Society for Industrial Archeology · New England Chapters

VOLUME 42 NUMBER 1 2021

CONTENTS

CONTIBUTORS

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Save the Date
NNEC Fall Tour

Mark yourcalendar for Saturday October 16th 2021. Plymouth, NH area; details to follow, but here is what is being planned. For a process tour, Rochester Shoe Tree makes wooden shoe trees. Bridgewater Power Company is a wood-fired generating plant. The Livermore Falls "pumpkin seed bridge" may be the only one of its kind surviving in New Hampshire. The Blair covered bridge has been restored by 3G Construction. This family business is in this area but does historic reconstruction all over the northeast. Lastly, we will explore the remains of the Beebe River Bobbin Plant.

NEC Website Address: Marc Belanger manages the website and distribution of announcements. http://nec-sia.org/

Message From the New Editor

I am Robert Timmerman, the new editor of the Newsletter, who volunteered to take over after David Starbuck passed away. I volunteered based on my experience editing the New England Model Engineering Society Gazette. This Newsletter requires more and better graphics editing, and I am getting up to speed on this, with help from other SIA members.. This Newsletter will be a work-in-progress for the next issue or so, as I get better with the software.

Here is my full contact information:
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INSTRUCTIONS TO CONTRIBUTORS
Text in Word or Word Perfect, no PDFs
Gr aphics and photos in .**jpg** format, no PDFs, the word processing software cannot use them. Usual documentation of quoted material, with footnotes for quotes.

NNEC President's Report Spring/Summer 2021

Welcome back NNEC members. It's time to get going again. Thank you for keeping your membership paid up. We're planning a fall tour now, see the Save-the-Date (10/16/21).

TREASURER REPORT - SPRING 2021
Bank Balance on April 30, 2021: $4,797
Bank Balance on April 30, 2020: $4,473
Thus, the bank balance has increased $324 in the past year.

The cancelled events resulted in no mailing expenses for tour flyers, however,we still have . expenses for the Spring and Fall Newsletters.

2021 Annual paid membership as of April 30, 2021: 23
Life Members: Estimated at 30.

Annual Paid Membership was down about 30% from two years ago. This is likely due to the cancellation of the Plymouth Conference and the Spring Tour in 2020 and 2021 and the cancellation of the 2020 Fall tour. At these events several members pay their annual membership dues and others may join the NNEC-SIA.

Rick Coughlin , Treasurer, NNEC-SIA

SNEC Treasurer's Report for 2020
Sara Wermiel, Treasurer, SNEC

The COVID-19 year of 2020 was an extraordinary one, in a bad way. Amidst the lockdowns and folks avoiding gatherings to reduce the chance of infection, SNEC could not hold tours, and the annual New England chapters conference had to be cancelled. Thus, with respect to IA activity, it was a slow year. The chapters did put out two newsletters, thanks to members who contributed content and the newsletter's long-serving editor, David Starbuck. But in December, David passed away. Marc Belanger continues to manage the NECs' website (http://nec-sia.org/) and email distribution of announcements, and we sent out such notices of (online) events, etc. that came our way.

At the close of 2020, SNEC had 128 members. However, However about a quarter of these have not sent dues for 2021. Many of the non-renewers probably would renew if reminded, so I don't think all of them have lost interest. But with the lack of programs and consequently reduced chapter expenses, I don't see a need to hound them this year. Meanwhile, we welcome several new

members, and heartily thank the generous members have made contributions to SNEC beyond membership dues. Printed copies of the newsletter are sent only to members who have paid dues and want a hardcopy.

Dues for 2021 remain $10 for renewing members, $8 for new members and students, and $150 for life members.

SNEC's treasury is good shape. The chapter's checking account balance at the close of 2020 was $11,450.87. The principal expenses last year were for printing and mailing the newsletter, and the fee for website hosting. SNEC's share of the cost of printing and shipping two newsletters was $410.90. The cost of mailing the newsletters, and mailing announcements to members without email, came to $345.96. The website fee, split with NNEC, was $139.08 for two years. Total expenses came to $1,016.89, while income, from dues, donations, and bank interest, came to $1,501.48. As of the end of April 2021, SNEC's bank account has $12,059.86.
Since SNEC has no president or vice-president, a Committee-of-the-whole was organized to assist me is carrying on the work of the chapter. We have met a few times, via Zoom. The project we started, to create a list of little known but wonderful IA sites in the region that folks can visit on their own, is still in the works (see Betsey Dyer's article in this newsletter).

If members have ideas for projects or tours for the chapter, which we might do once it's safe to gather, please send them to me or Betsey (swermiel@verizon.net or bdyer@wheatonma.edu).
Here's to 2021, a year of recovery!

Archaeological Reconnaissance Survey
Lyons Turning Mill Site

The Quincy Quarry and Granite Workers Museum has acquired funding from Community Preservation Committee to do an archaeological reconnaissance survey at the Lyons Turning Mill site. The Museum has contracted Public Archaeology Laboratory out of Rhode Island to move forward on this project. The primary goals of this project will be to

- Identify and document cultural resources present on the Lyons Turning Mill parcel.
- Outline short, medium and long term preservation interpretation and site use priorities and goals.
- Develop a comprehensive landscape plan for the entire site.
- Public Archaeology Laboratory will conduct archival research prior to the start of the fieldwork, to review existing information about environmental characteristics of the project area concerning soil types, land use and past ground disturbance associated with utilities and landscaping.
- PAL will also review other archaeological survey reports for investigations conducted in the surrounding area.
- PAL will prepare "before and after" archival photo documentation of the Lyons Turning Mill. Photography will be conducted to document existing conditions. The photographs will capture the site within its setting, all elevations of structures, architectural features, and remains of tools and materials that may remain from the period when the mill was in operation. The photographs will be color printed to the archival standards of the Massachusetts Historical Commission and will be numbered, labeled, and keyed to a site plan.
- Archaeological field investigations will begin with a systematic walkover survey of the project area with museum president Al Bina and museum historian Tom Bonomi. The walkover survey will assess existing conditions and document any quarry related surface features such

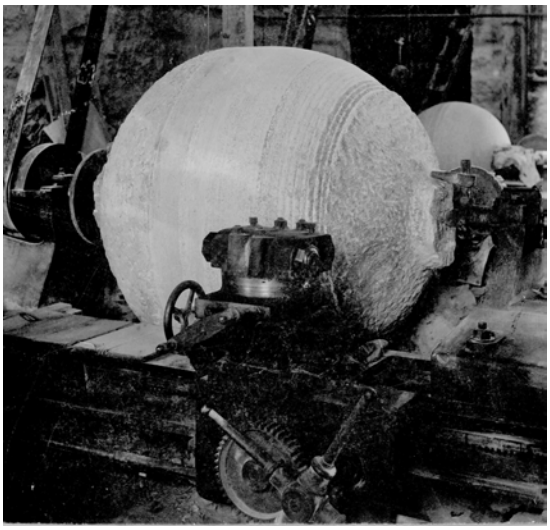
as exposed deposits of grout/granite trim, granite column fragments, derrick bases and cable anchors and site of power plant for Lyons Turning Mill. Within the floor of the Lyons Turning Mill documentation will include features such as machinery parts or mounts/support bases, a former railroad spur (Quincy Quarries Railroad) extending through the structure, or other evidence of past manufacturing activity.

- Upon completion of the walkover, exposed features within the Lyons Turning Mill project area will be mapped and recorded in scale drawings and with a hand -held GPS unit and photographed.

- Any cultural material found during the walkover survey and mapping process will be left in–situ and their locations recorded. PAL will assist the City of Quincy and the Quincy Quarry and Granite Workers Museum with development of a Cultural Resource Management Plan for the Lyons Turning Mill property.

Photo L to R: Tom Bonomi museum historian, Ted Dattilo archaeologist & Duncan Ritchie lead senior archaeologist

Al Bina



Archival photo: Ball Turning Lathe

Archival photo inside the mill

Outside of the mill, with a column in front [Ed note: appears to be contemporary, from the cut of the lumber chocking the column, and tire tracks on the path.]

Northern Heritage Mills recovers historic technologies from demolition and a hundred-year flood.

[Editor's note: This article is in two parts: a description of salvage from the Osgood Machine Co. in Bellow's Falls, and a salvage of pieces of millstone from the Cold River.]

[Part 1, salvage from Osgood Machine:]

Northern Heritage Mills' volunteer engineers Gary and Ben Young along with demolition contractor Adams Construction of Bellows Falls, VT carefully extracted rare historic technologies from the 1890 Osgood Machine and foundry in Bellows Falls as the structure was being demolished.

Recovered historic items include a thirteen foot heavy wooden timber foundry crane in good condition complete with mobile trolley and lifting gears (see Iron and Steel Heritage Museum Magazine; Boiler Plate; Spring, 2016).

Investigating a collapsed floor revealed an industrial incline. The forty-five-degree incline ran from a railroad siding up into the main factory floor. All the wheels and pulleys that ran from the steam engine to the incline were recovered as well. The incline brought raw materials and fuel from the railroad siding into the mill and finished products directly into the box cars. There were two five-foot diameter Cupola a Furnaces located in a twenty by twenty-foot brick walled room with an arched brick ceiling that was the second floor for loading iron and fuel into the furnaces. The hand cranked elevator to the second floor, pulleys and gears for loading the furnace were also removed before demolition.

In 1900, the foundry was sold to the Robertson Paper Mill which was the largest wax paper mill in America. Buried in the back tool room of the mill and recovered included raw five and eight pound blocks of wax, specially made wooden filing cabinets containing hundreds of samples of various measured wax paper samples. The paymaster's door, in good condition, was found in a seven-foot high wooden debris pile. The all wooden door has a middle tray on each side with a smaller vertical sliding door measuring twenty inches high and twelve inches wide above the tray. It was the sliding door where delivered paychecks exited the room without opening the cash room door itself.

In the main casting room space two heavy cast iron four-foot high sleeves which rested on the floor surrounding the eight by eight inch timber columns supporting the roof were recovered. The sleeves were designed to prevent heat and possible burning of the timber columns when the molten iron was poured into the floor molds.

[Part 2, Salvage of millstones:]

During the summer of 2020, Bob Stocker of Acworth, NH and creative director of Heritage Mills pointed out a very large and worn quartz rock he found in Cold River which runs through his back yard. After a short inspection, Gerry DeMuro noticed a vertical groove in it and determined that it was an imported expensive French Buhr millstone component and upon searching in the shallow stream two more French Buhr millstone components were located.

A Piece of Millstone

Gerry DeMuro Fishing Millstone out of Cold River

Four hundred feet up river from Mr. Stocker's home is a twelve-foot waterfall that cascades into a twenty-fourfoot deep natural pool commonly known as the Deep Hole. According to Alan Rumrill, director of the Cheshire County Historical Society, in 1772 or 1782 grist mills were built by the waterfall and washed out in the spring floods. During the 2005 Hundred Year Flood, tons of rocks and the French Buhr stones were pushed out of the Deep Hole and washed four hundred feet down river. Two hundred and thirty-five years later each will now be preserved in an outside permanently covered exhibit of Acworth's water powered industrial mill history. The planned exhibit will include the French Buhr millstones, a shoe peg mill water turbine, line shafting and mill irons that also washed downstream from the flood and will include an 1880 carding mill cylinder, saw mill irons an 1880 carding mill cylinder,and a John Tyler Turbine. Samples of Beryl and Quartz which made Acworth an industrial

mining leader in the 1800's will also be included in the exhibit.

Turbine Runner for Shoe Peg Mill

Gerry DeMuro,
Northern Heritage Mills
nheritagemills@yahoo.com
603 835-238

Industrial Sites for DIY Tours and an Example: Spring Brook Ice Co. Archeological Site in Walpole, Mass.

Bring a little-known industrial site to light!
At a virtual business meeting by zoom in January 2021, Sara Wermiel, Betsey Dyer, Robert Timmerman, Ron Klodenski, and Leonard Henkin decided to modify our original call to SNEC members asking them to tell us about interesting old industrial sites. We got very few replies and those we did get were about fairly well established museums. We would like to get more SNEC member participation and to somehow make that participation manageable in spite of the pandemic. We can't have-in person meetings, in-person projects, and in-person field trips right now. *How about do-it-yourself field trips to special obscure sites that you know about and tell us about in your own town?*

How to help and participate:

- If you know of an obscure, mostly undocumented, unpreserved, hard to find industrial site in or near your town, simply tell us about it: What it is, where to find it, what we might expect to see. And we'll start a list of such sites and put your site on it. If your site is especially hard to find and you **have access to** a global positioner, please consider taking a few coordinates — for the site as well as for parking.

- OPTIONAL: If you want to take a step further, write up your site a little more thoroughly as a "Do It Yourself" Field Trip for other SNEC members to find and enjoy. If it is really hard to find, you do need to write detailed instructions and if possible GPS coordinates. An example of a **Do It Yourself field** trip is below. Write up yours however you like, but you might consider using something like the template used here.

- PLEASE CONSIDER THIS NEXT STEP TOO: It is likely that each SNEC member knows, or knows of the President of, their local historical society and the Chair of their local Historical or Preservation Commission. Please write to both of those people asking if they would be willing to send out a query like this to their membership or board. Feel free to modify in whatever way you wish especially if you know the person.

  "The Southern New England Chapter of the Society for Industrial Archaeology is seeking your suggestions for obscure, mostly undocumented, unpreserved, hard to find industrial

sites in *YOUR TOWN*. Would you please send out this query to your members and ask them to reply to *YOUR NAME* (or if you wish they can reply **to one of our names).** Tell us what the site is, where to find it, what we might expect to see. And we'll start a list of such sites and put your site on it."

We believe that individual SNEC members who do this — either identify sites on their own or put out a query in their town — will learn something intriguing and new themselves. Who knows where that might lead? Maybe in addition to getting sites listed you might investigate signage, further research on, or even preservation of the site.

An example of a Do It Yourself Field Trip: The Site of the Spring Brook Ice Company off Stone Street in Walpole Massachusetts. c1901-1944

Based on research by Betsey Dexter Dyer

(Note that for this short field trip, there are a few other suggestions about what you might do while you are in Walpole.)

How to Get There:
Go to 290 Stone Street, Walpole, Mass.
Across the street from that address is Clark's Pond and a parking lot for the Clark's Pond Conservation Area. A short, easy-to-walk path into the woods is right off that parking area. On the path and just off the path are: the foundation for the ice house, the foundation for scales used to weigh ice wagons, and part of the foundation for the stable where the wagons and horses were kept.

This path is also a marked section of the Bay Circuit Trail.

About the site:
Spring Brook Ice Company was started c1901 by Alton Clark, who ran a sawmill downstream of the pond and who owned the pond and most of the property in the area. Reports of Clark harvesting ice from the pond and delivering to households start in 1901 although he may have harvested earlier. Clark lived nearby at the corner of Massachusetts Avenue and Stone Street. In 1905 he conveyed much of the Clark's Pond area to Phillip Allen and Charles Gilmore. They took over the Spring Brook Ice Company and operated it until 1937; they also had a slaughterhouse, Spice Brook Farm, at 290 Stone Street across from the pond. A channel from the pond ran under the building and was used to dispose of slaughterhouse waste, though a hole in the floor of the building.

Spring Brook Ice Company harvested ice from Clark's Pond, but as early as 1923 they supplemented it with artificially produced ice by the Milton Ice Company, owned by the Turner family. In 1936 the pond, shoreline and businesses were auctioned off and became owned by Milton Ice Company, which also had an enterprise at Turner's Pond (originally called Morey's Pond) in Walpole. The pond ice business declined; the last harvest may have been 1940, memorialized in a photograph. In 1944, when the ice house was in the process of being torn down, it caught fire and burned to the ground.

In 1962 Walpole's newly founded Conservation Commission purchased Clark's Pond and most of the shoreline to form its first conservation property.

Foundations for three of the structures still may be found and located on this 1918 Sanborn Insurance Map and also with coordinates provided here**.**

The large ice house foundation Typically ice house foundations were very simple concrete supports, low to the ground. Some of this foundation is under leaves.

Northeast corner at the pond edge where a

ramp into the ice house used to be:

N 42° 08.282
W 71° 14.561
Plus or minus nine feet

Southwest corner near path
N 42° 08.277
W 71° 14.572
Plus or minus nine feet

A scale on which an ice wagon could be weighed is visible on the right hand side of the path even without coordinates. The approximate center of the foundation is at:

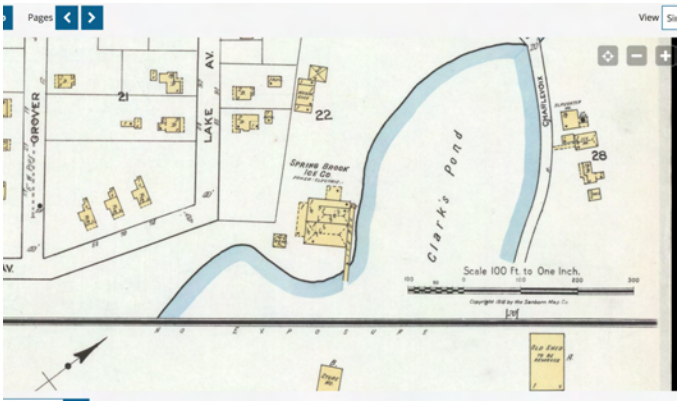
N 42° 08.308
W 71° 14.604
Plus or minus eleven feet

A second wagon shed was in the area of the parking lot.

Also, present day 290 Stone Street is the site of the old slaughterhouse and small ice house.

This section of Stone Street was an unpaved industrial access road until the 1940s, nicknamed facetiously "Charlevoix Place" but also was called (more accurately) "Mud Alley."

1918 Sanborn Insurance Map



While you are in Walpole: other industrial sites of interest

One of the former Bird Company Mill Buildings at 153 Washington Street, East Walpole is being nicely repurposed by several businesses including the Ever So Humble Pie Company, which is highly recommended. Monday-Friday, 8-5 and Saturday 8-1.

Across the street is Hollingsworth and Vose (112 Washington Street), the oldest mill in Walpole, still operated by the same family since 1793. The company still manufactures specialty papers.

Bird Park in East Walpole was designed by John Nolen, a protégé of Frederick Law Olmsted. Currently it is owned by Trustees of Reservations. There are parking areas on Washington St, Pleasant Street, Polley Lane, Avenue and Wolcott Avenue.

Nearby at 33 West Street is the Walpole Historical Society at the former home of the mill owner Willard Lewis. Built 1827, it was given by Kendall to the town in the 1960s, lest it be torn down. If we are not having a global pandemic, the society is open Saturdays 2-4.

Gilmore's, at 1015 East Street, is a feed and grain and building supply company in business at that location since 1890.

Betsey Dexter Dyer

Book Review:
A New Book on Boston Edison L Street Station
by Gilmore G. Cooke
(Available on Amazon)

In the 1890s, the Boston Electric Light Company vacated its electric generating station on Gilbert Place in Boston to make room for a major new railroad terminal. A new, replacement generating station was constructed on L Street in South Boston. This site offered ready access to Boston Harbor with its plentiful supply of condenser cooling

water and mooring sites for colliers delivering coal to fuel the new generating station. The L Street Power Station first went into service in 1898. In 1902, the Boston Electric Light Company was acquired by the Edison Electric Illuminating Company of Boston (EEI), later becoming known as the Boston Edison Company.

The 1898 power station incorporated then state-of-the-art steam boilers and reciprocating prime movers.

Since that date, the station has often been expanded, upgraded, and redeveloped. The then revolutionary Curtis vertical steam turbines were introduced in a major expansion beginning in 1903. A further expansion beginning in 1916 utilized horizontal steam turbines. After being the first utility in the United States to use 1,200-psi high pressure steam boilers and turbines in the early 1920s at its Weymouth generating station, EEI used advanced high pressure steam equipment in a major 1939 L Street Power Station expansion.

Also, the late 1930s saw the installation of flue gas scrubbers and electrostatic stack precipitators, two early forms of pollution control, at the L Street Power Station.

The most recent major redevelopment and modernization of the L Street site took place during the 1960s with the construction of the New Boston Generating Station. The first of two 380-MW (maximum claimed capability) generating units went into service in 1965, and the second unit entered service in 1967. With the completion of the second unit, the station became the largest generating station in the six-state surrounding area. Originally fueled by number 6 fuel oil as its primary fuel, the New Boston Generating Station now uses natural gas as its fuel.

Throughout its long history, the L Street Power Station has used and has often pioneered the use of the newest and best technologies. As a result, its evolution over more than a century demonstrates and parallels the development and evolution of the entire United States steam electric power generation industry.

The author has produced a comprehensive and intricately detailed history of the remarkable L Street Power Station. The book is divided into five parts, each devoted to a particular period of major expansion or redevelopment at the site. Cooke covers important engineering, design, construction, operation, and staffing aspects of each major phase in the history of the site. The book is richly and thoughtfully illustrated with 76 black and white and 36 color photographs as well as 34 engineering drawings, diagrams, elevations, and charts. The images include pictures of early and later construction activities, views of the elaborate architectural style typical of industrial buildings of an earlier age, boiler house and turbine room scenes, and photographs of a number of the present staff members at the New Boston Generating Station.

This book will appeal especially to those interested in the history of technology, to power generation engineers and related professionals, and to those seeking information specifically on the L Street Power Station or more generally on the evolution of the United States power generation industry.

The L Street property was recently acquired by Hilco Redevelopment Partners, LLC. Hilco is planning to redevelop and repurpose the property while restoring and preserving the heritage value of the site.

Thomas Vaughn

The Ashton Valve Company and WWII

The Ashton Valve Company was one of the many manufacturers that contributed to the war effort in the second world war.

The importance of valves in WW II? "While valves didn't directly sink ships or shoot down planes, the American valve industry played an important role in winning WW II for the Allies. Without the contribution of the industry, many key chemical and petrochemical developments that helped secure victory could not have been made. In addition, the floating arsenal of democracy-naval ships, liberty ships, and victory ships-could not have been built without tons of well built valves delivered on time." [1]

Ashton Valve was world renown for their quality products. In their 100 plus year history the company produced safety valves, relief valves, locomotive steam gauges, air pressure gauges, gauge and boiler test equipment, recording gauges, steam whistles, marine clocks, and other steam related products for Railroads, Marine ships, and power stations.

The Ashton Valve company was born out of Henry G. Ashton's desire to make boiler rooms a safer environment to work in. During the late 1800's people were dying at an alarming rate from boiler explosions. Between 1885 and 1895 there were an average of 200 boiler explosions a year and between 1895-1905, 3216 boiler explosions were recorded. . In July, 1894 an explosion at a lumber mill caused the death of 4 workers. The boiler was a horizontal type and had probably reached over 500 psi. The boiler head was blown out and the rest of the shell left the boiler room and flew through the air for a distance of nearly 1200 feet. It shot through the mill and over several houses at an altitude of about 80 feet. The last 350 feet of its flight was through a thick patch of woods where it cut off everything in its path including a tree that was 28" in diameter. The insurance company concluded, "the safety valve did not work."

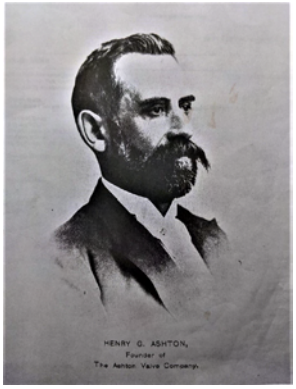


Figure 1 Henry Ashton

Henry Ashton arrived in Boston in 1869 from East Dereham England with his wife Emma and his infant son Albert. His basic education was supplemented by a course in mechanical and steam engineering. He worked for Hinkley Locomotive Works and The Eagle Sugar refinery before inventing his lock pop safety valve in 1871. It was a breakthrough in boiler safety. Basically, the safety valve would close quickly after "popping", saving a lot of steam. The boiler would then be able to get up to steam much quicker


Fig 2 Boiler explosion, Germany. The consequence of a faulty safety valve? Many Trade journals would dedicate an entire page to boiler explosions. (google)

Time is money, as they say. He patented his idea and in 1872 started producing the valves with 3 other employees at 138 Pearl street.

Burned out by the great Boston fire of 1872, the company relocated to other Boston locations, before settling down at 271 Franklin street which would be their home for the next 27 years.

Figure 3 The 271 Franklin street address was the home of Ashton Valve for 27 years from 1880 to 1907. Ashton Valve catalog 1906 from the author's collection. (photo by author)

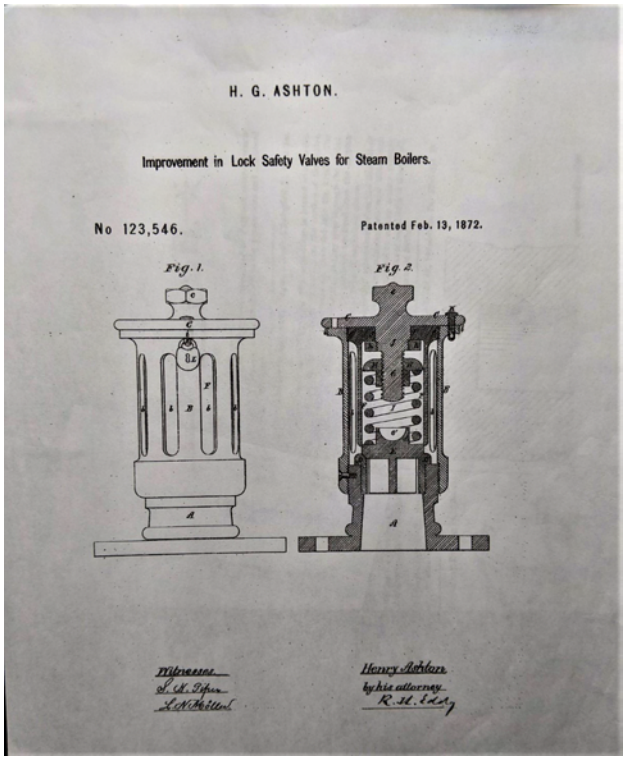


Figure 5 Patent 123546 for the original lock up pop safety valve that put Ashton on the map Google patents

Figure 4 A very early example of an Ashton safety valve, 1874 From the author's collection, photo by author

The demand for their products grew and in 1892 the company purchased the Boston Steam Gauge company and entered the pressure gauge market. The company announced, "The reputation gained by nearly 20 years experience in the manufacture of safety valves and the widely recognized quality of the Ashton Valve company will be the only guarantee needed for the unsurpassed quality of the goods we shall put upon the market." [2]

Before long before their gauges were as well respected throughout the industry as their valves were. The business continued to grow at a rapid pace. "Ashton Valve has not discharged a man on account of any falling off in orders, nor run less than 10 hours a day during the last 4 years. The works are now running overtime in some departments." [3] Their reputation was based on quality products .Their motto, "higher in first cost, but cheaper in the end."

Figure 6 An early Ashton gauge in its original shipping carton from the author's collection (photo by author)

1895 was saddened by the death of Henry Ashton, the company's founder. His son, Albert, who had attended MIT, would be an important figure in the daily operations of the company for the next 27 years.

In spite of adding a 5th floor to their Franklin street facility in 1900, the company could not keep up with the demand and in 1907 they purchased a dirt lot in East Cambridge and contracted the Densmore and LeClear company to design a 4 story 45,820 square foot building .Located at 161 First street, the building still stands today. It was built at a cost of $67,000 in in 1907 money by the C.A. Dodge & Company builders and featuredmodern bathrooms and electricity throughout.

The main building is 200 feet long and 50 feet wide and has a basement. In the basement are located the fireproof storage room, blacksmith department, and general stockroom for rough brass and iron castings .The office, tool room, pattern shop and shipping department are on the first floor, while the second floor is given over to the valve manufacturing department and the valve buffing room. This floor opens to the second floor of the boiler house, where the valve testing is done. The gauge making, including buffing and nickel plating, takes up the entire space on the third floor. The dimensions of the foundry are 60 by 30 feet and that of the boiler house is 50 by 30 feet.

The equipment of the boiler house consists of 2 water tube boilers, one especially for testing purposes and capable of carrying 400 lbs steam pressure. All the buildings are of brick and concrete, slow burning mill construction, and the machinery is driven by electric motors, operated on the group drive plan. Special attention has been given to lighting in the daytime working hours, all buildings having been fitted with as many windows as strength would permit. The artificial light used during the dark hours of the day is furnished to all buildings by electricity. The company recognizes the importance of good health on the part of all employees and has installed the most improved sanitary arrangements on a liberal scale." [4]

The Cambridge Chronicle stated: "New Factory going up for the Ashton Valve Company." "An event of the first importance to industrial Cambridge is the coming to the city of the Ashton Valve company, which is now erecting it's new factory on First street, between Binney and Rogers streets.

It means the addition of from $150,000 to $200,000 worth of taxable property within the next year. It also means a great advantage of the City's prestige as a manufacturing center, for in this company the city secures no ordinary industry, but one that is of far reaching importance and reputation, whose products are in demand all over the globe. It

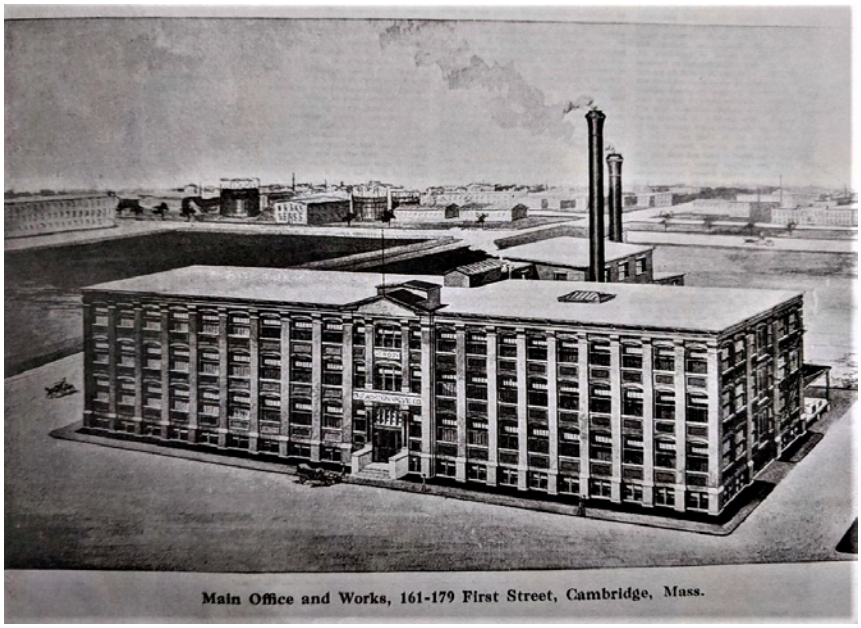


Figure 7 This image of the Cambridge building would be used in many of the company's catalogs. The building would be the home of the company from 1907 to 1948. Ashton Valve Catalog #28, circa 1920's. From the author's collection. (photo by author)

does much work on government battleships. The company maintains agencies in all the leading cities of this country, and in London, Paris, Genoa, Vienna, Mexico, Australia and New Zealand, and in every place where it maintains an agency it sells it's product in competition with many which are sold at much lower prices, simply because the Ashton Valve has won a reputation as the very acme of perfection. The factory is to take some 8 months take some 8 months in building, insuring attention to every detail." [5]

By 1922 they employed 250 workers. The 1920's and 1930's represented the peak years for the company. And the profits were good. In 1916, they showed a profit of $182,234 and in 1919 a profit of $214,178. In the millions by today's dollar conversion.

They continued to grow. "Large boiler installed in valve plant". "The Ashton Valve company has recently installed a new 650 pound pressure boiler in their plant to use in testing their large products.

In this testing plant their gauges undergo a severe test. Enclosed in the two boxes packed with mineral wool, are gate valves controlled by large wheels, and on which are placed safety valves to be tested. The two small wheels at side of right box control by-pass and blow off respectively. The wheel on vertical spindle between large wheels controls admission of steam to testing drums for ordinary use, the pressure in which is indicated by one of the two gauges on the left, on wall; one for higher pressures and the other for lower pressures. The gauge at right indicates boiler pressure

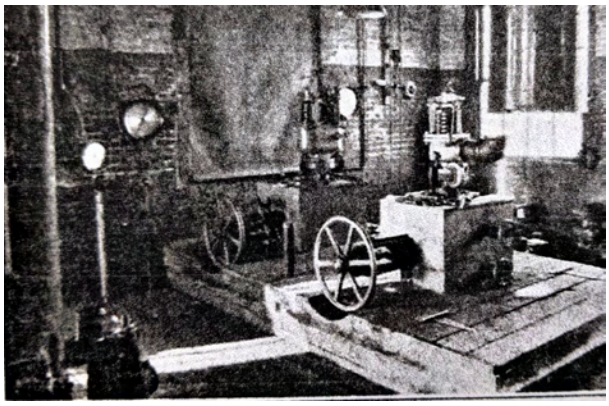


Figure 8 Valve Testing Room

Business slowed in the 1940's as diesel locomotives, the rise in gasoline usage, and electricity as a power source quickly replaced steam. The steam era was coming to a close and the company suffered as they never ventured far from their steam related products.

World War II brought major changes to the company and for the first time since 1871 it

ceased to be a family run business. In 1942 the Defense Plant Corporation [DPC} bought the facility.

"The Defense Plant Corporation (DPC) was set up by the government in 1940 to finance the construction of new industrial facilities and the expansion of existing ones. From its creation on August 22,1940 until June 30,1945 when it was folded back into the Reconstruction Finance Corporation as the Office of Defense Plants, the DPC invested over 7 billion dollars to increase the industrial capacity of the United States. It took title to new facilities and equipment. The DPC invested in 3 principal ways. First, the DPC built stand alone facilities. Second, it built additional units in existing private industrial complexes, called "scrambled" facilities. Third, it purchased equipment and installed it in privately owned facilities for the purpose of converting the facility to the production of a wartime product or for the purpose of expanding the capacity of an existing facility."[7]

"The materials and supplies produced during the war ranged from tiny jewel bearings to giant guns, tanks, ships, and airplanes. The DPC disbursed billions of dollars on 2300 projects in 46 states and overseas. The largest project was the $176,000,000 Dodge Chicago plant, which manufactured aircraft engines for B-29 and B-32 airplanes. The plant was so large it had it's own steel forge and aluminum foundry and could take in raw material at one end and turn out finished engines at the other.[8]

A few examples of the war time transformation: The Lionel toy train company started producing items for warships, including compasses. The Ford Motor Company produced B-24 Liberator bombers. Alcoa, the aluminum company, produced airplanes.

Where did the safety and relief valves go?

Liberty ships and Victory ships.

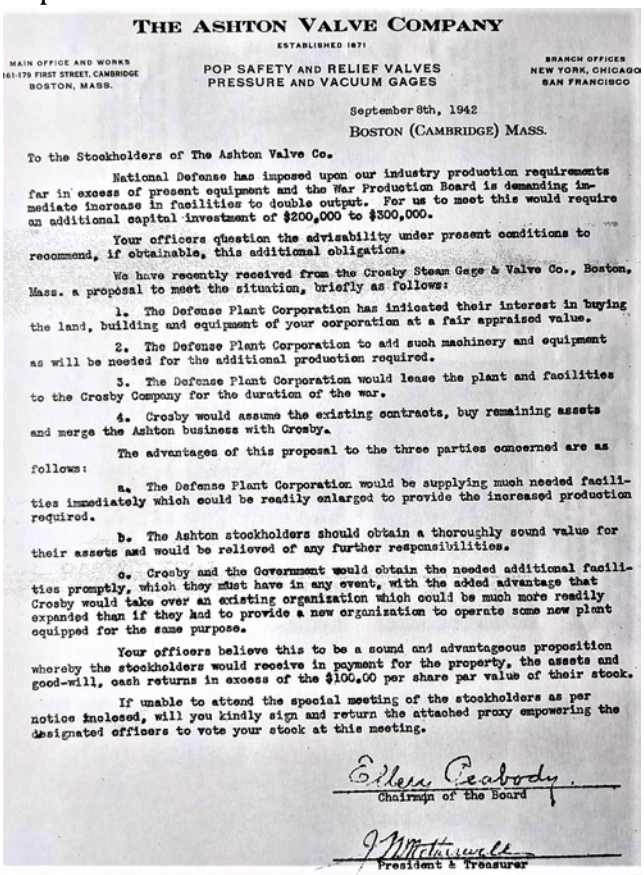
Figure 9 Liberty Ships, Portland ME, Wikipedia

"WW II led to the building of 5,500 vessels. Eighteen American shipyards mass produced 2,710 ships known as Liberty ships. While reviewing the blueprints of the Liberty ships, Franklin D. Roosevelt, who loved naval vessels and had an eye for design, mused aloud to Maritime Commission administrator Admiral Emory S. Land, "I think this ship will do us very well. She'll carry a good load. She isn't much to look at though, is she? A real ugly duckling." Thus the Liberty ships received their second nickname, "the ugly duckling." [9]

The New England Shipbuilding Corporation was a shipyard located in the city of South Portland, Maine. The yard originated as two separate entities, the Todd-Bath Iron Shipbuilding Corporation and the South Portland Shipbuilding Corporation, which were created in 1940 and 1941 respectively, in order to meet the demand created by WW II. The two merged in 1943, then continued to produce ships as the New England Shipbuilding Corporation's east and west yard. The two yards built 266 ships. The first 30 east yard ships were Ocean class cargo ships built for the United Kingdom. The remaining ships were of the Liberty ship design, derived from the Ocean

class, and were built for the United States Maritime commission. Among them was the SS Jeremiah O'Brien, a Liberty ship that is preserved as a museum ship in San Francisco. At the peak of production, the yards employed 30,000 people. [10]

The Liberty ships ran on steam engines and were slow. The lethal U boats, submarines of the German navy, prowled the shipping lanes hunting American merchant ships. In 1943 the United States began a new ship building program. These new ships would be faster, larger, and able to carry cargo long after the war was finished. These were the Victory ships.



THE ASHTON VALVE COMPANY

ESTABLISHED 1871

MAIN OFFICE AND WORKS
161-179 FIRST STREET, CAMBRIDGE
BOSTON, MASS.

POP SAFETY AND RELIEF VALVES
PRESSURE AND VACUUM GAGES

BRANCH OFFICES
NEW YORK, CHICAGO
SAN FRANCISCO

September 8th, 1942

BOSTON (CAMBRIDGE) MASS.

To the Stockholders of The Ashton Valve Co.

National Defense has imposed upon our industry production requirements far in excess of present equipment and the War Production Board is demanding immediate increase in facilities to double output. For us to meet this would require an additional capital investment of $200,000 to $300,000.

Your officers question the advisability under present conditions to recommend, if obtainable, this additional obligation.

We have recently received from the Crosby Steam Gage & Valve Co., Boston, Mass. a proposal to meet the situation, briefly as follows:

1. The Defense Plant Corporation has indicated their interest in buying the land, building and equipment of your corporation at a fair appraised value.

2. The Defense Plant Corporation to add such machinery and equipment as will be needed for the additional production required.

3. The Defense Plant Corporation would lease the plant and facilities to the Crosby Company for the duration of the war.

4. Crosby would assume the existing contracts, buy remaining assets and merge the Ashton business with Crosby.

The advantages of this proposal to the three parties concerned are as follows:

a. The Defense Plant Corporation would be supplying much needed facilities immediately which could be readily enlarged to provide the increased production required.

b. The Ashton stockholders should obtain a thoroughly sound value for their assets and would be relieved of any further responsibilities.

c. Crosby and the Government would obtain the needed additional facilities promptly, which they must have in any event, with the added advantage that Crosby would take over an existing organization which could be much more readily expanded than if they had to provide a new organization to operate some new plant equipped for the same purpose.

Your officers believe this to be a sound and advantageous proposition whereby the stockholders would receive in payment for the property, the assets and good-will, cash returns in excess of the $100.00 per share par value of their stock.

If unable to attend the special meeting of the stockholders as per notice inclosed, will you kindly sign and return the attached proxy empowering the designated officers to vote your stock at this meeting.

Ellen Peabody
Chairman of the Board

J. Mottarville
President & Treasurer

Figure 10 First letter to the Ashton Valve stockholders concerning the DPC's aquisition of the Ashton facilities. 1942 (courtesy of the Cambridge Historical Commission)

A letter from the Ashton management to the share holders explains how Ashton Valve would be affected by the DPC. Basically, the DPC would purchase the Ashton Valve factory and Ashton Valve would then merge with another valve producer, Crosby Valve. Crosby Valve would run the two companies at the Ashton facility

Crosby/Ashton produced safety valves and relief valves for navy ships for the duration of the war. The safety valves used by the the government ship builders were most likely the same valves Ashton had been selling to them since 1872 when Ashton Valve received government approval for the valve's usage on military vessels. The valve design had not changed much since then.

"The Ashton Marine Pop Safety Valve is the most extensively used safety valve on vessels of the better class. It may be chosen for any steam propelled craft with the full assurance that it is unexcelled in design, material, and and finish. Among the first (1872) to be approved by the United States Board of Supervising Inspectors, the Ashton Marine Pop Safety Valve has been approved from time to time, keeping pace with the rigidness of the official requirements. Today the Ashton not only fulfills every requirement of the rules and regulations prescribed by the board, but in almost every feature is better than called for. The Bureau of Steam Engineering, United States Navy Department, also approves the Ashton Marine Pop Safety Valve, which is extensively used on battleships, cruisers, torpedo boats, and other craft in Navy service." [11]

[Editor's Note: due to lack of space to legibly display the second letter, it is paraphrased here: At the meeting on September 16, 1942, 1996 votes were received in person or by proxy in favor, and an additional 77 votes after the meeting. The total was 2066 shares in favor out of 2329 shares outstanding with no dissenting votes.]

After the war ended in 1945, Ashton and Crosby were both purchased by Dewey David Stone, a businessman who owned multiple companies including Converse Rubber. Both companies moved to Wrentham Mass in 1948. They occupied the old Winter Brothers tap and die factory and continued to produce valves under the Crosby/Ashton name and gauges under the Ashton Valve name. The last gauges under the Ashton name were produced in 1978. The Wrentham factory was torn down in 2012.

The building at 161 First street still bears the name "Ashton Valve Company" and "1907" on the granite lintels. Since 1948 the building was home to the Nicholson industrial adhesive company, the Lotus Corporation known for the 1-2-3 spread sheets and became office space for small companies. Today the building and the property are being renovated. The old building, minus the boiler and testing room, will be used as "innovation" space for small start up companies. There will also be a new residential building and another small commercial building.

While Ashton Valve may be a distant memory, their first street Cambridge building continues to be a birthplace for new ideas. Ashton Valve was an innovative company. The Lotus corporation was certainly innovative. Who can say what innovative ideas might come from the building in the future?

Rick Ashton

Notes:

1 Greg Johnson, "The US valve industry in WW II", Valve Magazine 2012
2 Authors collection," Ashton Valve gauge announcement letter" 1892
3 Railway Purchasing Agent (trade journal), 1885
4 Practical Engineer (trade journal) October 1909
5 Cambridge Chronicle, "New factory going up for Ashton Valve Company", July 27,1909
6 Railway Journal (trade journal), 1929
7 S. Roth, E. Rapp, D. Littlejohn, "The environmental legacy of WW II", 2003
8 S. Fenberg, E. Stange, "Brother, can you spare a billion? The Story of Jesse H. Jones", 2000
9 National Park Service, "Liberty Ships and Victory Ships, America's lifeline in war", updated 2020
10 Wikipedia, "New England Shipbuilding Corporation"
11 Authors collection, "Ashton Valve catalog", 1920

An update on an article by William Keller entitled *Wharves as Landscape,* in the Newsletter, Vol 41 (2), 2020, 8

The interposed circle gives a better sense of the location of the wharf described in the Newsletter, Vol 41 (2) 2020 8.