PRESIDENT'S LETTER
Greetings! I'd like to remind you all again that the next World Canals Conference will be held in Rochester, New York, September 10 to 15. Our two-hour ACS directors' meeting will be held in the late afternoon of Sunday, September 10. We'd like to invite all directors and members to attend.

The IWI will hold a meeting that afternoon, also. We are attempting to work with conference personnel so the two meetings may be attended by the memberships of both groups. At their meeting, the IWI will propose the makeup of a permanent committee to receive, consider, and select site proposals for future World Canals Conferences. We have been working a bit with the people who prepared this proposal. Though we don't believe it is a perfect solution, we support it for at least a two-year trial period in the hope that practical experience over that time will give all participants the insight to make the working and makeup of the committee even better in the future.

The ACS membership meeting will be held at 1:00 p.m. on Thursday, September 14. The official brochure has that meeting listed at 2:00 p.m., but we are holding it at hour earlier (cutting into an "on your own lunch") so none of our members will have to miss a scheduled event to attend our meeting.

I've mentioned the desire to increase our membership dramatically several times in these letters. We did work a deal with the Clinton & Kalamazoo Canal Society of Michigan whereby their members received a reduced rate first-year membership in the ACS. 20% of their membership took advantage of that deal. We would like to discuss something similar with other local canal societies. In the meantime, talk up our society on your own. See what you can do to meet our goal of 2,000 members.

A three-man committee consisting of William Trout III, Tom Hahn and Bill Shank has been set up to act as a survey group on nominations for what I have been calling the ACS Canal Buffs Honor Roll. The first person to be approved for that honor by this committee is the late Ted Findley of Ohio. His brief biography appears elsewhere in this issue. Future nominations may be sent to me or any member of the committee. There has been a lot of enthusiasm for this effort to honor people who have been instrumental in the past in fostering this canal hobby of ours. There has also been a lot of discussion on just what it should be named. For the time being, I am sticking to calling it an Honor Roll, but I will open that topic up for discussion at the membership meeting in Rochester.

The first honoree
TED H. FINDLEY OF OHIO
1899-1969

by Terry K. Woods
T.H. Findley was born on January 7, 1899 in Erie Pa. According to Ted he "emigrated" to Ohio in 1917. There he met and married Viona Englehart of New Philadelphia. In 1924, the couple moved into Viona's family home, literally on the bank of the Ohio & Erie Canal, just a stone's throw above Lockport (Lock #13) in what is now the southern part of New Philadelphia. Ted became the Division Equipment Supervisor for the Eastern Division of the General Telephone Company of Ohio. As such, he traveled along the highways and byways of eastern Ohio.

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PRESIDENT'S LETTER
(concluded from page 1)

I’ve also got an idea or two about the future of the annual Canals Conferences that I’d like to discuss in Rochester, at one or both of the meetings, or individually, as we might happen to meet during the conference. Hope to see you all there.

Till next time, Headway to you!!

*Signature*

**NOTICE**

Materials submitted to AMERICAN CANALS for publication should be double-spaced and on one side of the paper only.

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**CANAL CALENDAR**

**September 9-10, 2000.** C.O. Canal Association Continuing Hike Series. Park at Shepherdstown Saturday, Dam 4 picnic area Sunday; hike from Taylors Landing 10 a.m. both days. Contact Pat White (301) 977-5628.

**September 9-10, 2000.** Hancock (MD) Canal Days/Canal Apple Days. Contact: John Poponce (301) 678-6379.

**September 10, 2000.** American Canal Society Board of Directors meeting, Rochester, N.Y. Contact: Terry K. Woods, (305) 832-4621.


**September 10-15, 2000.** World Canals Conference, Rochester N.Y. Contact: P.O. Box 227, East Rochester N.Y. 14445-5. email: trivorsorg@acninc.org.

**September 14, 2000.** American Canal Society membership meeting, 1:00 p.m., Rochester, N.Y. Contact: Terry K. Woods, (305) 832-4621.

**September 16-20, 2000.** Lock Days and Senior Citizens’ Festival, Susquehanna Museum at Havre de Grace, Erie and Conestoga Sts., 10 a.m. to 3 p.m. Contact: (410) 939-9928 or (410) 939-5780.


**September 16-17, 2000.** C.O. Canal Association day trip canoe weekend on the Monocacy River. Fun. Rte. 40 to St. Rte. 80. Sunday: St. Rte. 80 to Moncacy Aqueduct. Contact: Carl Linden (301) 229-2398 or Ken Rollins (804) 448-2934.


**October 28, 2000.** C.O. Canal Association Annual Heritage Hike, near Shepherdstown, details T.B.A. Contact: (301) 983-0825.

**November 11, 2000.** C.O. Canal Association Continuing Hike Series. Park at Williamsport Visitor Center Saturday, 4 Locks Sunday; hike from Williamsport 10 a.m. both days. Contact: Pat White (301) 977-5628.


**December 2, 2000.** C.O. Canal Association Annual Frostbite Hike. Contact: Ken Rollins (804) 448-2934.

**December 9-10, 2000.** Christmas Boutique, Lock House, Susquehanna Museum at Havre de Grace (MD). Contact: (410) 939-5780.

**December 31, 2000.** C.O. Canal Association New Year’s Eve hike, location T.B.A. Contact: (301) 983-0825.

(continued on page 3)
HONOR ROLL (continued from page 1)

quite a bit. Ted once wrote that, "I noticed along those highways a weedgrown ditch . . . far too straight of line to be natural, far too large to be a drainage ditch for the highway. It excited my curiosity and I made inquiry."

This inquiry led Ted to the state capital at Columbus where he "pored over old maps and records." He joined the Ohio State Archeological Society (the forerunner of the Ohio Historical Society) "to gain the benefits of their records." Ted also gleaned what he could from the records kept by local historical societies. And he gained the friendship of the few remaining canal boatmen in the area and learned from them.

By the mid-1950s Ted Findley was the canal historian to whom everyone in eastern Ohio went for information. No Ohio canal historian before or since has had the accreditation, the fame, if you will, that Ted Findley had. He spoke frequently on behalf of the local canal organizations that were just beginning to spring up. More often than not, his speaking fee was turned over toward any canal project that he found society was involved in.

The August 9, 1959 Sunday Pictorial Section of the Cleveland Plain Dealer carried an article about Ted and Ohio's canals entitled "Past Unfolds for Canal Walker." A 1961 (volume II number 1) issue of Landmarks, the quarterly publication of the Franklin County Historical Society, carried an article by Ted on Ohio's canals. Ted authored the long canal article carried in the Sesquicentennial Issue (1961) of the Coshocton Tribune. Earlier that year Ted had presided at the unveiling ceremonies of a canal-motif mural at a Coshocton bank.

During the spring of 1961, a number of people got the idea of initiating a state society for the preservation and dissemination of information concerning the canal era in Ohio. Ted, of course, was involved. A meeting in Valley View, south of Cleveland, drew many more people than anticipated, and the Canal Society of Ohio was formally begun that fall with Ted Findley as its president.

Ted took his presidency seriously. He unceasingly, and seemingly tirelessly, worked for the new organization. He wrote and prepared a mimeographed newsletter for the first two years of the society's life, and kept in constant written communication with the new organization's officers. From its inception to the fall of 1968 when Ted's health had gotten quite bad, Ted was the only president the Canal Society of Ohio had. Ted Findley may have been known as Mr. Canal, but there was more to interest Ted Findley that just the canals. Ted and Viona never had children of their own. Perhaps as a result, Ted never bothered to grow up completely himself. Though Ted was never seen in public, not even floating down the Beaver Creek in a rubber boat in search of the elusive Sandy & Beaver Canal without being fully encased in his 3-piece suit uniform, his actions were often those of an overgrown kid. He, and a number of like-minded "kids" in their mid to late 50s, formed the loosely organized "Tri-State Explorers Club." For four or five years starting about 1955, the rugged members of this club held monthly meetings. During these meetings they explored anything that they thought might need exploring. From coves in Muskingum County to a boat ride down the Little Beaver, these men and women were there. Apparently they had the time of their lives, with few serious moments.

Ted Findley was the president of this club during 1957. The July meeting was held at his campsite on the Ohio & Erie Canal just below Orange, Ohio. The name of the camp, in typical Findleyesque, was Camp Aw-Go-On. He had leased a section of the old canal lands from the state, erected a cabin, and directed many a trek along the canal from that point.

Ted's retirement from the presidency of the Tri-State Explorers Club was a noteworthy one. Ted received numerous gifts that ranged from a gift-wrapped box of corn cobs to a stuffed deer with an eye patch. The highlight of the ceremonies, though, was his field promotion to the rank of Colonel in John Morgan's Confederate Cavalry. For weeks afterward, several of the local papers in Tuscarawas and Columbiana counties carried news flashes of the antics and supposed sightings of the renegade Colonel Findley.

There was also a serious side to Ted Findley. His work with the local boy scouts for many, many years was well-known, as was the work he performed and dedication he showed to his local Masonic Lodge. Ted served as installation officer of the New Philadelphia Temple in 1959.

Ted Findley died on May 26, 1969 at the age of 70 after a two-year battle with cancer. At the time of this death, Ted was historian of the Canal Society of Ohio and was engaged in the initial research for an in-depth history of the canal era in Tuscarawas County with his good friend Bill Tracey.

Ted authored, or was featured in, numerous articles on Ohio's canal era, and there was a lengthy taped interview with him in 1967 for the University of Akron's radio station. Some of his once-voluminous collection now forms the basis for the Canal History Collection in the University of Akron's Archival Department. His biggest legacy, however, is in the people, projects, and organizations that were touched in some way by Ted Findley.

Efforts are at present under way to name a site on the newly constructed Towpath Trail in Stark or Tuscarawas Counties after Ted H. Findley.

Canal Calendar (conclusion from page 2)

May 12-30, 2001, Ireland 2001 and World Canals Conference, A Canal Soc. of NJ tour including a cruise of the Royal Canal and participation in the World Canals Conference in Dublin. Early reservations are advised because of anticipated high demand for a limited number of canal boats. Contact: Bill McKeelvey, (908) 464-9335.

DEADLINE: Material for our next issue must be on the associate editor's desk no later than October 1st, 2000.
The shed which housed the stationary steam engines at the top of plane #6 has been reconstructed along with the adjacent segments of track.

The Pennsylvania Main Line Canal, which connected Philadelphia with Pittsburgh, was designed to provide competition to New York State’s Erie Canal, which had inaugurated service in 1825. The merchants of Philadelphia immediately put pressure on the Pennsylvania legislature to construct a parallel east-west waterway through their state. Work began in 1826. (See Bill Shank, “Why was it called ‘the ‘Main Line’?” American Canals no. 98 [August 1996], pp. 10-12.)

Unfortunately for the Keystone State, geography wasn’t kind. Between the two terminal cities were two major obstacles existed. From Philadelphia to Columbia, a distance of 81 miles, there wasn’t an adequate source of water. Between Hollidaysburg and Johnstown a mountain range existed. To overcome these obstacles, Pennsylvania’s canal commissioners turned to railroads. A line connecting Philadelphia to Columbia was built consisting of primitive track laid on stone ties. It was called the Philadelphia & Columbia RR. It ran unhindered through flat farming country at a speed of about 18 mph.

In order to surmount the mountains further west, the Pennsylvania planners adopted a specialized type of rail line known as a “portage” which could carry passengers and freight over the mountains between Hollidaysburg and Johnstown. Begun in 1831, it was finished in 1834. In its time, it was considered an engineering marvel. People from all over the nation as well as from foreign countries came to see it in operation. It consisted of 10 inclined planes, each with a stationary steam engine. Its highest point was between Planes #5 and #6, 1,400 feet above Hollidaysburg and 2,334 feet above sea level. Between the two rail sections were the Eastern Division and Juniata Division canals, and west of the portage railroad, from Johnstown to Pittsburgh, was the Western Division Canal. The entire journey took about five to six days.

The need to switch cargo from rail to canal, then back to rail, and again back to canal, to complete the trip from Philadelphia to Pittsburgh, would have involved the expense of hiring hundreds of stevedores. In 1836, an ingenious solution was developed. Canal boats were built in three separate, watertight sections, each of which could be placed atop a railroad flatcar. When traveling on the actual canal the three sections were bolted together to form a complete vessel, pulled by the standard mule or horse team. Hence on the level portions of the Allegheny Portage RR and on the Philadelphia and Columbia it became a common sight to see parts of boats atop small railcars being drawn by steam locomotives. Generally trains were restricted to a maximum of five cars, which was all the engines could handle. Besides the three cars carrying the section boat, there might also be a couple of standard box cars or even passenger cars.

When one of these trains reached an inclined plane, its locomotive was detached and the remainder attached to the lifting cables. A signal was given, and the three to five cars were hauled up the slope at a speed of 4 mph. Sometimes a similar train would be descending, balancing the weight on the cable. This meant that the stationary steam engine at the summit had very little work to do. However, if there was no descending group of cars the steam engine did all the work. Black smoke would spew forth from the tall chimneys of the powerhouse, and the sounds of chugging and hissing could be heard. As the train neared the top its passengers could glimpse the powerhouse workers stoking the big iron boilers and applying lubricating oil to the mechanism.

The use of section boats on the Pennsylvania Main Line Canal was a concept 130 years ahead of its time. Today, freight in 50- to 60-foot-long steel containers is routinely switched between ships, flatcars, and semitrailers. This is known as intermodal transport. In all but name, intermodal transport was moving cargo from Philadelphia to Pittsburgh in 1839, using a container which was actually one third of a canal boat. Although this kept costs down, it was still more expensive than shipment via the Erie Canal. Philadelphia was unsuccessful in its bid to recapture its status as the nation’s number one port.

Although passenger-carrying section boats were known to exist, they were rare. People normally changed from canal packets to trains and vice versa at Columbia, Hollidaysburg, and Johnstown. Although the Allegheny Portage Railroad went out of business in the early 1850s, prior to the perfection of photography, paintings and sketches of it exist. These show trains composed...
of flatcars carrying portions of section boats as well as trains made up of conventional box cars and passenger coaches. The latter resembled stage coaches with railroad wheels. Luggage was piled haphazardly atop their roofs.

It must have been fascinating to stand along the track of either the Allegheny Portage or the Philadelphia and Columbia RR and observe all of the activity. During the busiest periods, six three-car trains per hour passed by in each direction. Total travel time from Hollidaysburg to Johnstown via the Allegheny Portage RR was approximately 6 hours.

In another major innovation, the Allegheny Portage RR became the first customer for John Roebling's revolutionary wire rope. In 1842, it began replacing the perishable hemp ropes on the inclined planes with the more durable new product. Roebling's wire rope was subsequently used on the Delaware & Hudson Canal's aqueduct over the Delaware River, the Brooklyn Bridge, and other structures which remain standing to this day.

While at Hollidaysburg passengers proceeding west could observe the activity occurring at the canal basin. After getting off their packet boats they normally had some time before a train was assembled to cross the mountain to Johnstown. Here sectional freight boats were broken into three parts. Each was then separately floated onto a railcar which had been positioned on a ramp angling into the water. Once in the correct position, a signal was given and the section with its railcar was pulled out of the basin. When the two other sections of the vessel had been removed from the water, atop railcars, a complete train was put together for the trip over 4 miles of level section to the foot of Plane #10.

At the height of activity on the Pennsylvania Main Line canal system, about 1849, both the eastern basin at Hollidaysburg and its western counterpart at Johnstown must have been very busy. Unfortunately there are no photographs. Following abandonment of the portage railroad in 1852, the Johnstown and Hollidaysburg basins were gradually filled in and obliterated. Only historic markers placed by government agencies inform visitors of the locations and what went on.

Knowledge of the Pennsylvania Main Line canal and its two railways has been preserved, however, in written accounts of travelers, some of whom also made sketches. One of the most famous was the British author Charles Dickens, who in his 1842 book American Notes related in great detail what it was like to travel from Philadelphia to Pittsburgh. He was impressed by the technology utilized to lift loaded canal boats 1,400 feet in 10 miles, from the Hollidaysburg basin to the top of Plane #6. Nothing on the vast canal network of his native England could compare. Throughout his narrative there is an undisguised admiration for the way the Americans were able to analyze a problem and solve it.

The Allegheny Portage RR also included the first railroad tunnel built in the United States. The longest level segment of the Allegheny Portage RR was between planes #1 and #2. On this portion, the railroad tracks followed the Little Conemaugh River, which at one point made a large horseshoe curve. The builders found that a 901-foot tunnel at this point would eliminate about 3 circuitous miles. Digging commenced in 1832 and within 2 years it was complete. Known as the Staple Bend Tunnel, it was the first railroad tunnel and the fourth tunnel of any type in the nation. Its predecessors were the Schuykill Canal Tunnel, 450 feet long and finished in 1821, the Union Canal Tunnel, 229 feet long and finished in 1826, and one just opened on the western division of the Main Line which was 817 feet long. The Staple Bend Tunnel featured elaborate portals at both ends made from cut and dressed stones. For about 300 feet at each end its surface was lined with brick. Its middle portion consisted of bare rock which had been blasted and chiseled to create a cylindrical bore through the mountain. Steam locomotives were never used to haul trains through it, but instead teams of horses were attached to the cars at the portals. One of the problems was that smoke from the locomotives would have filled the bore, making it difficult for passengers and train crews to breathe. Also, Plane #1 began at the western end of the tunnel, leaving no room to maneuver locomotives. Therefore steam engine haulage began and ended at the eastern portal of the Staple Bend Tunnel.

While at the summit level of the Allegheny Portage RR, passengers often partook of meals and liquid refreshments at the Lemon House Tavern which, amazingly, still stands. In his 1835 book, Journey Through Pennsylvania—By Canal, Rail, and Stage Coach, Philip Nicklin extolled the tavern's auspicious location. "At this elevation," he wrote, "in the midst of summer, you breathe an air like that of spring—clear and cool. Three short hours have brought me from the torrid plane to a refreshing and invigorating climate." He was equally impressed with the other attractions of the Allegheny Portage Railroad. "As soon
as we arrived at the foot of Plane #1 the horses pulling our train were unhitched and the cars fastened to a rope which passed up the middle of one track and down the middle of the other. The stationary steam engine at the head of the plane was started and the cars moved majestically up the steep and long slope in the space of 4 minutes: the length of the plane being 1,608 feet, its perpendicular height, one hundred and fifty feet. The cars were again attached to horses and drawn through a magnificent tunnel 900 feet long, having two tracks, and being cut through solid rock nearly the whole distance. Next the train of cars was attached to a steam tug [locomotive] to pass a level of 14 miles in length. This stretch was one of the most interesting portions of the portage railroad, from the beauty of its location to the ingenuity of its construction. It ascends its whole distance, overcoming a perpendicular height of 190 feet. The valley of the Conemaugh River was crossed on a viaduct of the most beautiful construction. This level was passed in 1 hour, and the train then arrived at the foot of the second plane, 1,760 feet long."

The Pennsylvania Main Line canal system was colorful and interesting, but it cost more to operate than it collected in revenue. Although it was one of the greatest accomplishments of America's all-too-brief canal era, it made sense only until railroad technology improved to the point where a continuous route could be constructed linking Philadelphia with Pitts-burgh. In 1846 the Pennsylvania RR was chartered, and by 1850 it had built a line from Lancaster, where a connection with the Philadelphia & Columbia RR could be made, to Hollidaysburg. An all-rail route now paralleled the Eastern and Central Divisions of the 1830s waterway. In 1852 the company finished its line from Pittsburgh to Johnstown. Almost immediately there was a shift of business from canal boats to freight trains, which traveled much faster, and could provide service on a year-round basis. (Canals had to suspend operations from December to April due to ice.)

To counter this threat from the railroad, the Pennsylvania canal commissioners in 1852, authorized the dismantling of the existing portage railroad and its replacement with a new and improved version which did away with inclined planes powered by stationary steam engines. Nevertheless, it was still a portage railroad rather than a through route. The so-called New Portage RR benefited from 20 years of advances in engineering, enabling a new track to be laid which ascended the Allegheny Mountains in a more circuitous manner, and could be negotiated by the now more powerful locomotives. Still this successor portage railroad lasted only until 1857. In 1854 the Pennsylvania RR had finished its own double-track route across the mountains via Horseshoe Curve. Hence it was no longer obliged to transfer its freight to the New Portage RR at Hollidaysburg and at Johnstown. This deprived the portage railroad of 90 per-cent of its business.

By 1857 the entire Pennsylvania Main Line canal system was losing millions of dollars. The once busy basins at Columbia, Hollidaysburg, and Johnstown were mere shadows of their previous selves. Abandoned and rotting section boats were everywhere. Bowing to reality, the legislature sold it to the Pennsylvania RR. Immediately the rails of the New Portage RR were yanked up and reused elsewhere. (The inclined planes and stationary steam engines had been dismantled in 1852.) Also at this time the 901-foot Staple Bend Tunnel was abandoned. Most of what had been the 14-mile "long level" was allowed to be covered over with vegetation. Only the segment near Johnstown was retained since it was incorporated into the right-of-way of its successor. For a short time the two canal segments continued to operate, serving purely local business. Then in 1865 the Western Division was shut down entirely, including its 817-foot tunnel. The Eastern Division held on longer, primarily because it carried huge volumes of coal. Nevertheless, following floods and continued erosion of its business, it finally suspended operations in 1903. An era had ended. Following its abandonment, the Allegheny Portage RR was largely forgotten. Iron and steel equipment was sold for scrap, wooden structures were torn down or fell apart. The basins were filled in and the canals were drained. No oral history or photographic records were preserved. Much of the "long level," including the Staple Bend Tunnel, was acquired by Bethlehem Steel for a water pipeline to supply its industrial operations in Johnstown. The pipe's 5-foot-diameter tube was run through the floor of the tunnel and the entrance portals were sealed. By the 1940s only a small number of people knew of its existence.

Fortunately the majority of the 10 inclined planes remained intact, minus their rails. At their summits, buried under debris and rotting plant life, were the stone foundations of the power houses. Occasionally hikers would stop and look, but rarely were they aware of what they were seeing.

What did survive fully intact was the Lemon House Tavern, a substantial stone structure erected in 1832 by Samuel Lemon. By the early 1840s, six trains per hour were passing by in each
direction, so his business must have been brisk. After 1852 the Lemon House continued as a tavern a few more years, and then became a private residence. The adjacent wooden engine house was one of the few to remain standing after the shutdown. Fortunately for posterity it was photographed before it burned down in the 1890s, and from these pictures we know what all of its 9 counterparts looked like. This would aid greatly in restoration efforts.

Interest in the American canal era finally began to awaken in the latter half of the 20th century, and the Allegheny Portage RR was “rediscovered” during the 1970s. People with a sense of history began coming to Cresson to look at the still-standing Lemon House as well as the former railway alignment in front of it. Sometimes they hiked down the steep slope of adjacent Plane #6, and explored the stone foundations of the engine house. Eventually, the property was acquired by the National Park Service for operation as a National Historic Site.

In early 1999 negotiations were concluded with Bethlehem Steel resulting in the National Park Service taking title to the Staple Bend Tunnel plus about two miles of right-of-way on its eastern end. The plan is to clear the tunnel and make it accessible to hikers. Except for #7, the inclined planes to the east remain intact along with the levels between them. They are now owned by an organization called Rails to Trails, which works closely with the National Park Service. Walking and hiking over them is possible. Going in the opposite direction toward Johnstown planes 5, 4, 2, and 1 also survive and can be explored.

During the next century it’s anticipated that further restoration work will take place. Whether this will involve reconstructing an entire plane complete with working steam engines cannot be determined. Such a project would be extremely expensive and would have to meet stringent safety standards, especially in regard to boilers. The iron boilers of the 1830s would most definitely be ruled out. Facsimiles using steel and other modern materials might be acceptable. What is being most seriously talked about at present is a full-size replica of a sectional canal boat, perhaps with each portion sitting atop a railcar.

Work already completed includes a million-dollar visitors’ center built in 1992. It houses exhibits pertaining not only to the railroad but also to the Main Line canal. A full-size replica of one of the railroad’s original steam locomotives was built and placed inside the main exhibit hall. Complementing it is a 10-foot-long model of a sectional canal boat. Oil paintings depict individual sections of the vessels atop small railroad cars going up and down the mountain, or along the levels. Other displays explain how the stationary steam engines worked, and how the proper tension was maintained on the cables, with a tribute to John Roebling. A theatre shows a 20-minute film about Pennsylvania’s canals and how canal boats were made to climb over the Allegheny Mountains.

The Allegheny Portage Railroad Historic Site is staffed by rangers and other employees of the National Park Service. All show a great knowledge about the APR and the canals which complemented it. The book store features a number of titles about this subject.

In 1993 the engine house at the summit was reconstructed using original plans and drawings. A replica of one of its steam engines was installed plus the associated winding mechanism for the lifting cable. Visitors can now see exactly how the cables were moved up and down the steep incline at a constant 4 mph. On the building’s east side about 150 feet of track has been constructed. This is the type employed on the inclines. On the building’s west side there is also about 150 feet of track. Here the type of rail and supporting structure are different, relying on stone square blocks rather than wooden ties. Visitors are thus able to see just how the track appeared on both portions of the Allegheny Portage RR. Complementing the rebuilt engine house is the Lemon House Tavern, not a restoration, but instead the original edifice.

After a century of neglect the Allegheny Portage RR now receives over 100,000 visitors a year. Many participate in hikes along the right-of-way led by park rangers. These involve walking over both level and incline portions. Two or three times a year the Staple Bend Tunnel is also opened. By 2001 it will be included on the expanded hiking path being developed, and will always be open. Perhaps in the distant future money will be made available to rebuild a complete plane and have replica section boats raised and lowered. What a sight it would be!

The Allegheny Portage RR Historic Site is located in Cresson, Pa. It can easily be reached via US Route 22. It’s 12 miles west of Altoona. Hours of operation are seasonal and changeable, so it’s best to call (814) 886-6150 prior to coming. Remains of the Main Line Canal are also visible east of Hollidaysburg and west of Johnstown. Here and there historical markers have been placed adjacent to them. In some places water remains in the prism.
THE SANTEE-COOPER CANAL AND NAVIGATION

By David G. Barber

In South Carolina, a large part of the state is drained by the Santee River. This includes the area around Columbia, the capital. In its lower reaches, however, this river is very meandering and enters the Atlantic with sandbars and without a good harbor. A good harbor exists to the south at Charleston, where the Cooper River joins the Ashley and other rivers to enter the sea. In 1770, the Commons House of Assembly proposed a survey to determine the most favorable route to connect the Santee with the Cooper and thus the interior of South Carolina with the port of Charleston.

Construction was delayed by the Revolutionary War, but began in 1793 and was completed in 1800. The Santee-Cooper was America's first summit canal. It was 22 miles long, 30 feet wide, and 5 feet deep. On the Santee River side of the summit, there were three locks with a total rise of 34 feet. On the Cooper River side the descent was 69 feet through seven locks. The masonry and brick locks were 10 feet wide by 60 feet long. The canal had towpaths on both banks.

Although initially successful, the canal suffered from droughts, and eventually railroad competition put it out of business. In 1855, the General Assembly revoked the charter at the request of the shareholders.

There, the matter would seem to rest except for the excellent canal museum in Moncks Corner, and some recent archaeological work on the remains of a munitions boat that blew up in a creek at the Cooper River end. Much of the Cooper end of the canal route lies under the waters of Lake Moultrie.

Visiting the museum, however, one starts to suspect that there is more to the story. Further investigation reveals that indeed there is.

In 1913, the Columbia Railway and Navigation Company was running a steamship service on the Santee River downstream from Columbia. Because navigation of the lower part of the river continued to be difficult, the company proposed building a canal between the Santee and Cooper rivers. However, this time the project included the construction of a hydroelectric generating station at Moncks Corner. The state granted the company permission to proceed and the Federal Power Commission granted a license, but the project was soon stalled by the great depression.

In 1932, Franklin Roosevelt was elected president, and embarked on a program of public works construction to ease the depression. Local leaders realized that this area of the state was severely depressed and that South Carolina was not getting its proportional share of New Deal funds. They also realized that the amount of the shortfall was equal to the value of the proposed hydroelectric and navigation project. After meeting with federal officials, they learned that the state would need to create a state agency for the project before funding could be procured.

In 1934, the South Carolina Public Service Authority was established. This agency is known as "Santee Cooper". President Roosevelt approved the project in July 1935. Court appeals delayed the start of work, but site clearance began in April of 1939. On November 12, 1941, the last spillway gates were closed on the Santee River Dam, and the first power was generated on February 17, 1942. The resulting power was quite useful for the war effort.

The project includes a very long concrete dam across the Santee River, located a little upstream from where the original canal once connected. This dam forms the 96,400 acre Lake Marion, which is crossed by Interstate 95. From the dam, the lake extends 43 miles upstream to Buckingham Landing. The Santee River can then be navigated a further four miles to Confluence. From here, the Congaree River can be navigated for 49 miles to Columbia or the Wateree River can be navigated 55 miles to Camden. It's unclear to me if either of these rivers can be navigated further.

From Lake Marion, a seven-mile long Diversion Canal was cut through the summit ridge parallel to and about four miles away from the old canal. The Diversion Canal is navigable and carries Santee River water into the 60,300 acre Lake Moultrie. A further 12.5 miles across this lake brings one to the Pinopolis Dam and hydroelectric generating station. Below the dam, the Tail Race Canal extends for four miles to the Cooper River, 48 miles above Charleston.

What makes this interesting for canalaers is that Pinopolis Dam includes a navigation lock. This lock is un.
in shape, being almost square—80 feet long by 60 feet wide, with a 75-foot lift. At the time of its construction, it was the highest single-lift lock in the world. There are two floating bollards in the east wall. For small craft operation, the lock contains a floating dock. This is removed for the rare passage of a commercial barge. The lock was rebuilt in February of 1998, and is open to recreational craft all year during daylight hours, except during bad weather. The gates and valves are operated hydraulically from a touch screen control panel. In one lift, the Pinopolis Lock replaces the seven locks on the Cooper River side of the summit of the original canal. The Santee River Dam and the Diversion Canal replace the other three locks.

To visit by car, first go to Moncks Corner and visit the canal museum in Old Santee Canal State Historic Site. This is located on Stoney Landing Road, which runs south from US 52 Bypass at a traffic light. After leaving the museum, return to US 52 and proceed east crossing the Tail Race Canal. After the junction with US 17A, continue on US 52 and then turn left on Powerhouse Road, marked for the generating station. At the end of this road, you will come to a fenced area around a steam generating plant and the dike at Lake Moultrie. At the generating plant, inquire of the guard at the gate. Access is through the plant grounds to the lock and through the powerhouse for the hydroelectric plant. You have to be escorted, and no cameras are allowed, but the plant personnel are very hospitable and the lock tender very informative. Traces of the old canal parallel the right side of the Tail Race Canal, but this is probably an area of restricted access.

If time allows, you can continue along US 52 to its junction with Rte. 45. Then turn left on Rte. 45 and follow it across the Redview isation (an outlet hydraulic canal for Lake Moultrie back to the Santee River). Then after a few miles you will cross the overgrown old canal, and four miles later the Diversion Canal. On the old canal, the three locks on the Santee side of the summit are reported to exist, but deep inside private property. At the Rte. 45 crossing of the old canal, a dirt road leads along the canal toward Lake Moultrie. I haven’t followed it, but the fact is that where the canal’s summit level ends at the lake, there had to be a lock at one time. Access to the old canal at the Lake Moultrie end is also possible via the Lake Moultrie Passage section of the Palmetto Trail. For this and other information on the canal and power project, see the authority’s web site at www.santeecoop.com. Extensive information was obtained from this web site for this article. While photography is prohibited, an aerial view of the lock is on the web site.

Thus 145 years after the close of the original Santee Cooper Canal, it is still possible to navigate the approximate route.

**Correction**

Due to gross editorial incompetence, several words were omitted from David G. Barber’s article, “Canal Travels ‘92,” in our last issue (XXIX-2, Spring 2000, p. 10). The two paragraphs affected should have read as follows (previously omitted material in bold type).

(2) At the top of modern Erie Canal Lock 2, a wide trail is open along the towpath of the old Champlain Canal from the lock south 1.1 miles to old Champlain Canal Lock 4 at the Mohawk River crossing. To the north of this existing trail, a new towpath trail has just been opened for 1.2 miles north past the old Waterford Weigh Lock and old Champlain Canal Lock 5 to the town line. Eventually, it is planned to extend this trail past old Champlain Canal Locks 6 and 7 to the south edge of Mechanicville (six miles further). The old Champlain Canal is watered from Lock 4 just short of Lock 5.

(3) At Mechanicville, N.Y., on the modern canal, new facilities for boaters with water and electricity have been opened at the site of the old terminal. At Fort Edward, N.Y. on the modern canal, new facilities for boaters with water and electricity have also been opened. These two facilities encourage boaters to stop and shop in the towns. We also noted that a trail begins at the Amtrak railroad station in Fort Edward and runs north along the old Champlain Canal to the Glens Falls Feeder junction. It then runs up the Glens Falls Feeder Canal to its west end at the Hudson River. A detour is required around the paper mill in Glens Falls. Maintenance also is evident at the junction lock between the old and new canals in Fort Edward.

**1833 Boat Trial: 13 MPH!**

The annexed account [from the London Albion] of an interesting experiment, with reference to accelerating the movement of boats on canals, will be found worthy the attention of those who take a direct interest in the concerns of Internal Improvements. In canals, as used in this country, speed may perhaps be of less consequence than regularity in transmission of freight, though certain it is that, in almost all transactions, time is money.

On Saturday afternoon, a trial was made upon the Paddington Canal, of the new canal boat. The object of the trial was to show that a boat built in a different form, and constructed of other materials than the ordinary canal boat, might, by using superior horses, be drawn along the water at the rate of 10 miles or more in an hour, instead of two miles an hour, the pace of the boats now in use.

The day was remarkably fine. The portion of the canal more particularly appropriated to the experiment was from the third to the seventh mile from Paddington. The boat was constructed of sheet iron, riveted hot. It was 70 feet long by 5 1/2 wide, and painted green and white.

The boat was provided with an awning made of white twilled cotton cloth, which had been rendered semi-transparent with oil. This awning was so set up that the top was extended over light wooden arches, which rested upon a thin upright frame of rod iron, and the sides, in the form of curtains were made to slide at pleasure upon paralleled rods placed at the upper and lower ends of the curtains. The rudder was of a single sheet of iron, of about a yard in length, and it was moved by a tiller made of about two yards of stout rod iron. Two steady hunting horses, each mounted by a lad, and the two harnessed to a towing rope of about 150 feet in length, constituted the moving power.

The number of persons on board the boat was 40, including the crew, the gentlemen making the experiment, some of the principal members of the Grand Junction Company, and the visitors, amongst whom were Mr. Telford, Mr. Babbage, Captain Basil Hall, Mr. Hellyer, and Mr. Gill. A lady also made one of the party on this interesting occasion.
Certain distances were measured on the canal bank, and marks set up at the ends of them. At each of these places also, a man was stationed with a gauged rod in his hand, which he so held that, upon the boat's passing, he might instantaneously read off the height of the wave caused by the disturbance of the water. When all things were ready on the shore, and the party had embarked, the boat was put in motion. The speed from one station to another, taken by seconds watches, showed, for some time, a progress at the rate of thirteen miles an hour. The horses, however, soon began to tire, and the speed fell to eleven, and ultimately, in returning for the third time, to ten and a quarter miles in the hour.

The experiment, as far as it goes, was attended with complete success. The motion is the easiest imaginable. The boat glides along the water so smoothly and noiselessly that its progress is all but imperceptible to those on board whose attention is not extended to external objects. A relay of horses will be required at the end of every four or five miles. The banks of the canal will have to be edged for nine or ten inches above the ordinary level of the water with hard materials, and the towing path to be slightly sloped outwards. Improvements, no doubt, will also be made to facilitate the passing of locks, and in the mode of attaching the horses to the boat so that the animals may exert their power upon the boat disembarrassed of the awkwardness of the direction in which, under the present form of towing, they are made to put forth their strength.

Pittsburgh Gazette, June 7, 1833
Submitted by William Dzombak

BOOK REVIEWS
by Linda Barth
Kate Mulligan, Canal Parks, Museums and Characters of the Mid-Atlantic (Washington, D.C. Wakefield Press, 1999).
Kate Mulligan's new book is a must for the glove compartment of all serious canal fans. She gives detailed descriptions of canal sites in New Jersey, Pennsylvania, and Maryland, focusing not only on the places, but on the people, "the characters," who worked to make their parks a reality. Kate highlights sites along most of the 19th-century canals in the three Mid-Atlantic states, describing their history and current events sponsored by each of the canal parks. The book includes related, noncanal places of interest, such as the Brunswick Railroad Museum, the Johnstown Flood Museum, and the Eckley Miners' Village. This would be a great gift for anyone who loves travel and the transportation history of the Mid-Atlantic.

Lee Sullivan Hill, Canals are Water Roads (Minneapolis: Carolrhoda Books, 1997).
Do you know a youngster who would be interested in learning about canals? Then I suggest a copy of Canals Are Water Roads, an easy-to-understand primer for children ages 4-8. Illustrated with large color photographs of canals around the world, this book explains the "how" and "why" of canals in short, simple sentences. The author shows us navigation as well as irrigation canals, 19th and 20th-century waterways and those which have been around much longer (China, France and Venice). I especially appreciated the photo index at the end: a small version of each of the book's pictures with a description and its location. I recommend this book for school libraries and as a gift for your favorite child.
CANAL HISTORY AND TECHNOLOGY SYMPOSIUM
The Canal History and Technology Symposium took place on March 18, 2000 at Lafayette College in Easton, Pa. It was co-sponsored by the National Canal Museum and the college. Lance Metz (610-250-6774) is soliciting papers for next year. Following are brief summaries of this year’s papers by Albright Zimmerman and myself.

— Kate Mulligan.

“A Working Class Haven in the Pocono Mountains: Unity House—ILGWU” by Kenneth C. Wolensky, while not on the canal theme, was an enlightening description of Unity House, the innovative vacation center in Pennsylvania’s Poconos. It offered a scholarly, but fascinating, story of a prototype labor effort that illustrates the social dimensions of the International Ladies Garment Workers Union (ILGWU). It met the traditional standards of quality for the annual symposium. [A.Z.]

“The Lehigh Coal and Navigation Company’s Mauch Chunk Railroad, Part III: Panther Creek Operations and the Switchback Railroad,” by Vince Hydro, is the third paper presented serially by the author from his forthcoming book on the famous Switchback Railroad. In this paper, he untangled the development of the inclined planes that brought the coal from the Panther Valley to the elevation at Summit Hill and the development and improvement of the railroad to Mauch Chunk. He traced the changes and alterations in the Switchback and its relation to the neighboring coal breakers, and explained how the Nesquehoning Tunnel ended the role of the Switchback as a coal hauler. The railroad continued as a tourist attraction until 1933. This paper, along with its predecessors in previous symposia, provides the definitive account of the unique Switchback Railroad. [A.Z.]

“The Kay Moore Mine, 1901-1962: A Case of Underground Mechanism in the Bituminous Coalfields in Southern West Virginia,” by Michael Workman of the Institute for the History of Technology and Industrial Archeology at West Virginia University, discussed the machinery in coal mining and compared it to technology in the anthracite coalfields. The author gave an enlightened description of the techniques employed, noting that economics, technological obsolescence, and miners’ opposition delayed mechanization. He examined the process whereby the Kay Moore mine eventually attempted mechanization. Those interested in coal mining or mining history will find this effort rewarding. [A.Z.]

“The Prosecution of the Molly Maguires in Carbon County,” by Lance E. Metz, historian of the National Canal Museum, provides a dramatic twist on the oft-told tale of coal miners (and a few unfortunate others) who were tried and hanged for murders in Pennsylvania’s coal fields. Metz writes, “In the popular mind, the Molly Maguires have become either symbols of resistance to oppression and early martyrs of the American labor movement or ruthless Irish gangsters who terrorized portions of Pennsylvania’s anthracite coal fields.” He attacks a different misconception, however, demonstrating with physical evidence uncovered by Zip Zimmerman that the Maguires’ prosecution was funded by Edward Clark, then head of the Lehigh Coal and Navigation Company, rather than Asa Packer. [K.M.]

“The Vortex of Party Strife: The Funding Debate and Construction of the New York and Erie Railroad, 1832-1851,” by Jean Whitford Turcotte, a Ph.D. candidate in history, also attacks a popular misconception. From the time of Gallatin’s famous report in 1808, canal proponents advocated federal expenditures on canals by arguing that transportation would unify the new country. By examining debates over funding for transportation in New York State after the success of the Erie Canal, however, she concludes that “the aftershocks of this quake [the opening of the canal] were felt in the internal improvement mania that swept the nation between 1830 and 1850, which pitted not only north against south, but also state against state for their ‘fair share’ of the benefits of internal improvements.” [K.M.]

“Benjamin Wright and the Design and Construction of the Monocacy Aqueduct,” by Robert J. Kapsch, special assistant to the Deputy Director of the National Park Service, offers evidence that Wright, “the father of American civil engineering,” played a key, but forgotten, role in the aqueduct’s early history. Kapsch calls the aqueduct “an extremely important icon of American engineering history” and “arguably, the greatest accomplishment of the Chesapeake and Ohio Company.” Unfortunately, the author is less successful with attribution in his discussion about more recent history. He traces restoration interest to a 1998 appearance by Hillary Clinton to place the aqueduct on the list of America’s 11 Most Endangered Historic Places published annually by the National Trust for Historic Preservation. I listened in vain for any mention of the role of the C & O Canal Association in bringing about that event or in restoration efforts. A committee of that canal society brought Richard Moe, head of the National Trust, to the aqueduct—a visit that led to the selection. For several years prior to the visit, the group raised funds (over $100,000), generated support, and publicized the aqueduct. Eventually, they were able to prod the NPS into conducting a preliminary study to determine restoration costs and are continuing to push for additional funding. Without the society, the aqueduct would have remained a forgotten and decaying icon. [K.M.]

IS THE WORD GETTING OUT?
Canal people in other regions want to know what your canal society is doing, just as you want to keep up with canal-related events and activities elsewhere. One of the main purposes of American Canals is to serve as a medium for this kind of communication. We can do this only to the extent that your canal society keeps us on its mailing list for newsletters, press releases, bulletins, announcements, and flyers. The correct address for such material is:

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GOOD NEWS

The high point of my four day press trip to Ohio was meeting Tom Mackie, director of history and education at Roscoe Village, a restored canal town close to Columbus. Former ACS president Bill Trout introduced Tom to historical waterways when the latter was director of the Amherst County Museum in Virginia.

Tom says, "I'm leading two programs at present for Roscoe. The first is the construction of a full-scale, waterline model canal boat to be used as an interactive outdoor exhibit. It should be completed by this winter. The other is a video on Ohio's canal system focusing on how Roscoe represents canal towns all along the Ohio and Erie Canal."

Roscoe Village apparently was also the high point for Ohio's Governor Robert Taft, who sponsored the tour for travel writers. Taft and his wife joined our group on several segments of the tour, but chose Roscoe Village as the site for the concluding banquet and accompanied us on a canal boat trip.

Randy Apgar, president of the Friends of the Delaware Canal, reports that "a fully watered canal is becoming a reality!" Last May, local water authorities pumped millions of gallons of water into the canal, just south of Point Pleasant. For the first time in many years, the section of the 60-mile Pennsylvania canal from Lumberton to Center Bridge was watered. After the canal is filled, the need for additional pumped water should be minimal.

The Blackstone Valley Tourism Council of Pawtucket, RI has a new steel British canal-type boat with overnight accommodations for the Blackstone River at Central Falls, RI. The boat, called the Samuel Slater, is too wide to pass through a Blackstone Canal lock, but it will bring an experience similar to cruising British canals to the area. (See American Canals, XXIX-2 [Spring 2000], page 1.)

Filming has begun for a documentary on the construction of the Illinois and Michigan Canal, which filmmakers hope to show on PBS or the History Channel. Shorter segments of the 50-minute film will be available for classroom and library use.

The Canal Society of Ohio joined a coalition of 20 other groups to plan a new canal basin park in downtown Cleveland. The park will house one of Cleveland's remaining four Hulett ore unloaders.

Tom Kastner, outgoing president of the Virginia Canals and Navigation Society, concludes his letter to members with this optimistic remark. "In a sense I feel that after many years of trying to convince various authorities that work needs to be done, we are being told, 'You Know, You're Right. Let's Get On With It.'" He points out that Congress has passed the Chesapeake Bay Initiative Act, which provides for the development of water trails along various tributaries of the bay.

The venerable New York Times recently had two canal stories. On June 16, "Up a Lazy River, Alone in a Kayak" tells about a solo trip along the Cayuga-Seneca Canal. A more interesting piece, published on June 21, discusses the fate of the small town of Clyde, located halfway between Rochester and Syracuse along the Erie Canal. Describing the town as "stranded in history, as well as geography," the writer says local residents are hoping to use the federal canal corridor initiative to revive Clyde's fortunes and give it a new reason for being.

After reading the summer issue of the newsletter of the Inland Waterways Association of Ireland, I decided I couldn't wait for the World Canals Conference in 2001 and bought a ticket to visit Dublin in November. Of the 12 pages of Dublin-related canal stories, Ruth Heard's story, "Save the Grand Old Canal" is particularly interesting. Plans were underway in the 1960s for the Dublin Corporation to lay a 72-inch sewer and surface-water drainage pipe in the canal and to build a highway on top. Descriptions of the ensuing protest are reminiscent of efforts to save the C & O Canal in Maryland from a similar fate, at about the same time. The issue also contains features on Dublin breweries, a floating St. Patrick's Day celebration, and a vision for expanding the canal system. Check web sites www.iwai.ie and www.rcag.8m.com for more information.

-Kate Mulligan

WORLD CANALS CONFERENCE 2000

If you haven't already made plans and reservations, it's not quite too late to do so now. The conference is September 10th through 15th, in Rochester, N.Y. Conference headquarters is the Crowne Plaza Hotel, at 70 State St., Rochester 14614, phone 716-546-3450, fax 716-546-8714. This is an unparalleled opportunity to catch up on all the latest plans and achievements in canal revitalization and regeneration, whether for commercial use, tourism development, or historic preservation. It's also a grand occasion for meeting old friends and making new friends in the worldwide community of canallists.

Registration fee of $275, payable to the Canal Society of New York State, should be sent to:

World Canals Conference
c/o The Rivers Organization
P.O. Box 227
East Rochester, N.Y. 14445

Part 5

CANALS AND INLAND WATERWAYS IN BRITISH CRIME FICTION

Since we published Philip Scowcroft's article on this subject (Summer 1998, pp 3-4), there have been several follow-up reports. One of these (Autumn 1998, p. 5) cited the role played by the Kennet and Avon Canal in Peter Lovesey's mystery novel Bloodhounds (Little, Brown, 1996).

Another crime novel in which the Kennet and Avon Canal figures prominently has just been brought to our attention by alert reader Mary Reyes. It is Elizabeth George’s In the Presence of the Enemy (Bantam, 1996), featuring her Scotland Yard team of Thomas Lynley and Barbara Havers.

It appears that Philip Scowcroft struck an extraordinarily rich vein when he introduced this subject—and a more extensive one than even he imagined. Still further discoveries are anticipated, and will be reported as they come to light.

AMERICAN CANALS, XXIX-3 Summer 2000