AMERICAN CANALS

BULLETIN OF THE AMERICAN CANAL SOCIETY

BULLETIN NUMBER 6

EDITORIAL ADDRESS - P. O. BOX 638, GLEN ECHO, MD. 20768 AUGUST 1973

"Captain's Corner"

There's nothing like a canal boat trip in England, where there are 25,000 waterway enthusiasts using 2,000 miles of restored and partially restored inland waterways, to rekindle one's own enthusiasm for something of the same sort in the Americas. Canal enthusiasts there not only talk about canals, but use them -- restore them -- and keep pressure on the Government in an organized way to keep the waterways operating and to restore the remainder waterways. We have groups doing the same thing here, but not on such a large scale and not with such organization and that is one reason why we need the American Canal Society, the equivalent of the Inland Waterways Association in England.

We have long dreamed of taking a canal boat vacation in England, and had hoped that it might be with a trip sponsored by the ACS. As that did not work out, we were delighted to accept the use of a canal boat belonging to Inland Water ways Amenity Advisory Council Member (and Tirector of the ACS) John Atkinson, John sited the United States last year and

sited the United States last year and raw some of our canals. As a very keen canal enthusiast, he particularly wanted us to see what had been done with the waterways in England for recreational purpuses so that we might think more seriously about what could be done with them here.

My wife, Nat, and I and our two teenagers, Duane (17) and Betsy (14), made our way to Germany where we first became aware of the tremendous use of inland water transportation in Europe when observing the busy traffic on the Rhine River in an almost unbelievable setting of barges, dimly illuminated on a light summer night against a background of castles and other fantastic scenery. Passing through Belgium we encountered parts of the extensive canal system of that country.

Our English canal adventure began on 7 July when met by John Atkinson and his son Michael at Market Harborough on the Market Harborough Arm of the Leicester Section of the Grand Union Canal. We immediately joined President and Mrs. Claytonismith and other members of the Canal Society of New Jersey group (who were just finishing up the second portion of their English canal tour) as guests of the Anglo Welsh Narrow Boat Company at lunch at the Six Packs Pub. They bubbled over with talk of their canal boat trip, about which we hope to hear more soon. Their enthusiasm, of course, was contagious and made us eager to get started on our own. As the first organized canal group to visit England, they were royally received by the British Waterways Board and all they wat. Our gracious heat

gious and made us eager to get started on our own. As the first organized canal group to visit England, they were royally received by the British Waterways Board and all they met. Our gracious host, in, had been theirs as well, and so he double duty in a short period of time. Joined the CSNJ group on the last organized part of the tour at the "Thomas" incline ruins and the staircase at Foxton Leicestershire, on the Grand Union Canal, not far from Market Harborough, after which we said our "goodbyes" with promis-

es of getting together soon. Two weeks later we would be descending that same staircase of 10 locks on the last leg of our canal journey.

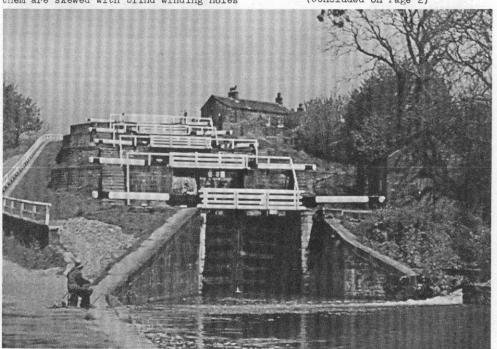
We found an advantage in having been preceded by the CSNJ party, for we had the legacy of their leftover provisions from the boats they had hired from Anglo Welsh, including enough salt to convert all the waterways of the UK into salt water and enough toilet paper to furnish an aircraft carrier thereon!

From Great Haywood Junction, Staffordshire, we began a succession of 15 happy days in the Mary Jane, a lovely boat with separate sleeping compartments, toilet, shower and kitchen; about 42' long and a little under 7' wide to accomodate the narrow locks which are just slightly wider and 72' long. As the Great Haywood Junction is the junction of the Trent and Mersey and the Staffordshire and Worcestershire Canals, John took us down a portion of the Staffs and Worce (as it is normally called) to check us out on the boat and give us our first opportunity of steering. The canal prism under the first bridge over the canal seemed about two feet wide. Imagine the trepidation of your president, a retired navy captain, with imagined thoughts of smashing the boat to smithereens in the first ten minutes of the voyage! By the end of the trip we sailed under bridges with ease, though some of them are skewed with blind winding holes

on the other side. The first experience in meeting a boat on a blind turn under a narrow bridge is a trying experience which tests one's expertise first hand, believe me!

On 8 July we began in earnest down the Trent and Mersey Canal. (We usually seemed to be going down a canal, which made reading the canal guides a bit difficult.) In the following days we also travelled parts of the Coventry Canal (part of which can technically be called the Birmingham and Fazeley Canal as it was built by that canal company,) the Ashby Canal, the Oxford Canal (North), the Grand Union Canal and the Leicester Section of the Grand Union Canal. Though we have not taken time to figure out the mileage and number of locks, our friend Frank Baker, one of the Directors of Anglo Welsh, estimated the trip to have been about 160 canal miles, through 59 locks and four tunnels, or 190 lock miles. Not a record by any means, as we took our time in stopping all along the way with three or more days wholly or partially off the boat. Part of the fun (and work) is going through the locks; teamwork is required by all hands in setting up the locks ahead. Particularly interesting to us was going through the tunnels, one of which is the Blisworth Tunnel (completed in 1805). Can you imagine going through such a tunnel

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One of the great sights of Britain's waterways -- the Bingley Five-Rise Staircase of Locks, which lifts the Leeds and Liverpool Canal toward its Pennine summit. (Photo by Derek Pratt, courtesy of the British Waterways Board.)

American Canals

BULLETIN OF THE AMERICAN CANAL SOCIETY

"AMERICAN CANALS" is issued quarterly by the American Canal Society, with headquarters at Lockhouse #6, Chesapeake and Ohio Canal, P.O.Box 638, Glen Echo, Maryland 20768. Objectives of the Society are to encourage the preservation, restoration, interpretation and usage of American Canals, past and present; to provide a focal point for action on threatened canals; and to exchange information of general interest.

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Rideau Canal Field Trip

All members and prospective members of the American Canal Society are invited to participate with the Society for Industrial Archaeology in a tour of the industrial architecture and engineering works along the Rideau Waterway in Canada on 22 and 23 September 1973. The two-day field trip features on the first day a land and water tour of the 120-mile canalized Rideau Waterway between Ottawa and Kingston and the historic rural milling town of Merrickville. An overnight step at Jones Falls, famed for its great masonry arch dam and hillside flight of locks. On the second day, a tour of Kingston and three specialized structures: a former pump house, now a steam museum; the dry docks; and the Bajus Brewery. For those who can make it, on Friday night, the 21st, at 8:30, there will be a reception at and tour of Ottawa's old Union Station by the Nation-

al Capital Commission.

The tour will be limited to the first 55 persons at a cost, including transportation, two lunches, supper, breakfast, and overnight accomodation (the 22nd) (two to a room), of \$31.00 per person. Checks should be payable to: SOCIETY FOR INDUSTRIAL ARCHAEOLOGY and mailed to: Dianne Newell MacDougal, 116 Hawthorne Ave., Ottawa, KIS OB3, Canada. Be sure to indicate the number of persons, your address and the fact that you are a member of ACS.

"Veep" at Work



William E. Trout III, Vice President of the American Canal Society is snapped at work with other volunteers on restoration of the by-pass flume for Lock No. Six on the Chesapeake and Ohio Canal. Dr. Trout, who lives in California, takes a month each year to come East for canal research and other activities in and around his native state of Virginia.

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"Captain's Corner"

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(3056 yards long) with only the headlight for illumination, with the tunnel roof scoted through years of steam enginuage, stalactites hanging from the arched roof and water pouring down the ventilation shafts. Meeting other boats with just room to pass is part of the experience. As we traveled along the various canals, all of us took turns steering the boat and Duane and Betsy would jump off at frequent intervals to ramble along the faint, little-used tow-paths.

Trains and busses in England are good and often within fairly easy reach of the canals. We found with a little hiking and patience we could get into towns and cities and to London and Birmingham. In London I visited with Sheila Doeg, Editor of Waterways News, and with John Dowdell, General Secretary of the Inland Waterways Association, and Sir Prank Price Price, Chairman of the British Waterways Board; while Nat worked on geneology at the British Museum and Duane and Betsy made the sightseeing

Duane and Betsy made rounds.

I think most pleasureable of all was the leisurely way we saw and enjoyed a part of the country; a part which one certainly must miss by road. The meandering canals, often following the contours of the land, took us through cultivated fields, pastureland, woods-seldom through heavily populated areas. We made frequent stops to visit old and ancient churches and buildings and to walk through the country villages where we did our shopping. Quite often the pubs along the canal were the only visible places where one could visit and pass the time of day or night -- we found we were welcome in them and wherever we went.

went.

Almost overwhelming to one who is interested in industrial archaeology ar the locks, tunnels, bridges and aqueducts each of which would be fascinating to study in detail. Though the number of canal publications is very large, there was little immediately available for sale on the details of canal construction.

The most important part of our trip was the enthusiasm we found for canal restoration and useage, a large quantity of which we hope we brought home to share with the rest of you. Hope you all are having a nice summer.

Tom Hahn

We need glossy photo-prints of canal scenes, old and new, along with supporting material of interest to canal buffs everywhere.

Full credit will be given to all ACS members who will send in material of this sort which we can publish in this bulletin.

Ohio Society Field Trip

Plans for our fall tour are beginning to "jell". Tentative plans now call for our headquarters to be at the Delphian Motor Inn in New Philadelphia. The tentative dates for this event are Oct.19, 20, & 21. A bus tour will be held on Saturday, Oct. 20. Some of the spots on this tour will include -- the Community of Zoar; Zoar Guard Lock and Feeder Dam; Ohio & Erie Canal Locks 7, 8, & 9; For Laurens; remains of the Great Tuscaraw Aqueduct; junction of the Ohio & Erie and Sandy & Beaver Canals at Bolivar; restored section of the Sandy & Beaver in Magnolia; plus as many more stops as time will allow -- so keep those dates in mind and plan to attend.

NEW INTEREST IN "OLD PORTAGE"

By Ralph Michaels

Last year's purchase of an 1834 egheny Portage Rail Car Model at the macentral auction in Philadelphia call ed attention to the unique railroad which was once part of the Pennsylvania Main Line Canal System. The purchaser of this fine model, who wishes to remain anonymous, immediately turned it over to the National Park Service Museum in Lemon House at Cresson, Pa., where it can now be enjoyed by thousands of visitors to the Allegheny Portage Railroad Historic Site display in the building

Canal buffs may wonder what possible connection a horse-drawn rail car could have with a canal system. Hence, a bit of history on the Pennsylvania Main Line may be in order. In 1826, when the Pennsylvania legislators instructed the Canal Commissioners to build a 400-mile canal across the state between Philadelphia and Pittsburgh, the initial survey had suggested a four-mile canal tunnel approximately 700 feet below the crest of Allegheny Mountain, as a means of connecting the eastern and western canal sections. However, one of the canal commissioners pointed out that such a tunnel would not only be expensive, but there would be a real problem in trying to keep the canal full of water near a mountain top. His reasoning was later proven correct by the difficulty in supplying both canal basins at Johnstown and Hollidaysburg with sufficient water to maintain adequate canal levels downstream. Hence, Monclure Robinson, the Main Line consultant, recommended instead a series of inclined planes with connecting railroads between them to lift freight and passenger traffic over the Allegheny Mountain

obstacle. There were ten planes, numbered from the Johnstown end, five on the side of the mountain. The Portage alroad was completed in November of 1833 and officially opened to traffic, with due ceremony, on March 18, 1834.

The first cars used on the Portage,

The first cars used on the Portage, as illustrated in the model, were individually horse-drawn and individually owned. Since the Portage Railroad was a public utility, anyone who had equipment to fit the tracks was permitted to use it. The same was true of the state-owned Philadelphia and Columbia Railroad at the east end of the canal system. Needless to say, great confusion in scheduling resulted, and the State finally stepped in to provide the motive power along the "level" sections of the road, in addition

LCURVE SHOE PRR TUNNEL B) ALTOOMA CRESSON ALLEGHENY PORTAGE CINCTINE CANAL TO RAILROAD 1834-1857 LEMON ALLEGHENY PORTAGE CANAL TO PITTS BURGH DESTROYED BY 1819 JOHNSTOWN FLOOD HOLLIDAYS BURG HISTORIC SITE FASTERN RESERVOIR STAPLE BEND TO NEL IN AMERICA) Map by Ralph Michaels WESTERN RESERVOIR MWOTZNHOW (BROKE MAY 31 1889) 36.69 MILES

which hauled the cars up and down the steep inclined planes. Freight and passenger cars on the Portage, however, continued in private ownership for the life of the operation.

Later, sectional canal boats, also privately owned, were developed to be drawn over the mountain on individual rail cars, one section at a time, and re-assembled in the canal basin on the opposite side of the mountain. Motive power on the level stretches ultimately gave way to steam locomotives.

The ten inclined planes provided plenty of thrills for passengers riding cars or boats over the mountain. The stationary engines, with their endless Russian hemp rope, pulled the cars up the inclines, supplying power as necessary, or let them down, with the engine acting as a brake. Occasionally the hemp ropes would part, with disastrous results until John Roebling developed his wire cable, first successfully applied on the Portage. Sometimes, on the last descending levels close to the canal basins, the cars were cut loose and permitted to travel by gravity the balance of the route. Several riders wrote of their hair-raising rides in this connection.

On the levels between planes, the tracks were mounted on rows of stone "sleepers" imbedded in the ground at three-foot intervals and measuring 20" x 22" x 12" thick. Each sleeper held an iron "chair" on which the rails were mounted. After the Portage was abandoned many of these sleepers turned up as foundation blocks for various buildings along the route, and were even used in

some places as gravestones. They are easily recognizable, due to the two holes which were bored into each sleeper to hold its iron chair in proper position.

The inclined plane railway more nearly resembled our modern rail system, with wooden cross-ties, but the rails themselves were wood stringers with iron straps for the wheel-bearing surface.

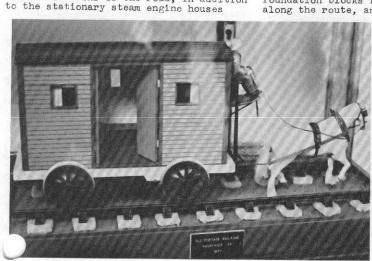
straps for the wheel-bearing surface.

The Allegheny Portage Railroad was for a short time also the connecting link between the eastern and western sections of the Pennsylvania Railroad. When the Pennsylvania Railroad extended its rail lines from Harrisburg to Altoona in 1850, and from Pittsburgh to Johnstown in 1852, it faced the same difficult problem of crossing Allegheny Mountain as the Canal Commissioners had experienced 25 years earlier. While they were in the process of constructing their own route over the mountain, Pennsylvania Railroad used the Portage Railroad to tie their own rail system together. Normally the Portage closed over the winter months, when the canals were frozen, but PRR finally arranged for the State to keep the Portage open year-round.

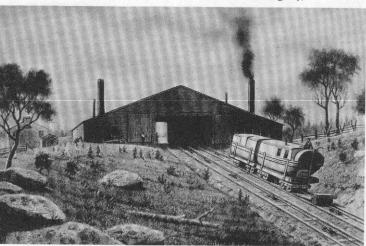
In the end, it was the Pennsylvania

In the end, it was the Pennsylvania Railroad that put the Portage out of business permanently. When its own rail line over Allegheny Mountain was completed, with its 3560' tunnel at Gallitzin and its now-famous Horse Shoe Curve and opened to traffic on February 15, 1854, the PRR was no longer dependent on the Portage, and began running competition with it. The end of the Portage

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This large, one-tenth scale model of an 1834 horse-drawn passenger car on the Portage Railroad was originally built by Pennsylvania Railroad for the Columbian Exposition in 1893. It is now part of the NPS display at Lemon House.



In its day, the Allegheny Portage Railroad was one of the wonders of the New World. Travelers from Europe, such as Charles Dickens, went out of their way to enjoy its amazing inclined planes and mountain scenery, and wrote about it.

CANADIAN CANALS

(The first of a three-part article)

The increasing popularity of motor boating in Canada, coupled with the healthy economics of water-borne transportation on the recently developed St. Lawrence Seaway, have focused public attention on this country's other inland waterways and more especially the interconnecting shallow-draft canals. The Ottawa and Rideau Canal systems, the Trent Canal and the Chambly and St. Ours system have become so popular with the water-borne tourists that at certain periods of the vacationing season, the existing hand-operated locks are hard-put to it to accommodate all traffic. In fact, saturation of traffic is often reached on popular weekends.

When the St. Lawrence Seaway Authority took over existing canals on the main Great Lakes - St. Lawrence Route as part of the new Seaway system on April 1, 1959, these minor canals remained with the Marine Services of the Department of Transport under a special Canals Division.

These canals, with depths ranging from 4 to 12 feet, had until then been considered of secondary importance in comparison with

the main canal system.

Today these minor canals and waterways are meeting a need which has developed almost overnight. As an indication of the trend, traffic increased by nearly 11,000 lockages on the Rideau Canal system from 1954 to 1959 to a total of 36,110 of which 96% were pleasure craft. In 1965 lockages totalled 51,590. On the Trent system, the number of lockages increased from 39,141 in 1959 to a total of 117,931 in 1965.

With congested highways, motor-boating has developed into a pastime which has placed the power boat as the second most important means of weekend and vacation travelling on the North American continent. While motor boating in Canada has not reached the popularity it enjoys in the United States, the number of weekend yachtsmen on Canadian lakes, waterways, canals and coastal areas has almost trebled in the past eight years. At the present time there are about 750,000 small boats being used by Canadians, half of which are powered by motors of 10 horse-power and over.

Low-cost transportation to sea-ports by the Great Lakes-St. Lawrence water route has, over the years, done much to expand Canada's overseas markets and has, in no small measure, made possible the development of Canada's famous wheat fields. Water transportation from the head of the lakes to seaports on the lower St. Lawrence or to trans-shipment ports on the Lower Lakes, has carried the bulk of Canada's grain exports over the past century. Today, with the creation of the St. Lawrence Seaway, equipped to accommodate the largest grain and ore carrying ships, the cost of transportation of this country's grain crop has been considerably reduced, placing Canada in a better bargaining position on the wheat markets of the world.

As a result of such economics achieved on the St. Lawrence Seaway, there is a growing demand for the enlarging of canals and locks on some of the more important secondary canals and for modernizing existing equipment to accelerate operations. In some cases, the demand is for new canals, as in the case of the proposed Chignecto Canal which would join the Bay of Fundy with the St. Lawrence

At Confederation, one of the first departments to be created was Public Works which assumed control and operation of existing main-line and secondary canals. A short period later, the Department of Railways and Canals was formed, taking over the canals from Public Works. In 1936, Railways and Canals became an

integral part of the Department of Transport which amalgamated into one government unit all federally-owned communication and transportation facilities. On April 1, 1959, the principal main-line canals were turned over by the Department of Transport to the St. Lawrence Seaway Authority which reports to parliament through the Minister of Transport.

It is interesting to note that Canada was the first in the New World to develop canals for the transportation of articles of trade and for the convenience of early settlers. Excavations carried out in 1948 near Midland, Ontaric, on the site of the Jesuit Mission to the Indians built in 1639 and known as "Sainte Marie among the Hurons", revealed the existence of a 460-foot long canal deep enough to float small rafts. The canal passed between the European and the Indian compounds and thence to an aqueduct which supplied the Mission with its water.

It was by means of this canal, leading from the Wye River to the very centre of the Mission, that the tons of stone required for the foundation walls as well as the immense timbers used in the construction of the buildings and the iron ore used in the foundry, were floated to their required destination. Excavations show ruins of well defined locks and turning basins leading to a building showing traces of having been the carpentry shop, and to a combined blacksmith shop and foundry.

shop, and to a combined blacksmith shop and foundry.

The "Mission of Sainte Marie among the Hurons" lasted only ten years when it was wiped out and set to the torch by the Iroquois and all its personnel massacred.

Also associated with the early days

of Canadian history is the Lachine Canal at Montreal. Father Dollier de Casson, Superior of the Sulpician Order, projected the construction of a canal which would connect Lachine with Montreal by skirting the Sault St. Louis Rapids later known as the Lachine Rapids. The project provided for the excavation of a mile-long canal, without locks, from Lake St. Louis to Lac a la Loutre or Little Lake St. Pierre (no longer existing) as well as the deepening of Little River St. Pierre to its mouth on the St. Lawrence at Montreal. The depth of the proposed canal was to be 18 inches at the lowest level of the St. Lawrence. This canal was to have been the starting point for the brigade of cances to the fur country and was designed to provide space for the passage of one cance at a time.

for the passage of one cance at a time. On October 30, in the year 1700, Father Dollier de Casson let a contract for the excavation of this canal. Unfortunately, the contractor, Sieur Gedeon de Catalogne, at that time a Lieutenant of Marine and Royal Surveyor, ran out of funds when only a cutting of 3 to 4 feet remained to be completed over a length of 800 yards. All work was discontinued by February, 1701, and a final blow to the project was dealt by the death of Father de Casson in October of that year. In 1708, King Louis XIV of France ordered plans and estimates of work to be carried out but made no provision for funds and nowork was undertaken. While incompleted, the canal was probably used by cances during high water periods.

during high water periods.

In 1779, the Royal Engineers built a chain of small canals with locks which overcame the numerous rapids between lake St. Louis and Lake St. Francis. They were only 2-1/2 ft. deep and only wide enough to permit one bateau to pass thru at a time. Between 1801 and 1804 they were enlarged to permit passage of six

bateaux at a time.
Fourth cldest canal in Canada was at
Sault Ste. Marie where in 1798 the North
West Fur Company had a shallow canal dug

"Old Portage"



Several of the more gentle slopes of the inclined planes have been converted to highways. In this photo, we are looking uphill on Route 53 at Portage, Pa., the old Plane Number Two. This same road also utilizes Planes Three, Four and Five, climbing east to Cresson, Pa.

(Concluded from Page 3)

operation followed shortly. With their canal business seriously affected, and Portage Railroad traffic a mere fraction of its former volume, the Canal Commissioners put the entire "Main Line" up for public sale. Pennsylvania Railroad was the only bidder and the final transfer was made in 1857 for a consideration of \$7,500,000, which included all stateowned canal and rail facilities between Philadelphia and Pittsburgh. PRR continued to operate the Philadelphia Columbia Railroad, as part of its own cross-state rail system, but had no need for the cumbersome Portage Railroad, and almos immediately dismantled and abandoned it.

Now the old Allegheny Fortage Railroad has come to life again, as a project
of the National Park Service. Lemon
House, at the top of Plane No. 6, a famous stopping point on the Portage Railroad in its hey-day, has been acquired by
the federal government and is now headquarters for the Allegheny Portage Railroad Historic Site. In this building,
located at the crest of Allegheny Mountain
on route 22 at Cresson, Pa., is a fine
assembly of Portage Railroad artifacts,
photographs, drawings, literature, and
an excellent slide-sound presentation on
Portage history. The National Park Service recently cooperated with the American Canal and Transportation Center in
the publishing of a 21-page reprint of
Sylvester Welch's Report on the Allegheny
Portage Railroad, written in 1833, which
gives full details of the construction
and operation of America's most unusual
railroad. Copies are available for \$1.50
at the Park Service Museum in Cresson
(Box 247) or in care of ACTC, 809 Rathton
Road, York, Pa. 17403.

to circumnavigate the more difficult parts of the Sault Rapids on the St. Mary River between Lake Huron and Lake Superior This was the first navigation improvement undertaken on the Upper Lakes. This early canal was 2,580 ft. in length with a raised pathway of round logs at the side for oxen to tow the boats from the end of the lock and up a sluiceway to Lake Superior. The original lock was 38 ft.long, 9 ft. wide and had an 18-inch depth at the sill. The lower gate of the lock opened by a windlass while the upper of the lock was equipped with two mitre gates and a sluice.

(Provided by the Canadian Division of Transport)

AMERICAN CANALS August 1973

Cumberland & Oxford Canal

The Cumberland and Oxford Canal, which once served as the primary transportation link between Oxford County and Portland Harbor, Maine, is being seriously consided here as an historic preservation pro-

The Gorham Historical Society has applied to the National Register of His-torical Societies asking that both a portion of the canal and an Oriental Powder

Works along its route be preserved.

The society has been encouraged to take the step by the newly formed Cumberland & Oxford Canal Assn. Greater Portland Landmarks, Inc. also sought preservation of the canal in conjunction with its bid for the Stroudwater District.

Many people have for a long time wanted to do something about the canal which has not been used since around 1900. But, it took a Portland Water District request to use the old towpath for inter-ceptor lines in the Westbrook and Gorham area to galvanize people into action. Proposed construction of the Westbrook Arterial in Stroudwater also threatened to destroy a section of the canal near the Fore River.

The Cumberland and Oxford Canal, for those not familiar with the story of the historic canal corporation, was chartered in 1821 by a new legislature of a newly chartered State of Maine (1820). The aim of the legislation was "...to construct a canal from Waterford in Oxford County to the navigable waters of Fore River," according to Sprague's Journal of Maine history. Two previous attempts to bulld a canal in the general area failed for want of financial backing.

The designer of the canal was Holmes

Hutchinson, an engineer recommended by Governor Clinton of New York State and a Mr. Wright, the designer of the Erie Can-al. It was considered one of the engineering marvels of the country when it was lilt. Hutchinson combined lakes and ivers with the actual canal section.

It began at its northern end on Long Lake, extending south to Brandy Pond, the Songo River and into Sebago Lake.

The canal proper began at White's Bridge on the Sebago Lake basin in Standish, continued south following the Pre-sumpscott River to an outlet of Sebago. through Standish, Windham and Gorham and to a point west of Westbrook, where it cut across the Stroudwater, to the Fore

River and, finally, the ocean.

Although the canal proper was only
20 miles long it opened up travel to the head of Long Lake which is about 18 addi-tional miles or a total of 38 miles.

Eleanor Emery Portland Evening Express May 1973

Canal Periodicals Index

Ed Boss has resigned as Chairman of the Canal Publications Indexing Committee. Committee members and others interested in this project should correspond with President Tom Hahn until a new Chairman is selected. We urgently need someone to guide us on this important indexing work.

As we go to press, we are pleased to report that our American Canal Society Membership Serial Numbers have climbed to #506. Member #503 is the well-known author --Kurt Vonnegut, who is also an avid canal researcher, Our ACS membership now includes a substantial number from the United Kingdom and Canada, and also an international sprinkling of members from Europe, South America and the Far East.

LETTERS TO THE EDITOR

I note in the Bulletin #4 a report, "Highline Canal." concerned with an irrigation project in Colorado. With no rigation project in Colorado. With no intent to disparage the interest in this type of canal, I submit that the American Canal Society, if it attempts to report on this special field, will be in danger of spreading its coverage too thin. Irrigation projects, from the pre-historic to the present California canals, are an entirely different "ball of wax." In the next county to me, here in Georgia, there are dozens of old canals, one nearly twenty miles long, that were built during the gold mining period to supply sluices the gold mining period to supply sluices and hydraulic mining projects. If the Society is to include all "canals" these would also have to be considered. As it is, we have possibly a hundred canals, proposed and completed, as a specialized field. When one considers the thousands on thousands of irrigation ditches, lumber flumes, mill and mining hydraulics --it boggles the mind! Anyway, this is one opinion.

Lewis W. Richardson, Gainesville, Ga.

We stopped at the Chicago Portage National Historical Site in early April. I had stopped by about 10 years ago when it was just a muddy stinking swamp in the middle of a bunch of oil tank farms. I am glad to report that it has now been improved, although it could take a lot more improvement. It is not right on the more improvement. It is not right on the Illinois & Michigan Canal, but it is adjacent thereto. (Or is it the Chicago Sanitary & Ship Canal?) There is now a small parking lot, and a descriptive sign. The natural drainage system into Lake Michigan is so weak, that the original Chicago Biver was cally about 100 chicago Biver was called the boundary and 100 chicago Biver was called the biver was called Chicago River was only about 10 miles long, and went over an easy portage to the Des Plaines River which connects with the entire Mississippi River Basin. This was canalized in 1848.

> Carrel I. Tod Arlington, Va.

In the American Canal Bulletin of February 1973, I wish to comment on the Champlain Canal in Waterford. Possibly this information may be of interest. The lower picture taken by Michon of a boat entering Waterford upper three combine side cut lock. The picture is of the "John T. Brooks" stern boat of a "Thribble head-er" owned by John Miner who is standing on er" owned by John Miner who is standing on the boat's low deck. On the towpath is his

son John Miner, Jr. (about 17 years old) and with back to camera is driver of the line's lock team, have forgotten his name. The photo was taken between the first and fifth of November in about 1910, give or take one year. The boat was built by Jessie Billings at his yard in Northumber-land. She has on board a full load (canal draft 4-1/2) of Fort Edward swamp potatoes (2,100 barrels) for New York whereafter Jan. 1 they will be shipped south as seed potatoes.

The abutment of a bridge at the head of the lock was a towpath bridge that before the building of the New Erie barge canal sllowed boats to go to Troy or Albany by canal. When the picture was taken bany by canal, when the picture was taken this route was blocked off and Erie Barge Canal Lock 2 was being constructed along-side of the Combines, so the bridge was taken down in order that no one drove over it into the deep hole for the lock.

Capts. Frank & Daisy Godfrey, Rome, N.Y.

(Both the Godfreys are licensed Master and First-Class Pilots; also hold radio ship-to-shore licenses; also have U.S. Service Bars for North Atlantic Sea Duty in World War II. They are in 80's)

Inland Water Tours

The American-Canadian Line's minicruise ships especially designed for in-land waterways travel, leave Warren, R.I. from May to October on 12-day cruises (including a fall foliage trip) of Ontario and Quebec.

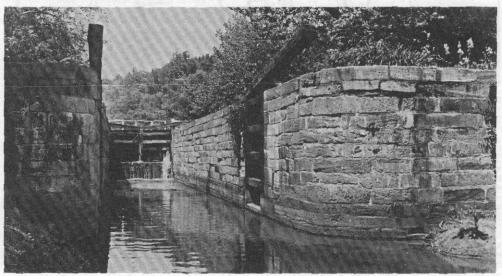
One, known as the Golden Triangle, takes you across Narragansset Bay, down the Hudson River and through the Erie Canal to Lake Ontario where it threads

Canal to Lake Ontario where it threads its way through the 1000 Islands. Then up the St. Lawrence Seaway and the Richelieu River, through the Chambly locks to Lake Champlain, the Champlain Canals, and back to the Hudson River.

The Saguenay cruise sails up the Hudson, through the Champlain Canal to Lake Champlain, then up the Richelieu River and St. Lawrence Seaway to the Saguenay River. It returns to Warren along the same route.

along the same route.

With the exception of the first and last nights, the vessels tie up at towns and cities along the route, giving passengers a chance to go ashore. Fares are \$350 to \$470. Write American-Canadian Line, Dept. C.T., Box 368, Warren, R.I., 02885 for reservations or information.



Most of us canal buffs have forgotten what an operating lock of the early 1800's in America really looked like -- we are so used to seeing nothing but old look ruins. It is refreshing therefore to see a fully-restored look of yesteryear, like this Lock Six on the Chesapeake and Ohio Canal. Photo by Canal Buff Bill Shank.

THE CANALS OF GEORGIA

By L. W. Richardson

Georgia was the last of the original colonies to open all her land for settle-ment and may well be called the last "eastern frontier." It was not until the "eastern frontier." It was not until the 1830's that the last of the Creeks and Cherokees in the state were moved to the west. Because of this and of a plantation system of agriculture, the population density was thinnest and the per capita wealth the lowest of the seaboard states. Savannah, the largest town and principal seaport, in 1830 boasted only a little more than 7,000 souls, slave and free, while its older neighbor and business rival, Charleston, listed more than three times that number.

However, Georgians, no less than the citizens of other states, suffered from the "canal fever" that was then sweeping the country. In the 1820's, the legislature planned three cross-state canals and hired an English engineer to survey and report on the routes. In the same period, Savannah business men, no doubt inspired by the example of Charleston and the Santee Canal, were planning their own canal. Directly south of Savannah and only 15 miles away, was the Ogeechee River. Trade from the forests and plantations of the rich Ogeechee basin was floating down the river to be loaded on coastal vessels in Ossabaw Sound. little of this ever reached the city wharves. A canal to the Ogeechee would assure most of the trade to the Savannah factors. There would be no contest between a calm 15 mile canal trip and the often dangerous, always laborious trip

river to the town, about 60 miles in all.

The first charter for such a canal granted Ebeneezer Jenks, in December Only four days later, Jenks obtained another charter, one that would permit him to extend his canal to the Altamaha River and that promised him aid in the form of a State loan. Jenks evidently began construction, but the work went slowly as he did not receive the support he needed. On Dec. 26, 1826, a new charter was granted, this time to a group of Savannah merchants and planters. This Act required Jenks to assign all his rights to the new company, exempted the canal from all texes forever and promised a State loan of \$50,000. Capital stock was authorized to the amount of \$700,000. Jenks, another man ahead of his time, does not reappear in the record. should be noted that the first Act created the Savannah & Ogeechee Canal. Later, at various times, the name appears as the Savannah & Ogeechee Canal. Later, at various times, the name appears as the Savannah, Ogeechee & Altamaha Canal. only completed work was the first named.

Because all records and papers of Canal Company were destroyed long ago few details of construction or operation are known to us. It is known that it was the first canal to be completed in Georgia. One early account puts the date as 1829, another says that through traffic began in 1831. The canal was slightly over 16 miles long with a width at bottom the waterline of 48' and a There were three lift locks depth of 5'.

all built of wood, with a combined lift of 29'. Near the Savannah was "First Lock," less than a mile beyond was "Gays Lock" and the "Ogeechee River Lock" was about 200' from that stream. Dimensions were 90' x 18'. No record of guard locks at either river terminal has been found. It is possible that guard gates were built into the river locks. The canalleft the Savannah River just shows the built into the river locks. The canal left the Savannah River just above the city wharves along Bay St., went directly south for a few hundred yards, then south west to the Ogeechee, entering the river about 19 miles, as the crow flies, from Ossabaw Sound. It is not known how the Ossabaw Sound. It is not known how the summit level, from Gays Lock to Ogeechee Lock, was supplied with water. As the line skirts several swamp ponds and cross es small streams, this was evidently no problem. Near the Ogeechee end, the line was a tangent for nearly five miles, un-

usual for canal engineering.

In early 1828, before the completion of the original project, the optimistic directors engaged Col. Alfred Cruger, Army Engineer, to make a detailed survey of a proposed extension, on to the Alta-maha and up that stream to the juncture of the Ocmulgee and the Oconee Rivers. This was the golden dream, to capture the trade of the great Altamaha basin, potentially the wealthiest region of the state and to connect with the proposed Central Canal, a State project. Savannah would then have a waterway with access to the Gulf of Mexico. Cruger's Report was published, with an endorsement by Benjamin Wright, in New York, 1828. Unfortunately

nothing came of his toil.

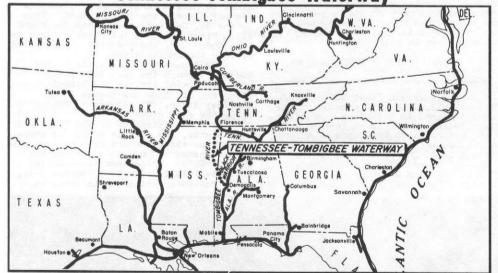
By the 1840's, the wooden locks had deteriorated and the whole canal had been allowed to "go down" to the point of affecting traffic. It was reported that \$246,693 had been spent on the project. A re-organization followed, new capital was obtained and a general repair program begun. Locks were rebuilt, with brick this time, and other improvements made. begun. No doubt, the renovation also included new operating management. From this time on, the canal began to make money, least from the scanty evidence available. In 1860, alone, a dividend of 20% was announced. How much the first investors received for their shares is not known.

The exact date of total abandonment is another unknown. Some historians do not think it survived Gen. Sherman's Christmas party in Savannah. However, 1869 news account says "...Mr. F. Blair is President (of the canal) and large quantities of rice and lumber are brought

to the city. Today, the line may be traced across Chatham County but most of it is far from a road. Beginning at the Ogeechee, the line crosses Ft. Argyle Road (State #20) about three miles up-river from U.S.#17. The ruins of the Ogeechee Lock lie between Ft. Argyle Rd. and the river. Much of the brickwork and stone coping is intact but badly overgrown. In the other direction, Canal Bank Road runs alongside the canal for about two miles. At the city end, the line, now a drainage ditch, lies just south of and parallel to, Louisville Rd. The site of Gays Lock is on this ditch, near the foot of Pritchard Further down, the route makes an abrupt turn and goes under Louisville Rd. just behind the Central of Georgia Railroad station. An ancient brick arch, almost as old as the canal, carried the rails over the water. Still further berails over the water. Still further below, near the foot of Indian St., some of the First Lock is built into the concrete retaining walls of the present ditch.
This is in line with and just west of th piers of the high level Talmadge Memorial

Bridge. (Mr. Richardson is an authority on Southern U. S. canals and a director of the American Canal Society. The article will be concluded in the next Bulletin.)

Tennessee-Tombigbee Waterway



The biggest commercial canal news in the U.S. is the beginning of construction of the 253-mile long Tennesse-Tombigbee Waterway, which has been termed "the most significant addition to U.S. water transportation since the Panama Canal." It connects two arms of the It connects two arms of the inland waterways network, one in the Tennessee River Valley and the other in Alabama, forming an alternate route from middle America to the Gulf of Mexico, paralleling the Mississippi, and available in case something happens to the latter. The route is all downhill, from the Tennessee Valley Authority's navigation system, through a 39.3-mile cut, up to 175 feet deep, across the divide between the Tennessee and Tombigbee River watersheds, with one lock and dam of 84 feet lift; then down a 45 1/2-mile lateral canal, using hillsides as one bank, and embankments as the other, with five lift locks; and then 168 miles of slack-water navigation with four locks

and dams, each averaging 30' in lift, to join the Warrior-Tombigbee Navigation system which flows to the Gulf of Mexico. Construction began in December with a "simulated ground nuclear explosion" arranged by local enthusiasts and is expected to take ten years and cost at least half a billion (\$500,000,000) dollars. Lock chambers will be 600 by 110 feet, for 3 barges abreast, and the chan-nel 9 feet deep and at least 280 feet wide on the bottom. The beginning of construction was delayed a year by popular concern over the effect on the environment; this action has hopefully focused some official thought and money on alleviating side effects of this mammoth project. A look at the map will show how tempting and logical this waterway is. In fact, it was first proposed in the early 1700's by the French!

(Prepared by Dr. William E. Trout from an article in The Waterways Journal.)

Pioneer America Society

The sixth annual meeting of the Pioneer America Society will be held at the Mount Vernon Motel near the University of Virginia in Charlottesville, Va., on vember 9-11, 1973. The theme of this ar's meeting will be "Pioneer Life Styles." A formal paper session, chaired by Gene Wilhelm, Jr., Slippery Rock State College, Pennsylvania, will include eleven papers by folklorists, geographers, historians, and sociologists: "Slave Life Styles in Early Virginia;" "Pioneer Whaling in New England;" "Nineteenth Century Tombstones in West-Central Pennsylvania;" "Stockmen and Drovers in the Revolutionary War Period;" "New Jersey's Mining Heritage;" "Pines and Pineywoods Life in South Georgia;" "The Impact of Recreational Development on Pioneer Life Styles in Southern Appalachia;" "Cultural Implications of Selected House Plan Types in the Delaware Valley: Eighteenth and Nineteenth Centuries;" "Ozark Occupance Peatures: Origins and Persistence;" "Folk Kitchen Gardens in Urban Tennessee;" and "Herb Doctors: Fountainheads of Mountain Folk Medicine." The banquet guest speaker will be Darwin Lambert, nationally known author, lecturer, and conservationist, who will speak on the topic of "Earthmanship and Pioneer Life Styles."
Captain Tom Hahn, President of the American Canal Society, will speak on "Canals and Pioneer Life Styles" as a part of the Medicational session. Members and nonmembers are encouraged to attend the meeting and to request preregistration forms from the Pioneer America Society, 626 South Washington St., Falls Church, Virginia 22016.

CANAL CALENDAR

Sept. 22 -- Delaware and Hudson Canal Tour, DHCHS & CSNYS

Sept. 22-23 -- Rideau Waterway Tour, SIA and ACS

Oct. 5-6 -- Tour of Schuylkill Navigation, PCS

Oct. 19-20 -- Ohio and Erie & Sandy and Beaver Canals, CSO

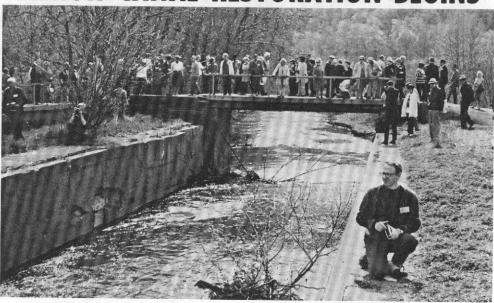
Nov. 9-11 -- Annual Meeting Pioneer America Society

Illinois-Michigan Canal

The most successful effort so far to show the possibility for restoration of the Illinois and Michigan Canal was the Lockport Old Canal Days Festival dn May 19th and 20th when about 2000 people turned out for this two day affair. One of the most popular features was the guided tour down the Canal. This half mile tour not only showed many people a bit of history they were unaware of, but also the need for restoration in the Lockport area. The State of Illinois has issued an Interim Report on a Comprehensive Plan for the Illinois and Michigan Canal. There were a number of objections to this report when it was issued in April, and additional meetings are now being held in an effort to improve the state's plans, particularly in regard to historic preservation. The State legislature, unhappy over the executive's dilatoriness in the matter, passed an act

dilatoriness in the matter, passed an act king the Illinois and Michigan Canal a te Park. This legislation only awaits e Governor's signature, and it is hoped that it will light a fire under the executive agency (i.e. the Illinois and Michigan Canal Task Force) which deals with the canal, and cause it to make a more reasonable comprehensive study.

LEHIGH CANAL RESTORATION BEGINS



Canal buffs from the Pennsylvania Canal Society and the Canal Society of New York State check out the condition of Lock Number μ 0 on the Lehigh Canal at Allentown, during a recent field trip. A flow of water is still maintained in major portions of the canal in the Allentown-Bethlehem section, and downstream.

A new era of Lehigh Canal history began in May as work commenced on restoration of a six-mile portion of the once scenic waterway in Bethlehem and in Freemansburg. The two communities are the first in the Lehigh Valley to put plans into action for creation of a canal park along a twenty-mile ribbon of land between Allentown and Easton along the old canal. The Bethlehem portion stretches 4.5 miles while the Freemansburg sector is 1.5 miles long.

The plan calls for restoration of the canal and the locks to their original appearance and conversion of adjoining land into a public park and recreational facility. After the canal is empty, work on the three Bethlehem locks, Nos. 41, 42, and 43, will get underway. Stonework and abutments will be repaired but locks will not be made operable because of prohibitive cost.

Picnic areas will be established along the length of the canal. The old ice plant on Sand Island, just beneath the Hill to Hill Bridge and accessible from the span, will be restored for canoe storage and other rental uses. Overnight camp facilities for Girl and Boy Scouts will be developed near Lock 41, adjoining 16th Ave., widest portion of the proposed restoration area. The contract calls for clearing the strip, varying from 40 to 320 feet in width, and removal of debris between the river and the canal. The facility is designed for biking and hiking, boating (canoes and rowboats only) and fishing. The entire project, including refilling the canal with water, should be completed by Oct. 1--provided unforeseen difficulties do not occur.

In Freemansburg, the initial phase of restoration, including picnicking, boating, ice skating and hiking facilities along the waterway, should be completed according to schedule.

ties along the waterway, should be completed according to schedule.

The Allentown Parks Department has filed an application requisitioning Project 500 funds for restoration of 5.5 miles of the canal area later in the year. There are two locks in Allentownone beneath the Hamilton Street Bridge, where the river enters the city, and one at the railroad bridge where the river bends toward Bethlehem. Here, too, to locks will be restored to their original appearance but will not be made operable, Recreation facilities will be installed

along the strip of land between the river and the canal. Parts of the canal must be dredged out since it is heavily silted in some areas.

In Easton the Hugh Moore Parkway Commission has completed a master plan study for seven miles of the proposed canal park in cooperation with Wallace, McHard, Roberts and Todd, Philadelphia engineering consultants. Meanwhile, construction of Chain Dam--a \$1.3 million project undertaken by the State Dept. of Environmental Resources in Glendon-should be completed this summer.

Bethlehem Township--the fifth community involved in restoration of the park between Allentown and Easton--purchased the canal towpath adjoining the township back in 1964 but to date not much has been done to improve the adjoining areas.

Plans are to eventually clear the land along the towpath and to provide hiking and picnic facilities but as yet very little has been done. Some dredging may also be necessary to get the water flowing in the canal, which has been dry a good many years.

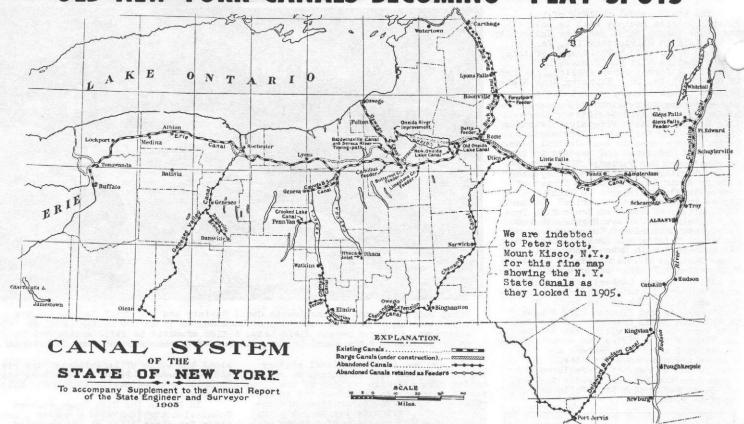
Total restoration cost of the canal and adjoining area from Allentown to Easton has been estimated at more than \$3 million.

Section Seven of the canal begins at the dam north of the Hamilton Street Bridge in Allentown and runs through Bethlehem, Freemansburg and Bethlehem Township before re-entering the Lehigh River a half-mile below Hopesville. The drop in elevation along this sector is 55 feet and there are eight locks to take care of the drop along this ll-mile stretch.

Although the canal was abandoned in 1931, it has been used to some degree since then. Excursion boats plied the Bethlehem waters for most of the 1930's. But, the locks deteriorated and boats could not be moved from one level to the next without them.

Editor's Note--Congratulations are due all citizens of the Lehigh Valley along the canal restoration route for their dedicated work in bringing this project to fruition. Our thanks also to Anne Kovalenko of the Allentown Call-Chronicle who wrote this article, and to John F. Hill, who sent it to us.

OLD NEW YORK CANALS BECOMING "PLAY SPOTS"



On the eve of its 150th birthday, the 524-mile New York State Barge Canal System is beginning a new era -- being transformed into a major scenic and recreation al area for residents of the state. Long al area for residents of the state. Long range plans call for development of parks at almost all of the 57 locks in the canal system, connected by a system of trails on the old tow paths where horses once pulled barges on the long haul from the Hudson River to the Great Lakes.

When the 348-mile long Erie Canal opened in 1825, it carried settlers to the West and farm products East, sparking the growth of New York City as the country's major port. But today the canal, the longest in the state's system of four canals, largely carries oil and oil products to unstate cities. oil products to upstate cities.

The other canals are the 60-mile

long Champlain Canal between Waterford and Lake Champlain; the 24-mile long Os-wego Canal that runs to Lake Ontario; and 92-mile-long Cayuga and Seneca Canal that connects those lakes to the Erie Canal.

Although commercial tonnage has been falling in recent years, the canals now transport an increasing number of pleas-ure boats, an indication of the growth of leisure time activities in the nation and the state. As a result, the state is now emphasizing the recreational potential of the waterways, particularly near upstate population centers.

The transformation of the canal system into a recreational facility is being accomplished through the cooperation of two state agencies, the Office of Parks and Recreation and the Department of Transportation, which is the operating

agency for the canals.

Last year about 2.5 million tons of cargo were carried through the canals and 84,000 passages by pleasure boats were recorded through the locks.

recorded through the locks.

A new program has restored the locktenders and the new parks will have pump
storage facilities.

The six new parks now open have picnic areas, fishing, observation posts
for watching canal operations, with park-

ing space for cars as well as sewage-tank pumping facilities for boats. T are situated as follows: At Lock 4 on the Champlain Canal at Stillwater, south of Bemis Heights where the Battle of Saratoga was fought; At Lock 9 on the Erie Canal, at Rotterdam Junction west of Schenectady; At Lock 20 on the Erie Ca-nal, west of Utica; At Lock 23 on the Erie Canal, north of Syracuse; At Lock 30 on the Erie Canal, also east of Rochester; At Lock 32 on the Erie Canal, also east of Rochester.

The hiking and bicycle trails, which

use the towpaths along the Erie Canal, are at the Old Erie Canal State Park in Oneida, along the canal from Lockport to Rochester, and from Fairport to Pitts-ford, south of Rochester.

(This abbreviated version of an article written by Harold Faber for the New York Times, was furnished to us by Mary Ann Moore of Hartsdale, N. Y.)

D. & H. "Revival"

For the first time in 20 years, the deep-throated sound of a steam locomotive reverberated along the northeastern New York tracks of the Delaware and Hudson

Railway this summer.

Hauled by a powerful 4-8-4 type power unit, one of the largest operable steam locomotives in the world, the 22car D&H passenger train pulled out of the line's Colonie Yards in suburban Water-vliet for a two-day, 480-mile trip to Montreal and back.

The D&H, born April 23, 1823, is the oldest continuously-operated transportation company in the nation, with roots that go back to the birth of railroads in the Western Hemisphere.

The D&H was formed to haul anthracite coal from the hills of Northeastern Pennsylvania to New York City for domes-tic and industrial use. Organized as the Delaware and Hudson Canal Co., the firm built a four-foot-deep canal from the hills near Honesdale, to Rondout, N.Y.Coal from the mines in the Moosic Mountains was lowered by a "gravity railroad" - a series of tracks on inclined planes - t the canal at Honesdale.

At the canal, the coal was loaded on mule-powered wooden boats for the 108mile trip through more than 100 locks to Rondout, and from that Ulster County community the coal was shipped down the Hud-

munity the coal was shipped down the Hudson River to New York City.

In the late 1820's, the fledgling company decided the recently-invented steam locomotive might aid in hauling the coal to the canal, and it imported the Lion and three sister locomotives from England, without success.

After the abortive experiment with the Lion, the D&H left the development of steam to others for a period, and, thru its canal system, grew to become the dom-inant supplier of coal to New York City.

The canal managed to retain some of its original traditions up to the time it was abandoned at the turn of the century.

Steam locomotives reappeared on the D&H just before the Civil War. After the Civil War the D&H began a gradual transformation, as its coal-carrying canal system became increasingly impractical, and it acquired extensive tracks through New York up to Vermont and Montreal.

After World War II, the steam engine went the way of the canal boat, and the D&H's passenger service recently followed both into retirement with the advent of (By Philip H. Dixon)

Black River Canal

The Five Locks Combine and Locks 37 38 of the Black River Canal, located in the Boonville Garge Park, have been ent ed in the Register of Historic Places. The New York State Historic Trust, ac-

ministered by the State Department of Parks and Recreation, nominated the sites for entry in the register at the urging of the Boonville Area and Rome Chambers of Commerce.

AMERICAN CANALS August 1973