

# AMERICAN CANALS

BULLETIN OF  
THE AMERICAN CANAL SOCIETY

BULLETIN NUMBER 50

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

AUGUST 1984

## EDITOR'S CORNER

In the last issue we carried an article on the dedication of Lock 2 of the Ohio and Erie Canal at Akron. In that article the word "restoration" was used loosely. One of the readers commented that the work was not a "restoration," and I agree. It is more of a replica or a rebuilding than a restoration as such. Whether or not one likes the work done is a matter of personal opinion. It has been the policy of this editor to report the news regardless of whether or not we agree with it. That seems to me to be what most modern journalists do. If the editor has something to say on his own or own behalf of the organization he represents, then the comment can come editorially. In this instance of rebuilding I find the result too elaborate, missing the beauty of the simplicity of the old lock and its fine fabric of well-cut stone. Because the lock is necessarily several feet below grade, it draws the focus of the eyes to a small central area which tends to be cluttered.

In point of fact, I am using the Akron Lock photo as an example of what to use and what to avoid in the preservation of the Tide Lock of the Alexandria Canal at Alexandria, Virginia, as the industrial archeology consultant there. Professor Emory Kemp, my "Boss" as the Head of the Program in the History of Science and Technology at West Virginia University, is the consultant for the civil engineering of the canal portion of the project. My point is that the City of Alexandria and the contractor (Savage, Forgarty, Inc.) wisely are using the services of those who are at least supposed to know what the best industrial archeology/engineering practices are. Americans have not had much experience in the preservation of old canals and need to learn from each experience to make the next one better.

My future comments in *American Canals* will come to you in the form of a "Letter to the Editor" rather than as your Editor. It has now been nearly thirteen years since Bill Trout, Bill Shank, and I founded the American Canal Society and I began as Editor with Issue #1 of *American Canals*. I felt that it was time for you readers to have a change and Issue #50 seemed like a nice place to stop. It will seem odd not to put the package into the mail each quarter to Bill Shank, who has done faithfully and well the production work on each issue since

*(Continued on Page Three)*

## VOYAGE OF THE "COLUMBIA"



The Bateau COLUMBIA on the last leg of its 60-mile journey down the James River from the town of Columbia, Virginia to Richmond. It is shown here in the James River and Kanawha Canal approaching Lower Arch in Richmond. (Photo by Alexa Welch.)

By Cindy Creasy  
*Richmond Times-Dispatch staff writer*

June 1, 1984 the "Columbia" arrived at the Pump House celebration early, but remained out of sight until the appointed time.

At 5:30 p.m., the crewmen fixed the American flag in the bow, took up their poles and guided the bateau into the James River Canal at Three Mile Locks.

Their journey started seven days ago and 60 miles away in Columbia. At the journey's end was a warm welcome from canal enthusiasts who have worked diligently in recent weeks to clear the canal of the tangled greenery that hid the lower arch from view for years.

There was a quiet sense of history. "Boats just like this one went in through

these arches 200 years ago," said Dr. William E. Trout III, a canal historian and leader in the restoration effort.

"This is probably the first and the last time you'll see this in your lifetime . . . Hopefully is won't be the last," said Rich Davis, a Navy man from Virginia Beach and a member of the Virginia Canals and Navigations Society.

Canal enthusiasts came from Arlington and Roanoke, too. There are more than 300 society members, said Vivienne Mitchell of Alexandria. "About four years ago, if we counted up to 100, we were doing good."

Columbia's crew members were soaked to the knees and sported a few days' growth of beard. "Good tired," Walter Pribble called it.

*(Continued on Page Twelve)*

# 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 \$10.00. Individual copies may be purchased at \$2.00.

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

**Dr. THOMAS F. HAHN** — 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 — 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 — 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

From our ACS United Kingdom Director, **Dr. Roger W. Squires**, comes the following comment: "You have done it again . . . the BEST FROM AMERICAN CANALS — NUMBER TWO is a winner! The well balanced selection of articles and photographs, together with the line drawings, will make it a must for every canal enthusiast — a first class job."

## "CANAL BOAT" FOR CAMILLUS



Dr. Dave Beebe, Director of the Erie Canal Project at the town of Camillus, New York, sent us the above photo of their latest "canal boat". While they realize it is not authentic it serves to take groups of visitors along a watered section of the First Erie Canal Enlargement (1836-1862). A lecture system on board makes the guide's job easier. The "Ontario" built in the 1920's was the work-boat for Fox Island, the former hunting and fishing lodge of Ex-New York Governor Horace White. The boat was restored to working condition by volunteers from the Town of Camillus.

### PRESIDENT'S MESSAGE

With this issue of AMERICAN CANALS, Editor Tom Hahn relinquishes the task he has handled with unflinching regularity for the past twelve and more years, since Issue Number One in March of 1972. We called Number One simply "The Bulletin of the American Canal Society." With Issue Number Two Carrol Gantz designed the "AMERICAN CANALS" masthead which we have been using ever since. Bill Trout immediately became one of our heavy editorial contributors. We owe these pioneers — Tom Hahn in particular — a deep debt of gratitude for getting the American Canal Society underway, and for adding to its strength and coverage for these many years. Through the efforts and support of all of our dedicated members, AMERICAN CANALS has now grown to be considered the authoritative source of information for navigational canals, past and present, in North America.

As Tom Hahn has indicated, there comes a time when we older members should step aside and let the younger members take over the administrative reins. I feel this time has about come for me. Next year after I have satisfied my commitment to the Canadian Canal Society for a joint meeting at Peterborough, Ontario — I will turn over the Presidency of the American Canal Society to Dr. William E. Trout III of Richmond, Virginia. Bill has served us as a dedicated Vice President (and former Treasurer) since ACS was formed, and has recently completed his tour of duty as President of the Virginia Canals and Navigations Society. He is a world-wide canal authority, who has written literally hundreds of articles and treatises on canals, for this Bulletin and for many other publications.

I am also happy to add that William J. McKelvey, Jr. of Berkeley Heights, New Jersey, and William E. Gerber, Jr. of

Chelmsford, Massachusetts have agreed to serve as new ACS Vice Presidents, starting immediately. I will continue as Editor and Publisher of AMERICAN CANALS for as long as our Board of Directors wish me to do so. Bill Shank

### "BEST II" AVAILABLE

The enclosed flier will alert our members to the availability of "The BEST from AMERICAN CANALS Number Two". BEST Number One, now in its third printing, was issued originally in 1980, covering some of the most interesting articles written by our members for Bulletins Number 1 (March 1972) through 31 (November 1979). This book was so well received that we have decided to publish BEST II, covering selected feature articles printed in Bulletins 32 (February 1980) through 47 (November 1983).

BEST II, at 88 pages, is exactly the same size as BEST I, but editorial material has accumulated at a much faster rate during the past four years, due to the increased size of our Bulletin. BEST II is not only a collection of excellent and well-illustrated feature canal articles from North America and Europe, but also a record of activities of our members, such as the formation of the Indiana Canal Society, the first meeting of the Canadian Canal Society, the restoration work on the Sandy and Beaver Canal, etc.

For a complete picture of what American Canal Society members have been doing and writing about for the past twelve years, we recommend both BEST I (at \$6) and BEST II (at \$8). Both books are available from Brad Haigh, our ACS Sales Agent, or they may be ordered directly from American Canal and Transportation Center, the publisher.



## EDITOR'S CORNER

(Continued from Page One)

#1. Now all of you can look forward to his editorship of *American Canals*. He has had much experience through the years with various publications and I know the transition will be good for all involved.

I shall miss the correspondence with American Canal Society members and others on the subject of canals. Many have come and gone, and many have departed this earth. Several persons have been steady contributors through the years. Alden Gould and Terry Woods, both of whom have articles in this edition, exemplify the people I could not have done without. Especially unique has been my relationship with Dr. Bill Trout and Engineer Bill Shank in the "triad" of the American Canal Society. We three recognize that we eventually need to step aside for other leaders, and Bill Shank will also shortly be addressing that subject.

I will continue to run the American Canal and Transportation Center in West Virginia, work as a consultant in industrial archeology, and continue to write on the subject of canals. With regard to the latter, I have in one stage of production or another: a revision to the *Combined Towpath Guide to the C & O Canal*, *The Alexandria Canal* (to be published by the city of Alexandria, Virginia), *The Chesapeake and Ohio Canal: Pathway to the Nation's Capital* (being published by the Scarecrow Press of Metuchen, New Jersey), and, *The Chesapeake and Ohio Canal and the Potomac River Valley Natural Cement Mills* (together will Professor Emory L. Kemp). So you see I will continue to be busy in the canal field.

As ACS Secretary-Treasurer Charlie Derr says in the letterhead of his stationery, "AS YOU GO ALONG THE TOWPATH OF LIFE - PULL!"

Tom Hahn

## DANUBE CANAL

AGIGEA, Romania (AP) — President Nicolae Ceausescu on Saturday opened the new 40-mile Danube Canal, which shortens the shipping route to the Black Sea by 237 miles, reducing a two-day voyage to a five-hour trip, the state-run Agerpres news agency reported.

The agency said 120,000 people watched Ceausescu cut the ribbon at the Danube port of Cernavoda, site of Romania's first nuclear atomic plant. The canal terminates at Agigea, on the Black Sea.

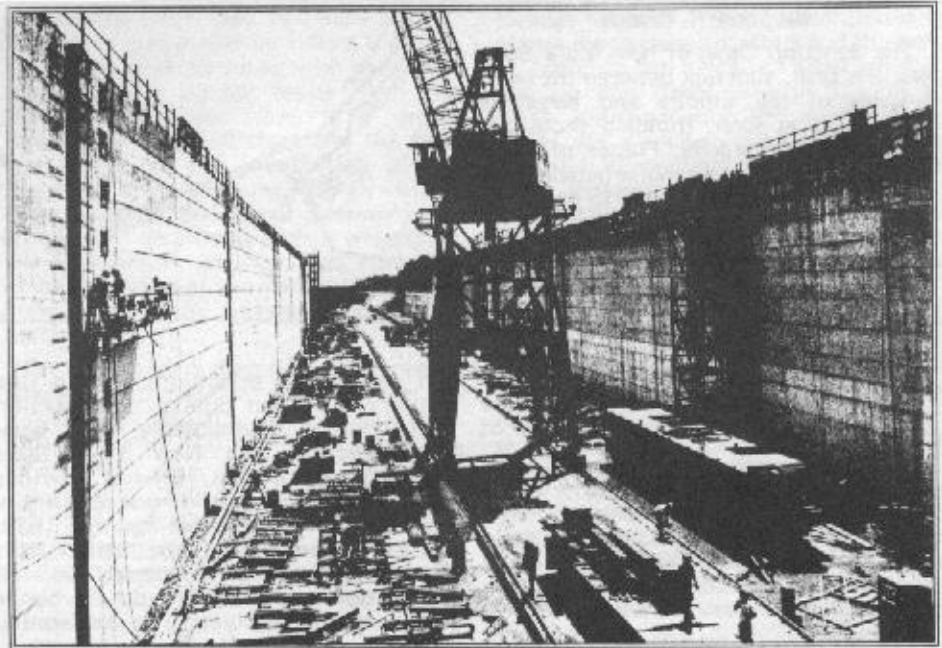
The canal will eventually allow heavy-barge traffic to move unimpeded as far as Austria and West Germany.

The project, the biggest and most expensive in Romanian history, employed 360,000 workers, Romanian soldiers and youths for nine years.

The canal also is to help irrigate 720,000 acres of land.

(From the Lancaster (PA) Sunday News 5/27/84.)

## TENN-TOM TO OPEN IN '85



Construction work nearly completed at the Lock Dam, Fulton, Mississippi. The huge size of the structures on the Tenn-Tom staggers the imagination! (Photo by Slick Lawson.)

The Tennessee-Tombigbee Waterway, first proposed by the French occupants of Southern USA in the 1700's, will become a reality in June of 1985! Connecting the navigable upper Tennessee River with the Navigable Tombigbee River, it is the most significant development in waterway history in this country since the openings of the Panama Canal and the St. Lawrence Seaway.

To this point in time, all commercial waterway traffic in central United States has been funneled down the Mississippi to the Port of New Orleans, their one and only direct route to the Gulf of Mexico. With the opening of the Tenn-Tom, an alternate route will be available for the first time, entering the Gulf of Mexico at the Port of Mobile, Alabama.

AMERICAN CANALS first reported the importance of the Tenn-Tom in Bulletin Number Six (August 1973), when its construction had been underway less than a year. Since then progress of the Tenn-Tom has been delayed by court action of its ardent opponents — mainly railroad interests and environmentalists. It was only in recent years that both Congress and the Federal Courts in Mississippi and Louisiana threw their support behind Tenn-Tom, and its opponents withdrew their suit. With the signing of the final appropriations bill by President Ronald Reagan in July of 1983, the completion of the Tenn-Tom was assured.

Not only will the Tenn-Tom provide water-mileage savings of up to 875 miles by large vessels and "tows" in the Tennessee Valley Authority basin, but it will also provide a relatively quiescent navigation, with its 110-foot wide locks and slack-water river navigation, as opposed to the sometimes swift currents in the lower Mississippi. This means

power-savings for the users of the Tenn-Tom.

Construction costs of the Tenn-Tom will run on the order of \$1.9 billion, in State and Federal funding. Its construction was divided into three sections: a 149-mile river navigation section in Alabama in the south; a 46-mile "canal" section further north; and (the most difficult) a 39-mile "divide" section through the Tennessee Divide, a rise that separates the Tennessee Valley from the Tombigbee Valley.

Residents of cities and towns along the southern portion of the route (particularly in Mobile) are waiting impatiently for the flow of waters from the North which will change their entire way of life!



# THE JUNCTION CANAL

By Terry K. Woods

The Junction Canal of New York State was the final, vital link between the canal systems of the Empire and Keystone states, and as such, trundled thousands of tons of Anthracite, Plaster of Paris, salt and general merchandise between the two states from 1854 to 1871 - nearly 20 years.

As early as 1779, it is said, General John Sullivan suggested in a letter to George Washington that the southern waters (Chemung or Tioga branch of the Susquehanna river) be connected with those of the north (Seneca Lake). Washington is said to have presented the matter to the National Congress, but nothing came of it.

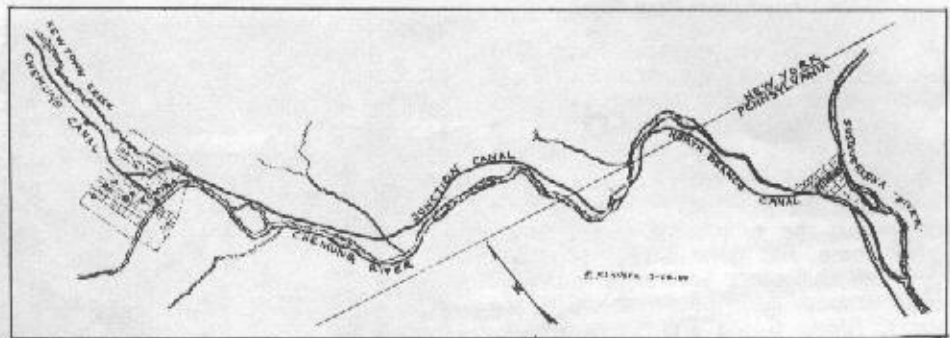
An attempt was made in 1815 to incorporate a private stock company - The Seneca and Susquehanna Lock Navigation Company - for \$300,000 to build such a connection between the two waters. Large sums of money were hard to come by at that time in the private sector, however, (and for a long time to come) and the connection never materialized.

In the hectic and flush days following the instant success of New York's Erie Canal, most people not on the direct line of the Erie began clamoring for a branch of feeder canal of their own, and serious thought was once more given to a New York - Pennsylvania canal. In 1825, the same year the Erie was completed through to the Lake, James Geddes made a survey of the interstate connection and in his 1826 report proposed that a canal be built between Seneca Lake and New Town (Elmira) on the Chemung branch of the Susquehanna river.

Finally, after a great deal of haggling and opposition the 23 mile long, 48 lock Chemung canal was opened for navigation in October, 1833. In the meantime, the State of Pennsylvania had been literally inching a canal up along the North Branch of the Susquehanna toward the New York State line. By June of 1834 it was complete to the mouth of the Lackawanna - some 100 miles or so below Elmira.

In 1836, that part of the North Branch Extension from Athens south to Towanda was begun. Additional portions of the Extension were let in 1838. Thus, when the Extension would finally be opened for navigation there would have to be only eighteen or so more miles of canal constructed to finally effect that long awaited inter-state connection.

The residents of both states began petitioning their respective legislatures and clamoring for this short stretch to be started and rushed to a speedy completion. An engineering survey of the route was authorized in 1839 and detailed surveys of routes from Elmira to the state line were run along both banks of the Chemung river by Engineer Joseph D. Allen. His report was issued in 1840 and supported the feasibility of such a waterway along either side of the river.



If economic conditions within the country had been normal, the Junction Canal would undoubtedly have been authorized by the New York State Legislature right then. However a serious economic 'panic' had struck the entire country in 1837 and hit again in 1839. In some portions of the nation cash money disappeared completely and all transactions were carried on by barter for a number of years. So devastating was this economic plunge that New York issued a STOP order on all new canal construction. Then, in May of 1841, the State of Pennsylvania halted all work on its unfinished Internal Improvements. The North Branch Extension Canal thus lay unfinished and useless. The head of navigation remained at Pittston on the Lackawanna.

For the next seven years nothing was done to connect the two state's canal systems. A private company was authorized by Pennsylvania in 1842 to complete the ill-fated Extension. In 1846 the State of New York authorized a private stock company - The Junction Canal Company - to incorporate for \$500,000 and build the final canal link to Pennsylvania. However, the private sector in that part of the country was in no better position to finance a New York - Pennsylvania Canal than it had been in 1815, and both projects languished.

By 1848, economic conditions had improved to the point where the Pennsylvania Legislature again considered finishing the North Branch Extension and, in 1849, work on it was once more begun. An attempt was made to pay for construction of the Extension with receipts from the already operating canals. As a result, yearly appropriations were not nearly enough to keep a full force on the line during an entire season, and the work progressed very slowly. So great were the expectations that completed north-south canal system from the Anthracite fields of Pennsylvania to the frozen interior of New York would yield huge revenues, however, that in 1852, the State of Pennsylvania, against their previous resolutions, borrowed \$200,000 and committed themselves to having the North Branch Extension Canal complete and carrying traffic by the 1853 boating season.

With this good news the Junction Canal Company had its New York charter renewed and obtained permission from the Pennsylvania General Assembly to con-

struct their canal through parts of Pennsylvania as might be required to affect a direct communication with the Extension.

The actual construction of the Junction Canal began in March, 1853 at a point about three miles southeast of Elmira. Work was then initiated all along the line and by early 1854 most of the structures and channel were complete. It was June of that year, however, before boats actually navigated the Junction Canal between Elmira and Athens.

As originally constructed, the Junction Canal was 18 miles long with 7 miles in slackwater. It contained 11 wooden locks 17' x 90' in the chamber, 3 dams and 2 aqueducts. Minimum dimensions of the channel were initially 26 feet wide at the bottom, 40 feet wide at the water line and 4 feet deep. This allowed boats of 75 tons average capacity to use the canal. Around 1864, the minimum depth was increased to 4½ feet and the channel width to 42 feet at the water line.

One of the first boats through the new canal was the Packet, ST. LOUIS, Captained by Wheaton Loomis. His original intentions were to run the Packet between Elmira and Pittston, but the lower part of the North Branch Extension was in deplorable condition and it was impossible to maintain a head of water sufficient for continuous navigation for yet another two years. The Junction Canal also had a few water retention problems and Captain Loomis had to be content shuttling between Athens and Towanda on the North Branch Extension.

By late October, 1855, however, the Junction was again able to handle through traffic and Athens merchants began receiving goods by water from Elmira, Albany and New York City. Still, though, that section of the North Branch Extension between Tunkhannock and Pittston remained impassable. The Junction Canal, though open and carrying traffic, was not able to provide what it had been constructed for - access to Pennsylvania's Anthracite region and its canal system.

Official Pennsylvania State Reports claim that the two systems were finally connected in the fall of 1856 when two boats loaded with Pittston Anthracite negotiated the Extension and Junction Canal and arrived in Elmira on November, 17. That is essentially true, but the feat wasn't nearly as easy as it sounds. Before



daylight on Tuesday morning, November 11, the "TOWANDA" under Captain A. Dennis and the "RAVINE COAL COMPANY NO. 4" under Captain T. Knapp - each loaded with 25 tons of Anthracite (each boat was capable of carrying 75 to 80 tons) left Pittston and carefully crept up the canal trying to find the channel. Since the channel only had a water depth of 25" careful steering was called for and the progress was understandable slow and tedious. These conditions persisted for the first ten miles or so. In addition, breaks in the canal banks caused several long delays and resulted in the tail boat becoming distantly separated from the TOWANDA.

At McKune's Lock, some three miles above Buttermilk Falls, the depth of the channel bottomed at 3 feet. 'Sailing' became a lot smoother then and the TOWANDA reached the aqueduct just outside Tunkhannock early on Wednesday morning. There the crew of the maiden boat on the North Branch Extension was escorted into town by the village band and an impromptu celebration was held. The TOWANDA didn't stay long, however, and managed to reach the Horse Race by nightfall. They made the village of Laceyville early the next day, Thursday, where Captain Dennis was presented with the Stars and Stripes. He flew this proudly from his craft for the rest of the journey.

Browntown was reached later on Thursday and the Captain decided to wait there for the rest of his 'fleet'. It, the delinquent NO. 4, arrived just as daylight was making itself known the next morning. The channel here was broad and deep and it was decided to transfer the other boat's Anthracite into the TOWANDA. This long and tedious undertaking was finally accomplished and the TOWANDA 'set sail' to the north.

At Wyalusing they were greeted by a shouting throng and cannon fire. The cannon, itself, was presented to the TOWANDA's Captain and he used it frequently the remainder of his journey to announce their coming to the anxious populace along the banks of the canal. At Ulster the Packet ST. LOUIS passed them in the channel and received a salute from the Freighter's new cannon.

On the Sabbath, Captain Dennis had serious doubts about continuing on his journey during the Lord's Day. Upon reflection, though, he figured that completing the connection between New York and Pennsylvania's canal systems had become almost a religion in the area so it would be alright to continue, and he went on through Athens into the Junction Canal.

They were within one mile of Elmira and the completion of their long journey by Monday Morning. There they received word to wait until the townspeople could prepare a proper welcome. The Daily Gazette issued an EXTRA calling out the citizens to escort the first boat-load of Wyoming Valley black diamonds into town. The canal boat, and even the mules, were decorated and draped with bunting and flags. Then, at 2:00 in the afternoon of Monday, November 17,

1856, a procession formed before Haight's Hotel and, led by Wisner's Band, proceeded out to the boat, filling the deck to overflowing when they all finally arrived. A manned gun pulled by horses followed the crowd, shaking the air with its reports and receiving similar blasts from the TOWANDA'S own gun. The entire throng then entered town and the boat was halted at the intersection of the Junction and Chemung Canals where Colonel G. S. Hathaway addressed the crowd with an elegant speech welcoming the TOWANDA to New York's borders as the harbingers of another tie of brotherhood between the Keystone and Empire States.

The TOWANDA then entered the basin where the procession reformed and returned to Haight's where additional speech making and merry making went on and on.

Other boats followed the TOWANDA and, before winter closed the Junction Canal for 1856, 1,150 tons of Anthracite headed north out of Pittston toward Elmira. Leaks, breaks, and flood damage continued to plague that section of the Extension from the dam at the Horse Race down to the Lackwanna Aqueduct however and only 2,274 tons of coal were shipped in the entire 1857 season.

The State of Pennsylvania sold all its branch canals in May of 1858 and a private Company, the North Branch Canal Company, acquired the Extension and part of the old Wyoming Division from the New York State Line to Wilkes-Barre. The new Company repaired the feeder dam at the Horse Race and brought in tons of clay to repuddle the lower section of the Extension. They then leased the Junction Canal on a yearly basis and set about running a canal company. The whole line was open for navigation in July of 1858 and shippers managed to send 38,947 tons of Anthracite north before the end of that season, and 51,914 tons during the 1859 season.

The Junction Canal then settled down to a period of fairly active commerce, though annual flooding and the resultant damage to canal structures continued to plague the owners, operators and shippers. In 1863, at the height of the Civil War, the Junction Canal took in \$25,764.93 while disbursements for maintenance, wages, etc. were only \$9,419.23. Anthracite and Bituminous coal from Pennsylvania accounted for more than 80% of the total tonnage carried that year. Significantly, though, even in that rather flush year, no dividends were paid to investors.

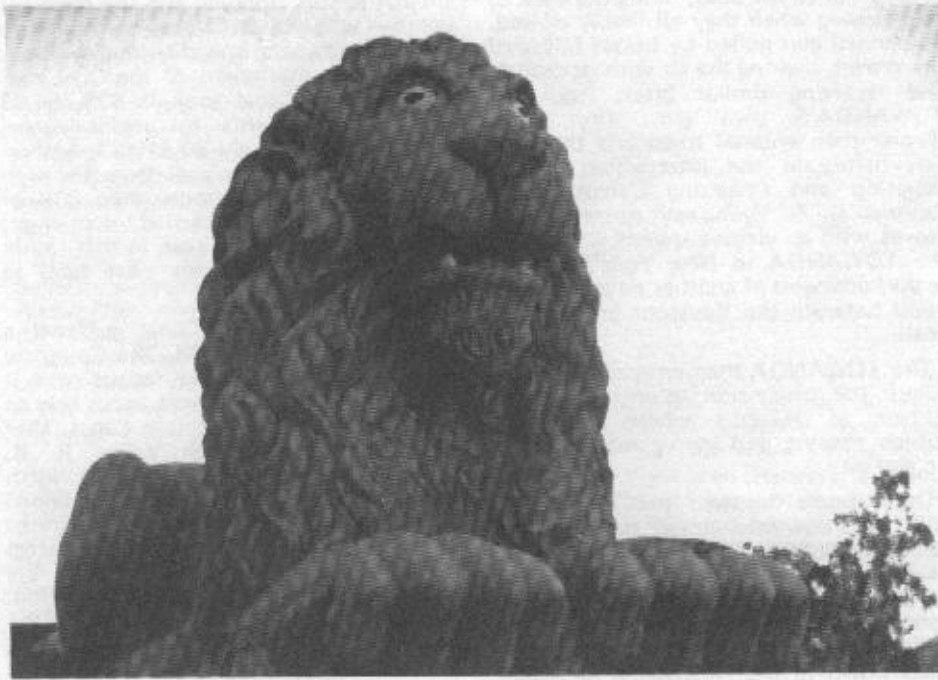
The North Branch Canal suffered a devastating flood in 1865. The Company spent over \$150,000 in repairs and it was October before it was again able to feed coal in to the Junction Canal. That same year, the Lehigh Valley R. R. gained a controlling interest in the North Branch Canal Company and obtained permission from the State Legislature to build a railroad along either the berm bank or the towpath as long as the waterway was maintained for navigation. The Company's name was changed to the Pennsylvania & New York Canal and R. R. Company and their line was opened all along the route of the canal by September, 1869. That spelled the end for both the Junction and North Branch Canals. Anthracite tonnages on the North Branch fell to 78,187 tons and on the Junction to 65,899 tons for 1869. Receipts on the Junction for that year were \$13,253.35, or nearly \$3,000 less than the expenditures.

Severe flooding on the Chemung in 1871 played havoc with the Junction Canal and its Pennsylvania terminus at Athens. Navigation wasn't opened until August of that year and only 511 tons of Anthracite made their way to Elmira. The Company's report for 1872 was short and sour. "This canal was not opened this year, and will not be." And so ended New York's Junction Canal.



Our Great Lakes photographer, Bill Etchberger, has just returned from another trip to Saulte Ste. Marie where he obtained this interesting picture. Taken from between Poe and McArthur Locks, looking west, it shows an extremely large freighter nudging its way into Poe Lock, with mere inches to spare on both sides. The two other American Locks - Davis and Sabin - are out of the photo to the right.

## A CANAL-WALLAH IN INDIA (Part II)



One of the four huge lions guarding the Solani Aqueduct at Roorkee, on the Upper Ganges Canal (Bill Trout)

By Dr. William E. Trout III

*This is the conclusion to the article which began in the May 1984 Issue of AMERICAN CANALS.*

### Other Canals in the South

Parts of this system, as in Madras, Calcutta and the state of Orissa, are still in active use but much of it is in decline and parts are impassable. This is unfortunate for India, which needs all the economic stimulation and employment she can generate. These canals should at least be protected against low bridges and other construction or destruction which would preclude revitalization of the system if it becomes needed again - as in wartime. There is even the possibility of using the canal system for tourist purposes. After all, even the waterways of France began their tourist boom only recently, so India's turn may be yet to come. How many of us would like to take a canal voyage of exploration through India, in spite of silting channels and pollution? (There's no avoiding the fact that the canals are a great public convenience!)

There is also a West Coast Canal System, in the very southern state of Kerala. Here there are over 1,200 miles of sea-level canals in a beautiful setting, regularly plied by ferry and tourist boats: Cochin is the center for a number of boat tours; Allepy is known as "The Venice of the South." Except for a 30-mile break between Badagara and Azhikkal, boats can travel inside 343 miles of the west coast, from 25 miles south of Mangalore down to Trivandrum, almost on the tip of India. There are probably no locks on these waterways but at Varkalla, 32 miles north of Trivandrum, is India's only navigable canal tunnel, complete with

beautiful cut-stone portals and inscriptions. Actually two tunnels, together 3/4 miles long, it was constructed in 1890. Only 14 feet wide and 10 feet high above water level, it has been considered a bottleneck worth opening out, but has fortunately survived so far, and one can arrange a trip through it.

### Canals in the North: The Upper Ganges Canal

India's most notable canal is the Ganges, built in 1842-1854 during India's Golden Age of Irrigation and still considered one of the great irrigation works of the world. It begins where the sacred river leaves the Himalayan foothills, in the sacred city of Haridwar (just downstream from the even more sacred city of Rishikesh, where meat-eating is prohibited). I stayed in Haridwar's Tourist Bungalow, which has a bathing ghat convenient for immersion not merely in the Ganges, but in the Ganges Canal, since it is downstream from the upper headworks at Bhimgoda. Also represented here is a marvelous feature of the Indian canal system - the Canal Inspection Bungalow, which when not actually occupied by a Canal Inspector, is available to tourists for a modest fee; just ask at the local canal office. I was told that the more isolated bungalows on the system may be rather rudimentary, so you'll need some water and a sleeping bag.

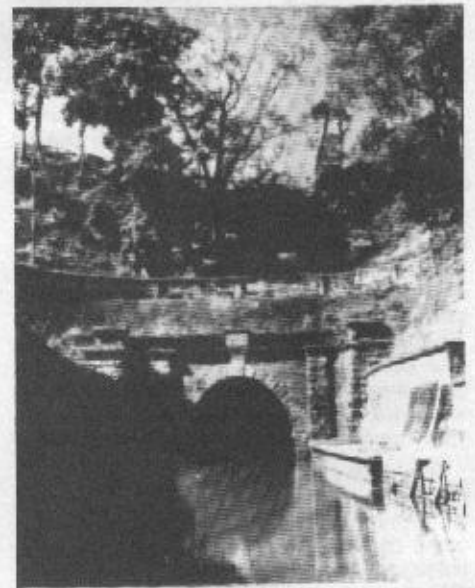
The upper 17 miles of the Ganges Canal, from Haridwar down to Roorkee, is the most spectacular length of canal in India. Here it had to cross several rivers before starting down the Ganges plain. The canal drops through four 9-foot "falls" each with a lock; passes under both the Ranipur and Pathri rivers, which cross on "superpassages"; is crossed at grade by the Ratmau River, which escapes through a spillway which is opened out during the

monsoon; and crosses the Solani River on a magnificent 15-arch brick aqueduct with approach embankments over two miles long. One of the superpassages and a lock (derelict but still with miter gates) can be glimpsed from the right side of the bus from Haridwar to Roorkee.

The whole Ganges Canal is a monument to its brilliant engineer, Sir Proby Cautley, but the gem of the canal and his finest single work is the Solani Aqueduct at Roorkee. The two huge pairs of lions which flank its approaches have become the symbols of the University of Roorkee, India's famed engineering school, and appropriately so, because it was founded in 1847 by Cautley himself as a training ground for canal engineers. The canal's "maintenance, improvement and extension would ask for a constant supply of an engineering force" says S. K. Bhatnagar in his epic history of the University in verse, in the University's 1982 literary magazine.

Roorkee is worth a pilgrimage just to see the aqueduct and to visit the university which houses, among other things, Cautley's statue and his three volume report and atlas on the canal, published in 1860. Also appropriately close by is the Irrigation Institute. Cautley's theodolite and level are not here, but back in the canal office in Haridwar.

Cautley's contributions have not gone unnoticed outside of India. His portrait appears on the frontispiece of Frederick Newhouse's *Irrigation in Egypt . . . India and Pakistan* (London, 1950) and he has been the subject of two detailed articles by Joyce Brown of Imperial College, London, "Sir Proby Cautley (1802-1871), a Pioneer of Indian Irrigation" (*History of Technology* 1978, A.R. Hall and N. Smith, eds., London 1978), and "A Memoir of Colonel Sir Proby Cautley,



One of the portals of Varkala Tunnel, connecting the backwaters of Kerala - India's only navigable canal tunnel (from *Navigable Waterways of India*, 1961). This is the photograph which nearly put me in jail!

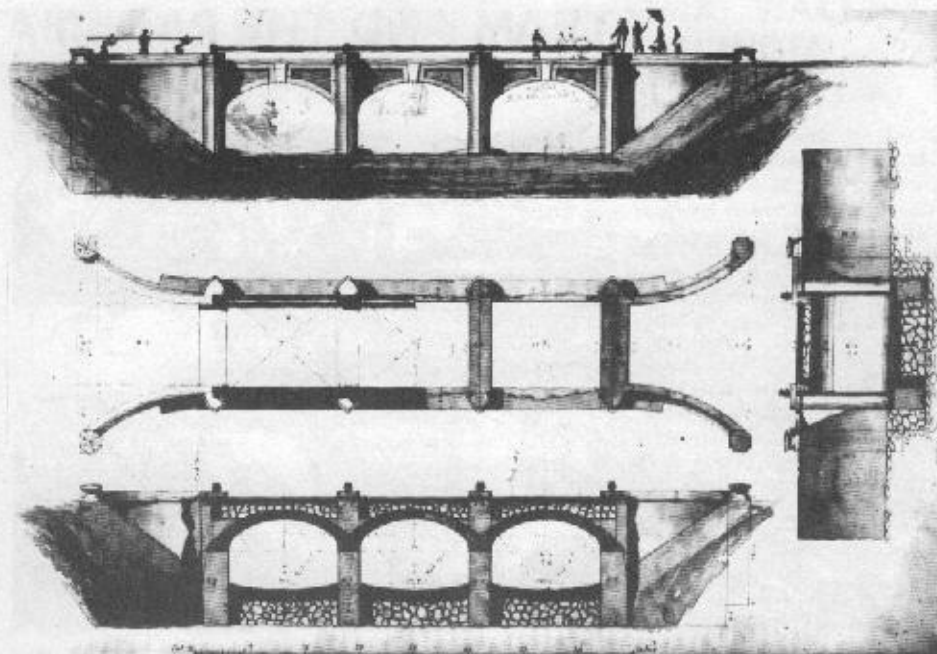


F.R.S., 1802-1871, Engineer and Palaeontologist" (*Notes and Records of the Royal Society of London*, March 1980, pp. 185-225). He will also play a large part in a history of the University of Roorkee now being completed by Dr. K.V. Mittal.

I was able to visit two of Cautley's locks on the Upper Ganges. Navigation was never as important as first envisaged on the canal, so they have been long abandoned. Asafnagar Lock is 5 km down the canal from Roorkee, on a bypass canal around one of the falls - typical of the upper reaches. It is a cut-stone lock, with a chamber about 15 by 105 feet and with wooden miter gates with sluices in them. The gates have no balance beams but were operated by four hand-operated winches which may have once had beams and cables attached to push the gates shut and pull them open. Walipura Lock far downstream in Bulandshahr is similar but is typical of locks in the lower reaches, built into the fall itself, rather than on a bypass. There are remnants of the tow-path under the bridge at the fall, a reminder of canal days when boats were towed by men and animals. Nearby in a small building is a row of millstones, powered by canal water and wooden turbines, grinding slowly just as Cautley must have left them a century and a half ago. Across the canal is the Canal Inspection Bungalow, complete with an Art Deco addition and a porch perfect for watching the falls while taking tea.

#### The Eastern Jumna, or Doab Canal

"Doab," meaning "two waters," is a handy Indian term for the land area between two rivers. The Doab Canal, following the Jumna-Ganges doab, is also known as the Eastern Jumna Canal and was Cautley's first canal assignment, in 1825. The canal is about 140 miles long, from a weir on the Jumna River down to Delhi, following the line of a derelict irrigation system built by the Moguls in the seventeenth century. Cautley redesigned the canal entirely, building a series of falls to control the flow. Some of these structures incorporated parallel walls 15 feet apart which could be later changed into locks, but is not clear where this was done. Cautley's map in *Notes and Memoranda on the Eastern Jumna, or Doab Canal and the Watercourses of the Dhera Dun* (1853) shows at least three locks near the lower end, at Jaoli, Sikrani and Suhulpur, but navigation was abandoned long ago. I was unable to reach these sites but I did look at the fall at Maujpur near Delhi (no sign of a lock), and at Hulapur near Saharunpur (Cautley's headquarters) where there is an 1841 plaque with Cautley's name, one set of gate recesses which might possibly be remnants of a lock, and a few picturesque remains of perhaps the original "choki" or locktender's house. All of the Eastern Jumna sites deserve investigation by a canal archaeologist because the navigation structures should be among the earliest in India. In fact, we strongly suggest that the Archaeological Survey of India or Roorkee University make an inventory of all the country's historic navigation structures before more are lost, and



Sir Proby Cautley's drawing of a bridge over the Doab Canal, from his private sketch book 1833 (Photo courtesy of Joyce Brown)

make a selection of sites to be protected as national historic monuments.

#### Other Canals in Northern India

The Western Jumna Canal is a mirror-image of the Eastern Jumna Canal, on the west side of the Jumna River, flowing into Delhi itself. Both its roots in the fourteenth century, and its reconstruction by the British in 1817-1840, make it older than the Eastern Jumna, so any remaining early structures would be particularly important.

When you tour Old Delhi's Red Fort, ask the guide to point out the "Canal of Paradise," a marble channel which once carried water through the middle of the Painted Palace.

You can rent a houseboat on the scenic waterways of Srinagar in the northern state of Kashmir. The custom goes back to the days when Britishers were not allowed to own land in Kashmir, so they bought elaborate floating homes instead. There are lots of boats here, but no locks.

There are many more canals in the Ganges plain, including the once-navigable Agra Canal, and still active ones in the Ganges delta. Calcutta has a number of canals and locks, and from here one can arrange bus/motor launch trips into the Sunderban wildlife area. There is even a modern 82 by 490-foot ship lock in Farakka Dam across the Ganges, on the National Waterway from Patna down to Calcutta and the Bay of Bengal.

#### Hints for Future Canal-Wallahs

You won't find friendlier, more helpful, people than in India. Wherever you go you will be invited in for tea and a chat. The canal officials will do all they can for you.

But these same officials are shackled by a huge bureaucracy which prohibits

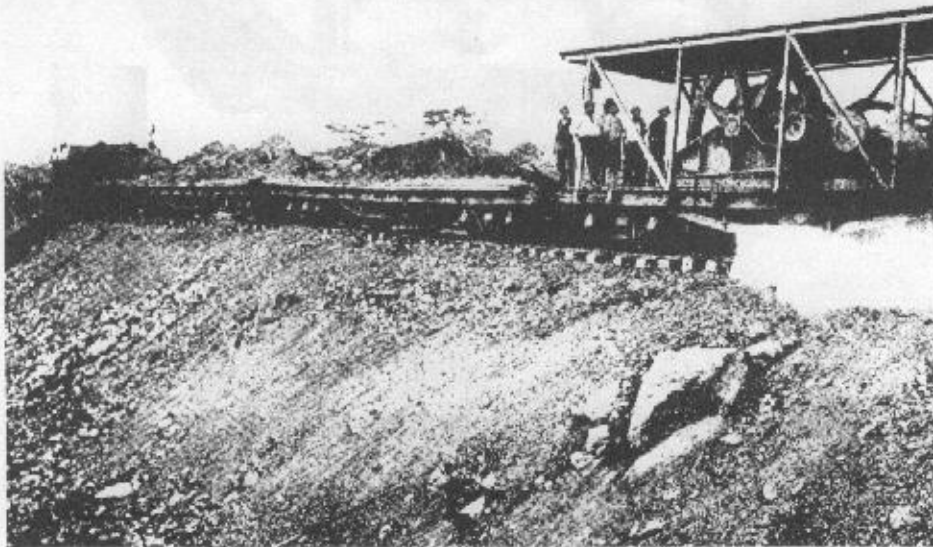
them from taking any initiatives without permission from above. They can't officially show you around the canals, or let you photograph the canal structures - not even derelict locks. The photography restriction, left over from the 1962 Chinese border crisis, is something of a joke amongst the engineers and canal officials, who realize its foolishness for all but the most sensitive canal structures, but there it is. Railway buffs have the same problem. And at the moment, India is somewhat paranoid about spies and terrorists (being surrounded by unpredictable neighbors, one of them armed by the U.S.) so flaunting this law is no joke.

The solution is to start months ahead of your trip by letting the Indian Embassy know that you want to visit and photograph the canals. As far as you can, tell them which canals you plan to visit, and when you might be there. Ask them to pass the information on to the Secretary of the Ministry of Irrigation in New Delhi, and to the relevant state ministries - for the canals are administered by the states, not by the central government. With luck, this will clear the way for canal photography, and for some guided tours by the local canal offices. It should even let you visit the super-sensitive Upper Ganges works, where one of the headgates has a guard and a sign prohibiting not only photographs, but taking notes! Don't forget to carry the correspondence with you - the bureaucracy places great store on pieces of paper. Let us know what happens.

I almost went to prison myself for failing to have one of these precious chits. I had been outside a New Delhi library, photographing a picture in an old book. The Librarian himself held the book open in the sun while I copied it. But we were in full view of a police station so one of the city's finest, who should have known better, caught me later on the way out

(Concluded on Page Nine)

# STEAM AND THE PANAMA CANAL



The Ligerwood Car-Unloader, shown here, with steam-driven plowshare which effectively pushed a whole train load of dirt off the flat cars in a matter of minutes, with no hand labor. (See Part One, May 1984.)

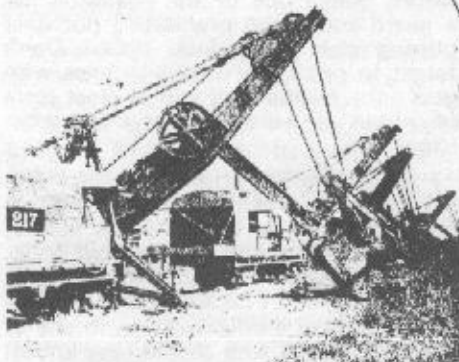
By William T. Richards

This is the conclusion to Mr. Richards' article, begun in the May 1984 Issue of AMERICAN CANALS.

In accounts of the French failure, where much hand-labor was common, there are many references to "waiting for dirt-trains." The Ligerwood Plow, which unloaded a dirt-train within minutes resulted in the best utilization of dirt-train capacity. The Spreader which cleared the track site, made it possible so an incoming dirt-train could be spotted and cleared immediately.

True - the steam-powered equipment we have discussed replaced the hand-labor of an estimated 5000 to 6000 men, however, there is an important conclusion to be noted here.

French records of work at Panama make frequent mention of time lost waiting for dirt-trains to be unloaded or of conveyors to be unclogged. Now all this work had been done by hand and resulted in bottlenecks that greatly retarded progress - result abandonment of the enterprise and the bankrupting of two companies.



A typical group of steam shovels, built especially for the Panama Canal project.

By contrast, the comments by visiting engineers from America and from around the world, upon the absence of any crew waiting for any other operation and a total absence of bottlenecks, such as during the French experience were very noticeable as the dirt-trains were unloaded in minutes, the track cleared ready for another loaded dirt-train to be spotted - with little or no hand-labor. Result of the might of steam, properly applied, all phases of the enterprise were completed on schedule and costs kept within the original engineering estimates.

The Canal at Panama has for 69 years served the commerce of the world - right through two World Wars and stands as a fine example of American ingenuity, foresight, ability, and determination which makes anyone proud of his Country and of the might of steam!

All the shovels, in fact most of all types of steam equipment, built for Panama, were built to excellent specifications ordered by the U.S. Army Corp. of Engineers. This was to keep the stocking of repair parts and machine-shop maintenance as standardized as possible in a region far removed from the factories.

Incidentally, all the shovels and most other steam equipment built for Panama were built in the State of Ohio - at Bucyrus, Lima and Marion. The shovel at Dundas still bears the Marion, Ohio name plate.

Not only was the design of such equipment excellent, but the maintenance must have been good as well, since nearly all units, when Canal construction was finished, were re-sold, shipped back and gave excellent service for many years. The Author had the opportunity to examine a Panama shovel in a stone quarry near Buffalo, New York in the 1930's, this shovel looked sturdy and impressive to a budding engineer. It still had water in the boiler and was obviously still in use.

Since very ancient times commerce between countries has moved by caravan

on land and by ships on the seas. On land improvements in roads and carriers have almost - but not entirely - replaced the animal caravan tradition. By sea, ships have been greatly improved, but there is nothing on the horizon to take the place of a good ship where tonnage, not time, is the principal objective.

In the last few years certain warships and the oil supertankers have reached a size and depth of channel requirement that exceeded the capacity of all the international canals. At Suez a Japanese engineering firm has dredged the channel to a working depth of 50 feet, making the canal capable of handling virtually anything afloat. The Panama Canal is limited to ships of 1000 feet in length, 100 feet in beam and a working depth of somewhat under 40 feet in places. This Spring (1983) a team of Japanese and United States Engineers studied the alternative plans of adding a larger lock at both the Atlantic and Pacific ends, together with dredging a working channel of say - 50 feet. Also studies by these engineers was the feasibility of inter-connecting certain lakes in Nicaragua to build a canal capable of handling the larger supertankers. However, with the political instability of Nicaragua and the volcanic experience of that country, additional construction at Panama certainly seems to offer a preferable alternative.

Not to be overlooked are the number of mishaps of supertankers at sea and the tremendous resulting oil-spills so it may just develop that we have exceeded the ultimate economical size for those monsters.

Should a decision be made to modernize Panama to accommodate the present larger ships there are problems. However, with Yellow Fever behind us, with 70 years of successful Canal operation performed, a supply of water at hand for lock operation, with these under our belts there are no unknown factors with which to deal. In short, there would seem to be no technical road-blocks.

Rather in my humble opinion the problems are with us - good American Citizens! We have not, for these same 70

(Concluded on Page Nine)



Some of the steam shovels were brought north after the Panama Canal was finished. This one was finally abandoned after long years of service in a Canadian stone quarry.



## SCIOTO VALLEY CANAL SOCIETY

To promote interest in the history of the Ohio and Erie Canal in the Portsmouth area, a Canal Days Festival was held in October 1977. The following year the Scioto Valley Canal Society was organized and for five years thereafter, sponsored annual canal festivals.

The Society is now turning its attention to the restoration of canal sites and is providing technical assistance to the Business and Labor Committee of the Portsmouth Area Chamber of Commerce in planning for restoration of a section of about 2 miles of the canal prism at Union Mills, Lock 50 and other canal remnants in the area. A canal boat replica built to carry about 100 passengers on the canal is also planned.

Beverly K. McCall, president, notes that the Society will also arrange meetings and provide publicity for the project. Past-president Bob Delabar is chairman of the committee doing research on the 4 locks remaining in Scioto County.

In the spring of 1983 the outlet lock into the Ohio River (Lock 55) was cleaned by workers of the Scioto County Litter Control Program and when restored will be included in Riverside Park.

The Society now publishes a quarterly Newsletter of current canal and Society news and expects to include historic canal information in the future. Members receive the newsletter and are eligible to vote. Dues: Individual, \$4.00; Family, \$5.00; Organization, \$10. Make checks payable to: Scioto Valley Canal Society, Box 502, Portsmouth, OH 45662.

## Steam and the Panama Canal

(Concluded from Page Eight)

years, nominated and elected a President having the foresight and vision of Theodore Roosevelt. Can you for a moment imagine Teddy leading his country into a give-away Treaty for Panama? Neither have we demanded and elected to Congress many worthy of the term Statesman.

Now for those of us who have studied, operated and revealed in the might of steam, the record is largely written and, written not in words, but in the character and ideals of our sons. If there is more to be done at Panama, steam is as ready and capable as it has always been. Have we raised up men capable of applying it?

"Steam and the Panama Canal" was originally published as a series of short articles in "Engineers and Engines Magazine." ACS Director William J. McKelvey, Jr. made arrangements with the Author - William T. Richards - to publish it as a series in AMERICAN CANALS. However, we have taken the liberty of putting it all together, with the excellent photos supplied by Mr. Richards, and with some editing. For the complete story of the politics and engineering behind the original building of the Panama Canal, see TOWPATHS TO TUGBOATS (May 1982) as published by American Canal and Transportation Center.

## Isthmus Canal Plan



Representatives at a recent binational meeting in Panama City reviewed a preliminary plan for a trans-isthmus waterway for shallow-draft ships. But they did not act to retain consultants for indepth feasibility studies.

The proposal calls for a 135-mile route through Colombia and Panama to accommodate vessels up to 10,000 tons. It would mostly follow natural river courses, but require a cut through the low ridge that forms the continental divide near the countries' border (see map).

The plan, presented by a Colombian committee lowers the cost estimate to \$1.6 billion from an earlier figure of \$2 billion. It says the project will require dredging and excavating 350 million cu yd, including 100 million cu yd to cut 6 miles through the divide, which rises only 335 ft above sea level.

The proposal was submitted to the Panamanian society of engineers and architects, that country's vice minister of foreign relations, and the tripartite commission considering enlarging the Panama Canal and other alternatives for handling larger vessels. That group includes representatives of Panama, the U.S. and Japan. All those parties will offer their reactions after Panama's May 6 presidential election.

The main advantage of the waterway is relieving the Panama Canal of small ship traffic. But with international ship traffic off, some local observers question the feasibility of any new waterway or enlargement of the existing canal.

*The above clipping, from Engineering News Record for January 12, 1984, was sent us by ACS Life Member Bob Mayo.*

## I & M CANAL COURSE

Lewis University, Romeoville, Ill. in conjunction with the Illinois Humanities Council and the National Endowment for the Humanities offered a course in the Culture and History of the Illinois and Michigan Canal Corridor this summer. The course was taught jointly by John Lamb of the History Dept. and Robert Farrell of the Biology Dept. The fifteen participants, all history teachers in local high schools attend classes and did research on the I. and M. Canal in the Canal Archives and Local History Collection in the University Library. Papers

## A CANAL WALLAH IN INDIA

(Concluded from Page Seven)

and hustled me off in a jeep to the New Delhi security headquarters. A phone call to the librarian quickly settled the matter, but I was warned never to photograph a book again without written permission!

Maps are also a problem in India. Few towns have street maps. You won't find any topo maps showing lock locations, because for security reasons detailed ones (especially those showing borders) are not allowed out of India, and those I asked for at the Government Map Office in New Delhi were "restricted." You'll have to settle for their state maps. In the U.S., the largest maps for sale are at 8 (TPC maps) and 16 (ONC maps) miles to the inch, from Distribution Division (C-44), National Ocean Survey, Riverdale, MD 20737 (ask for their free index to the TPC and ONC foreign pilotage charts). But since these show airfields and defense boundaries, better have written permission from the Indian Embassy if you plan to take any with you.

Don't forget to take your sleeping bag for the train (the sleepers have no bedding), a flashlight (for power failures and the Taj crypts), earplugs (Indians love noise), enough deodorant (if you eat meat), toilet paper (if you eat), water purification pills (when you can't get boiled water), a towel and washcloth (for bathing in the Ganges Canal) and plenty of patience. Go in the wintertime when the heat is bearable, and get into the countryside, away from pestering salesmen of all ages. But it's all a worthwhile experience.

It would be impossible to acknowledge individually here all of the canal and government officials and other friends who helped me. Officials at the University of Roorkee, the local canal offices, the Central Water & Power Commission, and the Ministries of Irrigation, and of Shipping and Transport, did what they could. Special thanks go (chronologically) to Joyce Brown, Charles Hadfield, Sheila Doeg, Mr. R. L. Cautley, Dr. & Mrs. B. N. Ganguli, Mr. R. I. Sunu, Mr. N. Dharmiah, Mr. K. Subhrmanyeswara Rao, Mr. Prasada Rao of the Church of Christ, Mr. W. S. J. Thambudurai, Mr. R. Rangachair, Dr. R. P. Sharma, Mr. S. P. Bhargava, Mr. R. S. Saxena, Mr. S. K. Bhatnagar, Mr. Darshan Singh, and Mr. P. Kempaiah.

The industrial archaeology of canals may not yet be an established field of study in India, but something must be done soon before more of the early works of this extraordinary system are lost to us.

were on such topics as "Canal Lock Gate Patent litigation in the 1840's," "A Railroad or Canal Connection between Lake Michigan and the Illinois River in the 1830's," and "Recruitment and Life of a Canal Construction Worker in the 1830's." There was also a Natural History segment to indicate what the area was like before the canal was built.

## "SS ANCON" AND THE PANAMA CANAL

In *American Canals* #18 of August 1976, the steamship SS ANCON was shown on the occasion of the "Opening Day" of the Panama Canal on 15 August 1914 when she had the honor of being the first ship to transit the new waterway. Later it was learned that there were two ANCONs which were involved with the Panama Canal trade.

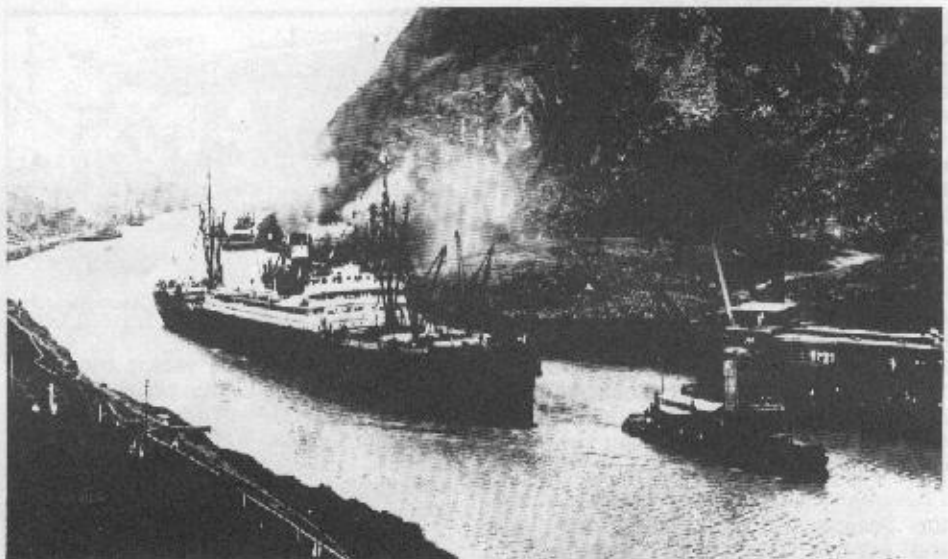
The first ANCON was launched 23 December 1901 at Sparrows Point, Maryland by the Maryland Steel Company as the SHAWMUT (later to become the ANCON). She was 489.5 feet long, 58 feet wide, displaced 13,000 tons, had engines producing 4,000 horse power, and a maximum speed of 13 knots. The ANCON was transferred from the Army on 16 November 1918 and commissioned as a U.S. Navy ship on 28 March 1919, becoming the USS ANCON (SP1467). The USS ANCON joined the Cruiser and Transport Force of the Atlantic Fleet and made two trips to France, returning 6,112 troops. She completed her last voyage in the Navy on 7 July 1919, was decommissioned on 25 July 1919, and returned to the War Department on the same date. The War Department put her back into use as a cruise ship on voyages between New York, Haiti, and Panama under the Panama Railroad Company's Panama Steamship Line. The ANCON was in service for many years until 1939, when she was tied up in Gatun Lake for storage.

A new SS ANCON was completed in 1938 as a replacement for the old one. She was built at the Bethlehem Steel Company Yard at Quincy, Massachusetts, being christened on 24 September 1938 by Mrs. Harry Woodring, wife of the then Secretary of War, and was placed in service on 22 June 1939. Carrying 202 first-class passengers and a crew of 125, the new SS ANCON was operated by the Panama Steamship Company and the Panama Railroad Company.

The civilian career of the ANCON ended on 11 January 1942 when she was transferred to the Army Transport Service, making two trips to Australia carrying American troops. The ANCON next sailed, via the Panama Canal, to Boston where she was turned over to the Navy in late July 1942. From Boston she departed under the designation USS ANCON (AP66) for Iceland, the United Kingdom, and then African ports, before returning to New York in December 1942.



The "second" ANCON as USS ANCON (AP66) in 1942. (Navy Audiovisual Center)



The "first" ANCON during the transit of the Panama Canal on Opening Day, 15 August 1914. (U.S. Navy Audio Visual Center)

During 1943, 1944, and 1945, the USS ANCON as AGC4 was active in naval service as an Amphibious Force Flagship, becoming the first and probably the best known of the communications ships developed in World War Two. She traveled farther, was in more major naval operations, and carried more top military personalities than any other ship of her type. The ANCON was well known to naval personnel as the "Mighty A". The ANCON had many close calls from the Germans and Japanese but escaped damage throughout the war. After serving as the "press" ship at the surrender of the Japanese in 1945 in Tokyo Bay, the USS ANCON set sail for home. On 25 February 1946, the ANCON was transferred to the War Department and placed back into the service of the Panama Steamship Company under the Panama Railroad Company.

At about this time, the Maine Maritime Academy was looking for a replacement for the STATE OF MAINE (the former USS COMFORT) as its training vessel. When it was announced that the ANCON was being retired, the Maine group agreed that the ANCON was assigned to the Army Corps of Engineers at New Orleans as a stevedore training facility, and her decks and superstructure suffered relatively severe damage.

But, the Maine group persevered and

eighteen months of negotiations paid off for them with the formal transfer of the ANCON to the Maine Maritime Academy on 29 June 1962 at New Orleans. The SS ANCON was renamed the STATE OF MAINE by the First Lady of Maine, Mrs. John E. Reed, on 14 July 1962 and the vessel served as the academy training ship out of Castine, Maine from 1962 to 1973. In 1973, the Maine Maritime Academy returned the vessel to the U.S. Maritime Administration, which placed it in a reserve fleet lay-up status. On 25 May 1973, the Federal Government sold the ANCON for scrap to the North American Smelting Company of Wilmington, Delaware.

Thus ended two generations of ANCONs which served their government well in the Panama service, two world wars, and as a training facility.

*(Prepared from naval records and other sources by Alden W. Gould, ACS Director for the State of Florida, and Alden W. Gould, Jr., SCS.)*

The first annual Portage (Wisconsin) Canal and Upper Fox River Canoe Race was held in June during the Old French Days celebration. The race began behind a local boat factory and finished eight miles away at the Governor's Bend Locks.

Frederica Kleist, President of the Portage Canal Society, was pleased with the first venture and stated that this race will be an annual event. The main purpose of conducting the race was to alert the Department of Natural Resources that the Portage Canal and the Upper Fox River Canoe Trail is not only practical as a low cost outdoor recreational facility, but desirable as a means of attracting tourists and canoeists to that part of the state.

*(From the Portage, Wisconsin Daily Register of 25 June 1984.)*



## NEW CANAL PUBLICATIONS

**THE BIG DITCH** — "Small stories of the Ohio Canals" — Third Edition, 1983. — By Jim Baker. A small, 48-page paperback of incidents on the Ohio canals, shown in cartoon form. Well done, and the accompanying text appears quite accurate. Map of the Ohio historic canals is the centerpiece. \$2.00 to Roscoe Village Foundation, 381 Hill St., Coshocton, Ohio 43812.

**THE MORRIS CANAL** — by James Lee, Fourth Edition. A photographic history of the Morris Canal, which contains 322 photos taken during actual canal operation. This 8-1/2" x 11" hardbound book, includes capsule history of the canal, table of distances and bibliography. \$16.95. Make checks payable to James Lee; mail to Delaware Press, P.O. Box 454, Easton, Pa. 18042.

**THE MIAMI & ERIE CANAL** — "Pathway Through the Wilderness", 1983, by the Great Miami River Corridor Committee. Small, 11-page booklet with eight canal-operating photos and good text. \$1.00 to Great Miami River Corridor Committee, 201 West Main Street, Troy, Ohio 45373.

**ANTHRACITE AND CANAL ISSUE** — Wyoming Historical and Geological Society Proceedings, 1984. Includes 21-page illustrated article by Thomas Dinkelacker on the Lehigh Canal; and a 34-page, well-illustrated article on the Susquehanna North Branch Canal by Leroy Bugbee. Other articles in the issue concern Anthracite Coal Mining. Cost of the entire 150-page volume: \$9.68 (tax and mailing included) payable to Wyoming Historical & Geological Society, 49 South Franklin Street Wilkes-Barre, Pa. 18701.

**CANALS OF MID-AMERICA** — 1984, by L. C. Swanson. Completely re-written and updated Edition of Mr. Swanson's book of the same name published in 1964. 54 pages, 22 new pictures. Covers the restoration work and recreational aspects of historic canals in Ohio, Indiana, Michigan, and Illinois. \$3.00 to L. C. Swanson, P.O. Box 334, Moline, Illinois 61265.

## SEAWAY MARKS 25th ANNIVERSARY

The opening of the St. Lawrence Seaway for the 1984 navigation season also marks its 25th anniversary, an event that will be celebrated with a series of special activities.

Ontario Editorial Bureau and the Inside Canada network has been retained to co-ordinate a publicity program aimed at fostering national public awareness of the Seaway and its role.

First major events scheduled in the series of 25th anniversary activities were the official openings of the Welland Canal section of the Seaway on March 28, and the St. Lambert, P.Q. opening of the Montreal-Ontario section of the Seaway on April 2.

The President of the St. Lawrence Seaway Authority, W.A. O'Neil participated in both ceremonies. Transport

**CANALLER'S SONGBOOK** — 1984, by Dr. William Hullfish. Said to be the most comprehensive collection of historic canal ballads ever published. Forty canal songs, sung along the Erie, Ohio, Pennsylvania and New Jersey canals, are included, with music, lyrics, chords and commentary. The author has spent ten years collecting the words and music. This 88-page 8-1/2" x 11" paperback, is illustrated with lively drawing of life on the canals. \$6.00 to American Canal and Transportation Center, 809 Rathton Road, York, Pa. 17403.

**200 YEARS OF WATER TRANSPORTATION IN EASTERN OHIO AND WESTERN PENNSYLVANIA** — 1984, by Ronald Reid. A well-written article, complete with area map, and data on canals, showing their length, route, description and locks, as published in the Magazine of the Western Pennsylvania Genealogical Society. For information write the Editor of this magazine at 4338 Bigelow Blvd., Pittsburgh, Pa. 15213.

**BEST FROM AMERICAN CANALS, NO. II** — Produced by the American Canal Society, 1984, this 88-page, 8-1/2" x 11" paperback includes feature articles published in ACS issues Feb. 1980 through Nov. 1983. It supplements BEST NO. I (still available at \$6.00). Approximately 125 old photos and maps included. Alexander Crosby Brown comments: "I was particularly delighted with the Canal Fever article; it told me a lot of things I thought I knew all about, but didn't! Congratulations!" \$8.00 to American Canal and Transportation Center, 809 Rathton Road, York, Pa. 17403.

**PORTAGE HERITAGE AT FORT WINNEBAGO AREA** — By Frederica Kleist, 1984. The booklet contains background on the Portage Canal, Fort Winnebago, Army personnel and canal history. Included are sketches on men such as Francis LeRoy, Pierre Pauquette, Morgan Martin and Jefferson Davis, with a letter by Davis to his sister while at the Fort. \$3.00 to Frederica Kleist, 528 West Cook Street, Portage, Wisconsin 53901.

Canada minister, the Hon. Lloyd Axworthy attended the St. Lambert opening.

The mammoth task of building the Seaway began in the autumn of 1954. Seven locks, five in Canada and two in United States, together with connecting channels were built on land and in the river and lakes between Montreal and Lake Ontario.

At the same time, the Welland Canal, which opened in 1932, was deepened to the Seaway standard of 27 feet.

Flags, bearing a 25th anniversary logo designed by Barry Weinstock on the Ontario Ministry of Transportation and Communications, will be displayed at the Seaway Authority offices and on ships plying the Seaway.

(From "Contact" for April 1984, a publication of The Ontario Editorial Bureau.)

## HAGLEY MUSEUM ACQUISITION

The Hagley Library of the Eleutherian Mills-Hagley Foundation at Wilmington Delaware 19807 (Box 3630) has recently acquired a valuable first edition of Michel Chevalier's three-volume *Historire et Description des Voies Communication aux Etats-Unis et des Traveaux d'art qui en Dependent* (Paris: 1840-1841). This has been described as the most elaborate early foreign work on American railroads and canals. The two text volumes contain over a thousand pages of detailed description of American lines of transportation from the Erie Canal to the Mississippi Basin, as well as brief discussions of the financing of public works in the United States. Chevalier's report will provide rich background material for scholars using the library's extensive book and archival collections. The atlas volume has nineteen large plates with a dozen or so delicate etchings illustrating bridges and piers, building techniques, and engines.

Chevalier left Paris for the United States, Canada, and Mexico in October, 1833. He spent two years in North America. His official report (the works described) was published by the Ministry of Public Works.

## CANAL CALENDAR

**September 15, 1984** — CSNJ Fall Canoe Trip on the Delaware and Raritan Canal, starting at Kingston. Contact John Drennen, 51 Spruce St., Bloomfield, N.J. 07003.

**September 21, 1984** — CSNJ Mini-Symposium on the Morris Canal with Lee, Metz and Wright. Allied Corporation Auditorium, Morris Township.

**September 22-23, 1984** — Annual Tour of the Canal Society of Indiana, along the Central Canal. Headquarters: Atkinson Hotel, Indianapolis. Contact Hugh Fuller, 1325 Norfolk Circle, Speedway, Indiana 46224.

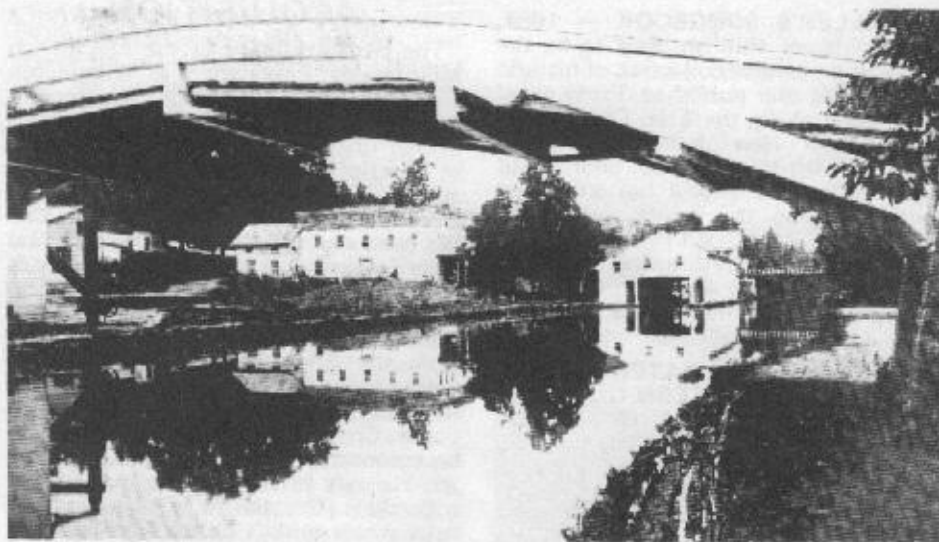
**October 12-13, 1984** — Pennsylvania Canal Society Fall Field Trip, along the Delaware and Raritan Canal. Headquarters, Holiday Inn, Bordentown, N. J. Contact Jackie Miller, 3107 Farmersville Road, Bethlehem, PA 18017.

**October 12-14, 1984** — Canal Society of Ohio tour of the Muskingum Navigation, out of Marietta, Ohio, on the stern-wheeler "Valley Gem". Contact Terry Woods, 6939 Eastham Circle, Canton, Ohio 44708.

**October 12-14, 1984** — Society for Industrial Archeology Tour of the Welland Canal and Niagara area. Headquarters: Parkway Inn, St. Catharines, Ontario L2T 1K7.

**October 20-21, 1984** — Fall Meeting and Tour of the Canadian Canal Society, Cornwall, and Montreal, P.Q. Visits to the old Soulanges, Lachine, and Beauharnois Canals, as well as the St. Lawrence Seaway. Contact Colin Duquemin, 56 Highland Avenue, St. Catharines, Ontario L2R 4J1.

## RARE WEIGH-LOCK PHOTO



Mary Redman of Wrightsville, Pa. has sent us this rare, hundred year old photo taken along the towpath of the Susquahanna and Tidewater Canal at York Furnace (PA). The photographer had his camera pointed north, looking under the mule and wagon bridge which crossed the canal. In the distance, to the right, can be seen the old Weigh-Lock building. One the left is a warehouse, still standing today, now a Lancaster County social club.

## VOYAGE OF THE "COLUMBIA"

*(Continued from Page One)*

Dana Bennett, a carpenter, said, "Tell all the people out there who said the boat wouldn't float, wouldn't go over Boshers, wouldn't go in the canal . . ."

" . . . We have a lot of crow on ice for them," concluded Ben Saunders, who helped design the Columbia using photographs of the remains of the canalboats found in a Richmond excavation site last summer.

Saunders said the end of the trip hadn't hit him yet. Bennett said, "I'm sure there's going to be a few watery eyes tomorrow when we leave it. As a matter of fact, I'm kinda choked now."

Starting today, the bateau will be on public view at Maymont Park, said Captain Joe Ayers, who accepted congratulations in Nikes and mud-splattered jeans. There may be a short run to Oregon Hill tomorrow, then after a couple of weeks in Richmond, the Columbia will be trucked home.

"Nobody's up for poling it upriver," Ayers said.

He speculated on future plans: The next bateau might be 60 feet long, bettering the Columbia's length by 20 feet. "We might create a whole new sport - bateau-racing."

It was Ayers' idea to build the bateau. He's a musician by trade, but a "river man" by inclination. The people of Columbia pitched in "and made my idea a reality."

Ed Fleming, a farmer, contributed some of the logs that went into the Columbia. He has slept on or near the boat every night of the trip.

"It sounded like a good time to start out with, but it ended up being a whole

lot more," he said. "It's given us something to be proud of."

The proud townspeople of Columbia followed the bateau, partly by land and partly by sea. There was a core crew of seven, but on legs of the trip, up to 22 passengers hitched rides.

Since the launching last Friday, the Columbia has put in at Cartersville, Westview, Maidens and Tuckahoe Plantation. To skirt Boshers Dam yesterday, the crewman used block and tackle and hoisted it up and over the north bank. They floated the empty bateau over Williams Dam using ropes.

On the other stretches of the river, the Columbia proved smooth and sturdy and capable of shooting the rapids with ease. "The lack of trouble surprised us," Ayers said.

Assistant City Manager A. Howe Todd said, "I want you to know that I'm glad the mayor had a conflict and the city manager was out of town. There's nobody that could have gotten as much fun out of this as me. I love the river and I love the canal. Thank you, the town of Columbia."

Dr. Trout said efforts like the Columbia focus attention on two dreams of the society: to preserve and restore the James River and Kanawha Canal, and to turn the Byrd Park Pump House, a short distance away from the lower arch, into a meeting hall and public park.

For safety reasons, the public wasn't invited to yesterday's celebration. The Pump House has rotting floors and dangerous staircases. A bridge built hastily Wednesday by engineers of the Virginia National Guard made it possible for the canal society's guests to cross the lock for the ceremonies.

## 1992 WORLD'S FAIR

Upper Illinois Valley Association has called for cooperation between the new Illinois and Michigan Canal National Heritage Corridor and the 1992 Chicago World's Fair. The Association, which sees the Heritage Corridor as a boon to the cultural, recreational and economic future of our area, called attention to the canal's pivotal role in Chicago's history and the future benefits of the National Heritage Corridor, approved by both houses of Congress this February.

The canal helped to create Chicago. In 1830 Canal Commissioners laid out the streets of the embryonic metropolis. With its completion in 1848 the canal created a superior transportation route linking the Great Lakes with the Mississippi, uniting the country north, south, east and west. Chicago was catapulted from a tiny frontier settlement to the center of our expanding nation, and a dozen towns rose up along the canal route.

When Congress recently passed legislation to establish the nation's first National Heritage Corridor along the channel, they undertook a concept plan for the Corridor which directs that Corridor development integrate into and complement the 1992 World's Fair. Once again the old canal will create new cultural, historical and economic opportunities for the people of Illinois.

*(Release from the Upper Illinois Valley Association.)*

## SUNKEN CANAL BOATS

*By Marie Gresock, Staff Writer  
News and Daily Advance,  
Lynchburg, Virginia*

Stone arches and towing paths may not be all that's left of the canal. A local canal historian believes up to a dozen packet (passenger) and freight boats may be buried in the city's lower basin.

In September, similar boats were unearthed in Richmond during construction on a downtown office tower. The boats were buried in the city's canal basin and plans are underway to restore three of them.

Lynchburg may have a similar historic trove waiting to be uncovered, said Gibson Hobbs. (ACS Director)

The area - which stretches roughly from 9th Street to 14th Street - could hold up to a dozen boats. According to a newspaper account from 1881, the year the canal was closed in Lynchburg, canal boats were herded into the lower basin like "wild hogs in a pen," Hobbs said.

He plans to urge the city's Bicentennial Commission to dig out a section of the canal near the lower basin. He hopes to make area residents more aware of the canal's impact on Lynchburg's history.

While they're digging, they can look for the boats, he said.

Lynchburg residents can see part of a boat in Riverside Park where the hull of the packet boat Marshall is on display. In 1863 the body of Gen. Stonewall Jackson was carried on the boat to Lexington for burial.