BOATS ACROSS NEW ENGLAND HILLS

THE STORY OF THE FARMINGTON CANAL

CONNECTICUT WRITERS' PROJECT

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The Story of The Farmington Canal

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PREFACE

This brief account represents the first of a series of historical pamphlets prepared by the Connecticut WPA Writers' Project in behalf of the State Department of Education for use in our schools.

In these days when Americans everywhere are becoming increasingly concerned with good citizenship, we must not forget that one essential is a knowledge of our history.

Every young citizen, whether of Connecticut antecedents or not, comes into a common inheritance. Those who are aware of the debt they owe their sources are better able to take their places not only as ardent patriots, but, what is more, as intelligent citizens.

The story of the Farmington Canal is very much a case in point. Here was an example of ingenuity and perseverance, which, however, unrewarded by final success, is typical of New England energy and thoroughness. These qualities should continue to be useful to our young people as they face the enterprises of the future.

ACKNOWLEDGEMENT

We wish to acknowledge our indebtedness to Mr. Charles Rufus Harte, who has devoted many years to a study of the Farmington Canal, and has generously contributed both knowledge and advice during the preparation of this brief account. Photographs and illustrations are used through his courtesy.

Connecticut Writers' Project

THE FARMINGTON CANAL

Boats Across New England Hills

In the first quarter of the nineteenth century the Connecticut River was the chief route for shipping products of inland Connecticut farms and small factories to outside markets, and for bringing in foreign and coastwise goods. To the wharves at the river ports long lines of ox carts lumbered over turnpikes and through rough woods trails, to unload country produce and to carry back supplies for farms and general stores. This shipping trade stimulated business and brought wealth to the river towns. Middletown had become the richest town in the state and Hartford business was thriving as a result of the large volume of goods transferred there between the upriver flatboats and deepsea sailing vessels.

New Haven on Long Island Sound and far from a navigable stream had many vessels sailing to the West Indies and wished for some way to secure a part of the trade in inland produce. To be sure there were turnpikes, and stagecoaches traveled three times each week between New Haven and Hartford, via Cheshire and Farmington, but the roads were deep with ruts and sand; bulky loads could not be shipped by coach, and only a few passengers could be carried. When the wonderful new steamboat *Robert Fulton* began to run on regular schedule between New Haven and New York in 1815, business men realized that if New Haven had some easy means of transportation connecting it with inland towns, profits from shipping would be greatly increased. The idea of digging a canal was suggested.

Canals are one of the oldest forms of inland transportation. Egyptians, Babylonians, early Chinese, Greeks, and Romans all built canals. Canal locks, which can be flooded to raise a vessel to a higher level, were probably first used in China and were in use in Italy before 1500. In America, in the last of the eighteenth century and the beginning of the nineteenth, three large canals were built, the Chesapeake and Ohio Canal, the initial link of the Pennsylvania System of Canals, and the Erie Canal. Numerous smaller canals had been constructed in other sections of the country

and promoters and engineers were anticipating that a network of connecting inland waterways would provide satisfactory transportation for inland commerce. Though the steamboat and railway locomotive had both been invented, neither had yet been put to general service and both were regarded as rather impractical contraptions. Canal boats would not provide speedy transportation for they were pulled by horses which walked on towpaths beside the canal, but in the early 1800's time was not considered as important as it is today, and canal boats did have at least two advantages over oxcarts and horse-drawn wagons. A boat could carry a much larger load than a wagon, and it did not have to be pulled up hill. The idea of a canal boat floating easily along on a water-level route, unhampered by the mud, ruts, and "thank-you-marms" of turnpikes, appealed to shippers and travelers alike.

Enthusiastic news of the progress being made on the Erie Canal was received from New York in 1822 when 260 miles of that new waterway, which was to connect the Hudson River with the Great Lakes, were ready for use. Connecticut promoters pointed out the advantages to be gained by constructing a canal system that would connect with the Erie Canal, and dreamed of a waterway that would reach from Long Island Sound to the St. Lawrence River by way of Lake Memphremagog.

Many plans were made but the only long canal ever dug in Connecticut was the Farmington Canal which connected New Haven with the Connecticut River just above Northampton, Massachusetts. Several others were planned, but aside from harbor canals only one other short waterway was completed—the Enfield Canal around Enfield Rapids in the Connecticut River. The first section of the Farmington Canal, from Farmington to New Haven, was opened in 1828, three years after the completion of the Erie Canal. In July 1835, the Farmington Canal was opened to the Connecticut River at Northampton, and operated until 1848.

This canal was part of the plan to provide a water route between the St. Lawrence River and Long Island Sound. Plans were also made to connect it with a proposed canal between Boston and Albany, thus opening passage to the Hudson River and thence to the Erie Canal and the Great Lakes. Of that whole ambitious plan only the Farmington Canal, covering 80 miles from New Haven to the Connecticut River, in Massachusetts, was ever completed. Fifty-six of

those miles, from New Haven to the Connecticut-Massachusetts boundary, were in Connecticut; to that portion of the canal this account is mainly confined.

During the twenty years of its activity, this canal was operated by several different companies. From 1822, the year it received its charter, until the reorganization in 1836, the company operating in the Connecticut section was legally known as "The President, Directors and Company of the Farmington Canal." The extension in Massachusetts (to the Connecticut River above Northampton) was originally owned by the Hampshire and Hampden Canal Company which began business as an independent concern. The two companies were combined in 1836 as "The New Haven and Northampton Company." This organization was in charge until the canal ceased to operate in 1848. Although many towns along the route expected to profit from the trade stimulated by this waterway, New Haven interests were the chief investors and were in charge of the project throughout its twenty years of activity.

Preliminary Plans and Organization

Preliminary meetings were held in 1821 by New Haven enthusiasts who discussed plans for raising the necessary capital and for arousing public interest and approval. On December 10, 1821, a group of New Haven citizens met at the County Hotel. With flowery oratory they inspired each other's zeal for actively promoting the canal, and decided to attract the interest of upstate residents by inviting representatives from towns along the route of the proposed canal to attend a meeting in Farmington on January 29, 1822. Seventeen towns which expected to benefit by the waterway were represented at the Farmington meeting, and decided to engage Benjamin Wright, then chief engineer of the Erie Canal and a native of Connecticut, to make a survey. The sum of $1000 was pledged for expenses. Wright went over the ground and reported that the possibilities were most favorable for an efficient waterway. As a result of his report, a petition for a charter was presented to the General Assembly at Hartford on April 15, 1822, and on May 30, The Farmington Canal Company was granted a charter which exempted it from taxation for a period of twenty-one years after the completion of the canal. To protect the interests of the public, the State appointed a commission to regulate the activities of the Canal Company. The purpose of this commission was similar to

that of the present-day Public Utilities Commission but the powers of the canal commission were much broader. The first commissioners were Simeon Baldwin, chairman, George Cowles, Isaac Mills, Roger Mills, William Mosely and Jonathan Pettibone, Jr. On July 8, the commissioners voted to make an investigation preliminary to a survey of the route but no other steps toward actually building the canal were taken for nearly a year. One cause of the delay may have been due to the fact that the Hampshire and Hampden Canal Company, which was to construct the Massachusetts extension of the canal, did not secure its charter until February 4, 1823.

Subscription books were opened by the commissioners on July 15, 1823. The company was organized and a board of twenty-one directors was elected on July 31. Joel Root was elected president, George Hoadley, treasurer, and William W. Boardman, secretary. The engineer, Judge Benjamin Wright and his son, Henry, were chosen to survey the exact course of the canal and to estimate the cost of the project. Judge Wright estimated that the cost would be $420,698.88, exclusive of land damages and the proposed branch to New Hartford.

Subscriptions did not come in as readily as the founders of the company had anticipated. By the spring of 1824 it was evident that the direct sale of stock to the public would not provide sufficient funds to finance the project. Whatever the people of the state thought of the general idea of the canal they were not eager to trade their money for unprotected certificates on a rather uncertain engineering venture.

In order to increase the subscriptions and to encourage public confidence in the undertaking, the directors of the canal company organized the Mechanics Bank of New Haven with a capital of $500,000. The bank's charter was granted on condition that it subscribed a total of $200,000 to the stock of the Canal Company. The charter also exempted the bank from taxation until the $200,000 had been repaid. As that sum never was repaid, the bank continued to operate tax-free, until 1932, and though it became one of the principal banks in New Haven never applied for a new charter with increased capitalization. In 1932 the bank failed. The organization of this bank was simply a roundabout way of financing the canal. The scheme was so successful that by April 22, 1825 sufficient funds were available for the stockholders to vote that

actual construction begin. Later on, two other banks were granted charters with the proviso that they subscribe to stock in the canal company, the City Bank of New Haven in 1831, and the New Haven County Bank in 1834.

Construction Begun

At the meeting on April 22, 1825, James Hillhouse, who had served the State for many years as United States Senator and who was distinguished for his expert management of the Connecticut Western Reserve School Fund, was elected superintendent of the canal. Davis Hurd was employed as chief engineer and Henry Farnam as assistant engineer. Three years later Hurd was succeeded by Farnam who remained as chief engineer until the canal was abandoned. Farnam's ability and energy were largely responsible for the successful operation of the canal during its best years. It was he who planned the many reconstructions after floods, made improvements in locks, kept the water flowing and the canal in operation.

On July 4, 1825, at the Massachusetts-Connecticut line, Governor Oliver Wolcott turned the first spadeful of earth, and broke the spade. Later, when the canal company went into bankruptcy, people nodded their heads knowingly and recalled the "evil omen." At the time, no one paid much attention to the incident for never before in New England had a construction project been started with more pageantry and show, or with more optimistic hopes. About 3500 people from many parts of Connecticut and Massachusetts attended the ceremony. A great parade two miles long marched from Granby to the state line and then back again to Granby, where a banquet was held under a "bouerie" on the Green. Conspicuous in the parade was a canal boat on wheels which Captain George Rowland drove all the way from New Haven. A streamer across the stern was marked "Farmington Canal," and the sides were boldly painted "For Southwick and Memphremagog."

How the Canal Was Built

Digging a ditch fifty-six miles long was no simple task back in the year 1825. Today steam shovels, dynamite, and tractors plow through mountains of rock with comparatively little trouble. The principal tools at the time the Farmington Canal was dug were the pick, shovel and wheelbarrow. Irish laborers furnished the man-power for the removal of the dirt by hand. Scoops drawn by horses

and oxen followed the plow teams which loosened the earth, and many two-wheeled dump carts carried the fill to the edge of the excavation. The ditch had to be 20 feet wide at the bottom, 34 to 36 feet wide at the top, and 4 feet deep. A tow path 10 feet wide, and a berm bank on the opposite side, to be not less than 2 feet nor more than 5, above the surface of the water, were to run the entire length of the canal.

Streams at the sides of the canal were dammed and the waters diverted into the ditch, bridges were constructed to carry roads over the canal, and wherever the level varied up or down hill, great locks were built to equalize the levels and "help the canal boats uphill." The lock houses, bridges, and culverts, the relay stations, and taverns along the edge of the canal accounted for an additional amount of construction. During this building era, business in the entire state boomed.

By 1828, the channel had been completed from New Haven to Farmington. On June 20, the first canal boat, The *James Hillhouse* was launched at Farmington. Bells rang, bands played stirring airs, cannon boomed, and about 200 ladies and gentlemen participated in a celebration that attracted statewide attention. Drawn by dapple-gray horses ridden by colored boys in white uniforms, the *James Hillhouse* floated proudly down the stream. The Farmington Canal was actually in use. A contemporary account described that first canal boat:

> Of all the boats that have battled with the raging tide of the old canal not one has so wide and famous a reputation for passenger comforts and prompt movements as the staunch old *James Hillhouse* and her genial captain. Not one has so nicely fitted up cabins as the gentlemen's cabin aft and the ladies' cabin forward as she had, and not one captain on the surging seas of the canal had such a ringing, convincing voice, when he shouted, "Bridge! Bridge!" as Captain Dickinson; and above all things else not one of of them set so good a table, and yet some of those old canalers could make savory dishes out of Cape Cod turkey and eloquent beans and juicy pork.

By July 29, 1835 construction was completed to the Connecticut River at Northampton.

Problems of Construction

Among the many difficulties of construction—the caving of banks, washouts by floods before work was completed, and the dangerous necessity of blasting through rock with black powder, which was hard to control—the most acute problem was leakage and seepage. Engineers racked their brains to find a way to make the canal hold water.

In most of the Connecticut area through which the canal was dug, the soil was a sandy loam somewhat porous and poorly suited to the construction of embankments to hold water. When the company's funds ran low attempts to save money on the construction of embankments and spillways proved poor economy. After the canal was opened the water seeped away or ran off, leaving the canal dry.

Great Salmon Brook Arch at Granby Just South of Railway Station

The largest supply of water for the canal was obtained by constructing a dam at Unionville on the Farmington River. A feeder channel was then dug from the dam to the canal. When water was first let into the canal from the Unionville feeder, the sandy soil absorbed so much water that the canal remained practically dry only a few yards from the feeder reservoir. Men with axes enlarged the hole and the rushing waters eventually filled the ditch. Further

north, near the state line, water was first obtained from the Congamond Ponds and later from Salmon Brook. At New Haven, seepage in the last lock at the town line was so great that four months passed before a solution to the problem could be found.

The principal difficulty in maintaining regular traffic after the canal had been completed came from severe floods, which caused many thousands of dollars' damage on several occasions. Ice often blocked the canal in winter and a drought in the summer of 1843 stopped traffic from the middle of June to the last of September.

THE GREAT FILL OVER TEN-MILE BROOK AT MILLDALE. HERE IS WHERE A FARMER CUT THE BANK TO FLOOD HIS NEIGHBOR'S LAND. JUST SOUTHWEST OF THE INTERSECTION OF THE CHESHIRE-SOUTHINGTON ROAD WITH THE MERIDEN-WATERBURY HIGHWAY.

Then, too, the canal was not free from planned disasters. Property owners along the way were unfriendly. In many cases the company had secured the right-of-way through condemnation without payment of the prices owners hoped to receive. Lawsuits were brought for damages but not all of the landowners resorted to the law. Some of them blocked off tributary streams used as a water-supply for the canal, some of them dug away the embankment. One resident of Cheshire who had a grudge against a property owner to the south, made a break in the fill at Milldale and opened the way for a destructive freshet that rushed down Ten Mile River

valley and inundated the farm of his enemy. Resulting damage to the farmer and the canal company amounted to several thousand dollars.

Locks, Aqueducts, Culverts, Bridges

Probably the most interesting features of the canal, from a spectator's as well as an engineering point of view, were the locks and the aqueducts by which the canal was carried over other streams.

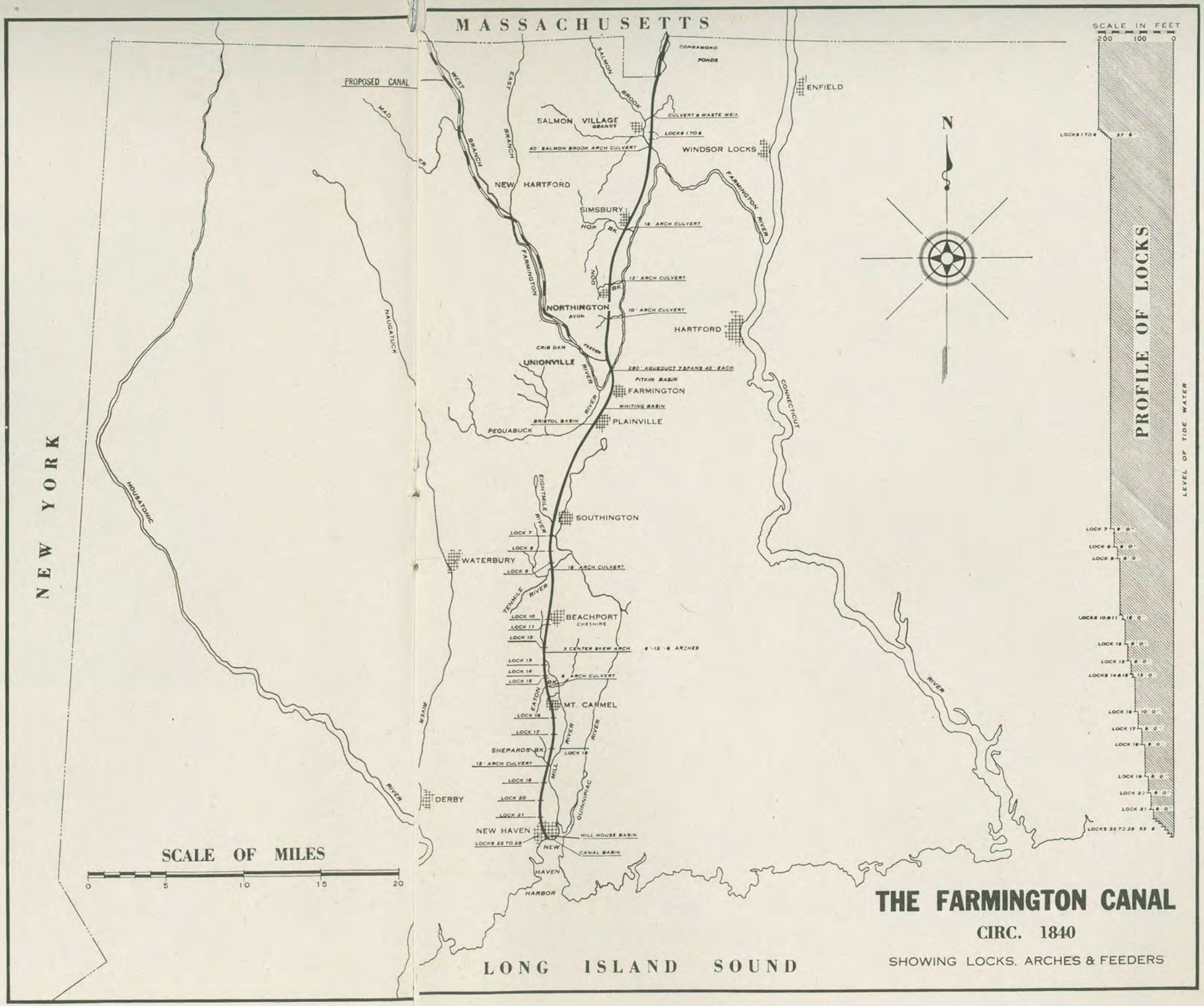
Between tide water at New Haven and the Connecticut River above Northampton, Massachusetts, 60 locks had to be built. Northampton was only 97 feet higher than New Haven, but grades between the two points made it necessary to build locks that would lift the boats over rises and lower them on descents. A northbound

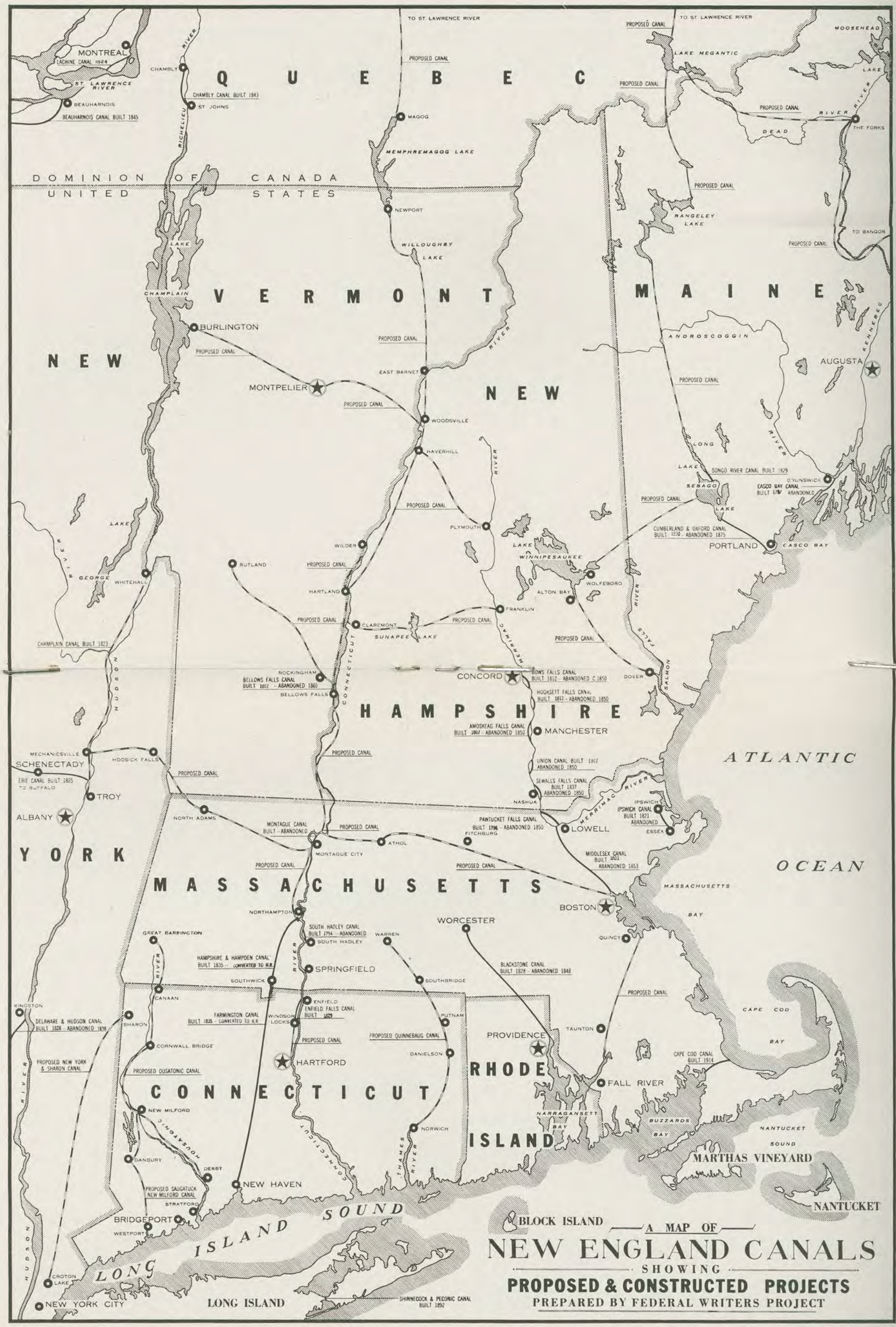
Lock on Canal

boat had to be lifted a total of 310 feet and lowered 213 feet. Twenty-one of these locks were necessary in the twenty miles between New Haven and Southington to reach a level of 182½ feet. North of Southington, through Plainville, Farmington and Avon, the route followed the Farmington valley, a long stretch of almost level lands where locks were not necessary. From Granby to the state line 6 locks lifted the canal 37½ feet to the level of Congamond Ponds, where a floating towpath 700 feet long was built. This planked path, anchored across the west side of the ponds, once broke or was cut loose and drifted away. Entering Massachusetts, 6 locks

The Farmington Canal

The accompanying map shows the actual path of the Farmington Canal and that of the proposed canal to New Hartford. Note that the majority of the locks are situated between New Haven (six in the city itself) and Southington, with the route level to Granby, where six locks lift the canal to the level of Congamond Ponds. Three piers of the aqueduct across the Farmington River still stand. (illus. page 19).





A MAP OF NEW ENGLAND CANALS SHOWING PROPOSED & CONSTRUCTED PROJECTS

PREPARED BY FEDERAL WRITERS PROJECT

were required to lower the canal 79 feet to Westfield; 9 more were necessary north of the Westfield River to carry the canal over the Timber Swamp Summit. Then the descent of 86 feet to Northampton required 9 more locks, and another drop of 48 feet to the Connecticut River made 5 locks necessary. The locks were originally built of stone, without mortar, and lined with wood, to save expense. When the wood rotted away costly repairs were necessary. Two gates at the end of each lock were hinged into the masonry. These gates were opened by men who pushed the long wooden sweeps, or levers, that were bolted across the tops of the gates and extended out over the embankment.

Some of the later locks that were constructed of masonry proved to be very durable and a few may be seen today in fairly good condition. Lock number twelve near Brooksvale is well worth inspection. Any of the four locks in the Enfield Canal, which is still in operation, will give a general idea of the locks used in the Farmington Canal.

Two lock keepers, who lived in small lockhouses, were stationed at each lift, or group of lifts. The number of locks two men could attend depended upon how close together the locks were. At Granby two men tended the six locks. In addition to their job of opening and closing the lock gates and letting the water in and out, the men also collected tolls, passed upon the type of boat that could use the canal, and patrolled the waterway on the lookout for leaks or damage of any kind.

The aqueducts which carried the canal over rivers were among the engineering achievements of their day. Piers of cut stone supported a huge wooden trough, which carried the canal water, as well as a towpath for the horses. The two longest aqueducts were one crossing the Farmington River north of Farmington, and one over the Westfield River at Westfield, Massachusetts. Three of the 35 foot stone piers of the Farmington aqueduct are still standing.

Many stone culverts were built to carry the canal over small streams. Wooden bridges, with an arch high enough to allow boats to pass under, were built at points where the canal crossed roads. Drawbridges, raised by a crank and cog wheel, were also used.

Connecticut Cement Used

To the Farmington Canal goes the distinction of having been the second canal in the United States to use natural rock cement,

discovered and processed in this country. The cement used was made from blue limestone discovered by Anson Merriman on the Gad Andrews farm in Southington about 1823. Had this waterproof cement been originally used where needed throughout the canal much trouble would have been avoided. Merriman set up kilns for baking the rock and a mill for grinding the cement. As the quarry was close by the canal, the cement was eventually used in much of the masonry work of the culverts, aqueducts and locks. Later considerable cement was manufactured at Southington and transported down the canal to New Haven and other ports.

THREE NORTHERLY PIERS OF THE AQUEDUCT OVER FARMINGTON RIVER JUST NORTH OF FARMINGTON ON ROUTE 10. AQUEDUCT HAD 7 SPANS, EACH 40 FEET LONG, 30 FEET ABOVE THE RIVER.

The only other natural cement rock previously found in the United States was in New York State and was first used in the building of the Erie Canal.

Boats

The Farmington Canal was strictly a barge canal, accommodating only small, horse-drawn boats, carrying no more than twenty to twenty-five tons. The horses were hitched tandem, two or three as the load required, and were changed about every ten miles. The boats and horses were privately owned. Drivers operated much as

livery stables do today; they made agreements with different boat owners to haul barges over a specified distance. Teamsters often owned their own canal boats. The revenue of the canal company was solely from tolls charged for the use of the waterway. Although steamboats were being used on rivers and coastal waters, they were not favored for canal use as they churned up a backwash that might damage the canal banks. However, the directors of the canal company did vote on March 18, 1835 to encourage the use of steam power "as a moving power on the Canal," by granting passage for one year free of tolls to the first steam packet which ran daily "at a speed of not less than eight miles per hour without injury to the banks of the Canal. . . ." Apparently no steamboat company ever took advantage of this offer but Benjamin Dutton Beecher of Cheshire did build a screw-propelled boat and made a few trips between Beachport and Milldale. On one trip the mechanism broke down and the guests had to walk home. Beecher later built a similar boat which operated on the Erie Canal.

The crew of the average canal boat included three men: the steersman, the bowsman, and the driver. The bowsman usually wielded a boat hook to fend the bow clear of the shore, when necessary. For short local trips, small flat-bottomed scows, which were poled with long sweeps rather than hauled by horses, were used.

As the Canal locks were only about 12 feet wide, and 74 feet long, only one barge at a time could pass through a lock. Traffic rules were adopted which gave the right of way to any boat going toward tide water, or to a craft within 100 yards of a lock on the same level. Wider basins were provided to accommodate craft waiting to enter the locks.

A Hundred Years Ago

A hundred years ago, gay packet boats carrying passengers and freight made the trip from New Haven to Northampton in a little over a day. At numerous points along the route they stopped to change horses and to allow passengers to secure meals at the many thriving hostelries along the banks. At Farmington a three-story brick inn (now used as part of the Porter School) was built to accommodate the travelers. A ride on the canal was an event eagerly anticipated by almost everyone in the state. The minutes spent in clearing any one of the locks was a thrilling spectacle. Picnic parties embarked on canal boats for excursions into the beautiful

countryside, rural people traveled on the canal to do their shopping in town and see the sights, and farmer boys sometimes begged rides, or dropped onto the broad boats from one of the several bridges, when the captain's back was turned.

People went to church or to town meeting by canal, and families from miles around looked forward all the week to a drive to the canal on Sunday afternoon to see the boats go by. The citizens of inland Farmington proudly advertised their town as "The Port of Farmington," and small boys who flocked to the wharves along the route saw apples, berries, butter, eggs, cider, cider-brandy, cheese, poultry, lime, corn, oats, beef and pork, piled high awaiting shipment to New Haven. On incoming boats were dry goods, wine, coffee, molasses, crackers, oysters, crockery, fish, glass, nails, hardware, farm implements, rice, salt, sugar, tea, spices, wool, hides, leather, dyestuffs and groceries.

NEW HAVEN AND NORTHAMPTON

DAILY

CANAL BOAT LINE,

AND

STEAMBOAT TO CHEAPSIDE.

The New Haven and Northampton Canal Transportation Line have extended their line of Boats to Cheapside by adding a Steamboat to run from Northampton. They have also a Steamboat running to connect with the above and the Basin Wharf in New Haven to New York.

By this arrangement Goods shipped from Albany and Boston by the Western Railroad via Westfield Depot, and from New York and the South via New Haven, will arrive at Cheapside with safety and regularity in the best deck Canal Boats.

The Steamboat Franklin will leave Northampton for Cheapside landing, on MONDAY, WEDNESDAY, and FRIDAY. Returning, leave Cheapside landing on TUESDAY, THURSDAY, and SATURDAY. The Steamboat SALEM will leave the Basin Wharf in New Haven for New York, every MONDAY and THURSDAY at 9 o'clock P. M. Returning leave Old Slip, New York, every TUESDAY and FRIDAY, at 5 o'clock P. M. For freight or passage inquire of *J. & N. BRIGGS*, No. 40 South Street, New York, or of *N. A. BACON*, New Haven, or of the Captain on board.

Freight from Boston and Albany will be delivered daily at the Brick Depot, Westfield, and transhipped without delay in the canal boats for Northampton and Cheapside landing, near Greenfield, and in connection with

BEECHER'S DAILY LINE FROM NEW HAVEN,

the present arrangement affords facilities and dispatch hitherto unenjoyed.

The rates of freight generally have been reduced, and Flour from Albany via the Western Railroad, will be delivered at Northampton, *for 34 cents per barrel, and from Albany to Cheapside landing for 40 cents.*

For further particulars inquire at the store house west side of the Deerfield Bridge, at Cheapside, of JOHN R. BOYLE; HENRY BEECHER, New Haven; J. & N. BRIGGS, No. 40 South Street, New York, or of the subscriber at Northampton.

JOSEPH L. KINGSLEY, *General Agent.*

Northampton, April 1, 1845.

TRAVEL ADVERTISEMENT OF THE EARLY NINETEENTH CENTURY

Excursions, especially on holidays such as the Fourth of July, attracted many merrymakers to a trip on the canal. Posters proclaimed, "The Canal Boat De Witt Clinton will start from the Market for Beach Port on Saturday morning (instead of Friday morning, as advertised) at 6 o'clock, and return at sunset. Passage to and from, 50 cts. Passengers to find themselves, except with cold water; that can be had at the bar. New Haven, July 2nd."

Handbills and posters used to advertise the canal have been collected by museums and individuals. Pictures of canal boats floating over the aqueduct at Farmington were very popular in those advertisements. Posters frequently illustrated the spacious comfort of a canal boat as contrasted with a stagecoach or a railroad train, which were sketched in the background enveloped in dust and smoke.

Industries grew up close to the big ditch. Warehouses and factories were built close by the canal wharves. Some towns, such as Plainville, built great basins where canal boats could load and unload. In New Haven, a basin was built at the head of Long Wharf to serve as a terminal where canal shipments were transferred to coastal schooners.

But farmers along the right of way continued to complain. Some farms had been cut in two by the canal. True, the company had built bridges to connect with the isolated fields but farmers were disgruntled because the slant of the bridge timbers was so sharp that hayloads tipped while crossing. Some property owners complained about the seepage of water from the canal, which turned their meadows into swamps, and others objected to the canal's use of the flow from brooks and springs which formerly provided water for stock.

Uppermost in investors' minds was the question, Will it pay? When one farmer-investor dared to ask when dividends might be expected, he was told to cut the hay along the canal banks as his compensation. He did so gladly and is said to have been the only collector of a return on the investment.

On December 20, 1828, New Haven newspapers gleefully replied to the query, "Will there be anything to transport on the canal?" with a published list of goods and merchandise moved over the route during the previous few weeks:

375 cords wood	1000 bu. grain	447 bdles. shooks
500 bbls. cider	5 tons plaster	160 tons groceries
800 bushels salt	300 hides	31 hhds. corn meal
100 M. Ft. pine	½T. grindstones	8 hhds. rum
101 M. shingles	47 hhds. molasses	113 bushels oysters
5 tons coal	2 tons dyestuffs	

During 1836, 1837, 1838, and 1839 the company was forced to expend nearly $150,000 for repairs, a sum greater than its total

revenue for the same period. Following the floods of 1843, all the fall business was lost to the river boats which sailed by way of Hartford, but 1844 was a banner year for the canal. Traffic actually paid ordinary expenses and there was not a single day's delay. A table of goods shipped in that year, published by the company, shows that a total of 30,996,028 lbs. were transported upstream, and 18,728,711 lbs. were floated downstream. Business was good until October 7, 1845 when a breach in the banks at Ten Mile Run made it necessary to suspend operations because of the failure of the water supply. Damages required an expenditure of $7000.

Canal With Railroad on Towpath One Mile South of Cheshire

By November 1 the canal was open again, but the public was already talking about the advantage to be gained by building a railroad along the same route. Professor Alexander C. Twining made a survey in that year and suggested that a railroad be built along the towpath. He believed that it was possible to operate both a railroad and the canal at the same time. According to his plans, a suitable path would be graded between the rails for the towing teams so that drivers and locomotives could operate on a schedule which would enable the engines to pass the horses without confusion or collision. Other people scoffed at this idea. Hadn't the famous Professor Silliman recently demonstrated the impossibility of efficiency by rail? Only the other day one of those newfangled

trains was delayed for hours because a spike in the end of a rail had come loose. Under the hot sun, the rail had curled up; imagine the danger, had it not been discovered in time! Nothing like that could happen on a canal.

In 1847, the proposed railroad secured a charter, and work on construction of the roadbed was commenced in January 1847. The road was completed to Plainville in January 1848. The canal was doomed. Though the total loss of the two old canal companies and the last one had mounted to $1,377,156.54 the traffic had yielded but $75,000 a year under the best conditions. Before the close of 1848 the last of the canal boats had docked for the last time. The tow-path horses went back to tilling land, some of the taverns along the right of way became dwelling houses, and the basins in the terminal towns were filled in and sold for building lots. In New Haven, the basin at the end of the canal became the site of the railway roundhouse, where locomotives were coaled, oiled and repaired on the very spot where the *Lady Lightfoot*, *Hero* and *Gold Hunter*, once swung at their hawsers as they received a load from a West Indies vessel docked at Long Wharf. Farmers dammed up portions of the canal for duck ponds. Country boys built rafts and fished for pickerel that lurked beneath the lily pads; Johnny Muskrat built his tepee of bull rushes. No more did Connecticut experiment with canals for the transportation of goods.

Personalities

Many persons prominent in Connecticut and national affairs, political, financial and industrial, were active in promoting and carrying on the business of the canal. One of the most important was the Honorable James Hillhouse. As a leading citizen of New Haven, the sponsor-city for the canal venture, Mr. Hillhouse aided the struggling enterprise from its beginning. Before he went to Washington as United States Senator, he had had considerable influence in the State legislature; his experience there, coupled with his genius for diplomacy, steered legislative action on canal plans through the excited controversy that first greeted the proposal. Intense rivalry between Hartford and New Haven had existed since the early days of the settlements. When the Farmington Canal was proposed, the Hartford "Riverites" immediately realized that its purpose was to divert some of their business to New Haven, and opposed the construction of the waterway. Mockingly, they

suggested that the canal's real purpose was to pour clean, up-state water into the muddy flats of the shallow New Haven harbor. To avoid as much as possible the opposition of the "Riverites", when the legislature was to be approached for favors Hillhouse prudently waited until the Assembly was sitting in New Haven where it would be less inclined to oppose the "Canalers."

In the spring of 1825 when the canal company was encountering many difficulties in getting started, Hillhouse was elected president of the company and appointed superintendent. He directed its affairs through several sessions of the General Assembly until his death in 1832 and was responsible for much of the canal's initial success.

Joseph E. Sheffield, who gave to Yale the Sheffield Scientific School and endowments amounting to a million dollars, was another New Haven resident who almost succeeded in making the canal a success. Sheffield had inherited great wealth from his father and grandfather, shipowners of Southport, and in 1840 made his initial investment in the canal. In 1841 he increased his investment and was elected director.

Sheffield was a man of unusual energy and determination; his ability and resourcefulness were prime factors in keeping the canal in operation after the floods of 1840. In 1843 he was elected president; through his efficient management, traffic and tonnage were materially increased and the company's debt reached its lowest point. Sheffield realized that easy and economical transportation to the upper Connecticut Valley by way of the canal could be established and he firmly believed that the canal could be made to pay. To keep the company solvent, he bought large blocks of shares at a time when stock values were rapidly falling because of the public's lack of confidence; when funds were not available to pay workmen to repair the canal, he personally guaranteed their wages. Through his efforts the canal's service was extended and its efficiency increased. He succeeded in 1844 in promoting the canal's most successful season, but resigned the same year. Two years later, he repurchased control, was again elected president, and made one more attempt to save the investors' money. Under his direction, the Connecticut Assembly was petitioned for the right to build a railroad along the route of the canal, and in 1847 and 1850 Sheffield was active in building the Farmington Canal Railroad which eventually replaced the waterway.

With Joseph Farnam, Sheffield later finished the Michigan Railroad, the first to enter Chicago from the east, and later constructed the Chicago and Rock Island Railroad leading west from Chicago.

The persistence, skill and energy of Henry Farnam, assistant engineer of the Farmington Canal in 1825, and chief engineer from 1828 until the canal was abandoned, were largely responsible for the actual construction of the canal and its maintenance. Reconstruction methods which he devised, as well as improvements in the locks, kept the channel navigable under trying circumstances and facilitated repair work in time of floods and washouts.

Canal Passage Through New Haven. Now Used by Railroad to Northampton.

Although Farnam was reluctant to abandon the canal project even when its owners were unwilling to support it with further investments, he was not slow to recognize that a railroad using the same route would have a greater chance to succeed. It was he who engaged Professor Twining to make the survey for the railroad, and pointed out that construction of the canal had already provided a section of the roadbed.

In addition to working with Sheffield in the West, after the canal was abandoned, Farnam in the 1850's built the Rock Island Bridge between Rock Island, Illinois, and Davenport, Iowa, the first bridge across the Mississippi River.

Among the many other interesting and famous men who were connected with the canal in one way or another, was Captain James Goodrich, who succeeded James Hillhouse as president, and who was known as "the fixer." Goodrich was a handsome diplomat who often succeeded in pacifying irate farmers, disgruntled stockholders and other citizens who regarded the canal as more or less of a public nuisance.

Other Connecticut Canals

Enfield Canal

The Enfield Canal, five-and-one-half miles long, around Enfield Rapids in the Connecticut River, was built in 1827-29 by the Connecticut River Company. This project was hastened by the Riverites' fear of losing river traffic to the Farmington Canal. By providing a safe passage around the falls, the canal was a decided advantage to river navigation. The channel has remained open to traffic for over a hundred years and is still in use. The main features of its construction resemble those of the Farmington Canal, and as it is but slightly modernized, an examination of it will give an idea of the way the Farmington Canal looked and operated.

Housatonic Canal

Four other Connecticut canals got as far as blue prints. The Housatonic was to begin at the Housatonic River in Stratford and lead northwest sixty-seven miles through the towns of New Milford, Kent, Cornwall and Canaan, to the Massachusetts line. The company received a charter in the spring of 1822 and subscription books were opened on July 1 at Ensign's Tavern at Canaan Falls, Mill's Tavern in Kent, Booth's Tavern in New Milford, Warner's Tavern in Southbury and Keeney's Tavern at Derby Landing. But few buyers wanted to invest in the stock, and since no large interests promoted the plan as New Haven sponsored the Farmington Canal, the whole plan was abandoned.

Saugatuck and New Milford Canal

The Saugatuck and New Milford Canal was to start at the Saugatuck Harbor below the village of Westport, and run north through Weston, Redding, Danbury and Brookfield, to connect with the Housatonic Canal at New Milford. The purpose of the two canals was to make the rich agricultural lands of western Connecticut accessible to Long Island Sound.

Sharon Canal

The proposed Sharon Canal was to be an extension of the New York and Sharon Canal, to run from Sharon to the New York-Connecticut line in the northwest corner of the State.

Unionville Feeder

The feeder canal from Unionville to the Farmington Canal was used for traffic as well as a water supply, and plans were made to extend this channel northwest, up the valley of the west branch of the Farmington River.

Quinebaug Canal

The big waterway project in the eastern part of the State was to be the Quinebaug Canal, starting at Warren in Massachusetts and running south through Southbridge, Massachusetts, Putnam and Danielson in Connecticut, and emptying into the Thames River at Norwich.

The aim of all of these projects was that which the railroads accomplished a few years later—to facilitate shipments between the inland producing regions and the seaboard.

Why Did the Farmington Canal Fail?

Many factors combined to bring about the failure of the Farmington Canal. True, it was supplanted by the railroad, but the development of steam locomotion was not the only reason why the canal closed down. Some authorities blame the early attempts to save money in the construction of embankments, spillways and locks, which later cost the canal company thousands of dollars for repairs. Others point to operating expenses. Charles Rufus Harte, a present-day engineer who has devoted many years to a study of the Farmington Canal points out that the cost of construction was not high and that it averaged $13,321 for each mile, as compared with early New York State canals which averaged $17,367 a mile, or the Chesapeake and Delaware Canal which cost $155,000 per mile. Other investigators believe that the legislative restrictions under which the canal was forced to operate prevented financial success. The State Commissioners had control of many of the operating details and the company's revenues were drastically limited because it was not permitted to charge a rate which would return more than 12% on the investment. One reason for the failure

may have been the fact that connecting canals were never built so that it never became a through-route. Also, the success of the canal was dependent solely on private capital. It was a "made" waterway over the entire route, therefore costly to build and to maintain.

But the canal venture was not an entire loss. It opened a shorter route to Northampton for New York freight and passenger traffic via rail and partially prepared for the railroad a fairly level roadbed along the old towpaths. This route tapped agricultural townships which might otherwise have waited long for any transportation facilities. The canal also stimulated river steamboat traffic, through competition. Steamboat men had to give good service or lose trade. By 1825, six steamboat companies were actively engaged in river transportation on the Connecticut.

In these days of Federal enterprise and subsidy, a similar undertaking would no doubt be either government-owned or would receive Federal aid, in the same classification as the great TVA, and the numerous dams and inland waterways now under Federal control.

Transportation by the development of inland waterways is still practical. This method has been promoted extensively during the last twenty years both by private interests and the Federal government. The old Erie Canal has been practically reconstructed and today transports a far greater volume of traffic than at the time of its opening. The entire length of the upper Mississippi River has been dammed, locked and dredged, until a good part of it resembles a large canal more than it does a river. The Federal Barge line now carries more traffic up and down that river in a year than was transported by all private companies operating there during any year in the thriving steamboat era before the Civil War.

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