

## Fire Sprinkler Systems Creating Happy Endings

It is early morning and the sun is yet to rise. Everyone is sleeping after a long day at the park. The house is unusually quiet. The three children who usually fill the house with noise and laughter are fast asleep. The parents are asleep down the hall from the children's bedroom. Suddenly, the entire family is awakened by the piercing sound of the smoke alarms. Jumping up quickly, the parents' first thoughts are to locate their children. Their oldest child has already made his way through the hallway and quickly joins his mother and father in the search for his younger siblings. The mother opens the door to the second child's bedroom and scoops up the hysterical toddler on the other side. The father has already made his way to the infant's room. It is obvious that he is getting closer to the source of the fire for the smoke is now so dense it is getting difficult to see. He follows the sounds of his crying child and rescues her from her crib. The family makes their way outside and the father calls for help from a neighbor's phone. It takes the fire department twenty minutes to arrive on the scene. They enter the home immediately to find that the fire, which appears to have started from clothing left laying next to a space heater, is almost completely extinguished by the home's fire sprinkler system. Thankfully, the family is safe and the damage to their new home is minimal.

This fictional story has a happy ending that sounds almost too good to be true. However, with the increase of fire sprinkler systems in family residences, the scenario described above may not be so unrealistic. "Fires kill more people in the United States every year than all natural disasters combined" (*Home Fire Sprinkler Coalition...1*). Most

of these fire deaths occur in the home. Residential fire sprinklers combined with smoke alarms can reduce the risk of dying in a home fire by 82%. Home owners with sprinkler systems can expect financial losses due to a fire to be 90% lower than if their homes did not have sprinkler systems (*Home Fire Sprinkler Coalition...1*).

Many people do not consider residential sprinkler systems because they assume they are unaffordable. The cost of a sprinkler system for a home in the United States runs from two to five dollars per square foot. This price is about the same price per square foot as carpeting or floor tile. Systems are easily installed during construction, but because the systems require larger than normal water supply piping, retrofitting is usually not practical. (*Fire sprinkler, Wikipedia...5*) A home builder considering the cost of adding a fire sprinkler system to their new home should consider these facts: “The National Fire Protection Association says the average loss per fire in buildings with sprinklers was \$2,300 compared to \$10,300 in un-sprinklered buildings. The NFPA adds there is no record of a fatality in a fully sprinklered building outside of the point of origin” (*Fire sprinkler, Wikipedia...5*). .

Although Sprinklers are relatively new home fire safety devices, they have been in use in the United States since 1874 (*Fire sprinkler, Wikipedia...1*) . As early as 1852 perforated pipe systems were used in textile mills throughout New England as a means of fire protection. However, the systems were not automatic (*Fire sprinkler...1*). “The first automatic sprinkler system was patented by Phillip W. Pratt of Abington, Massachusetts in 1872.” ( *Fire Sprinkler Systems...1*). Then in 1874 Henry S. Parmalee, a piano manufacturer in Newhaven, Connecticut, improved upon Pratt’s patent. Parmalee became interested in fire protection after losing two factories to fires. In 1874 he installed his fire

sprinkler system into his piano factory and became known as the inventor of the first practical automatic sprinkler head. Parmalee's brother, George Parmelee, worked very hard to sale Henry's invention. He performed experiments to convince industries of the effectiveness of the automatic sprinkler (*History Automatic Fire... 2*). It was not until Parmalee connected with Mr. J. N. Lane that automatic sprinkler systems took a real foot hold in the United States. Mr. Lane had been the first insurance manager to advocate and encourage the adoption of fire fighting devices. It was his company, the Mutual Fire Corporation of Manchester that offered the first discounts for installations of sprinkler systems (*History Automatic Fire... 3*).

Over the years fire sprinklers have become mandatory safety equipment and are required by building codes and/or insurance companies. In the United States, places of assembly over 100 persons, and places with overnight sleeping accommodations usually require sprinkler systems. But, it has only been since the 1940's that sprinkler systems have become a part of private home fire safety measures (*Fire Sprinkler Systems... 1*).

The benefits of sprinkler systems are very obvious. Sprinkler systems have made commercial buildings much safer for everyone. These same advantages can be experienced in family homes. "In the United States during 1999, one death occurred every two and a half hours due to fire" (*Fire!...Fire Sprinklers... 1*). Although our fire fighters are the best in the world, five minutes is the crucial time period and most alarms are received too late. (*Merit Sprinkler... 2*) Fire sprinklers are able to respond within this time period. The fact that most fire related fatalities happen in homes and not commercial buildings supports the argument that residential fire sprinklers are well worth the modest expense they involve.

Fire sprinkler systems have been a part of our country's history for over 100 years, and still today the use of these systems is expanding as is the availability of the systems. In the near future, these very important fire safety devices may be as common as smoke alarms and fire extinguishers in residences, making homes safer for the families who occupy them and creating more happy endings.

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