



# The story of a very British shotgun

Longthorne makes every element of its guns – from the barrels to the rubber recoil pad – in its Northampton factory, where innovation is the guiding light

Written by **Janet Menzies** ♦ Photography by **Andy Hook**

**O**NE DAY your grandchildren may be lucky enough to inherit a Longthorne gun – as long as you have the foresight to go out and buy one now. Longthorne is a completely British gunmaker founded by James Longthorne Stewart and his wife Elaine in 2010, just over a century after John Robertson bought London firm Boss & Co and started a revolution in gunmaking.

At Boss, Robertson introduced innovation after innovation from the 1890s up to the First World War, taking out patents on the ejector mechanism, the single trigger and the over-and-under barrel arrangement. *The Field* gave his gun the seal of approval, and today's descendants of Edwardian early-adopters are delighted their great-great-grandfathers ordered a Boss. Now, at Longthorne's Northampton factory, Elaine Stewart is pleased to report: "We have some grandsons using their grandfathers' Longthornes. We

do think of them as heirlooms in the making. They are built to be bulletproof. If you look after them, they will last for generations – and they are easy to maintain. For example, we use superior steel that has 75% more chromium, which helps prevent rusting. And it is much easier to change the barrels on our guns to accommodate different gauges on the same stock: ideal for switching between shooting disciplines."

Technological innovation is at the heart of Longthorne. The gun's inventor, James Longthorne Stewart, has thrown his engineer's heart and soul into developing it – nothing less was needed in the process. Stewart comments ruefully: "Just because you can think it, doesn't mean that you can do it." When Stewart's friend George asked him to make a new set of barrels for his Perazzi, his engineer's brain immediately did begin to think how to do it. Stewart says: "I went to see a friend of George's who was a barrel maker. He showed me the conventional process and I said, 'So how do you

get the barrels straight?’ and he basically said, ‘You don’t; this is precise enough for a shotgun.’ Coming from an engineering background, I was horrified. In precision engineering good enough doesn’t exist. For me it has to be right – I don’t do half a job.”

Stewart grew up an engineer, serving his apprenticeship at the prestigious Hartley Precision Engineering in Knowsley, near Liverpool. He explains: “It is more upbringing than training. You have an engineering mindset. It was a big thing working for Hartley and the emphasis was on quality and precision.”

### A new approach

He began by wondering why even modern shotgun barrels are fabricated rather than machined from one block. “So, I just wanted to make a set of barrels. I am always thinking of the different ways to do things and this was a completely new approach to making a British shotgun. As an engineer you are always looking for better and more efficient ways to do things, and to produce a better product more consistently. I felt that conventional barrel manufacturing methods could be improved upon, and was not restricted by any preconceived ideas or methods. It felt logical at the time to machine our barrels from solid steel.”

Looking from his precision engineering perspective, Stewart didn’t see a gun and that freed him up to recognise what a shotgun is really all about – a long, straight hole to control a charge of gunpowder to

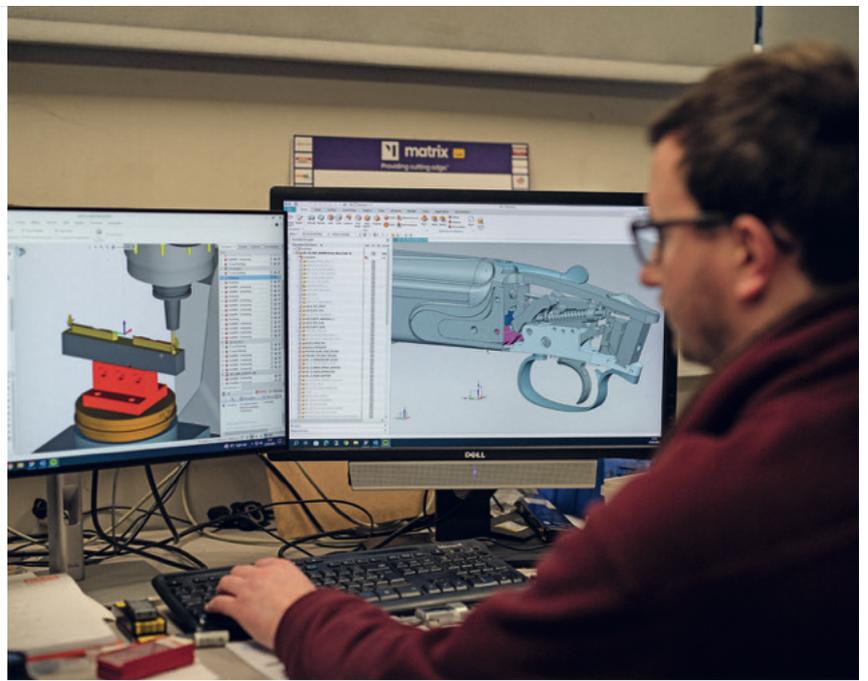
*Left and right: Longthorne’s elegant 28-bore Berkley true sidelock action gun*



*Above: Simon Fellows of Longthorne inspects a set of precision-engineered barrels*

propel a batch of shot. He elaborates on this brain-twisting concept: “Basically we have got two perfectly straight holes and we put the metal round them. The metal starts as a 27-kilogram billet of steel and then we gradually make it smaller. We take away the metal until we find the perfect component.” Stewart is obviously sculptor as well as engineer. Michelangelo said: “I saw the angel in the marble and carved until I set him free.” I wonder how many slabs of finest Carrara marble it took Michelangelo to reveal his David? Stewart reckons it took him about 32 large chunks of top-grade steel before he got his first barrels.

“It was in about 2006 that I first began creating the barrel for George. I got a piece of metal the same length as a shotgun barrel and tested my theory. It worked well enough for me to spend about £9,000 on some tools and I got →



going – making scrap metal, as it turned out. I drilled some holes to test the process of drilling holes and six months later, yes, all I had done was produce some excellent scrap. By the time I got down to the last piece of steel, I finally got the first barrels, which we eventually took to the Proof House. It took 32 attempts to get the one that worked.” Admiring his precision-engineered, best steel barrels, Stewart had little time to congratulate himself on a brilliant solution to an engineering problem before it occurred to him that these beautiful objects would actually need to be fired through.

“We had made the first barrels and had simultaneously been working on a classic-design, true sidelock-style action, as we needed a gun to get the barrels proofed. I wanted a single trigger, which came with

its own manufacturing problems, mainly due to machine capability issues that took us a long time to overcome. But we eventually managed to produce an action in order to submit the prototype to the Proof House. This was in 2010 and we had already booked a stand at The Game Fair.”

### Race against time

Panic set in. Elaine Stewart recalls: “We had enormous problems with the machines because we were trying to get accuracy and the machines weren’t designed to do what we wanted. We were making parts by hand in the end because the finish was so bad with the machines.” By midsummer of 2010, with an appointment at the London Proof House on the Tuesday morning and The Game Fair just days away, Stewart was working day and night. “I was literally

*Clockwise, from top left: woodworker Joe finish-sanding a Longthorne Griptek stock; engineer Arren checking a design in preparation for manufacture; owners James and Elaine Stewart; lead gunsmith Owen carefully adjusting an internal part*

honing and filing by hand, and I was going to be picked up at 4am to go to London to get the gun proofed. At 1am I got the firing-pin holes in. I put the firing pin in and set it off, and the bottom barrel didn’t go off. Nowadays you can design all this on computers but I had drawn it incorrectly. I set up the machine again from scratch and I was thinking, ‘That’s it. It’s all over.’ This was Monday night/Tuesday morning for the proofing Tuesday, and The Game Fair set up on Wednesday. I was going to give up.”

In the early hours of a summer morning, as dawn was beginning to break over his workshop, Stewart seemed to have met a dead end. His vision to invent and engineer a better gun now seemed nothing

**“It took 32 blocks of best steel but I finally got the first set of barrels”**



## The Longthorne approach

Longthorne has reinvented nearly every aspect of the shotgun, most importantly the barrel, while keeping everything fully British-made in its Northampton factory. This includes every part of the shotgun, down to the rubber recoil pads.

► **BARRELS:** Revolutionary barrels (patented in the UK in 2015 with a second UK patent in 2021) are machined from a single block of high-grade steel or titanium (introduced in 2021), with advantages including accuracy and consistency of pattern, reduced felt recoil and great durability. The titanium barrels are 45% lighter than the steel ones yet the weight

remains balanced between the hands, allowing even 32-inch barrels to retain their pointability and manoeuvrability. Titanium is also resistant to corrosion. Barrels were originally parallel bores but now the bores do converge within the mono-barrel “just to stop people talking about it”.

► **ENGRAVING:** The Stewarts’ daughter Chloe is the talent behind the Longthorne engraving.

► **LOCK:** What Longthorne believes to be the world’s lowest-profile receivers plus a fail-safe firing mechanism. Longthorne’s original sidelock was followed by the Longthorne trigger plate.

► **STOCK:** Stock, barrel and fore-end technology includes a ‘fin’ machined into barrels to allow different barrels to be fitted using the same fore-end as the original gun – in other words, you can use interchangeable 12-, 16- or 20-bore barrels on the same stock without altering the fore-end.

► **ADD TO THE GUN CABINET:** Longthorne’s standard range of guns is priced from £13,000 to around £70,000. Its latest release is the Valkyrie X trigger plate with gold inlay, which retails at £30,700 (including VAT) or £48,742 (including VAT) for titanium barrels [*pictured, above*].



Above: Longthorne guns are made entirely in the company’s factory in Northampton

but a damp squib. His question, “You can think it but can you make it?” had been answered. “No.” Stewart goes on with the story: “I drilled another and it still wasn’t right. I was guessing. By the third or fourth attempt I was at least getting quite quick at failing, and then, finally, I got both firing pins to strike. It was getting to be dawn and I was wearing the same clothes I had been in for three days, no sleep, no shower. I put two cartridges in the breech, then I put it in a clamp with protection so that if it was going to blow up it would only blow up a little bit. I went outside to fire it. It was still more or less dark, and the gun fired and it was spectacular – the flame came jetting out in the semi-darkness. It worked. We set off for London and the Proof House at about 6.30am, two hours late. Richard Mabbitt was the proof master at the time and he was really supportive and helpful, spurring us on. We proofed it with lead first and then went on to steel, and it →



The Berkley (*left*) and Blenheim true sidelock action shotguns made by Longthorne



was still absolutely solid. Basically we tried to blow it up and it passed absolutely fine. That meant we could take it to The Game Fair the following day. I look back now and it makes a nice story.”

It certainly does, and if this were a Hollywood movie the credits would roll over images of James and Elaine Stewart’s Longthorne gun taking the best London gun trade by storm. The small Longthorne stand did attract attention at Ragley Hall that weekend but mainly from foreign, and possibly more open-minded, gunmakers. Stewart remembers: “Ivano Tanfoglio of Rizzini, the Italian shotgun maker, was very supportive. There was certainly a crowd of people round the table in the afternoon. I was surprised by the response that we had from the British gun trade, though – there are a lot of fixed ideas. However, most were impressed by the barrel construction.”

For the Stewarts this is symptomatic of a deeper malaise in British manufacturing. Elaine Stewart says: “A lot of industries are

not receptive to innovation these days.” Stewart agrees: “There just isn’t the climate of innovation in the UK at present. We come up with great technology but we don’t then invest and nobody in the UK takes it forward. All the breakthroughs we have invented in Britain and it is other countries that have benefited. I feel it is not just the gun trade; so many of our industries are run like institutions and the true manufacturing base is getting smaller and smaller.”

### Latest innovations

Longthorne is certainly an innovative gunmaker. “In 2015 we were granted the first significant new UK patent in the gun-making trade in 100 years for the barrel technology. We now have multiple UK and international patents relating to our technology and gun design,” says Elaine Stewart. “Our latest innovations include a ‘fin’ machined into our barrels to allow sub-gauge barrels to be fitted using the same fore-end as the original-gauge gun, and

*Above, clockwise from top left: a piece of best steel starting its new life as a Longthorne barrel; checking a Longthorne choke tube; a row of oiled stocks hanging up to dry; finish-sanding a fore-end wood*

we have recently redesigned our trigger mechanism to incorporate an inertia trigger with a mechanical fail-safe that means in the event of a misfire the second shot will still fire.”

Stewart stresses: “We do the whole process in-house, here in Northampton, without outsourcing, unlike the more cottage-industry style of the traditional gun trade.” Yet he feels he is still seen as a bit of a maverick for his ‘modern’ innovations. “Had the technology we now have been available to those gunmaking innovators of the late 19th and early 20th centuries I have no doubt that they would have jumped at the chance of using it,” he says. But 32 lumps of steel and countless firing-pin receivers later, Stewart’s gun has established itself: a great all-British success story. ■

*For further information about Longthorne or to find out more about its gunmaking process, visit: [longthorneguns.com](http://longthorneguns.com)*

**“Stewart’s gun has established itself as a great all-British success story”**