

AMERICAN CANALS

BULLETIN OF
THE AMERICAN CANAL SOCIETY

BULLETIN NUMBER 23

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

NOVEMBER 1977

Ohio Canal Marks 150th Anniversary

Much like the old soldier who fades away, the Ohio Canal had been forgotten by all but a few dedicated canal buffs. However, in celebrating the 150th anniversary of the opening of the Canal's first segment (the 38-mile Akron to Cleveland portinn) canallers have joined with other interested citizens in forming the Ohio Canal Sesquicentennial Commission.

From June to September, the Commission presented a program for all ages. From band concerts to bus tours, from johnnycake pastry to Johnnycake Village, everyday citizens and canal buffs alike have seen the Canal achieve the prominence that accompanies the title of National Historic Landmark which Congress has bestowed on it.

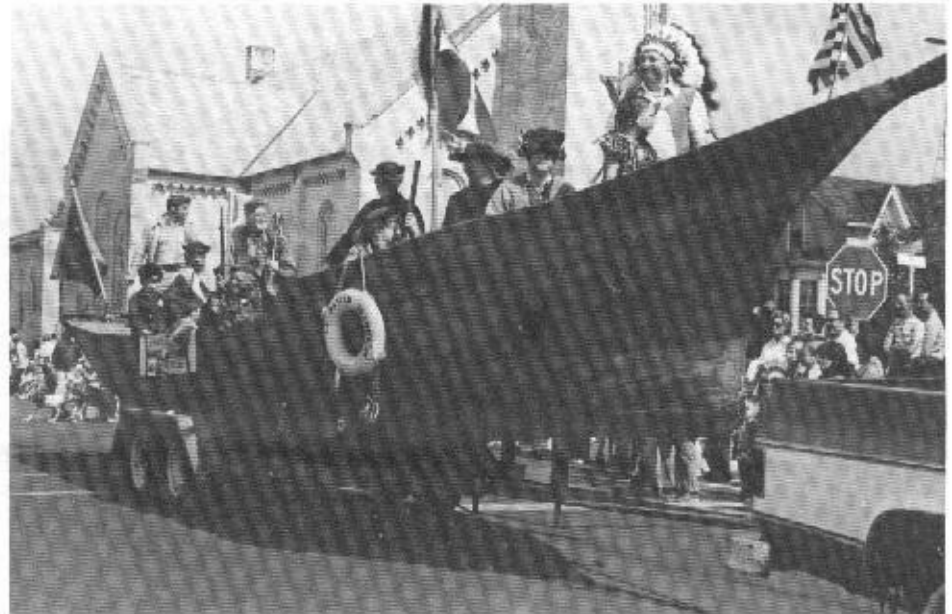
Throughout the summer, band concerts were presented and a slide show history of the Canal was shown near its banks. Bus tours followed the old "Buckeye Ditch" down through the Cuyahoga Valley from Akron and Cleveland, stopping along the route to inspect locks and other various historic sites.

On the anniversary of the Canal's opening, July 4th, ACS member, Jim Kuth led a gala, festive ceremony in Cleveland's industrial "Flats" area. Included in the program was a re-



Tom Summers, President of Western Reserve Canal and Transportation Society, presents a plaque to June Kosich of the Woman's City Club of Cleveland. The plaque will be erected at the northern terminus of the Ohio & Erie Canal in the Cleveland Harbor area. The plaque was presented at the Fourth of July celebration chaired and organized by ACS Member Jim Kuth (in the top hat). Ben Stephanski II (at right) was the Co-Chairman of the Ohio Sesquicentennial Commission which raised funds to promote the canal. The plaque reads, "At this location from 1827 to 1875 the Ohio and Erie Canal had its terminus into the Cayahoga River and the basin where cargo was exchanged between canal boats and lake ships after 1875 . . ."

Portage Canal Society Formed



The re-constructed "Bateau Francaise" won first prize in the September 4, 1977 Labor Day Parade in Portage, Wisconsin. The "Indian Chief" is Henry Abraham, President of the Portage Canal Society.

creation of the original opening ceremonies in 1827. Some of the first welcoming speeches were recited, interspersed with cannon fire from the Connecticut Western Reserve Militia Volunteers and their 19th Century vintage canon.

The last known living Canal boatman, James Dillow Robinson, 80, who worked on a state repair boat as a youth presented a poem, "Canal Nostalgia," an original remembrance of his boyhood experiences.

The City of Cleveland fireboat, "Celebreeze," thrilled spectators with a water salute as visitors picnicked and listened to music on the banks of the Cuyahoga River near the mouth of the old Canal.

Closing out activities in September were "Canal Days at Hale Farm," a restored 19th Century village on the Jonathan Hale homestead between Akron and Cleveland. From September 10-18, visitors were treated to the baking of johnnycake pastry, an appearance by Dillow Robinson, a slide show history of the Canal, a display of photographs and Wilcox paintings and the Wright-Patterson Air Force Band of Dayton, Ohio on September 17th.

(Concluded on Page Two)

The Portage Canal Society of Portage, Wisconsin was formed to seek recognition of the Portage Canal, to clean it up, and to restore it back to providing navigation between the Wisconsin and Fox Rivers. The first part of the goal was achieved this summer (26 August 1977) when the canal was entered on the National Register of Historic Places. Cleanup work continues through the winter.

At present, canoes can use two miles of the canal, portage around the Fox River Locks (destroyed by the Corps of Engineers), and go into the Fox River. The Wisconsin River locks remain in place but cannot be used at present.

Instrumental in much of the work of the Portage Canal Society are president Henry Abraham and Secretary Frederica Kleist. ACS Navigable Canal Committee Chairman Bev Morant has said of the group, "Some day this new society should write up the history of its political fight to get recognition of the Portage Canal . . . If any of you are fighting for a lock or a canal, keep it up, for your odds are no worse than that of the Portage Canal Society. If you get discouraged, write to: Henry Abraham, 529 West Cook St., Portage, WI 53901."

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, with headquarters at Box 310, Shepherdstown, W.Va. 25443. Objectives of the Society are to encourage the preservation, restoration, interpretation and use of the historic canals of the Americas; 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 \$6.00. Individual copies may be purchased at \$1.00.

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Chairman, Canal Boat Committee, ACS Director, Carroll M. Gantz, 7100 Oxford Road, Baltimore, Md. 21212.

AMERICAN CANAL SOCIETY INITIATES MEMBER NO. 1,000



Dr. David W. Beebe, shown above in the garb of a clerk of the 1800's at Sim's Erie Canal Store, Camillus, New York, becomes the 1000th person from whom we have received an application to join the American Canal Society. It is particularly appropriate that Dr. Beebe happens to be Chairman of the Erie Canal Project in Camillus, as well as an active member of Canal Museum Associates of Syracuse and the Canal Society of New York State. Full details of the Camillus Project will be published in the next issue of AMERICAN CANALS.

TRIBUTE TO A CANAL BOAT CAPTAIN



Not too long ago, the Editor of *American Canals* received this 1928, photograph of Joseph Reed (left) leaving the lock at Freemansburg, Pa. on the Lehigh Canal. It was typical of Joe that he shared his knowledge and fondness for the old canals up to the last. Joe Reed was a canal boat captain who followed the footsteps of his father and grandfather on the canal before him, by starting as a mule driver at the age of seven. He became the captain of his own canal boat at the age of 16, operating on both the Lehigh and Delaware Canals. The American Canal Society is grateful that Joe Reed, a member of the society, shared his memories with his friends, as we now share his memory along with all the other "canallers" who are rapidly passing on into the history of one of the most fascinating aspects of American life.

"Frank B. Thomson" Christened

On Friday, May 6, 1977, at the ceremonies officially opening the New York State Barge Canal System for the 1977 canal season, the Department of Transportation work boat, Frank B. Thomson, was christened. The ceremonies took place at Guard Gate No. 2, Waterford, N.Y. Mrs. Dorothy Thomson, the late Canal Museum director's widow, along with former State Transportation Commissioner, Raymond T. Schuler, jointly christened the new craft.

Originally known as Derrick Boat 12, the Frank B. Thomson was built in 1928 in Syracuse, N.Y. by the State Department of Public Works crews. Rehabilitation of the work boat began in 1976 in Waterford, N.Y. by the Waterways Maintenance crews of the State Department of Transportation. The original dimensions of the boat (75' long, 28' beam, and 2'8" draft) have not been altered, merely ballast added to the hull for counter weight and the addition of a Gradall G-1000 unit with hydraulically operated stabilizing "spuds." The 160 ton unit will be involved in dredging operations along the Champlain and State Barge Canal System along the Mohawk River, widening and deepening the navigation channels and removing silt deposits.

The State wishes to take recognition of Frank Thomson's work, both personally and through the Canal Museum in Syracuse, N.Y., to promote the understanding and use of New York State's historic canals and their effect on the Nation. Schuler said of Thomson, "Under his dedicated leadership, the museum brought the rich history of our canals to many thousands of New Yorkers and visitors from other states and nations. Frank Thomson understood, and made vivid to others, just how very much our canals contributed to the growth and cultural heritage of New York."

Anyone who knew Frank Thomson's love of canals and boats can be sure he would have appreciated this tribute. He was a Director of ACS. (Excerpted from Sept. 1977 Canal Museum Assoc. Newsletter.)

Ohio Canal's "150th"

(Concluded from Page One)

In addition to the festivities, the Sesquicentennial Commission distributed a short history, "The Colorful Era of the Ohio Canal," written by James S. Jackson, former associate editor of the Akron Beacon Journal, and his wife, Margot. Also commemorating the "Sesqui" were platters, coffee mugs, belt buckles, and canal boat models.

The Commission, with the guidance of the Western Reserve Historical Society, has taken its educational program to schools, other historical societies and interested groups. The slide show history of the Canal is the main feature of the program that will carry the Sesquicentennial through the winter months. (Submitted by Jim Kuth, ACS, and the Western Reserve Canal and Transportation Society.)

"Colonel Baldwin"



The Canal Packet Boat "Colonel Baldwin" (a reconstruction) at Woburn, Mass. had a busy summer on a restored stretch of the Middlesex Canal. Plans are to run the boat again next summer from its site near the junction of Routes 28 and 38. The towpath was used by the Boston & Maine RR for many years. The Loammi Baldwin "Mansion" appears to the right. (Photo by Alden Gould)

RECONNAISSANCE OF FRENCH CANALS

by William J. McKelvey

While all my friends in the Canal Society of New Jersey were about to depart on a second sojourn to England, I decided that this was my year to take a good look at the inland waterways of France. The books of Gerard Morgan-Grenville, Roger Pilkington, L. T. C. Rolt and especially John Liley had all described a canaler's delight which could not be postponed. My feelings were that we Americans have ignored and bypassed France far too long. Briefly, I would like to describe what "you-all" have been missing.

The first day began with a stroll around Paris to see the **Saint Martin Canal**, which tunnels for seven blocks under city traffic, and the bustle of peniches (canal boats) and Bateaux Mouches (sightseeing boats) on the River Seine. The next day I took a long anticipated trip north by train to visit the **Ronquires Inclined Plane** near Charleroi, Belgium. To experience the 5000-ton lock tanks traveling up and down hill is a pilgrimage which every serious canal enthusiast should make.

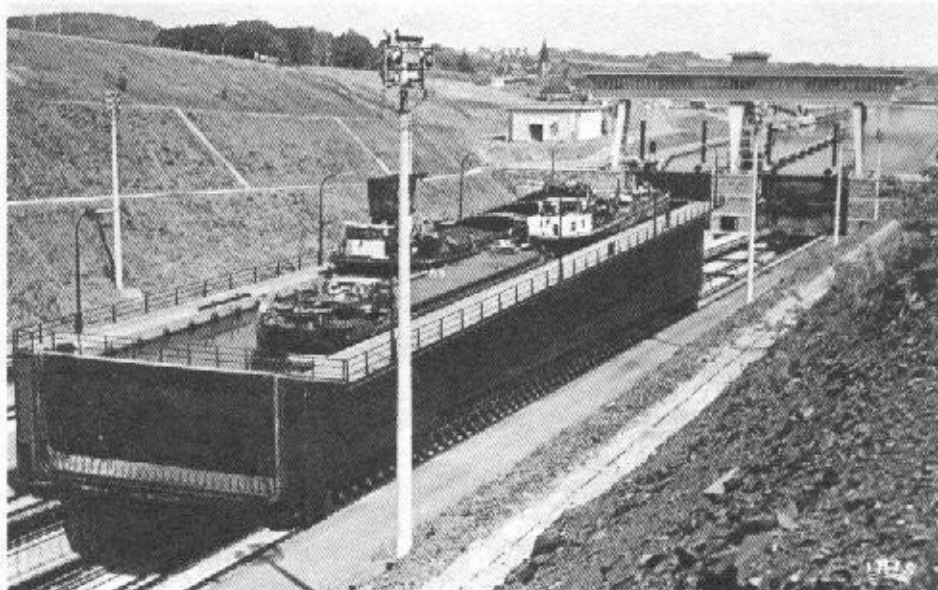
Canal boating (or barging) for me began at Montbard on the Burgundy Canal where I boarded the **PALINURUS**, the first hotel barge in France, for a week of fine food, picturesque scenery, and lots of fun. Although well maintained, the only vessels we saw on this canal during the week were the hotel boats **LA GUEPE** and **WIRREANDA** plus one commercial vessel with a load of logs. The highlight was the three-mile **Pouilly-en-Auxois Tunnel** through which we were pulled by an electric tug which took power from twin overhead wires just like a trolley bus! The tug hauls itself along on a stationary chain laid in the bottom of the canal.

Next stop was the **Arzwiller transverse shiplift** which replaces 17 locks on the **Marne-Rhine Canal**. This 41° inclined plane was unfortunately closed for repairs but full tours were being conducted. Remnants of the abandoned electric mule narrow gauge railway could be seen at several locations along this canal. Work was in progress nearby where the summit level tunnels through the Vosges Mountains. Water from the canal prism apparently had been leaking down into the railroad which tunnels through the mountain below the canal.

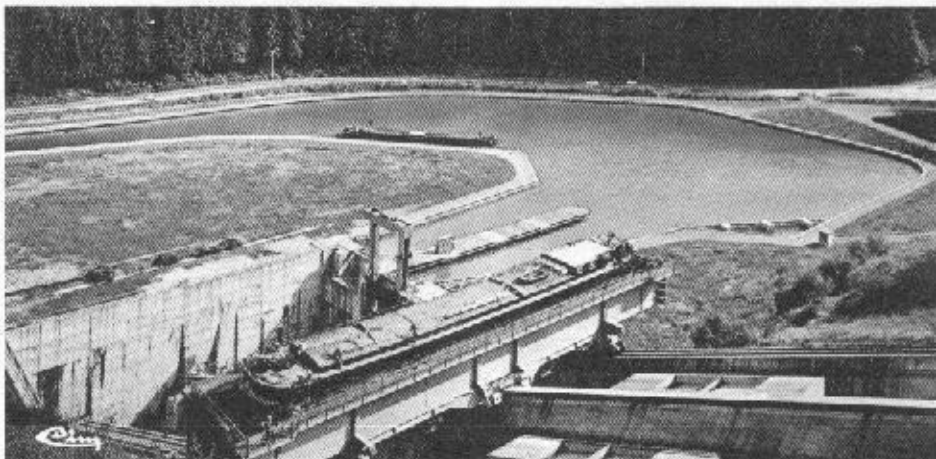
From Northeast France I journeyed to the Southwest to observe the world's first water slope or inclined lock at Montech. (See further details in the article "Canal Locks Unnecessary" elsewhere in this issue of **AMERICAN CANALS**.) The pair of rubber-tired locomotives handle only commercial vessels; pleasure boats must use the adjacent five old locks.



The "Palinurus" Hotel Barge, shown near a lock on the Burgundy Canal, the vessel which Bill McKelvey boarded at Montbard, France.



One of the 5000-ton tanks carrying three boats between levels at the Ronquires Inclined Plane near Charleroi, Belgium.



The St. Louis-Arzwiller Transverse Inclined Plane, which lifts a "bath tub" full of canal barges from one level to another on the Marne-Rhine Canal. This device replaces seventeen locks.

My journey on the **Canal du Midi**, which was completed in 1681 (originally known as the Languedoc Canal) began at Toulouse. The canal slices right through the busy center of this city where it is a pleasantly landscaped park, but it arrives and departs the city in the center island of a main highway. The unusual elliptical locks of the Canal du Midi are unfortunately some of the most restrictive in size in France. In spite of this, the waterway was found to be well used by wine tankers, grain barges, and a variety of pleasure craft.

Although France has an extensive, 3,000-mile-plus canal system (and over 25,000 miles of rivers) no evidence of canal enthusiasts or canal societies could be found. Very few native pleasure boaters were seen; most were English or American. In contrast to Great Britain, where there are nearly 100,000 canal pleasure vessels and most locks are operated by the boaters, in France there are hardly any pleasure craft, and nearly all locks are manned by "tenders." My final week was spent in exploration of super-yacht ports on the Riviera: Monte Carlo, Nice, Antibes, Cannes and San Tropez, plus a few pleasantly X-rated beaches along the way.

For information on canalling in France, contact Ms. Vanessa Jones at Continental Waterways Ltd., 22 Hans Place, London, SW1 England.

(Bill McKelvey is a Director of ACS, VP of the Canal Society of New Jersey, and Chairman of the Remains, Hulks, etc. Sub-Comm. of the ACS Canal Boat Committee.)

FINANCIAL STATEMENT

A copy of the financial statement of the American Canal Society for the year ending 31 October 1977 is available upon request from: ACS Treasurer Wm. E. Trout III, PhD, 1932 Cinco Robles Dr., Duarte, CA 91010.

THE MUSCLE SHOALS CANALS



Work barge and repair crew, under tow on the Muscle Shoals Canal, February, 1892. (Photo courtesy, David Wilson, Jackson, Tenn.)

By L. W. Richardson

After the final abandonment, about 1840, of the ill-starred **Tennessee Canal**, it must have seemed to the valley settlers that there was no solution to the Shoals problem. True, the little **Tuscumbia, Courtland & Decatur Railroad** was of some help. It had been extended to Decatur in 1834 and it moved some freight around the bottle-neck in the river. However, the delays and the increased cost of transshipping on the portage severely limited the volume of traffic. Even with this handicap, the railroad made money and is in use today as a part of a major rail system.

The long suffering rivermen did perceive a message of hope in the Inaugural Address of **Millard Fillmore** in December of 1850. The incoming executive said that the troublesome problems of inland navigation were of national concern. He observed that improvements to coastal harbors, the building of lighthouses, etc., had been accomplished with Federal aid and under the direction of Army Engineers and suggested that internal improvements were also a national responsibility. To that time, Federal help for such projects had been limited to surveys and grants of unoccupied Federal lands to the various states. This policy had cost Washington next to nothing, had encouraged settlement of frontier areas and had greatly increased the tax base. Now, a new and almost bottomless "pork barrel" had been opened. In the next century, there was scarcely a stream large enough to float a canoe that was not surveyed and promoted as a navigable waterway.

So far as the Shoals were concerned, the first tangible evidence of the new policy came in 1852. The Rivers and Harbors Act of that year included an appropriation of \$50,000 for the "improvement" of the river in the Shoals region. This money was soon expended with no noticeable results. It would be another decade before this stretch of the Tennessee received further attention. Then it was the military operation in the valley during the Civil War that brought the problem to national notice. Grant's campaign up the river came to an abrupt halt when his fleet of gunboats, transports and supply vessels were unable to pass the Shoals. River historian Donald Davidson said it well; "From the close of the Corinth-Shiloh campaign to the Battle of Missionary Ridge, Muscle Shoals was worth many divisions of troops and miles of fortifications to the Confederacy." Later, the Army would cer-

tainly remember their war-time frustration. And, as there is after all wars, there was a surplus of manpower in the War Department. It is not surprising then, that there was a preliminary investigation of the entire river underway in 1867. In 1872, **Major Walter McFarland** completed a detailed survey of the Shoals area. From his data a plan was evolved and presented to the Congress. The proposal included by-pass canals around Elk River and Big Muscle Shoals and channel improvements through Little Muscle Shoals. The first two were considered the worst obstacles in the river and were the first encountered by downstream traffic. The Colbert and Bee Tree Shoals down river, while dangerous and often impassable, would be improved at some later time.

The proposal received the approval of the Congress and an initial appropriation was voted. The fact that **General Grant** was now in the White House may have contributed to the prompt action. Before any work could begin, a fire destroyed the Engineer's Field Office and with it all of the detail survey data. Another survey was completed in 1875 and the clearing of right-of-way began. Progress was very slow, in part because of an acute shortage of labor in the war-torn valley and in part because of the uncertain and varying annual appropriations in subsequent years. An overly optimistic report by the Resident Engineer in 1881, stated that the work was about 75% complete.

By 1888, some traffic was moving through the canals but the project was far from finished. The next year, General Casey, Chief of Engineers, sent a young officer, **Capt. George W. Goethals**, to Alabama to breathe new life in the project. Goethals reorganized the field force, initiated double shifts and made significant design changes. While the official opening date of Nov. 12, 1890, seems to have been a little premature, before the end of 1891, steamers and barge tows were regularly passing through the two canals. Goethals remained at the Shoals until 1894. In 1907 he was dispatched to Panama to take charge of another faltering canal project. Here, his genius at organization and his skill as an engineer earned him international fame and the rank of Major-General.

With the first two canals in operation and a passable channel open through Little Muscle Shoals, attention was turned to the Colbert-Bee Tree Shoals. In 1893, work began on a third canal that would by-pass this last major obstruc-

tion. The **Colbert Shoals Canal** was opened in 1911 and, for the first time the "Great Bend" of the Tennessee was reasonably safe for navigation.

For some years thereafter, the volume of traffic increased. In 1900, 409 steamers and 419 barges passed through the two canals then open. Unfortunately, the improvements had come during the last days of the picturesque river steam boats. The stern wheelers just could not compete with the railroads that by now criss-crossed the valley.

ELK RIVER SHOALS CANAL

The canal began about 32 miles above Florence with a dike or wing dam from the foot of Brown's Island. Running parallel to and near the left or south bank of the river, this provided a protected channel into Lock A, the entrance. The canal proper, the excavated portion, was a tangent a little over a mile long, ending at Lock B. Below this outlet, an improved channel, about 2 miles long, ran between the left bank and Gilchrist Island. The canal trunk was 90' at the top and 6' deep. The two locks were 60' x 285' in the clear, built of cut stone and equipped with iron miter gates. They had lifts of 12' and 11' respectively. At Lock A, the gates were operated by hydraulic machinery, powered by a water turbine. The machinery at the other lock depended on manpower. The hydraulic mechanism was evidently satisfactory as requests for funds (\$6,000 per lock) to install similar equipment at other locks on both canals, appeared in subsequent Annual Reports. There is no record of any money having been provided or other locks having been so improved.

MUSCLE SHOALS CANAL

Proceeding down and across the river, traffic entered the guard lock about 4.5 miles below Gilchrist Island. The entrance on the right bank, was protected by a short wing dam. The canal was 14.5 miles long and followed the line of the old **Tennessee Canal**. The trunk was between 90' and 120' wide at the water line and 6' deep. Instead of the 16 locks of the old canal, there was now only the one guard lock and 9 lift locks. The same size as those at Elk River, 60' x 285', they provided a total lift of 85', the maximum was 13' at Locks #6 and #7. All were built of cut stone. Locks #5 to #9 had wooden drop gates on the upstream end, all others were iron miter gates. All were operated by hand cranked machinery. An aqueduct crossed Shoal Creek and Blue Water Creek was dammed to provide a slack-water crossing but fifteen smaller streams were allowed to empty into the trunk of the canal. As was usually the case, this was a constant source of trouble, requiring the dredging of silt and debris after every heavy rain.

There were several unusual features to this canal. One was a private telephone line. Originally erected by the contractors working on the project, the line was acquired by the Engineers and used to great advantage. In addition to the obvious uses of reporting damage and the ordering of supplies, it enabled the Headquarters Office at Shoals Creek to control traffic. With some of the larger steamers, particularly if they had in tow a raft or a pair of barges, this was a very necessary function.

The design of the Shoals Creek Aqueduct embodied new concepts in form and material. The structure was 858' long, 60' wide at the water line and 5' deep. It rested on 2 abutments and 25 piers of cut stone, each 11' high, 75' long and 3' thick. The trunk was built of steel I-beams, 17 $\frac{3}{4}$ " long and 3' thick. The trunk was built of steel I-beams, 17 $\frac{3}{4}$ " high, spaced 37 $\frac{1}{2}$ " on centers. The floor was $\frac{1}{4}$ " steel plates, 30' long, resting on

the bottom flanges of the I-beams. To protect the metal, the inside was coated with a mixture of coal-tar, pitch and sand, 1/2" thick. The outside was kept painted with red lead. It was reported that no mill in this country could fabricate beams of the size and strength specified and these were imported from Belgium. The aqueduct was built on a sweeping curve and the supporting beams reflected the line of the whole, presenting a rather curious corrugated effect but one that was graceful and pleasing to the eye.

Certainly the most unique feature of the canal was the fact that it "owned" and operated a railroad. The line of the waterway was along a narrow bench between the river and a row of high, rocky bluffs. There were only a few spots where access to the river by wagon road was practical. To move the tremendous tonnage of cut and broken stone needed in the construction, the contractors built a narrow gauge, 4' rail line on the spoil bank between the river and the canal. Their work done, they sold the little road to the Government. The Engineers laid new rails, installed new ties and repaired the rolling stock. In 1900, there were 15 miles of track, 2, 18 ton, tank-type locomotives and 9 assorted cars. The intended use of the road was to move men, material and equipment as needed in the endless task of keeping the canal open and in repair. But another use soon developed.

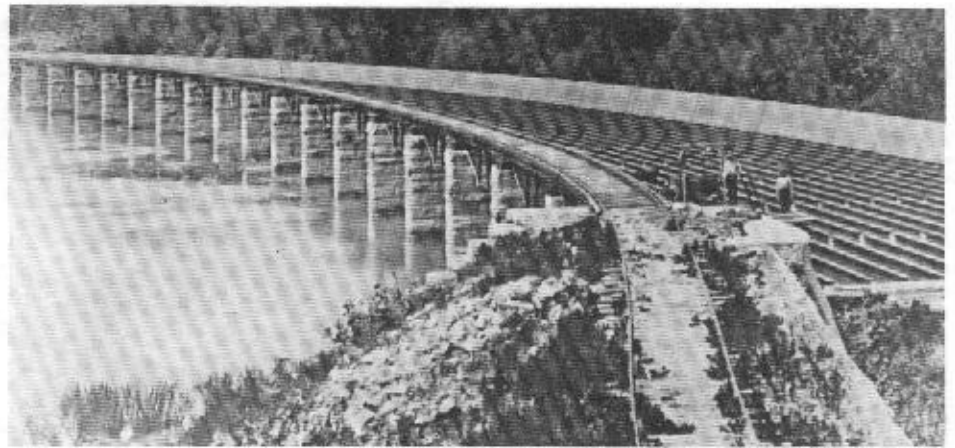
The Annual Report for 1890 stated that because of the "limited width, numerous curves and the high, rocky bluffs 50' to 80' above the water—in any wind (even) the U. S. towboats find difficulty (in passing through the canal and there was) a necessity for towage." Thereafter, depending on the size of the vessel and weather conditions, most passages through the canal were accomplished with the help of the locomotives. In addition, launches, canoes and other small craft, were simply loaded on a flat car and taken through without the trouble and expense of lockage.

Although electric locomotives had been tried in America, notably on the Miami & Erie between Cincinnati and Dayton, so far as we know, this is the only instance of steam engines on the towpath. This had been attempted in Europe without success. One experiment was on an 8.5 mile stretch of the Oder & Spree Canal. A problem encountered there was the tendency of the tow to pull the locomotive off the rails. The Germans found it necessary to attach a heavily weighted "towing car" behind the engine. As no such problem was reported from Alabama, it must be concluded that the German engine was very light.

As an adjunct of the canal, the Headquarters Camp of the Engineers at Shoal Creek should be noted. Here was the usual office buildings, warehouses, a laborer's dormitory, machine and blacksmith shops and a large sawmill. Power was supplied by water turbines. The complex included rail yards and a wye to turn the locomotives plus mooring space along the canal for the several dredges and work boats. The Camp served as a command post for improvement work on the river from Riverton to Chattanooga.

COLBERT SHOALS CANAL

The third canal began about 22 miles below Florence and ended just above the village of Riverton, Alabama, less than two miles from the Mississippi state line. The entrance was a guard lock on the left bank. The trunk was 8.1 miles long, 150' wide at the water line and 6.5' deep. Riverton Lock, the outlet, was the only lift lock. It was 80' x 287' with a lift, at low water, of 24.5'. The canal by-passed the Colbert and Bee Tree Shoals, eliminating the last major barrier to year round traffic on the river. It was more expensive to build, the masonry alone at Riverton Lock cost about \$400,000.



Unusual construction of the Shoals Creek Aqueduct, nearing completion in May of 1889. Designed by Major W. R. King, of the U.S. Corps of Engineers. (Photo courtesy of David Wilson, Jackson, Tenn.)

The three canals were in operation for the next fourteen years, until the huge Wilson Dam was completed in 1925. The dam crossed the river just above Florence, at the foot of Little Muscle Shoals and the slack-water pool covered the Muscle Shoals Canal almost to Lock #2. A cut from the canal into the pool allowed traffic to move through the first two locks. The other canals were not affected.

The national controversy over the operation of the Wilson Dam and powerhouse is too well known and too long to recount here. It is enough to say that, in 1933, the Congress created the Tennessee Valley Authority and the navigation of the river became the responsibility of that agency. In 1936, TVA completed the Wheeler Dam, built across the river almost on the foundations of Lock #2. The slackwater behind this dam drowned all that was left of the Muscle Shoals Canal, all of the Elk River Canal as well as Brown's, Gilchrist and a score of smaller islands in this part of the river. Two years later, in 1938, the Pickwick Landing Dam was finished. This was located about 20 miles below Riverton, just over the state line into Tennessee. As this pool filled, the Colbert Shoals Canal disappeared forever.

Oddly, in these twilight days of the canals, another was needed. There was still a stretch of shoal water below Wilson Dam. As soon as the dam was completed a lateral canal was cut, from the foot of the tamen Wilson Locks, 2.5 miles downstream to another low dam and a single lock. This work, called Lock and Dam No. 1 by the Engineers, was usually known as the Florence Canal. Construction of a new, single lock at Wilson in 1959, allowed the deepening of the Canal and the elimination of Lock and Dam No. 1. Today, the Florence is actually an improved channel leading up to the downstream gates of Wilson Lock.

The locks built as a part of these earlier TVA dams were little larger than the old Riverton Lock but, as traffic increased and the tows became longer, they were all rebuilt and enlarged. Now, the standard size is 110' x 600' in the clear. Lift heights vary by location but some are an incredible 100'. As we noted above, the romantic days of the steam boat "blowing for a landing" are gone but the tonnage moving on the river is six times that recorded in the early 1900's. And the terrible floods that devastated the valley every year are but memories. The Tennessee River today, is a placid series of slack-water pools with a normal channel of 11', all the way from Knoxville to Paducah. Unfortunately, the waters of these vast inland lakes have covered the last evidence of the years of effort and the millions of dollars expended in earlier attempts to conquer the river.

PCS Field Trip Draws 110



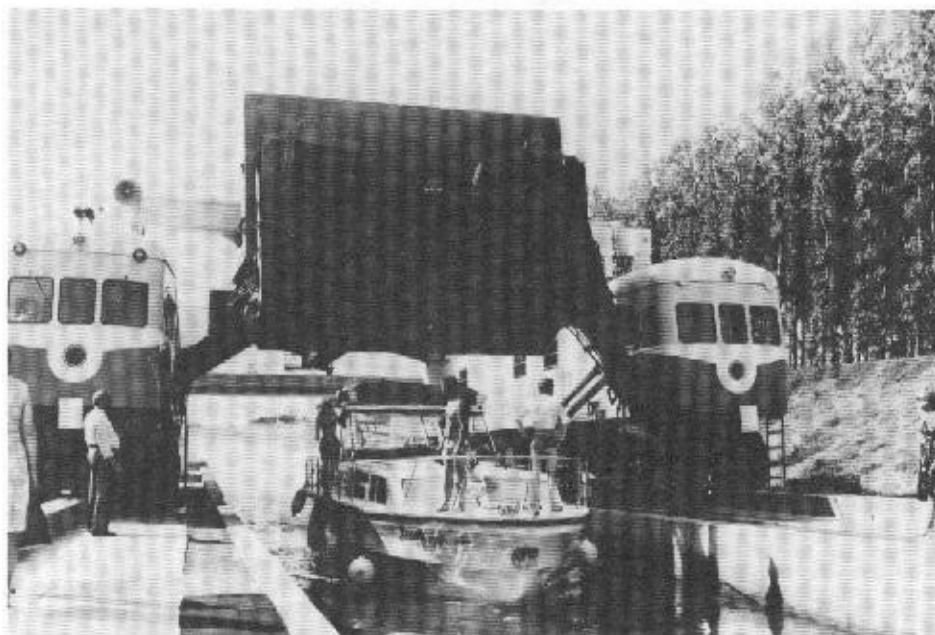
Part of the PCS group inspects the S. & T. Outlet Lock and Lockhouse Museum at Havre de Grace. (Photo by Bill Shank.)

The Pennsylvania Canal Society combined forces with members of the Susquehanna Museum of Havre de Grace on October 1, 1977 for a tour of the Susquehanna and Tidewater Canal in Maryland and Pennsylvania. Approximately 110 people participated in the program, which included slide-lectures and a banquet in York, Pa., and a three-bus caravan along remains of the old canal between Havre de Grace, Maryland and Wrightsville, Pennsylvania. A few light showers during the tour did not dampen the enthusiasm of the group.



The Susquehanna Park authorities had an old Grist Mill, along the S. & T. Canal near Lapidum, Maryland, in full operation for the PCS Tour party. (Note buses at the left.)

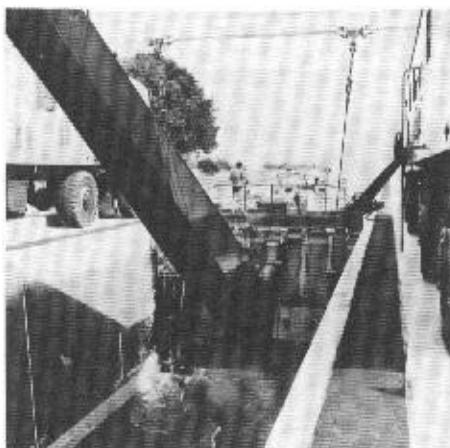
CANAL LOCKS UNNECESSARY



The steel "push-plate" is raised to allow a pleasure boat to enter the basin at the lower end of the canal's waterslope ramp.

A novel system for floating canal boats directly from one level to another has been developed in France. Conventional, double-gate locks are replaced by a moving wedge of water which supports the craft as it ascends or descends a gentle slope between levels. The water is impounded and moved by a steel plate attached to twin diesel-electric locomotives that straddle the canal. Leakage past the plate is forestalled by three rubber-covered rolls, attached to its vertical sides and bottom edge.

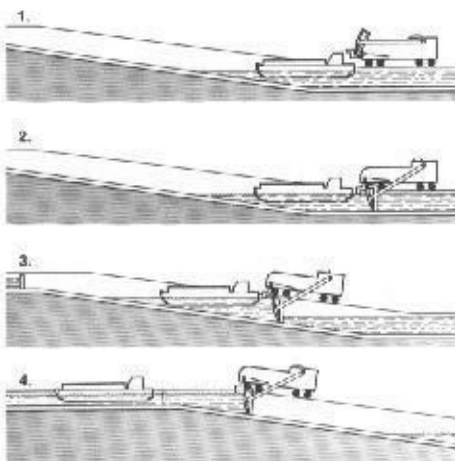
First installation of the "waterslope" was at Montech, on a side canal of the Garonne River, near Toulouse in southwestern France. The canal's two water levels, differing some 13 meters in elevation, are joined by a 400-m long, U-sectioned concrete flume. Water is prevented from cascading down the slope by a tilting gate at the brink of the upper level. The push-plate between the pair of locomotives is lowered behind a boat that is to go up the slope and then sweeps it forward up the flume in a wedge-shaped volume of about 60 m³ (2,119 ft.³) of water. For a boat about to descend the slope, the locomotives



Twin locomotives power the Neoprene roll-sealed "push-plate" up the ramp, with the boat riding in the water pocket so formed.

push a wedge of water up to meet the vessel as it passes over the tilting gate at the top of the flume.

The "waterslope" system, as it is presently designed at Montech, is capable of accommodating boats up to 400 tons and can be operated by one man. Previously, canal traffic at this location was handled by five sets of locks, requiring ten men. A lift took about two hours. Now, time for a typical "waterslope" traverse is as little as seven minutes. (Submitted by ACS Member Walter Meseck. The original story appeared in *Du Pont's Elastomers Notebook* for August 1977.)



Uphill sequence at Montech "waterslope":
 (1) Boat on lower level passes beneath raised push-plate and enters approach basin. (2) Push-plate is lowered behind boat. Rolls covered with Du Pont Neoprene rubber seal three edges of plate against leakage. (3) Wedge of water thus created is pushed forward by parallel locomotives on each bank. (4) At top of slope, retaining gate topples to allow rising wedge of water to merge with upper water level. Boat moves forward under its own power and push-plate returns to its initial, raised position.

Canal Daze

by Capt. Herb W. Dosey

It seems so very strange that, having sailed for years as master of merchant steamers upon the Atlantic Ocean and the Great Lakes, I still feel a potent wave of nostalgia whenever canals are mentioned. This strange fascination stems from the time around the turn of the century when my daddy drove the family surrey to sequestered spots along the **Ohio and Erie Canal** a few miles south of Cleveland.

The horses were unhitched and the lunch hampers unloaded while we kids romped and played while we eagerly anticipated the approach of a canal boat. And the accepted custom was for the first kid who observed an approaching boat to yell, "Canal Boat! Canal Boat!" whereupon everybody hurried to the embankment to watch the boat pass and disappear into the woods around the bend.

By a strange quirk of fate I was destined to traverse most of the North American canals, a circumstance never anticipated by the little boy along the banks of the Ohio and Erie many years ago.

As master of a research vessel in 1921 I had the unforgettable experience of traversing the **Everglades Canal** from Fort Lauderdale, Florida to, and across **Lake Okeechobee** to Moore Haven. Thence we proceeded through the **LaBelle Canal** to the meandering **Caloosahatchee River** to its mouth at the Gulf port of Fort Myers. Our return voyage to the East Coast was via Key West.

At that time Fort Lauderdale was a small village up the **New River** with a dozen houses and a hand-powered swing span crossing the stream. We navigated up the river through the wilderness until we found the canal entrance which we entered and then anchored for the night. The next morning we proceeded up the canal at the reduced speed of five-knots because our ship was close to the bottom of the shallow canal and it had a tendency to squat.

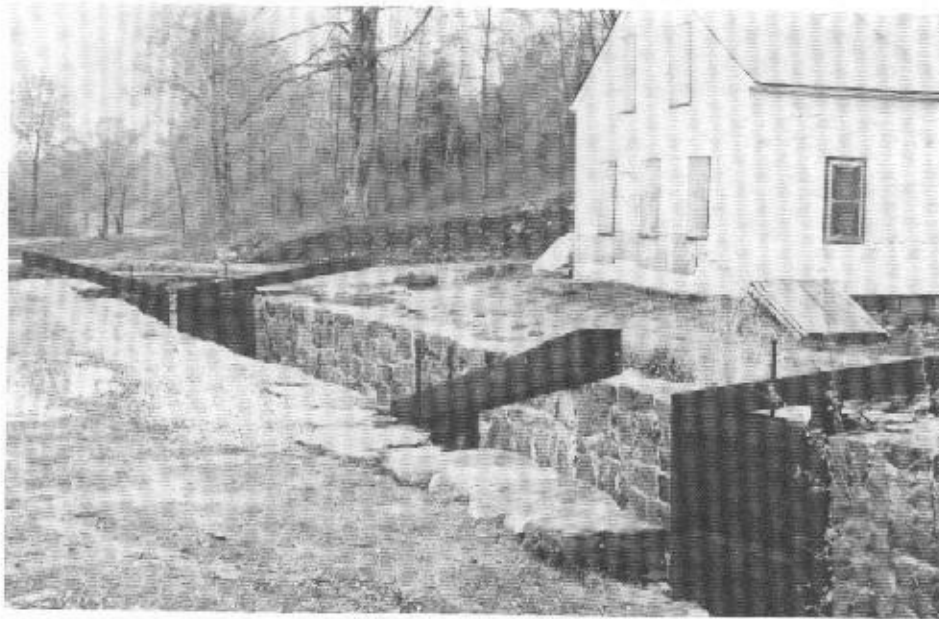
I shall never forget the vast expanse of the Everglades reaching to the horizon all around with no sign of man's intrusion. Wild birds, snakes, alligators and turtles were in wild profusion and the two canal locks we negotiated were made of palmetto logs. As night fell we dropped a bow and stern anchor to prevent the ship from swinging against the canal bank and inviting unwelcome wild critters aboard.

At dawn we were under way again and we soon arrived at the high lift lock into the Okeechobee. This is the second largest fresh water lake in the United States and we were greatly surprised how boisterous it can get, as we were rolled severely during the 30-mile crossing. Our reception in Moore Haven was a bit hostile from what we suspected were egret poachers; their Winchester rifles prompted us to mind our own business. Which we did!

Crossing the Everglades by canal a half century ago was a balm endowed by the seeming absence of time and I fondly recall it as the most peaceful period in my life.

(Capt. Dosey, an ACS member, is Chairman of the Museum Committee of the Great Lakes Historical Society. In his letter to the editor, Capt. Dosey also passed along the following tidbit: "We fads went swimming in the Ohio and Erie Canal too and I well remember the mule driver admonishing us to keep down in the water because there was a lady aboard. As the boat passed and I had a good look at the lady I was convinced she had nothing to learn from us kids.")

ALDEN GOULD, CANAL PHOTOGRAPHER "EXTRAORDINAIRE"



This view of newly rebuilt Lock # 12 of the Farmington Canal at Cheshire, Conn. shows the lock tender's house as well. To view this site, take route 42 off route 10 from Cheshire to RR crossing which do not cross. Lock is about 500' to the left. (Photo by Alden Gould.)

In an all-volunteer organization like the American Canal Society, we are most fortunate to have a number of dedicated individuals who spend much of their spare time tracking down rumors of long-forgotten canal remains or proposed canal restoration projects, not to mention possible alterations to existing canals still in use in the United States and in other countries. Except for such individuals, we would have no way of keeping our membership informed of historical and current canal happenings, world-wide. Alden Gould, ACS Director, of New Hampshire (and Florida) is one of these dedicated individuals.

Not only does he investigate canal ruins, artifacts, and occurrences throughout the Eastern United States — he also carries a camera with him, loaded with black and white film, and makes a photographic record of what he sees. This has been an invaluable help to us in the publishing of the AMERICAN CANALS quarterly bulletin. Over the years that we have been issuing the bulletin, Alden Gould has supplied us with innumerable black and white photographs, of excellent quality, which have been a great help in showing our readers what is going on in canal circles. On this page are reproduced the current accumulation of Gould photos, complete with the caption material which he has supplied, "on the spot". He is one of our best "reporters" and we encourage other members of the American Canal Society to follow his example!

SUEZ CANAL

Ship number 36,000 transited the Suez Canal since its opening on 11 September 1977. She was the Iraqi transport THE KARKOUK displacement 5000 tons on her way to the Arab (Persian) Gulf.



The Amelia Earhart Locks at Dam Site are located on the Mystic and Malden Rivers in both Everett and Somerville, Massachusetts. There are three locks at this site, all completed in 1966. This view shows Lock #2, one of the two small locks, which is 120' long and 25' wide. The commercial lock (not shown) is to the left and is 325' long and 45' wide. (Alden Gould, Director, ACS)



This is a view of the control tower at the Amelia Earhart Locks. It is 80' high and is located between Locks #2 and #3. Lock #1 is to the right. (Alden Gould, Director, ACS)

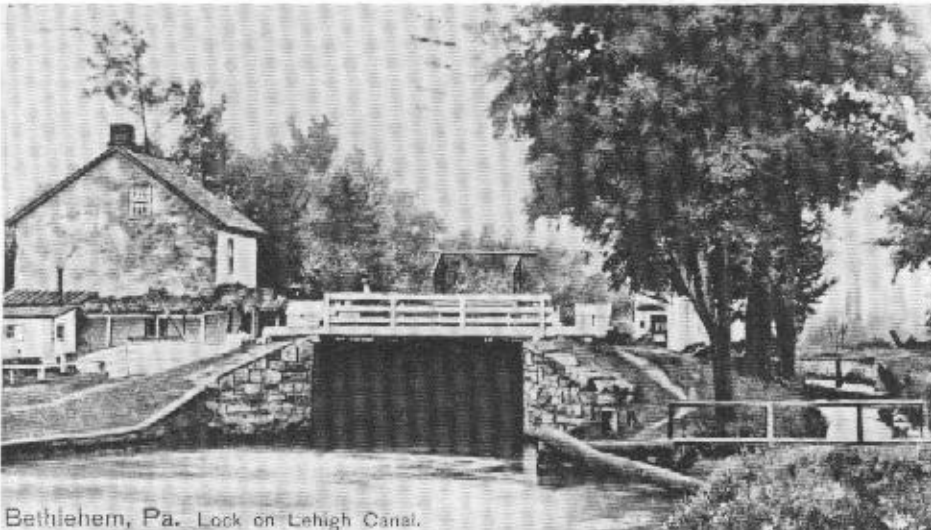
ACS Member 25,000th Thru Tunnel

ACS Member Pauline Meyer of Edwardsville, Ill., an avid canal enthusiast, became the 25,000th person to go through the Dudley Canal Tunnel near Birmingham with the Dudley Trust on 3 August during a field trip of the Industrial Archaeology Course of Avoncroft Museum, Bromsgrove. (Pauline has published an excellent canal game which will be of interest to American canal enthusiasts everywhere. See Classified Ads this issue for information on ordering.)

New York State Barge Canal

Two public meetings regarding navigation improvement in the New York State Barge Canal System will be held by the Corps of Engineers. The first meeting is at 3:00 p.m. on 30 November in the First Floor Hearing Room, Sen. John H. Hughes State Office Bldg., 333 E. Washington St., Syracuse, N.Y. The second meeting is at 3:00 p.m. on 1 December in the First Floor Hearing Room (No. 1, Sec. C), Ge. Donovan State Office Bldg., 125 Main St., Buffalo, NY.

TED SHERMAN "REMEMBERS"



Bethlehem, Pa. Lock on Lehigh Canal.

"Lock No. 43 (also known as 'Minsi Trail Lock') of the Lehigh Canal about 1½ miles below Bethlehem, Pennsylvania. The lock tender was George Searfoss from about 1865 to 1915 or 1916; George Gross until about 1922; and Andrew Reiss till boating ceased in 1932. Andrew Reiss married my mother-in-law in 1927. She fell in the abandoned lock (the canal was empty) in 1933 and was injured and died in 1934." (Photo and caption provided by Theodore (Ted) Sherman, a former canal-boat operator on the Lehigh and Delaware Canals, now residing at Rt. 3, Lehighton, PA 18235.)

FUN ON THE LEHIGH CANAL



Here's what the "A. Emerson" looked like shortly after being placed in the water below "Change Bridge" on the Lehigh River. The pumping operation apparently wasn't helping much.

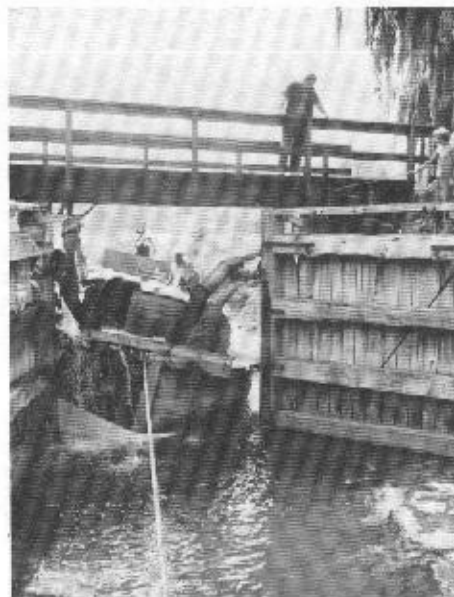
The reconstructed canal boat "A. Emerson", formerly in operation at White Mills, Pa. on the Delaware and Hudson Canal (See AMERICAN CANALS, No. 11, Nov. 1974) was recently acquired by the Hugh Moore Park at Easton, Pa. Here it will be used to carry canal enthusiasts, and other visitors to the Pennsylvania Canal Society Museum, along a fully restored section of the Lehigh Canal west of Easton, complete with three operating locks.

The "A. Emerson" had been dry-docked for several years before the transfer to Easton, and hence the planking of the hull had dried out rather thoroughly. Members of the Hugh Moore Park and Pennsylvania Canal Society anticipated difficulties when the boat was placed in the Lehigh Canal, and had done a complete caulking job ahead of time.

No one was quite prepared, however, for the leakage which began to occur when the boat was actually placed in the water. Seepage through the caulked sections began almost at once, and

while bilge pumps were rushed on board, the boat began to settle beyond its normal water line and for a time it seemed as though the water was coming in faster than it could be pumped out. The accompanying photos were taken by the Allentown Call-Chronicle during the early navigational difficulties, when the launching party made an unsuccessful attempt to get the "A. Emerson" through the Guard Lock gates at the upper entrance to the restored Lehigh Canal section.

At this writing, it would appear that the planks have probably swelled sufficiently to allow the "A. Emerson" to become operational during the coming 1978 season on the lower Lehigh Canal!



In spite of valiant physical exertions on the part of the crew, they just couldn't quite make it through the gates of the guard lock opposite the new Lehigh Dam.

CLASSIFIED ADVERTISEMENTS

AMERICAN CANAL AND TRANSPORTATION CENTER

IMRAY'S MAP OF THE WATERWAYS OF FRANCE. An excellent route planner folded in a cover. \$3.00.

IMRAY'S MAP OF THE INLAND WATERWAYS OF ENGLAND AND WALES. Broad and narrow navigable canals, abandoned canals, rivers, locks, etc. \$2.00.

CANAL CRUISING (Hankinson). Excellent introduction to all aspects of canalling in Great Britain. Photos, maps, diagrams, etc. \$2.25.

CANAL ARCHITECTURE IN BRITAIN. An outstanding collection of canals and canal structures in Great Britain by the British Waterways Board \$3.50.

SLOW BOAT THROUGH PENNINE WATERS (Doerflinger). Travel through the waterways of Northern England. Hard-covers, reduced from \$6.95 to \$4.95.

INLAND WATERWAYS OF EUROPE (Calvert). Covers all of Europe, 259 pages, hard-covers \$10.00.

CANAL DAYS IN AMERICA (Drago). Further reduced to clear stock. Only book covering the United States. Many illustrations, coffee-table size, 311 pages. Excellent Christmas gift! \$5.95. (Orig. \$10.00)

RENT AN AUTHENTIC ex-working narrow boat (PHOBOS) on the English Canals next year complete with boatman to assist you at moderate prices. Eliminate the bother of hotels and car rental. Write ACS Member Tom Sewell, East Whitley Fram, Shamley Green, Surrey, England.

American Canal and Transportation Center, Box 310, Shepherdstown, West Virginia 25443. Add 50¢ shipping.

Try the new, exciting CANAL GAME devised by ACS Member Pauline Meyer. Cleverly designed so as to bring in historical canal structures and locations of the old canals of the United States. Contains over 20 pages of historical information pertaining to the places stopped during the game. \$4.50 plus 50¢ shipping from Pauline Meyer, 332 N. Buchanan St., Edwardsville, IL 62025.

NEW CANAL?

Once again plans are in the air for an all-American canal linking Lake Erie and Lake Ontario. Congressmen from Western New York State presented the idea in Washington and in May the House of Representatives authorized \$1.5 million for the Army Corps of Engineers to study the possibility. The study will also explore building a U.S. controlled waterway between the Atlantic Ocean and the Great Lakes. This route would take ships up the Hudson River and across a rebuilt Erie Canal to Buffalo or across the Erie Canal to the Oswego Canal to Lake Ontario. The Senate has not yet approved the study. (From "LOG", June 1977)