FIRE ENGINES

Eddie Baker

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EARLY DAYS

Since man discovered fire there has always been a problem with fire spreading to devour both life and property. The Romans had an organised firefighting force by 300 BC and by the first century had established the Corps of Vigiles. Their equipment would have been very basic, consisting of long hooks and axes, which were used to pull down buildings to stop the spread of fire, and bucket chains to throw water on to the fire. When the Roman Empire collapsed so did their expertise in firefighting.

As urban living became more popular the risk of destruction became very high and there were many instances

Richard Newsham manual pump from 1734. This example came from Dartmouth and has two single-action pumps and an air vessel placed in the tank.

of whole villages and small towns being destroyed. It was not until the sixteenth century, however, that the use of 'squirts' came into use. These were made of brass and took one or two men to hold the unit and a third to pull and push the piston handle. It was the Great Fire of London in 1666 that raised the nation's interest in any organised form of fire protection and the insurance companies set up their own fire brigades.

Horse-drawn manual pump built by Merryweather and Sons in 1866. With twenty-two men to work it the engine could deliver 100 gallons of water per minute to a height of 120 feet. This example was purchased by the Duke of Portland for his Welbeck Abbey Estate.

By the seventeenth century, manually operated pumps had come into use. The most common design consisted of a pump mechanism housed in a cistern which was filled by a bucket chain. The pump was operated by four or five men who worked a handle up and down, forcing the water out through a nozzle fixed to the top of the unit. Later designs could draw water through a suction hose and pump it out through a leather hose, which could be taken closer to the fire.

In 1721 Richard Newsham produced a pump that out-performed all previous designs and now produced a constant jet of water. Newsham's successful design was soon being adapted and copied by fire engineers worldwide.

The design of these engines became larger and larger and by the beginning of the nineteenth century the use of horse-drawn engines became a natural progression.

The concept of the different insurance brigades dealing with fires only in their own insured buildings led to intense rivalry which was not helpful to efficient firefighting. In London this eventually led to the amalgamation in 1833 of the insurance brigades into the new London Fire Engine Establishment (LFEE). With thirteen fire stations this was

still a private fire brigade funded by the insurance companies and as such was mainly responsible for saving goods from fire.

The first steam fire engine was built in 1829 by John Braithwaite of London to a Swedish design and was capable of pumping water to a height of 90 feet. Liverpool became the first brigade in Britain to operate a steamer in 1831 and it remained in use for many years. James Braidwood, chief of the LFEE, was strongly against steam-powered engines but relented for the river service and had a manual operated fire float converted to steam power.

The advent of steam power did not herald the end of manual power as by the middle of the nineteenth century Merryweather and Sons were still building horse-drawn manual fire engines requiring from six men to forty-six men to operate them. The largest was said to be able to pump water to a height of 150 feet. With the large number of men required to operate these machines it was obvious that help from onlookers was needed and tokens were handed out which entitled the helpers to free beer.

In the 1850s the name of Shand Mason & Co. came onto the scene and soon established itself as the leader in the field of fire engine design. By 1860 the LFEE had seen the light and was operating a hired Shand Mason engine; three more were placed in service in 1866, later followed by a further ten.

Merryweather & Sons built their first steam fire engine in 1861 and were soon building a number of different designs including the Metropolitan Fire Brigade No. 1 Pattern, which came in two sizes: 350 and 450 gallons per minute (gpm).

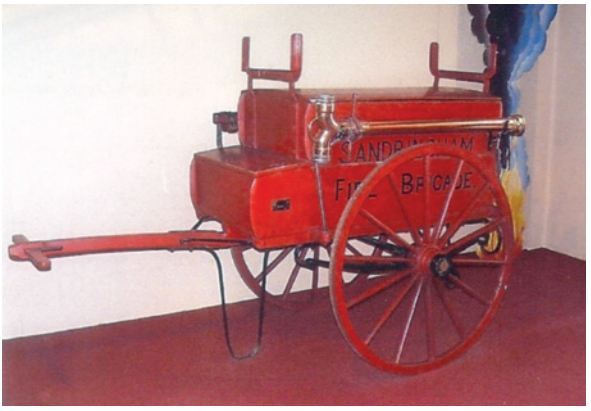
A number of large fires including the Palace of Westminster in 1834 and Tooley Street in 1861 had spurred the insurance companies to lobby the government to provide London with a brigade at public expense and management. The Metropolitan Fire Brigade Act of 1865 was passed creating the Metropolitan Fire Brigade (MFB), which in 1904 changed its name to the London Fire Brigade (LFB).

By 1866 there were sixty Shand Mason steamers in service in the UK, seventeen built by Merryweather and sixteen by various other manufacturers. It is apparent that Shand Mason and Merryweather had secured the market with few other manufacturers coming forward.

As water mains improved and fire hydrants became more common in the mid-nineteenth century, some town brigades, having a good water pressure, could connect their hose directly to a standpipe without having to use an intermediate pump to maintain pressure. This avoided the expense of providing a manual or steam pump and instead a hose cart or hosereel cart was used to stow the hose and equipment.

Hose carts were suitable for towns with closely spaced hydrants, which only required small runs of hose. The basic hose cart was a box mounted on a two-wheeled hand-pulled carriage carrying a supply of hose, a standpipe, branch-pipe, nozzles and hand tools.

The hosereel cart, where coupled hose was wound on a reel, was more suitable when a longer run of hose was required. The reel was mounted between the two wheels of the carriage and could carry up to 2,000 feet of hose. An equipment box was invariably fitted across the top of the carriage. Hand hosereels were most common, although larger models were available to be horse-drawn with a seat for two men.



This simple hose cart was in use at Sandringham House, Norfolk. Note the fittings for carrying a ladder.

In the early nineteenth century London had a number of street escape stations situated at strategic street corners; these were originally independent of the fire brigade until 1866 when the MFB took full control. Each station consisted of a