



Deadly Deluges

We all know that too much of a good thing can be bad. Beer and syrup may be useful and even enjoyable, but not a flood of them! However, that's exactly what happened when a huge tank burst, releasing millions of gallons of sweet, sticky syrup that flooded an entire neighborhood, destroying homes and even killing people. Learn about another incident involving huge tanks of beer that had similarly disastrous effects.

It was lunchtime on a relatively pleasant day in January, 1919, on busy Commercial Street at the edge of the heavily populated North End section of Boston. A mix of horse-drawn wagons and trucks alternately arrived and left with their deliveries, carrying raw materials and finished products between the factories and the ships anchored nearby at the docks. Workers in the factories enjoyed the relaxed atmosphere of their lunchtime break, engaging in light conversation and sharing opinions about politics and current events over their sandwiches.

Rising high above the hubbub of the street below was a huge tank measuring 50 feet high and 90 feet wide and holding inside it 2,300,000 gallons of molasses. At the time molasses was popular in America as a cheaper alternative to sugar in cooking and other food preparations. Some molasses was fermented and distilled to produce rum or alcohol for industrial purposes as well as for human consumption.

The iron tank had been built in a rush by the United States Industrial Alcohol Company (USIA). This company delivered huge transports of molasses from ports in the Caribbean where the thick syrup was produced from the vast sugarcane fields there. In America the syrup was converted into industrial ethanol for uses such as producing gunpowder. The outbreak of World War I in Europe in 1914 led directly to a sharp rise in the demand for industrial alcohol and USIA was poised to benefit greatly from this new demand.

The tank was built by Arthur Jell who had extremely limited technical experience and could barely read a blueprint. Under pressure to complete the tank in time for the arrival of the first major shipment of molasses, Jell took many shortcuts, skipping even the elementary precaution of filling the tank with water first to test it for leaks. Once the tank was filled with molasses, holes were discovered from which the sticky liquid dripped so steadily that neighborhood children would collect it in cups.

When a worried worker informed Jell about the leaks, the contractor shrugged off the problem and later made quiet efforts to mask the loss of syrup. He put cheap iron reinforcements over the holes and even had the tank painted a deep brown so the syrup that escaped to the outside would not be noticed!

When the war ended in November, 1918, the demand for alcohol plunged, so USIA decided to turn its excess molasses into rum for drinking. But this had to be done quickly. In 1919, the 18th Amendment to the Constitution was ratified, signaling the inauguration of the Prohibition era the following year when the sale of alcohol would no longer be legal (See *Zman*, Nissan 5770/April 2010).

With the arrival of a huge tanker of molasses from Puerto Rico in Boston harbor, the enormous reservoir was filled to nearly maximum capacity over January 12 and 13. No tank in Boston had ever been filled with so much liquid as the USIA molasses reserve now held.

Two days later that tank would no longer be able to hold that record (or the molasses!).

Deluge

It was 12:30 in the middle of that January day when the tank suddenly emitted a deafening rumble. This was followed by a sudden explosion as the two sides of the tank were blown off. Then entire tank lifted into the air and came down while the nails popped out with such force that it sounded like a machine gun. In seconds, the tremendous tank was reduced to a memory and the ground shook as though a heavy locomotive was driving by.

One of the large iron plates that was blown off the tank smashed into the overhead railroad tracks nearby, twisting the steel structure so that the proud bridge where passengers had ridden just moments before now hung down nearly to the street. The next train to arrive came to a sudden



The gigantic molasses tank in better days.

halt just in time as the quick-witted driver noticed the damage and applied the breaks with all his might. Other scraps of iron from the tank were found 200 feet away and one crashed into a nearby factory, destroying the building and killing the workers inside in the midst of their lunch.

But aside from the shrapnel that flew in all directions, the force of the explosion sent shockwaves that knocked over people and horses and flattened homes. As some of the survivors struggled back to their feet, they were hit by a secondary shockwave that threw them over again. All this happened in the first few seconds after the tank's collapse. What would follow was even worse.

In seconds 2.3 million gallons of thick molasses erupted like a volcano and hot fluid flew 25 feet into the air. Waves of syrup surged forward like a tsunami at 35 MPH, flooding entire streets in downtown Boston. The roiling mass of hot molasses drowned people and animals; it knocked over vehicles and even buildings that blocked its swift advance.

A nearby warehouse where wagons were being loaded with finished goods was washed away in mere seconds. The huge loading pit outside was quickly filled with molasses and in no time the waves reached the doorstep of the warehouse. The four wagons in the yard were washed away by the mighty current and dashed against the outside wall with incredible force.

The entire warehouse began to shake as the five foot stream of molasses swept up against the building from outside. The pressure against the walls continued to build until the door and windows gave way and the stream of molasses stormed into the building, turning over everything inside. The workers fought desperately to swim in the sticky sea of syrup as they were knocked off their feet by the sudden onslaught.

The sea of molasses tossed around large piles of cloth, shoes and potatoes as well as cartons and crates of all sizes. The heavy mass of syrup broke through the floor and began pouring down into the basement below, drowning the workers who were trapped there. Several who were standing near the staircase tried to run out but were met by a stream of molasses pouring down and were swept back into the cellar where they perished.

In the street, meanwhile, the waves of molasses reached the incredible pressure of two tons per square foot and easily washed away anything in its path. When they reached houses, the walls buckled under the mighty pressure and collapsed like matchsticks. The home of one woman who lived opposite Commercial Street gave way without the slightest opposition, instantly



Commercial Street, Boston, early 1900s.