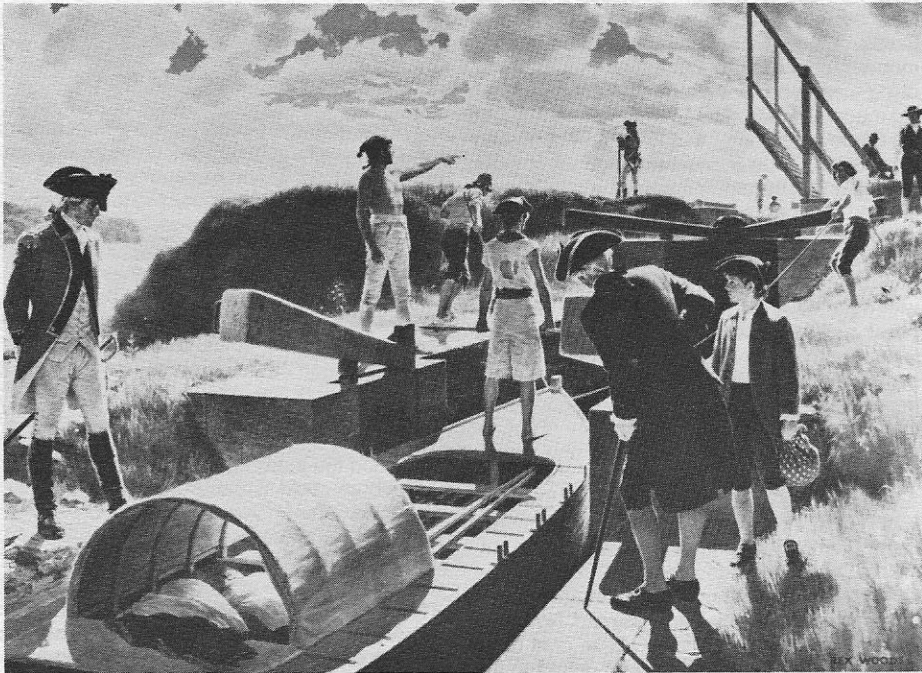
In spite of the work done by the corps, the canal wasn't built, not even as a Works Progress Administration (W.P.A.) project to employ people during the Great Depression. Instead, in 1931 the existing Delaware & Raritan Canal was abandoned by its owner, the Pennsylvania Railroad. No longer could small boats, yachts, and other craft cross New Jersey at its narrowest point, avoiding the hazardous trip around Cape May.

Had the Trans-Jersey Ship Canal been built during the early years of this century, it would probably be used both for pleasure and for commercial boating. Two- or three-day cruises using vessels up to 400 feet in length, similar to those seen on the Rhine and the Danube, could easily make circle trips around New Jersey and perhaps go all the way to Washington via the Chesapeake & Delaware Canal. Leaving the foot of Manhattan Island, such ships, possessing staterooms, dining saloons, sun decks, and swimming pools, might call at Bordentown, Philadelphia, Cape May, Atlantic City, and Point Pleasant. In addition, if the Trans-Jersey Ship Canal had been constructed, it is certain that by now it would be lined with marinas, boat-building yards, and waterfront restaurants. Unfortunately, such scenarios, so appealing to romantics, ship buffs, and canal aficionados never came to pass. An opportunity was lost. But in this age of monster trucks and dependency on foreign oil supplies, it is interesting to realize that alternatives were once considered.



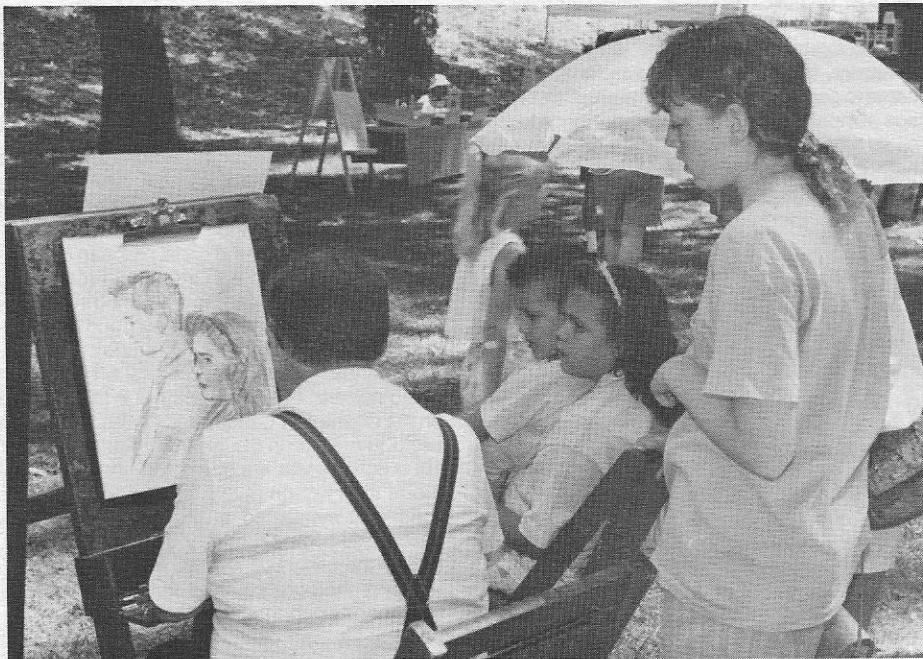
This interesting sketch of a so-called "Luggage Boat" sailing down the Merrimack River was part of a small brochure sent us by ACS Vice President Bill Gerber. These boats were also referred to as "scows", propelled variously by poling, by oar, by sail and by mules or horses on a towpath. They traveled between the town of Concord, New Hampshire and Boston, Massachusetts via the Merrimack River navigation system and the Middlesex Canal. Their special construction permitted them to travel in very shallow water.

## NEW YORK CANALS BEFORE THE ERIE



Although 1825, the year of completion of the Erie Canal, is often cited as the beginning of the canal era in the United States, navigation between the Hudson River and the Great Lakes goes back to prehistoric times, and canalization projects in the Erie Canal corridor are as old as the Constitution. 1992 will be the bicentennial year of the Western Inland Lock Navigation Company, which provided navigational improvements between Albany and Oswego, on Lake Ontario, from 1792 until it was superseded by the Erie. Planning for the bicentennial celebration is being coordinated by the New York State Museum. Canal societies, communities, companies, and individuals interested in participating should make contact with: Philip Lord, Jr., Room CEC 3097, New York State Museum, Empire State Plaza, Albany, New York 12230. Early works like those shown in the above artist's drawing opened westward navigation in the 1790s. (From the Confederation Life Collection, reproduced by permission.)

## DAMPENED CANAL FESTIVAL CARRIES ON



Rain in the morning, and the treat of rain throughout the day, kept attendance to about half of last year's 8,000 at the July 13th Canal Festival in Hugh Moore Park, Easton, Pennsylvania. Organizers consolidated the activities into a single area of the park, however, preserving the bustling ambience of a festival on a compact scale. For those who attended, including this couple sitting for a portrait, the event seemed to be a great success. (Photo by David T. Boyer.)

## CANAL CALENDAR

*Editor's note. This column can be no more useful than our contributors enable us to make it. We only publish here news of canal-related coming events if we know about them, and know about them in time to inform our readers before they are over. This means that we must have been sent notice of them, well in advance, by our readers or by other canal societies. If your meeting, conference, tour, festival, or whatever is not included, you have no one to blame but yourself (or the postal service, or our primitive filing system, or the gremlins, or . . .).*

**September 9-10.** Tenn-Tom Recreation & Tourism Conference. At the lodge, Pickwick Landing State Park, adjoining the Pickwick Landing lock and dam on the Tennessee River. Conference registration fee: \$65. For registration or information: Tennessee-Tombigbee Waterway Development Authority, P.O. Drawer 671, Columbus MS 39703, 601 328 3286.

**September 15-November 17.** "The Morris Canal: New Jersey's Mountain-Climbing Waterway," is the title of a special exhibit at the Macculloch Hall Historical Museum in Morristown NJ.

**September 21-22.** Gay 1890s Festival at Roscoe Village. For information: Roscoe Village Foundation, 381 Hill St., Coshocton OH 43812.

**October 4.** "Expeditions along the Mississippi River" will be the subject of a lecture by Dr. John Reys, formerly of Cornell University, at the St. Louis Mercantile Library. The time is 12:15 to 1:15 p.m. The lecture is free, and lunch will be served at a "modest" cost. The event will take place in the Reading Room on the 6th floor at 510 Locust St., St. Louis MO 63101. Call 314 621 0670 for reservations.

**October 5-6.** Canal Days at Metamora, on the Whitewater Canal. For information: Canal Society of Indiana, 302 East Berry, St. Wayne IN 46802.

**October 6.** Morris Canal tour, 9:30 a.m. to 4:00 p.m. For details, contact Macculloch Hall Historical Museum, 45 Macculloch Ave., Morristown NJ 07960, 201 538 2404.

**October 19.** All-day symposium on the Morris Canal at Drew University. For details, contact the Macculloch museum, address and phone number above.

**October 19-20.** Canal Society of Indiana fall tour. Delphi Canal Park and other attractions on the Wabash. The announcement states that "Mrs. Spoonagle, a traveler on the Wabash & Erie Canal, will tell us of her experiences coming West in 1852 by packet boat." For information: Canal Society of Indiana, 302 East Berry, Ft. Wayne IN 46802.

**October 20-23.** Second International Conference on Historic Canals. "The Future Echoes the Past: Innovative Uses of Historic Canals." At the Hilton Inn, Akron, Ohio. For information: Cuyahoga Valley Association, P.O. Box 222, Peninsula OH 44264.

**November 6.** "What the River Knows" will be the subject of a lecture by Dr. Wayne Fields of the English Department at Washington University. This is another in the lunch-and-lecture series hosted by the St. Louis Mercantile Library. For other details, see the October 4 announcement, above.