

FIREWORK OPENING

Tuesday 2 May at 2-30 pm

Order

Welcome: T Knapp

Maurice Evans

Ron Rapley

T Knapp

Don Spinks

Malcolm Armstrong to declare Spinks Gallery and Firework exhibition open

How civic an occasion should it be?

Will Liz Webster still be mayor?

Should Chairman of EFDC have a role?

Close to local elections on 4 May?.

ROYAL GUNPOWDER MILLS Waltham Abbey

Press Release

6th May 2002

LIGHT THE BLUE TOUCHPAPER- A CELEBRATION OF FIREWORKS

For this Golden Jubilee Year, the Royal Gunpowder Mills is staging a major exhibition about the history of fireworks and their role in celebration. This will be the first exhibition in the Spinks Gallery, named after Don Spinks, the leader of Waltham Abbey Town Council. It was his vision and determination, which led to the Royal Gunpowder Mills being saved for the nation and opened to visitors.

For centuries, great military victories and Royal events have been celebrated with firework displays. Queen Elizabeth I saw a firework display in August 1572 and, in 2002, the Jubilee of Queen Elizabeth II will be celebrated with fireworks.

The exhibition is based on an extraordinary firework collection built up by Maurice Evans, together with firework making equipment from the Black Cat firework factory in Huddersfield. The exhibition will be the most comprehensive ever displayed to the public, celebrating this once important manufacturing industry.

Maurice's collection includes a vast range of fireworks, posters, programmes for firework displays and a wide range of items using fireworks as the inspiration for the design.

The Exhibition

There are a number of main elements, beginning with the history of fireworks and the manufacturing companies. In Britain there were over twenty firework manufacturers, many based in the Southeast, and many of their fireworks are on display. Some of these fireworks were made as display samples and others have had their explosives removed. Together with the advertising posters, the designs on the fireworks show how design and promotion have changed over the last century. Many of these manufacturers have now disappeared and these days very few fireworks are now made in the UK with many imported from the Far East. Comics, stamps, jigsaw puzzles, promotional items, cigarette cards and post cards complete the display. Firework manufacture and firework celebrations are international, and fireworks from 16 countries are on display.

With equipment from Black Cat Fireworks, formally Standard Fireworks, of Huddersfield, visitors can see how a firework-filling shed was laid out. After the 1875 Explosives act, firework manufacturers moved out of towns and made fireworks in small sheds spread out over a wide area. Manufacturing and igniting fireworks is not without risk, and the exhibition includes the changing composition of fireworks and the impact of regulations to make them safer.

A bonfire party scene is recreated with large garden fireworks from the late twentieth century. This contrasts with a modern display laid out as if celebrating the Jubilee. Large mortars, which propel star shells into the air, along with batteries of rockets and roman candles, surround the finale, which is a set piece of the profile of her Majesty the Queen.

Robert Taylor, the Director of the Royal Gunpowder Mills, said ' *We are delighted to be able to put on this exhibition as our contribution to the celebrations for Jubilee Year. Gunpowder has always been associated with fireworks and we are pleased to be able to display the products of this once important British manufacturing industry. I have been amazed by the design and complexity of some of the fireworks in Maurice's collection, particularly the pre-First World War Indoor fireworks which were made in the shape of fruit or petrol pumps.*'

NOTES FOR EDITORS

The exhibition will be open to visitors from Thursday 9th May until 27th October 2002.

Opening hours: Monday to Sunday 10am to 6pm (last entry at 5pm)

Prices: Adults £5.90, concession £5.25 (over 60's & students)

Children £3.25 (5-16yrs) Children under 5 Free.

Maurice Evans.

Maurice's Father was a manager of a shop on Shoreham Beach, West Sussex, where Maurice would help out. Many regular customers helped fuel his interest in fireworks. On November 6th they would bring fireworks which had been found on the seashore around bonfires from the previous night's celebration. Following a career in the motorcycle trade, Maurice retired early and turned his hobby into a business with the set up his own company, Celebration Fireworks.

Black Cat Fireworks

This company also trades under two of the famous British manufacturing names- Standard and Brocks. Standard fireworks were founded in 1891 by James Greenhalgh, and began manufacturing in Huddersfield in 1910. Brocks were founded around 1700 in London and had a number of manufacturing plants. They took over Wilders Fireworks in 1971. Black Cat still occupies the Standard manufacturing site in Huddersfield and imports its fireworks from the Far East.

Gunpowder and Fireworks

The histories of gunpowder and fireworks are closely intertwined. In Britain, gunpowder is forever associated with Guy Fawkes and the Gunpowder Plot of 1605- an event still celebrated today with fireworks and bonfires. Legend has it that Waltham Abbey was the source of gunpowder for the Gunpowder Plot, although there is no clear evidence for this. The Chinese, who are credited with the discovery of gunpowder, used it for firecrackers to ward off evil spirits and for crude forms of rockets. Although military uses of gunpowder were most important, fireworks using gunpowder were developed for use in celebrations. Gunpowder continues to be one of the main ingredients of fireworks today.

Fireworks were first made by 'fireworkers', men in armies whose job it was to mix gunpowder on the battlefield and, after victories, put on firework displays in celebration. Firework manufacture began in continental Europe and then around in 1700 John Brock set up his factory in London. Other manufacturers started work in the late nineteenth century and after the Second World War, many new companies were set up.

For more information please contact Samantha Bird/Claire Millington on 01992 707370

Royal Gunpowder Mills, Powdermill Lane, Waltham Abbey, Essex, EN9 1BN.

e-mail info@royalgunpowdermills.com

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e-mail info@royalgunpowdermills.com

FIREWORK “FIRST” *draft*

Firework fans of all ages will find the new special exhibition at the Royal Gunpowder Mills in Waltham Abbey, Essex is a real “must-see”.

Titled “Light the Blue Touchpaper”, the exhibition is housed in a newly refurbished building at the historic Mills, and centres on the unique collection of fireworks and firework memorabilia owned by expert Maurice Evans. It is the first time such an comprehensive exhibition has been presented to the general public.

Among the cleverly recreated scenes covering 100 years of fireworks manufacture, sale and use can be found all the old favourites from the garden displays of days gone by as well as the giant Roman candles, mortars and rockets so beloved at the big commercial displays. There is even a modern computerised firing console together with mortar and rocket racks to show how the big effects are done today.

Thanks to the generosity of Standard Fireworks - now known as Black Cat – there are also modern examples of firework-making machinery and equipment to view, giving an insight into the complexity of manufacture – not to mention the great care required to maintain safe operation.

Meanwhile the social atmosphere of bygone firework days is represented at the exhibition by a stunning collection of posters from the early 20th century, illustrating the prominence of British manufacturers at that time. Some were clearly wary of their foreign competitors, with one poster encouraging customers to “Buy British Sparklers and Reduce Unemployment”

A visit to “Light the Blue Touchpaper” is included in the entry price to the Royal Gunpowder Mills, whose other features include a special effects cinema, hands-on interactive exhibition on the history of gunpowder manufacture at the site, frequent historical re-enactments, restaurant and gift shop and many acres of unusual buildings and wildlife areas to explore.

Sign-off and end

HOW FIREWORKS BEGAN

It is thought that fireworks first began in Asia. By chance or experiment the materials were seen to make fires burn brighter.

Over the course of time the three ingredients of gunpowder- charcoal, sulphur and saltpetre (potassium nitrate) were combined- an explosive mixture had been produced.

A bamboo tube filled with the mixture containing a high proportion of charcoal would emit showers of sparks when ignited- today's golden fountain.

Originally the firework composition- black powder- was used for warlike purposes. The Chinese filled iron or earthenware pots with firework composition and flung them towards the enemy with slings and catapults.

Greek fire was a simple firework mixture which fell into use once the power of gunpowder was apparent.

By 1573, pyrotechnics or fireworks were beginning to be thought of as having a pleasurable purpose, when William Bourne wrote about fireworks, *'...it is rather meet to be used in the time of pleasure in the night rather than for any other service.'*

Until the 1600s gunpowder did not travel well and the ingredients were mixed on the field of battle. The gunpowder mixer was someone to be avoided as he was traditionally a repent and somewhat feared figure. Most mixers were not professional soldiers and their work was thought of as beneath dignity.

Gradually fireworks began to be used for celebration and pleasure. It was these gunpowder mixers to provide the display. In 1532, Charles V, the ruler of the Holy Roman Empire, had fireworkers in his army whose job was to put on victory celebrations.

Louis XIV of France instituted a tradition of fireworks in his gardens at Versailles. During the summer of 1676 the displays went on for five consecutive evenings.

It was the eighteenth century before any changes were made to the firework mixture or composition. Chinese fire, an entirely new effect produced by the addition of powdered iron to a mixture of saltpetre, and charcoal.

During the next hundred years powdered glass, brass and steel filings were used to provide further variety, but the effects did not really produce any colour.

In 1825, this changed with the introduction of potassium chlorate. This combined with sufficient heat to turn the metal into gas and produced the colour ????. This led to a wide variety of new colours and effects.

In 1860, magnesium was added- it burned with greenish light and a brilliant character unlike any other else.

Aluminium was also used, but before the introduction of the Hall process in 1888, it was too rare. Then firework makers were pleased as aluminium would do all that magnesium would do but was cheaper.

How do fireworks whistle

The sound is made by burning of small tubes with a composition of sodium picrate, which burns with a loud whistling sound.

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A bamboo tube filled with the mixture, containing a high proportion of charcoal, would emit showers of sparks when ignited- today this would be called a golden fountain.

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Louis XIV of France instituted a tradition of fireworks in his gardens at Versailles. During the summer of 1676 the displays went on for five consecutive evenings.

The Italians are credited with introducing the firework industry into Europe, and the manufacture was adopted by neighbouring countries such as France and Germany.

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November 5th. Parliament passed a law which made November 5th a day a national thanksgiving which was marked by the traditional celebration bonfires. For two hundred years it was compulsory to observe this occasion and officials often presided over the ceremony of burning of the effigy of Guy Fawkes.

The tradition is earlier, however, with November 1st, the beginning of winter, being marked with lighted bonfires and parades with flaming torches and firebrands.

Remember, remember the fifth of November, gunpowder, treason and plot.

The birthday of George III on June 4th was during the eighteenth century and into the nineteenth century, an occasion for public rejoicing with fireworks.

HOW FIREWORKS BEGAN

GUNPOWDER AND FIREWORKS

It is thought that fireworks first began in China around the eight century AD. Experimenters looking for the elixir of life found materials which made fires burn brighter. Records from the Chinese Tang dynasty mention 'silver flowers' and 'fire trees'-probably early fireworks.

Over the course of time the three ingredients of blackpowder-charcoal, sulphur and saltpetre(potassium nitrate) were combined- an explosive mixture had been produced. A bamboo tube filled with the mixture containing a high proportion of charcoal would emit showers of sparks when ignited- today's golden fountain.

Originally the firework composition-blackpowder- was used for warlike purposes. The Chinese filled iron or earthenware pots with firework composition and flung them towards the enemy with slings and catapults. When used in guns it became known as gunpowder and is still one of the main ingredients of fireworks.

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ROYAL FIREWORKS AND CELEBRATIONS

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Since then many Royal Events and celebrations have seen major firework displays.

The Royal Jubilee of ????? see poster

The Queen's Silver Jubilee of 1997, the wedding of Prince Charles and Lady Diana Spencer in 1982 and the many celebrations to mark the new millennium.

The Royal Wedding Fireworks of 1982 were planned to be similar to a great celebration held in England in 1749 to celebrate the end of the War of the Austrian succession. The 1749 celebrations had problems and the 1982 fireworks were not thought by the public to be a success.

{Duke of Richmond confiscated what was left and set them off in his Whitehall Gardens RSA CARD}

ROYAL FIREWORKS AND CELEBRATIONS

Victory Fireworks

Fireworks were first used to celebrate victories. In 1532, Charles V, the ruler of the Holy Roman Empire, had 'fireworkers' in his army whose job was to put on victory celebrations. They then began to be used for celebration and pleasure. In England, Elizabeth I witnessed a firework display in August 1572. Louis XIV of France instituted a tradition of fireworks in his gardens at Versailles. During the summer of 1676 the displays went on for five consecutive evenings.

Bonfire Night

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Royal Occasions

During the eighteenth century and into the nineteenth century, the birthday of George III on June 4th was an occasion for public rejoicing with fireworks.

Since then many Royal events and celebrations have seen major firework displays. King George V celebrated his Jubilee in 1935 and Standard Fireworks encouraged people to buy their fireworks for their own celebrations.

Major firework displays celebrated the Queen's Silver Jubilee of 1997, the wedding of Prince Charles and Lady Diana Spencer in 1982 and the start of the new millennium. For the Golden Jubilee of Queen Elizabeth II in 2002, fireworks continue to have a major role- over four and a half centuries after Queen Elizabeth I saw her first display.

{SECTION BELOW IN BOX WITH CARD IMAGE}

'The Prettiest Entertainment in the World'

The Royal Wedding Fireworks of 1982 were designed to be similar to a great display held in England in 1749 to celebrate the end of the War of the Austrian succession. The many of the 25 tons of fireworks failed to ignite properly. The

Duke of Richmond confiscated, or purchased, what was left and set them off in his Whitehall Gardens for his friends.

Horace Walpole wrote ' Whatever you hear of the fireworks, that is short of the prettiest entertainment in the world, don't believe it; I have never passed a more agreeable evening.'

FIREWORK COLOURS

The first fireworks were made from the gunpowder ingredients- saltpetre (potassium nitrate), charcoal and sulphur. By varying the proportions of these various flame and fireworks effects could be produced. However, the only colour possible was the amber colour of flame. To make interesting displays large 'set-piece' were built on which many fireworks were set alight.

Up until the 1800s, the only variety was achieved by adding powdered glass, brass and steel filings to the mixture to give spark effects. Then in 1825 potassium chlorate, which had been first prepared around 1786 by the French Chemist Berthollet was added to the mixture. Potassium chlorate burnt at a very high temperature and would turn metal compounds into gas. By adding various metal compounds to the mixture, various coloured gases would be produced.

In 1860 came another dramatic discovery. Magnesium and its compounds were discovered to burn with an intense greenish light. Initially the cost of magnesium prevented its widespread use, but gradually its price came down. Then in 1888, the Hall process enabled aluminium to be produced at a cost about a fifth that of magnesium. Aluminium would produce the same effects as magnesium, but was much cheaper.

Colours

Orange or amber- from charcoal and other forms of carbon-at first the only colour available to firework makers.

yellow from sodium compounds

reddish orange from calcium compounds

red from strontium nitrate or carbonate

green by barium nitrate or chlorate

blue by copper compounds, containing a halogen like chlorine

TYPES OF FIREWORKS

Banger- A thin paper tube is filled with fine grain gunpowder. a thin fuse is glued onto one end. On ignition a fountain-like flame is emitted before a loud bang. The explosive content of a banger was reduced from 40 milligrams to about 24 milligrams. Bangers are no longer sold in Britain.

Black Powder (gunpowder), ingredients have remained the same for centuries; 75 parts by weight potassium nitrate (saltpetre), 15 parts charcoal and 10 parts sulphur. Black powder is the main ingredient of fireworks both as a projectile and a bursting charge.

Case: (Niagara falls Tube or Cascade)- large tube containing a composition designed to create a long-lasting flow of aluminium sparks, the effect of a number of them resembling a curtain of fire.

Catherine wheel; an effect based on revolving wheel which rotates giving a circle or sparks from the lit end. A thin paper tube filled with firework composition is dampened and wrapped around a wood or cork centre. It is named after Catherine who preached Christianity in 4th century Alexandria and was tortured on a spiked wheel

Chaser; a variety of fireworks which upon lighting swooshes briefly along the ground with a whistling effect.

Thunderflashes: containing flash powder, they produce a large bang.

Cones and volcanos-

A popular firework sold in shops, cones are constructed from a strong paper case and filled with two types of firework composition or mixture. One may be a coloured light with the second a cascade of sparks, and the cone shape forces these upwards to make an impressive display.

Crackle; An aerial shell whose noise effect has been likened to the ripping of a giant shroud in the sky. the sound is produced by including magnalium in the composition of star formulas

Dark Fire; A composition, which gives off hardly any light when it burns. It is set between coatings of colour on a colour changing star so that the effect is one colour then the black as the dark fire burns and other colour will appear.

Daylight Shells- designed to perform in daylight, three types

1. Report Shell which goes up and gives a bang
2. Flag and figure shells- they discharge parachute-like balloons made of thin light tissue paper.

3. Smoke Shell two types-one a parachute shell which supports a smoke pot and which draws haphazard smoke designs in the sky. The most common are smoke willow and smoke chrysanthemum shells. At the burst, the shell pushes out ribbons of colour white, red, yellow, blue purple or black.

Drivers or turnings or pushers- these are tube like devices, cigar-sized which emit a jet-like stream of sparks and provide enough power to turn the set piece wheel on which they are attached. The composition is much like that which drives a rocket-charcoal, iron and steel filings titanium and other granulated substances incorporated to give a different colour effects as the wheel turns.

Fire cracker a small noise-making cylinder, usually up to an inch and half in length, often strung together with others of its kind and fuses consecutively. It is well known as the staple of Chinese New Year celebrations

Flash powder- a mixture of potassium chlorate or potassium perchlorate, sulphur and aluminium powder developed in the early 20th century. It is unsuitable as propellant, but explodes with a large flash and bang

Fountain- a device shaped like cone or cylinder out of which erupts a tall shower of sparks.

Fuse- the older type consists of tissue paper rolled around black powder. A more advanced type employs a string of woven threads, which contains a line of gunpowder grains.

Golden Rain- these used to be popular hand-held fireworks which produced showers of gold and silver flames? They consisted of long thin tubes filled in large bundles with powder to give the coloured effect.

Gerb- a variety of fountain which emits a spray of sparks- the word gerb is from the French word gerbe which means spray or sheaf of wheat which describes the pattern of sparks.

Greek Fire a mysterious artificial fire for military use supposedly introduced by Greek soldiers during the Arab siege of Constantinople in the seventh century. It was likely to a mixture of distilled petroleum, with sulphur, resin and pitch which was ejected from vessels like flame throwers.

Hummers- a small tube carried aloft in numbers by a shell. When expelled by a bursting charge, the device works by spinning under its own power so fast that it makes a screaming or humming sound.

Jumping crackers or rip –raps

A long thin tube is filled with fine grain gunpowder, the tube is dampened and bent into an oval shape. They are then folded on a jig into a zig-zag shape and secured with twine. On lighting the firework, an explosion takes place and then there is a delay while the powder on the bends burns and then there is

another explosion on the straight section. During this process the firework would jump around on the ground.

Lance- a small tube (about 3/8 inch in diameter and up to 4 inches long) filled with colour producing chemicals which on ignition produce steady flame. connected to a quick match so that the lances ignite at the same time they are often used in set pieces

Mine- advice to propel any number of items aloft- stars, whistles or even a parachute.

Mortar- a tube-like device from which fires aerial shells.

Portfire- a fare used to light professional fireworks

Quick match- a special type of very quick burning fuse to light set-pieces.

Rocket- a cylinder, with a cone-shaped head, filled with pyro-technic materials attached to a long stabilising stick. Upon ignition the gases from the propellant erupt out of the choke at the bottom of the cylinder and the rocket rises high into the air. A time fuse reaches the bursting charge and pops the cap apart at the top of the rockets climb. Rockets don't carry much pyrotechnical material aloft and often not too many stars are emitted. Traditionally smaller rockets were launched from milk bottles!

Roman candle- a cardboard tube from 6 to 12 inches in length, which contains alternating layers of compacted black and single stars. The Roman Candle is placed in the ground and when lit the stars rise like coloured balls to a height of fifteen to fifty feet.

Salute or maroon- a cylinder filled with flash powder or a titanium mixture and added to the components of a display shell to provide noise, or some shells just provide noise.

Serpents or whizz-gigs- small tubes containing a fiercely burning composition which, when carried aloft in a shell, shoot erratic streaks across the sky

Shell- the canister fired out of a mortar into the sky which contains various pyrotechnic compositions. They are constructed from two semi-circular pieces or cardboard and filled with stars or other effects which are ejected by a charge of gunpowder. The shell is propelled into the air by a lifting charge of gunpowder located beneath.

Sparkler- These have been manufactured in Britain since the 1920s. A steel wire six to nine inches long of which the bottom third serves as a handle. The rest of the wire is coated with a composition including Barium nitrate,

aluminium powder and fine iron powder. It is held in gloved and emits showers of sparks.

Squib- a electrical device which produces a spit of flame used to ignite fireworks.

Stars- Various size pellets within a shell which are ignited by a bursting charge at the top of shell's climb. The stars provide the patterns and effect of an aerial firework.

(formulas for stars given here)

Weeping willow- an aerial effect made by adding an excess of charcoal to the composition of a star. As charcoal has a longer burning time, the stars continue to burn with an amber colour as they fall.

Whistle shells- these are noisemaking tubes that give off mild shrieks across the skies after the shell burst. They were invented and patented by Ronald G Hall in 1955 and perfected subsequently by Benjamin Brock. the sound of these fireworks is produced by burning the plastic or paste resins, containing the chemical sodium salicylate.

Colours;

6 basic colours can be used in fireworks

white, produced by magnesium or aluminium

yellow by sodium salts

red, by strontium nitrate or carbonate

green, by barium nitrate or chlorate

blue, by copper salts in the presence of a volatile chlorine donor

orange or amber by charcoal and other forms of carbon, or iron- along with

off-white this was the only colour seen

in 1630s a French chemist named Jean Appier suggested adding-copper sulphate to produce a green texture. By the middle of the 18th century, a greenish blue was produced by the use of powdered zinc.

Making fireworks

Before 1875, British manufacturers could make fireworks in buildings in towns. Often these buildings were in residential areas, and frequent accidents caused loss of life and damage to neighbouring properties.

In the 1870s tests were carried out at the Brocks Firework Factory at Nunnhead Green in London to try and establish guidelines for firework manufacture. These guidelines were incorporated into the Explosives Act of 1875 which set out rules for the design of firework factories. Factories were then built in away from towns, with small sheds containing small quantities of explosives spread out over a large area. These manufacturing sheds were in groups, each group dealing with a particular range of explosive materials. The risk of explosions, and the buildings being spread out for safety reasons, meant that it was difficult to automate the process. Firework factories had a large number of workers with a limited amount of machinery.

This area of the exhibition is constructed to resemble a firework filling shed at the Standard Firework factory in Huddersfield. These were white-coloured timber-framed buildings with blue doors. In the event of an accidental explosion the building would disintegrate easily minimising damage. The sheds were normally built in pairs and surrounded by blast walls.

MIXING

This was the first stage in firework production. Chemicals brought from the various chemical stores to be mixed in the correct amounts for the firework being made. A Y-mixer enabled the ingredients to be put into two sections at the top and then by turning, these were thoroughly mixed together. Chlorates and sulphurs were mixed separately to avoid the risk of explosion.

FILLING

Small quantities of the mixed chemicals were taken to the filling sheds and transferred to wooden boxes. Material was taken out of the boxes when required to fill fireworks by hand or with the help of machines. The machines in this factory reconstruction would have been in separate buildings. There is a hybrid filling machine and filling machines for roman candles and pin wheels. The fireworks were usually in cardboard tubes and these were labelled after filling if the filling process was likely to leave black deposits on the tube.

ROCKETS

Rockets are filled with black powder to propel them into the sky. The powder is pressed into a cardboard tube to form an open cone at the bottom. The black powder burning in this shape provides the power to lift the rocket. At the

top of the rocket are stars or other charges with a small explosive charge to spread the stars over the sky.

ROMAN CANDLES

A cardboard tube, is filled with alternate layers of black powder and single stars, flash, whistle or hummers.

SAFETY

Fireworks contain explosives and flame-producing chemicals. If not carefully handled they can result in injury, death and damage to property. In Britain, the Explosives Act of 1875, set out regulations to make manufacture safer. Over the years, regulations have reduced the amount of explosives in some fireworks and manufacture of some types has ceased. Nowadays, there are less single fireworks sold for people to light in their gardens and more professionally staged displays.

MANUFACTURE

Many accidents occurred during the early manufacture of fireworks. Regulations introduced in Britain improved safety by requiring the manufacture to take place in small buildings in areas away from towns. However, there are still explosions at firework factories. In 2001, five people were killed at an explosion at a firework factory in Portugal, nine people were killed at an illegal firework factory in Pakistan and 37 people at a school in China where they were making fireworks. In 2000, there was a huge explosion at firework factory in Enschede in the Netherlands, which killed 20 people, injured 950 and destroyed 400 homes.

USE

Over the years fireworks have become safer in a similar way to other products. November the fifth was the main date for domestic firework accidents, but now fireworks are used to celebrate many more occasions. Each year in Britain the fatalities due to fireworks are fewer than 1 in 10000000. From the late 1960s there were campaigns to end retail sales of fireworks and only permit organised displays. These led to the raising of the age at which fireworks could be purchased, and the prohibition from sale of certain fireworks. It also encouraged more safety advice and regulations relating to the sale and uses of fireworks.

FIREWORK MANUFACTURERS

Fireworks were used to celebrate military victories and it was the 'fireworkers', the men who mixed gunpowder on the battlefield, who made these fireworks for celebrations.

The Italians are credited with bringing the firework industry to Europe with manufacture beginning in neighbouring countries such as France and Germany. The earliest British manufacturer was John Brock who began to make fireworks in Islington Road, London around 1700.

By the nineteenth century, companies were being set up in England to manufacture fireworks. Joseph Wells and Sons began work in Dartford, Kent in 1837. Lion, Wilders and Crane fireworks were established at the end of the nineteenth century. Standard Fireworks were founded in 1891 by James Greenhalgh. At first he purchased fireworks from another company and then began manufacture himself in Huddersfield in 1910.

With fireworks being made in Britain, fireworks imported from Europe were used less. The Explosives Act of 1875 demanded that fireworks were only made in a licensed factory, although small scale manufacture continued to take place elsewhere.

More manufacturers were established after the Second World War, but many had amalgamated or ceased trading by the 1970s. Fireworks are now longer manufactured on any scale in Britain and are mainly imported from the Far East. Gunpowder too is no longer manufactured in the United Kingdom with supplies imported from Spain, Germany, South America and the Far East. Black Cat Fireworks continue to trade under the Standard and Brocks brand names with fireworks imported from the Far East. Kimbolton Fireworks of Huntingdon, Cambridgeshire continue to make fireworks for sale, while a number of manufacturers assemble fireworks and put on major displays.

wavid-007-02

Video of Bob Hjryndi of Standard Fireworks, Huddersfield, demonstrating Rocket Gang Rammer machine to Robert Taylor, former CEO of Waltham Abbey Royal Gunpowder Mills.

Black Cat Fireworks Ltd, Standard Drive, Crosland Hill, Huddersfield HD47AD.

www.blackcatfireworks.co.uk

(Formerly - www.standardfireworks.com)

LIGHT THE BLUE TOUCHPAPER

- A CELEBRATION OF FIREWORKS

Royal Occasions have been celebrated with fireworks for centuries. This exhibition, for Golden Jubilee Year, covers the history, manufacture and display of fireworks.

The historic firework collection of Maurice Evans forms the basis of the exhibition, along with firework making equipment from Black Cat Fireworks. We are very grateful to Maurice Evans and Black Cat Fireworks for their support.

The histories of gunpowder and fireworks are closely intertwined. The Chinese, who are credited with the discovery of gunpowder, used it for firecrackers and for crude forms of rockets. In Britain, gunpowder and fireworks are associated with Guy Fawkes and the Gunpowder Plot of 1605.

Gunpowder is still one of the main ingredients of fireworks. Waltham Abbey began making gunpowder in the 1600s, although this was for military purposes. Rockets for military use were also developed here by Congreve in the early 1800s, and from 1946 the site was used to investigate new rocket propellants.

FROM THE DIRECTOR

16 April 2004

Malcolm Armstrong
Theatrical Pyrotechnics
Fort Norris
11 Park Avenue
Broadstairs
Kent CT10 2YL

Telephone 01992 707320
Facsimile 01992 710341
rtaylor@royalgunpowder.demon.co.uk

Dear Mr Armstrong,

Opening of the exhibition- ' Light the Blue Touchpaper- a Celebration of Fireworks' on Wednesday 8th May 2002

I am very grateful to you for agreeing to open this important exhibition which features Maurice Evans' collection and equipment from Black Cat fireworks factory. As promised, I enclose some further details about our site.

This is the first special exhibition which we have put on since we opened and will coincide with the exhibition building being named after Don Spinks, the man who started the project to preserve the Royal Gunpowder Mills site. There will be a mixture of guests from the fireworks industry and from the local area.

As I said on the telephone, we would hope to begin the opening ceremony at 2-15 pm. At present the order of events is:
Introduction by Trevor Knapp, Chairman of the Royal Gunpowder Mills made be the first put on in the new

AGREEMENT BETWEEN THE WALTHAM ABBEY ROYAL GUNPOWDER MILLS COMPANY LIMITED(WARGM) OF POWDERMILL LANE, WALTHAM ABBEY, ESSEX AND MAURICE EVANS OF WAYSIDE , MAUDLIN ROAD, STEYNING, WEST SUSSEX

This agreement covers the loan of material from the firework collection of Maurice Evans, including material loaned to Maurice Evans, for the period that it is on display at the Royal Gunpowder Mills, Waltham Abbey

1. The period of the loan is from 1 April 2002 until 30 November 2002, unless extended. The loan will be reviewed not later than the end of August 2002.
2. The loan items are those that are displayed in the Spinks gallery, (L167). These are displayed in secure showcases or in other ways as set out by Maurice Evans.
3. The gallery will be supervised during the times that its is open to the public. During closed hours the building is protected by intruder and fire detectors, and the Royal Gunpowder Mills has a security officer on duty during night periods.
4. Visitors will not be permitted to take photographs within the exhibition. Any requests received for photography for promotional features or magazine articles will be passed on to Maurice Evans for consideration.
5. WARGM will take the same care and precautions for the protection of the items on loan as it does for its permanent collections. WARGM will monitor the exhibition, including the temperature, humidity and light levels in L167, and take remedial action to safeguard the collection should this be necessary.
6. During the period of the loan, the collection will be kept insured by WARGM for the agreed sum of £30,000.
7. During the period of the exhibition the exhibition cases and displays will remain as set up by Maurice Evans and only minor adjustments, e.g. to replace fallen items, will be made by WARGM staff.
8. WARGM undertakes to pass onto Maurice Evans any information received about firework collections, visitor enquires which concern his collection or enquiries about firework displays.
9. Any the end of the exhibition period WARGM will return to Maurice Evans the copies of his posters, handbills, notices etc. used in the exhibition.

Signed on behalf of the Waltham Abbey Royal Gunpowder Mills Company Ltd.,

Robert Taylor, Director.....
Date.....

Maurice Evans.....
Date.....

Mr M E Evans
Wayside
Maudlin Lane
Bramber, Steyning
West Sussex BN44 3PR

Tel 01992 707320

20 May 2002

Dear Maurice,

I enclose two copies of a proposed agreement for the loan of your collection. I have already signed it on behalf of the Royal Gunpowder Mills, but would be happy to produce an amended version if you wish. I have given the final loan date after the end of our season but, as we agreed, we will be reviewing the loan during the summer.

The exhibition has been well received by the visitors to the Royal Gunpowder Mills and this continues the very high level of interest shown by the guests on the opening day. I would like to include some of your sparklers in our display and I am trying to find something suitable in which we could display them. We have also found an interesting web-site on which to promote the exhibition-fireworks.co.uk.

I'll give you a ring next week to discuss the agreement and to see how we should proceed.

With best wishes,

Yours sincerely,

Robert S Taylor
Director

Mr M E Evans
Wayside
Maudlin Lane
Bramber, Steyning
West Sussex BN44 3PR

Tel 01992 707320

20 September 2002

Dear Maurice,

I am sorry I have not been in touch for some time but we have been having a particularly difficult period at the Royal Gunpowder Mills. I was also waiting until I had resolved the matter of the mortar with Mr Smee. This took a long time but I am pleased to say that the mortar has now arrived and is on display in the exhibition.

As you will recall, the Royal Gunpowder Mills is a charity and, in the early years of the project, the deficit on its operations was to come from stock market investments. Like many other charities, the lack of income from these investments has caused us serious problems and the predicted income for next year is not sufficient for us to continue in the same way. The only way of operating next year will be with very few staff and more volunteers, and with the opening restricted to weekends during a limited season. The Board sees this as an interim measure while they secure additional funding for the future. Unfortunately, it means that the funds available will not enable many of the staff, including myself, to be employed and we will be seeking future employment elsewhere.

In these circumstances I think it is unlikely that you would want to exhibit your collection here next year, especially as you indicated that you had some other offers of places in which it could be displayed. It has been very popular with our visitors and made an important contribution to their enjoyment of the site this year. My colleagues and I will be here to shut down the site at the end of the season, and would be able to help you dismantle and repack the exhibition at the start of November.

I am sorry that this is not very good news, but I greatly enjoyed working with and Kit in putting together the exhibition and I am much more knowledgeable about fireworks. I am away for a much needed holiday until 9 October but I will be in touch with you on my return.

With best wishes,

Yours sincerely,

Robert S Taylor
Director