

The young boy stood as a solitary shadow in the snow while gazing sadly down at the newly set stone marker. Two huge tears rolled unheeded down his cheeks. The words on the marker were like knives in his heart: Thomas Philip Pratt; Died July 18, 1862. "I'm never gonna see Grand-daddy again," he whispered. The boy clutched his hands into fists at his side as he angrily thought, "Why did that 'ole house have to catch fire?" It was at that moment that the boy made a vow to his grandfather that no one else would ever have to suffer the same kind of loss he had. When he got old enough, he would figure out a way to stop such a senseless death.

Although that scene is fictional, it is realistic. Fire in early American history was a growing risk that many faced, especially in large factories that handled very flammable products.

Ten years later that young boy, Philip W. Pratt, patented an automatic sprinkler system in Abington, Massachusetts. Although several English inventors had earlier developed systems that would distribute water through perforated pipes in order to extinguish fires, no American before had any similar designs until Pratt in 1872. Two years later, in 1874, another American, Henry S. Parmalee developed a system to protect his piano factory in Newhaven, Connecticut from potential fire damage. His closed sprinkler system was the first designed for commercial safety in America. In Parmalee's design, water could now be controlled to flow through a particular sprinkler head. When the system detected a certain amount of heat, it opened up a valve to allow water to spray, thereby dousing the source of that heat. Little did these two pioneers imagine the change their designs would have, in the lives of so many.

Later in 1881, a third American became involved with automatic sprinklers as he patented another design that improved upon Parmalee's. Frederick Grinnell, an inventor and engineer, took the sprinkler designed by Parmalee and improved it by inventing an automatic sprinkler that used a glass disc that didn't corrode. Because of Grinnell's designs, sprinklers were able to handle a higher water pressure, disperse the water more evenly, and withstand metal corrosion. That same design, the "Grinnell", is similar to today's modern sprinkler systems.

Grinnell's designs held for decades until the sprinkler heads of newer designs used a bulb containing a chemical or link that was able to melt. This bulb detects when heat reaches approximately 160 degrees within an area; it then triggers the valve to open which then releases water to put the fire out. In 1953, standard sprinklers were installed in many buildings. These were the first to spray the water downward, instead of upward to the ceiling, to reduce fire spread along the ceiling. This slight change in the mechanics of the sprinkler was of huge importance as inspectors continued to learn about the nature of fire in buildings. By the 1960's sprinklers began changing to meet the difficult needs of more risks within the commercial and residential sectors. In the 1970's in order to control large storage fires, a large-drop sprinkler system was developed. In these systems the opening is larger which allows a larger drop of water to be released onto the fire.

Finally, in 1989 another change was introduced that further enhanced the automatic sprinkler systems for large storage areas. The Factory Mutual Research Corporation developed a system, called the Early Suppression-Fast Response sprinkler, which was able to suppress a fire.

Now fast forward to 2010. A small group of teenagers join an already assembled group of smartly dressed business men and a family of four at a cemetery in

Massachusetts. As they stare down upon the grave, they all join hands in a common bond. Although unplanned, each felt compelled to go thank the ghost of the man responsible for saving their lives.

The teenagers, all freshmen, had been sleeping soundly early in their first semester of college. Around two in the morning they were awakened by an alarm and shooting sprays of water. The smell of smoke was strong, and they knew their dorm was on fire. Although chaos reigned around them, the students made their way from the third floor to safety. The sprinkler system had given them the precious time needed to get outside and away from the fire's deadly blaze, which started in an oil furnace room of the dorm.

Likewise, the business men had also been saved from a fire's potential harm. Their story didn't happen during the dead of night, but during broad daylight. Faulty wiring in a middle office on the twenty-ninth floor had been the culprit this time. They too had been able to escape injury because of the sprinkler's response to the heat of the melting electrical wire.

The small family also huddled together with the others. Their house and contents were a complete loss, but at least they had each other. The sprinkler, installed by the previous owner, had saved their lives. The wet pipe system which had saved the teenagers, business men and family was the same system that should have been installed in the Station Nightclub in West Warwick, R.I. Maybe then there wouldn't have been loss of life on February 20, 2003 at this small, overcrowded nightclub.

From the amount of flowers already covering the grave of Philip W. Pratt, the thankful group of survivors could guess that there were others with similar stories. No one had to convince them of the need for fire safety features in a building.

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