

# Causes of the great seattle fire and lessons learned



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## **Abstract**

The Great Seattle Fire may have left our city nothing but a “ black smudge” according to Rudyard Kipling in the days following the tragic accident. Some historians say it was the making of Seattle. We know its lessons went a long way to the laying the foundation of fire codes and standard practices for Fire Departments throughout the country and beyond.

Seattle was like a Phoenix. It rose from the ashes to become a beautiful vibrant and alive place. Its rebirth helped to place Seattle amongst cities like San Francisco and Chicago in importance on the Western frontier. The indomitable spirit of Seattle residents set a standard for fire departments and city ordinances that has been duplicated, enhanced and refined to promote the safety of all its citizens. Its lessons will long be remembered.

### The Great Seattle Fire: History

The Great Seattle Fire started in Clairmont district, on Front and Madison streets at a simple paint and woodwork shop, on June 6, 1889, at 2: 45 PM. The fire ignited in the basement of the wooden Pontius building where John E. Back, unintentionally set aflame to this downtown building which would later rip through much of the entire city of Seattle. Five men were in the room at the time of the fire; John E. Back, and Mr. Kirchener, along with Charley Stoll, and two Swedish people one named Berg, and a younger one from New York.

John first noticed the fire approximately forty feet away when he saw Mr. Kirchener turn to look back and immediately realized a glue pot on a stove

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was blazing out of control. Mr. Kirchener saw John quickly grasp a pail of water and start to throw it upon the fire. Mr. Kirchener shouted at him not to do it! However, it was too late as the water did nothing to extinguish the fire but only served to exacerbate the problem. Soon all four men were dancing around, trying to extinguish the fire, Mr. Kirchener rushed to a corner to get a coat. He intended to throw it over the hot glue, and smother the air out of the fire, however, the water instantly touched the adhesive, which utilized a base used for wood preservation which was created from tar creosote, Wikipedia (2018) which resulted in the glue being splashing everywhere. The cabinet shop floor also provided fuel in the form of wood shavings, wood chips, and turpentine which set the blaze into full motion now. The glue and the fuel produced a smoke that was so dense that all of the men had some level of difficulty evacuating the building. The entire party did escape in time, but the proximity of the buildings and large quantities of alcohol from the nearby saloons proved to be too much to quell the flames. Difficulties with getting enough water to squash the flames were caused by....

By the next morning, the Great Seattle Fire has devastated 29 square city blocks of wooden buildings, along with ten brick buildings. This included nearly the entire business district! All but four of the city's piers and the railroad terminals were left standing, and fortunately left unscathed. " No one perished in the fire, except for the few million rats, according to the local newspaper reports". Seattle Post Intelligencer (1889).

Prevention: The Great Seattle Fire

Could this incident have been prevented? Yes! If the four cabinet makers had not left the glue unattended for starters, along with not using the water on a creosote-based adhesive in an attempt to stop the fire! Mr. Kirchener had the right idea, at the beginning with, extinguishing by removing the air! Instead of the relocating of most businesses, most Seattle businesses opted to stay and to rebuild, exactly where they were originally, and so, the rebuilding began almost immediately!

### Structural Mandates

However, the wooden buildings prohibited in the burned-out district, they were eventually to be replaced by a steel frame and brick and mortar. Seattle builders had learned a lesson in preventing the spread of fire. The day after of the fire, there was a general City Council meeting; many voices were heard from the assembly about the fire. The discourse discussed the ill-preparedness of the city and the shortage of water. The majority of the people had a definite sentiment that resulted in new business district streets being widened along with fireproof brick buildings.

Mayor Robert Moran, of Seattle and the Seattle City Council, agreed also, but this took additional time. It was approximately two more weeks before they can work out all the details to approve the first ordinance. Construction commenced immediately after that, with the buildings constructed of steel, brick and in some cases, even stone, like granite.

### The Creation of the Seattle City Fire Department

Approximately one month after the fire, voters approved the funding for the first city-owned water system which was under the full control of the fire district. This calamity also led to a handful of other changes for the city of Seattle. At the time of the fire, the City of Seattle only had a volunteer fire department, and many of volunteers quit after the disaster!

“ This disaster led to the development of a professional fire department by October 1889 for the City of Seattle. The fire department had increased the size of the pipes, also eliminating the wooden pipes, by replacing with fabric lined canvas hoses, along with adding more hydrants to the new business district area. In the first year following Seattle’s “ Great Fire of June 6, 1889” the city built five fire stations. Four were built of lumber for economy, all with impressive towers for drying hoses, bell ringing, watching the city and being watched by it. One of the five - this one at the southwest corner of Columbia Street and Seventh Ave. - was faced mostly with brick and stone by its architects, Saunders and Houghton. At a cost of \$20, 000, it was the fire department’s architectural plumb for that year’s bidding”. Dorpat (2014).

#### New Commercial Construction Codes for the City of Seattle

Commercial construction in the 1900’s was not made, of load-bearing; steel frames and cladding, typical for commercial building today standards! However, this did not arrive in Seattle until the early 20th century. According to Lange, Ochsner mentions “ The new ordinance offered detailed requirements for the thickness and construction of walls but made only limited mention of the framing and installation of floors.” Lange (1999).

There were no requirements for stair or shaft enclosures, but for passenger elevator, and dumb-waiters had to have smoke-proof enclosures. Although standpipes on the many floors had some requirements for all structures that were more than three stories in height. Fire extinguishing hoses vaults with the standpipes on upper floors made for aiding the firefighter with the equipment needed to fight the fires in higher levels.

Installation of other fire-suppression equipment, such as sprinklers, fireproof construction was not in effect for any buildings at the time of the fire. The new ordinances addressed both fire safety, and structural stability.

New standards mandated that walls must be constructed of masonry, with foundations at least some 48 inches below the grade of construction. City ordinances required walls to be an at least 12 inches thick. There were also adaptations made to this code when it came to the lower walls of tall buildings that forced an increase in thickness depending upon height. For example, a five-story building had basement walls at least 24 inches thick, and first-story walls 21 inches, along with second- through fourth-story walls 16 inches, and just 12 inches at the top story." Ochsner, (2003).

Masonry dividing walls were to prevent the spread of fires in larger buildings, but no farther than 66 feet apart. Multiple arched openings of limited size could be provided through the division walls. " For spans greater than 27 feet, intermediate columns of iron, steel or heavy timber were required this add the structural support needed! Moreover, the ordinance specified the use of metal anchors to tie floor beams to the walls, to reduce the chance of collapse." Ochsner, (2003).

Other sections of the ordinance prohibited the use of wood cornices, these had to be fabricated from plaster and cement, limiting the size of bay windows, specified that partition between two adjoining buildings had a minimum of six feet in height, for the structure ensured the occupants of each residence or businesses additional safety for in times egress from a fire jumping from one roof to the other, also what was required fireproof roofing materials, and addressed separate boilers along with chimneys, flues, and similar features.

The City of Seattle Building Department

“ The city hired a building inspector and on July 19, 1889, he started issuing building

permits. By the end of 1891, he had issued 4, 130 building permits. They were for one-to-

two story frame buildings, mostly for single-family homes.

Trolley lines were expanded and the Seattle, Lake Shore & Eastern Railroad Company

(SLS&E), which ran from Seattle to the north end of Lake Washington by October 1887,

helped push residential neighborhoods still farther out. “ Though a depression was soon

to come to Seattle in 1893, the discovery of gold in the Yukon would help Seattle build

and continue to advance as prospectors and retailers equipped newcomers for rugged

terrain and rigorous adventure'. Chesley (2009).

Seattle has seen some of the most landmark architecture from the Space Needle to the

Music Museum throughout its journey. The oldest structure still in existence is a home

near Alki point built in 1859. From longhouses to a skyscraper balanced on a point Seattle

has rebuilt from the Great Seattle Fire. They have established their standards through fire,

earthquakes, and volcanos and hopefully for many more years to come.

It is remarkable that a simple mishap that led to a fire from a spilled pot of glue set a

standard that has helped to save thousands of lives to date all over the state, our country

and the world.



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