



**Victorian Fireman**

## The Victorian Fireman

The Royal Gun Powder Factory here at Waltham Abbey never employed large numbers of professional fire fighters until quite late in its history. Whilst we know that the site had fire engines and fire equipment, we do not know when we employed the first fireman. The early rulebooks given to workers do not mention firemen at all. Unlike today where a fire fighter goes to training school and undertakes lots of drills, our Victorian fireman did not. In fact it is highly likely that he was already trained by the time he arrived at Waltham Abbey or at least had background knowledge of dealing with fires. A large proportion of men employed as firemen were ex Navy. This was due to being on duty for long hours, responding to orders and understanding the use of knots, lines, etc.

In this photograph, our fireman is shown wearing a black leather Lion motif helmet. He also has we believe a badge of office, or an early form of identification on his tunic. Apart from the large axe on his left hand side, Victorian firemen would also carry attached to their belts, a hose spanner and on some occasions a belt line. Early hoses needed to be screwed together. This was time consuming and very soon with the introduction of instantaneous couplings the need for hose spanners to be carried by fireman passed. We still however use hose spanners today to join together large suction hose, but not the delivery hose. Using information from another Munitions Factory it is possible that the boots our Victorian Fireman is wearing would only have been stitched. This would prevent sparks whilst our fireman went on his duties around the factory had his boots been nailed. Most leather fire boots used at this time had both nails and stitches. Safety was even then of paramount importance.

## Fire Brigades at The Royal Gun Powder Factory

The fire fighting services operated along a well-tryed Victorian formula of having very few full time professional firemen but lots of volunteers or workers pressed into service as and when required. Documents survive showing that not only did the factory have guidelines for those operating the early fire engines but also kept in the Master Worker's office were logbooks showing that the workers had been drilled twice a month in their use. The Assistant Superintendent inspected these logbooks on a monthly basis. The Superintendent or his Assistant were the only people allowed to make changes to the detachments operating the fire engines. Training was short. Uniforms consisted of in most cases an armlet or badge. If you got wet or dirty, hard luck!

With the introduction of professional firemen certain responsibilities moved. Testing and checking equipment, organising drills, overseeing the burning off of waste materials all came under their control. Up until quite late the factory's life, there were very few full time firemen, perhaps three or four at a time. By 1905 the factory still ran 10 fire engines, of which three were floating. Four hose carts were strategically positioned around the factory mostly in purpose built hose stores. The land-based fire engines would require a minimum of between 14 and 18 men to get started. Very soon, the man in charge would have to find lots more helpers to work the manual engines, as they would need replacing at regular intervals. This was hard, tiring and dirty work. Unlike fire fighting in the local town where you could co opt anybody, within the factory especially during a fire you could only call on fellow workers or the factory police if they were not on other duties. In towns it was the normal practice to reward those working the engines with tokens exchangeable for beer or money. Unfortunately no such system has been documented as being in place at the Factory.



**Fire Engine & Crew**

## Early Fire Engines and Fire Equipment

The Royal Gunpowder Factory here at Waltham Abbey used canals rather than roads for many years. A description of the use of floating fire engines can be found elsewhere on this display. The War Office and other government departments responsible for purchasing fire-fighting equipment for the RGPF brought for many years from the big two fire engine makers.

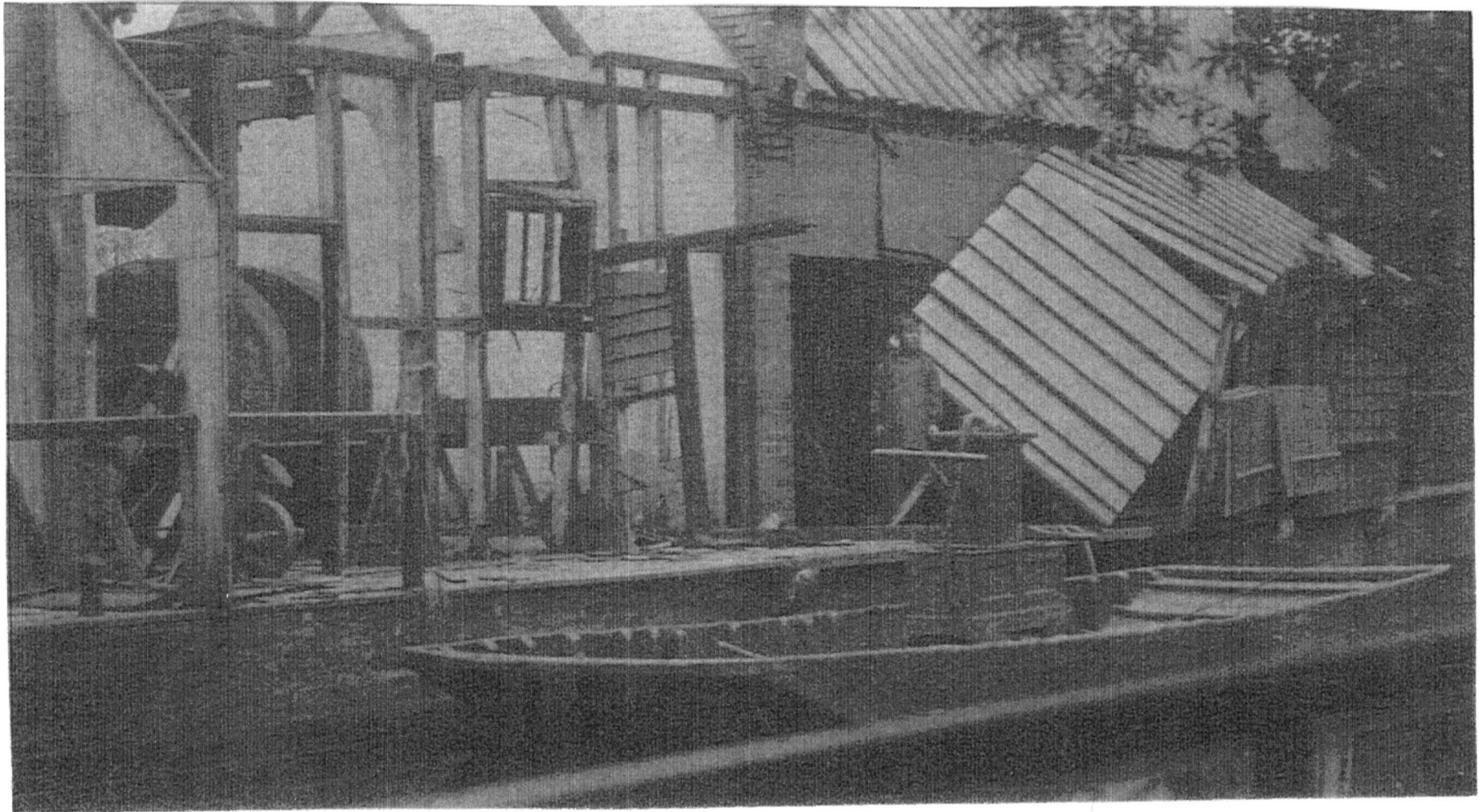
Shand Mason and Merryweathers built and supplied just about everything you would need to both start up and continue to operate a Fire Brigade both here and abroad. These company's products were used in Gunpowder works, munitions factories and arsenals through out the world. They would even supply long service medals and uniforms for the fire fighters. Manual fire engines came in all shapes and sizes and they ranged from small, with one man on each set of levels pumping furiously, right up to manuals that covered the factory that required 7 or 8 men on each side. By 1904 some of the older fire engines had been sold off, although most due to their age had only realised a few pounds from a local dealer. A list of the fire equipment used in the Factory during 1905 shows that the factory was well prepared with hoses, hose carts, floating fire engines and of course the manual fire engines. A copy of this list can be found elsewhere on this display. In the rulebooks given out to workers, mention is given in some years to forming bucket chains, with the men spaced 6 feet apart should they not be able to use the suction hose. In yet another historic document it states that there were 1120 fire buckets of different types. The fire buckets needed mending and checking by the firemen on a regular basis. Not a very glamorous job, mending fire buckets!

## List of Fire Fighting Equipment in use at RGPF

Fire Hydrants, upper, lower works & Carrs Mill	74
Hose and Fire Engine Houses	21
Fire Engine Boats	4
Box in wall for hose, Carrs Mill	1
Hose Carts	4
Fire Engines & Small hand fire engines	16
Lengths of fire hose	275
Standpipes in position 2 x 1½ inch length of hose	4
Standpipes in position 3 x ¾ inch length of hose	1
Standpipes in position 1 x ¾ inch length of hose	9
¾ inch hose lengths at main fire station	3
1 ½ inch rubber hose for acid boilers	3
Hose for flushing drains	19
Stand pipes near C/E stoves	3
Fire Buckets	1120
Hand pumps with hose and nozzle	52
Patent fire extinguishers	4
Pole drags with hooks	15
Rope drags	8
Stretchers	44
Lifebuoys	45
Branch pipes	50
Nozzles	90
Suction pipes	25
Copper strainers	13
Wicker baskets	7
Hydrant keys	24
½ inch elbow delivery's	31
Turncock's tools sets	9
Hose wrenches	59
Copper lamps	4
Japanned lamps	8
Brass Union Joints	5
Large Axes	8
Iron Crow Bars	6
Common Spades	5
Main water valves	64
Fire Rule Boards	25
Breechings 1 into 2	11
30 foot extending ladders	4



**A Hose and Stretcher Store**

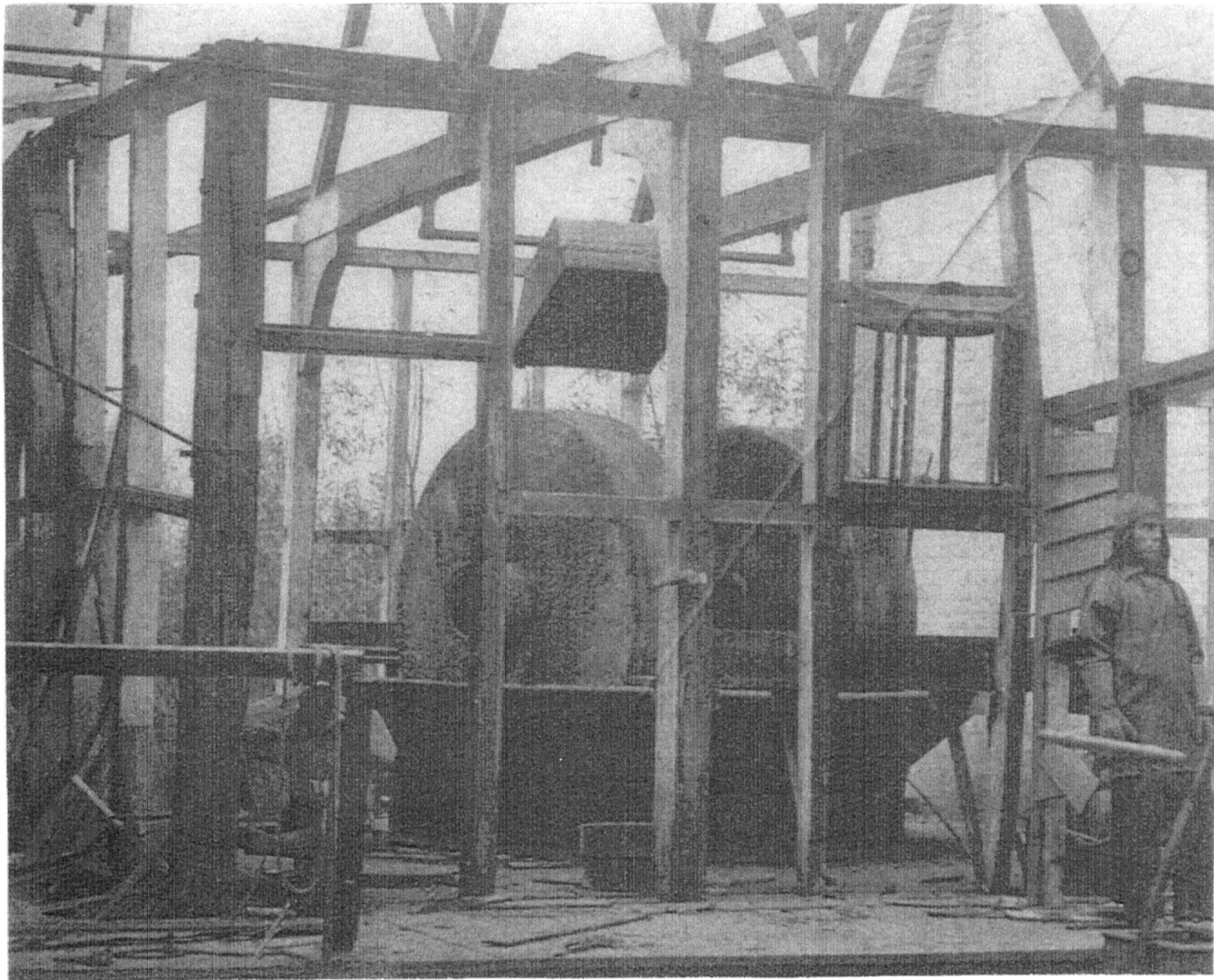


**Early Floating Fire Engine  
Picture taken on 7<sup>th</sup> Sept 1977**



## Floating Fire Engines

Seen in this photograph is an early form of floating fire engine attending an explosion and fire on 7<sup>th</sup> September 1877. The photograph is we believe one of the earliest known to show a fire engine of this type. We do know of paintings showing fire floats on the Thames from a much earlier period. One of these paintings clearly shows a floating fire engine operated by The Sun Fire Office. However, the lack of roadways and the fact that everything in the early years was moved around the Gun Powder Factory by canal meant that the only sure way to get a fire engine to the scene of a fire was by water. A small manual fire engine was placed on a flat-bottomed boat. When required boatmen would take the floating fire engine to the scene where the fire fighters took over. Water was pumped over the side of the boat into the fire engine using suction hose. Delivery hose from the engine was then used to fight the fire. Floating fire engines could be found at different points with in the factory. By 1905 there were only three located at Mill Head, Number 1 Tray Stove and Edmondsey, near the plumbers shop. In 1903 the general accounts show a payment of £91 for a floating fire engine, whilst in 1902 a payment of £37 10s was also made. Unfortunately records do not show how many times floating fire engines were used in anger but given the number of incidents it must have been numerous. On 4<sup>th</sup> October 1920, reports circulated regarding the Edmondsey fireboat adrift near Number 2 Granulating House. Later that day it was returned to its station near N/G Shifting Room. Damage was limited and the incident was investigated although we have not found out the result of that investigation apart from that the boat going into willow by the bank prevented further damage. The purchase and repair costs for the boats used differed considerably. Larger fire engine, much larger flat-bottomed boat required, which cost a lot more!



**Site of an explosion in 1877 in Number 6 Mill, Millhead**

## Incidents of Fire & Explosion

The art of making any explosive whether it is gunpowder or its modern day equivalent has, is and always will be fraught with danger. Accidents have resulted in the loss of many lives and the damage caused cost thousands of pounds. Lessons were learnt, new initiatives acted upon, legislation improved by many governments but with each new discovery and update, the risks and hazards altered. The Victorian Fireman had to deal with large explosions and fires just as our modern fire fighters do. This period in history saw so many far-reaching inventions. New chemicals and processes were tried; some successful, other went disastrously wrong. Here at Waltham Abbey, death and danger were an everyday issue. One false move or even slight slip could have fatal consequences. Serious explosions were rare and those that caused death were fortunately even rarer but they did happen. The following list is not complete but is designed to show when, where and the result. Later you can see, taken from an annual factory report, the number of fires & other incidents reported during an average year.

Date	Location	Result
1801	Gloom stove	<b>Nine men and horses killed, buildings not rebuilt</b>
April 1843	No 2 press & corning house	<b>Seven dead, others injured. Destruction up to 200ft from original source</b>
June 1861	'A' group mills	<b>Considerable damage</b>
Dec 1902	'G' group mills	<b>Three killed, with considerable damage to building at source and Groups D, E, F mills</b>
Nov 1908	No 1 washing house	<b>One killed</b>

**Incidents recorded during the period  
1<sup>st</sup> April 1908 until 31<sup>st</sup> March 1909**

<b>Date</b>	<b>Incident Type</b>	<b>Location of Incident</b>	<b>Damage or Comment</b>
<b>7<sup>th</sup> April 1908</b>	<b>Grass Fire</b>	<b>Near Guncotton Factory</b>	<b>Cause given as Spark from Motor Wagon</b>
<b>13<sup>th</sup> April 1908</b>	<b>Accident</b>	<b>Guncotton Boiler House</b>	<b>Man with coat caught in machinery</b>
<b>26<sup>th</sup> April 1908</b>	<b>Fire</b>	<b>Near Edmondsey Boiler House</b>	<b>Bags of hot soot on fire</b>
<b>16<sup>th</sup> June 1908</b>	<b>Ignition of cordite</b>	<b>West Press Bay 2, Group H</b>	<b>No substantial damage</b>
<b>22<sup>nd</sup> Aug 1908</b>	<b>Building Fire</b>	<b>Cylinder House, Charcoal Burning</b>	<b>Beams and window frame</b>
<b>16<sup>th</sup> Sept 1908</b>	<b>Chemical Fire</b>	<b>Heat Test Room Main Laboratory</b>	<b>Bottle of acetone dropped, severe damage to heat test room</b>
<b>15<sup>th</sup> Oct 1908</b>	<b>Fire</b>	<b>Group C Buildings</b>	<b>Machinery fire following short circuit</b>
<b>6<sup>th</sup> Nov 1908</b>	<b>Spillage of Nitroglycerine</b>	<b>Number one Washing House</b>	<b>Small amount spilt on floor</b>
<b>14<sup>th</sup> Nov 1908</b>	<b>Explosion</b>	<b>Number one Washing House</b>	<b>Whilst undertaking repairs following incident on 6<sup>th</sup> Nov, explosion one dead</b>
<b>28<sup>th</sup> Jan 1908</b>	<b>Fire</b>	<b>Number 1 Cotton Waste Teasing Machine</b>	<b>Fire in drum and machinery</b>
<b>19<sup>th</sup> Feb 1908</b>	<b>Ignition of Cordite</b>	<b>Press, Bay H, Group H</b>	<b>No appreciable damage</b>
<b>22<sup>nd</sup> Feb 1908</b>	<b>Ignition of Cordite</b>	<b>Number 1 Press, Guncotton Factory</b>	<b>Slight damage to press and building</b>