

AMERICAN CANALS

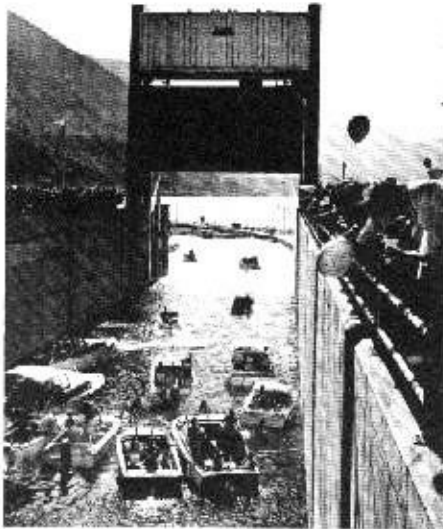
BULLETIN OF
THE AMERICAN CANAL SOCIETY

BULLETIN NUMBER 42

Editorial Address — Box 310 Shepherdstown, W.Va. 25443

AUGUST 1982

GUILLOTINE LOCKS IN NORTH AMERICA



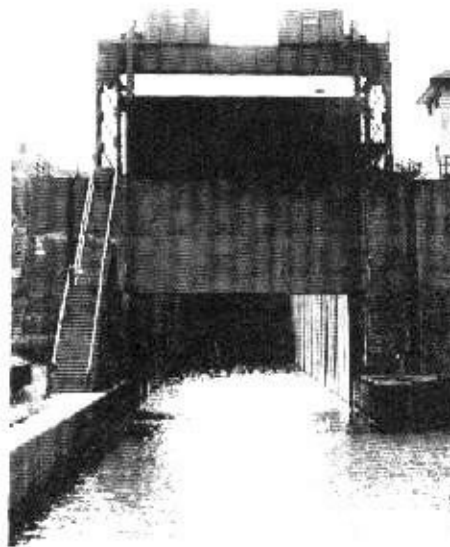
Keenleyside Lock, near Castlegar, British Columbia. Guillotine gates, both ends; maximum lift, 75 feet. (Photo courtesy Bill Trout).

Publishing a new book is an educational experience for the authors, before and after publication. "Towpaths to Tugboats — A History of American Canal Engineering" has now been in print for two months, and comments are pouring in from all over the World, most of them favorable, some critical, but all constructive. We welcome such comments, as it will enable us to make the necessary corrections in the Second Edition.

The most persistent comments concern our reference to the Little Falls Lock on the Erie Canal (page 68). In our caption we said: "Lock Number 17 . . . with what is thought to be the only Guillotine-type lift gate in the Western Hemisphere". ACS Director Sid Beyland, of Peru, New York, writes us as follows: "The enclosed slide of the Carillon Lock (and dam) on the Ottawa River . . . replaced the Carillon Canal (2 locks); the Chute-a-Blondeau Canal (1 lock); and the Grenville Canal (5 locks), with a total lift of approximately 50 feet. This (new) lock, according to the Lock Tender, has a lift of 67 feet. This displaces the Peterborough Lock as the highest lift, and the Little Falls Lock 17 as the only Guillotine Lock Gate in North America. The boat in the lock (see photo) is the "Mighty Muskie II," which carried the Beylands and the Soules 900 miles and 99 locks in the US and Canada in 1975."

ACS Vice President, Bill Trout, also calls our attention to the Keenleyside Lock and Dam on the Columbia River in British Columbia, with its Guillotine Gates at both ends of

the Lock — the lower one 80 feet high, the upper — 15 feet, with an upper sill which can be varied in height, according to the level of the reservoir. The maximum lift of this lock (shown here) is 75 feet. Further details are covered in Bill Trout's single-sheet appendix to the American Canal Guide Number One, published by ACS in November 1975.



Lock Number 17 on the Erie Canal at Little Falls, New York, with Guillotine Gate at the lower end, and a lift of 40.5 feet.

Charles Hadfield, noted British canal author, writes from England: "Please (page 44) end the myth that the Peterborough vertical lift is the 'World Highest'. Niederfinow Lift, near Berlin, on the Finow Canal leading to the River Oder in East Germany (opened in 1934) has a lift of 36 metres (118 feet); and Lunenburg, on the Elbe Lateral Canal in West Germany (opened in 1975) has a lift of 38 metres (124-1/2 feet). The Belgians are now building one at Strep, on the Canal du Centre, which will have a lift of 73.15 metres (240 feet)."

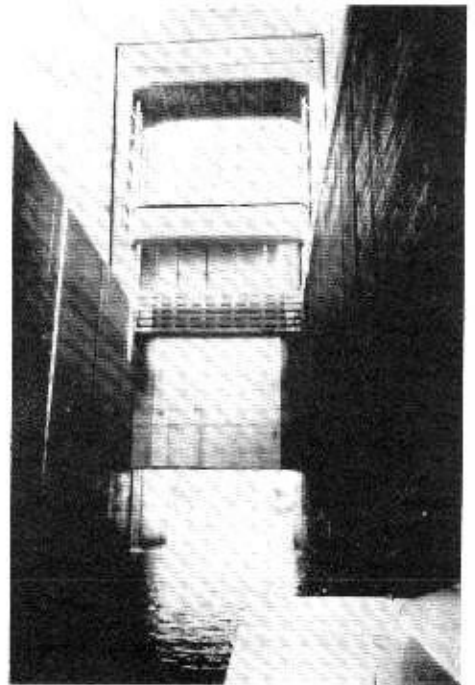
Yours truly has traveled down the Rhine Canal from Switzerland, passing through at least one huge Guillotine type (lower gate) lock, near Strasbourgh, France, which appeared to have a lift of at least fifty feet.

Edith McNally of Cleveland, Ohio, writes: "TOWPATHS TO TUGBOATS is a fine looking publication — and it was quite a pleasant surprise to see the old St. Helena II on the cover! A nice photo, as are all those in the book. Quite an interesting collection of illustrations, and bless you for including an index".

Dr. Roger Squires, ACS Director in the United Kingdom, writes us: "My congratulations on the book TOWPATHS TO TUGBOATS. It is great, and just what was needed to 'fill the gap'. You have prepared it well, and I am most impressed."

Keep those comments coming, and watch for the "Second Edition." At the rate the books are selling, we will need it soon! And, in the meantime, if any of you are aware of any vertical-lift lock gates in North America, please write and tell us about them.

Bill Shank



Inside the Carillon Lock on the Ottawa River, 1975. Looking toward the Guillotine Gate, at the lower end of the lock. Lift: 67 feet. (Photo by Sidney Beyland.)

"TOWPATH CHATTER"

The Neversink Valley Area Museum now publishes a four-page monthly newsletter entitled "Towpath Chatter". It describes activities at the Museum and walking tours along the towpath of the adjacent Delaware and Hudson Canal. To obtain information on Museum membership, and canal-related activities, write: Neversink Valley Area Museum, Box 263, Cuddebackville, N. Y. 12729.

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 \$8.00. Individual copies may be purchased at \$2.00.

WILLIAM H. SHANK, P.E. — President; Publisher of "American Canals" — 809 Rathton Road, York, PA 17403

Capt. THOMAS F. HAHN, Ed. D. — Editor of "American Canals"; President Emeritus — Box 310, Shepherdstown, WV 25443

Dr. WILLIAM E. TROUT III — Vice President; Editor and Publisher of "American Canal Guides"; Chairman, Canal Parks Committee — 1932 Cinco Robles Drive, Duarte, CA 91010

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 — Bailiff's Cottage, 4 Manor Way, Beckenham, Kent BR3 3LJ, England

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

WILLIAM J. McKELVEY, Jr. — Director; Chairman, Canal Boat Committee — 103 Dogwood Lane, Berkeley Heights, NJ 07922

CANAL CALENDAR

September 1982 — Sandy and Beaver Canal Days, Magnolia, Ohio.

September 24-26, 1982 — Steamship Historical Society Fall Meeting, Howard Johnson's Inn Town, Louisville, Kentucky. A ride on the "Belle of Louisville" included. Contact Ms. Sandra Miller, 4223 Cuttill Drive, Louisville, KY 40218.

October 2-3, 1982 — Scioto Valley Canal Festival. Contact Truman C. Throckmorton, Corras. Secy., 1051 Galena Pike, West Portsmouth, Ohio 45662.

October 8-10 1982 — Canal Society of Ohio Fall Tour, Milan Canal and environs. Write Betty Neidecker, 911 Lambert Drive, Bowling Green, Ohio 43402.

October 15-16, 1982 — Pennsylvania Canal Society Fall Tour of the North Branch Susquehanna Canal. Contact Canal Museum P.O. Box 877, Easton, PA 18042.

DISMAL SWAMP CANAL CRUISES

When Col. William Byrd first saw Dismal Swamp, a wilderness which lies on the Virginia/North Carolina coastal border, he declared, "Not so much as a Zealand frog could endure so anguish a situation." Today part of the area has been preserved as the Dismal Swamp National Wildlife Refuge.

It offers a unique ecology which contrasts with the urban Tidewater cities contiguous to it. It is a forested landscape of peat beds, vines and brier thickets, pines and hardwoods, cedar and cypress, and rare flora and fauna, one of the last true wooded wetlands along the mid-Atlantic region.

The Dismal Swamp Canal runs through the region. It was first proposed by Col. Byrd in 1728 but was not completed until 1805. It was built to carry freight between North Carolina and Norfolk. Today the canal is operated by the U.S. Army Corps of Engineers as part of the Atlantic Intercoastal Waterway system. Harbor Cruises of Newport News offers an all-day cruise on the Dismal Swamp Canal May 13 to June 20 and Sept. 2 to Oct. 17. Continental breakfast and luncheon are included.

For more information about these and other vacation ideas, contact the Virginia State Travel Service, 6 North Sixth St., Richmond, Va. 23219 or phone (804) 786-4484.

(From the Cleveland Press.)

UNION CANAL TOUR

Bill Etchberger, of Lebanon, Pa. recently conducted a one-day tour of the Union Canal for the Smithsonian Associates, Washington, D. C. The tour included the Canal Aqueduct at Hostetter Farm, sites of the weigh-lock and pumping station at the "Water Works", Finnegan's Dam, the "Big Lock" on the Pine Grove Feeder Canal, and the Union Canal Tunnel at Lebanon. Lunch for the group was served at Sattazahn Lutheran Church, north of Lebanon.

TUGBOAT ON THE MISSISSIPPI



Jane Anderson, of Champaign, Illinois, took this photo recently of a "tugboat" pushing a tow into the upstream end of Lock #16 on the Mississippi River at Muscatine, Iowa. This is one of twenty-eight dam-lock combinations on the Upper Mississippi, fully described in TOWPATHS TO TUGBOATS, 1982 Edition. All locks measure 600' x 110'.

EDITOR'S CORNER

Lower Lead Mountain Pond, Maine

Sitting here in the Maine woods looking out the window of our Maine camp onto the lake may seem a far cry from canals, but the 1881 Colby's Map of Hancock County Maine shows a canal leading from the lake. Sure enough, on inspection there is the remain of the old canal complete with its wooden sheathing. Luckily for those of us who live and stay in Maine, the Maine Historical Society has just published the Canals and Inland Waterways of Maine by the late Hayden L. V. Anderson, ACS, of Gardiner, Maine. (Ordering instructions elsewhere in this issue). Earlier this summer we visited the still-present channel of the variously-named "French" or "British" Canal at Castine, built during the American colonial period, surely one of the oldest canals in the United States. Though apparently without locks, its channel is clearly distinguishable today and filled with water connecting two bodies of water. We don't think of New England as a primary canal area, but there are fascinating remains today. Unfortunately, there is little left of the Middlesex Canal, connecting Boston and Lowell, Massachusetts, certainly one of the first major canals in the country. On the way up I spent a day on the Blackstone Canal which connected Providence, Rhode Island and Worcester, Massachusetts, as a consultant. A nice surprise on that canal is the excellent Lock at Millville, particularly nice when one considers that the canal went out of operation in 1848. There are many canal sites to visit, so be sure to include them when coming to New England. Dr. Bill Trout, Editor, American Canal Guide is hard at work on the section covering New England, so one of these days we will have an excellent guide to help us on the canals chases up here.

We would like to welcome into our ranks the Ft. Hunter Canal Society of Ft. Hunter, New York. This society has been in existence for several years and can be rightfully proud of the canal facilities in their area. Congratulations are also in order for the Indiana Canal Society on their publication, Indiana Waterways, made particularly attractive by the drawings of Julia Meek, based on the photographs of Thomas Meek. And, the Canadian Canal Society is off to a good start with its participation in the anniversary celebration of the Welland Canals. One of these days we are hoping that there will be a publication by that society. In the interim, American Canals will continue to include articles on the Canadian Canals.

Once again Nathalie and I are eagerly planning our canal trip to the U.K., this time to both the canals of England and Wales. If all goes right, we will travel from Trevor on the Langollen Canal in Wales via Shropshire Union Canal to Ellesmere Port, and then south via the Shropshire Union Canal and the Staffordshire and Worcester Canal to Worcester on the Severn River. Sometimes last minute changes have to be made because of drought conditions or the breakdown of some canal structure, but it doesn't really matter because they are all good! Half of the fun is in the planning, and historical and contemporary references are researched so as to learn as much as possible about the country through which we will travel. No cars or hotel reservations for us, though I will attend the annual meeting of the Association for Industrial Archaeology in London and locals tours for a week, then a week of visiting canal friends and places by bus and train. Look for coverage of our trip in the November issue of American Canals. If any of you are interested in taking a canal trip to the U.K., write to me at P.O. Box 310, Shepherdstown, WV 25443.

Captain Dr. Tom Hahn, Editor

CSNJ GROUP TOURS ENGLAND ON NARROW BOATS

June 26th, twenty-seven American canal enthusiasts arrived in Britain for a two-week waterway holiday. This is the third time that members of the Canal Society of New Jersey have made such a visit; the first being in 1975, and the second in 1977.

Again they hired luxury narrow boats from Anglo-Welsh Waterway Holidays and the six craft took them on a circular cruise from the company's Great Haywood base, near Stafford, around the Trent & Mersey, Shropshire Union, and Staffs & Worcester Canals.

During their holiday, the Americans left their boats and made a number of excursions by road to other places and attractions on the waterway network. These included the Waterways Museum at Stoke Bruerne, The Boat Museum at Ellesmere Port, Llangollen, Barton Swing Aqueduct, the Anderton Boat Lift, Ironbridge Gorge Museum, Wedgwoods, Worsley, and Market Harborough. During the latter visit they saw canal boats being built at Harborough Marine.

The Canal Society of New Jersey has very close links with Britain's Trent & Mersey Canal Society. This voluntary organization has a campaign to replace - via a sponsorship scheme - the attractive cast-iron mileposts that are missing along the Trent & Mersey Canal. The American society has kindly donated the cost of one of these posts.

On the second day of their cruise, Sunday 27th June, at 10:30 a.m., this new milepost was unveiled by the Rt. Hon. The Earl of Shrewsbury, at Stone, Staffordshire. The American party and their boats were at the site and Bill McKelvey, Director of the Canal Society of New Jersey (also an ACS Director), spoke on their behalf.

With Trent & Mersey Canal Society Chairman, Harry Arnold, the Earl welcomed the Americans to Britain's waterways. After the ceremony guests joined the Americans, aboard their boats, for a short cruise up through the Meaford flight of locks.

(Adapted from a press release by Anglo-Welch, Harborough Marine, Ltd.)

CHOLERA!!!

By Richard C. Osterhout

The year 1849 is remembered as a time of one of the dreaded outbreaks of Cholera, a disease that scourged the cities, spreading like wildfire before modern sanitation practices were introduced. Notwithstanding the nostalgia associated with the canals of the first part of the 19th century, as they may appear today when viewed from the hindsight of more than one hundred years hence, it might well be imagined that the sanitary conditions existing upon the canal boats and the canals in those early days left something to be desired. At the very least, the canal boat traffic, along with other commerce from city to city, could act as a carrier contributing to the spread of the disease.

On May 30, 1849, a Cholera outbreak that had previously been reported in New York City, appeared in Philadelphia. The Trenton "State Gazette" newspaper reported that Joseph Bloomfield Kirkpatrick, a canal boat Captain, who had traveled aboard a canal boat to Philadelphia from Trenton the previous day, was stricken suddenly with Cholera after breakfast and died the same day at the (Port) Richmond Section of the City. His wife, also aboard, did not come down with the disease. A near panic ensued in the City following the occurrence.



Members of the Canal Society of New Jersey gather around the "Tamworth" for an official photo. They traveled around portions of the English canal system on six narrow boats, and visited numerous Canal Museums and other canal-related sites.



During the tour of the Canal Society of New Jersey the Earl of Shrewsbury unveiled a new milepost on the towpath of the Trent and Mersey Canal, at the rear of the 'Rising Sun Inn', Stone, June 27th. The attractive cast-iron milepost was donated by the Canal Society of New Jersey, which has very close links with the Trent and Mersey Canal Society, and twenty-seven of its members were present at the ceremony. Pictured left to right are: The Earl of Shrewsbury; Mr. Lawrence Sanders, president of the Trent and Mersey Canal Society; the Mayor of Stafford, Councillor Trevor Reeves; "Captain" Bill McKelvey, Director of Canal Society of New Jersey, and Mr. Harry Arnold, chairman, T & MCS. *(Additional photo on page 5)*

— BOOK REVIEWS —

"BUILDING THE RIDEAU CANAL"

By W. E. Trout III

Building the Rideau Canal: A Pictorial History by Robert W. Passfield, 184pp, 1982. Published by Parks Canada in association with Fitzhenry & Whiteside, 150 Lesmill Road, Don Mills, Ontario M3B 2T5, Canada; US \$24.95 ppd.

Few canals must have been as well documented by color paintings during their construction, as the Rideau. Bob Passfield has used these like movie stills, on every other page, to take us along the waterway during its early history. Many of these contemporary watercolors have been published elsewhere in black-and-white, but there is no comparison with well-reproduced color, so this book is worth the price just for the 46 color plates. There are also 14 b/w prints, 14 pages of engineering drawings, and the essential canal maps and profiles.

We have Parks Canada to thank for publishing this book to celebrate the 150th anniversary of the canal, and for keeping the author on the payroll for the last eight years as a canal (and bridge) specialist. They also have on file his more documented study of the canal, **Engineering the defence of the Canadas: Lt. Col. John By and the Rideau Canal** (1980), #425 of the Parks Canada Manuscript Report series. He has also published **Historic Bridges on the Rideau Waterway System** (same series, #212, 1976) and "Ordnance Supply Problems in the Canadas: The Quest for an Improved Military Transport System, 1814-1828" of which reprints can be ordered from Dr. J. A. Jarrell, HSTC Bulletin, Atkinson College, York Univ., Downsview, Ontario M3J 2H7.

We have the United States to thank for the existence of the Rideau: the War of 1812 proved the need for a Canadian canal less exposed than the St. Lawrence Seaway along the US border; and the nationalistic 1837 Rebellion in Canada, and the 1844-46 dispute with the US over the Oregon border, only confirmed the need to fortify the canal with blockhouses and defensible lockmasters houses complete with loopholes. Fortunately, it has never been necessary to use those fortifications against the Americans, who today can enjoy the rare experience in this hemisphere of boating along an early canal system. Now, with Passfield's book in hand, they

can compare today's scenes with those a century and a half ago, marvel at the fortifications designed to repel their ancestors, and pay homage to the Rideau's engineer, Lt. Col. John By.

Building the Rideau Canal deserves to be on your Canadian Canals shelf along with books like Heisler's **The Canals of Canada** (another contribution of Parks Canada), and Leggett's **Canals of Canada, Ottawa Waterway**, and of course **Rideau Waterway**, which it nicely complements. We trust that one of the first projects of the Canadian Canals Society will be a list of books on Canadian canals, and a list of Parks Canada's canal publications and how to get them.

"CANALS AND INLAND WATERWAYS OF MAINE"

The Maine Historical Society has published the definitive history of the **Canals and Inland Waterways of Maine** by the late Hayden L. V. Anderson of Gardiner, Maine. Anderson spent over 25 years carefully researching and documenting the story of every canal and waterway improvement ever conceived or built in the State, from the New Meadows Canal of 1792 to the Telos Canal which lasted until 1921.

Anderson's book is organized, for the most part, around the major river systems of Maine, moving from West to East. Five canals were built along the Saco River, beginning with the Moose Brook Canal of 1807, and ending with the ambitious Fryeburg Canal, finally finished in 1836, which diverted the course of the Saco. Numerous proposals were made for the lower, middle, and upper stretches of the Androscoggin River, but the 1792 New Meadows Canal was the only one completed.

The middle Kennebec River saw the construction of a dam and lock which allowed steamboat navigation well into the interior. A similar lock was built on the Penobscot River, plus two short canals which by-passed falls.

The canalization of the George's River was begun in 1793, and the company was purchased in 1795 by General Henry Knox, then a land developer in Maine. The canal was rebuilt in 1846, but lasted only ten years.

Anderson devotes three chapters to the largest and most significant canal in Maine, the Cum-

berland & Oxford, completed in 1830, which continued to operate until 1870. Although it consisted of only twenty miles of dug canal from tidewater at Portland to Sebago Lake, the waterway allowed travel nearly fifty miles into the interior with the construction of a 28th lock on the Songo River, which allowed the boats, equipped with sails and centerboards, to travel up Long Lake to Bridgton and Harrison.

Canals and Inland Waterways of Maine is 229 pages long. It is fully footnoted and contains an eight page bibliography, a complete index, and six maps. It can be ordered from the Maine Historical Society, 485 Congress Street, Portland, Maine 04101 for \$15.95 hardcover, plus \$1.50 postage and handling.

(Submitted by Professor Joel W. Eastman.)

"GUIDE TO THE GRAND RIVER CANAL"

by Colin K. Duquemin and Daniel J. Glenney, St. Catharines, Ontario, St. Catharines Historical Museum, 1980. \$8.00. Paper.

The Preface to this 132-page, ringbound book states "William Hamilton Merritt promoted the First Welland Canal to link Lake Ontario with Lake Erie, and connect with the Grand River to the west." His plan also included a second canal, "the Grand River Canal which was to penetrate inland for at least 60 miles from Lake Erie. In 1834, he envisaged a third canal linking the Grand River Canal with the Thames River." However, Merritt had limited success with the second canal and never attempted the third.

The First Welland Canal was inaugurated on November 29, 1829, and 151 years later the St. Catharines Historical Museum celebrated this success with "Merritt Day." In 1980 a field trip to the Grand River was planned, to study Merritt's second canal, and the publication of a guide "as a complement" to the field trip.

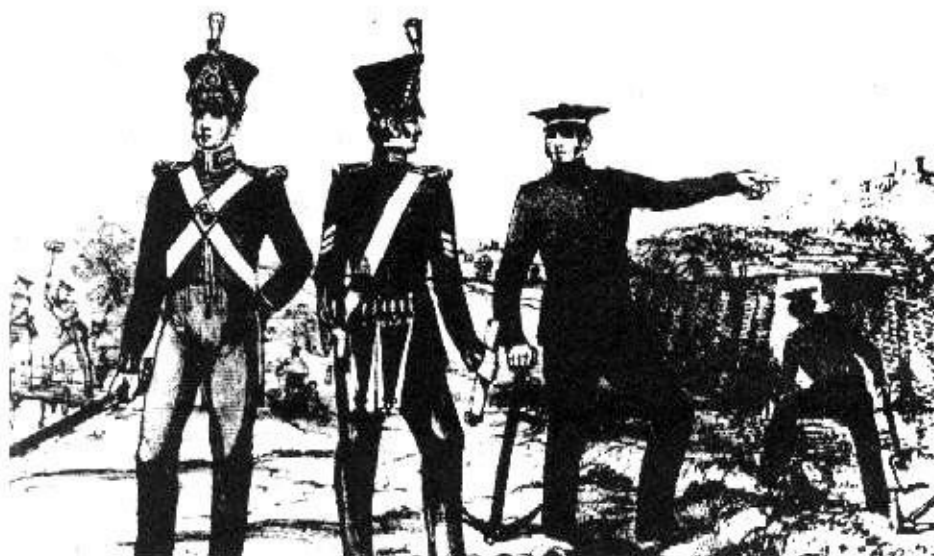
With maps, engravings, and text, including quoted material, advertisements and documents reproduced from early newspaper and journal accounts, the route of the Grand River Canal is described in detail, and includes the changes in operation and terrain that had taken place after the opening of the first two canals, and those anticipated for the third.

The functions of the Grand River Navigation Company and its eventual decline are detailed in a separate chapter here. Merritt was Director part of the time between 1832 and 1841, then resigned; but later returned to the Board in 1856, in an attempt to save the Company, which is believed was sold to the Haldemand Navigation Company, in operation until around 1890.

Concluding with the Grand River Canal's major contributions to the area by opening up "the lower and middle reaches of the Grand River" and encouraging settlement in the valley, readers are also reminded that rail connections were made with the communities along its route, thus strengthening the shipping of produce out of the valley.

Compiled primarily as a "guide" this first publication by St. Catharines Historical Museum surely qualifies also as "Great Lakes history," and includes an excellent section of References and Notes acknowledging sources on which this study was based, which is a most helpful addition for researchers in several fields of reference. The address of the Museum is: 343 Merritt Street, St. Catharines, Ontario L2T 1K7.

(INLAND SEAS, Quarterly Journal of The Great Lakes Historical Society, Vol. 37, No. 3, Fall, 1981.)



Royal Sappers and Miners, of the 7th and 15th Companies, at work on the Rideau Canal, 1826 (from *Revue de l'Ingenierie*, Mars-Avril-1976). Courtesy of Bob Mayo.



Part of the CSNJ Tour Group rode the Narrow Boat "Tamworth," shown here in one of the single-gate narrow locks of the English Canal system. They were greeted everywhere with great enthusiasm by the English canal buffs, some of whom are shown here in historic costumes.

"TOWPATHS TO TUGBOATS"

At first blush, a reader might think this magazine-sized book is a dry narrative of "and then they built . . ." Far from it. The book is a fascinating look into a little known part of history and the impact of canals on modern life. It is just about a perfect blend of history and engineering, but you don't have to be a historian or engineer to enjoy it. Illustrations are used throughout the paperback book.

Canal-building in the United States was hitting its zenith in the 1840s, only to be forgotten when the railroads started criss-crossing the ever-expanding nation. But Shank sounds a note of optimism as he talks about the future of canals: "With the present energy crisis sending us in search of now and less expensive means of transportation, our inland waterways provide great hopes for the future. Water transportation has always proved far more economical than railroad, truck or air transport for the movement of heavy goods and products where speedy delivery is not a problem."

(Gordon Fraireich, Lancaster Sunday News.)

"TO BUILD A CANAL" (Con)

To Build a Canal. Sault Ste. Marie, 1853-1854 and After. John N. Dickinson. Published for Miami University by Ohio State University Press (2070 Neil Avenue, Columbus, OH 43210), 1981. 204 pp. \$21.50.

This book is about the first canal on the U.S. side at the Sault. It actually was not the first canal (as the North West Fur Co. built the first one, on the Canadian side, in 1797). But as a book about the construction of this canal, it is most disappointing. The book goes into great length in detailing the financial and political maneuvering which preceded the start of actual digging. Only a few sentences, scattered through the text, describe construction operations.

The book mentions the difficulty in getting the needed thousands of laborers at what was then a very remote area; but it doesn't say what all those men did. Casual mention is made of stonemasons building the locks, and of carpenters building the lock gates. But how did the rest of the thousands dig the canal? Did they use picks and shovels, and wheelbarrows? Mule scrapers? Early steam shovels? Or what? The author sayeth not. He mentions that attempts were made to continue construction through the winter, with much suffering by the work-

men. But just what operations were maintained through the winter, he doesn't say.

The Government subsidized the cost of construction by giving land grants to the canal company, in a manner similar to the financing of the early Western railroads. Two whole chapters are devoted to detailed descriptions of the land grant areas, and their ultimate disposition. Most had standing timber which was cut and sold; some were later discovered to have valuable mineral deposits and timber lands. But this isn't exactly canal history, except in a very broad sense.

Any canal buff who buys this book at the substantial price asked, will be disappointed.

Jim Wilson

"TO BUILD A CANAL" (Pro)

The author has produced a well-researched and well-written story of the construction of the canal at the Soo.

Following an extremely well thought out foreword by Harry C. Brockel, we are treated to an excellent presentation of the historical, political, and economic aspects of what went into the canal which tied Lakes Huron and Superior.

For the serious historian, whose interests extend beyond "the ships" *per se*, Mr. Dickinson's text will be a welcome addition to the shelf of sound references. **Steamboat Bill**

CLASSIFIED ADVERTISEMENT

Canal Trips in England and Wales -- Now is the time to start planning for that canal vacation that you have always wanted to take.

The canals of England and Wales are unique. There is nothing like them anywhere else in the world. The self-operated diesel-engine boats of the Anglo-Welsh boat company are easy to handle and require no prior experience. Likewise the locks are simple to operate and you soon get the hang of them. Experienced personnel are available to provide instruction for handling the boats and operating the locks where needed, as a part of the hiring fee. With a canal boat there is no worry about hotel reservations or driving in an unfamiliar country. Just tie-up for the night at a nice location of your choosing. Stop wherever you wish to take a stroll to the village to look around or pick up supplies. Or, take advantage of the excellent British bus and train service (often right out in the countryside) into the city.

Anglo-Welsh is the oldest established canal boat hire company in the United Kingdom with excellent boats and service. Unlike many other hire firms, fuel is provided for as far as you want to travel, your only obligation being to return the boat to the place designated. Gas for cooking, heating, and linens are also provided without extra charge. Pets are welcome and TV rental is available. If you want a variation from cooking aboard, eating out facilities range from welcoming canal-side pubs to fish and chips shops to five-star restaurants. All the Anglo-

Welsh boats have central heating, hot and cold running water, refrigerators, modern toilets, cooking stoves, comfortable beds, and many other modern features.

There are many different routes to take covering nearly 2,000 cruising miles. The canals run through the heart of the country, with many historic and interesting places to visit. For those who like a stroll, the towpath offers an alternative mode of travel, and an opportunity to stretch your legs. Just get back aboard at the next bridge hole or canal lock. Boats offer a wonderful canal vacation for families, since children can help with the boat and enjoy the constantly changing scene and the freedom to leave the canal boat to join the rest of the family in a walk into town or to help operate the locks. The average 10-year old can operate most locks easily. Thousands of couples, groups of couple, singles, or mixed groups have enjoyed canal vacations through the years. My wife and I, sometimes with our family, and sometimes with friends, have enjoyed many years of canal boat vacations.

Write to Capt. Tom Hahn, a veteran of the U.K. Canals for an attractive Anglo-Welsh brochure containing a useful planning guide/map, color photos and many English and Welsh canals, and details and terms of hiring a canal boat, with a complete description/photo/layout of each canal boat for hire. Capt. Dr. Tom Hahn, American Canal and Transportation Center, P.O. Box 310, Shepherdstown, WV 25443.

CANALS IN THAILAND



Small boats in Phra Phimon Lock, 50 km NW of Bangkok. From *SALT, SEASONS AND SAMPANS* by Dr. J. A. Hafner.

By William E. Trout III

Where else but in Thailand could there have been a canal builder named Chaophraya-ravi-wongsamahakoosaathibbadii? This and other revelations are to be found in a remarkable 1977 study of Thai canals, which we hope will spur similar studies in other far parts of the globe, so we can at last begin to develop a world view of navigation canal history and technology.

The canals of Thailand are not mere jungle ditches but have a number of locks and a colorful history. Most of them are in the 120-mile-long delta of the Chao Phraya River — "River of Kings" — which runs through Bangkok. In fact, 3 km of the river through Bangkok began life in 1537 as the Khlong Krung Thep — the Bangkok "Shortcut" Canal — built by King Phrajai to cut across a large loop in the river, with a fort to guard it at the lower end. With time, the entire river moved into the canal, and the fort became Bangkok. Bangkok today is still a canal city, with an Amsterdam-like grid pattern which began with a navigable moat around the Royal Palace in the 1780's. Unfortunately for the "Venice of the East" the Europeans living in Bangkok in the 1860's complained that they couldn't get their proper exercise without a road for riding horses and carriages. King Mongkut obliged by starting a road-building program, and by hinting to his richer subjects that they could obtain much merit by building canal bridges. Fill for the roads was obtained by digging some new canals alongside them, but by the 1890's Bangkok had filled in and paved many of its canals; some of the streets are still lined with trees from their canal days. There are still flourishing floating markets in Bangkok, and boat tours, taxis and rentals are readily available. (Ask for the Khlong brochure and a map of Bangkok from the Tourism Authority of Thailand, 5 World Trade Center, Suite 2449, NY NY 10048.)

For centuries, water transport was the network holding Thailand together; since at least the early 1300's, kings built canals on a large scale to facilitate commerce, communication, drainage, flood control, tax collection — and other purposes. According to the chronicles, the Mahanack Canal in Bangkok was built in the 1780's "so that the city people could assemble, in boats, to perform music and to recite poetry"; the Chedi Bucha Canal to Nakorn Pathom to the west, was constructed by King Mongkut in 1855 supposedly for the con-

venience of the faithful travelling to the Buddhist pagoda which he had restored. Two elephants and their tribe, however, are said to have built the "Canal of the Two Brothers" by wearing down a jungle path over the years!

It is not yet known if there are any early, indigenous, navigable water control structures in Thailand; the known locks (and there are more than 50 in the central plain) date from the 1890's and are European in design. Dr. Hafner tells us that there are several operating locks around Bangkok, one on the Rangsit Canal (1896) a short distance north by road from the International Airport, another less than 400 yards from the Erawan Hotel at the end of the Pathumwan Canal, and others near the National Museum and Ministry of Interior close by the Pramane Ground. We'd appreciate reports on the Thai canals from any canal buffs who get this far from home!

The 1977 report deserves more attention and emulation. Copies are available @ \$13.50 from NTIS, 5285 Port Royal Road, Springfield, VA 22161; ask for their #AD-777984, *THE HISTORY OF INLAND WATERWAY DEVELOPMENT IN THAILAND*, by R. V. Hubbard and James A. Hafner. Others in the series are *ECONOMICS OF BARGE OPERATION ON INLAND WATERWAYS, CENTRAL THAILAND*, #AD/A-038479, \$10.50; *PHYSICAL RESTRAINTS ON WATERWAY USE*, #AD-038480, \$9.00; and *THE ROLE OF RIVER TRAINING IN IMPROVING WATERWAY TRANSPORTATION EFFICIENCY IN CENTRAL THAILAND*, #AD/-038481, \$10.50. If the maps are fuzzy contact Mrs. D. I. Rutter, Dept. of Geography, U. of Michigan, Ann Arbor MI 48109 for better copies. Other reports by Dr. Hafner include *SALT, SEASONS AND SAMPANS: RIVERINE TRADE AND TRANSPORT IN CENTRAL THAILAND* (International Area Studies Programs, U. Mass., Amherst, MA 01003) and *TRANSPORT DEVELOPMENT AND PLANNING IN SOUTHEAST ASIA: A SELECTED BIBLIOGRAPHY* (\$3.00 from Dept. of Geography, U. Vermont, Burlington VT 05401). Also important is *HISTORICAL GEOGRAPHY OF THE CANAL SYSTEM IN THE CHAO PHRAYA RIVER DELTA* by Shigeharu Tanabe in the July 1978 *JOURNAL OF THE SIAM SOCIETY*.

(William E. Trout, III, Ph.D., is Editor of the *American Canal Guide* and Vice President of ACS.)

A WALK THROUGH THE LANDSFORD CANAL

In the long, hot summer of 1820, Robert Leckie, the engineer building the Landsford Canal alongside South Carolina's Catawba River, decided to halt the work. The suffocating heat and humidity were draining the strength of his labor force, and some were falling to malaria, including Leckie himself.

Leckie recovered, but he decided to avoid the "unhealthy season" and work on the canal in late fall, winter, and spring. The 2-mile canal opened for boat traffic in the summer of 1823, but the sickly summers during construction foreshadowed the future of the waterway. It never showed a profit, and by 1837 Landsford Canal was abandoned.

A section of the canal, one in a series of waterways built in South Carolina in the early 19th century, has been excavated as part of Landsford Canal State Park near Rock Hill, South Carolina. Giant trees were cut from its bed and the stonework rebuilt. Today, a nature trail veers from the river into the entrance of the canal, and for more than a mile it follows the towpath and even descends into the dry bed of the canal itself. Vines grow along the top of the stone walls, and the forest closes in on either side to seal out cooling breezes.

Graphics along the path describe the canal's construction and the workings of the locks and gates controlling traffic and water levels. The trail ends in a clearing near a lifting lock and stone bridge, which were recently restored by masons using the original stones.

Landsford Canal was built as one of several waterways to float upcountry goods to Charleston. The state sank more than \$50,000 in the construction and upkeep of the canal, but the waterway never justified the expense. Most upcountry farmers and merchants preferred the longer and more expensive, but safer, overland route to market in Charleston. Others shipped their goods by land to Augusta and then by river to Savannah.

Soon, however, the railroads became the iron workhorses of ferrying freight. The canals were closed, and the forests began to cover them.

Other sites at the park include a restored lock keeper's residence to be opened this summer as a museum and a two-story dogtrot log cabin, located in a picnic area near the river.

Landsford Canal State Park is located off U. S. 21, approximately 15 miles south of Rock Hill, South Carolina. It is open daily during daylight hours.

(Item published in "Southern Living"; sent us by Edmund B. Ault.)

FUN ON THE TRENT CANAL

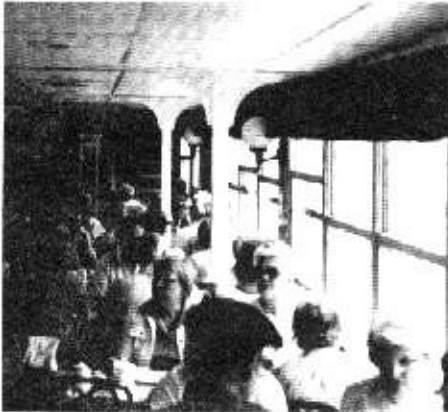
Pleasure boaters can travel 240 miles by the beautiful Trent-Severn Waterway from the eastern end of Lake Ontario through a canalized series of rivers and lakes to Georgian Bay. The trip is not only beautiful, but the engineering of two of its locks is unique in the world. They are literally ship elevators in which boats are lifted and lowered in giant containers full of water. Boats are raised in these elevators 90 feet in 90 seconds.

The route was discovered in 1615 by Samuel de Champlain, but was so tortuous that it was not used again. Now 100 dams, a marine railway, and forty locks have tamed it nicely.

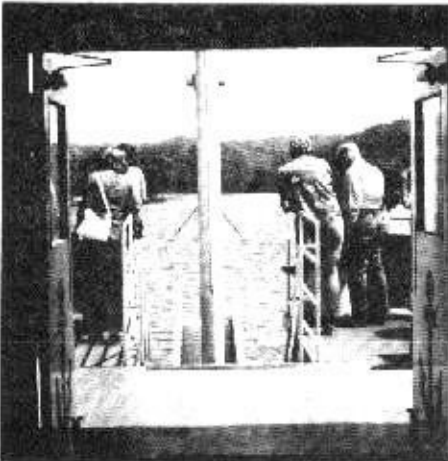
Charts for the trip are available at \$8.00 and \$10.00 at some of the locks and by writing to the Trent Canal Office, Ashburnham Drive, Peterborough, Ontario. Special Liftlock Cruises are available at Peterborough, which is just north of Toronto.

PENNSYLVANIA "CANALERS" TOUR ALLEGHENY

The Pennsylvania Canal Society Tour of the locks and dams of the Allegheny River, May 16, 1982 went off without a hitch—great weather and a capacity load on the "River Belle". They left the South Mon Dock at Station Square in Pittsburgh, proceeded around "the Point" and up the Allegheny, through five locks, to Kittaning. They had luncheon on board, with a chance to enjoy some of Dave Wright's slides, when not viewing industrial sites along the river and some beautiful scenery upstream. They bused back from Kittaning, in time for an informal dinner at Station Square. Co-Chairmen for the event were Axel Peterson and Dave Wright. Denver Walton sent us the accompanying photos.



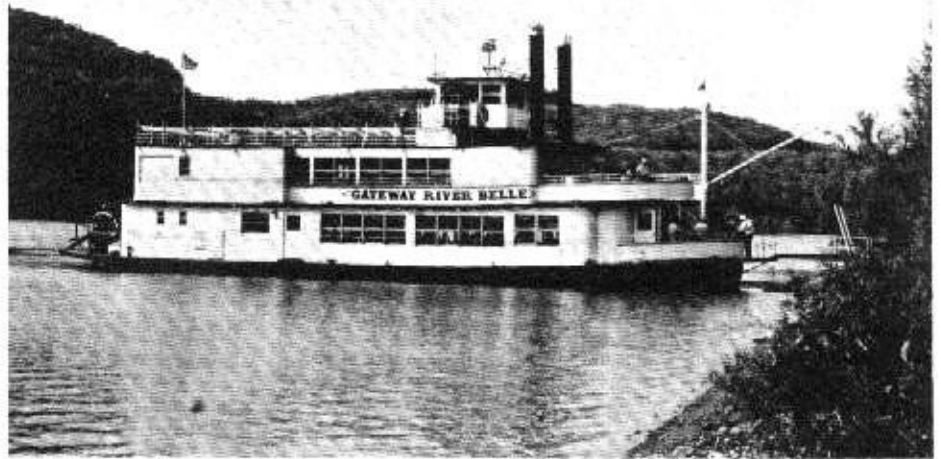
The gals enjoyed the scenery from an inside deck.



The men were mostly "up front" watching for the next lock.



The "chow line".



Land view of the "River Belle" during one of the stops.

"LOCK ONE PARK" OPENS AT PORT DALHOUSIE

St. Catharines, Ontario; June 1, 1982. Today marked the official opening of the revitalized Old Lock One of the Second Welland Canal in Old Port Dalhousie.

The Welland Canals Preservation Association, with the cooperation of the City of St. Catharines has transformed the abandoned, neglected canal into a three-level parkette where area residents and visitors can sit, stroll and reflect on the workmanship and historical significance of the beginning of the Welland Canal.

The opening of the parkette is not an insignificant achievement of the association which was founded in 1978 as a non-profit corporation created to preserve, restore and develop the Old Welland Canal in the belief they could become a fine example of a restored "Heritage Waterway" and function as an attraction for tourists and recreation in the Niagara region.

Old Lock One is but a part of a larger plan of restoration and preservation. The association's goals include the construction of a bicycle trail and park network along the entire length of the old canals from Port Dalhousie on Lake Ontario to Port Colborne on Lake Erie. When fully completed these trails will enable visitors to get in touch with the heritage of the Old Welland Canals and their contribution to the growth of this nation.

The efforts of the Welland Canals Preservation Association are fully worthy of the support of residents of the region. Its record of achievement, in addition to the revitalization of Old Lock One, includes the successfully completed Mountain Locks park and the adjoining bicycle pathway from the park to Centennial Gardens behind downtown St. Catharines, and its public awareness campaign concerning the old canals in which speakers and brochures are available and audio-visual presentations are made to public schools throughout the region.

From the days of the early explorers to the present day, Canada's inland waterways have made a significant contribution to the nation's growth and prosperity. It is good that the historical record is being maintained for the generations yet to come.

(From the Evening Tribune, St. Catharines.)

THOMAS HART BENTON

Thomas Hart Benton, United States Senator from Missouri for 30 years, representative of Missouri in Statuary Hall in the Capitol in Washington, renowned leader of the Andrew Jackson forces in many historic Senate battles, took his first canal trip in 1835.

He and his family were on their way back to Washington from their home in St. Louis. Mostly, "Old Bullion," as he was called because of his advocacy of hard money, travelled mostly by stage coach, but on this trip he decided to try the new-fangled canal.

The following account is from "Old Bullion Benton: Senator from the New West" by William Nisbet Chambers, of Washington University, published in 1956.

"At town after town, Old Bullion was greeted with fanfare and invitations to public dinners. Always he declined, always in long manifestos-letters in which he reiterated the new issues of the day as he saw them.

"From Pittsburgh to Philadelphia, the Bentons went by the way of the new Pennsylvania canal system. Along it they traveled wide-eyed, passing through two tunnels and crossing a mountain ridge by ten inclined planes. The Colonel was amazed by the 'magnificent works which permit us to go day and night without loss of sleep or rest-- which enable us to ascend mountains without fatigue-- pass rocks without a jolt--go through where we cannot go over."

"Ever admiring progress, Benton perhaps did not realize that the Pennsylvania canal system was a portent of the technological genius that was to remake America, taking it far from the agrarian society he praised as he traveled."

(Submitted by Earl Minderman.)

Anyone who has traveled the English Canals will appreciate a little, hard-bound booklet by J. H. Burman entitled ECHOES OF A CANAL TRAVELING MAN. It is an interesting series of poems, about modern-day life on the English Canals, in both blank verse and rhyming meter. Available from the Author at \$5. Write: J. H. Burman, Kingfishers, Aqueduct Lane, Alvachurch, Worcs. B48 7BP, England.

CANAL DU MIDI SNUBBING POST UNVEILED

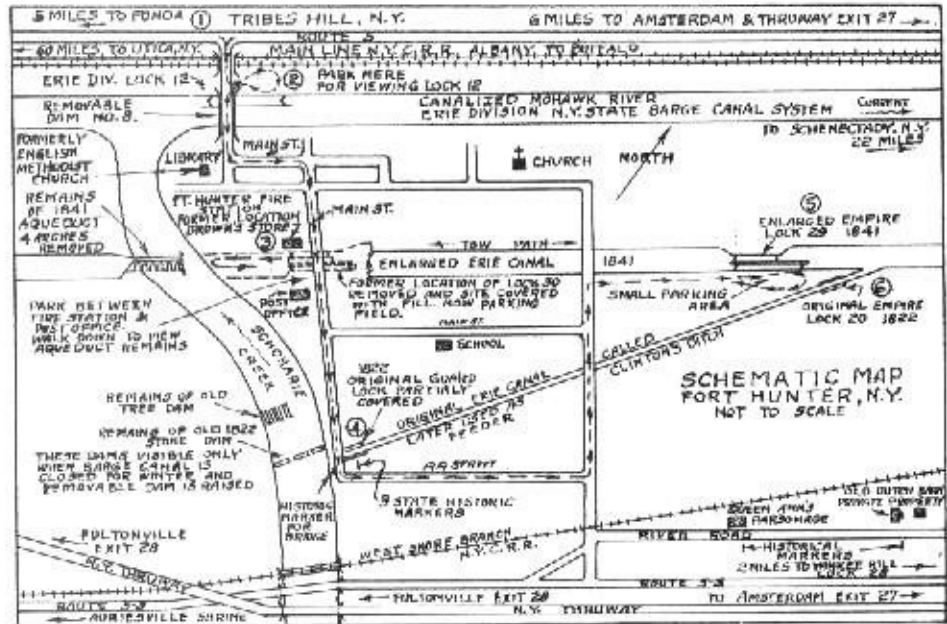
Bill McKelvey, of the Canal Society of New Jersey, recently arranged for a 428-pound, 300-year-old "snubbing post" to be brought from the Canal du Midi in France and presented to CSNJ as a permanent part of their Canal Museum complex at Waterloo Village, N.J., by the government of France. As shown in the photo, Paul Alexandre Guyomard represented the French Government in the unveiling ceremony.

Company E, 15th New Jersey Volunteer Infantry provided 8 rifle "salutes" at the conclusion of the dedication ceremony. Salutes were given in honor of seven individuals who played major parts in transporting canal technology to France, to England and from both countries to the state of New Jersey. They were: **Leonardo da Vinci**, who surveyed the route of the Canal du Midi in 1515; **Pierre-Paul Riquet**, Baron of Bonrepos, builder of the 150 mile Midi, completed in 1681; **Francis Egerton**, the future Duke of Bridgewater, who visited the Canal du Midi in 1754 and was inspired to pioneer the development of canals in England; **Thomas Jefferson**, who in 1781 toured the Canal du Midi in order to pass information about it on to canal builders in the United States; **Canvass White**, who was sent to England to learn how canals were constructed there by Benjamin Wright, the Chief Engineer of the Erie Canal. (Canvass White later became Chief Engineer of the Delaware and Raritan Canal; **James Renwick**, an English engineer and consultant to the Morris Canal, who implemented the research on English Canal Technology of Robert Fulton; and **Robert F. Stockton**, President of the Delaware and Raritan Canal Co., who had built in England the steam canal tug NEW JERSEY, the first commercially successful screw propeller driven vessel, and the first iron hull vessel to cross the Atlantic.



John O'Toole, Master of Ceremonies, assists Paul Alexandre Guyomard, Deputy Consul General of France, in the unveiling of the Canal du Midi snubbing post at Waterloo Village, New Jersey. In the background is the spacial "detail" which participated in the ceremonies.

Fort Hunter Canal Society



Map issued by the Fort Hunter Canal Society, showing remnants of the old Erie Canal, and other attractions in the Fort Hunter, New York area. For information on the Society, write Miss Marion M. Hovey, 7284 Main Street, Fort Hunter, N. Y. 12069.

Following each rifle salute was a nostalgic whistle or horn salute reproducing the sound of the conch horn, steam canal boat, tug boat, mule drawn boat, etc., and the J. B. WRIGHT, which was the last canalboat in the state of New Jersey. This part of the program was presented by Mr. Jack Hardman, an air horn collector/restorer extraordinaire, and was as one member stated "a lonesome call from the past to which everyone present responded."



An old print of the Schoharie Creek Aqueduct of the Erie Canal at Fort Hunter, N. Y., built in 1841 of cut limestone -- 624 feet in length.

OPENING OF THE C & O CANAL

The following appeared in the *National Intelligencer* of Washington D.C. on Dec. 1, 1835:

"It is with no little pleasure we mention that the navigation is now open on the Chesapeake & Ohio Canal from Georgetown to Shepherdstown.

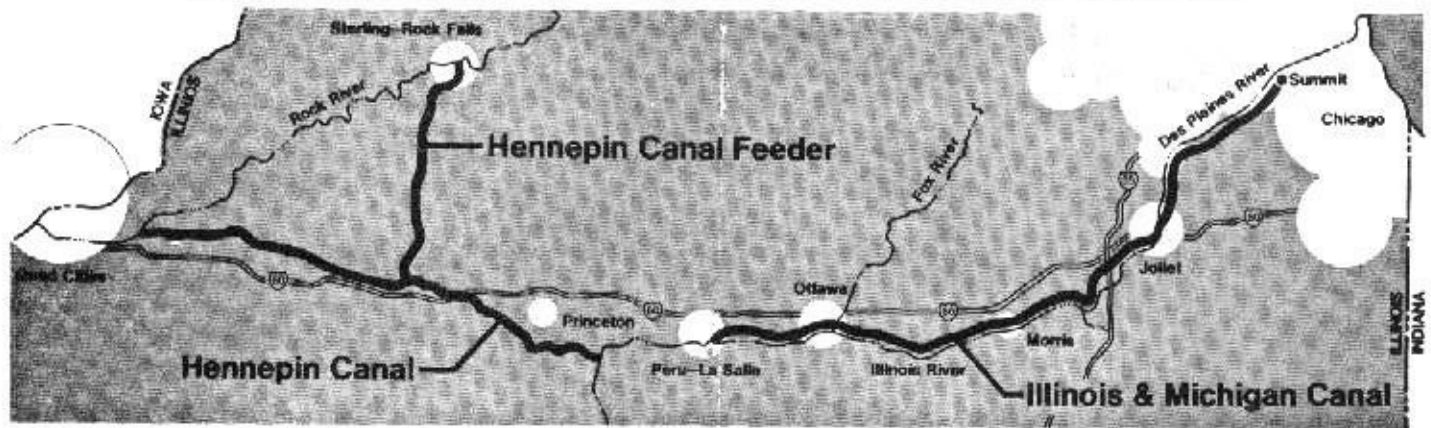
"To show the great effect and consequences of the progress already made in this great work, we state the fact that among other boats, a single boat has just arrived at Georgetown in less than two days passage from Shepherdstown (a distance of about a hundred miles) containing eight hundred barrels of Flour, and drawn by one horse.

"Let it be born in mind that to transport this same quantity of Flour by land, in double the space of time, it would take fifty six-horse wagons! So that here is one horse performing a task on a Canal which it heretofore required the power of three hundred horses to perform.

"The only expense is the canal toll and that by no means equals the expense of tolls which the wagons would have to pay on bridges and turnpikes. Eighty tons of produce drawn by one horse! Is there any rail road to equal that?"

(Submitted by Earl Minderman, ACS.)

ILLINOIS CANALS – RESOURCE WITH A FUTURE?



By Judy Groves

Perhaps the most under utilized recreational and cultural resources in Illinois are the Illinois and Michigan Canal and the Hennepin Canal. While the history and condition of each canal are different and planning for their futures presents different problems, each is a deteriorating resource in need of rehabilitation, preservation, interpretation and recreational development. Each has incredible potential for a great variety of trail-based recreation, fishing, boating, wildlife habitat and historic interpretation. Decisions made in the near future at the State and federal level will have a major influence on the future of these areas.

The Illinois and Michigan (I & M) Canal

From the time of the earliest explorers, there were proposals to build a navigation route which would connect Lake Michigan and the Illinois River. However, it was not until 1848 that the Illinois and Michigan Canal became a reality. The I & M was an instant success - transforming the tiny village of Chicago into a thriving city, spurring the growth of cities all along the corridor, and providing the major means for transporting people and goods between the East and the West.

The construction of the canal was followed rapidly by railroad building. By 1854 passenger service had switched to the railroads, and by 1915 freight traffic on the Canal had virtually ended. With the completion in 1933 of the Illinois Waterway, which provided a new link between Chicago and the Mississippi, government began to consider recreational use of the canal. A number of parks were developed along its shores, and the I & M itself was used for fishing, ice skating and pleasure boating. The Civilian Conservation Corps (CCC), created in 1933 by President Franklin Roosevelt, constructed hiking trails and built picnic areas and shelters along the I & M. Their work continued until the bombing of Pearl Harbor at which time war became the national priority. The CCC was dissolved by Congress in 1942, and many of these facilities along the I & M fell into disrepair.

Late in 1980, Senator Charles Percy was successful in obtaining Congressional authorization for a study of the entire I & M corridor to consider ways in which the cultural and recreational potential of the area could be preserved and enhanced. The study was done by the National Park Service (NPS) with input from the Department of Conservation and over 100 individuals representing various other State and local interests. The resulting conceptual plan was approved by the Secretary of the Interior in October, 1981, and federal legislation is being drafted to develop a means for implementing the plan.

The draft legislation calls for the establishment of the "Illinois and Michigan Canal National Heritage Corridor." Unlike traditional National Parks, the I & M Canal National

Heritage Corridor would not be owned or managed by the National Park Service. Instead, existing management patterns would be maintained. A 15 member Commission, appointed by the Secretary of the Interior, would have the responsibility for coordinating, promoting and assisting State and local entities involved in the corridor development. The primary purpose of this development would be to enhance and interpret the cultural, historic, natural and recreational resources for both their recreational and cultural values and to improve the economic climate of the corridor.

The Hennepin Canal

Planning for the Illinois and Mississippi Canal, later renamed the Hennepin Canal, began even before the Illinois and Michigan Canal was completed. Boats were to use the Hennepin to cross the natural divide between the Mississippi and Illinois Rivers and enter the Illinois and Michigan Canal, thus reducing the through-water distance from Chicago to the Upper Mississippi by some 419 miles. The Hennepin Canal was not completed until 1907 and very soon became too small for boats of that period. Although many technological advances were pioneered during the building of the Hennepin Canal, it was never a viable part of the State's navigational system. It was always lightly used and was officially closed to commercial navigation in 1951.

With the end of commercial navigation, a group of citizens interested in the Canal's recreational and wildlife potential lobbied for its preservation as a recreational corridor. In 1970, after 20 years of extended negotiations,

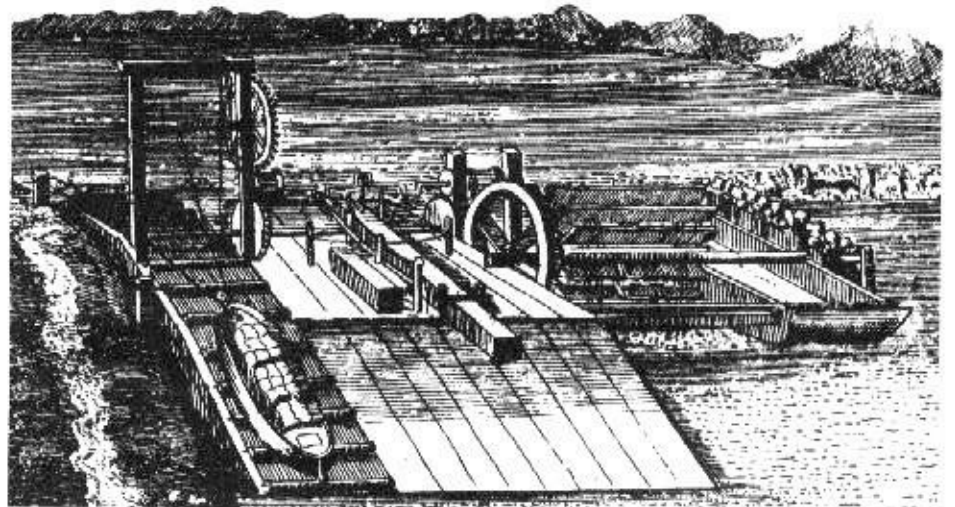
the Hennepin Canal was transferred from the U.S. Army Corps of Engineers to the State of Illinois, Department of Conservation. An interpretive center, six major picnic areas, two boat access areas and some trails have been constructed. The major recreational uses of the canal are fishing, boating, picnicking, hiking, wildlife observation, snowmobiling and horseback riding.

A public meeting was held on October 19, 1981. The public response was that the DOC should plan and seek funding for complete rehabilitation. This is the course that the DOC is currently pursuing.

The major barrier to achieving the goals of rehabilitation, interpretation and recreational development of the two canals is financial. As part of the 1983 capital budget proposal, the DOC has requested \$250,000 for aqueduct renovation on the I & M Canal and \$250,000 for plans and specifications for rehabilitation on the Hennepin Canal.

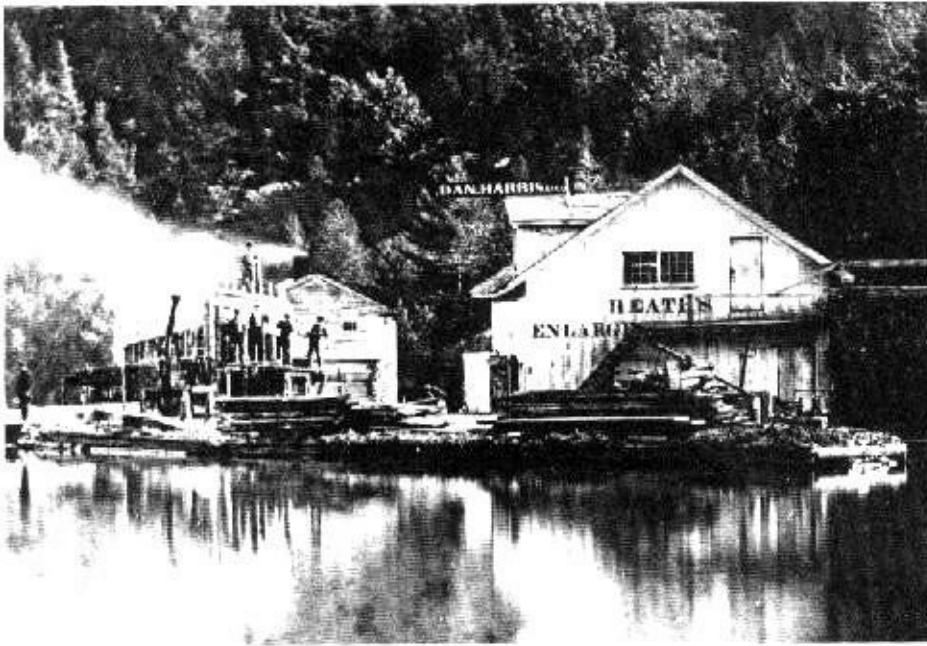
In a State deficient in recreational land, the two canals together could provide almost 200 linear miles and more than 6000 acres for many types of recreational use. Inability to act now will place an even higher price tag on future rehabilitation of these resources. Decisions in the next year at the State and federal level will play a very important role in determining the future role of Illinois' turn-of-the century canal system.

(From Planning Update, Winter 1982. Illinois Department of Conservation.)



An old woodcut, thought to date back to about 1685, showing a water-powered inclined plane in Europe, published in Bouillet's "Traite' des Moyens de Rendre les Rivières Navigables" (Bathe Collection, Swarthmore College--Courtesy Robert S. Mayo, P.E.)

"MYSTERY PHOTOGRAPH"



This unusual photograph of the Erie canal at Little Falls, New York is from the stereograph collection of Robert M. Vogel who speculates that it features the building of an Erie canal boat. Any comments from American Canals readers?

William Gooding – Canal Engineer (An Autobiography)

I was born April 1, 1803 in the Town of Bristol, Ontario County, New York. My father's name was James Gooding and my mother's Caroline Andrews. They were both born in Dighton, Massachusetts and settled in the place of my birth when all Western and Central New York was a wilderness. I was educated in the common district schools in the town where I was born, but in a great degree self-educated. My studies were such as were usually pursued in common schools at that period, with special in some branches of mathematics, surveying, etc. by a private teacher in an evening school.

My life until eighteen years old, when not in school, was spent in labor on my father's farm, except for two short periods that I was clerk in a store. I had a taste for reading and study and read carefully all the books that were then accessible (which were not as numerous as now) embracing poetry, history, biography and even ponderous works upon theology.

The first step taken after leaving school was teaching, first, district schools and subsequently two or three select schools. This step was taken because the occupation afforded the best means of improvement which I could then command and I needed the money that I could earn. From the age of eighteen until twenty-three I was engaged alternatively in teaching and working on my father's farm.

In 1826 I obtained a situation in the engineer department of the Welland Canal in Canada, which was then in course of construction, having made up my mind to follow the profession of civil engineering for which I had, as I thought, some taste and some qualifications. I served as an assistant engineer on this canal under the chief engineership of Alfred Barret until the spring of 1829.

In the meantime my health had been considerably impaired from frequent attacks of sickness and I was advised to abandon the profession I had chosen and embark in some business in which the fatigue and exposure

would be less. I accordingly commenced business with my cousin, Stephen Gooding, as a dry goods merchant in Lockport, New York, but close confinement to a store after the active life I had previously led did not agree with me either in mind or body, and I sold out within a year for even less than the limited means with which I commenced.

Soon after this I went to Ohio and tried to obtain a situation as an engineer on the Ohio canals, then in an advanced state of construction, but at first there were no vacancies and I accepted the position of rod-man, superintendent of masonry, etc. and the first vacancy as assistant engineer which occurred in the state was filled by my appointment to the place by Alfred Kelly and M.T. Williams, then canal commissioners. I remained here until the canal was substantially completed from Cleveland on Lake Erie to Portsmouth on the Ohio River and returned to my father's in New York early in the year 1832.

On May 10, 1832, I was married to Ann M. Cutting in the city of Troy, New York, and then intended to come directly to Illinois but was prevented by the Black Hawk war, and, in August went to Roscoe, Ohio, where an old engineer friend had offered to sell me his interest in a stock of goods, warehouse and saw mill on time if I chose to purchase after becoming acquainted with the business.

Here I remained until the following April employed in the business of the firm, which I did not like. We then left for Illinois where my father and his family and my oldest brother from Ohio had settled the previous autumn after the termination of the Black Hawk war. It may not be out of place to mention that when I made my journey west with my young wife, in May 1832, we passed over the only completed passenger railroad (sixteen miles) in the United States, from Albany to Schenectady. This was built with a light strap rail and the rolling stock consisted of three or four coaches much like

ordinary stage coaches and the locomotive that moved them was - a single horse!

When we made our journey the following spring from Detroit to Chicago, stages ran only as far west as Niles, Michigan, and I made a special contract with the stage proprietors to send us from Niles to Chicago, between which places, up to that time, only a horseback mail had been carried once or twice a week. From Niles to Chicago we were three days in a small open wagon drawn by a span of ponies and were the first passengers who ever came with the mail around the head of Lake Michigan.

When we arrived in Chicago the first day of May 1833 there were not, probably, more than one hundred or one hundred and fifty persons there except in the garrison.

We reached Gooding's Grove in Will County the third of May 1833 and settled there upon a farm. Although temporarily engaged in farming, I considered my profession that of a civil engineer, which I had adopted because I had a taste for it.

In 1834 and 1835 I was employed by the canal commissioners of Indiana in making surveys for the extension of the Wabash and Erie Canal the construction of which had been commenced: for the Mississinawa and Wabash rivers to Jeffersonville, on the Ohio river, via Indianapolis. Whilst still in the service of Indiana, I received the appointment of chief engineer of the Illinois and Michigan canal by the canal commissioners, W. T. Thornton, Wm. B. Archer and Gurdon S. Hubbard.

I commenced my duties in February 1836 and continued to act as chief engineer until the completion of the canal in the spring of 1848, except for a time during the suspension of the work caused by the failure of the State to provide funds for its prosecution. From July 1845, however, I acted under the canal trustees, they having assumed control of the canal and canal property under the trust law which gave the bondholders control until all canal indebtedness should have been paid.

In 1849, and immediately after the sudden death of Robert Stuart, who had filled the office of Secretary of the Board of Trustees since its first organization, I was appointed to fill the vacancy thus caused. I continued to act in this capacity, with the duties of assistant treasurer added, until the close of the trust in 1871.

In the meantime I was appointed United States civil engineer to make, in conjunction with Gen. I. H. Wilson, a survey and estimate of cost for the enlargement of the Illinois and Michigan Canal and the improvement of the Illinois river which duty we performed and reported results. I also acted as one of the special commissioners of the Board of Public Works of the city of Chicago for deepening the canal to cleanse Chicago River.

(Submitted by Knute Berger.)

ACS DIRECTOR HONORED BY A.S.C.E.

Robert S. Mayo, P.E., ASC Director, of Lancaster, Pa., has been selected by ASCE as the recipient of the 1982 Civil Engineering History and Heritage Award. Mayo has written "Practical Tunnel Driving" - the definitive work on American tunnels - (1941, 1975, 1976, 1978) and is a member of the team which published "Towpaths to Tugboats - A History of American Canal Engineering." The Award will be made at the ASCE Convention in New Orleans, October 27, 1982.

NEW ERIE CANAL — PLUS ENERGY ISLE

Robert E. Felsburg, P.E., of Harrisburg, PA sent us this interesting article, recently published in MARINE ENGINEERING/LOG. The concept differs somewhat from the plan proposed by the Army Corps of Engineers (see AMERICAN CANALS Number 33, May 1980) but they endorse the general idea of ICONN. The "fill" from the enlarged Erie Canal would form an Energy Island Complex off the New York City harbor.

"Every other nation in the world would consider the Erie Canal one of their major assets," British-born marine engineer Nigel Chattey said recently while drumming up support for his ICONN-Erie project.

ICONN — Island Complex Offshore New York and New Jersey — and Erie projects envision creating a deepwater port and industrial and energy complex offshore, commercially and physically connected to the Great Lakes and the U. S. hinterland by a waterway system.

The complementary Erie Canal project would widen and deepen the Erie Canal so that large barges or four-barge tows could navigate the Great Lakes and cross New York State from Buffalo to Albany and down the Hudson River to the Port of New York and ICONN.

ICONN envisions construction of a new "island" complex on the sea floor on Cholera Bank alongside the Hudson Trench 15-20 miles off the coasts of New Jersey and New York, to serve as a site for energy-related activities, such as LNG, LPG, crude oil and product trans-shipment facilities, and eventually even for refineries and petrochemical complexes and power plants.

The island complex will provide 8,000 to 10,000 acres of land in its initial stages and include totally enclosed deepwater and barge harbors capable of handling tankers up to 500,000 deadweight tons in capacity and large Great Lakes type vessels of up to 30,000 dwt.

ICONN will cover, after completion of all its initial phases, a 4½ x 3½-mile area. Protected land for industrial plants would be set up in a series of connected polders protected by a vast series of sea dikes.

The ICONN complex will need, at maximum, 600,000,000 cu yd of rock and fill for construction.

To build this complex in such deep water presents challenges but no new technology is needed, according to Chattey who is a student of Dutch marine engineering. The vast amount of fill, he said could be provided by material dug up from the Erie Canal.

Modernization of the Erie Canal by widening and deepening it to accommodate large barges or four barge tows would open up new commodity movements between the Great Lakes and the U. S. hinterland and ICONN and the Port of New York. Typical cargoes would be coal, grain, petroleum products, petrochemical feedstocks, fertilizers and metallic ores.

ICONN-Erie would work today, says Chattey. But, he adds, it requires a very careful and complete study before it is launched. Chattey said that Washington advised him — before applying for federal funds — to allow for a full and complete study — to get significant funds towards planning such studies from at least the states of N. Y. and N. J. (and preferably also from Connecticut and Pennsylvania) and industrial and utility users who might be potential private sector users of the island complex and/or modernized Erie Canal.

Detailed studies of the island and canal projects, emphasizing technical, environmental, legal, socio-economic and financial aspects of the idea, will take two years and cost \$10 million, says Chattey.

If the study is successful, the next phase would involve detailed engineering for a portion of the project. The first dikes for the off-shore island could be built using sand and gravel dredged from the Cholera Bank off New Jersey.

"You could," Chattey said, "create the first phase of an energy island without the canal project."

To build ICONN, fill would be dropped from barges and anchored by a layer of sand, gravel and 6-ton rocks. Next would be layers of 10-ton, 45-ton and 75-ton rocks.

Two dikes would provide double protection — sheltering ships loading and unloading cargo.

A Cholera Bank port would permit access by the largest ships in the world. New York Harbor is 12.1 m (40 ft) deep. Big ships draw 27.4 m (90 ft.).

ICONN, once started, could then be developed in stages over the next 20 years, creating sites for new industry and energy-related facilities as well as for garbage and sewage disposal facilities and a deepwater port. This deepwater port would allow the importation of energy materials into the region at the lowest possible cost — something which cannot be done now because of the shallowness of the harbors along the northeast coast of the U.S.

Oil, LNG and low sulphur coal can be brought to ICONN by the efficient, available transportation systems. Low sulphur Wyoming coal or Midwestern coal can be transported by rail to the Great Lakes and by water through the Canal and down the Hudson to ICONN. Alaska crude oil can be carried by U.S.-flag tankers from Valdez around the Horn to ICONN. Grain, now barged down the Mississippi and then exported via Gulf Coast ports, could once again reach foreign lands from the Port of New York.

The U. S. Army Corps of Engineers is also studying this plan, the "All-American Transportation System," to link the Great Lakes to the Hudson via the Erie Canal. While the Corps

endorses expansion of the Canal to accommodate four-barge tows, it can't, Chattey says, fully endorse the project because it overlooks the cost benefit side.

Chattey is referring to benefits to the U.S. economy of increased coal exports. This isn't gravy, either. It's a necessary step for the U.S. government to take. He points to an M.I.T. Coal Study which warns that the U.S. must increase exports of steam-coal to Europe and Japan 6-fold in the next 10-15 years to ward off Russia's planned invasions of overseas gas markets.

A dynamic speaker, Chattey is right now in the process of setting up independent ICONN-Erie councils throughout New York.

Deepening the 212.6-km (340-mile) New York State Barge Canal connecting Buffalo with Albany would revitalize Buffalo as a port and benefit Rochester, Syracuse and other cities along the canal route. This is one reason why Chattey is drumming up local support.

Barge transport is five times as energy-efficient as train transport, so, opening the canal link should lower transport costs.

"I'm not suggesting this be a toll-free canal," Chattey said. "Egypt makes a good deal of money running the State Canal. I don't see why New York State can't do the same thing."

FLASH!!

As we were about to go to press, we had a phone call from Don Smithies, President of the newly-formed CANADIAN CANALS SOCIETY. He has just completed the planning of their first field trip at Kingston, Ontario, October 8-9, 1982, which will include a trip along portions of the Rideau Canal in the "Island Princess." For full details contact Donald A. Smithies, Trent-Severn Centennial Museum, Peterborough, Ontario K9J 6Y5, or phone him: (705) 743-5180, office; (705) 745-8530, home.

Delaware and Hudson Canal



Joe Brolley, of Wilkes-Barre, Pa., has once again provided us with an interesting canal photo from his area. Pictured here is his photo of the well-preserved waste weir near Lock #23 on the Delaware and Hudson Canal at Kimble, along the Lackawaxen River, Wayne County, Pa.

CANALS AND THE NATIONAL REGISTER OF HISTORIC PLACES: AN ASSESSMENT

By Dr. W. E. Trout III

We thought it was about time to compile a complete state-by-state listing of canals on the National Register, in order to see how we have been getting along. This comprehensive list includes the latest information from the Federal Register as of June, 1982, including the five lists issued with AMERICAN CANALS over the years. We have probably missed some historic district and building nominations which are canal-related, so please let us know.

There are now well over a hundred navigation canals and sites on the Register, plus a number of canal-related buildings such as the Chemung Canal Bank in New York. Some representative irrigation canal structures have also been included in our list, to encourage westerners to follow the example of the canal states, and make parks of their historic canal resources while they still have them. The following discussion, however, is limited to the historic navigation canals, and will concentrate on those parts of the country which have been surveyed for the American Canal Guide; see parts 1-3 for details.

The old canals on the west coast (Washington and Oregon) are quite adequately represented. Along the south Atlantic coast, the batteau sluices along the upper Dan in North Carolina are being written up by Dr. Lindley Butler (ACS); and the Santee Canal in South Carolina has just been submitted and is now pending. We need to see that Lew Richardson's Ogeechee Lock in Georgia is nominated, and more of Alden Gould's Florida locks considered, such as the Miami Canal Lock (recently designated Everglades Reclamation State Historic Site) at Lake Okechobee.

In the lower Mississippi and Gulf states, we are encouraging a Coosa River Navigation Thematic Resources nomination in Alabama, which would include three different types of locks and a magnificent lockhouse which looks like a set from "Gone With the Wind." Another good possibility in Alabama is Old Lock 1, now in a Corps park on the Black Warrior-Tombigbee Waterway. In Tennessee, one of the old Cumberland River locks should be considered, such as the oldest, Lock 1, with its lockhouse. In Arkansas, we'd nominate White River Lock 1 at Batesville, and in Texas, one of the old locks on the Brazos, and one on the Trinity. In Louisiana, Plaquemine Lock has been listed and protected so far from highway construction, thanks to Gary Hebert of the Greater Plaquemine Post; we'd like to see the curious Hansen Canal Lock listed as well.

In Kentucky, the lockhouses at Green River Lock 4 are listed, but the Corps curiously omitted the lock itself. The great variety of lock and lockhouse types on the Green River system would make a fantastic thematic resources nomination, perhaps combined with a selection of locks and lockhouses along the Kentucky River Navigation, plus the Louisville & Portland Canal. Quite a prospect!

West Virginia has a number of lock parks, but none are on the Register. We'd suggest Big Sandy Lock 3, Little Kanawha Lock 4 (even

INDIANA CANAL SOCIETY

On May 22, 1982, a meeting was held at the Allen County-Fort Wayne Historical Society during which the Canal Society of Indiana was organized. The meeting was attended by forty-six persons living in various regions of Indiana and Ohio. Goals and activities were discussed, and the following officers were elected: President - Clarence Hudson, 3910 Locust Street, Muncie, IN 47304; Vice President - Dan McCain, R.R. 1, Woodburn, IN 46797; Secretary - Ardith Haas, 1906 Ardmore #15, Ft. Wayne, IN 46804; and Treasurer - Frances Hyde, 1537 Northlawn, Ft. Wayne, IN 46805.

The final structure of the Society has not yet been completely decided, although there will be some sort of advisory board, and the Society will probably be incorporated. The actual details will be worked out by the officers during a series of meetings. The important item is that the CANAL SOCIETY OF INDIANA is now officially in existence. The Editors of INDIANA WATERWAYS will continue to be Thomas and Julia Meek.

On May 23, 1982, the Canal Society of Indiana joined with the Allen County-Fort Wayne Historical Society in sponsoring a tour of the Wabash & Erie Canal between Fort Wayne and Delphi. The tour was attended by 43 people, and was an unqualified success. The weather was threatening but we were very fortunate in that the only rain came while we were on the motorbus.

Lock 14, at Lugro, Indiana was one of the high points of the tour. It is one of the two best preserved locks on the Wabash & Erie, and is second only to Lock 12, which is only two miles away, but not easily accessible.

The 200 foot long East River Aqueduct in downtown Logansport was very impressive. The Eastern abutments are nearly intact, and the four piers can be seen like four long islands stretched out across the river. Traces of the iron clamps which helped to hold the stones together are still visible, and a few people, who were having difficulty in understanding just what an aqueduct was, were saying: "Oh! Now I get it!"

At Culvert No. 100, over Burnett's Creek, we were pleasantly surprised to find that a set of wooden steps leading down to the creek in order to afford a better view of the well-preserved



Clarence Hudson, first President of the Indiana Canal Society, as sketched by Julia Meek, the talented co-editor of INDIANA WATERWAYS.

North Portal of the twenty foot stone arch, and which had been damaged by a flood over a year ago, had been nicely repaired.

At Delphi, a very cordial group of the Board of Directors of the Carroll County Wabash & Erie Canal, Inc. was waiting to greet us and answer any questions about local history and their project. Along with refreshments provided by the group, it was a heartwarming and fine ending to a very successful tour.

(Submitted by Thomas Meek, Editor, Indiana Waterways.)

better, several of them), and Newcomer's Lock and hauling path below Bloomery on the Shenandoah.

Maryland and Delaware seem well taken care of. In Virginia, we are in the process of nominating the Marshall Canal-Tunnel, Dr. A. A. Houser's magnificent Guard Lock at Varney's Falls, canal structures around Lynchburg (including the lock excavated by Gibson Hobbs) and a stretch of the North River Navigation. Future possibilities include Xerox's 2-Lock Staircase (Clapham's) on the Goose Creek & Little River Navigation, locks on the Rivanna Navigation, and the Atlantic Energy Company's Gilmerton Lock in the Dismal Swamp.

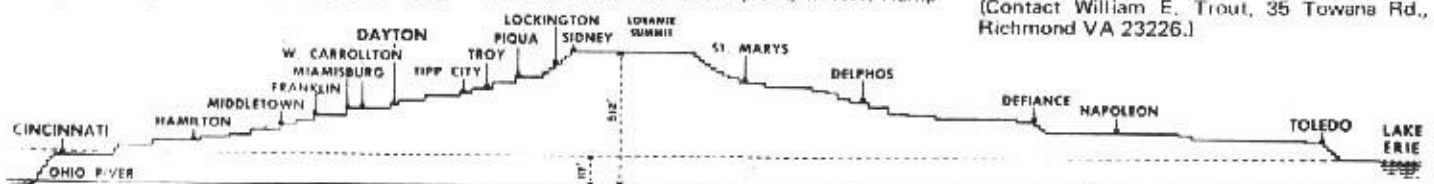
A goodly number of sites are on the Register in New England, thanks to active canal societies, but "musts" which need attention are Cromwell's Falls Lock on the Merrimack (behind the Anheuser Busch plant) in New Hamp-

shire, Millville Lock on the Blackstone Canal in Massachusetts, and perhaps the Shelton Canal in Connecticut.

Michigan, Wisconsin and Iowa seem to have covered their sites reasonably. As for the remaining canal-rich states of Illinois, Indiana, Ohio, New York, Pennsylvania and New Jersey, we'd like to hear from the state canal societies, who undoubtedly have many plans afoot.

One of the many functions of the American Canal Society is to encourage National Register nominations and to identify sites which seem to have been neglected, such as many of those mentioned above. Please let us know which sites are missing from the Register canal listing, and others which should be worked on. We would especially like to hear from anyone working or willing to work on one of these proposed nominations!

(Contact William E. Trout, 35 Towana Rd., Richmond VA 23226.)



While researching for TOWPATHS to TUGBOATS, we ran across this old profile of the old Miami and Erie Canal in Ohio, presumably among some old issues of TOWPATHS, the house organ of the Canal Society of Ohio. It shows the high elevation to which this canal climbed in passing across western Ohio, from north to south.