George H. Corliss of Providence, Inventor
by Robert S. Holding

From the town of Belper, Derbyshire, England and in the year 1789, there came to the United States a young Englishman, one Samuel Slater, who had been apprenticed in the manufacture of cotton machinery to Jenediah Strutt, partner of Sir Richard Arkwright, famous cotton goods manufacturer of England.

Upon arrival in this country, Slater was advised that Moses Brown of Providence sought assistance in the manufacture of spinning machinery and he addressed Mr. Brown in this manner:

"Sir:

A few days ago I was informed that you wanted a manager of cotton spinning, in which business I flatter myself that I can give the greatest satisfaction—as I have had an oversight of Sir Richard Arkwright's works upwards of eight years. If you please to drop a line respecting the amount of encouragement you wish to give you will much oblige, Sir, your most obedient humble servant,

Samuel Slater."

To this communication Moses Brown replied in part as follows:

"A paper read before the Rhode Island Historical Society, April 2, 1945; all quotations from George S. White, Memoir of Samuel Slater. (Philadelphia, 1836)"
Providence, 10th 12th month, 1789

"Friend:

I have received thine of the 2nd inst. and observe its contents. I, or rather Almy and Brown who has the business in the cotton line which I began, one being my son-in-law and the other a kinsman, want the assistance of a person skilled in spinning. We are destitute of such a person."

Mr. Brown continued his letter and assured Slater that if he would come to Providence he would give him a substantial proportion of the profits and that Slater would "have the credit as well as advantage of perfecting the first water driven mill in America". Slater accepted and came to Providence.

This action on the part of Moses Brown caused a partnership agreement to be created between his "kinsman", Smith Brown; his son-in-law, William Almy; and Samuel Slater. It was dated April 3, 1790. As a result of this compact Samuel Slater established the first successfully operated cotton mill in America. In fact some British and American historians maintain that this was not only the first cotton mill in America but that it really constituted the beginning of all manufacturing of any consequence in the United States. The mill was located just north of Providence at a point then known as Pawtucket Falls.

Slater's efforts were so successful that Moses Brown informed Alexander Hamilton, the Secretary of the Treasury, that in a short time machinery and mills could be erected to supply the entire yarn requirements of the United States and that further importations from England were not necessary. This prediction of Moses Brown was a prediction of substance for in the next fifty years over one thousand mills were in operation, many of which were within the boundaries of Rhode Island and a large percentage of which were within the confines of the New England States. Providence was known as "The Manchester of America". These early cotton mills were built on the banks of rivers and streams where water power was used as a propelling agent for driving the machinery.

At approximately the same time that Samuel Slater was building his cotton mill in Pawtucket, James Watt of England was making phenomenal progress in the development of the steam engine. The steam engine had not changed materially from the time of Thomas Newcomen whose work preceded that of Watt by more than fifty years.

The great discoveries of Watt led to a highly developed engine with an efficiency factor greatly in excess of any engine thus far conceived. The general principles of the steam engine as built by Watt and his partner Matthew Boulton, were adopted by American steam engine manufacturers and enabled steam power to supplement and supplant water power as the motive force for the machinery in the mills.

Whereas it had been necessary for mills to locate at the source of water power the development of the steam engine allowed power requirements to be brought to any desired locality. This permitted manufacturing to be undertaken in interior and coastal sections. Such places as Fall River and New Bedford sprang into being. By mill stream, at sea, and in village the noisy whirring of the shuttle replied to the saucy chatter of the loom. By this time and with threads of steel the railways were already weaving their giant webs across the country. In the Eastern sections of the United States great centers of industrial activity were being created for a new motive power had been unleashed. The steam engine was in the ascendency!

As the industrial progress of this period unfolds there stands revealed a great engineer, a man who was keenly alive to the demands of the present and who welcomed the challenge of the future. His brilliant work in design, construction and in the application of power was to revolutionize steam engine practice throughout the world. Here was a great master! I bring you, ladies and gentlemen, the story of George Henry Corliss.

George Corliss was born June 2, 1817. His father was Dr. Hiram Corliss, surgeon and general practitioner of
Easton, Washington County, New York. When the boy was eight years old, his parents moved to Greenwich, New York, and it was here that he received his elementary education.

At the age of fourteen he became a clerk in the general store, later entering Castleton Academy in Vermont. At one time he owned and operated his own store and, at another, was associated with the firm of William Mowry and Company—a cotton cloth factory. Here he kept books, acted as salesman and, to a limited extent, first encountered technical devices.

Possessing mechanical propensities he developed a machine to sew harness leather. He called this a “sewing engine.” It was patented in 1843 and antedated by three years the sewing machine of Elias Howe. This is the first tangible evidence of mechanical and inventive ability we find in his career.

He came to Providence to perfect further his sewing machine and to seek venture capital with which to manufacture and market his new invention. He was not successful, but after talking with Edward Bancroft of the machine shop of Fairbanks, Bancroft and Company, he was persuaded to abandon temporarily the development of the sewing machine and to accept employment as a draftsman on steam engines.

The year was 1844 and he was then twenty-seven years of age. Let us bear in mind that up to this time he had served no apprenticeship, had attended no technical school, had enjoyed no practical or extensive experience in machine shop practice and, in all possibility, had never even heard of Newcomen, Watt, Boulton, Maudsley or Stephenson. Most significant of all, he had had absolutely no experience in the theories or practices of steam propulsion. Of all these things; of all this training, he had been denied benefit.

Two years passed by. The company changed its name to Bancroft, Nightingale and Company with Corliss as a member of the firm. One more year passed and again the name was changed to Corliss, Nightingale and Company

with George Corliss, age thirty-one, at the head of the business. By this time he had already perfected the famous Corliss mechanism which was to revolutionize steam engine design and construction and was to bring him world renown.

The first two engines embodying his device were completed in 1848 and were highly successful. His patent was granted in 1849. He subsequently devised many improvements for his engines, all of which were patented.

In 1856 the company moved to a new factory at the corner of Cross and West River Streets, and there continued production on a greatly expanded scale. In 1857 the name of the company became the Corliss Steam Engine Company.

In the course of his career Mr. Corliss either was associated with or had in his business such men as William Sellers, founder of the William Sellers Company, machine tool builders, of Philadelphia, Alexander L. Holley who later brought to America the Bessemer process of steel making, Frederick Grinnell who, once treasurer of the Corliss Steam Engine Company, later organized a company which eventually became the Grinnell Corporation, makers of automatic sprinkler systems, and Nathanael Greene Herreshoff who demonstrated the Corliss Centennial Engine and who later when with the Herreshoff Manufacturing Company built steam yachts at Bristol, Rhode Island. Herreshoff also designed many sailing sloops which successfully defended the America's Cup in the International Yacht Races with Sir Thomas Lipton and T. O. M. Sopwith.

Prior to the time of Corliss but of historic interest, Providence had boasted of Jabez Gorham the first silversmith to use machinery in the industry; from this beginning the Gorham Manufacturing Company developed. As contemporaries of Corliss, there were Robert L. Thurston of Thurston, Green and Company, makers of steam engines, John Thorp, inventor of the ring traveller, William T. Nicholson who invented the first file cutting machinery and so brought into existence the Nicholson File Company, Joseph R. Brown who adapted the vernier principle to tools and invented the Universal grinding and milling machines
The Corliss mechanism controlled the steadiness of power and the regularity of speed. These principles were essential especially in cotton mills and quite necessary wherever machinery was employed in manufacturing processes. Prior to this time, a variation of power in cotton mills resulted in loss of efficiency due to the snapping of threads. To a greater degree than previously possible the Corliss invention eliminated this spasmodic variation by regulating the power and by providing uniformity of speed. Combined with these advantages, great economies in coal consumption were effected. At times the use of Corliss engines resulted in savings as high as 50% on the cost of the fuel consumed.

At this point the following information should be recorded:—

Dr. William H. Kenerson, former chairman of the Engineering Division at Brown University, gives us information which has never been published, but was conveyed to Dr. Kenerson by William Corliss, the brother of George. It relates to the manner in which George Corliss undertook his great work and is of significance historically.

William Corliss told Dr. Kenerson that George Corliss was a great friend of Dr. Alexis Caswell who later became President of Brown University but who at the time was Professor of Mathematics and Natural Philosophy at the University. Caswell was a theorist but knew the advantages to be realized by maintaining a constant steam pressure and varying the point of cut-off. The idea was not original with Caswell as the principle was no doubt known to James Watt; no one, however, had ever translated the principle into an actual mechanical device. Dr. Caswell urged Mr. Corliss to undertake the work. This he did, the result being the invention which brought Mr. Corliss international fame.

The contributions of George Corliss are possibly best evidenced by a recitation of a few of the honors awarded him in his life time. In 1867 he was given the Paris International Exposition Award; in 1868, the Montyon Prize from the Institute of France; in 1870, the famous Rumford
Medal awarded by the American Academy of Arts and Sciences; in 1873, a Diploma of Honor from the Vienna International Exposition. In 1886 he was made an officer in the Order of Leopold by the King of the Belgians.


At the award of the Rumford Medal in 1870 the President of the American Academy of Arts and Sciences said in part: "No invention since Watt's time has so enhanced the efficiency of the steam engine." These and hundreds of other tributes came to Mr. Corliss.

His inventive ability accounted for a total of sixty-eight patents. They covered steam engines, pumping engines, machine tools, boilers, and a great variety of technical appliances. Workmanship was of the highest quality and as patent protection practically debarred others from using his invention, he enjoyed a wide market for his products.

His engines were to be found in hundreds of manufacturing establishments throughout the world. One thousand workmen were employed in a frantic endeavor to supply the ever increasing demands. Competitors willingly paid substantial royalties for the privileges of incorporating the Corliss principles in their product, and when his patent rights finally expired, both European and American engine builders used his mechanisms almost exclusively. Corliss designs were copied throughout the world and were considered the standards of excellence in the realm of manufacturing.

His manufacturing methods were far in advance of the time. He felt that in order to manufacture economically the engine should be made by single purpose machinery. To accomplish this and as early as 1880 he designed and built special machinery in his own shops adapted to single operations. Some of these are still in existence. When the Franklin Machinery and Foundry Company bought the properties which once constituted the Corliss Engine Company, your speaker, as President of the new organization, sold several machines built by Mr. Corliss. One was a planer which was ten feet between housings, ten feet below the rail and twenty-five feet long. At one time it was the largest planer in the country. I affectionately dubbed it the "War Horse" for it had served in every war since the conflict between the states and is still doing important work in a West Coast shipyard. Mr. Corliss of necessity was forced to construct such tools as no one else made machines of these capacities.

As a point in illustration the story of the iron clad Monitor may be cited. In the biography of Corliss, written by his niece, and from other sources, we find references to the services rendered by Mr. Corliss in connection with this famous man-of-war. History tells us that the South, in an endeavor to break the blockade at Hampton Roads, had constructed the Merrimac in 1862. The North was rushing to completion the Monitor as designed by Captain John Ericsson. The Merrimac was finished first. Our Navy wished to speed the work on the Monitor in order to meet this threat but there was no equipment in New York large enough to machine the large bearing on which the gun turret revolved. They wired Mr. Corliss. He urged them to send the bearing immediately, which they did by special train. The rail lines were cleared straight through to the factory, a derrick transferred the twenty foot bearing to a special track which ran through the shops and the work was machined on a huge lathe. The train stood by until the bearing was completed—it then sped back to New York. The Monitor kept her tryst at Hampton Roads and history was made!

Not only did he employ the principle of single purpose machinery but later in life and at an age when most men would normally think of retiring, he was busy standardizing engine sizes, arranging special machinery for sequential operations, and formulating plans for mass production and
interchangeability of parts. These practices were followed many years later by the automotive industry but the production methods so employed by Mr. Corliss attest to his foresight and his ability as a manufacturer.

For a period of three years he completely stopped steam engine manufacture and was about ready to resume operations on this new and improved basis when death prevented the fulfillment of his plans.

Some of his selling methods were quite unique. Comment has already been made on the tremendous savings which the Corliss engine effected over engines of competitive makes. In first introducing his engine Mr. Corliss emphasized the degree of these savings and used this feature as a forceful selling argument. Some of his prospects had doubts as to the ability of the engine to perform. In such cases he offered to accept payment out of the savings realized in fuel economy over a stated period of time. The economy of operation was so great, however, that when such terms were accepted, Mr. Corliss was handsomely rewarded.

George Corliss was a man of pronounced personal characteristics and was very much of an individualist. He was essentially self-reliant and seemingly cared little for the companionship of others. He delegated scant authority and employed his own inventive ability instead of relying on that of subordinates. Rather than purchase machinery for his factory, he served his purposes by building his own, using masterly conceptions of design. He was his own architect for the factory buildings, and, the foundry building still stands as a monument to his substantial ideas of construction.

In 1882 he built the so-called “Corliss Mansion” at the corner of Prospect and Angell Streets. Here again he was his own architect preferring to give the work his personal supervision rather than entrust it to others.

Mr. Corliss was a man of profound religious convictions and he had the courage of those convictions. His code of moral ethics was one of arch puritanism both in theory and in practise. This was strikingly illustrated in the great controversial issue that attended the opening of the Centennial Exposition held in Philadelphia in 1876.

Mr. Corliss had built a huge engine which was to supply the motive power for the machinery on exhibit. It was proposed to open the Exhibition on Sunday in order that the working people might have an opportunity of attending. The opening was bitterly fought by George Corliss and a faction which contended that Sunday was a day of rest and that the sanctity of the day should be preserved.

In the year 1945 it seems inconceivable that in 1876 a contention of this character should create such a furore and should grow to such magnitude and proportion in the minds of men. There were charges and countercharges, debates and rebuttals and the voices of both factions were raised in great tumult.

The Centennial Committee was deluged with letters, telegrams and petitions from groups all over the country. Both factions held mass meetings in Philadelphia and in other cities. Newspapers throughout the nation published editorials both for and against the proposal. Like a house divided, even the clergy took sides on this much mooted question, and we find that the Annual Convention of the Protestant Episcopai Church held in Philadelphia at this time was largely devoted to a denunciation of the proposed opening on the Sabbath Day.

In all of this Mr. Corliss took a leading part and made several appearances on the public platform condemning the entire plan. The Centennial Committee voted to close the Exhibition, but this action failed to still the demands of those who insisted on the Sunday opening. The feelings of the people were aroused to such a pitch that finally the President of the United States, Ulysses S. Grant, interceded and asked the members of the Committee to reconsider their action and to open the Exhibition to the public. Rescinding its former actions, the Committee agreed and voted favorably on the matter.
This action on the part of the President and the reversed opinion of the Committee was cause for great rejoicing by the liberal element, but their rejoicing was short-lived. They had forgotten to reckon with Mr. Corliss and his engine, for it must be remembered that the engine was the sole source of power for the Exhibition. Mr. Corliss, deaf to the pleadings of the Committee and utterly disregarding the request of the President of the United States, calmly stated, "Gentlemen, my contract was to provide power and start the machinery in motion. It is my right and privilege to suspend it at pleasure. Open these gates to desecrate the Sabbath and I will dismantle my engine and withdraw the power. You can do as you please with the Exhibition, but the engine will not run on Sunday."

As one editorial writer of the day expressed it, "That settled the question as sunset settles the day."

No review of the works of George Corliss would be complete without detailed reference to this engine which Mr. Corliss built especially for the Centennial Exposition. The Exposition was sponsored by act of Congress to celebrate the 100th anniversary of American Independence. Mr. Corliss was made a member of the Centennial Committee by President Grant and was also a member of the Executive Committee.

He offered a solution to the problem of motive power for driving the machinery in Machinery Hall by volunteering to build a single engine of colossal proportions especially designed for the purpose. The skeptics doubted if it could be done; it seemed too hazardous; the chances of failure too great. They declined the offer but later accepted it when they found that no one else would undertake the work. The engine was successfully installed and was a commanding feature of the Exposition. Its task was that of supplying power for fourteen acres of machinery comprising several thousand different machines in the building.

Without engaging in too many technical details, let it suffice to state that the engine towered more than forty feet into the air and weighed over seven hundred tons. The con-
nnecting rods were twenty-four feet long. The driving pin-
tion, ten feet in diameter, meshed with a flywheel which was
thirty feet in diameter. Six-foot bevel gears at spaced inter-
vals drove crossshafts, and in this manner power was trans-
mitted to the entire building. The pinion shaft was 332 feet
long. Sixty-five freight cars were required to transport the
engine from Providence to Philadelphia and some of the
parts transported were so heavy that the railway cars had
to be especially reinforced.

Among those attending the Exposition were President
Grant and his wife, members of his cabinet, Emperor Dom
Pedro II of Brazil and his suite, the Supreme Court of the
United States, Senators and Congressmen, high Army and
Navy officers, foreign diplomats and the Governors of the
various states. Newspapers of the period tell us that ap-
proximately one hundred thousand people were in attend-
ance on the first day.

The grand opening ceremonies of the Exposition were
held on May 10. Richard Wagner’s Centennial Inaugural
March had been composed especially for the occasion. John
Greenleaf Whittier wrote the words to a hymn which was
sung and a cantata was performed by a group of eight hun-
dred voices accompanied by an orchestra of one hundred
and fifty musicians led by the great Theodore Thomas.
A salute of one hundred guns was accompanied by the ring-
ing of bells and chimes from different parts of the Exposi-
tion grounds.

President Grant and the Emperor were to open the
Exposition officially by operating levers and cranks which
were to start the Corliss Engine located directly in the
center of Machinery Hall. They led the long procession
of dignitaries and proceeded to the Hall followed by an
impressive military guard of honor.

Here they were met by Mr. Corliss who received them.
The President and the Emperor took their respective posi-
tions for all was in readiness. There was the silence that
preceded a momentous event. The President and the
Emperor slowly turned two cranks and the huge monster
as though suddenly awakened from sleep, stretched its giant
arms of iron, flexed its muscles of steel and went silently
about its work. Up and down the length and breadth of
the building miles of shafting began to revolve and as the
fourteen acres of machinery went into motion the thousands
of spectators burst into cheers. It ran continuously for six
months and at no time did it falter in its work.

Bartholdi, the French Sculptor, who was present at the
Exposition, said of it in a report to his Government: “The
lines are so grand and beautiful, the play of movements so
skillfully arranged and the whole machine was so har-
moniously constructed that it had the beauty and almost
the grace of the human form.”

The Scientific American, which was the leading engineer-
ing periodical of the day, referred to the engine in this
manner: “Many wonderful and beautiful sights and scenes
at the Exposition will be forgotten but long as life endures
will memory bring back the great moment when the Corliss
Centennial Engine, like a being endowed with life and
touched with a magic wand, commenced its work with an
almost human intelligence.”

The recorded attendance at the Exposition was approxi-
mately nine million and so great was the fame of this engine
that many thousands of people came for the sole purpose of
viewing it. It seemed to represent all of the perfected engi-
neering knowledge of the years, and was the marvel of the
engineering world. Nothing of the kind had ever been seen
before. George Corliss was acclaimed a genius!*

There are few people alive today who knew Mr. Corliss
but the many records and documents in the Engineering
Department at Brown University, at the Massachusetts
Institute of Technology, at the Smithsonian Institute in
Washington and at many other places, all attest to the
greatness of his works and describe the high esteem with
which his contemporaries and associates regarded him as

* As a matter of historical interest the engine was later dismantled,
shipped to the Pullman Company in Chicago, re-erected, and was the
sole source of power for the Pullman Works until the year 1905.
inventor, business executive, and as a man.

Engineering scholars and practical engineers, when questioned as to the rightful place of George Corliss in the realm of invention, seem unanimous in rendering a decision of greatness and usually associate his name with that of James Watt.

It was James Watt who discovered the great governing principles of the steam engine and naturally his work in steam takes precedence over that of any other man. The principles of steam engine practice as known to Thomas Newcomen were fragmentary as compared to the inventive wealth amassed and utilized by Watt.

George Corliss supplemented and magnified the work of Watt by introducing new and improved design, by effecting greater fuel economies, by harnessing and increasing the control of power output and by further developing and utilizing the principles of the expandibility of steam. With superlative manufacturing methods he met and satisfied the exacting demands of an industrial system which grew with almost explosive rapidity. It seems to me that the work of Corliss stands in natural sequence to that of Watt just as the work of Watt stands in natural sequence to that of Newcomen. These three, Thomas Newcomen, James Watt, and George Corliss, constitute the great inventive triumvirate of the eighteenth and nineteenth centuries in steam engine design, development, and manufacture.

This then ends the story of George Henry Corliss, and as an epilogue to the narrative, I quote the words found on a stone marker at Swan Point Cemetery here in Providence. They read:

George H. Corliss
June 2, 1817
February 21, 1888
Serving God
in his life and with his wealth
Serving men
with a kindness that was
both careful and generous

BOOK REVIEWS

by the gift of God
he increased magnificently
as an inventor
the world's resources
in the use of steam machinery.

It concludes with a passage from Ezekiel, Chapter one, the 20th Verse, "The Spirit of the living creature was in the wheels."

We read the prophets because their truth is eternal. Nothing could more aptly summarize the meaning of the life and work of George Corliss than this swift descriptive phrase:

"The Spirit of the living creature was in the Wheels."

Book Review

EARLY REHOBOTH

Documented Historical Studies of Families and Events:...

By Richard LeBaron Bowen


This book may be regarded as a foundation on which Mr. Bowen will, we hope, build a monumental town history. He begins by a re-study of the problem of population estimates for colonial New England, and in so doing he uses statistical materials hitherto ignored. As a background for the story of Rehoboth he gives brief sketches of the early history of Swansea, Bristol, and Freetown. These are no light, popular, essays, but neat, critical and documented summaries. How many among even the antiquarians of the region know that the best history of early Swansea is nineteen pages embedded in Francis Baylies, Historical Memoir of the Colony of New Plymouth? This is but one example of the nuggets in this volume; the veins of historical ore are the early lists of proprietors, tax-payers, and inhabitants of these towns and of Taunton and Providence as well. Tucked in for good measure are genealogies of the Perrin and Redway families and an account of the Rehoboth epidemic of 1690. In short, this is one of the most solidly useful books of its kind published for many years.

Clifford E. Shipton

American Antiquarian Society
The scheme for connecting the navigable waters of Narragansett Bay with the Connecticut River was hatched in the fertile brain of John Brown whose "large ideas" had done so much to promote the prosperity and well-being of his native Town of Providence. It was due largely to his efforts and those of his group that Providence won the contest with Newport for the location of Rhode-Island College and the same leadership was instrumental in establishing the Providence Bank. Single-handed he built the Washington Bridge and initiated commerce between Narragansett Bay, the East Indies and China. His local philanthropies were too extensive to enumerate.

All of his life John Brown had been familiar with ships and shipbuilding; his fortune had been made upon the water. Just as he had sent his ships to trade in the ports of the seven seas, he now visualized a fleet of canal boats carrying goods inland from the port of Providence "through the valley or bosom of the Blackstone river" and returning laden with the produce of the interior. With characteristic vigor he engaged an engineer to survey the route and found the plan not only practicable but easy of execution. He became so sanguine of its success that he stood ready to subscribe $40,000 to the stock and other careful men who had examined the project were prepared to join him in the venture. To make it effective the following petition—phrased in the characteristic style of John Brown—was presented to the Legislature:

To the Honorable General Assembly of the State of Rhode Island &c. To Be Holden at Providence on the First Monday of February A.D. 1796.—

The Memorial of the Subscribers respectfully sheweth

That under the Influence of a free & equal Government the Trade & Commerce of this State having been very greatly extended, your Memorialists are desirous to secure & perpetuate to the State as much as in them lies those sources of national Wealth & Prosperity.—That Agriculture & Manufactures having kept pace with Commerce, the Productions of the Soil & other Articles of Exportation have been abundantly augmented.—

RHODE ISLAND HISTORY

That with all these Advantages the Country remote from the Sea has had to struggle with much Inconvenience in the heavy Expenses of Transportation of their produce to Market. — That a very Considerable part of the Surplus produce of the Western Counties of the State of Massachusetts has been shipped from the ports of this State: And this Trade would be much more extended if the Inconveniences before stated were removed by cutting navigable Canals & in other ways facilitating the means of Transportation.

That Influenced by these Considerations & by the profitable Experience of Europe & our Sister States Your Memorialists with others to be hereafter associated with them contemplate opening a navigable Canal from the navigable Waters near the Town of Providence thro' the County of Worcester to some part of Connecticut River.

Your Memorialists conceive it unnecessary to enter into a minute detail of the advantages of Inland Canal Navigation but would beg leave to State a few of its prominent & leading Conveniences with some observations on the Canal proposed.

By means of Canals from the Interior Country to a Market Town the Circle of Country deriving advantages from that Market is much enlarged. — A great number of valuable articles such as Timber, Wood, Stone, Ore, Coal &. at a greater distance than twenty Miles from any Market cannot bear the Expence of Land Carriage with profit to the Proprietor & consequently must either lie useless, or be sold in the neighbourhood at very low prices, by cutting a Canal for the Transportation of these Articles they suddenly assume a value & the same Effect is produced as if the Market in which they are sold had been erected in their vicinity.

The Expense of Transportation on a Canal is much less than the Expense of Transportation by Land, an immense saving therefore will be made on all Goods transported on Canals. — Wherever Canals are opened through a Country the Value of Lands in the Vicinity & in proportion to their nearness to them [canals] must necessarily be augmented. — Manufactures will be promoted & increased by the facility of supplying & transporting them. — The Towns on the Canal will enjoy many of the advantages of Seaports & from the Reduced price of provisions, will, in the Establishment of manufactories obtain a decided Superiority. — In Proof of this Position it need only be mentioned that Birmingham, Sheffield, Manchester & most of the great Manufacturing Towns in Great Britain are remote from Sea-navigation, but enjoy to a great Extent the Advantages of Canals. — Employment will then be given to great numbers diffused.

The Country thro' which the proposed Canal is to be made seems peculiarly to demand that Improvement. — In aid of the Waters of Connecticut River, those of Pawtucket River which rises near Worcester will supply a never failing Stream. — The Lands near the Canal will be highly fertilized & improved & the Rich Interior Country will then find

PROVIDENCE PLANTATIONS CANAL

a Market for their Produce which the length & Roughness of the Roads have hitherto denied them. — The Essential article of Fuel has become in the Seaport Towns of this State very scarce & dear, this Canal will open a new source of supply. — The Lime manufactured in Smithfield will of course be afforded in the Market at a price much lower than the present in proportion to the greater Plenty of Wood & the reduced Rate of Transportation: this indispensable Commodity will thus be obtained by Consumers in all parts of the State on easier terms than at present while the Proprietors of the Rocks & Kilns will find their Profits increased.

Your Memorialists therefore pray that this Honorable Legislature would take this Subject under their wise Consideration & pass an Act for the purpose aforesaid agreeably to the form of a Bill herewith Presented, & as in duty bound will ever pray &c.

W Larner
Nathan Waterman
Wm Holroyd
Moses Brown
Samuel Butler
Welcome Arnold
Joseph Peck
Olney Winser
Darius Sessions
John I Clark
Zachb Allen
Jos. Nightingale
A Throop
Nicholas Brown Jr
Benj TTelle
Tho* Lloyd Halsey
Comfort Wheaton
Isaac Pitman
Sam Young
Wheeler Martin [?]
James Pitcher ['?]
Jeremiah F. Jenkins
Nathl Smith
Enos Hitchcock
Jonathan Fuller
Jereb Olney
Philip Robinson
Simeon Thayer
John Stone
Richard Arnold
Ist Holdig [?]
Thomas P. Ives
Robt Taylor Jun r
Aza Arnold
Jon* Treadwelle
Thomas Arnold
William Allen
Richard Jackson
Amos Horton
Andrew Dexter
Rufus Waterman
Jabez Bowen
Nathan Angell
Moses Lippitt
Nathan Angell Jun t
Wm & Brown
Saml Thuber Jun t
Stephen Dexter
Obadh Brown Son of Moses
Sami McClellan [?]
Wm Wilkinson
Richd Jackson Jr
Ahner Daggett
Wm Jones
Benj* Smith
Lewis Peck
John Howland
Edward Thuber
James Burrill
Geo Benson
Jeremiah B. Howell
Cyprian Sterry
Henry Smith
Caleb Harris
When the General Assembly voted to refer the above to the next session, a group presented the following petition:

To the Honble the House of Representatives of the State of Rhode Island now sitting in Providence

Respectfully Sheweth,

That Your Petitioners have frequently heard the Subject of a Canal from the western part of the State of Massachusetts to the navigable waters of this State spoken of as a thing practicable if a sufficient sum of Money could be devoted thereto, that they have considered the proposition heretofore as a thing earnestly to be wished for, but not to be expected in their Day, that they have nevertheless within a few Days had the Satisfaction to learn that a Petition has been promoted & subscribed by a considerable number of persons principally in the Town of Providence praying for an Act of Incorporation for themselves & associates for the purpose of Carrying that laudable enterprise into effect; that your Petitioners on hearing thereof had not the least apprehension of any obstruction or delay from the Legislature of this State; But from that of the State of Massachusetts, some difficulties were apprehended by your Petitioners.

It is therefore with some regret that we learn, that a Vote has passed the House of Representatives postponing the Consideration of said Petition to a future day. As we apprehend some favorable circumstances now attend the Legislature of the said State of Massachusetts, & particularly the Inhabitants of that part of said State whose cooperation is most essentially necessary to further said enterprise, which may not be reasonably expected to exist so fully at a future period.

Moreover we esteem so general a concurrence of persons of ability, in an enterprise so promotive of the publick good, and wherein at least there must be some hazard of the loss of private property, a conjecture by no means to be neglected, & which may not be again tendered to the Legislature for many years to come.

We therefore most respectfully entreat the Honble House of Representatives, if it may be done consistent with their rules & orders, to reconsider their said Resolution for postponing the Consideration of the Petition; & if they judge it promotive of the publick good (of which we cannot entertain the least doubt) to permit the Petitioners to unite the Interior of our Country with the seaport towns by the utility & beauty of a navigable canal, & as in duty bound will ever pray.

Simon Smith

David Bartlett
John Wightman
Peleg Wightman
Philip Mowry

John Bellknapp
Nehemiah Knight
Jesse Foster
Zebedee Hopkins
Elijah Armstrong
Peleg Arnold
Asa Kimball Jr.
Benoni Pain
Caleb Aldrich
Stephen Winsor
Nathaniel Rowdish

Sylvester Mowry
Willard Wilcox
James Appleby Junr
Nathan Buchanan
Joseph Arnold
Jesse Harris
John Jencks Junr
Jabez Whipple
Stephen Harris
Theo. Owen Jr.
Arthur Cooke

House of Representatives Feb 5—1796

voted that this Petition be read and that in compliance with the request therein contain-
ed this House do recede from their vote for re-

erring the said Petition for a Canal to the next

Session of this Assembly—

Voted &

Wm. Marchant Clerk pro tem

PROVIDENCE PLANTATIONS CANAL

Abraham Bellknapp
Nehemiah Knight
Zebedee Hopkins
Elijah Armstrong
Peleg Arnold

Sylvester Mowry
Willard Wilcox
James Appleby Junr
Nathan Buchanan
Joseph Arnold

John Pain
Thomas Aldrich
Thomas Smith
Richard Harris


25 Providence Gazette, Saturday, February 6, 1796; United States Chronicle, Thursday, February 11, 1796; Columbian Centinel, Boston, Saturday, February 20, 1796.

An Act has passed the General Assembly of this State, now sitting here, to incorporate JOHN BROWN, Esq; and others, by the name of The Proprietors of the Providence Plantations Canal, for the purpose of cutting a navigable canal from this Town to the line of this State, towards the Town of Worcester, in Massachusetts. A Subscription is to be opened immediately to carry it into effect.—The Expence will be great, but the saving in Transportation must exceed all Calculation. The Shares are to be 100 Dollars each.

The United States Chronicle, February 25, 1796.

The Providence Canal is progressing rapidly in Speculation. The shares are 100 Dollars each, and almost all sold.—A Worcester paragraphist asserts that "the saving in Transportation will be incalculable; and should the citizens of Rhode Island extend it to the line of this State, which will bring it to the town of Uxbridge, it is presumed that exertions will not be wanting to continue it to Worcester."

Thomas's Massachusetts Spy, or Worcester Gazette, Worcester, February 17, 1796, under the heading

CANAL from PROVIDENCE to WORCESTER

Carried substantially the same story with the following addition. "Should the citizens of Rhode Island open this commerce to the line of this State,
The attention of the public at large, of the inhabitants of the county of Worcester in particular, and of the enterprising publick spirited individuals in all situations are solicited; and they are hereby informed, that measures are now taking for opening a NAVIGABLE CANAL from the town of Providence into the heart of the county of Worcester; that this work, although one of the greatest ever undertaken in America will, from its extensive utility, its publick importance, the advantages it promises to the interested, and from the number, and the character and property of individuals engaged, undoubtedly be effected; and on such principles as will meet the convenience of large subscribers, admit of persons of small property being concerned, and be safe and easy for all.

Gentlemen of the first respectability for property and character in the state of Rhodeisland, have procured an incorporation from their Government, for the purpose of extending the canal from the navigable waters near Providence, to the line of this Commonwealth, in such a direction as will accommodate, and for the purpose of its being carried into and through the county of Worcester to some part of Connecticut River. They have held a conference with several gentlemen convened from various parts of this country on the subject; have agreed on a general system for preparing and advancing the business, and are taking particular steps for its execution.

There are to be 4,000 shares at 100 dollars each amounting to 400,000 dollars, a sum by estimation sufficient to complete the work as far as Worcester. For the raising of this sum, a subscription is to be opened, in

which will bring then to the town of Uxbridge, it is presumed exertion will not be wanting to continue it from thence to this town."

Massachusetts Spy, Worcester, Wednesday, March 30, 1796.

On Thursday last [March 24th], a respectable committee from the Incorporated Company in Rhodeisland, for making a Canal from Providence to this county, arrived in this town, to confer with another committee appointed for the purpose, on this greatly interesting subject. The practicality of the plan is not doubted; and the business appears fair to be entered upon with spirit. We hear that the probable cost is computed at 400,000 Dollars, which is to be divided into shares of 100 Dollars each; and that a subscription will be opened in Providence, and in this town, on the twenty first day of next month, when any gentleman may subscribe for what number of shares they please, either by themselves or proxy, five per cent on a share to be paid on subscribing, five per cent more in six months, and five per cent every three months thereafter, until the whole subscription is paid, which will take a period of five years. The subscription is to be closed on the third day after it is opened, at half past six o'clock in the afternoon.

[Advertisement]

Massachusetts Spy, April 6, 13, and 20, 1796; Columbian Centinel, April 9, 1796.

CANAL TO PROVIDENCE

the town of Providence, and in the town of Worcester, on the 21st day of April next, at the same time, and continue until half after six o'clock in the afternoon of the 23rd of the same month, a term of three days; when the subscription is to be closed at both places at the same time; and no person be permitted afterwards to subscribe. And in case more shares are subscribed for during said term than there are shares, each person is to be subject to a proportionate reduction of his number, so far as may be, without making fractional parts, excepting that those who do not subscribe for more than two shares shall hold their whole number. Five dollars is to be paid at the time of subscribing, five more in six months, and from thence five dollars quarterly, on each share, until the whole is paid, which admits of five years for the completion of the payments.

SUBSCRIPTIONS will be received in Worcester on the proposed days, by a committee chosen for that purpose. They will severally attend at the following places, and give their respective receipts for the monies received, and will deposit the same in the Union Bank, until needed for the above-mentioned uses. WILLIAM PAINE will receive subscriptions at DR. LINCOLN'S store, JOSEPH ALLEN at his office, ISAIAH THOMAS, THOMAS PAYSON, DANIEL WALDO, jun. and SAMUEL CHANDLER at their respective stores.

It is most ardently to be wished, that while companies and individuals are bridging, locking, and canading, in various parts of the country, much to publick and private advantage, the proposed undertaking, so important to the trade, manufactures and agriculture of our country, may have the spirited patronage of the liberal and publickly disposed of all descriptions. Worcester, March 30, 1796.

(To be continued.)
At noon the members went to the Carrington House, built in 1813, whence they proceeded to Agawam Hunt for luncheon. The guests at lunch were Mr. Henry Dexter Sharpe and Mr. William Greene Roelker, Director of the Rhode Island Historical Society, who acted as pilot for the afternoon's itinerary.

It began with a trip to Johnston, Rhode Island, to examine the Clemence House, erected about 1680 and restored by a former member, Norman Morrison Isham, under the sponsorship of Mr. Sharpe. From there the group went to the General James Mitchell Varnum House and Museum at East Greenwich. The Varnum House was built in 1773. Thence the members proceeded to the Governor William Greene Farm in Warwick, originally erected about 1680 by Samuel Gorton, Jr., where they were the guests at tea of Mr. and Mrs. Roelker.

John Brown House, built by John Brown in 1786-88, now the home of the Rhode Island Historical Society, was the objective on Sunday morning.


Book Review

THE PAGEANT OF BENEFIT STREET DOWN THROUGH THE YEARS.

By Margaret Bingham Stillwell

(Providence, Rhode Island, The Akerman-Standard Press, 1945)

Miss Stillwell, in this her second little book about Benefit Street, has amplified the picture she drew of the street as it was when she was a small girl, (While Benefit Street Was Young, published in 1943). In this new volume she fills in her childhood experiences and recollections with all sorts of background history that applied to the Street; and the persons who lived on it or near it. The summary which she gives in her closing paragraph well describes the book:

"This is a mere scratch upon the surface, a glimpse of the many and varied interests of the people who have belonged to the street and loved it, the people who have had a part in its light and shadow, its music and art, and in the gracious and colorful life that ever has marked the pageant of Benefit Street, down through the years."

In a way this is a book with a crusading purpose; "friends and acquaintances" Miss Stillwell writes in her foreword of Acknowledgment, "join with me in hoping that the various sections of the street, which in recent years have become down-at-the-heel, may presently be reclaimed. It is too fine a street, too richly wrapped in history, to be allowed to fall into disrepute."

Miss Stillwell proves her case for her beloved Benefit Street. The muddy Back Street of the early town, after a hundred years or so, became the social, governmental and intellectual center of Providence. In telling the story of the "pageant through the years" the author blends history and anecdote and a gentle nostalgia into a picture of great interest.

I sincerely hope that Miss Stillwell will give to the Historical Society a documented copy of the book. There are so many allusions to events and people, some within the author's memory, some running back to the Revolution and before, and in between bits of interesting history that have been or should be more fully explored,—the sources and dates would be most useful to those who find local history fascinating.

The Pageant is an attractive example of book-making. Printed by Akerman-Standard of Providence on rag paper, daintily bound, in an edition of 1000 copies, it has end-paper maps and 16 vignettes by the author. These little drawings by Miss Stillwell are well chosen, faithful to the subject, distinctive in treatment and altogether charming and satisfactory. They help make the book a delightful one to own.
Michael William Robert de Courcy, 34th Baron Kingsale and Premier Baron of Ireland, descends from Patrick de Courcy who occurs, on 17 July 1221, as one of the Magnates of Ireland. Patrick married a granddaughter of Miles de Cogan, one of the Norman Conquistadors, who went to Ireland with Strongbow. Patrick was perhaps a bastard son of the famous John de Courcy, the Norman conqueror of Ulster, who was devoted to the cult of St. Patrick and whose exploits were recorded in the early Norman-French poem, "The Geste of John de Courcy."

The name, of course, is derived from Courcy, situated on the river Dives in the Bessin in Normandy. The Lord de Courcy claims, and the claim has been recognized by the Crown, the very apocryphal right to keep his hat on in the presence of the sovereign.

On 1 December 1759, Gerald, 24th Lord de Courcy, died without male issue and was succeeded by his distant cousin John de Courcy who, having proved his descent from David, a younger son of John the 18th lord (died 25 July 1628) and Mary O'Crowley, his second wife, was declared heir male of the house and was installed as the 25th baron on 1 February 1762.

This John, who went to England from Jamaica in 1748, had been "bred a carpenter at Jamaica," but he was a sea-faring man, as was his father before him. He was born in Newport, R. I., about 1717, where his father, a sea captain, resided. This father, Miles or Michael de Courcy, settled in Newport early in the 18th Century; he occurs in 1706 and was lost at sea about 1724. Very little is known about him; he does not appear in the printed colonial records of Rhode Island but probably more can be gleaned about him in the delapidated records of Newport. He certainly mar-
ried Abigail Williams of Newport, who thus was the mother of the 25th baron and the ancestress of the present peer.

The parentage of Abigail Williams is not known, but there can be little doubt but that she was a granddaughter of John Williams, a merchant of Boston, Block Island, and Newport and attorney general of Rhode Island in 1686, the year before he died. (The writer published a brief account of John Williams and his children in 1915.3

In the papers relating to the claim of the 25th baron there is a deposition by Palsgrave Williams, pewter maker, aged 56 in 1760, who was born in Newport and was undoubtedly a near relative of the claimant's mother. It should be noted that John Williams of Newport had a son Palsgrave, so named after his mother's maternal grandfather, Dr. Richard Palsgrave, the early physician of Charlestown, Mass., and that Ann (Alcock) Williams Guttery, widow of John, mentions a grandson Palsgrave Williams in her will, dated 12 December 1718.

Cannot some of our Newport friends examine the records there for further information about these people?


The Hard Winter of 1740*

Memorandum of the hard Winter in the year 1740 which by all Relation was ye hardest that ever was in New England, since ye Memory of any Man Living; it began in the fore part of November with Extreme cold; withConsiderable of Snow in ye month; and so Continued until ye first week in December—then; it was fine warm weather for three or fore Days—(ye Genl Assembly was then Siting at warwick) Soon after which; it was Extreme cold; to that Degree that it Soon froze ye bay all over So that people passed from providence to Newport with horse and Sled upon ye Ice; and from Newport to Bristol; and ye ferries was froze over for a Considerable time so that people passed & Repassed upon ye Ice; once in a while people passed from ye ferry pear Commonly Called Powers pear to fox hill—in it ye ferry boat froze So hard that for Some time (as was Reported by people of Credit) ye ocian was froze out so far that to Look of ye Sea Could See No water; ye Snows fell one upon another while it was about Knee Deep; and Lay while ye 11th & 12th of January when there was a Sudden thaw that Laid ye Earth bare in Spots for a few Days; then Came violent Cold weather again and Snow once in a few Days while ye 28th 29th & 30th of January (ye Genl assembly being then Siting at warwick on adjournment) when there was fell on ye most part of Said three Days a great Driving Snow which was full Knee Deep besides what on ye Ground before and ye wind blew to that Degree that it Drove ye Snow into Drifts So that it was over ye tops of ye Stone walls and other fences and so hard Crusted that ye Cretures passed frequently over ye tops of ye fences in Many places upon ye Snow ye winds for ye Most part all winter at North; and Northwest; and west in ye height of ye Snows falling; & Some times at Northeast Some Considerable Snows fell with ye wind at Southwest and South & Southeast; ye Ice broke up from warwick Neck Down ye bay about ye third or forth of march but was then was all fast further up ye River So that people passed over on

* Memorandum in the Ward Papers, in the handwriting of William Greene (1695/96-1758), Governor of Rhode Island, 1743-45; 1746-47; 1748-53; 1757-February 22, 1758, dying in office.
the Ice from warwick to bristol as was Credibly Reported
the Snow on ye tenth of March was Commonly Supp-
posed to be at Least three feet Deep in ye woods where it
lay on a Levil; in ye falling of sd Driving Snow in ye Last
of January there was great Loss of both Cattle and Sheep
some Smothered; and a great quantity of Sheep Drove
into ye Sea with ye winds; it was Generally very hard winds
for ye Most part of ye winter; it Remained Extreme Cold
untill ye twenty third Day of February which was a fine
warm day so that it thawed ye Snow to that Degree that ye
Ground was bare in Spots for two or three Days then Came
a Snow again with violent Cold wether and so Remained
untill ye 10th Day of March when ye Wether was Some-
ing abated and ye Snow began to thaw Moderately untill
ye 14th Day of march when there was ye wind at S: W
with foggy thaway wether So that it thawed ye Snow Away
So that ye ground was bare in Spots in ye plain land but ye
most part of ye Snow Still Remained; ye 15th ye wind
Came to N:W; but moderate wether; and so Remained till
ye 19th then Cold with Some Rain ye 22d a fine warm
Day; 23d and 24th a Considerable Snow ye 25th Snow;
And Cold wether for ye Season ye Snow went away with ye
heat of ye Sun Moderately with out any Rain to make any
Sudden thaw; ye Ice went ye Last of it out of Cowsesit bay
ye 30th & 31 of march Some of ye Snow to be Seen ye
15th of April in Drifts by ye fences; ye Spring Came on
Slowly and backward for ye most part hard Gales of wind
at west and Northwest; and Cold; my hay was gone ye
15th of April I Lost most half my Sheep out of 235 it
was Reported that ye Sea was froze from ye Main land to
Block Island and that ye people at block Island said it froze
So far out to Sea Southward from block Island; that they
Could See no water to Look of f l to Sea; there fell thirty
yd d S: W Snows; besides; Small flights not worth mentioning,
ye Spring was So backward that ye woods ye first week in
may was So back Ward that ye trees at Distance Looked as
tho they were Dead; ye first of ye peach trees that was
Known to bloom out was ye Seventh of may; apple trees ye
blooms began to appear red but bloom'd out ye 13th of may.]

News - Notes

Members are requested to bring or send to the Society
any back numbers of its publications which they do not want.
We also need contributions of city and town directories,
tax books, and similar ephemera.

There is a need for four-legged tables for use in the
research rooms.

Information is wanted on the Franklin Society, the
Franklin Lyceum, the Blackstone Canal, and Gregory
Dexter. Source material is desired on the latter two sub-
jects. Kindly communicate with the Director.

Further research on the English ancestry of John
Coggeshall of Newport is contained in an article entitled
"The Coggeshalls of Halstead and Hundon," by G. An-
drews Moriarty, in the October, 1945, issue of the New
England Historical and Genealogical Register, vol. XCIX,
pp. 315-322.

Richard LeBaron Bowen, one of our vice-presidents, has
been appointed chairman of the Nominations Committee of
the New England Historic Genealogical Society, a member
of its Publications Committee, and Assistant Editor of its
Register.

Kenneth Shaw Safe has presented to the Society 16 vol-
umes of diaries kept by Prof. William Gammell, which
cover the period 1837-1875.

A 36-foot map of the Blackstone Canal has been given
to the Society by the Lonsdale Company. It was made in
1828. Compiled from actual surveys by Ed. F. Phelps,
resident engineer.

R. H. Ives Goddard, Jr., has contributed "Notes on
Some New England Three-Masters" to the October, 1945,

The Congregational Church of Kingston celebrated its
250th anniversary in October, 1945, with an historical
pageant and the publication of an historical booklet pre-
pared by Prof. Daniel H. Thomas of Rhode Island State
College.
New Members of the
Rhode Island Historical Society
Since July 1, 1945

Mr. Walter Axelrod
Mr. Howard H. Baker
Seekonk, Mass.
Mr. T. H. Belling
Barrington, R. I.
Mr. George F. Bliven
Master John Carter Brown
Master Nicholas Brown
Mrs. Mary E. Buffum
Eden Park, R. I.
Mrs. F. Bradford Calef
Cranston, R. I.
Mr. Stephen W. Carey, 3rd
Mr. George W. G. Carpenter
Edgewood, R. I.
Robert R. Chace, M.D.
New York, N. Y.
Mr. Clarkson A. Collins, 3rd
Mr. William King Covell
Newport, R. I.
Mr. Elisha C. Durfee
Mrs. Hiram W. Emery
Mr. Joseph R. Fazzano
Cranston, R. I.
Mr. Louis C. Gerry
Mr. Frederic Mills Gilligan
Mr. Paul H. Hodge
Rumford, R. I.
Mr. Paul Hoefller
Mr. Henry A. Hoffman
Litchfield, Conn.
Mr. DeWitt T. Keach
Hamden, Conn.
Mr. Eugene P. Lynch
Mr. Royland C. Martin
Mr. Stanley H. Mason
Mrs. Paul A. Merriam
Edgewood, R. I.
Mr. William D. Metz
Kingston, R. I.
Mr. C. P. Monahan

Mrs. C. P. Monahan
Mrs. Parker E. Monroe
Mr. Donald W. Morton
Cranston, R. I.
Mrs. David P. Moulton
Mrs. Edward S. Moulton
Scituate, R. I.
Hon. John O. Pastore
Rev. J. DeWolf Perry, Jr.
Newtonville, Mass.
Miss Ivy E. Potter
Saylesville, R. I.
Mr. Clarence H. Rixson
Mr. Lloyd A. Robson
Newport, R. I.
Mr. Camilo Rodriguez
East Greenwich, R. I.
Mr. David C. Scott
Mrs. David C. Scott
Mrs. Daisy W. Seamans
Dr. Harriet H. Shoen
New York, N. Y.
Capt. Glenn P. Speidel, M.C.
Mr. Myles Standish
East Greenwich, R. I.
Mr. James W. Tingley
East Greenwich, R. I.
Mr. George B. Utter
Westerly, R. I.
Mr. Samuel B. Ward
Washington, D. C.
Mr. W. L. Watson
Edgewood, R. I.
Mr. Benjamin F. Wilbour
Little Compton, R. I.
Mrs. Arthur Morton Wilson
Haverford, Pa.
Mr. Claude M. Wood
Mr. Sidney W. Wray
Mrs. Sidney W. Wray

This brings the Society's membership to 1198