"Jeffers Side Stroke Hand Pump Engine"

Source: John Comrey

Hand pump fire engines were considered a technological marvel, especially when compared to the bucket brigades that preceded them as a primary firefighting method. Early devices were carried to the fire scene for use but wheels quickly became the obvious improvement as they gained size and weight.

The devices were relatively simple. They contained a water box, that still had to be manually filled with water, a pump, and pump arms called brakes that would extend out the sides or ends, allowing a lot of people to join into the effort. It was hard and prolonged work, often being passed on to bystanders who were required to assist or possibly be arrested.

Portland fielded many hand pumpers prior to steam fire engines entering the scene in 1868. One vehicle is still owned by Portland Fire today, however, it did spend some time in the hands of others once its service was phased out by technology.

The Jeffers Sidestoke Hand Pumper was used up until the department became the Portland Paid Fire Department in 1883. It had been relegated to reserve service but was still useful. It was apparently sold to Pendleton Fire Department in 1883 and remained there until the early 1900s. An effort by the Veterans Volunteer Firemen's Association would raise money from annual fundraisers in order to buy the apparatus back. It was returned intact, even with what appears to be the original painting on the side (which includes the "3" for Columbian Engine Company #3).

The Jeffers Hand Pump was a very innovative machine for the day. Most hand pumpers of the day had brakes that unfolded to the front and rear of the vehicle then were extended out to the sides to make room for more people to pump. The sidestroke design allowed the brakes to run the length of the vehicle, so they only needed to be dropped down to pumping level, not unfolded. This allowed for quicker deployment and operation of the vehicle.

William Jeffers, the creator of this apparatus, is an interesting story with connections to Portland. His great, great grandson (John Comrey) was a federal fire investigator in Portland and provided the following information:

> *William Jeffers was born August 27, 1809 in Milton, Massachusetts. He was the son of William and Rebecca (Covill) Jeffers. Jeffers moved to Pawtucket, Rhode Island where he learned to be a cabinetmaker while working for a casket maker. Jeffers later became a machinist and opened his own shop that repaired textile machinery.*
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> *Jeffers was a member (volunteer fireman) of Rhode Island Engine Company #1 of Pawtucket. It was in Jeffers' capacity as a volunteer fireman that he came to understand and build fire engines.*
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> *In 1848, the members of Rhode Island Engine Company #1 were frustrated with the poor performance of their hand pump fire engine, which was built in 1844 by Joel Bates. Jeffers and*

two other members of the company designed new pumps for the engine and then Jeffers rebuilt the engine with those new pumps. The rebuilt engine was very successful in muster competitions.

In 1849, at age 40, Jeffers began a new enterprise building hand pump fire engines. The first engine was the Gaspee No. 9 built for Providence, Rhode Island. The Gaspee had a familiar look and could be easily mistaken for the Rhode Island No 1. The Gaspee was a double-deck end-stroke machine that required about 40 firemen to operate. It was an engine of beautiful design with an ornate wood tower surrounding its air chamber. It was even more remarkable as it was built in Jeffers' small shop that was described as a shed said to be 7' by 9', situated at the end of Jenks Lane in Pawtucket.

The engine business flourished as his reputation spread. Jeffers expanded his factory and hired more employees. Jeffers continued to build the double-deck end-stroke engines but his primary engine became a side-stroke. Jeffers also built hose carts.

In 1856 Jeffers formed a limited financial partnership with Robert Sherman and Gideon L. Spencer and they changed the name to William Jeffers & Company. With business booming in the early 1860s, Jeffers bought out his partners.

On April 17, 1860 Jeffers received his first patent for a modification of a pump valve.

On September 3, 1861 Jeffers received a patent for a significant design of a hose nozzle that allowed for changing the nozzle tip without shutting down the hose.

Starting in 1861 Jeffers designed a new steam engine and then built 63 steam engines.

On December 20, 1871, Jeffers submitted a patent for design of a relief valve for steam fire engines. The patent was granted on November 18, 1873.

On December 24, 1872, Jeffers son Frank was granted a patent for a hose coupling he designed. Frank was a machinist who worked in the Jeffers factory as foreman.

It was during the period of manufacture of steam engines that Jeffers suffered financial reversal from the prosperous years of building hand engines. The combination of the business downturn of the Civil War, money due from fire companies in the south and the increased competition of the steam fire engine business lead the business into financial decline.

In 1875, to settle his debts Jeffers sold the business to P.S. Skidmore of Bridgeport, CT. Skidmore made eight Jeffers steam engines until a fire in 1878 destroyed his factory including all the design documents.

In 1877 Jeffers went back into the hand fire engine business after Albert E. Tenny of Providence invested $5,000 and became his partner in the new endeavor. Jeffers had identified that many small cities could not afford the expense of maintaining a steamer whose boiler had to be always attended. Jeffers built a new hand engine utilizing a pump system that he designed that could be pumped by a dozen men, a design that he patented in October 1877. The engine was called "grasshopper" and then later "Jeffers' folly". He built two or three of these engines and there is documentation that one was bought by Hartford, Wisconsin and one was sent to Texas. As with all new designs that engine would probably have benefited from continued refinement but Jeffers died at age 69 on March 6, 1879. William Jeffers is buried in Mineral Spring Cemetery in Pawtucket, Rhode Island. Jeffers built 156 hand pump fire engines of which 25 are known to survive in museums and fire departments across the United States. Several of the engines still compete in musters.