

AMERICAN CANALS

BULLETIN OF
THE AMERICAN CANAL SOCIETY

BULLETIN NUMBER 60

Editorial Address — 809 Rathton Road, York, Pa. 17403

FEBRUARY 1987

PRESIDENT'S MESSAGE

As I write this, most of America's old canals have been suddenly blanketed by the Big Snow of '87. I trust a few of you are out there skiing on towpaths, admiring icicles under aqueducts, and marveling at the varied forms water may take and how, like historic canals, we ourselves are mostly water with minerals and organic matter thrown in.

This is also the year of our big joint meeting and field trip with the Canadian Canal Society on the Erie and Oswego canals. Bill Shank has been working steadily on this for two years, so it's bound to be great! Send in your registration form now before you forget. See you in Syracuse on May 15-17!

I would like to thank the canal societies for responding to the questionnaire updating our Canal-Related Organizations list. At the moment we know of seven state canal societies, 25 local ones, and so many canal-related museums, parks and agencies that we can't hope to list them all. We hope the list will impress everyone with the amount of canal activity going on in North America, and encourage societies to exchange publications and keep up with each others' doings.

If you are interested in canal boating or in restoring canals to navigation, get in touch with David F. Ross, 228 Conn Terrace, Lexington, Kentucky 40508, who is in the process of forming up our Navigable Canals Committee. If you can help advise boaters about your favorite canal or canalized river, or are involved in a restoration project, he would especially like to hear from you!

Have a prosperous 1987! *Bill Trout*

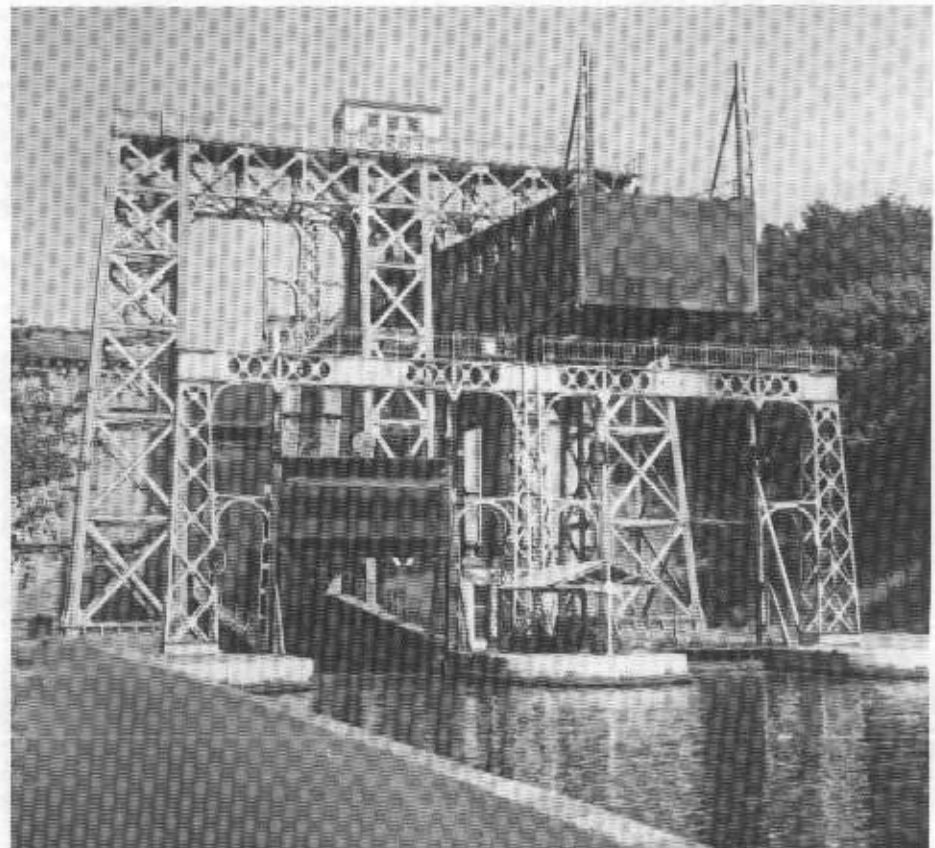
NEW LIFE MEMBERS

Since our last issue of AMERICAN CANALS, we are happy to report the following new Life Members of the American Canal Society:

Robert N. Kamp, P.E., Albany, NY
David J. Bohla, Roundhead, Ohio
Robert Maurer, Chico, California
Peter C. Challinor, Wilmette, IL
Capt. John A. Lynch III, Onset, MA
Jonathan Laiby, Woods Hole, MA

This now brings our ACS Life Membership roster to a total of fifty-nine. We thank all of you for your support.

BELGIAN CANAL MARVEL



Hydraulic ship elevator on the Canal du Centre in Belgium at Houdeng, very similar to the hydraulic lift locks on the Trent-Severn Canal in Canada. When this photo was made, the chamber at the left was open to receive a vessel. The right-hand chamber is in the "up" position. (Photo by Bruce Russell, 9/1/86.)

By Bruce Russell

The canal system in Belgium is almost as large as that in neighboring Holland, and features some very interesting examples of the engineering which sometimes is required to make these inland waterways possible. In the area around Charleroi are many canals, most dating from the late 19th Century and very early 20th. Their purpose was to transport cheaply coal and iron ore to be used in the steel making process. Between the industrial cities of Mons and Houdeng the Canal du Centre was dug between 1885 and 1917, and one of the problems facing the engineers was a 90 meter difference in elevation between these two places. One of the options was to construct staircases of locks, but the actual

number required would be too many - at least 33. Also the water consumption of this many locks would have been very great.

Instead it was decided to overcome the considerable elevation between these two points through the use of hydraulic ship elevators, each one having the ability to lift vessels weighing up to 300 tons, which in that era was considered large. Four such elevators were built along the route of this canal - one at La Louviere, two at Houdeng, and a final one at Thieu - all in the French speaking southern part of that small nation. Construction on the first began in 1888 with King Leopold II making a speech, and the last was finished in 1917. The reasons for the interruptions were lack of finance

(Concluded on Page Two)

American Canals

BULLETIN OF THE AMERICAN CANAL SOCIETY

"DEDICATED TO HISTORIC CANAL RESEARCH, PRESERVATION AND PARKS"

AMERICAN CANALS is issued quarterly by the American Canal Society, Incorporated. 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 minimum ACS dues payment of \$12.00. Individual copies may be purchased at \$3.00.

Dr. WILLIAM E. TROUT III - President; Editor and Publisher of "American Canal Guides"; Chairman, Canal Parks Committee - 35 Towana Road, Richmond, VA 23226

WILLIAM J. McKELVEY, Jr. - Vice President; Chairman, Canal Boat Committee - 103 Dogwood Lane, Berkeley Heights, NJ 07922

WILLIAM E. GERBER, Jr. - Vice President - 16 Princess Avenue, Chelmsford, MA 01863

CHARLES W. DERR - Secretary and Treasurer - 117 Main Street, Freemansburg, PA 18017

LOUIS J. CAHILL - Director for Canada - P.O. Box 745, 215 Ontario Street, St. Catharines, Ontario L2R 6Y3, Canada

Dr. ROGER W. SQUIRES - Director for the United Kingdom - 46 Elephant Lane, Rotherhithe, London SE 16-4JD, England

TERRY K. WOODS - Director; Chairman, Canal Index Committee - 6939 Eastham Circle, Canton, OH 44708

KEITH W. KROON - ACS Literature Sales - 2240 Ridgeway Avenue, Rochester, NY 14626

WILLIAM H. SHANK, P.E. - Editor and Publisher of "American Canals" - 809 Rathton Road, York, PA 17403

Yachts Flock to the new \$2 billion federal Tennessee-Tombigbee waterway to Alabama. Commercial traffic this year is a quarter of the projected 14 million tons annually, but yacht traffic unexpectedly runs at about 125 a month. The Coast Guard steps up drug checks, but the only violations it finds concern on-board toilets. (*Wall Street Journal*, Nov. 29, 1986)

ERIE CANAL SEMINAR

Roberts Wesleyan College in Rochester, New York, was host to 35 Elderhostel students for one week beginning July 27, 1986. The entire week was devoted to the study of the Erie Canal. My husband, Anthony, and I were privileged to be part of this group.

The first course, "Literary Classics of the Canal Era" was the reading and discussion of works of Bryant, Hawthorne, Poe, and other authors of the era. These classes established a background of social and religious, as well as literary and intellectual attitudes of the period.

The second course, "Sing Those Canal Tunes", used for its text "The Canaller's Songbook", written by Dr. William Hullfish, and published by the American Canal and Transportation Center. Dr. Hullfish was a guest at one session. He sang for us, and recounted his adventures in tracing the words and music of these special folk songs. He also patiently and goodnaturedly listened to the canal songs written by the class.

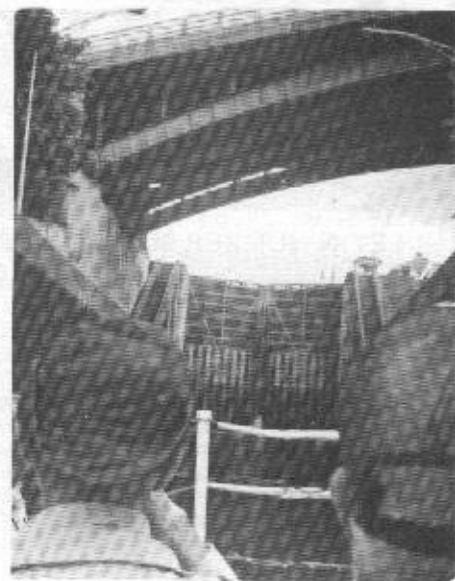
The third section of study was "The Erie Canal: Clinton's Ditch Revisited". This presented the history, engineering, politics, problems and triumphs of the canal. A field trip for this course took us on a bus ride along the canal from Spencerport to Lockport, seeing the canal



Dr. Bill Hullfish, singing canal ballads for the class. He and his singing group will entertain ACS and CCS members during our meeting at Syracuse, New York in May of 1987.

OTTAWA - The Canadian government will spend \$126 million over seven years to repair the vital Welland Canal linking lakes Ontario and Erie, Transport Minister John Crosbie said Friday.

A lock wall in the Welland Canal collapsed in the fall of 1985, shutting down ship traffic for 18 days on the 2,300-mile St. Lawrence Seaway system. (*Rochester Chronicle*, Nov. 30, 1986.)



The Class on a field trip through the huge locks of the Erie Canal at Lockport, New York.

towns. At Lockport, we boarded "The Whalebird," locked through locks #34 and #35, viewed the old Lockport "five," sailed on to Tonawanda. The day ended with a picnic and sightseeing at Niagara Falls.

Elderhostel is a program of resident study for people 60 years of age and older. More than 850 colleges and universities all over the world participate, offering a great variety of courses. Last year, almost 100,000 students enrolled in their programs.

(Elizabeth J. Gulino, P.O. Box 41 Hasbrouck Heights, NJ 07604)

BELGIAN CANAL MARVEL

(Concluded from Page One)

and the First World War in 1914. All of these hydraulic ship elevators are identical, and they are similar to the one at Peterborough, Ontario, Canada on the Trent Severn Waterway.

Each elevator includes two docks. As water enters the upper dock the weight causes it to move slowly downward, and via a hydraulic mechanism the lower dock containing a ship (powered barge) is pushed upwards. While the docks are in motion their ends are sealed to prevent escape of water. By this means vessels are lifted up the distances that had previously required locks to overcome.

In recent years the 300 ton vessels using this canal have become less and less economical to operate since vessels of 1200 tons are commonplace on European inland waterways. A replacement elevator of much larger dimensions at Strepny is now under construction. (See pages 10-11 of American Canals, Number 59) Nevertheless this marvelous piece of industrial archeology dating from the early years of this century will be preserved.

CRACKING A CANAL ENGINEER'S CODE

By W. E. Trout, III
January 1987

In 1974, the Richmond Metropolitan Authority (RMA) built the Downtown Expressway, cutting through three of the five Tidewater Connection Locks built in 1854 to connect the Kanawha Canal's Great Basin in downtown Richmond, with the tidewater James River. As the result of a long battle with those who tried to save the canal, the RMA agreed to label and move the lock stones so they could be rebuilt someday in a different place or be put to good use. It is said to have cost RMA some \$350,000 to move over 1600 stones to a storage yard where they are still stacked in 41 rows, up to 12 stones deep and four stones high, separated by timber baulks.

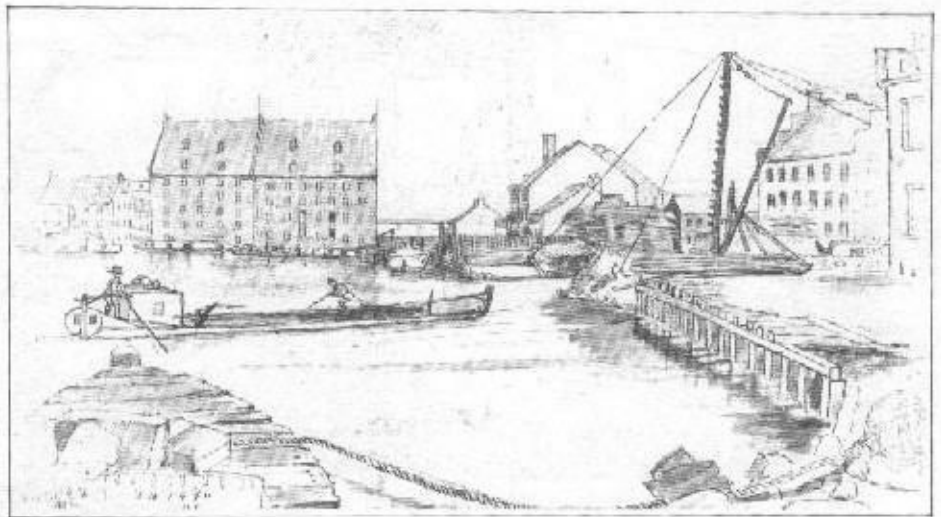
It should be something of an object lesson that although the expressway destroyed three locks, only Locks 2 and 3 were moved. This is because an HAER measured drawing of the flight did not include Lock 1 since it was mostly underground, and as a result it was not mentioned in the contractor's agreement. We should not let this sort of thing happen again.

On the plus side, Locks 4 and 5, not touched by the expressway, were bought by Reynolds Metals Company and developed into Tidewater Connection Locks Park, complete with a brochure, meeting facilities, exhibits and a slide show. The park and exhibits are open to the public every day, except when reserved for meetings, parties and weddings. The inaugural meeting of the Virginia Canals and Navigations Society took place there in 1978, hosted by Reynolds Metals. This lock park is one of the best examples of corporate responsibility in America.

The destruction of the rest of the Tidewater Connection Locks by the expressway was a disaster of national importance and scotched forever the dream of reopening the flight and canal basin. This would have given downtown Richmond a unique and exciting waterfront atmosphere which shops in malls have failed to provide.

But there is a silver lining. Any engineering work which has been taken apart (or else abandoned unfinished in the middle of construction) can tell us things a finished structure cannot, and the Tidewater Locks are no exception.

The first rediscovery was the original canal engineer's plug-and-feather method of lifting the stones, some of which probably weigh up to two tons. RMA's engineer found a chiseled round hole in the top of each one, at the center of gravity, each 1-1/2 inches across and four inches deep. He made a triangular iron plug to fit the hole, shackled it to the crane's lift cable, and dropped two (or one) triangular wedges (called "feathers") in the hole beside it. When each stone was lifted, the plug and feathers jammed each



This 1856 sketch by David D. Henderson shows a boat with labeled cut stones in Richmond's Great Basin, but the code is not the same as that discovered on the Tidewater Connection Lock stones nearby. The stone markings in this original sketch might be reliable enough to decipher, but in the Harper's Weekly woodcut made from it (see American Canals #57, p. 12) they have been reduced to nonsensical, barely visible squiggles! (Virginia State Library)

other tightly against the sides of the hole. This method of lifting is in contrast to a common one for smaller stones, using forceps like ice tongs. Stones lifted in that way have small indentations chiseled on opposite sides, instead of a hole in the top.

The other, unexpected, discovery came only a few months ago while examining the rows of stones which had been moved. The RMA engineers had labeled each stone with, for example, "NA21" written in white paint on the top. In RMA's code, "N" means the north wall of the lock flight, "A" means the first course from the top, and "21" means the stone number in that course. Through the courtesy of Mr. George Cheadle, then

Chairman of the RMA, we have scale drawings showing the original locations of most of the labeled stones.

It was startling to suddenly realize that there was a second set of letters and numbers on some of the stones, neatly printed in red (and occasionally black) paint, such as "L3 3CLWS." The RMA's thick white paint letters and numbers from 1974 are already peeling off, but the original labels from 1854 were drawn with a thin paint or stain which soaked into the stone and is still there. The RMA's numbers were on the top of each stone, but these were on the sides, sometimes covered with mortar, so it is clear that they are code numbers written by the original canal builders almost a century and a half ago.

If RMA had not carefully stacked the stones, we would never have noticed these numbers: and if they had not labeled each one, we would have to simply guess at their meaning. RMA's painstaking numbering and recording has provided us with a unique "Rosetta Stone" for interpreting this original code. Knowing the location of the stone in the lock, we can work backwards to try to understand what the original numbers and letters meant, and why some stones are labeled and others are not. This could tell us something about the information the lock builders needed, and how they thought.

Some of the lock stones are labeled only with large red numbers, such as "19" and "24". It did not take long to realize that these indicated the thickness of the stone, from top to bottom, to the nearest higher inch. That is, a stone between 18 and 19 inches thick would have been labeled "19". This told the builders which courses the stone would

(Concluded on Page Seven)

May 15-17, 1987

An important date for all members of the American Canal Society is the week-end of May 15-17, 1987 when ACS will host the Canadian Canal Society in Syracuse, New York. It is the fifteenth Anniversary Year for the American Canal Society and the Fifth Anniversary for the Canadian Canal Society. This is the third time that the Canadians and Americans have combined for a canal meeting — the first in St. Catharines, Ontario in 1979 with 120 people, the second in Peterborough, Ontario in 1985, 80 people attending. Approximately 100 people are expected in Syracuse. Pertinent information on the three-day program is included with this issue as well as meeting registration and motel reservation forms. Early action is recommended. Meeting forms are to be sent to Bill Shank, ACS Tour Chairman; motel room reservation slips, to Mark Oliver at the Ramada.

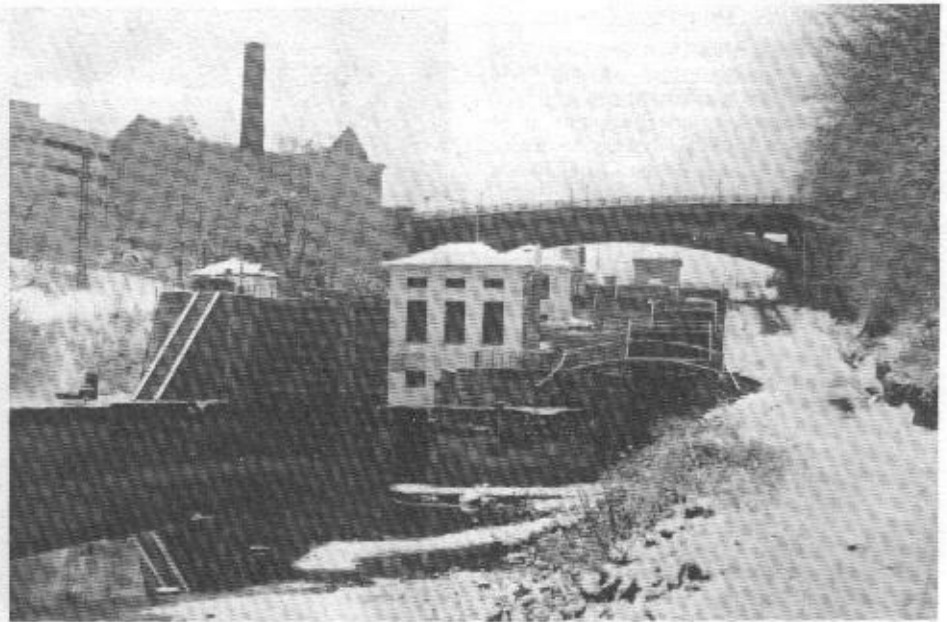
WINTER SHUT-DOWN ON THE ERIE CANAL

By Bruce Russell

Every December New York State's Barge Canal system ceases active operations for approximately 4½ months because of freezing temperatures and the formation of ice which renders navigation either impossible or extremely impractical. Nevertheless this closure does not imply that the 570 mile waterway goes into total hibernation, with its work force laid off and a mantle of snow permitted to remain on its major structures such as locks, dams, sluice gates, retaining walls, and bridges - both movable and fixed.

Instead, once the water is drained, the canal employees are shifted into other details. Winter is the time to perform needed maintenance on the 70 year old waterway, and a list of priorities is drawn up dividing the tasks into urgent and optional. The Erie Canal, or as it is sometimes called - the New York State Barge Canal - Erie Division - is no longer considered a modern waterway, and its locks and other man-made structures are beginning to show the effects of three quarters of a century of continuous use in a climate known for its extreme fluctuations, from minus 20 degrees F in winter to 90 plus in summer.

The Barge Canal's locks are constructed out of reinforced concrete rather than dressed stone blocks as in earlier canals, and during the past 10 years various sections have started to crack, crumble, and disintegrate. Water seeps into these fissures, and once the temperature dips below freezing, ice is formed which must expand and therefore additional damage is done. Larger and larger pieces then start breaking off, giving more opportunity for more water to enter and damage the section in question. Likewise the massive lock gates and the machinery to power them is not up to date or comparable to



Appearance of the Lockport flight from below, December 1985. The canal and locks have been drained of water, for winter maintenance. (Photo by Bruce Russell)

what exists on the St. Lawrence Seaway (1959) or the just inaugurated Tennessee-Tombigbee Waterway. Instead it's of the same vintage as the Panama Canal, on which construction began in 1904 during the administration of "Teddy" Roosevelt. Designed to be a modern successor to the original Erie Canal running from Albany to Buffalo, the primary motivation in constructing it was to break the monopoly of the Vanderbilt's NEW YORK CENTRAL RAILROAD within New York State along the central corridor. The thinking was that if there was no alternative means of transport that could move grain, coal, and other bulk commodities across the "Empire State" then the railroads and the "Robber Barons" who ran them could charge whatever prices they liked. Obviously at this time nobody was thinking interstate highways. Between 1904 and 1918 a new waterway was constructed roughly parallel to the old Erie Canal (and west of Rochester in the exact same alignment), and thus the New York State Barge Canal came into existence. While the earlier canal was almost totally a man-made "cut" and was hand hewn by mostly Irish laborers or "Paddys", the newer canal made extensive use of existing rivers, creeks, and streams which were widened, deepened, and regulated with dams and locks. A significant portion of the work was done with steam driven machinery, and Italian immigrants rather than Irishmen did the physical labor. Concrete instead of stone was the major building material. Shorter branches were also built to serve the Champlain and Cayuga/Seneca regions, plus a segment from Syracuse to Lake Ontario called the Oswego Canal Division.

The Barge Canal presently carries very light commercial traffic. Pleasure craft are its prime users plus an occasional inland cruise vessel such as the NEW

SHOREHAM and of course Mid-Lakes Navigation Company's EMITA II. Nevertheless, everything must be kept in full working order, and winter shutdown is the only time this can occur, with the ideal months being December and March when temperatures are less brutal than in January and February. Following the final day's activity the water level in the canal is permitted to drop by means of closing certain gates and permitting no more water to flow into it from Lake Erie and other feeders. After several days all that remains in the channel is a small stream in its midpoint. Buoys and other floating navigational aids either are sitting on the dry bottom or have been previously removed and taken elsewhere. (The canal has special "buoy boats" for this purpose). The locks and their deep chambers are totally devoid of water, and this permits inspection of them and necessary repairs to be accomplished. Rust can be chipped away from areas where it has accumulated such as sluice and miter gates, red lead applied, and then final paint. Really badly deteriorated parts are noted, and a decision made on whether to replace or rehabilitate.

The most impressive locks on the New York State Barge Canal System are situated in the community of Lockport where the canal climbs the Niagara escarpment and begins the final 23 miles to Tonawanda on Lake Erie - its western terminus near Buffalo. In the days of the old Erie a series of 5 double locks was required to overcome this considerable rise in elevation, and the "Lockport Flight" was the subject of many paintings and illustrations. Traffic was so heavy at this time that the Lockport Flight actually consisted of 5 locks going up and 5 locks going down - a truly impressive sight in

(Concluded on Page Six)



Interior of the upper lock chamber at Lockport, drained for winter maintenance. Note the drains at the bottom of the chamber. (Bruce Russell photo)

WINTER SHUT-DOWN ON THE ERIE CANAL

(Concluded from Page Five)

the early part of the 19th Century. The 1904-1918 reconstruction of the Erie Canal into what was then the modern Barge Canal necessitated the removal of one of these 5 lock staircases to make room for two massive Barge Canal locks. However the other 1830 vintage flight, constructed not of concrete but of cut and dressed stone blocks, remained in use a few years strictly for smaller craft so they wouldn't have to negotiate the bigger chambers. But in the mid 1920's their lock gates were removed and the structure was converted into a spillway. Thus you have the old and the very old side by side at Lockport — truly an outstanding example of industrial archeology.

During my day at Lockport last January major rehabilitation was being done on one of the two giant locks. New concrete had been poured, and a section that had been in danger of possible collapse was being made sound again. Also one of the enormous lock gates was partially disassembled and renewal of parts was occurring. About 25 men from the canal maintenance base at Lyons, N.Y. were on the job, plus others from a private contractor. A large cement mixer had been lowered by crane onto the floor of the lock, and drills, hoses, and other tools were scattered about the completely dry floor of the chamber. Although some upkeep of the waterway is accomplished during the regular season using special work boats — primarily dredges — the principal job of keeping things in order occurs during winter shutdown, and all locks and structures are accessible by road vehicles. From time to time entire miter gates are replaced or totally rebuilt, and I am told that new ones are built either at the Lyons facility or at the canal's other maintenance base located in Waterford, near Albany. It is becoming more of a challenge to obtain working parts for the 70 year old electrical machinery that turns the locks, but the canal work force is still able to come up with ingenious solutions. Also, I have been told that European waterway people have been called in to give their expertise, and sometimes parts come from places such as Belgium, England, etc.

The canal staff is fully aware that if the waterway closes permanently they will be out of a job in an area where employment possibilities aren't good. Nevertheless among Barge Canal workers there is a great "esprit de corps" and the basic attitude is one of "CAN DO." Many of the workers I spoke to at Lockport were third and fourth generation canalers, and can trace their family roots to an immigrant who helped construct the Barge Canal in 1904. (A few may also trace their ancestry to the original Irish who dug the first Erie Canal or "Clinton Ditch" back in 1825.) New York is unique because it's the only state in the nation with a separate Department of Canals, in addition to the usual Dept. of Highways and Transportation. Morale is kept high



One of the old flight of locks has been preserved as a spillway at Lockport. Miter gates were removed in the 1920's. The control house for the newer gates is at the lower right. (Bruce Russell photo)

by awarding a yearly prize to the best maintained, most efficiently kept lock, and many of the tenders sport T shirts with such awe-inspiring logos as "Lock 25, Best on the Erie 1983" or something similar. Some of the tenders work at this craft because it's relaxing and they're their own boss so to speak. Most view their occupation as unique in this era of obsession with automobiles to the detriment of railroads and inland waterways.

WE'VE GROWN ACCUSTOMED TO THE PACE

On a recent tour of the English canals, conducted by ACS Vice President Bill Gerber, his "crew" came up with lyrics (set to "Fair Lady" music, describing what they had seen and done. Here is a sample; if you want more, write Bill Gerber!

We've grown accustomed to the pace,
Of cruising down from lock to lock.
We've grown accustomed to the sight,
Of pulling to the right,
The turns, the bends, that give such
a fright.

It's second nature to us now.
It's not the front,
It's called "the bow."

A tiller, winch, a windlass,
A rudder, pole and such,
Were never in our lives before
But now they mean so much . . .

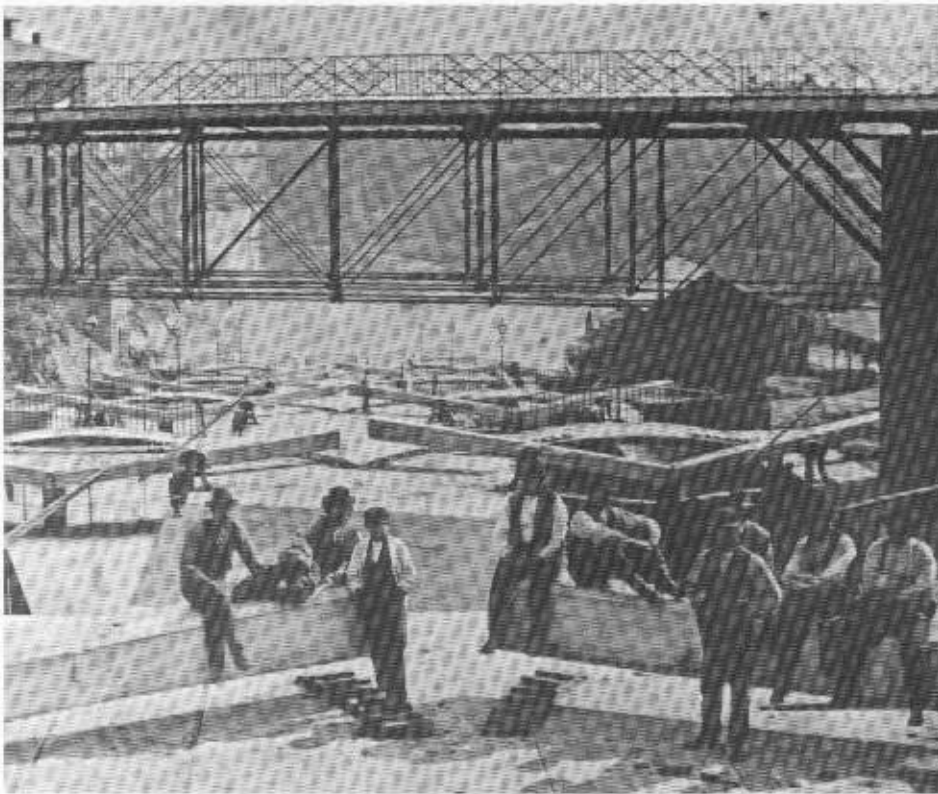
We've grown accustomed to this life,
Accustomed to these boats,
Accustomed to the pace.

Future Cloudy

The long term future of N. Y. State's Barge Canal is cloudy. It presently costs \$15 million a year to keep it going, which in the terms of today's bloated state budgets is miniscule. Regardless of the heroic job I saw being done on that blustery December day at Lockport, it is literally beginning to fall apart, and big, big dollars will be needed in the next few years to modernize it, as well as correct years of deferred maintenance. Stop gap measures cannot go on forever. The days of seeing a continuous procession of barges laden with grain passing through the various locks from Tonawanda to Waterford on the Hudson are gone forever, thanks to the St. Lawrence Seaway and parallel interstate highways. What might save it is the steadily increasing number of pleasure craft, plus the boom in inland waterway cruising now occurring. (See American Canals, No. 49, May 1984 article by Franz J. Katz for further details) Mini-cruise liners now proceed up the Hudson to Waterford, enter the Barge Canal, travel to Syracuse, and head into Lake Ontario using the Oswego branch of the system. Such an interesting routing would not be possible if the Barge Canal wasn't there. Other companies are planning or are building these small liners according to the aforementioned article, and no doubt will want to include the "canal cruise" in their itineraries. Also for the past 13 years Mid-Lakes Navigation Company has been running moderately priced trips over the Barge Canal, and their volume has been slowly increasing. A great untapped potential exists for using this old but very beautiful and historic waterway as a vehicle to promote N. Y. State tourism. If the abandonment proposed by some factions goes through, the Empire State will have lost forever an irreplaceable asset which could do for tourism what the Rideau and Trent-Severn waterways are doing in Ontario, Canada.

In my own state of New Jersey political decisions in the early 1930s allowed the closing of the Trenton portion of the DELAWARE and RARITAN CANAL, making through journeys from Raritan Bay to the Delaware River impossible. In today's era of widespread boat ownership — when one family in eight has some type of vessel and marinas dot the landscape — such a waterway, perhaps modernized but with its historic flavor preserved, that offered a means of getting from New York to Philadelphia without venturing into the open Atlantic Ocean would be a priceless asset for the Garden State. Yet the D & R Canal was allowed to deteriorate as a through route, its surviving portion permanently sealed — mainly through lack of foresight, and a desire to use the right of way through Trenton for a new Route 1 alignment. Let us hope the future is kinder to N.Y.'s Erie Barge Canal so that it will forever be possible to go from the Hudson River to the Great Lakes by water.

THE "OLD ERIE"



A photo, made around 1890, looking down the double-flight of locks on the old Erie Canal at Lockport, New York.

Big Plans for the Erie

(Concluded from Page Four)

operation and maintenance budget finally has provided the financing needed to maintain the system.

Now, Balkin looks forward to replacing the Lockport flight of locks in 1989, marking the first such overhaul since the old Erie Canal was enlarged and modernized in 1918.

Balkin sees other signs of the new commitment as well: canal booths at boat shows in New York City, Toronto and Niagara Falls; plans by the City of Lockport to establish a canal museum in the former powerhouse, and even talk of refurbishing the original Erie Canal locks at Lockport — now used as a bypass channel — into a working flight to accommodate tourist boats.

The change stems from the state's realization that the canal can contribute more to the state's economy today as a recreational and tourist resource than as a commercial waterway, leading to parks and tourist attractions on the towpath all across the state.

"From the governor on down, there's been more of a focus on the canal and the canal's future," Goldsberry said.

That, Balkin says, has been the kind of news 106 western canal workers have been seeking for many years. Instead of apologizing for conditions, he said,

workers now hand out brochures and promote the system.

"The unique part is now we're drumming up business," Balkin said. And with the commitment, a good portion of the pride canal workers have traditionally devoted to their locks and equipment has returned. Machinery will be renewed or replaced, buildings are scheduled for sprucing up, and even the flowers will be planted around lock houses again next year.

Cracking Canal Code

(Concluded from Page Four)

fit, because they were not all of the same thickness. Later on another example was found in Richmond, a railway bridge pier dating from about 1901, this time with the thickness of a number of the stones chiseled on the outside face.

Other lock stones were, in addition, marked with a more elaborate label on the other end, such as "L3 3CLWS" or "L3 2CLRN". Sure enough, all the stones marked "L3" were from Lock 3. Curiously, none of the stones from the other lock, Lock 4, were marked, even though the two locks were joined together as part of the same two-lock staircase. This may mean that the two locks had different contractors or foremen, with different methods of operation.

The number such as "3" or "2" in the second part of the code matched the course of the stonework, so "C" must mean "course." Reasonably enough, the lock builders numbered the courses

starting with #1 at the bottom, whereas the lock demolition crew's labels started with "A" at the top. And one part of the code stayed exactly the same: the last letter in the old code was the same as RMA's first letter, indicating the north ("N") or south ("S") wall of the flight.

It is still not clear what "LW" and "LR" mean — perhaps "LW" is "Lock Wall" and "LR" is "Lock (gate) Recess," but unfortunately many of the new labels are unreadable and the demolition engineers failed to mark the original locations of some of the stones.

Also rediscovered were several "Mason's Marks," the masons' personal symbols carved in stone. Some stone structures are covered with them, but none had been found on the Tidewater Connection Locks until they were taken apart, revealing several marks on the interior faces. Whether and where mason's marks appear no doubt depends on the contractor's policy, and the traditions of his workmen. Another example of hidden mason's marks is in Roscoe Village in Ohio, where a lock near the aqueduct has been partially dismantled: all the marks are on inside faces, neatly inscribed in a corner of some of the stones.

The moral is: The stones are trying to tell us something. I'd like to hear from others on this fascinating subject!

CALENDAR CANAL

March 20, 1987 — March Meeting of the Canal Society of New Jersey, Allied Signal Auditorium, Morristown, N. J. Lance Metz lecture on William H. Rau Lantern Slides.

April 24-26, 1987 — Combined Meeting of the Pennsylvania and New Jersey Canal Societies, Scranton, Pa. Pennsylvania Coal Company's Gravity Railroad. Contact Bill Moss, P.O. Box 127, Fanwood, N. J. 07023.

May 1-2, 1987 — Spring Tour of the Canal Society of Ohio, Chillicothe, Ohio. Tour of the Ohio and Erie Canal from Chillicothe to Circleville. Contact Dave Neuhardt, 425 East Sixth Street, Dayton, Ohio 45402.

May 15-17, 1987 — Combined Meeting of the American and Canadian Canal Societies, Syracuse, New York. Tour of the Oswego Canal, Erie Canal Village and Fort Stanwix. Contact Bill Shank, 809 Rathton Road, York, Pa. 17403.

May 28-31, 1987 — Society for Industrial Archeology 16th Annual Conference, Troy, N. Y. For general information contact Duncan Hay, N.Y. State Museum, 3097 CEC, Albany, N. Y. 12230.

June 13-21, 1987 — Virginia Canals & Navigation Society Second Annual Batteau Festival, James River from Lynchburg to Richmond. Contact Joe Ayers, P.O. Box 790, Columbia, Va. 23038.

Lehigh Canal Restoration

Charlie Derr, our ACS Secretary-Treasurer, recently made headlines in the Allentown (PA) Morning Call in connection with local restoration work on the Lehigh Canal. Here are excerpts from the article of January 2, 1987 by Morning Call Reporter Janis Barney:

Some Bethlehem Township residents remember summer picnics and winter ice skating on the Lehigh River Canal. They recall choosing a swim in the canal over a dip in the pool at Willow Park — the canal was free, after all.

But those memories are about all that are left. No water has run through the township's section of the canal for some 40 years. The towpath is so overgrown that it is virtually impassable at the height of the summer.

Perhaps that is why canal restoration advocate Charles Derr has encountered some skepticism from those who remember the canal as it was way-back-when. But skeptics haven't slowed the efforts of Derr and other canal and recreation buffs, who intend to breathe new life into the dry canal by clearing brush, and, they hope, drumming up interest in its restoration.

"It's the only section of the canal in lower Northampton County that still retains its rural atmosphere," says Derr, a Freemansburg councilman. "The beauty down there is unbelievable. It's an untapped resource as far as the township is concerned."

Derr has been active in canal restoration for nearly 20 years, and for the last six has been a park ranger at the Hugh Moore Park along the canal in Easton. A main force behind work being done in Freemansburg, he says he is encouraged by the stirrings in Bethlehem Township.

The township's five-mile section of the canal is part of the "lower division," a 46-mile stretch from Jim Thorpe to Easton. The canal was built in 1829 by the Lehigh Coal & Navigation Co. to carry Pennsylvania anthracite to Philadelphia along the Lehigh and Delaware rivers.

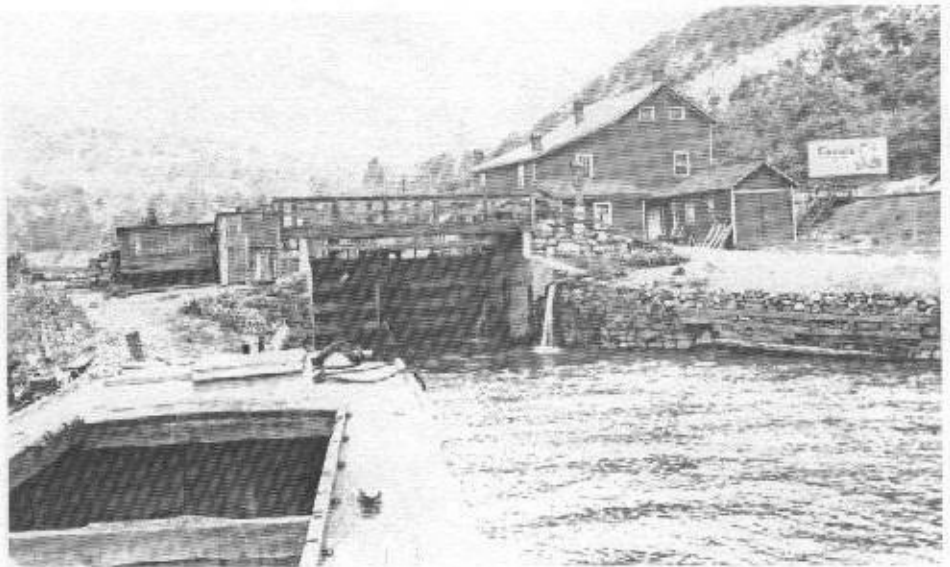
After 1855, the Lehigh Valley Railroad began to cut into the coal carrying trade, but the coal company continued to use the canal until 1931.

Sections of the canal were bought from the company in 1964 by Bethlehem Township, Bethlehem, Allentown, Easton and Freemansburg. With the exception of Bethlehem Township, the municipalities with the help of state and federal funds, have worked to restore their sections of the canal.

And now, looking into the future, Derr sees Bethlehem Township working to create and maintain its portion of a potential 21-mile hiking or jogging trail.

"I have always hoped that this would happen down there in the township," he says. "Those of us who feel the way we do about the Lehigh Canal, as far as a recreational resource, are glad that the

ON THE LEHIGH CANAL — 1935



Tom Taber of Muncy, Pa. recently sent us the above two photos made by his father on the Lehigh Canal in August of 1935. It shows Lehigh Coal and Navigation Boat Number 274 transitting a Lock at Lehigh Gap near Palmerton. This must have been one of the last canal boats operating on the Lehigh Canal, presumably loaded with slag from the zinc furnaces at Palmerton, headed north to unload, perhaps in some "land-fill" area. Note the mule team on the towpath in the one photo; the Camels Cigarette bill-board in the other. Note also the "joint" at the center of the boat, permitting it flexibility, perhaps in passing over the inclined planes of the old Morris Canal in New Jersey.

township is paying attention to our wishes."

If Bethlehem Township restores its portion of the canal to the point of wanting water back in it, Derr says, a "joint venture" between Freemansburg and the township would be possible. Now, water from the canal is being diverted back into the river about a hundred yards from the township border. "With some structural changes, it would be very easy to provide water to Bethlehem Township," Derr says.

First, however, more clean-up work is needed, the boundaries of the township property must be defined, and the towpath must be put in order. Once that's completed, Derr says, the issue of water could be addressed.

Anthracite & Slackwater, North Branch Canal 1828-1901

An 8" x 10" paperback, with 280 pages and 55 illustrations, by F. Charles Petrillo of Wilkes-Barre, Pa. A well-researched and detailed history of Pennsylvania's North Branch Canal and the important part it played in transporting coal north and south from the breakers at Nanticoke to all parts of northeastern USA — \$16.25 from the Center for Canal History and Technology, P.O. Box 877, Easton, Pa. 18044. Also available in hardback for \$28.75.

Walnutport Canal Park

The Walnutport (PA) Canal Association wrote this report about a year ago in their newsletter "Canal News". Hopefully the section of the Lehigh Canal, on which they have done so much hard work will be water-full again this summer. They are currently selling a "Lehigh Canal Boat Decanter" for \$68.90, as a fund-raising project. Any interested canal buffs are invited to write Walnutport Canal Association, 120 Main Street, Walnutport, Pa. 18088.

After 24 months of hard work, there will soon be an additional 1/2 mile added to the length of the canal.

The section is the southernmost level on the canal and runs from Scheckler's Lock to Berches Creek, where there are remains of the aqueduct.

The section was fully restored in 1952 but later destroyed by Hurricane Diane in August of 1955. That year the river flooded over the banks of the towpath and tore a hole in the towpath halfway between the lock and the creek. The area below the break was filled in with silt, a combination of stone and coal dirt. The section was never restored due to the large amounts of silt in the canal bed and the large breach in the towpath. The area laid dormant 30 years with only a small stream of water running through part of the level.

In 1983, the association leased from the three-mile boat club the land from the Poughkeepsie Bridge Piers to Berches Creek. The area from the bridge piers to Scheckler's Lock was restored in the 1950's.

During summer 1983, volunteers began cutting trees and burning brush. Hundreds of cords of wood were removed in preparation of heavy equipment with over 20 volunteers donating their Saturday mornings to help in the project. Then in fall 1984 bulldozers started removing the silt.

In spring of this year (1985) the break was filled. Over 350 tons were hauled by volunteers in dump trucks during two weekends to close the break.

Work was then completed on a sluice gate and spillway at Berches Creek where the aqueduct once stood.

The area was then partially flooded. Unfortunately, vandals blocked a drainage pipe causing a premature rising of the water level and the towpath again gave way where workers had just completed filling.

Volunteers again had to fill in the break with another 350 tons of fill.

The level was then completely filled 30 years to the week that Hurricane Diane originally destroyed it. Water for the first time in three decades went over the spillway at the aqueduct.

The association is working on plugging new leaks again and hopefully soon the last 1/2 mile will be completely re-watered.

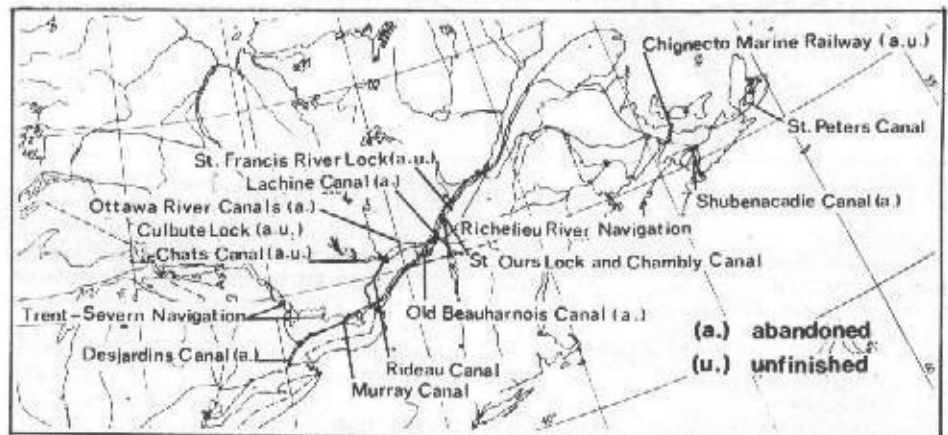
AMERICAN CANALS, NO. 60 - February 1987

COMBINED RAIL AND LOCK OPERATION



Bruce Russell is one of our most widely traveled canal researchers, who is also good with a camera. Here is a photo he made in Holland, about which he writes: "Unique in Europe: In Holland near the North Sea town of Medemblek a railroad line actually crosses a canal at the point where a lock chamber is situated. The lock master has control over both the lock gates as well as the unique railroad bridge. On August 17, 1986 a steam train of the Hoorne-Medemblek tourist railway passes over the lock chamber." It would seem that the portion of the rail crossing at the right is a counterweighted draw-bridge, of which you see many throughout the "low countries," whereas the left portion is permanent. (Editor)

ST. PETERS CANAL



ASC Vice President Bill McKelvey is an incessant reader and researcher. Here is an item he picked up somewhere on the St. Peters Canal. For those of you who (like your Editor) never heard of it, I have included a map of Eastern Canada on which it is plainly marked. We are indebted to W. Naftel and L. Friend for the map, which they entitle "Historic Canals of Canada".

St. Peters Canal began in 1854 and after 15 years of gruelling digging, blasting and drilling, an opening was cut through a solid granite hill approximately 60 feet high. This joined the Atlantic Ocean with the Bras d'Or Lakes.

The passage was shored-up with timbers and planking, locks were installed and in 1869 it finally became a reality. Addi-

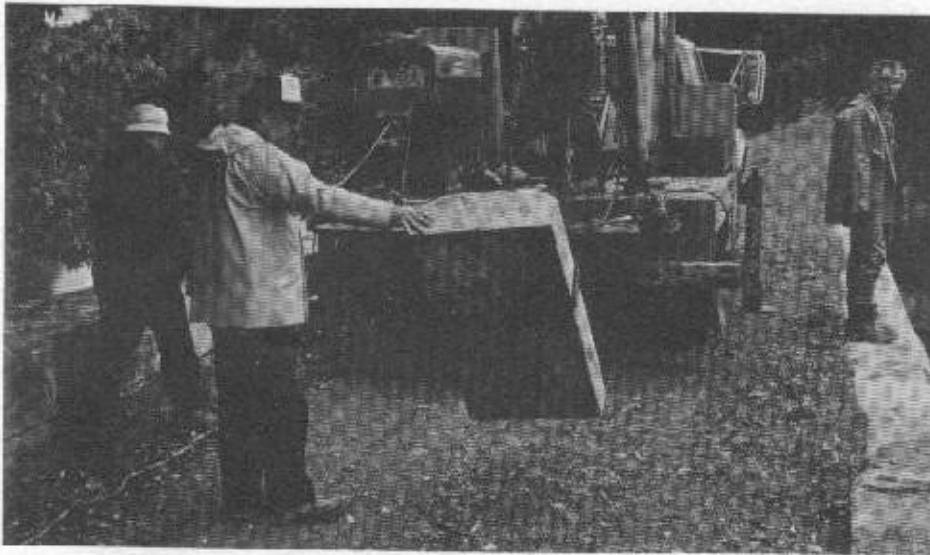
tions, renovations, widening the channel and lengthening the locks continued until 1917.

Today, St. Peters Canal ranks as the only heritage canal east of the St. Lawrence River. The canal is used during the summer months by all types of pleasure crafts from canoes, schooners and yachts to larger power cruisers.

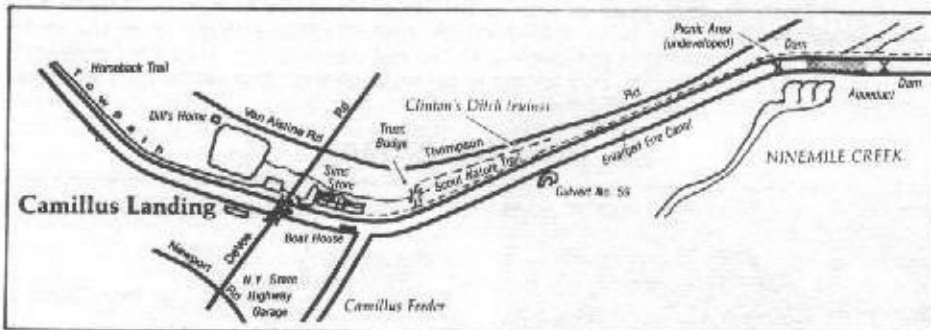
In addition to recreational boating, visitors can relax and enjoy the picnic facilities or chat with the local fishing enthusiasts or with canal staff.

Within a short walking distance of the canal are the ruins of Port Toulouse and Fort Grenville, a British stronghold established in St. Peters shortly after the fall of Louisbourg in 1758.

CAMILLUS-ERIE CANAL TOWN PARK



Volunteers from the town of Camillus, New York are shown moving some of the original stones of the Ninemile Creek Aqueduct on the Enlarged Erie Canal, 1836-1862. This now restored aqueduct (towpath shown here) was built in 1844, located between Locks 50 and 51, and was 144 feet in length. It was placed on the National Register of Historical Places in 1976. The accompanying map shows its location in connection with the restored canal and the town of Camillus.



"TRIALS AND TRIBULATIONS"

ACS Vice President Bill McKelvey has sent us the following excerpt from the Supreme Court Proceeding as recorded in Pittsburgh, Pa., Sept. 1839. The event occurred April 22, 1836 and is titled "Atwood Against the Reliance Boat Company":

This was an action against the Reliance Transportation Company as common carriers on the Pennsylvania canal. The goods, consisting of teas, dry goods, hardware, and shoes, were received at Philadelphia the 22nd of April 1836, on board the defendant's towboat, the Columbia, on terms of delivery in sixteen days to the plaintiff in Pittsburg, "in good order, the dangers of the navigation, fire, leakage, and all other unavoidable accidents, excepted." The boat proceeded on her trip and arrived at Harrisburg in the morning of the 4th of May, where she was detained while workmen were employed in repairing a breach in one of the locks. The water was drawn off above, and was rapidly subsiding in the level where she lay; when, in obedience to the regulation established by the canal commissioners pursuant to the

statute, the lock keeper refused, as he testified, to let her lie in the chamber of the lower lock, and pointed out a place where she could lie in safety: notwithstanding which, she went into the lock at 11 o'clock in the forenoon and bilged in the night by settling and straining on the bottom, which was counter-arched and without a floor; by reason of which the cargo was damaged by water. The defendants gave evidence to show that the boat's entrance had not been forbidden by the lock keeper; that she was tight, staunch and strong; that she was well manned and commanded; that the locks were generally safer in grounding by settling, than the bed of the canal; and the boat masters usually sought them as preferable berths when grounding was apprehended. The judge charged that "a common carrier may limit his responsibility by notices or agreements, and that if the captain was not culpably ignorant of any fact in regard to the lock; not deficient in prudence, care and judgment; not warned of his danger; the case might be considered to come fairly within the exceptions named in the contract." The jury found for the defendants and the plaintiff brought a writ of error.

The Camillus-Erie Canal Town Park is a fine example of what a dedicated group of canal buffs (about 100 in number) can do in restoring and maintaining a historic canal section and turning it into an active tourist attraction.

Camillus is situated approximately five miles west of the outskirts of Syracuse, New York, along the route of the original Erie Canal, built in 1825, and also the Enlarged Erie Canal, begun in 1836 and completed in 1862, for a total length of 351 miles. Local volunteers, led by Dr. David Beebe, have been working for the past five years to make a rewatered section of the Enlarged Erie a truly working part of the local historical scene, as well as a picturesque asset to the community.

With financial support from the community and staffed by volunteers, the Camillus-Erie Canal Town Park offers canal boat rides on two separate boats along a two-mile rewatered section of the Second Erie Canal every Sunday from May through October. They have also rejuvenated the Sims Canal Store, which has been turned into a museum. Their two boats, the first named "Camillus-Erie" and the second called the "Ontario" offer rides along the Canal for a nominal fee. The "Ontario" is shown in Issue Number 50 of American Canals, and was launched in April of 1984 after considerable rebuilding and motor-mechanical work to get it running again. The boat itself has an interesting history.

For full information on the project, and a brochure, write: Town of Camillus, Erie Canal Project, 109 East Way, Camillus, New York 13031.

Friends of Fox River

From Frederica Kleist, Vice President and Corresponding Secretary of the Portage Canal Society, Portage, Wisconsin comes the following report:

Friends of the Fox (River) Inc. in Wisconsin had a busy year in 1986. They have had to raise matching funds for operation of the Fox River Locks the past two years. They have gone to individuals, corporations and to municipalities. It gets tougher every year. The group put together several boat trips for the benefit of politicians and community leaders, showing the future potential of this system. They have been able to muster a strong support from the area, and the representatives of the State.

The biggest news was the announcement of the proposed redevelopment of Menasha, including a 100 slip marina right in the center of their downtown. Construction has begun and has May 15th, 1987 as the completion date.

The Fox River Locks will definitely be open in 1987. Plans for their opening are scheduled for May 15 or 16 in conjunction with the opening of the marina in Menasha.

Hope some of the ACS canal members will visit this area in the future.

Lock Restoration Earns "Eagle"

By Terry D. Wright

The Great Miami River Corridor Committee of Miami and Shelby Counties, Inc., has coordinated three Eagle Scout projects for area Boy Scouts and all of those projects have concerned the Miami and Erie Canal.

The most recent project was coordinated between the Piqua Boy Scout Troop 295 and the Johnston Farm, Piqua Historical Area.

The needed assistance at the farm was to clear and maintain to lock which is seen during the General Harrison canal boat ride. For years, the lock, number 8 on the Miami and Erie Canal has suffered the same fate as many Ohio canal locks — neglect.

Boy Scout Rob Futrell, 9144 Spiker Road, Piqua, is a member of Troop 295. That special troop has been one of the most active in the area, so it wasn't a surprise when Rob called the River Corridor office for a list of projects to consider for his Eagle Scout Award.

Futrell chose the lock maintenance project at the Johnston Farm. After discussion with the Johnston Farm site manager Vicki Tabor and the staff at the farm, it was decided that that project was most important and needed immediate attention. The scenic lock had quietly become overgrown with trees and foliage.

Futrell began his work in early October. The average of ten scouts per work group, from Troop 295, spent their Sundays under Futrell's direction and leadership clearing trees, shrubs and heavy overgrowth from this lock that served on the Miami Extension of the Miami and Erie Canal.

"The Scouts enjoyed the work," said Futrell. "There was a great deal of tree growth between the stones of the lock. Those trees and roots were pushing the stones apart."

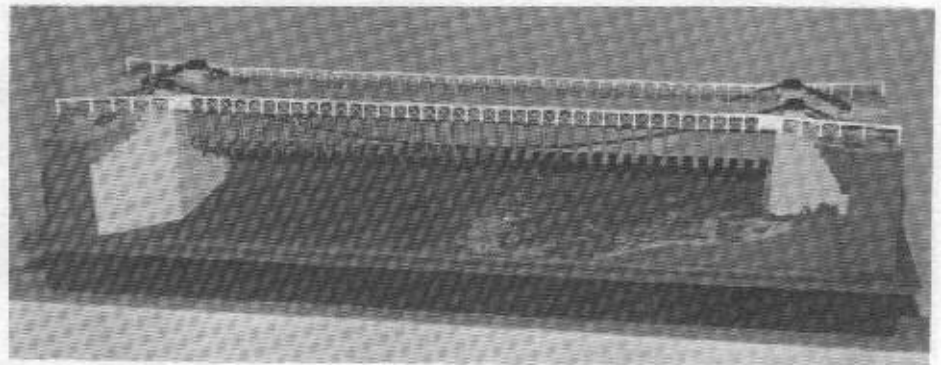
After the clearing, the staff at the Johnston Farm will pull the stumps from the ground and complete the laborious task.

"The visitors to the farm riding the canal boat can see the lock better now," said Futrell. "And the boat can turn around easier because of the bank clearing we did leading up to the lock."

It was suggested that the wood taken from around the lock be used for fire wood for the demonstrations at the farm. The farm staff however, had a better idea. The suitable timber cut down will be used for split-rail fencing around the farm.

A weary Futrell leaned back and thought about how many man-hours the scouts spent on the job.

ROEBLING AQUEDUCT MODEL



Above is a model of the Roebling Aqueduct on the Delaware and Hudson Canal at Cuddebackville, New York, as built by James L. Bennett of Baltimore, Maryland. This was the longest, single-span aqueduct on the D. & H. Canal, and one of a number of similar structures built by John Roebling on this and other canals in the northeast.

"We have about 150 hours on this project," Futrell said. "The weather was bad on some weekends but the Scouts showed up, so we decided to work."

When I was with the Scouts at the lock on a dreary Sunday afternoon, Futrell was busy assigning work areas to his fellow Scouts. Rain was falling in a mist as the 10 Scouts began putting on their plastic ponchos and grabbing hand tools to begin their adventure into the canal era. A large radio, which they brought with them, was securely wrapped in plastic to keep out the moisture. The muffled music drifted across the canal and I am sure would have been unfamiliar to any mule skinner approaching on the towpath. But I guess it helped the Scouts to work because they are doing a fine job of extending the life of Lock number 8.

The Scouts' work is a fitting reminder to the canal history in this area, too. Next year, 1987, is the 150th anniversary of the Miami Extension of the Miami and Erie Canal!

(Terry Wright is Miami County (Ohio) Coordinator of the Great Miami River Corridor Committee with headquarters in Troy, Ohio. The above article appeared in the "The Miami Valley Wednesday" for December 7, 1986.)

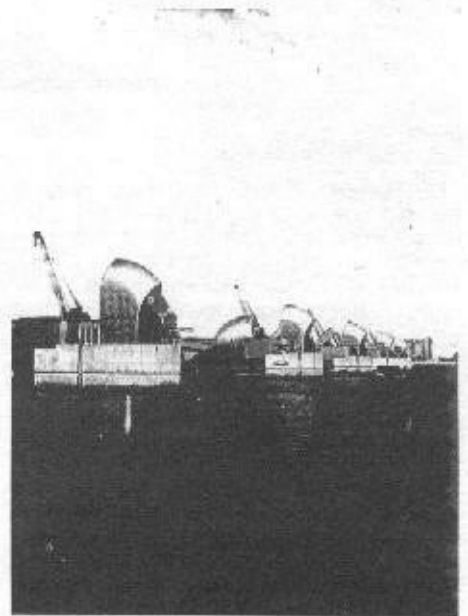
PANAMA CANAL

ACS Members, Al and Louise Celley of Toledo, Ohio visited the Isthmus of Panama over the Christmas Holiday 1986. Al made many photographs and color slides while transiting the Panama Canal and touring islands on both the Atlantic and Pacific sides of Panama. Design and construction of the Panama Canal in the early part of this century was an American engineering triumph recognized throughout the world. In addition to the creative technology required, great advances in tropical medicine were also achieved. The Panama Canal, now jointly administered by both the United States and the Republic of Panama, appears to be well maintained and efficiently operated.

A Sailor's Guide to the Tenn-Tom. By Cdr Doug Adams, USN-Ret., and Joan Adams, Dolphin Street Enterprises, 317 Dolphin St., Gulf Breeze, FL 32561. 45 pp. Photos, illustrations and maps. \$6.95 plus \$1 for postage (paperback).

A guidebook for planning boating and sailing trips on the Tennessee-Tombigee waterway through Alabama, Mississippi and Tennessee. ("Retired Officer" Sept. 1986.)

THAMES BARRIER



Dr. Roger Squires, ACS Director in the United Kingdom, has just sent us the above picture of the Thames Barrier in the Woolwich section of London. He reminds visitors from the USA that the new Barrier (built to control tide-water on the Thames) is a site worth seeing. "There is a very good, free, Visitors Center at the Barrier which offers a good service. I recommend it very strongly." For a full description see American Canals, Issue Number 43.

TEXAS "CANAL BOAT"



Fred D. Fleming, ACS member of San Antonio, Texas, sends this picture of his "stern-wheel powered canal boat, Icie Swiger" which he built himself. It is 35 feet long by 8 feet wide, all steel and "Trailerable." It is shown here on Canyon Lake near San Antonio, just the thing for shallow canals!

TAYLOR'S BAYOU LOCK

By Dr. Brian M. Kutner

I recently travelled to Texas and had the pleasure of discovering an undocumented turf-sided lock. This lock, on Taylor's Bayou about one mile north of the Gulf Intracoastal Waterway, is in Port Arthur, a heavily industrial town in the S. E. corner of Texas near Louisiana.

The lock, with double sets of miter gates at each end, is 250 feet long and 30 feet wide and 7'3" average depth over the sills, and was built in 1916 by the Beaumont Navigation District, which was organized in 1909.

Due to tidal fluctuations the lift varies. Usually the West or Bayou end is 3'8" higher than the East or Gulf end (the normal minimum difference is 1 foot). In the summer the East end can be 4 feet higher. Boats drawing up to 10 feet draft can sometimes lock through with a "plus" tide, but the usual draft is 5 to 7 feet.

The purpose of Taylor's Bayou Lock, besides the obvious navigation for the many shrimp boats (many are Vietnamese) that dock in Taylor's Bayou, is to keep the salt water of the Gulf from intruding into the rice growing areas along the Bayou. Approximately 12 - 15 boats lock through each week and the two I saw were each 120 feet long and very colorful (definitely a more interesting lockage to watch than the usual small motorboats we tend to see.)

The lock gates are conventionally mitered but each set is doubled like a mirror-image "V". This is for a reverse tide - 1 set of gates open in the normal direction with a normal tide and the other set opens in the opposite direction with a reverse tide.

To reach the lock from Houston - follow I-10 E to 73E to Port Arthur. After

crossing the Rt. 73 Bridge over the Bayou, go approximately two miles to the first residential development you come to and make a right on Cambridge St. to the levee along the Bayou. You will need a key to get by the fence. From 1-10 in New Orleans, go West to Beaumont and take 69-96-287S. to Port Arthur and take 73W about 3-4 miles - make a left on Cambridge. Go left on the levee and follow for 1 mile East. Make the second right to the lock.

To get the key, contact Mr. Turpin with the Beaumont Navigation District at 420 Mariposa Street (SE corner) in Beaumont 409-833-5509 or continue on Rt. 73 for 3 or 4 miles to Drainage Dist. #7 office on the SW corner of Rt. 73 and 9th Avenue (just west of 89-98-287.) See Mr. Vittum (409-985-4369).

Hopefully, the future of this lock is guaranteed. A new lock is currently being built about one mile upstream on Taylor's Bayou.

I also found two other navigation structures - the Velasco Memorial tide gate is a huge concrete structure with a guillotine gate. This is a hurricane protection gate built by the Corps of Engineers in 1978. This prevents storm tides from flowing up the old Brazos River and provides a safe harbor of refuge for the many shrimp boats that dock here (approximately 100). The new Brazos was rerouted to cross the GIWW by the Brazos River floodgates several miles from here (discussed in our canal guide).

From I-10 West of Houston go to Sealy and take 36S all the way to the end in Freeport. Cross the Brazos and 36 becomes 2nd Street which parallels the old Brazos. After crossing under several bridges you'll see the gates on the left.

Mutiny on a Canal Boat

Former ACS Editor, Tom Hahn, discovered the following interesting item in the Alexandria (Va.) Gazette for October 10, 1844:

We have been informed of one of the most outrageous mutinies and riots it has been our fortune to hear lately. On Friday evening last, the canal boat Banner, was on her passage from Beaver to Cleveland. The boat had reached the Twenty-One Locks near Akron, Ohio, at the foot of which the freight was discharged. The Captain stopped at the Collector's office to settle; the crew in the meantime took the boat on up thro' the locks. At No. 16 the Captain overtook them, but by this time the crew, seven in number, had got very drunk, and were carrying everything with a high hand, jamming the boat in such a manner he feared she would be sunk. He therefore attempted to tie her up; but the crew swore they were not drunk and could navigate her well enough. On his repeating the attempt they fell upon him, and threw him upon the deck, where they commenced beating him dreadfully. His wife, who was on board, heard the noise, and seeing what was going on, with the most heroic devotion threw herself on him in such a way as to ward off the blows. The savages then beat her to compel her to rise, but she maintained her position in defiance of their violence.

The number of passengers was twelve, four gentlemen and eight ladies. The latter, who were in the cabin, commenced screaming, when some of the crew rushed down, and with knives threatened them what they would do if they did not remain quiet. Among the rest, they threatened the wife of a gentleman on board, both of whom were in bed. He jumped up, and said he would shoot the first man that laid hands on one of them. On this they retired. The gentlemen then opened a window, and all in the cabins escaped. After they had cleared the boat the crew went on. The Captain raised two men and two constables, and followed but were unable to board the boat. He then raised four constables and eight men, who finally succeeded in capturing the whole gang, and on Saturday morning brought the boat back. Such are the particulars as we learn them from a gentleman who met the mutineers running away with the boat and passengers' baggage. There may be some exaggeration, but we are assured they are mainly correct.

Another similar structure is the Texas City Hurricane protection gate in Texas City. From Houston, take I-45 Southeast to 1764E (Palmer Highway) - take this to Texas City and it becomes 9th Avenue which will end right at the levee and go left for three miles to the structure. This keeps the floodwaters out of Moses Lake.