Opening Extract from...

GUNPOWDER AND GLORY

Written by **Harry Smee, Henry Macrory**

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GENIUS INVENTOR · SECRET AGENT · DAREDEVIL WARRIOR

GUNPOWDER & GLORY

THE EXPLOSIVE LIFE OF FRANK BROCK OBE

HARRY SMEE & HENRY MACRORY

Foreword by Lord Ashcroft, KCMG

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The design of the dustjacket is taken from a 1909 firework display poster. A year earlier H. G. Wells had published his novella *The War in the Air.* This told the fictional story of a massive fleet of German airships, almost unknown at that time, crossing the Atlantic and destroying the United States. General hysteria quickly developed and the Brocks noted the high levels of public interest.

Contents

Wing Commander Frank Arthur Brock RN OBE.

The authors dedicate this book with thanks to Francie without whom it would not have been written

Foreword

All my life I have had a passion for bravery. As a boy I listened wide-eyed to my father as he told me of his exploits on D-Day, when he and his comrades ran into anti-tank, mortar, machine-gun and rifle fire on Sword Beach. By the time I reached my teens, my fascination for gallantry had become addictive. From war comics I graduated to war films and then to books on military history. Shortly after my fortieth birthday, by which time I had been fortunate enough to make some money as an entrepreneur, I bought a Victoria Cross at auction. From that modest start I built up the largest collection of Victoria Crosses and George Crosses in the world. These are now on display at the Imperial War Museum in London. I have also written five books on bravery, and have lectured on gallantry up and down the country. My simple aim is to highlight great acts of courage and to ensure that the brave men who carried them out are not forgotten.

I am therefore delighted to have been invited to write the foreword to this first-ever biography of Frank Brock. As well as being an outstandingly courageous man, he was one of the most significant figures of World War I. As a member of the famous Brock's fireworks clan, he was a pyrotechnical genius. When Zeppelins began bombing Britain in 1915, the Germans hoped to bring the country to its knees. They reckoned without the likes of 'Fireworks' Brock. He used his skills to develop an incendiary bullet capable of destroying the previously invincible airships. Soon afterwards, using Brock bullets, William Leefe Robinson became the first pilot to shoot down a Zeppelin over Britain. The VC he won in the process is now part of my collection, providing me with a tangible link to the remarkable Commander Brock.

During the course of the war, Brock's fertile mind spawned numerous other military innovations. In particular, his giant 'Dover Flares' played a crucial role in combatting the U-boat menace in the English Channel. But he was

far more than a back-room 'boffin'. He was also a man of action – a superb shot, an intrepid pilot and an expert in unarmed combat. Early in the war he slipped into Germany on an intelligence-gathering mission, knowing he would be shot as a spy if caught. His courage on that occasion was a foretaste of the incredible bravery he displayed during the Royal Navy's raid on Zeebrugge in April 1918. The aim of that St George's Day operation was to render the port of Bruges in German-occupied Belgium inoperable as a U-boat base. Brock not only invented an impenetrable smoke screen which was key to the mission's success. He also insisted on going ashore with the raiding parties where, like my father on Sword Beach more than a quarter of a century later, he ran headlong into a hail of enemy shells and bullets. 'My dear Brock, of imperishable memory and Victoria Cross bravery,' was how the former First Sea Lord, Jacky Fisher, described him after the raid.

Frank Brock was my kind of hero, and it is high time that his extraordinary story was told. With the 100th anniversary of the Great War, this is an appropriate time to tell it. Prepare to be inspired.

Michael Ashcroft

Prologue

Come on, You Boys

Beneath a night sky that was too bright for anyone's liking, the ageing warship sped across the Channel at the head of a ragtag armada of destroyers, launches, old submarines and Mersey ferry-boats. The men on board knew that their chances of making it home again were not high. By common consent, their mission was one of the most audacious and suicidal ever undertaken by the Royal Navy.

For all the tension, one man on board showed little outward sign of concern. As HMS *Vindictive* steamed towards the Belgian coast on the evening of 22 April 1918, Commander Frank Brock remained his usual unflappable self. He was by nature a supreme optimist. No one was more confident than he of returning home safely.

Frank Arthur Brock was already a legend among the men on the ship. Had Ian Fleming conjured up James Bond 35 years before he did, he might have used him as the template for 007. At 33 years old, he was a large, powerful, broad-shouldered man of dark good looks. He could fly an aeroplane and was a superb all-round sportsman, excelling at football, rugby, golf, swimming and boxing. On top of this he was a first-class shot, as proficient with a revolver as with a rifle or a shotgun. During a remarkable career he had helped catch terrorists in India and risked his life on an intelligence-gathering mission behind enemy lines. The word 'derring-do' summed up his raw courage and his love of adventure. His initials – FAB – seemed entirely appropriate.

But this daring young naval officer could have been more than the basis of 007. He might equally well have been the model for Q, the Secret Service quartermaster who supplied Bond's gadgets. For on top of his other attributes, Frank was an inventor of outstanding talent. One of his ideas played a crucial role in protecting the nation from Zeppelins, the giant German airships which Kaiser Bill had hoped would bring Britain to its knees. Another was used

with devastating effect to counter the threat from U-boats. His most recent brainchild, deemed essential to the success of the raid in which he was about to take part, was an artificial fog or smoke screen, vastly more efficient than any that had come before, which would cover the approach of the British flotilla as it neared the enemy-occupied Belgian coast.

That he had such a creative mind was not surprising. Invention, innovation and a flair for the theatrical ran in his blood, for he had been born into Britain's most famous fireworks family. The Brock clan had practised the art of pyrotechnical wizardry for eight generations. More than two centuries earlier Frank's five times great-grandfather, John Brock, a self-proclaimed 'artist in fireworks', had painted London's night skies with his dazzling displays of sky rockets, spinners, serpents, vertical wheels and firecrackers. By the time of Frank's birth, Brock's was the most successful maker of fireworks in Britain, enthralling hundreds of thousands of people a year with their world-famous exhibitions at London's Crystal Palace.

Frank himself had joined the company as soon as he left school, immersing himself in the science of fireworks and the art of showmanship. For 13 years he travelled the world putting on elaborate shows in front of vast crowds. One of his specialities was staging pyrotechnical depictions of great naval battles such as the battle of Trafalgar and the destruction of the Spanish Armada. As he busied himself in the darkness on the deck of *Vindictive*, it may have occurred to him that that night's raid would make an excellent subject for a Crystal Palace spectacular.

But in the meantime, there was the rather more pressing matter of winning the war against Germany. After nearly four years the conflict remained as fierce and as costly in lives as ever. This was not the war as portrayed in the adventure stories Frank had read as a boy; this was carnage on an industrial scale, falling like a scythe on his generation. Tonight's top secret 'stunt' was the most dangerous mission he had undertaken and was born out of desperation and necessity. It was nothing less than an attempt to keep Britain in the war.

German submarines remained a severe threat to British shipping and were based in large numbers at Bruges. This ancient Belgian port, eight miles inland from the North Sea, was an invaluable outpost for the Germans, being some three hundred miles closer to Dover than their naval ports in the Heligoland Bight. By making use of it, the German Navy was able to threaten Britain's Atlantic sea traffic and her lines of communication with the continent to deadly effect. By one estimate, Bruges-based submarines were responsible for the destruction of more than 2,500 Allied vessels during the war, amounting

to some 4,400,000 tons. Unless Bruges could be neutralised, warned the First Sea Lord, John Jellicoe, Britain would be forced into submission.

Then, as now, Bruges was connected to the sea by canals leading to the coastal towns of Zeebrugge and Ostend, and these were the key to the operation. The plan was to scuttle blockships in the harbours of both towns, so sealing the canals and rendering Bruges inoperative as a naval base. If successful, the raid would box in numerous German torpedo boats and destroyers as well as up to 30 submarines.

But could it be done? Sailing into an enemy-occupied port would be difficult enough under any circumstances, even under the cover of Frank Brock's smoke, but the problem was made infinitely more difficult at Zeebrugge because the harbour there was screened by a vast sea wall known as 'The Mole'. Around one and a half miles long, it was the longest such structure in the world and bristled with batteries of German guns. The essence of the British plan was for storming parties from *Vindictive* to attack the Mole at midnight, knock out the German guns and create a noisy diversion. Amid the chaos, the blockships, laden with concrete, would be sailed into the canal entrance and scuttled. With their job done, the survivors – and it was not anticipated that there would be many – would make a dash for home, again using Frank's artificial fog for cover.

Described by one who knew him as 'a powerfully built, dashing and resourceful man with big-hearted enthusiasm which carried everyone with him' and in another friend's diary as 'courteous, with very good manners – a salty tongue in private – and the most pleasant public personality, a "true English gentleman" who acted at all times with the utmost decorum and restraint until the moment came to blow someone or something up', Frank should not have been part of the mission at all. His superiors thought him too valuable to the war effort to risk his life at Zeebrugge, and pleaded with him to stay away. But he was adamant he was going to play his part. He had heard about a system of metal tubes mounted on the Mole which he believed to be the latest in enemy sound-ranging equipment used for locating hostile artillery. If circumstances permitted, he would snaffle some of the equipment and bring it back to Dover, using it to create an improved British version. To achieve this, he argued, successfully, that he would have to join a storming party on the Mole, regardless of the danger.

At 10.30 on the night of the raid, as hot soup was ladled out to the men aboard *Vindictive,* the flotilla split into two, with the Ostend force peeling off and heading for its separate destination. Zeebrugge was now just 15 miles away.

In 90 minutes it would be St George's Day, and Frank had every intention of doing justice to St George's memory.

At 20 minutes to midnight, motor launches ahead of the flotilla started deploying Frank's artificial fog. The German gunners on the Mole were confused. They could hear but not see the approaching armada. Frank's invention was working a treat. Three hundred yards out from the Mole, *Vindictive's* telegraphs call for full speed ahead and she emerged from the smoke screen. The German gunners were briefly stunned into disbelief. Then they opened fire with every weapon at their disposal.

At one minute past midnight – just 60 seconds behind schedule – *Vindictive* pushed up against the Mole. Projectiles of every kind ripped into her steelwork. Men fell wounded and dying in terrifying numbers. The survivors clambered on to the Mole and advanced under continuous shell and small-arms fire towards the German guns.

Even now Frank was under no obligation to go with them. At the very least he had the option of holding back until it was relatively safe to go ashore. But he was a man in a hurry and a man without fear. Armed with two pistols and a cutlass, he jumped down onto the Mole. Turning to the men behind him he shouted 'Come on, you boys' and charged into the smoke and bullets like the intrepid rugby forward he was.

CHAPTER I

A Whiff of Black Powder

The process that would one day lead to the creation of Brock's Fireworks, and start Frank Brock on his extraordinary career, probably began between two and three thousand years ago over a campfire in China. Saltpetre, found there in large quantities, was used from ancient times as both a medicine and a food preservative. Some early cook, combining it by chance with two other common kitchen ingredients, sulphur and charcoal, would have been fascinated by the way the mixture glowed and sparkled in the fire.

So it was that gunpowder, as we call it today, joined that impressive list of early Chinese inventions, which also included paper, printing, the compass, the crossbow and, some would argue, the parachute. (Legend has it that in around 2200 BC Emperor Shun used conical hats to break his fall when jumping from the roof of a blazing barn.)

The Chinese named this intriguing black powder *huo yao*, meaning 'fire chemical' or 'fire drug', and used it initially in their search for the secrets of eternal life. As early as AD 142, an alchemist named Wei Boyang wrote of experiments with a mixture of three powders – he did not name them but they were almost certainly the ingredients of gunpowder – that would 'fly and dance' violently when heated. Although the powder failed to unlock the secret of immortality, it was apparently useful for treating skin diseases and as a fumigant to kill insects.

Back at the campfires, the early cooks had long been troubled by semi-human monsters called *shanxiao.* These naked creatures lived in the mountainous regions of western China. They spied on travellers through the foliage and crept out when they were not looking in order to steal salt, which they sprinkled on the crabs and frogs they roasted for sustenance. If confronted, they hit back by afflicting the camp dwellers with fever. The best way to send these ogres packing was to throw a piece of bamboo into the fire. The heat

burst the bamboo, and the resulting crack caused them to scurry off into the undergrowth. For centuries the *pao chuk* ('exploding bamboo') was an essential aid to trouble-free travel.

In due course some enterprising individual (supposedly a Chinese monk named Li Tian) worked out that a far louder and more satisfying bang could be achieved by stuffing pieces of bamboo with 'fire chemical'. The gases produced by the burning powder caused a build-up of pressure which blasted the bamboo apart so fiercely that no lurking *shanxiao* in his right mind would set foot near a campfire again. So was born the firecracker or *pao chang*. Legend has it that Li Tian used his invention to eradicate the floods and droughts which afflicted the east of the Hunan Province, setting off fireworks to disperse the evil spirits that caused them, and enabling a grateful populace to live and work in peace and prosperity.

By the time of the Song Dynasty (960–1279) it was possible to buy fireworks from street traders to set off at home. Li Tian's success in Hunan Province was striking proof that the bang (*bian pao*) they made was enough to scare away the most persistent of ghosts. This made them popular at weddings, birth celebrations, funerals, festivals to mark the lunar new year and celebrations of military victories. They were often made out of red paper, since evil spirits were supposed to be frightened of the colour red. The redder the paper and the louder the bang, the more the cowed demons retreated into the shadows.

The art and science of firework-making rapidly developed into a profession. Before long, someone figured out how to make a fuse (*yin hsien*) by twisting a piece of paper sprinkled with gunpowder into a long string. Someone else discovered that if one end of the tube was closed up, the firecracker would shoot off in all directions, spouting flames and sparks. These primitive rockets were known as ground rats (*ti lao shu)*.

The work of these so-called firework masters was not all plain sailing. Singed beards were the least of their worries as they experimented with different mixtures. A contemporary chronicler noted in *Classified Essentials of the Mysterious Tao of the True Origin of Things*:

> Some have heated together sulphur, realgar and saltpetre with honey; smoke and flames result, so that their hands and faces have been burnt, and even the whole house where they were working burned down.

Their doggedness eventually paid off, and the firework masters became highly regarded for their ability to mount dazzling displays of light and sound. Early in the 12th century the Chinese army mounted a pyrotechnical display for the emperor which opened with 'a noise like thunder'. Fireworks played

against the indigo sky, while dancers in exotic costumes pirouetted through the coloured smoke. The display went down well with the emperor, but success was not guaranteed. A record from 1264 states that a ground rat frightened the Empress Dowager Gong Sheng when it disappeared under her throne during a feast held in her honour by her son, Emperor Lizong of Song. The festivities ended abruptly and the fireworks masters responsible were jailed.

It did not require a great leap of the imagination to realise that gunpowder could also be used in warfare. A reference to a crude Chinese gunpowder catapult dates back to 1046, and in the decades that followed Chinese soldiers regularly fired ground rats at their enemies, confusing advancing infantrymen and terrifying horses. By 1083 'flying fire lances' or *fei-ho* were being produced in their thousands. Gunpowder was wrapped in paper 'in a lump like a pomegranate', sealed with pine resin and attached to the shaft of an arrow. The archer lit a fuse projecting from the lump and launched the arrow at the enemy. These explosive arrows were reportedly used successfully against the Mongol invaders in the 13th century.

There may even have been attempts at manned flight. According to Chinese legend, an official named Wan-Hu assembled a rocket-propelled chair with which to launch himself into the sky. He attached 47 rockets and two large kites to the chair, and at the given moment 47 assistants lit the fuses before beating a hasty retreat. There was a tremendous explosion, and when the smoke cleared Wan-Hu and his chair were nowhere to be seen. They had presumably been blown to bits, but in acknowledgement of the lingering belief that Wan-Hu launched himself into space, the Soviets named a crater on the far side of the moon after him in 1966.

There inevitably came a time when the knowledge of fireworks spread to the west. Marco Polo is sometimes credited with their arrival in Europe during the 13th century, but the appearance of gunpowder in England and elsewhere almost certainly pre-dates his travels. It has been suggested that Crusaders and Knights Templar returned from their journeys abroad with the secret of a monstrous new weapon that could breathe fire, but it is equally possible that Europeans discovered gunpowder independently. One way or another, an English scholar named Roger Bacon knew of gunpowder (or blackpowder as he called it) by the 1260s. He wrote in his *Opus Majus* of:

> … a child's toy of sound and fire which is made in various parts of the world with powder of saltpetre, sulphur and charcoal of hazel-wood. This powder is enclosed in an instrument of parchment the size of a finger, and since this can make such a noise that it seriously distresses the ears of men, especially if one is taken unawares, and the terrible flash is also very alarming.

In Europe as a whole, Italy led the way in pyrotechnics, as it did in so many other artistic endeavours of the time. Fireworks are recorded as having accompanied a religious mystery play in Vicenza as early as 1377. In his book *Pyrotechnic*, published in 1540, Vanuzzio Biringuccio, an Italian engineer, described how in former times it was the practice in his native Siena to put on shows using figures of wood and plaster that emitted fire from their mouths and eyes. He wrote that the festivities included *girandoles*, or whirling decorated wheels packed with fireworks which were suspended from a rope hung across a street or square. He added that from these 'forceful and horrible materials bringing harm and terror to men, a happy and pleasing effect is also produced and, instead of fleeing from it, the people willingly go to see it.'

A significant Italian contribution to pyrotechnics was the development of explosive-filled canisters, or shells, which were fired into the air and detonated at maximum height. This innovation laid the foundations of modern aerial displays. Italian fire masters also experimented with a slower-burning explosive mixture that produced showers of radiant sparks when lit. They used the new compound to create the forerunners of many modern fireworks, including fountains, spinners, cones, wheels, Roman candles and sparklers. In 1379, an Italian named Muratori used the word *rochetta* when he described the fire arrows propelled by gunpowder in medieval times. This is believed to be the first use of the word which later became 'rocket' in English.

In England, the first recorded use of primitive fireworks was at the coronation of Henry VII's bride, Elizabeth of York, in 1487. The barge at the head of the Lord Mayor's procession which met her on the river 'carried a dragon spouting flames of fire into the Thames.' A similar pyrotechnic effect was deployed nearly half a century later when Anne Boleyn was conveyed by water from Greenwich to London prior to her coronation in 1533. One of the galleys escorting her carried 'a great, red dragon, constantly moving and casting forth wild fire, and round about the said galley stood terrible, monstrous and wide men, casting of fire and making a hideous noise.'

By the late 16th century, fireworks had grown in sophistication and were becoming an established part of England's cultural life. Their rising popularity was fuelled by Elizabeth I, who was so enamoured of them that she appointed an official 'Fire Master of England'. The first recorded full-scale display in Britain was held in her honour at Warwick in 1572 in the form of a mock battle. The event, organised by the Earl of Warwick, did not go entirely to plan when rockets over-shot a timber and canvas fort built especially for the occasion and landed on the roof of a cottage in the town. The blaze rapidly

spread to adjoining houses, injuring one Henry Cooper and his wife. Despite this unexpected diversion, Elizabeth was thrilled by the show and in generous mood she sent for the couple the next day and gave them £25 to pay for their repairs.

Things went more smoothly three years later when Robert Dudley entertained her with a firework extravaganza at Kenilworth Castle. A contemporary account by Robert Laneham told of 'a blaze of burning darts flying to and fro; beams of stars coruscant; streams and hail of fire sparks; lightnings of wild-fire on the water and on the land; flight and shooting of thunderbolts, all with such continuance, terror, and vehemence, the heavens thundered, the waters surged and the earth shook.' It was said that people could hear the display 20 miles away. Among them, quite possibly, was 11-year-old William Shakespeare, who lived close by with his parents and siblings in Stratford-upon-Avon.

Shakespeare made several references in his plays to fireworks, as when Don Amado declared in *Love's Labour's Lost*: 'The King would have me present the Princess with some delightful entertainment, or show, or pageant, or antic, or firework.' In a remarkable flight of fancy, a 19th-century historian, W. Grist, suggested that Sir Toby Belch's line to Malvolio in *Twelfth Night*, 'Marry, hang thee, Brock,' was inspired by a meeting between the bard and a member of the Brock firework family. Since the Brocks' recorded association with fireworks did not begin until nearly a century after *Twelfth Night* was written, we can safely conclude that Shakespeare's sole intended meaning was 'Go hang yourself, you stinking badger'.

Theatres during the playwright's time were often equipped with both fireworks and thunder-sheets to produce dramatic stage effects. In his tragi-comedy *The right, excellent and famous Historye of Promos and Cassandra,* printed in 1578, the dramatist George Whetstone included stage directions which called for the entrance of 'two men apparelled like greene men at the mayor's feast, with clubs of fireworks'.

The 'Green Men' he referred to played an important part in English firework custom. Their role was to walk at the head of processions 'strewing fire from large clubs' and scattering 'fireworks' (in this case probably meaning sparks) to clear the way. As at Anne Boleyn's wedding, they were generally dressed from head to toe in green ivy and other foliage to protect themselves from flying sparks. These early fire-workers liked to salute each other with the words 'Stay green!' and may have been the inspiration for many of Britain's 'Green Man' pubs. An account of a pageant in Chester on St George's Day, 1610, described two such fireworkers:

> There appeared two men in green ivy, set with work upon their other habit, with black hair and black beards, very ugly to behold, and garlands upon their heads, with great clubs in their hands, with fireworks to scatter abroad to maintain the way for the rest of the show.

The popularity of fireworks grew rapidly during the 17th century and it was not uncommon for £1,000 or more (around £200,000 in today's money) to be lavished on state-run displays. According to *A History of Colleges in and around London*, published in 1611, there were living in the city many 'men very skillful in the art of pyrotechny and fireworks'.

Pyrotechnical literature was also much in demand. In 1635 the English mathematician and gunner John Babington published one of the first descriptions in English of recreational fireworks. His book, *Pyrotechnia, or a Discourse of Artificiall Fireworks*, was essentially a do-it-yourself manual, and was probably responsible for innumerable lost eyes and fingers. It contained guidance on how to make and fire rockets and how to stage a duel between St George and a fire-breathing dragon. Babington also set down the first written instructions for making a Jack-in-the-Box, which included filling a box with 'fisgigs or serpents'. Having lit the fuse, 'after a pretty distance of time you shall heare a sudden noyse and see all those fisgigs flying some one way, some another. This toy has given great content to the spectators.'

Guy Fawkes provided another fillip to the burgeoning firework industry. Within a few decades of his attempt to blow up the Palace of Westminster in 1605, Gunpowder Treason Day, as it was at first known, had become the chief English state commemoration. (The gunpowder used in the plot, incidentally, was bought from one John Pain, whose business may have grown, centuries later, into Pains Fireworks, one of the Brock family's chief competitors.) A display in 1647 at Lincoln's Inn Fields in London commemorated 'God's great mercy in delivering this kingdom from the hellish plots of papists.' Effigies of Fawkes and the Pope were burned and rockets were fired to symbolise 'popish spirits coming from below' to enact plots against the king.

Anti-Catholic fervour was again fuelled by the Great Fire of 1666, which was widely regarded as a papist plot to destroy London with pyrotechnics. Fireworks allegedly belonging to Catholics were put on show in the capital's coffee houses as evidence of plots to create further conflagrations.

The arrival in England of a Swedish artillery officer, Major Martin Beckman, gave fireworks another boost. A highly skilled pyrotechnist, his specialities included building papier-maché obelisks, pillars, pyramids, the figures of men, or whatever other object might suit the occasion, and filling them with fireworks to create dazzling effects. He also appreciated the value of water

in enhancing the spectacle of fireworks, an idea first tested on the Thames in 1613 to celebrate the marriage of King James I's daughter, Elizabeth, to Frederick V, Count Palatine of the Rhine. One observer was so impressed by this display that he was moved to write that 'Arte hath exceeded Nature.' Another commentator, John Chamberlain, was not so sure:

> The fireworks were reasonably well performed, all save the last castle of fire, which bred most expectation and had most devices, but when it came to execution had worst success.

As the 'King's Ingenier' (the title 'engineer' was applied to firework masters and makers of 'engines of war' for centuries before it gained its present meaning), Beckman masterminded Charles II's coronation fireworks in 1661. In the process he nearly killed himself, being 'severely injured by an accident at an explosion in the preparation of fireworks to be shown on the water in the king's honour.' Of the display itself there is sadly no record. Samuel Pepys, who might have been expected to provide a full account, was suffering from a hangover and only heard the fireworks in the distance, although he wrote that on the night of the coronation a 'fire-brand' was thrown into a carriage 'by which a woman was blinded.' The show was presumably a success because Beckman went on to oversee James II's coronation fireworks in 1685. Staged on the Thames, these were an unqualified triumph, 'a Wonder-full and Stupendious drama', in the words of one observer, at which rockets soared and exploded around 42ft-high pyramids and an artificial sun.

In 1688 Beckman supervised a display to celebrate the queen's delivery of a son. He subsequently organised several other displays, including one in St James's Park to mark the return of William III to London in 1695. Over the course of a long career he raised the standard of public displays to a new level of professionalism and was the first Fire Master of England to be knighted.

Unfortunately the more informal and less dignified celebrations held on Gunpowder Treason Days were rapidly becoming an excuse for rowdy behaviour and drunken brawls. Apprentice boys took to demanding money from coach passengers for alcohol and bonfires, and effigies of the pope were burned with increasing fervour. A grim touch was added in London in 1677 when the belly of the pope's effigy was filled with live cats 'who squalled most hideously as soon as they felt the fire.' Another account from that period spoke of 'the numerous platoons and volleys of squibs discharged' amid shouts that 'might have been a cure for deafness itself.' Much damage was done as builders of bonfires went to any lengths, legal or otherwise, to gather firewood. One observer noted:

> Ill is sure to betide the owner of an ill-secured fence; stakes are extracted from hedges, and branches torn from trees; crack, crack, goes loose paling; deserted buildings yield up their floorings; unbolted flip-flapping doors are released from their hinges as supernumeraries; and more burnables are deemed lawful prize than the law allows.

In 1682, London militiamen had to break up violent confrontations on Firework Night, and several proclamations banning bonfires and fireworks were issued in the following years, 'much mischief having been caused by squibs.' An Act of Parliament in 1697 enforced earlier bans on the throwing of squibs, crackers and rockets, and imposed fines of up to £5 and even hard labour in a house of correction for infringements.

No large-scale displays were held to mark the coronations of Queen Anne, George I and George II, although a spectacular show was held on the Thames off Whitehall in 1713 to celebrate the end of the War of the Spanish Succession. Set on a raft of barges 400 feet in length, its features included 'large and small Bees swarms, half of which were set with lights to swim on the water.'

The tailing-off of elaborate, state-organised displays at around this time coincided with the growth in popularity of public parks and pleasure gardens in and around the big cities. At weekends, families flocked in their thousands to these open spaces in search of entertainment. The diversions on offer ranged from the sedate (manicured walks, classical concerts, displays of horsemanship, exhibitions of paintings and tea-drinking to the accompaniment of French horns) to the salacious (bare-knuckle bouts, cock-fighting, bear-baiting and prostitution). In the more genteel gardens, the ladies were 'fragrant with powder,' gentlemen were requested 'not to smoak' and the entrance of servants in livery was prohibited. At the less reputable venues, patrons risked losing their belongings to pickpockets, footpads and 'light-fingered knaves,' and, as a shocked correspondent informed the *St James's Chronicle,* unaccompanied men were liable to be approached by women asking: 'Pray, Sir, will you treat me with a dish of tea?'

Vauxhall Gardens in London was a typical magnet for the crowds. In 1665 Pepys went there on 'the hottest day that ever I felt in my life … pleasantly walking, and spending but sixpence, till nine at night.' Within a few decades tightrope walkers, concerts, taverns, and pavilions with brightly-painted supper boxes ensured that most visitors to the Vauxhall Gardens spent a good deal more than sixpence.

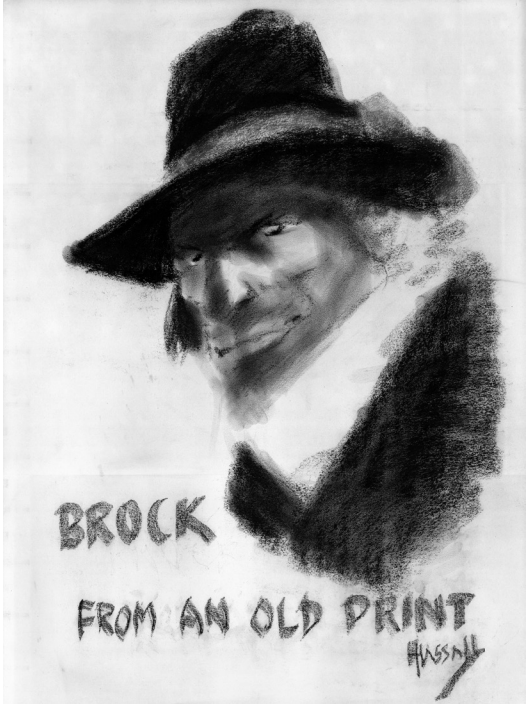
The Marylebone Gardens, with their gravelled walks and neat hedges, were another popular destination. The ubiquitous Pepys went there too, writing in May 1668 that 'we abroad to Marrowbone, and there walked in the garden, the first time I ever was there, and a pretty place it is'. Visitors were charged

sixpence to enter the eight-acre site and had to pay a further fee if they wished to use the oval bowling green at the centre of the gardens.

Showmen were constantly on the look-out for new ways of parting the crowds from their money at these and other pleasure gardens (one impresario enthralled visitors to Marylebone Gardens with a masquerade which featured 'an ape of the largest kind, which was offensively dexterous') and in due course several canny entrepreneurs saw the advantage of adding firework displays to the existing commercialized entertainment.

Among them was a young man named John Brock, who had been born in around 1677 in London's Clerkenwell. He was reputedly an eccentric individual who wore a cloak and wide-brimmed hat in the manner of Guy Fawkes. Quick to recognise a money-making opportunity, and with an indubitable flair for pyrotechnics, he set up a fireworks business towards the end of the 17th century in the north London suburb of Islington, and used his expertise to entertain visitors to Marylebone Gardens.

He could not have foreseen that his business would continue to provide a handsome living for his descendants nearly three centuries later, or that the knowledge accrued by his firm would one day play an important part in defeating a determined enemy in the most terrible war the world had known.



John Brock, drawn by the artist John Hassall (1868–1948).

CHAPTER 2

Fireworks in Their Blood

Firework shows in John Brock's day were frequently an unsavoury business. It was an age in which bull-baiting, bear-baiting, dog-fighting and cock-fighting were hugely popular forms of entertainment, and if the odd human participant came a cropper too, as when Christopher Preston, the proprietor of the notorious Bear Garden at Hockley-in-the-Hole in Clerkenwell, London, was attacked and half-devoured by one of his own bears in 1709, so much the better. 'Scratch John Bull and you find the ancient Briton who revels in blood,' remarked *The Pall Mall Gazette*.

Fireworks in themselves, though electrifying to 18th-century spectators, did not satisfy the bloodlust prevalent in many sections of society, but if combined with the barbarous mistreatment of helpless animals they were sure-fire crowd-pleasers. A flyer advertising entertainment at Hockley-in-the-Hole in the early 1700s gave a taste of the grisly delights on offer:

> A Mad Bull dressed up with fireworks is to be turned loose; likewise a dog dressed up with fireworks; also a bear to be turned loose. N.B. a cat to be tied to the bull's tale.

In or about 1712 the then proprietor of Hockley-in-the-Hole began putting on attractions in Marylebone Gardens, close to John Brock's business premises. He imported to Marylebone many of his less edifying specialities, including cock-fighting, bull-baiting, gambling and boxing matches between female contestants. With fireworks readily available just up the road to spice things up, it was easy money. As John's descendant, Alan Brock, wrote nearly two and a half centuries later:

> It is a matter rather of interest than of pride that I refer to the probability that an ancestor of mine was responsible for the fireworks employed in these repulsive exhibitions, from his place of business in the neighbouring Islington Road. One is glad to remember that there were other, and more reputable, outlets for the family's pyrotechnical activities close at hand in the pleasure gardens that had sprung up in the neighbourhood.