Arms & Armour

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/yaaa20

Firearms accidents in sixteenth-century England

Steven Gunn & Tomasz Gromelski

To cite this article: Steven Gunn & Tomasz Gromelski (2023) Firearms accidents in sixteenth-century England, Arms & Armour, 20:2, 149-159, DOI: 10.1080/17416124.2023.2264089

To link to this article: https://doi.org/10.1080/17416124.2023.2264089

Published online: 14 Nov 2023.

ARMS & ARMOUR, Vol. 20 No. 2, November 2023, 149–159

Firearms accidents in sixteenth-century England

STEVEN GUNN

Faculty of History and Merton College, University of Oxford, UK

TOMASZ GROMELSKI

Faculty of History and Wolfson College, University of Oxford, UK

Source material for the use of firearms in sixteenth-century England outside military contexts is sparse. This article uses coroners' inquest reports to examine who used guns of what types, for what purposes, in different parts of England and at different phases of their diffusion. Artisans were prominent among early adopters, but by the end of the century yeomen were the most frequent gun owners. It shows what hazards guns with different firing mechanisms such as matchlocks and snaphances presented, the steps users took to mitigate such risks, and the severity of gunshot wounds, which caused two-thirds of victims of fatal firearms accidents to die instantly.

KEYWORDS firearms, arquebus, snaphance, gunpowder, accidents, yeomen

Many varieties of source material have been used to explore the spread of firearms through sixteenth-century English society. Military uses are easiest to document. Financial accounts for the acquisition of arms and lists of the resultant stockpiles, military handbooks and deployment orders, records of the militia and campaign narratives can give us a picture of the increasing importance both of cannon and of hand-held firearms to the army, navy and local defence forces.[1] The wider ownership and use of guns is harder to track. Surviving objects can tell us a great deal about technological change, but rarely have secure provenance, and that mainly in the case of the most unusual examples, such as royal weapons.[2] Statutes, proclamations and the licences granted to dispense individuals from their penalties tell us who was allowed to own and use guns and for what purposes, though contemporaries complained that the legislation was not well observed.[3] Muster rolls show the geographical and social spread of gun ownership or of the ability to shoot.[4] Wills and probate inventories can give us marvellous detail – individualised descriptions of weapons

 DOI 10.1080/17416124.2023.2264089

left to a particular friend or relation, or a note of where in a house guns were stored – but such references are too few and far between to provide more than intriguing cameos.[5]

More promising are reports of accidents. At best these tell us who was using what firearm where, when, for what purpose, in what way, and in whose company; and they show, of course, what might go wrong. On Tuesday 15 June 1557, for example, at 8 in the morning, Thomas Howard, 19-year-old fourth duke of Norfolk, was riding from Newington to Tottenham on his black gelding. Alongside him, joking as they went, rode his well-liked servant, Thomas Baynes. At Stamford Hill in Hackney the duke's horse stumbled. As he grabbed with his right hand the loaded dag or pistol hanging on his saddle bow, presumably one with a wheellock mechanism, it struck against the saddle and discharged. Baynes was shot in the head and died at once.[6]

This level of detail comes from the unusual combination of a pardon to the duke for manslaughter and a mention by a London diarist, but even more cursory accounts can give a good sense of the range of circumstances in which people had to do with guns. The parish clerks of St Botolph without Aldgate, London, recorded the causes of 4253 deaths that occurred in the parish between 1583 and 1599. Accidents accounted for a tiny proportion of these compared to disease – plague alone took nearly a quarter, and consumption almost as many – and gun accidents a small fraction even of that, but their variety is instructive. A gunmaker lost his hand trying out a musket; a piece of a gun chamber, of the sort used in light ship-board artillery, shot off in a public triumph at Tower Hill hit a weaver from Stepney in the leg and he died after amputation; a shoemaker set fire to gunpowder on his sleeve when firing a caliver in May Day celebrations in Aldersgate Street and got a burn 2 feet long, which ultimately proved fatal.[7]

The best source for systematic study of accidents are coroner's inquest reports like that recited in the duke of Norfolk's pardon or that confirming the parish clerks' account of the shoemaker and his burning sleeve.[8] The material presented here comes from a long-running project on accidental death and everyday life in sixteenth-century England. Our sources are about 9,000 inquest reports. They come from almost every county in England and, although they clearly did not record every accidental death that occurred, they survive roughly in proportion to the population of each county at the time. They include reports of 96 accidental deaths involving guns and gunpowder, about one accidental death in a hundred.[9]

The most obvious thing these reports show is how guns were spreading through English society over the century. The first firearm death did not occur until 1519; they remained well below 1 per cent of all accidental deaths until around 1580; and then in the 1580s and 1590s they increased to around 2 per cent. The spread reached almost all parts of the kingdom even before this acceleration late in the century. Accidents happened in and around large towns like London, York and Newcastle, but also in the deep countryside, for example in Somerset at Stogumber on the edge of the Brendon Hills and East Brent on Sedgemoor.

Who was using these guns? They were almost all men. Women owned and handled guns, moving loaded guns around the house for example, but we have no explicit account of a woman shooting a gun, though Katherine Amner, who was in a small boat with a loaded gun for hunting wildfowl, may have been planning to fire it (it is not clear whether she was alone in the boat).[10] Men with guns ranged across the social scale from gentlemen to labourers, but among them three groups stand out. Firstly, accounting for one in six identified gun users, there were those who used guns as part of their work, soldiers and sailors. Henry VIII's campaign to fortify the English coast against invasion increased the number of men employed as full-time gunners. To be able to manage both large artillery pieces and handguns they had to practise. In August 1542, five gunners from Hurst Castle, one of Henry's forts in Hampshire, were training with 'handgonnez' of one yard (91 cm) in length. As they shot lead bullets at a target called by the jurors a 'bank or a lawfull marke', they hit someone they could not see in a small valley behind the bank.[11] Those who were not full-time soldiers were expected to serve in the militia and by Elizabeth's reign, some of them carried guns. At Stafford in 1588, as England prepared to face the Spanish Armada, John Key, one of the horsemen mustered under Walter Harcourt esquire, accidentally fired off his gun and killed a bystander.[12] Privately-owned ships as well as those of the royal navy were armed with guns to defend themselves. There were accidents with the cannon of the *William of King's Lynn* at Newcastle in 1589 and the *James of Ipswich* at Harwich in 1600.[13]

The second prominent group, similar in number to the soldiers and sailors, were artisans. They seem to have been early adopters of the new technology and before 1560 they made up forty per cent of all the users. Muster records show that at that stage many more people owned guns in towns, where craft manufacture was concentrated, than in the countryside. Some of those involved in accidents worked in crafts with a high level of manual skill such as bookbinding and others were smiths, the metalworkers who repaired guns in the absence of more specialised technicians. Some were probably foreigners – a Cambridge shoemaker had the Dutch name Gerard Johnson and the bookbinder was called Peter Franchman – and this fitted with the way that guns spread into England from the nearby continent.[14]

The third and numerically largest group, forty per cent of identified shooters across the century and a third of shooters even when those are included whose status was not given, were yeomen. These large-scale farmers were becoming ever more prosperous in the inflationary economic conditions of the later sixteenth century and historians have noted their taste for consumption goods that marked out their social and cultural superiority from the poorer husbandmen and labourers around them: stone houses rather than wood, silver spoons, printed books, grammar school education for their sons.[15] We do not know how high-quality their guns were, but some may have been the sort of must-have gadget that showed they were moving up in the world. Familiarity with guns may also have been something they were happy to show off to their neighbours. When John Judson, a labourer of Askham in

Westmorland, was trying without success to fire off a loaded gun in December 1597, Edward Lancaster, a local yeoman, came to help him. When it still would not work, they carried it home, but as Lancaster held it, it suddenly fired off and Judson was hit in the stomach. Maybe Lancaster was less of an expert than he thought.[16]

Many accidents happened when men were practising with guns, others when cleaning and repairing them, but three other categories of use stand out. One was home defence. Thomas Thornton, yeoman, for example, kept a gun, the inquest jurors said, to defend himself and his property from felons; Agnes Sargeaunt, widow, had one to protect her house.[17] Another use was drama or celebration. The flash and bang of a gun served to liven up a play in celebration of St Erasmus at Brookland in Kent, the Corpus Christi plays in the Clothmarket at Newcastle, a stage play at Usk in Monmouthshire, and May Day festivities in Cambridge.[18] In July 1587 at Benenden in Kent, his neighbours set up a volley of shots linked by a trail of gunpowder to celebrate the return of Thomas Guildford esquire to his house. At Benenden, as at Newcastle, the device consisted of multiple removable chambers of the type used in early guns (Figure 1).[19]

By far the commonest use was hunting, in particular for birds. Four of our accidents involved shooting at crows, three at pigeons, one at 'wyldefowle', probably ducks or geese, one at sparrows, one at a heron, one at an owl and one at a kite. Killing the kite might have been pest control and one man was certainly shooting at crows to scare them away from crops, but most of these birds were for eating. To increase the chance of hitting them and to kill them without blowing them to pieces, hunters used hailshot. Described in the inquests as many small balls or pellets of lead, this was in use in at least 21 of our accidents.

FIGURE 1. Breech-chamber for a wrought iron gun, about 1501-30. Royal Armouries XIX.8. © Board of Trustees of the Royal Armouries.

Different guns developed to meet these different needs and this is evident in the names given to them in the reports. Before 1560, terminology was simple. Most guns identified with an English term were just called a handgun, occasionally a hackebussh or similar term related to the German Hakenbüchse, Dutch haecbusse and French arquebuse (Figure 2), or a half-hake which probably had a shorter barrel than the one-yard handguns used by the Hurst Castle gunners. The only other identifiable guns were the larger guns used on ships or in fortifications.

After 1560, specific names appeared in the reports for large guns, such as falcon and saker, and six new types of handgun emerged. There were short guns, characteristically carried by cavalrymen in war. In our reports, the term pistol emerges only in the 1590s and before then they were called dags; they accounted for about one accident in seven (Figure 3). There were three types of longer guns derived from the earlier arquebus. Commonest, rather commoner than the dag, was the caliver (Figure 4), then there was the apparently longer-barrelled currier and the heavier musket, a term first used in the reports by two Kent juries in 1596 (Figure 5).[20] All four kinds were involved in accidents in military contexts, but also when used for hunting and other civilian purposes. The fifth type, accounting for one accident in five, was by definition civilian, the fowling piece or birding piece. Some of these at least had a very long barrel for shooting accurately at birds with small shot. The sixth name, noted in one in ten accidents, denoted not the form or function of the gun, but a firing mechanism used in guns of various sizes, the snaphance (Figure 6). This was the most common variety of flintlock in later sixteenth-century England, one in which pulling the trigger caused a flint – a 'cassedonne ston', chalcedony, as one sophisticated set of jurors at Tottenham in 1570 called it – to strike a steel and ignite the powder in the priming pan, which set off the main charge of powder to fire the gun.[21]

Why did so many accidents happen? One reason was the wide range of places in which people used or kept guns. Many accidents happened in public streets or outside houses, where passers-by could be hit, like little Abigail Parkyns, shot by the old caliver William Revell had put down on a bench outside his house because it would not discharge and he needed to go inside and get more fire to try again.[22] More happened inside houses, where people kept loaded guns in the hall, in the kitchen, in the bedchamber, hanging on the wall, lying on tables, or even on the bed. Some shooters, especially when hunting, were apparently remote from other people, in marshes, woods, or fields. Yet they hit their companions or people they did not know were

FIGURE 2. Brescian matchlock arquebus, about 1544, similar to many known to have been carried on the Mary Rose, and in barrel length (38 inches) to those used at Hurst Castle in 1542. Royal Armouries XII.5315. © Board of Trustees of the Royal Armouries.

FIGURE 3. German wheellock pistol or dag, about 1550, the lock and barrel with false damascened decoration probably by Diego De Çaias. Royal Armouries XII.10250. © Board of Trustees of the Royal Armouries.

FIGURE 4. Matchlock caliver, about 1560. Royal Armouries XII.8. © Board of Trustees of the Royal Armouries.

standing behind them. These environments also presented special problems. Two hunters shot themselves when their guns caught on brambles or briars and another shot his brother when the sear of the gun, the part connecting the trigger to the firing cock, caught on the hedge across which he was passing it. Bullets could even ricochet off water, as one did when it missed a crow perched on a buoy on the Thames and hit Agnes Acrehed, who was washing linen clothes in the river from the King's Bridge, or landing stage, at Westminster.[23]

The risks posed to bystanders and other household members explain the variety of victims. A quarter were female, often servants inside houses where guns went off, and several were children. Both their deaths and those of the more than one-third of the victims who were trying to use the guns expose the technical deficiencies of these early firearms. By far the largest category of accidents, more than half, involved guns firing off unexpectedly.

This was a problem whatever the firing mechanism. Matchlocks, which continued to be used into the 1590s and well beyond, needed a burning match to be applied successfully to the powder in the priming pan at the right moment to fire the charge in the barrel. This was a procedure that inquest jurors at Hougham in Lincolnshire clearly understood as early as 1539, setting out how the shooter had to touch the 'toche hole' with a burning 'mache'; others at Stodmarsh in Kent in 1545 explained how the match could be held in the gun's 'koc', now usually known as the serpentine.[24] Premature ignitions were caused by sparks from ill-controlled or newly lit matches, from smith's forges, from a kitchen fire or a light carried too close to a gun on a table. Delayed ignitions were an equally lethal problem as powder refused to

FIGURE 5. Musketeer with matchlock musket, from the military manual *Wapenhandelinghe van roers, musquetten ende spiessen* by Jacob De Gheyn, The Hague, 1607. © Board of Trustees of the Royal Armouries.

FIGURE 6. Lock from a snaphance pistol excavated from the foreshore of the River Thames. English, about 1580. Royal Armouries XII.4180. © Board of Trustees of the Royal Armouries.

catch fire, often because it was damp. Sometimes they were delayed long enough to bring a gun inside a house and put it down, sometimes just long enough for someone to look down the barrel to see what was wrong. Matches could also be awkward to handle, and one shooter seems to have accidentally fired his weapon when his burning match caught on his hose; early Elizabethan hose could of course be very large.[25] Meanwhile sensitive mechanisms that used a flint and steel, like the snaphance, or iron pyrites and steel, like the wheellock, posed different risks. They could easily set themselves off if put down too heavily, as Thomas Barber put his down on a table at the Swan Inn in Cirencester, Gloucestershire, in 1549, and shot himself in the bowels.[26] Part of the firing mechanism might catch on something, as the nonchalant young esquire John Norton caught his on the wire of his window when trying to shoot a pigeon from inside his bedchamber.[27] It might be touched inadvertently by someone holding the gun or even, in one case, by a small dog jumping onto the table where the gun lay.[28]

Because loading muzzle-loading guns was difficult and slow, they were kept loaded for long periods, in some cases a month or more, and this could cause misfires. It also seems to have been hard to judge whether a gun was loaded or not. Nearly one in ten of our accidents involved users not knowing that a gun was loaded when carrying, cleaning or mending it, or loading it again so that it was overloaded. Overloading was a contributory factor in the second biggest category of accidents, when guns burst or broke apart when fired, and in the rarer instances when shooters were killed by the force of the gun's recoil, though some were holding the gun against their chest,

stomach or side at the time, rather than the increasingly standard shoulder. Some guns shook or burned the shooter's face so much that they were dropped and the shot went astray. Cleaning guns was important to keep them working well, but difficult. A favoured technique, evident in more than half the cleaning and mending accidents, was to fire paper out of the gun, but we also find people putting hot metal rods or scouring sticks down guns and setting off any powder remaining inside.

Gunpowder, lastly, was hazardously flammable even when it was not in a gun. Robert Holcomb died instantly when a spark got into the flask of powder hanging at his side and it exploded.[29] Thomas Keper presumably used too much powder in his efforts to blow up a tree trunk, as the explosion killed him.[30] On May Day 1559, a boatman died putting on a firework display for Queen Elizabeth I on the river by Whitehall Palace, when a barrel of powder on his boat caught fire and the boat overturned as the crew scrambled away from danger.[31] Drying powder if it became too damp could be as dangerous as using it. John Bennett and others were standing around in an armoury at Godshill, Isle of Wight, in September 1567. John was next to the chimney where a chafing pan with burning coals – probably charcoal – was being used to dry gunpowder in an earthenware dish. John knocked over the dish and the powder fell onto the coals. It caught alight and in turn ignited a quarter of a pound of corned powder, the granulated powder developed to make handguns more effective, lying covered five feet away. From there the fire spread to a firkin, a small barrel, of corned powder, the blast from which threw John against the doorpost of the armoury, crushing his head.[32] Even the effort to avoid such mishaps could be fatal. Somehow live coals got dropped on the steps leading to Lord Cobham's armoury at Cobham Hall in Kent in October 1583. John Perce went backwards down the stairs, stamping out the sparks, but stumbled and fell, dying a week later from a wound to the head.[33]

These accidents then, show us the attractions of guns. They were useful for military service, for self-defence, for hunting and for celebration, but they were also lethally dangerous. The wounds they inflicted had to be described in the inquest reports and they show both why guns were such effective weapons and why they were so hazardous to keep in the house or carry in the streets. Direct hits from shot or fragments of broken gun did terrible damage, passing right through people's bodies or penetrating up to 12 inches (30 cm) deep, reaching the heart or the brain and breaking bones, while powder burns blackened and charred flesh. Two-thirds of victims died instantly, three-quarters by the end of the day of the accident.

People realised guns were dangerous and tried to be careful. One man stood behind a tree to watch another man shooting, another warned people nearby before he shot and those practising sometimes used powder but no bullets. The jurors rarely condemned those involved in accidents for negligence. On the other hand, guns were novel and exciting and it was tempting to try them out. George Harvey picked up William Kynge's loaded gun to pass it to him and shot his sister Truth Harvey in the head.[34] William Bloxom tried to clean the rust out of a loaded caliver and shot his wife Alice Bloxom in the side.[35] Two days before Christmas in 1582, William Rotton found a gun

in the kitchen at Francis Harrold's house at Braunstone in Leicestershire, where forty-year-old Elizabeth Fraunces was sitting by the fire. He pretended to fire it, as the jurors put it, cheerfully and in play, and nothing happened when he touched the mechanism, so he touched it again. This time it fired and blew off the top of Elizabeth's head.[36] Guns were useful in Tudor England, but that utility came at a tragic price.

Notes

[1] D. Grummitt, 'The Defence of Calais and the Development of Gunpowder Weaponry in England in the Late Fifteenth Century,' *War in History*, 7 (2000), 253–72; idem, *The Calais Garrison: War and Military Service in England, 1436–1558* (Woodbridge: Boydell and Brewer, 2008), pp. 122–7; J. Raymond, *Henry VIII's Military Revolution: The Armies of Sixteenth-Century Britain and Europe* (London and New York: I. B. Tauris, 2007), pp. 25–54, 163–79; G. Phillips, *The Anglo-Scots Wars 1513–50* (Woodbridge: Boydell and Brewer, 1999), pp. 13–23, 70–7, 82–4, 228–30; A. Hodgkins, '"Arrayed as if for War": Tactical Innovation and Technological Change in Late Medieval and Early Modern Rebellions (1381–1554) ,' *British Journal for Military History*, 4.3 (2018), 4–7, 18–20; D. Eltis, *The Military Revolution in Sixteenth-Century Europe* (London: I. B. Tauris, 1995), pp. 101–15; L. Boynton, *The Elizabethan Militia 1558–1638* (London: Routledge & Kegan Paul, 1967), pp. 55–74, 109–17, 171–2; N. Younger, *War and Politics in the Elizabethan Counties* (Manchester: Manchester University Press, 2012), pp. 104–11, 136–42, 176–9; C. G. Cruickshank, *Elizabeth's Army*, 2nd edn (Oxford: Oxford University Press, 1966), pp. 106–29; P. Hammer, *Elizabeth's Wars: War, Government and Society in Tudor England, 1544–1604* (Basingstoke: Palgrave Macmillan, 2003), pp. 97–104, 256–63.

[2] *Henry VIII: Arms and the Man*, ed. G. Rimer, T. Richardson, and J. P. D. Cooper (Leeds: Royal Armouries, 2009), pp. 236–53, 296–7.

[3] L. Schwoerer, *Gun Culture in Early Modern England* (Charlottesville VA and London: University of Virginia Press, 2016), pp. 17, 39, 46–73.

[4] S. Gunn, *The English People at War in the age of Henry VIII* Oxford, 2018), pp. 31–43, 60, 97–8, 101; Boynton, pp. 13–50.

[5] Gunn, pp. 60, 97–8.

[6] N. Williams, *Thomas Howard, Fourth Duke of Norfolk* (London: Barrie and Rockliff, 1964), p. 33; *Calendar of the Patent Rolls, Philip and Mary* 4 vols (London: HMSO, 1936–9), III, pp. 362–3; *The Diary of Henry Machyn Citizen and Merchant-Taylor of London (1550–1563)*, ed. J. G. Nichols, Camden Society 42 (London, 1848), p. 139.

[7] T. R. Forbes, *Chronicle from Aldgate: Life and Death in Shakespeare's London* (New Haven, CT and London: Yale University Press, 1971), pp. 100–2, 115, 149.

[8] T. R. Forbes, 'London Coroner's Inquests for 1590,' *Journal of the History of Medicine and Allied Sciences*, 28 (1973), 380.

[9] The reports are found in The National Archives, classes KB8 and KB9. In what follows individual references will be given only for reports whose contents are discussed in detail.

[10] KB9/660b/201.

[11] KB9/556/122. Quotations are given in original spelling, but with contractions expanded and capitalisation and the use of i, j, u and v modernised.

[12] KB9/1032b/90.

[13] KB9/1036a/152, 9/706c/274.

[14] Gunn, pp. 39, 91, 97, 145–6.

[15] A. Fox, 'Words, Words, Words: Education, Literacy and Print,' in *A Social History of England, 1500–1750*, ed. by Keith Wrightson (Cambridge: Cambridge University Press, 2017), pp. 130–1, 141–2; J. Whittle, 'Land and People,' ibid, pp. 169–71; A. Green, 'Consumption and Material Culture,' ibid, pp. 245–6, 251; C. Muldrew, 'The "Middling Sort": An Emergent Cultural Identity,' ibid, pp. 292, 296, 298.

[16] KB9/702b/289.

[17] KB9/985/84, 9/562/71.

[18] KB9/477/124, 9/1004/169, 9/588b/167, 9/504/31.

[19] KB9/671b/273.

[20] KB9/690b/305, 9/693a/99.

[21] KB9/626/31; B. Godwin, 'English Firearms from the late 1500s to the English Civil Wars,' *Arms and Armour*, 10 (2013), 51–5.

[22] KB9/673a/82.

[23] KB9/543/6.

[24] KB9/548/147, 9/565/145.

[25] KB9/602a/63.

[26] KB8/18b/127.

[27] KB9/702c/383.

[28] KB9/676b/248.

[29] KB9/650b/170.
[30] KB9/509/68.
[31] KB9/598/21.
[32] KB9/1014b/199.
[33] KB9/661b/253.
[34] KB9/656a/133.
[35] KB9/653b/150.
[36] KB9/1027a/34.

Disclosure statement

No potential conflict of interest was reported by the authors.

Notes on contributors

Steven Gunn is Fellow and Tutor in History at Merton College, Oxford and Professor of Early Modern History. He teaches and researches the history of later medieval and early modern Britain and Europe. His books include *Charles Brandon, duke of Suffolk* (1988), *Early Tudor Government, 1485-1558* (1995), (with David Grummitt and Hans Cools) *War, State and Society in England and the Netherlands, 1477-1559* (2007), *Henry VII's New Men and the Making of Tudor England* (2016) and *The English People at War in the Age of Henry VIII* (2018). He is currently writing a book on accidental death and everyday life in sixteenth-century England.

Tomasz Gromelski is Researcher at Wolfson College, Oxford. His research interests are in material culture and everyday life in medieval and early modern Britain and Europe, and in the intellectual and social history of Britain and Europe between 1350 and 1650. He is a researcher on the ESRC-funded project Everyday Life and Fatal Hazard in Sixteenth-Century England and on the Leverhulme-funded and Cambridge-based Living Standards and Material Culture in English Households, 1300-1600. He has also contributed to the Jagiellonians: Dynasty, Memory and Identity in Central Europe funded by the European Research Council.

Funding

This work was supported by the Economic and Social Research Council under Grant RES-062-23-2819.

ORCID

Steven Gunn http://orcid.org/0000-0003-3226-2083

Correspondence to: Steven Gunn. Email: steven.gunn@history.ox.ac.uk