

# History of Fire and Fire Protection In Nineteenth Century Woonsocket

## Introduction

While there were many challenging aspects to life in nineteenth century, there was nothing more terrifying than fire. This is understandable. The ravages of fire had been seen in communities across the country. The most famous fire in the United States was the Great Chicago Fire of 1871. Spread by strong winds, this fire burned 2,000 acres, destroying thousands of buildings and killing more than 300 people. It was followed in 1872 by the Great Boston Fire that destroyed a square mile of the city's central business district.

Fortunately, nineteenth century Woonsocket never suffered a large-scale conflagration. Examining the steps that the community took to prevent one tells us a lot about Woonsocket and the people who lived there.

## Fire in Colonial America

Any history of fire protection in America must start in colonial America. The first fire to effect colonial America occurred in America's first colony – Jamestown. In 1608 a devastating fire destroyed most of the colony's lodging and provisions. This disaster was repeated in Plymouth Colony in 1623 when fire destroyed three dwellings and almost all the provisions.

By 1630, Boston was the wealthiest and most prosperous of the English colonies. At this time, most of the buildings in Boston were constructed of wood, many with thatched roofs. After a fire destroyed several houses in 1631, Boston passed what may have been the first fire regulations in the new world, eliminating the construction of thatched roofs and wooden chimneys.



Fighting fire in Colonial Boston

In 1653, a fire in the center of Boston resulted in the deaths of three children who could not escape from their house during a fire. Once again, the town imposed regulations requiring ladders, chains, ropes, hooks and other fire protection equipment. Since colonial buildings were constructed of light flimsy materials, these tools could be used to pull down buildings, creating a separation or firebreak to prevent the spread of fire.

In 1674, a major conflagration struck Boston that destroyed forty-six dwellings, several warehouses and the North Meeting House. Only a

rainstorm and a change in wind direction allowed the fire to be brought under control. Three years later in 1679, seventy warehouses and eighty dwellings were destroyed when a major fire struck the center of the city.

As a result, Boston passed regulations requiring new buildings to be constructed of stone or brick with slate roofs to prevent the spread of fire. The town also purchased a fire engine from England and established one of the country's earliest fire brigades.

### **Fire Protection in Providence**

By the middle of the eighteenth century, Providence had become a major trading and ship building center. Little was done, though, in the prevention of fire. It was not until 1754 that Providence purchased a large engine and passed a law requiring citizens to have two buckets available in the event of fire.



A view of Providence around 1800

In 1763, Providence purchased another engine and established fire marshals to direct fire fighting efforts. By 1792, Providence had four engines, yet the community realized that the force was probably adequate

for the need. In 1822, Providence purchased a more advanced engine and 1,000 feet of copper riveted hose. This was a self-supplying machine that could draw water from the river and discharge it on to a building 1,000 feet away.

### **Growth of Industry along the Blackstone River**

Providence merchants grew wealthy from over seas trade until 1807 when the Embargo Act was passed to prevent the United States from being drawn into open warfare with England or France. The act prohibited all commerce except trade between American ports and effectively swept all legitimate trade from the seas.



Samuel Slater

With trading opportunities limited, these merchants invested increasingly in the infant textile manufacturing industry that was growing along the banks of the Blackstone River. The first successful textile mill in America was established in Pawtucket by Samuel Slater in 1793.

Slater was born in England on June 9, 1768 and became involved in the textile industry at an early age. Believing that textile industry in England had reached its peak, Slater immigrated secretly to America in 1789 in hopes of making his fortune in America's infant textile industry. While others with textile manufacturing experience had

emigrated before him, Slater was the first who knew how to build as well as operate textile machines. With funding from Providence investors and assistance from skilled local artisans, Slater built the first successful water powered textile mill.



Slater Mill, Pawtucket, RI

By the time others entered the industry, Slater's organizational methods had become the model for his successors in the Blackstone River Valley. Later known as the Rhode Island System, it began when Slater enlisted entire families, including children, to work in his mills. These families often lived in company owned housing located near the mills, shopped at the company store and attended company schools and churches. While not big enough to support the large mills that became common in Massachusetts, the Blackstone River's steep drop and numerous falls provided ideal conditions for the development of small, rural textile mills around which mill villages developed.

### **Growth of Early Woonsocket**

Woonsocket owes its existence to its location on the Blackstone, Mill and Peters Rivers. As early as 1666, the Arnold family had established

saw mill powered by the Blackstone River in the Market Square area of Woonsocket. John Arnold, the city's first permanent resident, added a gristmill around 1708. By 1720, a small foundry was also in operation. Still, Woonsocket remained small agricultural community until 1810 when the first textile mill, the Social Manufacturing Company, was established on the Mill River.

By the 1830's, six separate and distinct mill villages had grown up along the rivers of Woonsocket. Five of these villages - Social, Jenckesville, Hamlet, Bernon and Globe - clustered around the mills of one company. The sixth and largest, Woonsocket Falls, contained the mills of several companies huddled together.



Woonsocket Falls in 1855

To insure a steady supply of power for the mills that developed around the Woonsocket Falls, the river was dammed at the falls, and just below the falls in Bernon. The Bernon Pond (below the falls on the river) and the Clinton Pond (in the area of the current by-pass) were created as reservoirs or holding ponds to store water until it was needed by the mills. A series of trenches carried this water to waterwheels that were

connected to gears, shafts and belts to supply power to the machines. In all, the 40-foot drop of the Blackstone in the area around the Woonsocket Falls produced 2,000 horsepower.

While smaller, the 60-foot fall of the Mill River produced 450 horsepower. By the 1860's, Edward Harris owned the upper mill privilege, and the Social Manufacturing Company owned the lower. The Peters River produced 110 horsepower in its fall of 52 feet. It powered the mills of the Jenckesville Mill Village.

As industry grew in the Blackstone River Valley, so did the desire for a canal to provide an inexpensive means of moving goods between Providence and Worcester. In the 1820's, General Edward Carrington, a prosperous Providence merchant for whom Carrington Avenue in Woonsocket is named, led a successful attempt to build the canal. Opened in 1828, the canal utilized a series of 49 locks to move the barges up and down the 438 foot difference in elevation from Providence to Worcester. The canal passed directly through Woonsocket and greatly increased its desirability as a manufacturing location.

### **Fires of 1829 and 1835**

With the completion of the Blackstone Canal, the foundation for Woonsocket's industrial growth was complete. Woonsocket had land on which to build mills, water to power them and the Blackstone Canal to connect the mills through Providence to the markets of the world. With

some modifications, such as the replacement of the Blackstone Canal with the Providence & Worcester Railroad in 1847 and the addition of steam power to supplement the area's abundant water power, this model was the basis for Woonsocket's growth throughout the nineteenth century.



1829 map of the Woonsocket Falls Village

By 1826, five mills were operating in the area near the Woonsocket Falls now known as Market Square. These included Dexter Ballou's mill on the sawmill lot, the Lyman Mill, the gristmill of James Arnold, the mill of Dan Daniels and the mill of Hosea Ballou.

The first major mill fire in Woonsocket occurred in March 25, 1829 when fire completely destroyed three buildings in Market Square including the wooden mill of Dexter Ballou on the sawmill lot. Ballou was insured for \$10,000, but his loss was much greater. After the fire, Dexter moved to the brick mill built by his brother Hosea on Main Street.

Dexter's younger brother, George C. Ballou, rebuilt a wooden mill on the sawmill lot and used it as a spinning mill. He also used a wooden building

near Dexter's brick mill on Main Street to dress the yarn that he spun at the saw mill lot. Slightly south of George's dressing mill were two additional wooden buildings on the site of the current Lippitt office and warehouse – one used by Willis and Lyman Cook as a machine shop, the other by Dan Daniels as a store and post office.

In 1835, fire struck Woonsocket again. This time, fire broke out in the machine shop of Willis and Lyman Cook. The fire spread quickly and completely destroyed not only the machine shop, but also the near-by cotton dressing mill of George C. Ballou and the store and post office of Dan Daniels. Several smaller buildings were also damaged. If not for the fast work of local citizens, along with engine companies from the nearby villages of Blackstone and Hamlet, the fire could easily have spread to engulf the entire Woonsocket Falls Village.



The mill of Dexter Ballou and the store of Dan Daniels built after the 1835 fire.

After the fire, Dexter Ballou built a large stone mill on the site of the burnt down buildings, linking it to his brick mill behind. This mill is now known as the Ballou-Harris-Lippitt Mill. The Cook brothers moved down

Main Street to the location of the current Commercial Block where their business thrived, eventually becoming know as the Woonsocket Furnace Company. Dan Daniels rebuilt his store and post office with a brick building that also contained the first office of the Woonsocket Falls Bank. The office and warehouse of the Lippitt mill replaced this building in 1865.

### **Charter of the Fire Corporation on the Woonsocket Falls Village**

The fires of 1829 and 1835 emphasized to the mill owners of Woonsocket the need to prepare against future fires. The unorganized nature of Woonsocket - three villages in Smithfield and three villages in Cumberland - made it necessary to receive special authority from the state to organize a fire department. In 1836, the Rhode Island General Assembly granted a charter establishing the Fire Corporation of the Woonsocket Falls Village, later known as the Woonsocket Fire Corporation. An organizational meeting was held on September 29, 1836 at which the charter was accepted, bylaws adopted and officers appointed. The principle officers of the corporation were leading businessmen of the Woonsocket Falls Village including Willis and Lyman Cook, Dexter and George C. Ballou and Edward Harris.

Under this charter, the Woonsocket Fire Corporation was authorized to asses and collect taxes, procure equipment and establish regulations to preserve and protect property



from fire. The charter also authorized the corporation to appoint Fire Wardens to direct fire fighting efforts. These fire wardens had the authority to command assistance from local citizens, remove and protect property from burning or endangered buildings, and to demolish buildings if deemed necessary to arrest the spread of fire. Citizens were also required to have two leather fire buckets available for use in the event of fire.

In the early years of the Woonsocket Falls Village, fire protection was limited to the bucket brigade. Citizens were required to bring their two fire buckets to the scene of the fire and assist in fire fighting efforts. The fire marshal would organize two lines from the nearest source of water to the site of the fire. One line would pass buckets filled with water to be thrown on the fire, the other would pass empty buckets back to be filled. When the fire had been extinguished, or had destroyed the building, the buckets were returned to their owners.

### **Woonsocket Falls Village (1835 – 1867)**

The Woonsocket Falls Village in the middle of the nineteenth century contained numerous stone and wood frame textile mills – most of them cotton. Typically, these mills were 2 to 4 stories tall, with gable roofs, low pitched by mid century, and slow burning construction with massive timber framing supporting double plank floors. These buildings were generally long and narrow to make the most of natural light and to

facilitate the transfer of power to the machines.

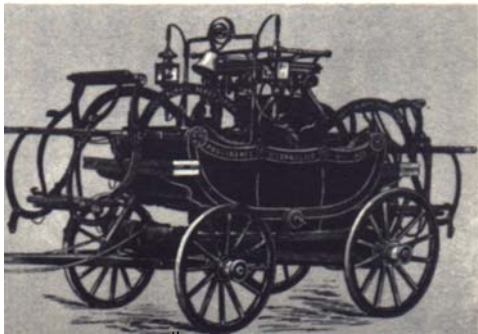


Market Square in the Woonsocket Falls Village in 1860

Surrounding these mills were homes, stores, warehouses and other structures constructed mainly of wood. Although most workers in Rhode Island's early textile mills lived in company owned villages, the concentration of mills in the Woonsocket Falls Village allowed for the development of residential neighborhoods and retail stores that were independent of the mills. Wealth and ethnicity often defined these neighborhoods. Mill owners lived apart from mill workers. Cato Hill developed as a predominately Irish enclave, while Constitution Hill and Social were predominately French-Canadian.

The Woonsocket Fire Corporation established its first fire fighting company, a hook and ladder company, in 1839. The origin of the term "hook and ladder" goes back to colonial times when hooks and chains were used to remove buildings around a fire, thus depriving it of the fuel it needs to burn and spread. The power needed to pull down a building was provided by local residents or by horses. This equipment was generally carried on

the ladder wagon, hence the term hook and ladder.



Early 19<sup>th</sup> century fire engine

In 1840, the corporation purchased its first fire engine known as Rescue Engine 1. By 1857, a second engine, the Hope Engine, was also in service in the Woonsocket Falls Village, although it is unclear to whom it belonged. The corporation had also begun construction of an extensive system of fire hydrants and mains which were connected to force pumps at the Clinton, Eagle, Lippitt and Social Mills. This system would continue to be expanded through much of the nineteenth century.

While fire engines and force pumps provided the power, it was hose – lots of hose – which actually delivered water to the fire. The earliest truly effective fire hose was a leather hose seamed with copper rivets that was developed by the firm of Sellers and Pennock in Philadelphia in 1808. To transport this hose to and from the fire, hose companies were established which utilized hose reels and wagons.

The hose reel was a high two-wheel cart, with a drum like arrangement between the wheels much like a

large fishing reel. The hose was rolled onto the drum and the cart was pulled by several men. After reaching the fire, the hose was reeled off. One end was attached to a water source, and the other to a nozzle. Hose carts of this type were in regular use in Woonsocket throughout the nineteenth century.

The Woonsocket Fire Corporation was called upon to extinguish several fires in the years before the formal incorporation of the Town of Woonsocket in 1867. Fire struck George Ballou's wooden mill on the sawmill lot in Market Square on January 23, 1846. The building was completely destroyed and several surrounding buildings were damaged. The loss to Ballou was \$24,000 which was covered by \$14,000 in insurance. Undaunted, he began construction of the stone mill that appears on Woonsocket's seal. This building was demolished in the 1960's.



George C. Ballou Mill after the fire

Like other churches around the country, Woonsocket's nineteenth century churches were especially vulnerable to fire because of their wood construction, large open spaces and combustible contents. On April 12, 1858, fire completed

destroyed the First Baptist Church on the corner of Main and High Street. It is believed that the fire started in the furnace and flames quickly engulfed the building. The fire also threatened to engulf the Bryant Block on Main Street and several nearby wooden houses. Only through quick work by the fire corporation were these structures saved.



Baptist Church on Main Street after the fire.

The Baptist congregation was established in 1833 and the original church was constructed in 1834. After the fire, the church was rebuilt on the site with proceeds from insurance. It remained there until 1890 when the land was sold to interests that ultimately erected the Longley Building. The congregation acquired new land on Blackstone Street and built a new church in 1892 that still stands today.

One of Woonsocket's leading citizens – Edward Harris – was struck by fire on August 8, 1866. A woolen goods manufacturer, Harris was a pioneer in the field and grew to become one of the foremost manufacturers in the country.

By the 1850's, Harris was producing high quality woolen cashmeres in his mill at Market Square and in three additional mills on Main Street. He also built a large warehouse on Railroad Street near Depot Square. His number 4 mill built in 1846 still stands today on Main Street, as does his warehouse on Railroad Street.

The fire occurred at 10:00 in the morning in Harris's number 4 mill on Main Street. The fire originated from a picker, and soon engulfed that portion of the mill in flames. The combustible nature of the material used in producing cassimneres - wool saturated with oil - caused the fire to spread quickly and filled the mill with a dense suffocating smoke.



Harris Mill # 4 on Main Street as it appears today

Panicked workers, many of them women, were forced to escape by jumping or climbing down from windows – some as high as the fifth floor. The Woonsocket Patriot later reported that 44 employees were hurt escaping the mill with injuries ranging from smoke inhalation to scrapes and sprains. For a time, it appeared that the fire would spread to other mills in the area, but hard work by firemen contained the blaze.



## Growth of Insurance

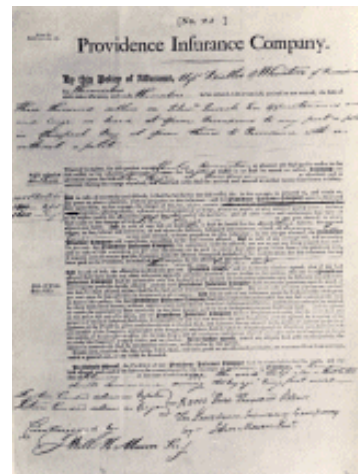
While the protection afforded by public fire departments was important, mill owners also realized that adequate fire insurance would be essential for the long-term growth of the textile industry. The history of insurance can be traced back to at least the time of the Romans who developed various forms of life, health and marine insurance. The earliest contract of insurance as we know it covered the voyage of the vessel Santa Clara from Genoa to Majorca in 1347.

Marine insurance, covering the risks of transit over water, spread quickly through the commercial centers of Europe. By the late 1600's, a group of individuals regularly met at the Coffee House of Edward Lloyd in London to engage the underwriting of marine insurance. Now known as Lloyds of London, it is one of the oldest and best-known insurance organizations.

While the needs of commerce necessitated the development of marine insurance prior to fire insurance, the Great Fire of London in 1666 awakened people to the need for protection from loss by fire. The earliest insurance company in England – the Fire Insurance Office – opened in 1680. It was followed in 1683 by the Friendly Society and in 1696 by the Hand in Hand Company. These early companies generally required that the policyholder pay a deposit in addition to the insurance premium. This deposit was paid back at the end of the policy after expenses were deducted.

The first insurance company in the United States was the Philadelphia Contributionship, founded in 1752 and modeled after the Hand in Hand Company in London. The company was formed “for the insurance of houses from loss by fire on the most equal terms”. Benjamin Franklin, one of the company’s original directors, contributed greatly to the company’s early development.

The earliest stock insurance company in the United States was the Insurance Company of North America, founded in Philadelphia in 1792. The Insurance Company of the State of Pennsylvania followed it in 1794. Both were formed primarily to transact marine insurance, but expanded into fire insurance shortly thereafter. In 1799, the merchants and businessmen of Providence formed the country’s third stock insurance company - the Providence Insurance Company.



Providence Insurance Company Policy

Prior to the formation of the Providence Insurance Company, marine insurance in Rhode Island

was underwritten by out-of-state companies or by individuals, mostly local merchants, who shared the risks of each others' trading voyages. The formation of the Providence Insurance Company in 1799 offered local merchants greater control, better security and the ability to underwrite larger risks. It was followed in 1800 by the formation of the Washington Insurance Company. These companies merged in 1820 to form the Providence Washington Insurance Company which still operates today.

While these companies were initially engaged primarily in marine insurance, fire insurance was added shortly thereafter. Sullivan Dorr and Crawford Allen, owners of the Woonsocket Mill Company in Bernon, and Edward Carrington, owner of the Hamlet and Clinton Mills and a major influence in the creation of the Blackstone Canal, were also principles of the Providence Washington Insurance Company. A third company, the Providence Mutual Fire Insurance Company, was formed in 1800 to meet the growing need for fire insurance. The Slater Mill in Pawtucket was one of the Providence Mutual's earliest policyholders.

As the demand for fire insurance grew, some mill owners also realized that adequate fire protection would be essential to maintaining a reasonably priced insurance coverage. The foremost among them was Zachariah Allen, brother of Woonsocket Mill Company principle Crawford Allen. In 1822, Zachariah

Allen owned a textile mill in the area of North Providence now know as Allendale. He set out to reduce his insurance premium by making improvements to his mill that would reduce the risk of fire. The mill was built of stone with heavy blank floors set on large beams. The roof was constructed of slate shingles set in mortar to reduce the threat of fire. The mill also contained fire protection equipment including a fire pump connected to pipes, hydrants and hoses.



Zachariah Allen

Having improved his mill in this way, Allen applied to his insurance company for a reduction in premium, and was promptly turned down. At this time, insurance companies depended on the premium of "good risks" to subsidize the premiums of "poor risks". Premiums were determined without consideration of loss experience or loss potential. While commonly accepted today, the concept of loss control was unknown at this time. Undaunted, Allen enlisted the support of other Providence manufacturers to establish an insurance company dedicated to insuring industrial buildings of the finest construction,

maintenance and quality. That company - Manufacturer's Mutual Insurance Company - was established in Providence in 1835.

Manufacturer's Mutual provided coverage only to customers that met the company's high standards. Today, these properties would be known as "highly protected risk" or "HPR". Each location was inspected to insure that the company's high standards were maintained. Rather than simply paying losses, company inspectors also examined each loss to determine what could have been done to prevent it. This information was used to determine future loss control standards. As Allen expected, proper fire prevention methods, monitored by regular fire inspections, resulted in significantly fewer losses and lower insurance premiums.

While a great success, the Manufacturer's Mutual Insurance Company did not have sufficient capital to insure the full value of large mill properties. In 1848, Allen established a second insurance company - Rhode Island Mutual Insurance Company. In 1850, Allen convinced Boston mill owners to establish the Boston Mutual Fire Insurance Company. Both companies modeled their operations after Manufacturer's Mutual. These early companies, and the companies that followed, eventually evolved into the Associated Factory Mutual Insurance Companies, or Factory Mutuals for short. This organization continues today as FM Global.

In Woonsocket, insurance was apparently readily available to the area's early textile pioneers. After the 1829 fire in Market Square, it is noted that Dexter Ballou was insured for \$10,000. Advertisements for insurance companies and agents appeared in the Woonsocket Patriot newspaper as early as the 1830's. Samuel Green, the long time superintendent of the Woonsocket Mill Company, was also an agent for the Manufactures Mutual Insurance Company.

In 1860, several Woonsocket businessmen chartered their own insurance company – the Blackstone Valley Fire Insurance Company. Incorporators included:

- Edward Harris – President, Harris Woolen Company
- Spencer Mowry – President, Globe National Bank
- Bradbury C. Hill – President, Peoples Savings Bank
- Samuel Greene – Superintendent, Woonsocket Mill Company
- Peleg W. Arnold – Superintendent, Clinton Mill Company
- Lyman A. Cook – President, Woonsocket Rubber Company and Woonsocket National Bank

While a copy of the charter can be found in the Rhode Island Historical Society Library, it is unclear if the company ever established underwriting operations.

The 1872 Webb Brothers Business Directory listed three insurance agents in Woonsocket. The

Woonsocket Fire Insurance Agency operated by Reuel P. Smith placed the largest advertisement. Mr. Smith was the Cashier and a Director of the Globe National Bank and his agency operated from the bank's offices in the Fletcher block on Main Street. Among the companies represented by Mr. Smith were:

- Aetna Insurance Company, Hartford
- Home Insurance Company, New York
- Franklin Insurance Company, Philadelphia
- Phoenix Insurance Company, Hartford
- Continental Insurance Company, New York
- Pennsylvania Insurance Company, Philadelphia
- Peoples Insurance Company, Worcester
- Equitable Insurance Company, Providence
- Commerce Insurance Company, Albany
- Providence Mutual Fire Insurance Company, Providence
- Pawtucket Mutual Fire Insurance Company, Pawtucket
- Travelers Insurance Company, Hartford
- Royal Globe Insurance Company, London

Also listed as agents were Alfred Allen of 6 Arnold Street and Amos Sherman of Monument House.

### **Town of Woonsocket (1867 to 1888)**

As a result of the area's economic, social and political growth, the six

mill villages began to agitate for political independence from the towns that controlled them - Smithfield and Cumberland. In 1867, the Cumberland villages, including Woonsocket Falls, Social and Jenckesville, officially became the town of Woonsocket. In 1871, the three Smithfield villages, Hamlet, Bernon and Globe, were added to the town establishing Woonsocket's present boundaries.

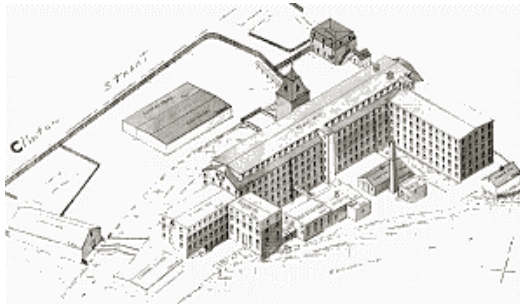


Advertisement from Bailey Wringer Company

The second major phase in Woonsocket's industrial development began at this time with the establishment of a number of non-textile companies including the Bailey, later American, Wringer Company and the Woonsocket Rubber Company. Growth of these new companies and expansion of the existing textile industry was made possible by the increased use of steam power. At many mills, such as the Social, Clinton and Globe textile mills, steam engines were used to supplement existing water power allowing owners to significantly expand manufacturing facilities and capacity. Other mills such as the American Wringer and Nourse Mills in the Social District relied solely on steam power.



Typical of the mill complexes that were operating during this stage of Woonsocket's industrial development was the Clinton Mill. Edward Carrington, a major influence in the creation in the Blackstone Canal and the Hamlet Mill Village, established the original Clinton Mill in 1833. It occupied a site between Clinton Street and the river just north of the Providence & Worcester Railroad Bridge in the area of the current Main Street Bypass.



Clinton Mill Complex in the 1890's

The original 1833 Clinton Mill was rebuilt in the "slow burning" fashion in 1849. The roof was built in a unique lantern or factory style to increase the useable area in the top floor. The stair tower, in addition to its aesthetic value in breaking up the large front façade, also served the practical purpose of limiting the potential spread of fires to upper floors. The unique roof to the stair tower was added in the 1850's. A major addition, the ell, was added in 1893

In 1871, the Clinton Mill was producing cotton shirting, sheeting and print goods on 22,000 spindles and 512 looms. It employed 360 workers. Power for the mill was

provided by water from Clinton Pond producing 250 horsepower supplemented by a 150 horsepower coal fired steam engine.

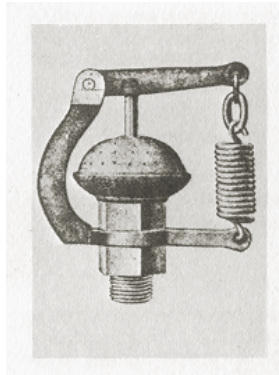
Once a year, the Clinton Mill would send agents south to purchase a year's supply of cotton. The cotton would be shipped north as soon as it was ready and stored in the warehouses at the mill. The main mill, the ell and the "picker headquarters" were the actual manufacturing units.

Cotton entering the manufacturing process went through pickers on the third floor of "picker headquarters" before going to carding on the third floor of the main mill. Spinning was done on the fourth and fifth floors and weaving on the first and second floors. Finished goods were stored on the sixth floor.

The large-scale community effort to detect and control fires was duplicated at the mill level. In the 1830's a state of the art fire protection system included a force pump connected to standpipes and hoses in the mill. When the pump was not in use, water could be provided by gravity from a tank located under the roof. Manufactures also introduced night watchmen at an early date to protect against fire and burglary.

By far the most effective way to control fires in industrial buildings is through automatic sprinkler systems. The earliest practical sprinkler system for a mill building was a perforated pipe system installed Lowell Massachusetts in 1852. This

system became the accepted standard and was installed in mills for 30 years. Unfortunately, these systems had to be activated manually which limited their effectiveness.



Parmelee Sprinkler

Henry Parmelee was the first to invent a system that would discharge automatically in the event of a fire. In 1874 he invented a sprinkler head that would discharge when a string or cord was burned through. The system quickly caught the attention of mill owners and Parmelee made arrangements to have the Providence Gas and Steam Pipe Company manufacture and market the system. From 1875 to 1882, 200,000 Parmelee systems were installed in New England mills. The system has undergone continuous improvement and is the basis for automatic sprinklers in use today. In the Clinton Mill, automatic sprinklers were installed throughout the mill that were supplied by city water service supplemented by the mill's own tanks and force pumps.

Even with the incorporation of the Town of Woonsocket in 1867, the Woonsocket Fire Corporation remained as a stand-alone entity

until 1885. The corporation purchased its first steam engine from William Jeffers & Company of Pawtucket in 1872. In 1874, the Social Manufacturing Company purchased a second steam engine from Coles Brothers of Pawtucket and put it at the disposal of the corporation. Known as Steamer 2, it was located in a small firehouse near the Nourse Mill.



Horse drawn steam engine

By 1871, the corporation had three hose companies – one located at the Rescue Engine House, one located at the Clinton Mill and one located at the Lippitt Mill. Maintaining the corporation's 6,000 feet of hose was an expensive and time-consuming undertaking. At this time, hose wagons began to place hose carts as the principle means of moving hose to the scene of a fire. These wagons were horse drawn and the hose was carried folded in the bed rather than rolled on a reel. The wagon could then stop at the hydrant and drop off one man with the end of the hose to be attached to the hydrant while the wagon continued to the fire with hose unfolding and falling behind the wagon as it moved. Upon reaching the fire the hose could be taken apart at the nearest coupling and a nozzle placed on the end to fight the fire.

By 1880's, the corporation had built and impressive water system that included eight large water storage cisterns and a series of mains leading to them. The mains were 4 miles long and included 75 fire hydrants along North Main Street, Main Street, South Main Street, Bernon Street, Arnold Street, High Street, Clinton Street, Church Street, Cato Street, Earle Street, Social Street, Snow Street, Summer Street and Prospect Streets. Water was supplied by force pumps at the Lippitt, Eagle, Clinton and Social mills that produced direct pressure at the hydrants in the Main Street area of 120 pounds to the inch – sufficient to connect a hose directly to the hydrant. Since pressure in outlying areas was considerably less, cisterns were installed that could serve as a source of water for the steam engines. These cisterns held from 7,000 to 25,000 gallons of water and were located on River Street, Boyden Street, North Main Street, High Street, Spring Street, Blackstone Street, Prospect Street and in Monument Square.

The rapid growth of Woonsocket in the 1880's awakened the desire for a public water supply. Before the town could act, the Woonsocket Water Company was chartered and proposed a private water system. By 1884, the Woonsocket Water Company had constructed a reservoir and dam on Crooks Falls Brook, a pumping station at the same location, mains and distributing pipes and 300 fire hydrants. The extension of the water works made it possible to extend the lines of the fire department and insure greater

protection against fire. The Town of Woonsocket purchased the system in 1885.



Boyden Street Fire Tower

In 1886, a fire tower was built at Church and Boyden Streets. The town also installed an electric fire alarm system. By 1889 this system, based on the Morse Telegraph, consisted of fifteen miles of wire, three electric bells, one 15" gong, one indicator, three electromechanical tapers, three direct action tapers, twenty-three public and four private pull boxes.

Even as Woonsocket's fire protection capabilities improved, fire continued to hamper the newly established town. On May 22, 1868, fire struck Woonsocket's first Catholic church - Saint Charles Church on North Main Street. While Woonsocket is known as the most "French" city in the United States, the Irish were actually the first major immigrant group to settle in the city. This Irish community established St. Charles Catholic Church in Woonsocket in 1844.

The fire was discovered in the wood frame structure around 11:00 and the fire department was dispatched

immediately. Unfortunately, fire fighters were hampered by a lack of water. While the church was on the main water line leading to the Privilege Mill Complex, there were no hydrants on the line in this area. The nearest force pumps were attached to the wheels of the Privilege, Clinton, Eagle or Social Mills that were from 1,000 to 3,000 feet away. By the time hose was laid, the fire was beyond stopping. It was believed that the fire was started by arson. Fortunately, the building and contents were covered by insurance and the church was replaced with the beautiful stone structure that stands today.



St. Charles Church after the fire

On July 1, 1874, a spectacular fire destroyed Woonsocket's first and largest cotton mill – the Social Manufacturing Company. The original 1810 mill had been replaced in 1842 by Dexter Ballou, and updated several times since. At the time of the fire, the Social Mill contained 50,000 spindles and 1,000 looms – all in the finest condition.



Social Mill Complex before the fire

The fire started around 3:00 in the afternoon caused by friction from the main belt in the weave room. It spread rapidly through the belt holes to the upper floors. A two-inch gas pipe also detached from the wall during the fire and discharged gas into the flames for 5 to 10 minutes before it was shut off, adding greatly to the spread of the fire. The force pumps and sprinklers of the Social mill, two steam engines and two hand engines all worked furiously to control the blaze, to no avail. Between 4:00 and 5:00 the roof collapsed and by 6:00 there was nothing left but blackened walls.

Fortunately, all of the mill's employees escaped the fire unharmed. Two firefighters were slightly injured when they fell off a ladder while fighting the blaze. With damage estimated at over \$800,000, the Social Mill fire was the largest insurance claims to date. The mill was replaced with an even larger brick structure that remained in operation until the 1920's.



Social Mill complex after the fire

Fire struck the Woonsocket High School on October 16, 1875. At this time, the Woonsocket High School was located in a three story wood



frame building on land donated by Edward Harris on the site of the current Harris School on High School Street. The fire was discovered at 2:00 in the morning by firemen who were returning home from the annual ball of the Rescue Engine Company which was held in Harris Hall on Main Street. At the time the fire was discovered, it was confined to the basement, but quickly spread through wooden ventilators to the upper floors.



Woonsocket High School after the fire

The Rescue Engine was the first to arrive and drew water from a nearby cistern. The Social Engine arrived shortly there after and drew from a fire hydrant on Blackstone Street with water provided by the pumps of the Eagle, Clinton and Social Mills. While the fire was extinguished before the building was consumed, the fire still resulted in a total loss. The building was insured through the Providence Mutual and Pawtucket Mutual Insurance Companies. It is believed that the fire was the result of arson. The building was replaced with a new brick building that served as the high school until 1915 when the Park Place building was opened.

That same night, arson was blamed for another fire in the house of George C. Ballou on South Main

Street. Fortunately, the fire was discovered quickly and extinguished. No one in the Ballou house was injured.

On October 25, 1881, fire struck the two story wooden building of the American Worsted Company on what is now the Commercial Block on Main Street. At this time, the American Block was occupied by the Woonsocket Press Company, the Evening Reporter Newspaper and the Patriot Publishing Company. Fire started at 12:15 from an unknown cause and spread quickly through the frame building. As the fire progressed, a gas explosion completely destroyed the offices of the Evening Reporter, injuring several firemen. While firemen worked diligently and the water supply proved adequate, the wooden structure sustained heavy damage.



Offices of the Evening Reporter in the American Block

On January 25, 1882, arson was blamed for a fire that destroyed the Edwards Block and the Providence and Worcester Railroad Depot on Main Street. The fire was discovered around 2:00 in the morning in the Depot building and quickly spread to the Edwards Block. Firefighters made a valiant effort, but freezing weather hampered fire-fighting efforts. Several firefighters

were injured in the blaze, most a result of severe cold. The depot building was completely destroyed, and the Edwards block was gutted. Both buildings were rebuilt after the fire.



Edwards Block after the fire

The Providence & Worcester Railroad was the first railroad to provide service to Woonsocket. Completed in 1847, the railroad followed the route of the defunct Blackstone canal over much of its course. By providing inexpensive transportation of raw materials and finished goods, the Providence & Worcester Railroad accelerated Woonsocket's growth and helped to maintain it as a leading manufacturing center. The depot constructed after the fire was described as one of the finest stations in New England and made Depot Square the commercial and transportation center of the city.

On December 24, 1888, the American Block was struck by fire again, once again closing down the Evening Reporter newspaper. The fire was discovered around 5:30 and firefighters arrive quickly as the result of the alarm. When they arrived, the offices of the Evening Reporter were engulfed in flames. The fire broke through the windows and spread to the second floor. It

was finally extinguished after half an hour. It resulted in serious fire damage to the wood frame building, and extensive water damage.

### **City of Woonsocket (1888 – 1930)**

By the incorporation of the City of Woonsocket in 1888, the area around the Woonsocket Falls had successfully completed its transformation from a group of small mill villages to a single urban area with Main Street at its core. The incorporation of the City of Woonsocket also began the third stage of Woonsocket's industrial development – a substantial expansion of the city's woolen industry. That transformation was led by Aram Pothier.

Aram Pothier was a French-Canadian banker at the Woonsocket Institute for Savings who eventually rose to become President of that firm. He began his political career in



Aram Pothier

1885 as a member of the Woonsocket School Board. After two terms in the Rhode Island General Assembly in 1887 and 1888, he was introduced to the world of multi-national finance in 1889 when Governor Taft asked him to be Rhode Island's delegate to the Paris Trade Exhibition.

Pothier felt that foreign investment was essential for Woonsocket to continue its industrial growth. Foreign owned mills would pay taxes to the city and paychecks to local

workers, contributing millions of dollars to the local economy. It was during his first trip to Paris that Pothier probably met Belgian manufacturer Joseph Guerin. Guerin, with Pothier's help, set up the first large scale, "foreign" spinning plant in Woonsocket - the Guerin Spinning Company. Eventually, Guerin built the Guerin Mills on East School Street (now home to Tinsel Town) and his companies grew to include Alsace Spinning Company, Montrose Weaving Company, Rosemont Dying Company and the American Paper Tube Company. Pothier also met with the Lepoutre family of Roubaix, France who opened the Lafayette Worsted Company on Hamlet Avenue in 1899.



Lafayette Worsted Company on Hamlet Avenue in 1899.

In 1899, after two successful terms as mayor of Woonsocket, Pothier was again appointed to be the Rhode Island Delegate to the International Trade Exposition in Paris. On this trip, Pothier met with important French manufacturers including the Tiberhien Family of Tourcoing who set up the huge French Worsted Company on Hamlet Avenue a few years later. In all, Pothier is credited with bringing \$6,000,000 in foreign investment to Woonsocket.

These large mill complexes brought a dramatic change to Woonsocket's industrial landscape. While some of the stone and wood frame buildings that marked the earlier phases of Woonsocket's industrial development still exist today, by the turn of the century, they were inadequate for use by these larger mature industries. Old mills were expanded into larger facilities, or simply torn down and replaced. Brick was the material of choice in these new mill buildings, supplemented after 1900 with steel and reinforced concrete.

At this time, the Woonsocket Fire Department was composed of 65 men organized into three hose companies and two hook and ladder companies. Eight were permanent, the remaining were call men. Department headquarters was in the old Armory Building on Armory Street. With the excellent water system that was completed in 1884, the old steam engines were rarely used. Still, it was widely recognized that the department's equipment was inadequate for the need.



Fire Engine in front of station #1

In 1903, the department added a new fire station, Station 4 on South Main Street. This was followed by Station 5 on Social Street in 1912.

In 1913, the department purchased its first motorized fire engine. A second was added in 1920. In 1926, Station 2 was added on Cumberland Hill Road, as was Station 3 on North Main Street. In addition, a large drill and hose tower was added to Station 2. By 1928, Station 6 was completed in Fairmount and

Woonsocket's conversion to gas powered engines was complete. The elimination of Woonsocket's horse drawn equipment ended a romantic and important era in Woonsocket's industrial development.